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Global Energy and Climate Outlook 2017: Greenhouse gas emissions and energy balances

*Supplementary
material to "Global
Energy and Climate
Outlook 2017: How
climate policies improve
air quality"*

Keramidas, K., Kitous, A.

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Contact information

Address: European Commission, Joint Research Centre, Edificio Expo; C/ Inca Garcilaso, 3, E-41092 Sevilla, SPAIN

Email: JRC-GECOutlook@ec.europa.eu

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<https://ec.europa.eu/jrc>

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Authors

Alban Kitous

Kimon Keramidas

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Abstract

This document complements the Global Energy and Climate Outlook 2017 Report. It provides the detailed GHG and energy balances for the Reference, INDC and B2C scenarios described in the main report. The results displayed in this report have been produced with the global energy & GHG model POLES-JRC.

1 Introduction

This document complements the main Global Energy and Climate Outlook (GECO) 2017 report (Kitous et al, 2017). It provides the detailed GHG and energy balances for the following three scenarios described in the main report:

- the Reference scenario,
- the INDC scenario,
- the B2°C scenario.

The results displayed in the main report and in the supplementary material have been produced with the global energy and GHG model POLES-JRC (Keramidas et al, 2017).

2 Energy and GHG balances

The tables provide for each country or region:

- the main economic indicators: population, income per capita, share of sectoral value added;
- the international energy prices;
- emissions per greenhouse gas (GHG) and per sector;
- a reduced energy balance: primary energy production, net trade of energy, primary energy demand by fuel;
- power generation: inputs¹, production, capacities;
- final energy consumption per sector and per fuel.

¹ Primary energy from nuclear and geothermal is calculated considering the primary heat equivalent of the electricity produced: it considers an average efficiency of 33% for nuclear and of 10% for geothermal.

3 Scenarios

The following scenarios are presented in this document:

- **Reference scenario:** It includes adopted energy and climate policies worldwide for 2020; thereafter, CO₂ and other GHG emissions are driven by income growth, energy prices and expected technological development with no supplementary incentivizing for low-carbon technologies.
 - Although the GECO2017 Reference scenario integrates national climate and energy policies, it is not a replication of official national scenarios. This also applies to the particular case of the EU28².
- **INDC scenario:** All INDCs put forward by countries are implemented in this scenario, including all conditional contributions. Countries where the Reference already lead to GHG emissions at or lower than their INDC stick to the Reference level. Beyond 2030 it is assumed that the world GHG intensity of GDP decreases at the same rate as for 2020-2030. This achieved through an increase of regional carbon values (including for countries that previously had no climate policies) and progressive convergence of countries at a speed that depends on their per capita income.
- **Below 2°C scenario (B2°C):** This scenario assumes a global GHG trajectory over 2010-2100 compatible with a likely chance of temperature rise staying below 2°C above pre-industrial levels. It assumes in particular further intensification of energy and climate policies already from 2018, captured in the modelling through increasing carbon value, and a progressive convergence of the countries' carbon values after 2030 depending on their per capita income.

² Although calibrated on the EU "Trends to 2050 – Reference scenario 2016" (EC, 2016), the GECO2017 Reference results for EU28 should not be considered or used as an official European Commission projection of energy and GHG emissions for the European Union.

4 Geographical coverage

In addition to the world aggregate, 37 countries and regions are reported:

Table 1: Energy and GHG balances provided

Europe	CIS	America	Africa	Middle East	Asia	Pacific
EU28	Russia	Argentina	Egypt	Iran	China	Australia
EFTA	Ukraine	Brazil	Algeria & Libya	Saudi Arabia	India	Japan
	Rest CIS	Canada		Turkey	Indonesia	Korea (Rep.)
Rest Balkans		Chile	Morocco & Tunisia	Mediterranean Middle-East	Malaysia	New Zealand
	Mexico	Thailand				
	USA	South Africa		Rest Persian Gulf	Vietnam	Rest Pacific
	Rest Central America	Rest Sub-Saharan Africa		Rest South Asia		
	Rest South America			Rest South-East Asia		

A country mapping of regions is provided further in the section Country and regional codes.

Energy consumption and related GHG emissions of international maritime and aviation bunkers are reported in the world aggregate, but not in the individual country and region balances.

5 Sectors definitions

Energy demand sectors

Primary Energy Demand: total energy demand, sum of Energy for Power Generation, Other Energy Transformation & Losses and Total Final Consumption

Energy for Power Generation: covers energy for electricity and heat production

Other Energy Transformation & Losses: energy own use and losses of the energy transformation industry, excluding power and heat generation. Covers fossil fuel and uranium extraction, refining, transport and distribution (including gasworks); coal-, gas- and biomass-to-liquids production; hydrogen production; coke ovens. Also includes transfers and statistical differences.

Total Final Consumption: sum of energy consumption in Industry, Buildings, Agriculture, Transport

Industry: manufacturing industry, construction, mining; does not include energy transformation activities, includes non-energy uses of energy fuels. Consists of energy-intensive industries – Steel (iron and steel production; includes blast furnaces and coke final consumption), Non-Metallic Minerals and Chemicals (consumption for energy uses of chemicals and petrochemicals industry); Other Industry (energy uses in other manufacturing industry, construction, mining); and Non-Energy Use (non-energy uses of energy fuels in rubber and plastics and chemical feedstocks production).

Buildings: Residential and Services

Agriculture: energy consumed in agriculture, forestry and fishing activities

Transport: passenger and freight transport (including public transport and transport services); does not include transport of energy goods and related losses. Country and regional balances refer to domestic consumption, international air and maritime bunkers are included only in the global balance

Other Transport: waterways, maritime

Emissions

Total GHG: all anthropogenic greenhouse gases emissions; cover the energy sector, industry, agriculture, land use, land use change and forestry (including sinks)

Total GHG (excl. sinks): all emissions excluding LULUCF sinks

Total GHG (energy, industry, agriculture): all emissions excluding LULUCF

CO₂: emissions from energy and industrial processes

CH₄: emissions from energy, industry and agriculture

N₂O: emissions from energy, industry and agriculture

F gases: SF₆, HFCs, PFCs from energy and industry

Total GHG from Energy and Industry: all emissions excluding agriculture and LULUCF

CO₂ Emissions from Fuel Comb.: CO₂ only related to energy combustion (excluding process emissions); sectoral emissions refer to the sectors definition of energy demand (see above)

CO₂ captured (CCS): CO₂ captured and stored coming from power generation (coal, gas or biomass combustion), liquids production (coal, gas or solid biomass conversion), hydrogen production (coal, gas or biomass combustion) and industry (coal or biomass combustion)

Emissions from the different gases are converted into CO₂-equivalent values, using the 100-year global warming potentials of the IPCC Second Assessment Report (see Table 4 of the Technical Summary of IPCC (1996)).

6 Data

Table 2 below lists the data used in the modelling: historical data; and exogenous inputs used in the projections

Modelled outputs are signalled as "POLES-JRC model".

Table 2: POLES-JRC model historical data and projections

Series		Historical data	GECO Projections
Population		UN, Eurostat	UN (medium fertility)
GDP, growth		World Bank	EC, IMF, OECD
Other activity drivers	Value added	World Bank	POLES-JRC model
	Mobility, households, vehicles, tons of steel..	Sectoral databases	
Energy resources	Oil, gas, coal	BGR, USGS, WEC, sectoral information	
	Uranium	NEA	
	Biomass	GLOBIOM model	
	Hydro	Enerdata	
	Wind, solar	NREL, DLR	
Energy balances	Reserves, production	BP, Enerdata	
	Demand by sector and fuel, transformation (including. power), losses	Enerdata, IEA	
	Power plants	Platts	
Energy prices	International prices, prices to consumer	Enerdata, IEA	POLES-JRC model
GHG emissions	Energy CO ₂	Derived from POLES-JRC energy balances	POLES-JRC model
	Other GHG Annex 1	UNFCCC	POLES-JRC model, GLOBIOM model (IIASA 2016)
	Other GHG Non-Annex 1 (excl. LULUCF)	EDGAR (EC JRC)	POLES-JRC model, GLOBIOM model
	LULUCF Non-Annex 1	National inventories, FAO	POLES-JRC model, GLOBIOM model
Air pollutants emissions		GAINS model (IIASA 2017), EDGAR, IPCC, national sources	GAINS model, national sources
Technology costs		POLES-JRC learning curves based on literature, including but not limited to: EC JRC, WEC, IEA, TECHPOL database*	

*: developed in several European research projects: SAPIENT, SAPIENTIA, CASCADE MINTS

7 GECO2017_Reference scenario

World	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	5 308	6 126	6 930	7 762	8 509	9 174	9 750	1.4%	1.2%	1.1%	0.9%	0.8%	0.6%
GDP per capita (ppp, k\$'05)	7	8	10	12	15	20	24	1.5%	2.2%	2.1%	2.6%	2.4%	1.9%
GDP per capita (mer, k\$'05)	6	7	8	9	10	12	14	1.3%	1.3%	1.4%	1.8%	1.8%	1.6%
Share Value Added - Agriculture (%)	8	5	5	6	6	6	6	-3.2%	-0.1%	0.6%	0.1%	0.1%	0.1%
Share Value Added - Industry (%)	32	30	30	29	28	25	23	-0.7%	0.1%	-0.4%	-0.4%	-0.8%	-1.0%
Share Value Added - Services (%)	60	65	64	65	67	69	71	0.7%	-0.1%	0.1%	0.2%	0.3%	0.3%
Prices													
International (\$'05/boe)													
Coal	17	9	20	20	22	24	27	-5.9%	7.9%	-0.1%	0.8%	1.2%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	19	23	33	44	47	62	85	2.3%	3.4%	3.0%	0.8%	2.6%	3.3%
GHG emissions (MtCO₂ eq.)													
Total GHG	33 102	35 509	44 517	50 530	57 632	64 217	66 665	0.7%	2.3%	1.3%	1.3%	1.1%	0.4%
Total GHG (excl. sinks)	35 498	38 554	47 398	52 866	59 611	65 993	68 855	0.8%	2.1%	1.1%	1.2%	1.0%	0.4%
Total GHG (energy, industry, agriculture)	31 128	33 812	43 478	49 287	56 038	61 984	64 830	0.8%	2.5%	1.3%	1.3%	1.0%	0.4%
CO ₂	22 096	24 818	32 862	37 678	43 379	48 232	50 352	1.2%	2.8%	1.4%	1.4%	1.1%	0.4%
CH ₄	5 981	6 044	7 182	7 741	8 382	9 063	9 505	0.1%	1.7%	0.8%	0.8%	0.8%	0.5%
N ₂ O	2 747	2 564	2 868	3 118	3 372	3 590	3 733	-0.7%	1.1%	0.8%	0.8%	0.6%	0.4%
F gases	304	386	566	750	905	1 099	1 241	2.4%	3.9%	2.9%	1.9%	2.0%	1.2%
Total GHG from Energy and Industry	26 182	29 010	38 131	43 497	49 773	55 354	57 929	1.0%	2.8%	1.3%	1.4%	1.1%	0.5%
CO₂ Emissions from Fuel Comb.	20 665	23 112	30 232	34 236	39 136	43 484	45 437	1.1%	2.7%	1.3%	1.3%	1.1%	0.4%
Power generation/District heating	6 774	8 433	11 587	12 989	15 990	18 462	19 966	2.2%	3.2%	1.1%	2.1%	1.4%	0.8%
Industry	3 768	3 706	5 664	6 128	6 673	6 902	6 481	-0.2%	4.3%	0.8%	0.9%	0.3%	-0.6%
Buildings	2 942	2 753	2 984	2 994	3 220	3 379	3 357	-0.7%	0.8%	0.0%	0.7%	0.5%	-0.1%
Agriculture	424	363	424	474	517	558	592	-1.5%	1.6%	1.1%	0.9%	0.8%	0.6%
Transport	4 663	5 774	6 947	8 441	9 101	9 882	10 343	2.2%	1.9%	2.0%	0.8%	0.8%	0.5%
Other	2 093	2 083	2 626	3 209	3 634	4 302	4 697	0.0%	2.3%	2.0%	1.3%	1.7%	0.9%
CO₂ captured (CCS)	0	0	0	4	11	62	242	n.s.	n.s.	n.s.	11.5%	19.2%	14.6%
Coal	0	0	0	3	9	51	193	n.s.	n.s.	n.s.	11.6%	19.3%	14.2%
Gas	0	0	0	0	1	10	38	n.s.	n.s.	n.s.	20.0%	24.0%	14.6%
Biomass	0	0	0	0	1	1	11	n.s.	n.s.	n.s.	4.8%	4.5%	24.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	8 717	10 015	12 948	15 032	17 586	19 962	21 393	1.4%	2.6%	1.5%	1.6%	1.3%	0.7%
Coal	2 133	2 314	3 649	3 887	4 445	4 855	5 114	0.8%	4.7%	0.6%	1.4%	0.9%	0.5%
Oil	3 280	3 706	4 189	4 921	5 105	5 322	5 357	1.2%	1.2%	1.6%	0.4%	0.4%	0.1%
Natural gas	1 687	2 068	2 737	3 277	4 272	5 205	5 586	2.1%	2.8%	1.8%	2.7%	2.0%	0.7%
Biomass	862	958	1 235	1 441	1 733	1 972	2 213	1.1%	2.6%	1.6%	1.9%	1.3%	1.2%
Nuclear ¹	533	686	728	779	934	1 138	1 266	2.6%	0.6%	0.7%	1.8%	2.0%	1.1%
Hydro	188	232	303	383	423	438	451	2.1%	2.7%	2.4%	1.0%	0.4%	0.3%
Other renewables	34	52	106	343	675	1 032	1 405	4.6%	7.3%	12.4%	7.0%	4.3%	3.1%
International Bunkers	240	324	425	579	717	812	894	3.0%	2.8%	3.1%	2.2%	1.3%	1.0%
Maritime Bunkers	154	206	273	383	467	495	514	2.9%	2.9%	3.4%	2.0%	0.6%	0.4%
Oil	151	202	266	369	440	463	478	2.9%	2.8%	3.3%	1.8%	0.5%	0.3%
Aviation Bunkers	86	117	152	197	250	317	381	3.2%	2.6%	2.6%	2.5%	2.4%	1.8%
Oil	86	117	152	196	248	312	372	3.2%	2.6%	2.6%	2.4%	2.3%	1.8%
Regional Energy Demand (excl. bunkers)	8 480	9 695	12 530	14 467	16 896	19 183	20 535	1.3%	2.6%	1.4%	1.6%	1.3%	0.7%
Coal	2 133	2 314	3 649	3 887	4 445	4 855	5 114	0.8%	4.7%	0.6%	1.4%	0.9%	0.5%
Oil	3 043	3 386	3 771	4 357	4 418	4 548	4 507	1.1%	1.1%	1.5%	0.1%	0.3%	-0.1%
Natural gas	1 687	2 068	2 737	3 277	4 272	5 205	5 586	2.1%	2.8%	1.8%	2.7%	2.0%	0.7%
Biomass	862	958	1 235	1 440	1 730	1 967	2 205	1.1%	2.6%	1.6%	1.9%	1.3%	1.1%
Nuclear ¹	533	686	728	779	934	1 138	1 266	2.6%	0.6%	0.7%	1.8%	2.0%	1.1%
Hydro	188	232	303	383	423	438	451	2.1%	2.7%	2.4%	1.0%	0.4%	0.3%
Other renewables	34	52	106	343	675	1 032	1 405	4.6%	7.3%	12.4%	7.0%	4.3%	3.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	8 717	10 015	12 948	15 032	17 586	19 962	21 393	1.4%	2.6%	1.5%	1.6%	1.3%	0.7%
Energy for Power Generation	2 775	3 466	4 640	5 478	6 978	8 436	9 547	2.2%	3.0%	1.7%	2.4%	1.9%	1.2%
Other Energy Transformation & Losses	763	763	1 162	1 375	1 672	2 013	2 255	0.0%	4.3%	1.7%	2.0%	1.9%	1.1%
Final consumption (incl. bunkers)	6 356	7 139	9 027	10 553	12 055	13 413	14 186	1.2%	2.4%	1.6%	1.3%	1.1%	0.6%
Steel, Non-Met. Minerals and Chem.	810	888	1 385	1 561	1 701	1 707	1 558	0.9%	4.5%	1.2%	0.9%	0.0%	-0.9%
Other Industry	1 109	1 086	1 358	1 674	2 088	2 449	2 628	-0.2%	2.3%	2.1%	2.2%	1.6%	0.7%
Non-Energy Use	486	627	786	954	1 071	1 162	1 183	2.6%	2.3%	2.0%	1.2%	0.8%	0.2%
Residential	1 626	1 796	2 053	2 181	2 342	2 458	2 512	1.0%	1.3%	0.6%	0.7%	0.5%	0.2%
Services	593	634	830	976	1 248	1 569	1 875	0.7%	2.7%	1.6%	2.5%	2.3%	1.8%
Agriculture	168	148	179	210	238	265	290	-1.3%	1.9%	1.6%	1.3%	1.1%	0.9%
Road	1 134	1 443	1 818	2 167	2 346	2 630	2 841	2.4%	2.3%	1.8%	0.8%	1.1%	0.8%
Rail	59	47	52	61	70	78	86	-2.2%	0.9%	1.6%	1.3%	1.2%	0.9%
Aviation	182	226	252	331	421	526	619	2.2%	1.1%	2.8%	2.4%	2.2%	1.7%
Other Transport								n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

World	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2 024	2 500	3 508	3 982	4 964	5 850	6 448	2.1%	3.4%	1.3%	2.2%	1.7%	1.0%
Coal	1 155	1 508	2 114	2 308	2 876	3 276	3 588	2.7%	3.4%	0.9%	2.2%	1.3%	0.9%
Oil	334	290	247	318	296	270	268	-1.4%	-1.6%	2.6%	-0.7%	-0.9%	-0.1%
Gas	479	646	1 022	1 195	1 542	1 968	2 149	3.0%	4.7%	1.6%	2.6%	2.5%	0.9%
Biomass & Waste	53	52	120	151	232	313	418	-0.3%	8.7%	2.4%	4.4%	3.1%	2.9%
Other	3	4	6	9	18	22	24	3.6%	2.8%	4.7%	6.8%	2.0%	1.0%
Gross Elec. Generation (TWh_e)	11 844	15 472	21 504	27 486	36 290	45 382	52 959	2.7%	3.3%	2.5%	2.8%	2.3%	1.6%
Coal	4 423	5 999	8 661	9 888	12 580	14 571	16 221	3.1%	3.7%	1.3%	2.4%	1.5%	1.1%
of which CCS	0	0	0	0	0	41	212	n.s.	n.s.	n.s.	n.s.	n.s.	17.9%
Oil	1 292	1 178	931	1 360	1 274	1 192	1 203	-0.9%	-2.3%	3.9%	-0.7%	-0.7%	0.1%
Gas	1 761	2 753	4 806	5 879	8 021	10 573	11 781	4.6%	5.7%	2.0%	3.2%	2.8%	1.1%
of which CCS	0	0	0	0	0	19	94	n.s.	n.s.	n.s.	n.s.	n.s.	17.7%
Biomass & Waste	123	169	380	515	846	1 256	1 852	3.2%	8.4%	3.1%	5.1%	4.0%	4.0%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	2 013	2 591	2 756	2 981	3 621	4 510	5 104	2.6%	0.6%	0.8%	2.0%	2.2%	1.2%
Hydro	2 191	2 698	3 528	4 459	4 915	5 092	5 246	2.1%	2.7%	2.4%	1.0%	0.4%	0.3%
Wind	4	31	341	1 664	3 292	5 396	7 601	23.2%	27.0%	17.2%	7.1%	5.1%	3.5%
Solar	0	1	33	583	1 438	2 395	3 480	25.1%	42.3%	33.1%	9.5%	5.2%	3.8%
Other	36	52	69	157	303	396	472	3.6%	2.8%	8.6%	6.8%	2.7%	1.8%
Generation Capacity (GW_e)	2 730	3 553	5 140	7 260	9 454	11 878	13 907	2.7%	3.8%	3.5%	2.7%	2.3%	1.6%
Coal	890	1 140	1 687	2 101	2 424	2 879	3 234	2.5%	4.0%	2.2%	1.4%	1.7%	1.2%
of which CCS	0	0	0	0	0	6	30	n.s.	n.s.	n.s.	n.s.	n.s.	16.8%
Oil	448	496	412	456	451	451	494	1.0%	-1.8%	1.0%	-0.1%	0.0%	0.9%
Gas	503	712	1 313	1 589	1 960	2 335	2 412	3.5%	6.3%	1.9%	2.1%	1.8%	0.3%
of which CCS	0	0	0	0	0	3	14	n.s.	n.s.	n.s.	n.s.	n.s.	18.4%
Biomass & Waste	27	45	99	149	198	255	322	5.3%	8.2%	4.2%	2.9%	2.5%	2.4%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	53.0%
Nuclear	290	352	375	408	492	609	683	2.0%	0.6%	0.9%	1.9%	2.2%	1.2%
Hydro	564	782	1 020	1 310	1 428	1 476	1 519	3.3%	2.7%	2.5%	0.9%	0.3%	0.3%
Wind	2	17	184	756	1 390	2 135	2 831	23.8%	27.0%	15.2%	6.3%	4.4%	2.9%
Solar	0	1	40	457	1 042	1 656	2 322	10.0%	41.8%	27.6%	8.6%	4.7%	3.4%
Other	6	8	10	33	68	82	89	3.6%	2.2%	12.4%	7.5%	1.9%	0.8%
Total Final Consumption (Mtoe)	6 356	7 139	9 027	10 553	12 055	13 413	14 186	1.2%	2.4%	1.6%	1.3%	1.1%	0.6%
Coal	850	660	1 205	1 224	1 192	1 137	1 020	-2.5%	6.2%	0.2%	-0.3%	-0.5%	-1.1%
Oil	2 639	3 169	3 660	4 308	4 514	4 757	4 809	1.8%	1.5%	1.6%	0.5%	0.5%	0.1%
Gas	895	1 073	1 275	1 525	2 028	2 382	2 516	1.8%	1.7%	1.8%	2.9%	1.6%	0.5%
Electricity	831	1 086	1 531	1 956	2 581	3 224	3 760	2.7%	3.5%	2.5%	2.8%	2.2%	1.6%
Heat	339	256	294	320	374	437	507	-2.8%	1.4%	0.9%	1.6%	1.6%	1.5%
Biomass & Other	802	896	1 063	1 220	1 366	1 477	1 574	1.1%	1.7%	1.4%	1.1%	0.8%	0.6%
Share of Renewables ² (%)	17%	18%	18%	20%	21%	23%	25%	0.3%	-0.1%	1.1%	0.7%	0.6%	0.9%
Industry (incl. non-energy use)	2 405	2 601	3 530	4 190	4 860	5 318	5 369	0.8%	3.1%	1.7%	1.5%	0.9%	0.1%
Coal	590	540	1 048	1 078	1 064	1 022	919	-0.9%	6.9%	0.3%	-0.1%	-0.4%	-1.1%
Oil	687	800	912	1 043	1 063	1 060	988	1.5%	1.3%	1.3%	0.2%	0.0%	-0.7%
Gas	452	532	621	845	1 147	1 359	1 414	1.7%	1.6%	3.1%	3.1%	1.7%	0.4%
Electricity	381	460	637	853	1 147	1 387	1 516	1.9%	3.3%	3.0%	3.0%	1.9%	0.9%
Heat	163	105	126	133	151	159	162	-4.3%	1.8%	0.6%	1.3%	0.5%	0.2%
Biomass & Other	132	163	185	238	287	332	370	2.1%	1.3%	2.5%	1.9%	1.4%	1.1%
Buildings	2 218	2 430	2 883	3 157	3 590	4 026	4 386	0.9%	1.7%	0.9%	1.3%	1.2%	0.9%
Coal	233	108	140	130	113	102	89	-7.4%	2.7%	-0.8%	-1.4%	-1.0%	-1.4%
Oil	316	342	310	321	306	301	291	0.8%	-1.0%	0.3%	-0.5%	-0.2%	-0.3%
Gas	434	531	618	626	771	865	891	2.1%	1.5%	0.1%	2.1%	1.2%	0.3%
Electricity	403	581	834	1 017	1 270	1 585	1 905	3.7%	3.7%	2.0%	2.2%	2.2%	1.9%
Heat	176	151	168	187	223	278	345	-1.5%	1.1%	1.1%	1.8%	2.2%	2.2%
Biomass & Other	657	717	813	877	907	896	866	0.9%	1.3%	0.8%	0.3%	-0.1%	-0.3%
Agriculture	168	148	179	210	238	265	290	-1.3%	1.9%	1.6%	1.3%	1.1%	0.9%
Coal	14	8	13	14	13	12	11	-6.1%	5.5%	0.9%	-1.1%	-1.0%	-1.0%
Oil	110	101	112	125	140	154	166	-0.9%	1.1%	1.2%	1.1%	1.0%	0.7%
Gas	7	6	7	8	9	9	10	-2.6%	2.9%	1.2%	0.7%	0.6%	0.5%
Electricity	30	29	39	54	66	79	92	-0.4%	3.2%	3.2%	2.2%	1.8%	1.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	5	7	8	9	10	11	-1.7%	3.9%	0.9%	1.3%	1.2%	1.1%
Transport (incl. bunkers)	1 565	1 960	2 436	2 996	3 367	3 805	4 141	2.3%	2.2%	2.1%	1.2%	1.2%	0.9%
Coal	13	4	3	2	2	2	1	-10.1%	-2.7%	-2.8%	-2.0%	-1.9%	-1.9%
Oil	1 526	1 926	2 326	2 819	3 004	3 242	3 364	2.4%	1.9%	1.9%	0.6%	0.8%	0.4%
Gas	2	3	28	46	100	149	201	5.3%	24.2%	5.1%	8.2%	4.0%	3.0%
Electricity	17	16	21	32	98	172	248	-0.7%	2.5%	4.4%	12.0%	5.8%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	8	11	58	98	163	240	327	3.7%	18.1%	5.4%	5.3%	3.9%	3.2%
Other Energy Transformation & Losses³	763	763	1 162	1 375	1 672	2 013	2 255	0.0%	4.3%	1.7%	2.0%	1.9%	1.1%

² ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

³ includes statistical differences

EU28	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	476	487	503	513	519	524	525	0.2%	0.3%	0.2%	0.1%	0.1%	0.0%
GDP per capita (ppp, k\$'05)	20	25	28	30	34	39	45	1.9%	1.2%	0.8%	1.4%	1.4%	1.4%
GDP per capita (mer, k\$'05)	22	27	30	32	37	42	49	2.0%	1.1%	0.7%	1.3%	1.4%	1.5%
Share Value Added - Agriculture (%)	4	2	2	2	2	1	1	-3.8%	-3.6%	-0.4%	-0.5%	-0.5%	-0.5%
Share Value Added - Industry ¹ (%)	32	28	25	24	23	22	21	-1.3%	-1.1%	-0.4%	-0.4%	-0.5%	-0.6%
Share Value Added - Services (%)	64	69	73	74	75	76	78	0.8%	0.5%	0.1%	0.1%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	23	14	19	16	17	20	23	-5.3%	3.6%	-1.9%	0.8%	1.7%	1.5%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (MtCO₂ eq.)													
Total GHG	5 196	4 697	4 328	3 497	3 213	3 011	2 719	-1.0%	-0.8%	-2.1%	-0.8%	-0.6%	-1.0%
Total GHG (excl. sinks)	5 495	5 028	4 664	3 761	3 442	3 196	2 909	-0.9%	-0.7%	-2.1%	-0.9%	-0.7%	-0.9%
Total GHG (energy, industry, agriculture)	5 466	5 012	4 651	3 746	3 414	3 123	2 817	-0.9%	-0.7%	-2.1%	-0.9%	-0.7%	-0.9%
CO ₂	4 252	3 997	3 780	3 040	2 814	2 533	2 251	-0.6%	-0.6%	-2.2%	-0.8%	-1.0%	-1.2%
CH ₄	601	495	409	332	290	281	256	-1.9%	-1.9%	-2.1%	-1.3%	-0.3%	-0.9%
N ₂ O	557	455	373	305	288	284	284	-2.0%	-2.0%	-2.0%	-0.6%	-0.1%	0.0%
F gases	56	65	90	70	22	24	26	1.5%	3.3%	-2.5%	-10.8%	0.9%	0.5%
Total GHG from Energy and Industry	4 849	4 491	4 176	3 302	2 971	2 677	2 367	-0.8%	-0.7%	-2.3%	-1.1%	-1.0%	-1.2%
CO₂ Emissions from Fuel Comb.	4 006	3 759	3 572	2 848	2 630	2 358	2 090	-0.6%	-0.5%	-2.2%	-0.8%	-1.1%	-1.2%
Power generation/District heating	1 427	1 283	1 235	860	735	620	530	-1.1%	-0.4%	-3.5%	-1.6%	-1.7%	-1.6%
Industry	745	602	453	363	318	255	204	-2.1%	-2.8%	-2.2%	-1.3%	-2.2%	-2.2%
Buildings	724	652	660	497	498	438	372	-1.1%	0.1%	-2.8%	0.0%	-1.3%	-1.6%
Agriculture	84	72	59	58	59	62	65	-1.5%	-2.0%	-0.2%	0.3%	0.5%	0.5%
Transport	764	900	925	851	809	796	753	1.7%	0.3%	-0.8%	-0.5%	-0.2%	-0.6%
Other	262	251	241	219	210	187	166	-0.4%	-0.4%	-0.9%	-0.4%	-1.2%	-1.2%
CO₂ captured (CCS)	0	0	0	3	7	47	199	n.s.	n.s.	n.s.	8.3%	20.9%	15.6%
Coal	0	0	0	3	6	40	161	n.s.	n.s.	n.s.	8.5%	20.8%	15.0%
Gas	0	0	0	0	0	6	29	n.s.	n.s.	n.s.	13.1%	29.6%	16.9%
Biomass	0	0	0	0	1	1	9	n.s.	n.s.	n.s.	3.9%	5.4%	26.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	885	939	843	801	850	828	814	0.6%	-1.1%	-0.5%	0.6%	-0.3%	-0.2%
Coal	313	219	168	116	99	82	74	-3.5%	-2.6%	-3.6%	-1.6%	-1.8%	-1.1%
Oil	134	174	100	93	78	56	42	2.7%	-5.4%	-0.7%	-1.7%	-3.2%	-3.0%
Natural gas	154	192	146	104	117	111	107	2.2%	-2.7%	-3.3%	1.2%	-0.6%	-0.3%
Biomass	44	63	130	164	193	203	218	3.7%	7.5%	2.3%	1.6%	0.5%	0.7%
Nuclear ¹	210	250	242	223	224	209	174	1.7%	-0.3%	-0.8%	0.0%	-0.7%	-1.8%
Hydro	27	33	35	33	33	32	31	2.3%	0.5%	-0.5%	0.0%	-0.3%	-0.3%
Other renewables	3	6	21	68	106	135	168	8.0%	12.6%	12.4%	4.5%	2.5%	2.2%
Net Imports	760	762	893	756	745	738	727						
Coal	135	104	114	102	72	46	57						
Oil	480	451	472	397	385	388	369						
Natural gas	141	204	302	237	263	266	253						
Biomass	0	0	2	19	23	34	43						
Biofuels	0	0	2	1	3	4	6						
Electricity	4	2	1	0	-1	-1	-1						
Primary Energy Demand²	1 645	1 701	1 736	1 557	1 595	1 566	1 541	0.3%	0.2%	-1.1%	0.2%	-0.2%	-0.2%
Coal	447	324	282	218	171	128	131	-3.2%	-1.4%	-2.6%	-2.4%	-2.8%	0.2%
Oil	614	626	572	490	463	444	411	0.2%	-0.9%	-1.5%	-0.6%	-0.4%	-0.8%
Natural gas	295	396	447	341	380	377	360	3.0%	1.2%	-2.7%	1.1%	-0.1%	-0.5%
Biomass	44	63	133	183	216	237	261	3.7%	7.7%	3.3%	1.7%	0.9%	1.0%
Nuclear ¹	210	250	242	223	224	209	174	1.7%	-0.3%	-0.8%	0.0%	-0.7%	-1.8%
Hydro	27	33	35	33	33	32	31	2.3%	0.5%	-0.5%	0.0%	-0.3%	-0.3%
Other renewables	3	6	21	68	106	135	168	8.0%	12.6%	12.4%	4.5%	2.5%	2.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	1 645	1 701	1 736	1 557	1 595	1 566	1 541	0.3%	0.2%	-1.1%	0.2%	-0.2%	-0.2%
Energy for Power Generation	636	674	721	647	681	692	722	0.6%	0.7%	-1.1%	0.5%	0.2%	0.4%
Other Energy Transformation & Losses	99	94	110	103	108	105	105	-0.5%	1.6%	-0.7%	0.5%	-0.3%	0.1%
Final consumption	1 152	1 197	1 217	1 114	1 159	1 146	1 124	0.4%	0.2%	-0.9%	0.4%	-0.1%	-0.2%
Steel, Non-Met. Minerals and Chem.	190	165	139	125	121	111	103	-1.4%	-1.7%	-1.0%	-0.4%	-0.8%	-0.8%
Other Industry	175	163	145	139	141	141	139	-0.8%	-1.1%	-0.5%	0.1%	0.0%	-0.2%
Non-Energy Use	100	113	108	106	120	121	117	1.2%	-0.4%	-0.2%	1.2%	0.1%	-0.3%
Residential	276	289	312	264	279	263	247	0.5%	0.8%	-1.6%	0.5%	-0.6%	-0.6%
Services	118	133	166	152	176	187	200	1.3%	2.2%	-0.9%	1.5%	0.6%	0.6%
Agriculture	33	29	26	25	27	28	30	-1.4%	-1.1%	-0.1%	0.5%	0.6%	0.6%
Road	237	281	299	282	274	272	265	1.7%	0.6%	-0.6%	-0.3%	-0.1%	-0.3%
Rail	10	10	8	8	9	9	9	0.1%	-1.7%	-0.2%	0.8%	0.3%	0.3%
Aviation	6	7	7	7	7	8	8	2.3%	-0.4%	-0.4%	0.7%	0.9%	0.5%
Other Transport	7	6	6	5	6	6	6	-1.0%	-0.8%	-1.1%	1.2%	0.5%	0.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

EU28	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	396	385	423	323	320	318	351	-0.3%	0.9%	-2.6%	-0.1%	-0.1%	1.0%
Coal	285	234	209	156	118	91	102	-2.0%	-1.1%	-2.8%	-2.8%	-2.6%	1.2%
Oil	55	41	23	11	8	6	6	-2.9%	-5.5%	-6.9%	-3.8%	-2.6%	-0.1%
Gas	50	94	141	86	103	117	120	6.6%	4.1%	-4.8%	1.8%	1.3%	0.2%
Biomass & Waste	6	15	49	68	90	102	121	9.8%	12.9%	3.4%	2.7%	1.3%	1.7%
Other	0	0	0	1	1	2	2	4.0%	1.6%	6.9%	4.2%	0.8%	2.3%
Gross Elec. Generation (TWh_e)	2 594	3 031	3 356	3 296	3 636	3 866	4 190	1.6%	1.0%	-0.2%	1.0%	0.6%	0.8%
Coal	1 050	966	862	663	534	447	518	-0.8%	-1.1%	-2.6%	-2.1%	-1.8%	1.5%
of which CCS	0	0	0	0	0	38	193	n.s.	n.s.	n.s.	n.s.	n.s.	17.6%
Oil	224	181	87	50	33	26	26	-2.1%	-7.1%	-5.4%	-3.9%	-2.5%	0.1%
Gas	193	480	763	475	575	654	678	9.5%	4.8%	-4.6%	1.9%	1.3%	0.4%
of which CCS	0	0	0	0	0	16	84	n.s.	n.s.	n.s.	n.s.	n.s.	18.2%
Biomass & Waste	20	46	143	234	320	372	457	8.9%	12.0%	5.1%	3.1%	1.5%	2.1%
of which CCS	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	56.7%
Nuclear	795	945	917	847	856	806	693	1.7%	-0.3%	-0.8%	0.1%	-0.6%	-1.5%
Hydro	309	386	407	387	385	373	363	2.3%	0.5%	-0.5%	0.0%	-0.3%	-0.3%
Wind	1	22	149	409	563	726	949	39.8%	21.0%	10.6%	3.2%	2.6%	2.7%
Solar	0	0	23	173	263	323	357	33.0%	n.s.	22.5%	4.3%	2.1%	1.0%
Other	3	5	6	58	106	140	149	4.0%	1.6%	26.4%	6.1%	2.8%	0.6%
Generation Capacity (GW_e)	635	719	919	1 150	1 351	1 422	1 430	1.3%	2.5%	2.3%	1.6%	0.5%	0.1%
Coal	223	201	192	166	133	108	101	-1.0%	-0.4%	-1.4%	-2.2%	-2.0%	-0.7%
of which CCS	0	0	0	0	0	6	27	n.s.	n.s.	n.s.	n.s.	n.s.	16.3%
Oil	95	81	65	39	30	23	21	-1.5%	-2.2%	-5.1%	-2.5%	-2.6%	-1.1%
Gas	65	129	218	243	299	307	262	7.1%	5.4%	1.1%	2.1%	0.3%	-1.6%
of which CCS	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	n.s.	18.7%
Biomass & Waste	10	17	48	68	88	97	97	5.9%	10.9%	3.6%	2.6%	1.0%	-0.1%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	48.9%
Nuclear	126	137	131	120	119	110	92	0.9%	-0.4%	-0.9%	-0.1%	-0.8%	-1.7%
Hydro	116	140	148	155	155	152	148	1.9%	0.5%	0.5%	0.0%	-0.2%	-0.2%
Wind	0	12	85	193	261	300	360	40.0%	21.4%	8.5%	3.1%	1.4%	1.8%
Solar	0	0	31	148	227	280	309	36.9%	n.s.	17.1%	4.4%	2.1%	1.0%
Other	0	1	1	18	38	44	42	2.0%	2.4%	37.3%	7.8%	1.4%	-0.6%
Total Final Consumption² (Mtoe)	1 152	1 197	1 217	1 114	1 159	1 146	1 124	0.4%	0.2%	-0.9%	0.4%	-0.1%	-0.2%
Coal	141	73	57	46	38	24	15	-6.3%	-2.5%	-2.1%	-2.0%	-4.4%	-4.6%
Oil	503	540	505	446	425	410	379	0.7%	-0.7%	-1.2%	-0.5%	-0.4%	-0.8%
Gas	229	273	279	230	252	237	219	1.8%	0.2%	-1.9%	0.9%	-0.6%	-0.8%
Electricity	186	218	244	239	263	280	302	1.6%	1.2%	-0.2%	0.9%	0.6%	0.8%
Heat	55	45	55	50	68	73	79	-1.9%	1.9%	-0.9%	3.1%	0.8%	0.8%
Biomass & Other	38	48	78	103	113	122	128	2.3%	4.9%	2.9%	1.0%	0.7%	0.5%
Share of Renewables ³ (%)	6%	8%	12%	21%	25%	30%	34%	2.5%	4.7%	5.4%	1.9%	1.6%	1.4%
Industry (incl. non-energy use)	466	441	393	370	381	373	358	-0.5%	-1.1%	-0.6%	0.3%	-0.2%	-0.4%
Coal	93	60	44	37	32	20	12	-4.2%	-3.1%	-1.7%	-1.5%	-4.6%	-4.9%
Oil	139	144	127	113	122	121	110	0.3%	-1.3%	-1.1%	0.7%	-0.1%	-0.9%
Gas	114	118	97	84	79	73	72	0.4%	-1.9%	-1.4%	-0.7%	-0.8%	-0.2%
Electricity	85	91	89	87	91	96	101	0.7%	-0.3%	-0.2%	0.4%	0.5%	0.5%
Heat	21	11	15	16	23	22	21	-6.5%	3.6%	0.3%	3.7%	-0.3%	-0.3%
Biomass & Other	14	17	22	33	36	42	42	1.9%	2.6%	4.3%	0.8%	1.6%	0.1%
Buildings	394	423	478	417	455	450	446	0.7%	1.2%	-1.4%	0.9%	-0.1%	-0.1%
Coal	46	12	12	8	5	4	3	-12.8%	0.0%	-3.7%	-4.4%	-3.1%	-3.1%
Oil	89	80	63	44	31	23	17	-1.1%	-2.4%	-3.5%	-3.6%	-3.0%	-2.7%
Gas	110	150	177	139	163	150	131	3.2%	1.6%	-2.4%	1.6%	-0.8%	-1.4%
Electricity	90	116	146	141	159	168	182	2.5%	2.3%	-0.3%	1.2%	0.6%	0.8%
Heat	34	35	40	34	45	51	58	0.2%	1.3%	-1.4%	2.8%	1.2%	1.2%
Biomass & Other	24	30	41	49	53	54	55	2.3%	3.2%	2.0%	0.7%	0.2%	0.3%
Agriculture	33	29	26	25	27	28	30	-1.4%	-1.1%	-0.1%	0.5%	0.6%	0.6%
Coal	2	1	1	1	1	0	0	-4.9%	0.8%	-2.4%	-4.4%	-3.1%	-3.1%
Oil	21	18	14	14	15	16	17	-1.2%	-2.3%	-0.1%	0.6%	0.6%	0.6%
Gas	5	4	4	4	4	4	4	-1.6%	-1.0%	0.3%	0.5%	0.4%	0.4%
Electricity	5	4	5	5	5	6	6	-1.7%	1.3%	0.2%	1.0%	1.0%	1.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	2	2	2	2	2	2.4%	4.4%	0.1%	0.0%	0.0%	0.0%
Transport	259	305	320	302	295	295	289	1.6%	0.5%	-0.6%	-0.2%	0.0%	-0.2%
Coal	0	0	0	0	0	0	0	-26.4%	1.7%	-3.5%	0.0%	0.0%	0.0%
Oil	254	297	300	275	258	251	235	1.6%	0.1%	-0.9%	-0.6%	-0.3%	-0.6%
Gas	0	0	1	2	7	10	12	5.3%	12.9%	6.6%	11.2%	4.4%	1.9%
Electricity	5	6	5	6	8	10	13	1.3%	-1.4%	1.7%	2.9%	1.6%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	1	14	19	23	24	28	n.s.	34.1%	3.3%	1.9%	0.7%	1.6%
Other Energy Transformation & Losses⁴	99	94	110	103	108	105	105	-0.5%	1.6%	-0.7%	0.5%	-0.3%	0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

EFTA	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	11	12	13	15	16	17	18	0.7%	0.9%	1.2%	0.9%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	34	39	42	44	48	53	58	1.5%	0.7%	0.5%	0.9%	0.9%	1.0%
GDP per capita (mer, k\$'05)	48	56	61	64	70	77	85	1.5%	0.9%	0.4%	0.9%	0.9%	1.0%
Share Value Added - Agriculture (%)	3	2	1	1	1	1	1	-4.8%	-2.7%	0.1%	0.0%	0.0%	0.0%
Share Value Added - Industry ¹ (%)	32	33	32	29	27	25	22	0.3%	-0.4%	-0.8%	-0.8%	-0.8%	-1.0%
Share Value Added - Services (%)	65	65	67	70	72	74	76	0.0%	0.2%	0.4%	0.3%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	19	-3.4%	3.6%	-2.9%	0.9%	1.7%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (MtCO₂ eq.)													
Total GHG	90	79	77	90	79	68	55	-1.4%	-0.2%	1.6%	-1.3%	-1.5%	-2.2%
Total GHG (excl. sinks)	103	104	106	116	105	100	88	0.1%	0.2%	0.9%	-0.9%	-0.5%	-1.3%
Total GHG (energy, industry, agriculture)	101	102	104	114	104	99	87	0.0%	0.2%	1.0%	-0.9%	-0.5%	-1.3%
CO ₂	75	79	84	96	89	83	72	0.5%	0.7%	1.3%	-0.8%	-0.7%	-1.5%
CH ₄	10	9	9	7	7	7	7	-0.5%	-0.8%	-1.6%	-0.9%	0.0%	-0.2%
N ₂ O	11	10	8	8	8	8	8	-0.4%	-2.1%	0.2%	-0.6%	0.2%	-0.2%
F gases	6	3	3	2	1	1	1	-5.7%	-2.2%	-1.7%	-9.2%	-0.2%	-0.6%
Total GHG from Energy and Industry	89	90	93	103	93	87	75	0.1%	0.3%	1.1%	-1.0%	-0.7%	-1.5%
CO₂ Emissions from Fuel Comb.	67	70	77	89	80	74	63	0.5%	0.9%	1.4%	-1.0%	-0.8%	-1.6%
Power generation/District heating	1	1	3	7	9	10	6	-2.5%	13.3%	11.4%	2.3%	0.9%	-5.7%
Industry	10	10	10	9	9	9	8	-0.4%	0.0%	-1.2%	0.4%	-0.2%	-0.9%
Buildings	20	18	18	12	9	7	6	-1.1%	0.2%	-4.4%	-2.4%	-2.5%	-2.4%
Agriculture	2	3	3	2	2	2	1	2.1%	-0.7%	-2.5%	-0.7%	-2.0%	-3.5%
Transport	25	28	31	32	28	24	20	1.1%	1.0%	0.5%	-1.4%	-1.6%	-1.8%
Other	8	11	13	26	23	22	22	3.0%	1.5%	7.3%	-1.5%	-0.2%	0.1%
CO₂ captured (CCS)	0	0	0	0	0	2	9	n.s.	n.s.	n.s.	17.0%	19.2%	16.5%
Coal	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	16.8%	19.5%	15.6%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	38.6%	14.8%
Biomass	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	16.0%	3.7%	27.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	127	230	221	193	158	115	94	6.2%	-0.4%	-1.4%	-1.9%	-3.2%	-2.0%
Coal	0	0	1	1	2	3	3	9.0%	12.1%	1.1%	4.4%	1.2%	0.4%
Oil	83	162	102	85	55	25	13	6.9%	-4.5%	-1.8%	-4.2%	-7.6%	-6.5%
Natural gas	21	41	89	74	60	42	34	6.8%	8.0%	-1.8%	-2.1%	-3.3%	-2.2%
Biomass	2	3	4	3	6	6	5	2.4%	1.9%	-0.7%	6.0%	-1.0%	-1.4%
Nuclear ¹	6	7	7	7	10	12	10	1.1%	0.0%	0.1%	4.0%	1.5%	-1.5%
Hydro	13	16	14	16	16	17	17	1.8%	-1.1%	1.2%	0.1%	0.1%	0.1%
Other renewables	0	1	4	6	8	10	13	16.1%	13.1%	3.4%	4.3%	2.1%	2.1%
Net Imports	-80	-177	-156	-123	-85	-39	-19						
Coal	1	1	0	0	1	1	2						
Oil	-62	-141	-79	-62	-35	-8	1						
Natural gas	-18	-34	-78	-59	-47	-30	-21						
Biomass	0	0	0	-1	-2	-1	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	-2	-2	1	-2	-2	-2	-2						
Primary Energy Demand²	46	54	66	69	73	75	75	1.5%	2.0%	0.6%	0.5%	0.3%	0.0%
Coal	1	1	1	1	3	4	4	0.0%	-2.5%	4.1%	7.5%	2.8%	0.7%
Oil	21	21	24	23	20	17	14	0.0%	1.5%	-0.3%	-1.6%	-1.6%	-1.7%
Natural gas	4	7	11	15	13	12	13	6.2%	5.0%	3.2%	-1.5%	-0.2%	0.6%
Biomass	2	3	4	3	4	5	5	2.4%	1.9%	-3.2%	4.1%	1.3%	1.1%
Nuclear ¹	6	7	7	7	10	12	10	1.1%	0.0%	0.1%	4.0%	1.5%	-1.5%
Hydro	13	16	14	16	16	17	17	1.8%	-1.1%	1.2%	0.1%	0.1%	0.1%
Other renewables	0	1	4	6	8	10	13	16.1%	13.1%	3.4%	4.3%	2.1%	2.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	46	54	66	69	73	75	75	1.5%	2.0%	0.6%	0.5%	0.3%	0.0%
Energy for Power Generation	21	25	28	32	39	43	45	2.0%	0.9%	1.4%	2.0%	1.0%	0.4%
Other Energy Transformation & Losses	2	3	11	14	13	13	13	4.6%	15.0%	1.9%	-0.8%	0.2%	0.4%
Final consumption	37	41	45	43	44	44	45	1.0%	0.9%	-0.5%	0.3%	0.2%	0.1%
Steel, Non-Met. Minerals and Chem.	4	4	4	4	4	4	4	1.6%	-0.6%	-0.3%	0.0%	-0.4%	-0.4%
Other Industry	6	7	7	8	8	9	9	1.2%	0.3%	0.6%	1.0%	0.6%	0.4%
Non-Energy Use	2	3	3	3	3	3	3	1.3%	0.2%	0.8%	-0.2%	-0.4%	-0.6%
Residential	10	10	11	9	10	10	10	-0.1%	1.4%	-1.7%	0.3%	0.4%	0.4%
Services	5	6	7	6	7	7	8	1.0%	1.9%	-1.5%	0.8%	0.9%	1.0%
Agriculture	1	1	1	1	1	1	1	3.4%	-0.6%	-1.3%	1.0%	0.9%	0.8%
Road	8	9	10	10	9	8	8	1.4%	0.9%	0.4%	-0.7%	-0.8%	-1.1%
Rail	0	0	0	0	0	0	0	-0.3%	1.4%	0.2%	1.1%	1.0%	0.8%
Aviation	0	0	0	1	1	1	1	5.3%	1.4%	2.6%	1.8%	1.4%	1.0%
Other Transport	1	1	1	1	1	1	1	0.9%	1.3%	-1.5%	0.6%	-0.2%	-0.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

EFTA	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	1	1	3	4	4	5	6	2.8%	7.6%	2.8%	1.8%	1.1%	1.4%
Coal	0	0	0	0	1	2	2	-5.0%	1.6%	32.3%	14.0%	3.7%	1.0%
Oil	0	0	0	0	0	0	0	-9.4%	-7.2%	31.7%	-4.0%	-4.7%	-10.5%
Gas	0	0	1	2	1	1	1	2.2%	16.9%	7.1%	-5.6%	-1.1%	2.2%
Biomass & Waste	1	1	1	0	1	1	1	3.8%	3.4%	-10.9%	7.7%	0.6%	3.8%
Other	0	0	0	0	1	1	1	16.0%	12.9%	1.0%	3.4%	0.0%	-1.0%
Gross Elec. Generation (TWh_e)	182	218	208	248	280	311	342	1.8%	-0.5%	1.8%	1.2%	1.1%	0.9%
Coal	0	0	0	2	8	11	12	-5.1%	3.8%	33.7%	14.6%	4.0%	1.1%
of which CCS	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	n.s.	n.s.	18.6%
Oil	0	0	0	2	1	1	0	-4.9%	-8.2%	31.5%	-3.8%	-4.6%	-10.4%
Gas	0	1	6	9	5	6	7	12.5%	18.6%	4.4%	-5.1%	0.2%	2.8%
of which CCS	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	13.4%
Biomass & Waste	1	2	3	1	3	4	6	6.9%	3.5%	-6.8%	9.1%	1.6%	5.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	24	26	26	27	40	48	41	1.1%	0.0%	0.2%	4.2%	1.6%	-1.5%
Hydro	157	187	168	189	191	194	196	1.8%	-1.1%	1.2%	0.1%	0.1%	0.1%
Wind	0	0	1	11	19	33	59	n.s.	39.0%	28.2%	5.7%	5.7%	5.9%
Solar	0	0	0	3	5	9	13	25.5%	20.1%	33.8%	6.2%	5.4%	4.5%
Other	0	1	4	5	7	7	7	16.0%	12.9%	1.0%	3.5%	0.3%	-0.2%
Generation Capacity (GW_e)	45	49	55	74	93	108	119	1.0%	1.1%	3.0%	2.3%	1.5%	0.9%
Coal	0	0	0	1	2	3	5	1.4%	3.4%	20.3%	11.7%	4.8%	2.9%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	20.3%
Oil	0	0	0	1	1	2	2	-5.3%	1.9%	14.7%	2.8%	1.5%	1.9%
Gas	0	0	2	9	15	17	17	10.2%	20.2%	17.5%	5.4%	1.4%	0.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	21.9%
Biomass & Waste	0	1	0	1	3	4	5	7.1%	-3.1%	12.5%	6.4%	2.4%	3.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	3	3	3	4	6	7	6	0.8%	0.2%	2.2%	4.0%	1.4%	-1.8%
Hydro	41	45	48	49	50	50	51	1.0%	0.7%	0.2%	0.1%	0.1%	0.1%
Wind	0	0	0	5	9	14	18	n.s.	40.6%	25.3%	6.5%	5.3%	2.4%
Solar	0	0	0	3	6	9	13	25.9%	19.9%	37.2%	6.0%	5.1%	3.5%
Other	0	0	1	1	2	2	2	14.4%	12.8%	8.5%	4.5%	1.3%	0.7%
Total Final Consumption² (Mtoe)	37	41	45	43	44	44	45	1.0%	0.9%	-0.5%	0.3%	0.2%	0.1%
Coal	1	1	1	1	1	1	1	0.2%	-3.1%	0.2%	2.0%	0.7%	-0.4%
Oil	19	19	20	17	14	11	9	0.0%	0.3%	-1.3%	-2.0%	-2.2%	-2.4%
Gas	1	3	3	3	4	4	4	7.0%	2.2%	0.2%	1.7%	0.8%	0.1%
Electricity	13	15	16	17	19	22	24	1.4%	1.1%	0.4%	1.3%	1.2%	1.0%
Heat	1	1	2	2	2	3	3	2.6%	4.9%	0.0%	2.7%	2.1%	1.2%
Biomass & Other	2	2	3	2	3	3	3	1.9%	1.7%	-1.4%	2.0%	1.2%	1.0%
Share of Renewables ³ (%)	41%	45%	39%	46%	52%	57%	65%	0.8%	-1.4%	1.8%	1.0%	1.0%	1.3%
Industry (incl. non-energy use)	12	14	14	15	15	16	16	1.3%	0.0%	0.4%	0.5%	0.2%	0.0%
Coal	1	1	1	1	1	1	1	0.2%	-3.2%	0.3%	2.0%	0.7%	-0.4%
Oil	4	4	4	3	3	2	2	-1.2%	0.0%	-1.3%	-1.6%	-2.0%	-2.0%
Gas	0	1	2	2	2	2	2	11.9%	1.7%	0.9%	0.7%	0.4%	-0.4%
Electricity	6	6	7	8	8	9	9	1.3%	0.3%	1.3%	1.0%	0.7%	0.5%
Heat	0	0	0	0	0	0	0	7.9%	2.6%	0.3%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	1	1	1	1	1	1	5.7%	-1.7%	-1.0%	1.4%	0.7%	1.3%
Buildings	15	15	18	15	16	17	18	0.3%	1.6%	-1.7%	0.5%	0.6%	0.7%
Coal	0	0	0	0	0	0	0	-5.6%	-1.2%	n.s.	n.s.	n.s.	n.s.
Oil	6	5	4	2	2	1	1	-1.8%	-0.5%	-5.7%	-3.7%	-3.7%	-3.3%
Gas	1	1	2	2	2	1	1	3.7%	3.1%	-1.0%	0.0%	-0.9%	-1.5%
Electricity	7	8	9	9	10	11	12	1.3%	1.8%	-0.3%	1.2%	1.2%	1.2%
Heat	1	1	1	1	2	2	3	1.7%	5.3%	0.0%	3.1%	2.3%	1.3%
Biomass & Other	1	1	2	1	1	1	1	-0.9%	3.3%	-2.7%	-0.1%	-0.9%	-0.3%
Agriculture	1	1	1	1	1	1	1	3.4%	-0.6%	-1.3%	1.0%	0.9%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	1	0	0	1.9%	-0.3%	-2.6%	-0.7%	-2.0%	-3.5%
Gas	0	0	0	0	0	0	0	7.3%	-9.1%	0.5%	-0.5%	-1.4%	-2.5%
Electricity	0	0	0	0	0	1	1	6.5%	0.4%	0.9%	2.2%	2.3%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	41.3%	-3.4%	6.3%	10.9%	6.6%	4.4%
Transport	9	10	11	12	11	10	10	1.4%	1.0%	0.3%	-0.5%	-0.6%	-0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	10	11	11	9	7	6	1.5%	0.8%	0.1%	-1.8%	-2.1%	-2.4%
Gas	0	0	0	0	1	1	1	n.s.	n.s.	18.1%	18.8%	5.1%	2.7%
Electricity	0	0	0	0	1	1	2	0.1%	1.7%	1.5%	8.5%	3.9%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	6.4%	8.8%	4.2%	1.3%
Other Energy Transformation & Losses⁴	2	3	11	14	13	13	13	4.6%	15.0%	1.9%	-0.8%	0.2%	0.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Balkans	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	24	23	23	22	21	20	19	-0.5%	-0.3%	-0.2%	-0.3%	-0.6%	-0.7%
GDP per capita (ppp, k\$'05)	5	4	7	8	11	15	20	-0.9%	4.1%	1.9%	3.1%	3.6%	2.8%
GDP per capita (mer, k\$'05)	0	2	3	3	5	7	9	14.0%	4.6%	1.9%	3.1%	3.6%	2.8%
Share Value Added - Agriculture (%)	22	15	12	10	9	8	7	-3.6%	-2.6%	-1.2%	-1.7%	-1.4%	-0.8%
Share Value Added - Industry (%)	31	24	27	27	26	25	24	-2.6%	1.3%	0.1%	-0.3%	-0.4%	-0.5%
Share Value Added - Services (%)	47	61	61	62	65	67	69	2.6%	0.0%	0.2%	0.4%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	19	-3.4%	3.6%	-2.9%	0.9%	1.7%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	129	75	118	120	135	136	137	-5.3%	4.6%	0.2%	1.1%	0.1%	0.1%
Total GHG (excl. sinks)	129	94	119	121	135	138	139	-3.1%	2.3%	0.2%	1.0%	0.3%	0.1%
Total GHG (energy, industry, agriculture)	129	92	118	116	126	133	132	-3.3%	2.5%	-0.2%	0.8%	0.6%	-0.1%
CO ₂	101	71	88	82	86	87	80	-3.4%	2.1%	-0.7%	0.5%	0.1%	-0.8%
CH ₄	17	12	11	11	12	12	12	-3.5%	-0.7%	-0.1%	0.6%	0.5%	0.1%
N ₂ O	9	6	10	11	11	12	12	-4.4%	5.4%	0.5%	0.8%	0.6%	0.1%
F gases	1	3	9	12	16	22	26	8.5%	11.5%	2.8%	2.9%	3.0%	2.0%
Total GHG from Energy and Industry	113	81	104	100	109	116	113	-3.3%	2.6%	-0.4%	0.8%	0.6%	-0.2%
CO₂ Emissions from Fuel Comb.	97	69	84	78	82	82	75	-3.3%	2.0%	-0.8%	0.5%	0.1%	-0.9%
Power generation/District heating	52	47	52	48	51	49	42	-1.0%	1.0%	-0.8%	0.6%	-0.3%	-1.6%
Industry	16	8	9	8	8	8	8	-6.8%	1.1%	-1.7%	0.4%	0.5%	-0.1%
Buildings	14	5	6	4	4	3	3	-10.3%	1.5%	-3.5%	-1.0%	-0.5%	-1.4%
Agriculture	0	1	1	1	1	1	1	9.7%	-4.7%	4.1%	0.9%	1.1%	0.9%
Transport	8	6	13	13	12	12	12	-2.4%	7.2%	-0.3%	-0.5%	0.2%	-0.2%
Other	6	2	4	6	7	9	9	-9.6%	6.7%	2.1%	2.2%	2.3%	0.7%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	20	18	21	13	15	17	19	-1.0%	1.5%	-4.5%	1.2%	1.2%	1.1%
Coal	14	13	14	4	5	5	5	-1.1%	1.2%	-11.6%	1.6%	0.5%	0.0%
Oil	2	1	2	2	2	2	1	-5.0%	2.2%	3.9%	-1.4%	-2.0%	-3.0%
Natural gas	1	1	0	1	1	1	1	-1.4%	-6.4%	5.3%	4.0%	1.3%	0.5%
Biomass	2	2	2	4	4	5	5	-0.2%	2.1%	6.3%	0.5%	1.3%	0.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.2%	9.9%
Hydro	1	2	3	2	3	3	4	3.7%	3.9%	-1.6%	1.7%	1.6%	1.5%
Other renewables	0	0	0	0	0	1	3	n.s.	19.5%	31.3%	16.1%	10.9%	6.9%
Net Imports	12	5	10	15	16	18	16						
Coal	2	0	1	10	10	8	7						
Oil	7	4	7	5	5	5	5						
Natural gas	3	1	2	1	2	5	4						
Biomass	0	0	0	-2	-1	-1	-1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	32	24	31	29	32	35	35	-3.1%	2.7%	-0.7%	1.0%	1.0%	0.1%
Coal	16	13	15	14	15	13	12	-2.2%	1.6%	-0.7%	0.3%	-1.0%	-0.9%
Oil	9	5	9	7	7	7	6	-6.4%	5.8%	-1.7%	-0.7%	0.1%	-0.7%
Natural gas	4	2	2	2	3	6	5	-6.8%	1.8%	-1.7%	5.9%	5.7%	-1.1%
Biomass	2	2	2	2	3	4	4	-0.2%	2.3%	0.6%	2.9%	2.3%	1.4%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.2%	9.9%
Hydro	1	2	3	2	3	3	4	3.7%	3.9%	-1.6%	1.7%	1.6%	1.5%
Other renewables	0	0	0	0	0	1	3	n.s.	19.5%	31.3%	16.1%	10.9%	6.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	32	24	31	29	32	35	35	-3.1%	2.7%	-0.7%	1.0%	1.0%	0.1%
Energy for Power Generation	15	14	16	15	17	19	19	-0.6%	1.5%	-0.9%	1.3%	1.1%	0.0%
Other Energy Transformation & Losses	2	1	2	3	4	4	5	-5.3%	5.9%	4.1%	2.3%	2.1%	0.6%
Final consumption	21	13	19	18	19	22	23	-4.4%	3.6%	-0.7%	0.9%	1.2%	0.6%
Steel, Non-Met. Minerals and Chem.	0	1	3	2	2	2	2	5.2%	14.3%	-2.8%	0.0%	-0.2%	-0.9%
Other Industry	7	3	2	2	3	4	4	-8.3%	-3.4%	1.1%	2.2%	2.2%	1.3%
Non-Energy Use	2	0	1	1	1	1	1	-13.4%	10.4%	-5.5%	1.3%	1.6%	0.7%
Residential	4	5	6	6	6	7	7	1.0%	1.8%	-0.4%	0.8%	1.0%	0.3%
Services	4	2	2	2	2	3	3	-9.8%	2.6%	-1.0%	1.7%	2.3%	1.5%
Agriculture	0	0	0	0	0	0	0	11.2%	-3.1%	2.8%	1.1%	1.2%	1.0%
Road	3	2	5	5	5	5	5	-1.1%	6.9%	0.0%	0.3%	0.9%	0.4%
Rail	0	0	0	0	0	0	0	2.1%	18.1%	-3.0%	0.6%	0.9%	0.5%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	3.1%	3.4%	2.2%
Other Transport	0	0	0	0	0	0	0	n.s.	4.8%	8.0%	1.8%	1.9%	0.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Balkans	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	13	12	13	12	13	14	12	-1.1%	1.0%	-0.9%	0.9%	0.4%	-1.4%
Coal	12	11	13	12	12	10	9	-0.4%	1.0%	-0.6%	0.0%	-1.5%	-1.5%
Oil	1	0	0	0	0	0	0	-12.5%	-2.9%	-24.4%	31.7%	8.1%	-1.5%
Gas	0	0	0	0	1	3	2	-7.4%	7.7%	-12.7%	31.9%	11.1%	-2.4%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	13.6%	10.3%	6.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	65	59	79	76	94	115	129	-0.9%	3.0%	-0.4%	2.1%	2.1%	1.1%
Coal	44	35	45	46	50	47	42	-2.3%	2.6%	0.2%	0.9%	-0.6%	-1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	1	0	0	1	2	2	-11.9%	-12.4%	-13.5%	31.8%	8.1%	-1.3%
Gas	1	0	0	0	4	11	10	-11.4%	0.3%	-3.8%	29.3%	11.8%	-1.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	16.1%	11.5%	7.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	16	23	34	29	34	40	46	3.7%	3.9%	-1.6%	1.7%	1.6%	1.5%
Wind	0	0	0	1	3	10	19	n.s.	n.s.	n.s.	16.8%	11.4%	6.4%
Solar	0	0	0	0	1	3	8	n.s.	n.s.	51.8%	19.3%	12.4%	8.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	19.3%	14.5%
Generation Capacity (GW_e)	26	13	16	20	23	30	39	-6.7%	2.6%	1.8%	1.5%	2.6%	2.8%
Coal	25	8	8	11	11	12	13	-10.5%	0.4%	2.3%	0.4%	1.2%	0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	0	0	1	-0.6%	2.4%	-2.6%	-3.5%	2.5%	2.7%
Gas	0	0	3	3	3	2	3	-1.1%	31.4%	-1.5%	0.2%	-1.2%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	12.6%	11.1%	7.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	4	4	5	6	7	9	n.s.	0.9%	2.3%	1.7%	1.6%	1.5%
Wind	0	0	0	0	1	4	7	n.s.	n.s.	n.s.	16.1%	10.6%	5.8%
Solar	0	0	0	0	1	3	6	n.s.	n.s.	52.1%	19.6%	12.6%	9.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.9%
Total Final Consumption² (Mtoe)	21	13	19	18	19	22	23	-4.4%	3.6%	-0.7%	0.9%	1.2%	0.6%
Coal	4	2	2	2	2	2	2	-7.0%	1.2%	-1.8%	0.0%	-0.1%	-0.1%
Oil	8	4	8	7	6	6	6	-6.1%	6.3%	-1.2%	-1.0%	-0.3%	-0.6%
Gas	3	1	1	1	2	2	2	-7.6%	0.0%	-3.2%	4.6%	3.0%	0.7%
Electricity	4	4	5	5	7	8	9	-0.8%	2.5%	0.8%	2.0%	2.0%	1.2%
Heat	1	1	1	1	1	1	2	-1.9%	5.2%	-1.4%	2.2%	1.9%	1.5%
Biomass & Other	2	2	2	2	2	3	3	-0.2%	2.2%	-0.1%	1.8%	1.9%	1.1%
Share of Renewables ³ (%)	15%	26%	26%	25%	30%	35%	44%	5.2%	0.2%	-0.4%	1.7%	1.8%	2.1%
Industry (incl. non-energy use)	9	4	6	5	6	6	7	-7.9%	3.7%	-1.7%	1.2%	1.3%	0.6%
Coal	1	1	1	1	1	1	1	-2.4%	1.3%	-0.4%	0.8%	0.5%	0.3%
Oil	4	1	2	1	1	1	1	-15.1%	7.7%	-3.5%	-1.2%	-0.9%	-1.4%
Gas	1	1	1	0	1	1	1	-2.4%	-0.6%	-6.3%	3.2%	2.7%	0.6%
Electricity	2	1	1	2	2	3	3	-7.8%	5.3%	1.1%	2.4%	2.0%	1.1%
Heat	0	0	0	0	0	0	0	-6.1%	9.0%	-5.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	1	n.s.	-3.4%	8.9%	3.5%	4.7%	3.2%
Buildings	9	6	8	7	8	9	10	-3.1%	2.0%	-0.5%	1.1%	1.4%	0.7%
Coal	2	1	1	0	0	0	0	-12.7%	2.1%	-5.0%	-2.9%	-3.2%	-3.4%
Oil	1	1	1	0	0	0	0	-1.0%	1.1%	-3.6%	-2.6%	-1.7%	-1.6%
Gas	2	0	0	0	1	1	1	-14.8%	1.1%	0.1%	3.6%	2.2%	-0.3%
Electricity	2	3	3	4	4	5	5	3.1%	1.5%	0.6%	1.3%	1.7%	1.0%
Heat	0	0	1	1	1	1	1	0.0%	3.7%	0.3%	2.8%	2.4%	1.7%
Biomass & Other	2	2	2	2	2	2	2	-1.2%	2.8%	-1.0%	0.7%	0.9%	0.2%
Agriculture	0	0	0	0	0	0	0	11.2%	-3.1%	2.8%	1.1%	1.2%	1.0%
Coal	0	0	0	0	0	0	0	2.3%	-29.6%	-5.0%	-2.0%	n.s.	n.s.
Oil	0	0	0	0	0	0	0	16.2%	-2.0%	3.3%	1.0%	1.1%	0.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	12.6%	0.8%	0.9%	0.7%
Electricity	0	0	0	0	0	0	0	5.0%	6.0%	-1.5%	1.8%	1.9%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	-13.8%	-7.8%	0.0%	0.0%	0.0%
Transport	3	2	5	5	5	6	6	-1.0%	7.3%	-0.1%	0.4%	0.9%	0.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	2	5	5	4	4	4	-0.9%	7.3%	-0.4%	-0.9%	-0.2%	-0.5%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	19.2%	18.8%	5.4%	2.2%
Electricity	0	0	0	0	0	0	1	-5.5%	3.9%	6.9%	15.2%	5.5%	2.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	15.3%	5.3%	3.1%
Other Energy Transformation & Losses⁴	2	1	2	3	4	4	5	-5.3%	5.9%	4.1%	2.3%	2.1%	0.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Russia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	148	146	143	143	139	133	129	-0.1%	-0.2%	0.0%	-0.3%	-0.4%	-0.3%
GDP per capita (ppp, k\$'05)	13	9	14	16	20	24	25	-3.8%	5.1%	1.3%	2.3%	1.8%	0.4%
GDP per capita (mer, k\$'05)	6	4	6	7	9	11	11	-3.8%	5.1%	1.1%	2.3%	1.8%	0.4%
Share Value Added - Agriculture (%)	17	6	4	5	4	4	4	-9.0%	-5.0%	1.7%	-0.6%	-0.4%	-0.1%
Share Value Added - Industry (%)	48	38	35	32	31	30	30	-2.4%	-0.9%	-0.7%	-0.4%	-0.4%	-0.1%
Share Value Added - Services (%)	35	56	61	63	65	66	66	4.8%	1.0%	0.3%	0.2%	0.2%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	17	-3.4%	3.6%	-3.2%	1.2%	1.5%	0.1%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	3 428	1 649	1 612	1 743	1 958	2 180	2 283	-7.1%	-0.2%	0.8%	1.2%	1.1%	0.5%
Total GHG (excl. sinks)	3 428	2 108	2 230	2 178	2 190	2 249	2 339	-4.7%	0.6%	-0.2%	0.1%	0.3%	0.4%
Total GHG (energy, industry, agriculture)	3 300	2 092	2 218	2 172	2 190	2 249	2 205	-4.5%	0.6%	-0.2%	0.1%	0.3%	-0.2%
CO ₂	2 418	1 497	1 563	1 520	1 508	1 522	1 455	-4.7%	0.4%	-0.3%	-0.1%	0.1%	-0.4%
CH ₄	593	435	491	469	489	524	547	-3.1%	1.2%	-0.5%	0.4%	0.7%	0.4%
N ₂ O	248	131	150	165	172	180	180	-6.2%	1.3%	1.0%	0.4%	0.5%	0.0%
F gases	41	29	14	18	21	23	23	-3.5%	-6.8%	2.3%	1.5%	0.9%	-0.1%
Total GHG from Energy and Industry	2 978	1 938	2 077	2 018	2 023	2 070	2 020	-4.2%	0.7%	-0.3%	0.0%	0.2%	-0.2%
CO₂ Emissions from Fuel Comb.	2 285	1 420	1 458	1 427	1 417	1 433	1 377	-4.6%	0.3%	-0.2%	-0.1%	0.1%	-0.4%
Power generation/District heating	795	586	623	604	610	625	625	-3.0%	0.6%	-0.3%	0.1%	0.2%	0.0%
Industry	227	157	140	150	153	149	133	-3.6%	-1.1%	0.7%	0.2%	-0.3%	-1.1%
Buildings	336	170	137	107	105	114	106	-6.6%	-2.1%	-2.5%	-0.2%	0.8%	-0.7%
Agriculture	49	21	14	13	14	15	15	-8.3%	-4.1%	-0.4%	0.8%	0.6%	0.2%
Transport	252	112	157	185	190	190	166	-7.8%	3.4%	1.7%	0.3%	0.0%	-1.3%
Other	626	375	386	369	344	341	332	-5.0%	0.3%	-0.5%	-0.7%	-0.1%	-0.3%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	1 234	944	1 229	1 301	1 559	1 876	2 259	-2.6%	2.7%	0.6%	1.8%	1.9%	1.9%
Coal	164	130	169	155	224	378	696	-2.3%	2.7%	-0.8%	3.7%	5.4%	6.3%
Oil	526	325	510	538	572	560	509	-4.7%	4.6%	0.5%	0.6%	-0.2%	-0.9%
Natural gas	491	436	486	523	652	803	919	-1.2%	1.1%	0.7%	2.2%	2.1%	1.4%
Biomass	8	5	4	16	35	39	41	-5.5%	-0.9%	13.8%	8.3%	1.3%	0.3%
Nuclear ¹	31	35	45	51	58	73	68	1.0%	2.7%	1.3%	1.2%	2.4%	-0.8%
Hydro	14	14	14	16	16	17	18	0.0%	0.2%	0.8%	0.4%	0.5%	0.6%
Other renewables	0	0	0	1	3	5	8	7.6%	24.1%	12.2%	6.3%	7.0%	5.0%
Net Imports	- 353	- 324	- 539	- 610	- 851	- 1 143	- 1 561						
Coal	11	- 10	- 68	- 33	- 83	- 223	- 529						
Oil	- 265	- 199	- 370	- 366	- 410	- 409	- 382						
Natural gas	- 103	- 117	- 103	- 209	- 356	- 513	- 655						
Biomass	4	2	3	0	1	6	10						
Biofuels	0	0	0	- 1	- 2	- 3	- 3						
Electricity	- 1	- 1	- 2	- 2	- 2	- 2	- 2						
Primary Energy Demand²	880	619	690	691	708	733	698	-3.5%	1.1%	0.0%	0.2%	0.4%	-0.5%
Coal	175	120	101	122	141	155	167	-3.7%	-1.7%	1.9%	1.5%	0.9%	0.8%
Oil	261	126	140	172	162	151	128	-7.0%	1.1%	2.1%	-0.6%	-0.7%	-1.7%
Natural gas	388	319	384	315	296	290	264	-1.9%	1.9%	-2.0%	-0.6%	-0.2%	-1.0%
Biomass	12	7	7	16	36	46	50	-5.6%	0.0%	8.7%	8.5%	2.6%	1.0%
Nuclear ¹	31	35	45	51	58	73	68	1.0%	2.7%	1.3%	1.2%	2.4%	-0.8%
Hydro	14	14	14	16	16	17	18	0.0%	0.2%	0.8%	0.4%	0.5%	0.6%
Other renewables	0	0	0	1	3	5	8	7.6%	24.1%	12.2%	6.3%	7.0%	5.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	880	619	690	691	708	733	698	-3.5%	1.1%	0.0%	0.2%	0.4%	-0.5%
Energy for Power Generation	325	252	286	282	288	307	299	-2.5%	1.2%	-0.1%	0.2%	0.7%	-0.2%
Other Energy Transformation & Losses	224	154	154	148	147	149	146	-3.6%	0.0%	-0.4%	0.0%	0.1%	-0.2%
Final consumption	603	400	425	426	447	462	438	-4.0%	0.6%	0.0%	0.5%	0.3%	-0.5%
Steel, Non-Met. Minerals and Chem.	102	78	91	93	97	94	86	-2.7%	1.6%	0.2%	0.4%	-0.3%	-0.9%
Other Industry	128	65	52	56	57	58	57	-6.5%	-2.2%	0.6%	0.3%	0.2%	-0.3%
Non-Energy Use	40	36	66	74	79	81	76	-1.0%	6.2%	1.2%	0.7%	0.2%	-0.7%
Residential	168	140	111	97	95	100	97	-1.8%	-2.3%	-1.4%	-0.2%	0.5%	-0.2%
Services	62	25	37	34	41	46	45	-8.7%	3.9%	-0.7%	1.7%	1.3%	-0.3%
Agriculture	22	9	6	6	6	7	7	-8.3%	-4.4%	-0.2%	1.0%	0.8%	0.4%
Road	52	34	48	51	55	58	54	-4.1%	3.4%	0.5%	0.8%	0.5%	-0.6%
Rail	12	5	7	7	7	7	7	-7.6%	2.1%	0.8%	0.2%	0.0%	-0.5%
Aviation	9	5	5	6	7	8	7	-6.9%	1.5%	1.5%	1.6%	1.1%	-0.5%
Other Transport	7	1	1	2	3	3	2	-14.7%	-1.4%	6.7%	1.1%	0.1%	-1.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Russia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	279	204	226	214	211	211	205	-3.1%	1.0%	-0.5%	-0.1%	0.0%	-0.3%
Coal	63	63	59	66	77	86	94	0.0%	-0.6%	1.0%	1.6%	1.1%	1.0%
Oil	46	12	4	9	5	3	2	-12.6%	-10.2%	8.7%	-5.6%	-4.2%	-3.6%
Gas	170	127	160	134	123	116	103	-2.9%	2.4%	-1.8%	-0.9%	-0.5%	-1.2%
Biomass & Waste	0	2	2	5	6	6	5	29.4%	1.7%	9.1%	1.9%	0.0%	-1.6%
Other	0	0	0	0	0	0	0	7.6%	24.2%	8.3%	5.5%	1.0%	2.1%
Gross Elec. Generation (TWh_e)	1 082	878	1 038	1 093	1 259	1 428	1 438	-2.1%	1.7%	0.5%	1.4%	1.3%	0.1%
Coal	157	176	166	202	270	329	373	1.1%	-0.6%	2.0%	3.0%	2.0%	1.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	129	33	9	41	23	15	11	-12.7%	-11.9%	16.1%	-5.6%	-4.3%	-3.5%
Gas	512	370	521	450	522	551	508	-3.2%	3.5%	-1.4%	1.5%	0.5%	-0.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	3	3	15	19	20	20	52.6%	0.9%	18.7%	2.4%	0.1%	0.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	118	131	170	196	222	289	271	1.0%	2.7%	1.4%	1.3%	2.7%	-0.6%
Hydro	166	165	168	183	191	200	213	0.0%	0.2%	0.8%	0.4%	0.5%	0.6%
Wind	0	0	0	4	7	16	26	n.s.	7.2%	n.s.	5.4%	8.9%	5.1%
Solar	0	0	0	1	2	6	12	n.s.	n.s.	n.s.	15.3%	9.5%	7.1%
Other	0	0	1	1	2	2	3	7.6%	24.2%	8.3%	5.7%	1.7%	3.4%
Generation Capacity (GW_e)	144	211	231	231	245	287	306	3.9%	0.9%	0.0%	0.6%	1.6%	0.7%
Coal	42	42	42	38	42	53	59	0.0%	0.0%	-1.1%	1.1%	2.2%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	16	16	16	13	9	6	5	0.0%	0.0%	-1.8%	-4.4%	-2.8%	-2.1%
Gas	86	88	104	100	106	122	127	0.3%	1.7%	-0.4%	0.6%	1.4%	0.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	1	2	3	3	3	36.8%	0.0%	13.4%	2.1%	0.1%	0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	20	23	25	28	36	33	n.s.	1.3%	1.0%	1.1%	2.5%	-0.7%
Hydro	0	44	45	49	51	53	57	n.s.	0.2%	0.8%	0.4%	0.5%	0.6%
Wind	0	0	0	3	4	9	13	n.s.	19.6%	n.s.	4.9%	7.6%	3.8%
Solar	0	0	0	1	3	5	9	n.s.	n.s.	n.s.	10.7%	6.6%	6.0%
Other	0	0	0	0	0	0	0	n.s.	14.6%	6.8%	5.5%	1.4%	2.9%
Total Final Consumption² (Mtoe)	603	400	425	426	447	462	438	-4.0%	0.6%	0.0%	0.5%	0.3%	-0.5%
Coal	68	29	28	33	35	34	31	-8.3%	-0.2%	1.6%	0.6%	-0.4%	-0.8%
Oil	145	91	109	125	122	117	101	-4.6%	1.9%	1.4%	-0.2%	-0.4%	-1.4%
Gas	110	90	110	97	106	115	108	-2.0%	2.0%	-1.3%	0.9%	0.8%	-0.6%
Electricity	68	50	60	63	73	83	83	-2.9%	1.8%	0.5%	1.4%	1.3%	0.1%
Heat	203	137	115	102	99	98	96	-3.9%	-1.8%	-1.2%	-0.2%	-0.1%	-0.2%
Biomass & Other	8	3	2	6	12	16	18	-9.3%	-2.5%	9.5%	7.0%	3.2%	1.5%
Share of Renewables ³ (%)	6%	8%	7%	8%	9%	11%	13%	2.1%	-0.9%	1.5%	1.6%	1.4%	1.9%
Industry (incl. non-energy use)	270	179	210	223	233	234	218	-4.0%	1.6%	0.6%	0.5%	0.0%	-0.7%
Coal	28	19	24	30	33	32	30	-3.9%	2.6%	2.3%	0.8%	-0.2%	-0.7%
Oil	44	36	43	52	51	48	43	-2.0%	1.9%	2.0%	-0.3%	-0.5%	-1.2%
Gas	52	43	66	67	71	72	64	-1.9%	4.5%	0.1%	0.6%	0.1%	-1.1%
Electricity	41	27	28	30	34	39	39	-4.2%	0.5%	0.6%	1.4%	1.2%	0.1%
Heat	105	55	48	42	40	39	37	-6.4%	-1.4%	-1.3%	-0.3%	-0.4%	-0.4%
Biomass & Other	0	1	0	2	4	4	5	n.s.	-2.9%	13.1%	9.0%	1.6%	0.8%
Buildings	231	166	148	131	136	146	142	-3.3%	-1.1%	-1.2%	0.4%	0.7%	-0.3%
Coal	40	10	4	3	2	2	1	-13.1%	-8.8%	-4.0%	-2.3%	-2.6%	-2.9%
Oil	14	7	6	9	7	5	4	-7.0%	-0.6%	3.9%	-3.2%	-2.3%	-2.6%
Gas	57	47	43	29	32	39	38	-1.9%	-0.8%	-4.1%	1.2%	1.9%	-0.3%
Electricity	15	18	26	27	30	34	33	1.7%	3.8%	0.3%	1.2%	1.1%	-0.2%
Heat	98	82	67	60	59	59	59	-1.7%	-2.0%	-1.1%	-0.2%	0.0%	-0.1%
Biomass & Other	7	2	2	4	6	7	8	-10.8%	-2.6%	8.4%	4.1%	2.4%	0.7%
Agriculture	22	9	6	6	6	7	7	-8.3%	-4.4%	-0.2%	1.0%	0.8%	0.4%
Coal	1	0	0	0	0	0	0	-7.1%	-11.5%	-3.4%	0.0%	0.0%	0.0%
Oil	14	6	4	4	4	4	4	-8.7%	-4.2%	-0.4%	0.9%	0.7%	0.2%
Gas	1	1	1	1	1	1	1	-0.8%	0.9%	0.6%	0.7%	0.5%	0.0%
Electricity	6	3	1	1	2	2	2	-7.7%	-6.2%	0.1%	1.7%	1.5%	1.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	0	0	0	0	0	0	-15.8%	1.1%	0.4%	0.0%	0.0%	0.0%
Transport	80	46	61	66	72	75	71	-5.4%	3.0%	0.8%	0.8%	0.5%	-0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	73	42	56	60	60	59	50	-5.3%	2.8%	0.6%	0.1%	-0.2%	-1.7%
Gas	1	0	0	0	2	4	6	-23.1%	3.4%	11.9%	19.7%	5.9%	4.5%
Electricity	6	3	5	6	7	9	10	-5.5%	4.5%	1.1%	2.6%	1.9%	0.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	4	6	n.s.	n.s.	n.s.	23.3%	7.7%	3.5%
Other Energy Transformation & Losses⁴	224	154	154	148	147	149	146	-3.6%	0.0%	-0.4%	0.0%	0.1%	-0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Ukraine	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	51	49	46	44	41	38	35	-0.5%	-0.7%	-0.4%	-0.7%	-0.8%	-0.7%
GDP per capita (ppp, k\$'05)	8	4	6	7	10	15	21	-7.5%	5.0%	1.0%	4.2%	3.9%	3.5%
GDP per capita (mer, k\$'05)	3	1	2	2	3	5	7	-7.5%	5.0%	0.7%	4.2%	3.9%	3.5%
Share Value Added - Agriculture (%)	26	17	8	12	10	8	7	-4.0%	-7.0%	4.0%	-2.5%	-1.6%	-1.0%
Share Value Added - Industry (%)	45	36	31	26	25	24	23	-2.0%	-1.5%	-1.9%	-0.2%	-0.4%	-0.5%
Share Value Added - Services (%)	30	47	60	62	65	67	69	4.6%	2.6%	0.2%	0.5%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	17	-3.4%	3.6%	-3.2%	1.2%	1.5%	0.1%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	804	345	311	261	302	309	353	-8.1%	-1.1%	-1.7%	1.5%	0.3%	1.3%
Total GHG (excl. sinks)	873	396	349	286	323	327	369	-7.6%	-1.3%	-2.0%	1.2%	0.1%	1.2%
Total GHG (energy, industry, agriculture)	873	396	349	286	323	327	369	-7.6%	-1.3%	-2.0%	1.2%	0.1%	1.2%
CO ₂	652	277	253	200	240	246	292	-8.2%	-0.9%	-2.3%	1.8%	0.2%	1.7%
CH ₄	162	93	66	53	48	44	39	-5.4%	-3.3%	-2.2%	-1.0%	-0.8%	-1.1%
N ₂ O	59	26	29	32	35	36	36	-7.7%	0.9%	1.0%	0.8%	0.3%	0.0%
F gases	0	0	1	1	1	2	2	-5.6%	17.0%	3.0%	4.2%	3.4%	2.7%
Total GHG from Energy and Industry	770	359	314	248	283	285	327	-7.3%	-1.3%	-2.3%	1.3%	0.1%	1.4%
CO₂ Emissions from Fuel Comb.	613	258	234	182	221	226	272	-8.3%	-1.0%	-2.5%	1.9%	0.2%	1.9%
Power generation/District heating	209	77	93	81	113	114	159	-9.5%	1.9%	-1.4%	3.4%	0.1%	3.4%
Industry	127	47	31	25	28	29	29	-9.5%	-3.9%	-2.2%	1.0%	0.4%	0.0%
Buildings	56	44	37	21	19	17	15	-2.5%	-1.8%	-5.5%	-1.0%	-1.2%	-1.2%
Agriculture	23	3	4	4	5	5	6	-17.2%	2.4%	0.0%	1.1%	1.1%	1.1%
Transport	53	17	30	25	27	28	28	-10.6%	5.5%	-1.8%	0.6%	0.5%	-0.1%
Other	144	69	38	26	29	33	36	-7.1%	-5.8%	-3.8%	1.3%	1.0%	0.9%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	105	71	80	76	74	81	72	-3.8%	1.1%	-0.4%	-0.2%	0.8%	-1.2%
Coal	57	32	34	30	24	22	14	-5.5%	0.6%	-1.3%	-2.3%	-1.0%	-4.1%
Oil	6	4	4	3	4	4	4	-3.2%	-0.2%	-2.6%	1.8%	1.4%	0.5%
Natural gas	21	13	15	17	18	18	17	-4.5%	1.4%	0.8%	0.8%	0.0%	-0.3%
Biomass	0	0	1	1	2	2	3	-2.2%	18.6%	-1.5%	3.2%	3.5%	2.9%
Nuclear ¹	20	20	24	23	23	28	25	0.2%	1.4%	-0.2%	0.0%	2.0%	-1.4%
Hydro	1	1	1	1	1	1	1	0.7%	1.4%	-0.1%	-0.1%	0.0%	0.0%
Other renewables	0	0	0	1	3	6	7	n.s.	n.s.	n.s.	12.3%	6.5%	2.7%
Net Imports	148	58	53	21	36	40	60						
Coal	18	2	4	3	17	19	34						
Oil	62	8	9	8	10	11	11						
Natural gas	71	49	40	9	9	10	13						
Biomass	0	0	0	0	1	1	1						
Biofuels	0	0	0	0	0	0	0						
Electricity	-2	0	0	0	0	0	0						
Primary Energy Demand²	253	130	133	97	110	121	132	-6.4%	0.2%	-3.1%	1.3%	0.9%	0.9%
Coal	75	34	39	33	41	40	49	-7.5%	1.2%	-1.6%	2.3%	-0.3%	1.9%
Oil	67	12	13	11	13	15	16	-15.9%	1.0%	-1.4%	1.4%	1.2%	0.5%
Natural gas	92	62	55	26	27	28	31	-3.8%	-1.2%	-7.2%	0.2%	0.4%	1.0%
Biomass	0	0	1	1	2	3	4	-2.2%	18.9%	-0.8%	5.3%	3.7%	2.7%
Nuclear ¹	20	20	24	23	23	28	25	0.2%	1.4%	-0.2%	0.0%	2.0%	-1.4%
Hydro	1	1	1	1	1	1	1	0.7%	1.4%	-0.1%	-0.1%	0.0%	0.0%
Other renewables	0	0	0	1	3	6	7	n.s.	n.s.	n.s.	12.3%	6.5%	2.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	253	130	133	97	110	121	132	-6.4%	0.2%	-3.1%	1.3%	0.9%	0.9%
Energy for Power Generation	81	44	51	48	60	70	82	-5.9%	1.4%	-0.6%	2.3%	1.5%	1.5%
Other Energy Transformation & Losses	60	34	30	12	12	13	14	-5.4%	-1.3%	-8.8%	0.2%	0.6%	0.8%
Final consumption	160	74	75	55	61	66	70	-7.4%	0.2%	-3.1%	1.1%	0.8%	0.6%
Steel, Non-Met. Minerals and Chem.	27	13	22	16	17	16	14	-7.0%	5.5%	-3.2%	0.3%	-0.5%	-1.1%
Other Industry	61	24	8	5	7	9	11	-8.8%	-10.9%	-3.7%	2.9%	2.3%	1.9%
Non-Energy Use	6	1	6	3	4	5	5	-15.4%	16.4%	-6.0%	2.3%	2.0%	1.4%
Residential	32	24	24	16	16	16	17	-2.8%	-0.1%	-4.1%	0.2%	0.1%	0.2%
Services	3	2	5	4	6	8	9	-0.7%	6.6%	-0.4%	3.1%	2.4%	2.1%
Agriculture	9	2	2	2	2	2	2	-16.6%	1.2%	-0.1%	1.2%	1.2%	1.2%
Road	18	6	9	8	9	10	10	-9.6%	2.9%	-1.3%	1.2%	1.2%	0.7%
Rail	2	1	1	1	1	1	1	-6.9%	-0.5%	-1.7%	1.7%	1.4%	1.1%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	1	0	0	0	0	0	0	n.s.	n.s.	-7.1%	2.6%	1.8%	1.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Ukraine	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	60	23	26	23	33	35	49	-9.3%	1.5%	-1.3%	3.7%	0.7%	3.2%
Coal	35	14	19	16	22	21	30	-8.5%	3.0%	-1.9%	3.2%	-0.6%	3.7%
Oil	13	0	0	0	1	1	2	-30.9%	0.3%	2.0%	6.7%	4.7%	2.8%
Gas	12	8	6	7	10	12	15	-4.2%	-2.5%	0.5%	4.1%	2.1%	2.4%
Biomass & Waste	0	0	0	0	1	1	2	n.s.	n.s.	-40.3%	n.s.	9.0%	3.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	299	171	189	189	267	337	409	-5.4%	1.0%	0.0%	3.5%	2.4%	2.0%
Coal	114	52	70	57	86	88	132	-7.6%	3.0%	-2.0%	4.2%	0.2%	4.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	48	1	1	2	3	6	7	-30.9%	-3.6%	8.0%	6.9%	4.7%	2.8%
Gas	50	30	16	19	40	58	78	-5.0%	-6.3%	2.1%	7.6%	3.8%	3.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	3	6	9	n.s.	n.s.	-27.0%	n.s.	9.0%	3.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	76	77	89	88	88	109	97	0.2%	1.4%	-0.2%	0.0%	2.2%	-1.1%
Hydro	11	11	13	13	13	13	13	0.7%	1.4%	-0.1%	-0.1%	0.0%	0.0%
Wind	0	0	0	7	26	49	68	n.s.	23.6%	n.s.	13.7%	6.4%	3.3%
Solar	0	0	0	4	8	8	5	n.s.	n.s.	n.s.	7.6%	0.8%	-5.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.4%	14.4%
Generation Capacity (GW_e)	42	52	54	46	65	84	92	2.2%	0.3%	-1.6%	3.6%	2.6%	1.0%
Coal	23	22	22	12	16	21	26	-0.2%	-0.1%	-5.5%	2.8%	2.5%	2.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	1	1	0	1	2	2	-18.2%	0.0%	-9.1%	10.1%	5.8%	3.6%
Gas	12	14	12	8	12	17	20	0.8%	-1.0%	-4.7%	5.0%	3.1%	2.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	1	2	2	1	n.s.	n.s.	32.9%	9.8%	-1.6%	-3.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	11	13	13	13	16	14	n.s.	1.6%	-0.1%	-0.2%	2.0%	-1.3%
Hydro	0	5	5	6	6	6	6	n.s.	1.5%	0.3%	-0.1%	0.0%	0.0%
Wind	0	0	0	3	8	15	20	n.s.	n.s.	39.4%	12.0%	5.9%	2.9%
Solar	0	0	0	3	6	7	4	n.s.	n.s.	n.s.	6.9%	0.3%	-5.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.9%
Total Final Consumption² (Mtoe)	160	74	75	55	61	66	70	-7.4%	0.2%	-3.1%	1.1%	0.8%	0.6%
Coal	35	15	13	12	13	12	11	-8.4%	-1.3%	-1.0%	0.9%	-0.2%	-0.9%
Oil	43	11	13	11	12	13	14	-13.0%	1.7%	-1.4%	1.2%	0.9%	0.3%
Gas	33	26	25	12	11	11	10	-2.6%	-0.2%	-6.8%	-0.8%	-0.7%	-0.5%
Electricity	18	10	11	11	16	21	25	-5.8%	1.7%	0.0%	3.6%	2.4%	2.0%
Heat	31	13	12	7	7	7	8	-8.0%	-0.6%	-5.9%	0.1%	0.7%	0.3%
Biomass & Other	0	0	1	2	2	2	2	-2.2%	14.7%	4.8%	0.4%	0.7%	1.9%
Share of Renewables ³ (%)	2%	3%	4%	7%	10%	14%	16%	2.8%	4.7%	4.5%	3.8%	3.3%	1.7%
Industry (incl. non-energy use)	95	39	36	25	28	29	30	-8.6%	-0.8%	-3.7%	1.2%	0.6%	0.3%
Coal	27	12	12	11	12	12	11	-7.9%	0.2%	-0.6%	0.9%	-0.2%	-0.9%
Oil	15	2	2	2	2	3	4	-16.8%	-0.4%	-2.4%	3.0%	2.4%	1.5%
Gas	23	12	11	4	4	4	4	-6.5%	-1.2%	-9.1%	-0.3%	-0.1%	-0.3%
Electricity	13	5	6	5	6	8	9	-8.4%	0.9%	-2.0%	2.8%	2.2%	1.7%
Heat	16	7	5	3	3	2	2	-8.0%	-3.6%	-6.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	-0.7%	7.1%	2.3%	3.0%
Buildings	35	27	28	20	22	24	26	-2.6%	0.7%	-3.4%	0.9%	0.8%	0.8%
Coal	7	3	1	0	0	0	0	-9.0%	-13.1%	-8.1%	-1.0%	-1.3%	-1.6%
Oil	2	0	0	0	1	1	1	-13.8%	-7.5%	4.9%	7.2%	2.3%	1.1%
Gas	10	14	14	8	7	6	5	3.2%	0.5%	-5.5%	-1.5%	-1.6%	-1.5%
Electricity	1	3	5	6	9	11	14	8.5%	3.7%	2.2%	4.1%	2.4%	2.1%
Heat	14	6	8	4	4	5	5	-8.1%	2.1%	-5.6%	0.2%	1.3%	0.6%
Biomass & Other	0	0	1	1	1	1	1	-2.2%	14.0%	3.9%	-1.3%	-2.3%	-0.8%
Agriculture	9	2	2	2	2	2	2	-16.6%	1.2%	-0.1%	1.2%	1.2%	1.2%
Coal	1	0	0	0	0	0	0	n.s.	n.s.	-9.7%	0.0%	0.0%	0.0%
Oil	6	1	1	1	1	2	2	-15.7%	1.5%	0.3%	1.1%	1.1%	1.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	-2.4%	0.9%	0.9%	0.9%
Electricity	2	0	0	0	0	0	0	-15.9%	-4.2%	-0.5%	1.9%	1.9%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	-1.4%	0.0%	0.0%	0.0%
Transport	21	7	10	8	9	11	11	-9.9%	2.6%	-1.4%	1.3%	1.2%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	-15.8%	0.0%	0.0%	0.0%
Oil	20	7	9	7	8	8	8	-10.3%	2.7%	-1.6%	0.4%	0.3%	-0.5%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	0.7%	18.6%	6.8%	5.5%
Electricity	1	1	1	1	1	1	2	-4.7%	0.1%	-0.6%	4.4%	3.2%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	8.2%	7.1%	4.8%
Other Energy Transformation & Losses⁴	60	34	30	12	12	13	14	-5.4%	-1.3%	-8.8%	0.2%	0.6%	0.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest CIS	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	77	81	88	98	105	110	114	0.5%	0.8%	1.1%	0.7%	0.5%	0.3%
GDP per capita (ppp, k\$'05)	5	3	6	10	15	22	27	-4.0%	7.5%	4.3%	4.6%	3.4%	2.4%
GDP per capita (mer, k\$'05)	2	1	2	4	6	8	10	-4.1%	7.4%	4.3%	4.6%	3.4%	2.4%
Share Value Added - Agriculture (%)	20	20	9	8	7	6	6	-0.4%	-7.3%	-0.9%	-1.8%	-0.9%	-0.5%
Share Value Added - Industry (%)	26	35	44	35	33	31	30	3.0%	2.1%	-2.2%	-0.4%	-0.6%	-0.5%
Share Value Added - Services (%)	53	45	47	57	60	62	64	-1.7%	0.5%	1.9%	0.5%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	17	-3.4%	3.6%	-3.2%	1.2%	1.5%	0.1%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	926	546	739	899	1 016	1 199	1 295	-5.1%	3.1%	2.0%	1.2%	1.7%	0.8%
Total GHG (excl. sinks)	955	588	798	953	1 063	1 239	1 330	-4.7%	3.1%	1.8%	1.1%	1.5%	0.7%
Total GHG (energy, industry, agriculture)	955	586	788	943	1 054	1 230	1 322	-4.8%	3.0%	1.8%	1.1%	1.6%	0.7%
CO ₂	709	407	536	697	807	962	1 045	-5.4%	2.8%	2.7%	1.5%	1.8%	0.8%
CH ₄	174	133	193	181	178	194	203	-2.6%	3.8%	-0.6%	-0.2%	0.9%	0.4%
N ₂ O	69	45	56	59	63	66	66	-4.2%	2.3%	0.5%	0.6%	0.5%	0.1%
F gases	3	1	3	5	6	7	9	-9.0%	10.0%	4.9%	1.4%	2.4%	1.9%
Total GHG from Energy and Industry	829	503	678	831	938	1 110	1 201	-4.9%	3.0%	2.1%	1.2%	1.7%	0.8%
CO₂ Emissions from Fuel Comb.	674	374	489	642	744	889	968	-5.7%	2.7%	2.8%	1.5%	1.8%	0.9%
Power generation/District heating	248	152	165	228	278	339	374	-4.8%	0.8%	3.3%	2.0%	2.0%	1.0%
Industry	128	51	81	117	120	135	139	-8.8%	4.7%	3.7%	0.3%	1.1%	0.3%
Buildings	159	83	104	129	145	177	194	-6.3%	2.3%	2.1%	1.2%	2.0%	0.9%
Agriculture	13	8	8	9	10	11	11	-4.2%	-0.4%	1.8%	1.0%	0.6%	0.3%
Transport	56	27	41	50	53	57	58	-6.9%	4.1%	1.9%	0.7%	0.8%	0.1%
Other	70	53	90	109	136	170	192	-2.9%	5.5%	2.0%	2.3%	2.2%	1.2%
CO₂ captured (CCS)	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	9.2%	23.2%	13.4%
Coal	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	16.5%	13.9%	18.1%
Gas	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	-14.5%	n.s.	9.2%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.5%	0.7%	0.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	214	194	308	434	582	729	824	-1.0%	4.7%	3.5%	3.0%	2.3%	1.2%
Coal	52	36	51	69	87	151	196	-3.6%	3.6%	2.9%	2.4%	5.7%	2.7%
Oil	47	66	148	192	226	219	204	3.4%	8.4%	2.6%	1.7%	-0.3%	-0.7%
Natural gas	109	86	101	164	256	341	396	-2.4%	1.6%	4.9%	4.6%	2.9%	1.5%
Biomass	1	1	2	3	4	5	6	5.3%	1.6%	7.0%	2.9%	1.9%	2.0%
Nuclear ¹	0	1	1	1	3	5	8	n.s.	2.2%	3.3%	11.7%	6.2%	5.0%
Hydro	4	4	5	5	5	5	5	-0.6%	2.3%	-0.4%	0.5%	0.0%	0.1%
Other renewables	0	0	0	0	1	3	8	n.s.	n.s.	n.s.	34.7%	12.4%	9.2%
Net Imports	35	-45	-120	-181	-276	-352	-399						
Coal	0	-14	-14	-21	-38	-95	-132						
Oil	46	-30	-113	-138	-172	-162	-148						
Natural gas	-13	-2	7	-24	-72	-108	-137						
Biomass	0	0	1	2	7	12	18						
Biofuels	0	0	0	0	0	0	0						
Electricity	1	1	0	0	0	0	0						
Primary Energy Demand²	248	150	188	252	306	377	425	-4.9%	2.3%	3.0%	2.0%	2.1%	1.2%
Coal	52	23	37	48	49	56	64	-8.0%	5.2%	2.5%	0.2%	1.3%	1.3%
Oil	93	36	35	54	54	58	56	-9.1%	-0.3%	4.5%	0.1%	0.6%	-0.3%
Natural gas	96	84	108	140	183	233	259	-1.4%	2.6%	2.6%	2.8%	2.4%	1.1%
Biomass	1	2	2	5	11	17	24	6.6%	3.0%	9.1%	7.6%	4.6%	3.5%
Nuclear ¹	0	1	1	1	3	5	8	n.s.	2.2%	3.3%	11.7%	6.2%	5.0%
Hydro	4	4	5	5	5	5	5	-0.6%	2.3%	-0.4%	0.5%	0.0%	0.1%
Other renewables	0	0	0	0	1	3	8	n.s.	n.s.	n.s.	34.7%	12.4%	9.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	248	150	188	252	306	377	425	-4.9%	2.3%	3.0%	2.0%	2.1%	1.2%
Energy for Power Generation	84	56	63	85	108	135	156	-4.0%	1.1%	3.0%	2.4%	2.3%	1.5%
Other Energy Transformation & Losses	27	22	36	49	61	77	86	-2.1%	5.2%	3.1%	2.3%	2.2%	1.2%
Final consumption	189	100	121	158	187	228	258	-6.2%	1.9%	2.7%	1.7%	2.0%	1.2%
Steel, Non-Met. Minerals and Chem.	8	5	13	15	16	17	18	-3.6%	8.9%	1.4%	0.5%	1.0%	0.3%
Other Industry	51	23	26	38	45	56	63	-7.8%	1.2%	3.9%	1.9%	2.2%	1.2%
Non-Energy Use	15	7	6	8	10	12	14	-7.6%	-1.8%	3.0%	2.8%	2.2%	1.1%
Residential	14	27	31	35	39	45	50	7.0%	1.1%	1.5%	0.9%	1.6%	1.1%
Services	72	22	25	37	47	62	74	-11.1%	1.4%	3.8%	2.5%	2.8%	1.7%
Agriculture	8	5	5	6	7	9	10	-5.1%	-0.4%	2.2%	2.2%	1.9%	1.6%
Road	18	9	14	18	20	23	25	-6.5%	4.5%	2.1%	1.3%	1.4%	0.9%
Rail	2	1	1	1	2	2	2	-7.3%	1.2%	0.8%	2.1%	1.4%	0.8%
Aviation	1	0	0	1	1	1	1	-1.0%	-1.0%	2.2%	5.0%	3.7%	0.8%
Other Transport	0	0	0	0	0	0	0	-7.8%	4.9%	0.5%	4.1%	2.5%	1.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest CIS	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	80	51	57	79	99	121	135	-4.3%	1.0%	3.3%	2.3%	2.1%	1.1%
Coal	28	16	19	27	32	38	44	-5.5%	2.0%	3.6%	1.4%	1.7%	1.7%
Oil	19	7	1	4	3	4	2	-9.8%	-19.6%	18.3%	-4.6%	3.3%	-3.7%
Gas	32	29	37	45	62	76	82	-1.2%	2.5%	2.2%	3.1%	2.2%	0.7%
Biomass & Waste	0	0	0	2	3	4	6	n.s.	n.s.	31.9%	6.2%	3.8%	4.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	295	201	256	362	505	674	821	-3.8%	2.4%	3.5%	3.4%	2.9%	2.0%
Coal	73	38	69	99	126	164	204	-6.3%	6.1%	3.7%	2.4%	2.7%	2.2%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	27.3%
Oil	53	23	2	19	12	16	11	-8.1%	-19.9%	22.3%	-4.6%	3.3%	-3.7%
Gas	116	88	119	178	279	369	417	-2.7%	3.0%	4.1%	4.6%	2.8%	1.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	19.4%
Biomass & Waste	0	0	0	3	8	16	27	n.s.	n.s.	40.6%	10.9%	7.3%	5.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	2	3	11	20	34	n.s.	2.2%	3.4%	12.3%	6.4%	5.1%
Hydro	52	49	62	60	62	63	63	-0.6%	2.3%	-0.4%	0.5%	0.0%	0.1%
Wind	0	0	0	0	5	19	49	n.s.	n.s.	39.8%	34.7%	14.4%	9.8%
Solar	0	0	0	0	2	6	15	n.s.	n.s.	n.s.	25.3%	12.9%	9.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.0%	13.0%
Generation Capacity (GW_e)	50	66	69	68	93	126	167	2.8%	0.4%	-0.2%	3.2%	3.0%	2.9%
Coal	15	15	15	15	20	26	33	-0.2%	0.3%	0.3%	2.6%	2.5%	2.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	27.4%
Oil	14	7	7	7	5	4	4	-6.2%	-0.5%	0.4%	-4.1%	-1.0%	0.1%
Gas	22	29	30	27	45	62	75	2.9%	0.3%	-0.8%	5.1%	3.1%	2.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.6%
Biomass & Waste	0	0	1	1	1	2	4	n.s.	n.s.	2.9%	5.6%	6.5%	5.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	2	3	5	n.s.	0.0%	2.1%	12.0%	6.2%	4.9%
Hydro	0	15	17	17	17	17	18	n.s.	1.0%	-0.2%	0.5%	0.0%	0.1%
Wind	0	0	0	0	2	8	18	n.s.	n.s.	34.5%	33.8%	13.7%	9.0%
Solar	0	0	0	0	1	4	10	n.s.	n.s.	n.s.	25.6%	13.0%	9.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	12.5%
Total Final Consumption² (Mtoe)	189	100	121	158	187	228	258	-6.2%	1.9%	2.7%	1.7%	2.0%	1.2%
Coal	23	7	17	19	15	14	13	-11.6%	9.6%	0.8%	-2.3%	-0.6%	-0.9%
Oil	60	24	30	40	42	45	45	-8.8%	2.2%	3.1%	0.5%	0.6%	0.0%
Gas	53	40	41	57	74	97	110	-2.9%	0.4%	3.3%	2.7%	2.7%	1.2%
Electricity	23	13	16	24	34	45	55	-5.0%	2.0%	3.9%	3.4%	2.9%	2.0%
Heat	29	15	15	15	15	15	17	-6.4%	0.0%	-0.3%	0.2%	0.3%	0.7%
Biomass & Other	1	1	2	3	7	12	18	5.2%	0.7%	7.7%	7.8%	5.6%	4.5%
Share of Renewables ³ (%)	5%	7%	7%	6%	8%	10%	13%	4.3%	-0.5%	-1.2%	2.5%	2.2%	2.7%
Industry (incl. non-energy use)	74	35	44	60	71	86	95	-7.2%	2.4%	3.1%	1.7%	1.9%	1.0%
Coal	19	6	12	14	12	12	11	-10.8%	7.3%	1.9%	-2.1%	0.0%	-0.5%
Oil	22	7	6	11	12	14	15	-11.1%	-0.7%	5.5%	1.3%	1.2%	0.5%
Gas	12	11	13	20	27	34	37	-0.9%	1.3%	4.5%	3.0%	2.3%	1.0%
Electricity	13	6	8	11	15	20	24	-8.1%	3.4%	3.1%	3.5%	3.0%	1.9%
Heat	8	5	5	4	4	4	4	-3.8%	-0.2%	-2.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	1	2	4	n.s.	-2.0%	23.3%	12.2%	6.8%	4.1%
Buildings	86	49	56	72	86	108	124	-5.4%	1.2%	2.6%	1.7%	2.3%	1.4%
Coal	5	1	5	4	3	2	1	-14.9%	18.3%	-2.2%	-3.2%	-3.5%	-3.8%
Oil	16	4	6	9	8	8	8	-12.1%	3.9%	3.5%	-0.7%	-0.3%	-0.4%
Gas	39	28	28	36	46	61	70	-3.3%	-0.1%	2.7%	2.4%	2.9%	1.3%
Electricity	4	5	6	10	13	18	22	1.8%	1.0%	5.6%	2.9%	2.8%	2.0%
Heat	21	10	10	11	11	12	13	-7.6%	0.2%	0.8%	0.4%	0.6%	1.0%
Biomass & Other	1	1	1	3	4	7	11	4.7%	0.3%	6.3%	5.3%	4.5%	4.5%
Agriculture	8	5	5	6	7	9	10	-5.1%	-0.4%	2.2%	2.2%	1.9%	1.6%
Coal	0	0	0	0	0	0	0	-26.7%	43.6%	-0.8%	-1.2%	-1.2%	-1.2%
Oil	3	2	2	2	3	3	3	-1.8%	-1.8%	2.0%	1.1%	0.8%	0.4%
Gas	1	0	0	0	0	0	0	-17.0%	3.6%	2.3%	1.2%	0.8%	0.4%
Electricity	4	2	2	3	4	5	6	-5.6%	-0.4%	2.6%	3.0%	2.6%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	8.3%	18.2%	3.3%	10.7%	5.4%	3.7%
Transport	21	11	16	20	23	26	29	-6.4%	4.0%	2.0%	1.5%	1.5%	0.9%
Coal	0	0	0	0	0	0	0	-9.9%	3.8%	4.4%	0.0%	0.0%	0.0%
Oil	20	10	15	18	19	20	19	-6.2%	3.8%	1.9%	0.4%	0.5%	-0.2%
Gas	0	0	0	1	1	2	3	-7.0%	12.3%	3.7%	8.2%	4.7%	3.5%
Electricity	1	0	1	1	2	3	3	-10.3%	6.1%	1.6%	8.1%	4.2%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	28.9%	21.1%	8.2%	5.0%
Other Energy Transformation & Losses⁴	27	22	36	49	61	77	86	-2.1%	5.2%	3.1%	2.3%	2.2%	1.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Argentina	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	33	37	41	46	49	53	55	1.2%	1.1%	1.0%	0.8%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	7	10	13	15	19	23	28	3.3%	2.7%	1.4%	2.2%	1.9%	1.7%
GDP per capita (mer, k\$'05)	4	5	7	8	10	12	15	3.3%	2.7%	1.4%	2.2%	1.9%	1.7%
Share Value Added - Agriculture (%)	8	5	8	6	6	5	5	-4.6%	5.3%	-3.5%	-0.6%	-0.4%	-0.3%
Share Value Added - Industry (%)	36	28	30	27	26	25	24	-2.4%	0.6%	-0.9%	-0.4%	-0.4%	-0.4%
Share Value Added - Services (%)	56	67	62	67	68	69	71	1.8%	-0.8%	0.8%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	18	21	-4.2%	5.6%	0.8%	0.8%	1.8%	1.5%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	318	356	383	380	402	414	439	1.1%	0.8%	-0.1%	0.6%	0.3%	0.6%
Total GHG (excl. sinks)	359	404	426	410	426	436	460	1.2%	0.5%	-0.4%	0.4%	0.2%	0.5%
Total GHG (energy, industry, agriculture)	242	285	321	327	359	379	414	1.6%	1.2%	0.2%	1.0%	0.5%	0.9%
CO ₂	107	150	185	185	206	216	242	3.5%	2.1%	0.0%	1.1%	0.5%	1.2%
CH ₄	98	97	85	88	95	101	105	-0.2%	-1.2%	0.3%	0.8%	0.6%	0.4%
N ₂ O	35	38	50	54	58	62	65	0.9%	2.9%	0.6%	0.8%	0.6%	0.5%
F gases	2	0	1	1	1	1	1	-19.9%	9.2%	1.2%	2.4%	2.1%	1.9%
Total GHG from Energy and Industry	133	179	213	212	238	252	280	3.0%	1.8%	0.0%	1.2%	0.6%	1.1%
CO₂ Emissions from Fuel Comb.	101	143	176	176	195	204	229	3.5%	2.1%	-0.1%	1.0%	0.5%	1.2%
Power generation/District heating	19	30	45	43	58	66	88	4.6%	4.2%	-0.4%	3.0%	1.4%	2.9%
Industry	15	25	29	29	33	36	39	5.3%	1.5%	0.0%	1.1%	0.9%	0.7%
Buildings	18	20	27	27	24	22	19	1.0%	3.0%	-0.1%	-0.8%	-1.3%	-1.4%
Agriculture	5	8	11	10	11	13	14	5.1%	3.3%	-0.7%	1.3%	1.1%	1.0%
Transport	29	41	44	48	47	44	42	3.7%	0.5%	0.9%	-0.2%	-0.7%	-0.4%
Other	15	18	21	19	21	23	28	1.9%	1.3%	-1.2%	1.4%	0.9%	1.6%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	46	79	80	71	77	89	102	5.6%	0.1%	-1.1%	0.8%	1.5%	1.4%
Coal	0	0	0	0	0	0	1	0.6%	-12.3%	9.9%	7.2%	5.8%	3.6%
Oil	26	41	37	34	48	54	59	4.7%	-1.2%	-0.8%	3.6%	1.3%	0.8%
Natural gas	15	31	33	22	8	3	3	7.6%	0.7%	-3.9%	-9.3%	-8.9%	-1.3%
Biomass	2	3	5	8	11	14	17	6.4%	6.4%	4.0%	3.3%	2.6%	2.3%
Nuclear ¹	2	2	2	3	5	9	12	-1.6%	1.5%	3.2%	5.8%	6.6%	3.0%
Hydro	2	2	3	3	3	4	4	4.7%	1.6%	-0.3%	1.1%	1.1%	1.0%
Other renewables	0	0	0	2	2	5	7	n.s.	-3.3%	n.s.	2.7%	9.2%	3.0%
Net Imports	-2	-18	0	11	18	17	19						
Coal	1	0	1	2	5	12	20						
Oil	-7	-18	-5	-7	-21	-31	-36						
Natural gas	4	0	5	17	35	38	37						
Biomass	0	0	0	-2	-3	-3	-4						
Biofuels	0	0	-1	-1	0	0	0						
Electricity	0	0	1	2	2	2	2						
Primary Energy Demand²	44	61	80	82	95	107	121	3.4%	2.7%	0.2%	1.5%	1.2%	1.3%
Coal	1	1	1	2	6	13	21	-6.3%	7.1%	7.1%	10.3%	8.6%	5.0%
Oil	19	23	31	27	27	24	23	2.0%	3.0%	-1.4%	-0.1%	-1.3%	-0.2%
Natural gas	19	30	38	39	44	41	40	4.9%	2.2%	0.3%	1.1%	-0.6%	-0.3%
Biomass	2	3	5	6	8	11	14	6.4%	6.4%	0.7%	3.7%	3.1%	2.4%
Nuclear ¹	2	2	2	3	5	9	12	-1.6%	1.5%	3.2%	5.8%	6.6%	3.0%
Hydro	2	2	3	3	3	4	4	4.7%	1.6%	-0.3%	1.1%	1.1%	1.0%
Other renewables	0	0	0	2	2	5	7	n.s.	-3.3%	n.s.	2.7%	9.2%	3.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	44	61	80	82	95	107	121	3.4%	2.7%	0.2%	1.5%	1.2%	1.3%
Energy for Power Generation	11	16	23	24	32	41	52	4.2%	3.4%	0.3%	3.1%	2.5%	2.4%
Other Energy Transformation & Losses	6	5	11	9	11	13	14	-2.0%	8.8%	-2.3%	2.0%	1.4%	1.2%
Final consumption	31	47	56	62	69	75	83	4.3%	1.8%	1.0%	1.0%	1.0%	0.9%
Steel, Non-Met. Minerals and Chem.	1	3	3	4	3	3	3	13.4%	1.7%	1.4%	-1.5%	-0.4%	-0.4%
Other Industry	8	12	14	14	17	21	24	4.2%	0.8%	0.2%	2.3%	1.7%	1.6%
Non-Energy Use	2	4	5	6	7	8	9	9.2%	0.8%	3.0%	1.7%	1.3%	1.1%
Residential	6	9	13	14	14	14	14	3.9%	3.0%	0.9%	-0.1%	0.2%	0.4%
Services	3	3	4	4	5	6	7	0.2%	4.2%	0.6%	2.4%	1.9%	1.6%
Agriculture	2	3	4	3	4	4	5	5.3%	3.5%	-0.5%	1.2%	1.1%	1.0%
Road	9	12	14	16	17	17	18	3.4%	1.3%	1.3%	0.5%	0.3%	0.4%
Rail	0	0	0	0	0	0	0	5.2%	2.5%	0.3%	2.1%	1.7%	1.4%
Aviation	1	0	0	0	1	1	1	-3.3%	-3.0%	2.5%	3.6%	2.9%	2.3%
Other Transport	0	0	0	0	0	1	1	24.0%	14.7%	0.7%	2.7%	1.9%	1.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Argentina	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	12	18	17	22	23	29	5.2%	3.9%	-0.9%	2.9%	0.6%	2.3%
Coal	0	0	1	2	4	9	15	3.8%	5.1%	7.9%	8.7%	8.8%	5.0%
Oil	2	1	4	4	3	1	1	-6.1%	15.6%	-0.2%	-2.9%	-13.8%	0.7%
Gas	5	11	13	10	14	12	11	7.4%	1.7%	-1.9%	3.2%	-1.7%	-0.6%
Biomass & Waste	0	0	1	1	1	2	3	6.6%	13.5%	-2.0%	5.6%	4.7%	4.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	51	89	126	143	192	249	312	5.7%	3.5%	1.3%	3.0%	2.7%	2.3%
Coal	1	2	3	6	18	45	76	11.4%	4.7%	8.6%	10.6%	9.8%	5.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	3	17	16	12	3	3	-5.4%	19.2%	-0.4%	-2.7%	-13.5%	0.9%
Gas	20	49	63	56	78	67	63	9.4%	2.6%	-1.2%	3.4%	-1.6%	-0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	2	2	4	7	12	20.2%	12.5%	-2.1%	7.5%	6.5%	5.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	7	6	7	10	18	35	47	-1.6%	1.5%	3.4%	6.1%	6.9%	3.0%
Hydro	18	29	34	33	37	41	45	4.7%	1.6%	-0.3%	1.1%	1.1%	1.0%
Wind	0	0	0	20	24	49	57	n.s.	-3.3%	n.s.	2.1%	7.3%	1.5%
Solar	0	0	0	0	1	4	8	n.s.	n.s.	n.s.	21.4%	12.0%	8.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	27.0%	16.0%	12.9%
Generation Capacity (GW_e)	17	23	32	43	48	68	81	2.9%	3.6%	2.9%	1.1%	3.5%	1.8%
Coal	1	1	1	1	2	7	11	-1.9%	0.0%	5.1%	8.2%	10.1%	5.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	1	2	3	2	2	3	-3.8%	4.9%	2.5%	-3.0%	0.8%	1.4%
Gas	7	11	17	19	19	20	18	4.8%	4.8%	1.2%	-0.3%	0.7%	-1.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	0	1	1	2	19.6%	12.8%	-1.2%	2.2%	6.5%	5.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	1	1	2	3	5	7	0.0%	0.0%	5.6%	5.9%	6.7%	2.8%
Hydro	7	9	11	11	13	14	16	3.0%	2.1%	0.4%	1.1%	1.0%	1.0%
Wind	0	0	0	6	8	15	17	n.s.	13.6%	n.s.	2.0%	6.8%	1.0%
Solar	0	0	0	0	1	3	8	n.s.	n.s.	n.s.	22.1%	12.3%	9.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.4%	12.3%
Total Final Consumption² (Mtoe)	31	47	56	62	69	75	83	4.3%	1.8%	1.0%	1.0%	1.0%	0.9%
Coal	1	1	1	1	2	3	4	0.1%	1.0%	2.9%	8.2%	4.6%	2.8%
Oil	16	22	25	24	25	24	24	3.6%	1.1%	-0.1%	0.3%	-0.4%	-0.2%
Gas	10	15	19	22	22	21	21	4.4%	2.6%	1.5%	-0.2%	-0.1%	-0.2%
Electricity	4	6	10	11	15	19	23	6.4%	4.1%	1.4%	2.7%	2.5%	2.2%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	39.2%	6.6%
Biomass & Other	1	3	2	3	5	7	9	6.4%	-3.2%	4.7%	5.0%	3.4%	2.6%
Share of Renewables ³ (%)	10%	12%	9%	13%	17%	25%	29%	1.5%	-2.1%	3.4%	2.9%	3.8%	1.6%
Industry (incl. non-energy use)	11	19	21	24	28	32	36	6.0%	1.0%	1.0%	1.7%	1.4%	1.3%
Coal	1	1	1	1	2	3	4	0.1%	1.0%	2.9%	8.2%	4.6%	2.8%
Oil	3	7	7	7	7	7	7	9.3%	0.6%	-0.3%	0.3%	-0.5%	-0.5%
Gas	4	7	8	10	11	12	12	4.3%	2.1%	2.1%	0.8%	0.9%	0.5%
Electricity	2	3	4	5	6	8	10	4.8%	3.3%	0.8%	2.8%	2.6%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	1	1	2	2	3	7.0%	-8.1%	0.9%	4.7%	3.1%	3.3%
Buildings	9	12	16	18	19	20	22	2.9%	3.3%	0.9%	0.5%	0.7%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	1	2	1	1	1	1	-3.5%	4.1%	-3.8%	-1.1%	-1.4%	-1.1%
Gas	5	7	9	9	9	8	7	2.8%	2.7%	0.8%	-0.7%	-1.2%	-1.5%
Electricity	2	3	5	7	8	9	10	8.1%	4.7%	1.9%	1.6%	1.6%	1.6%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	39.2%	6.6%
Biomass & Other	0	0	0	1	1	2	2	2.8%	-3.7%	6.6%	8.6%	3.6%	2.8%
Agriculture	2	3	4	3	4	4	5	5.3%	3.5%	-0.5%	1.2%	1.1%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	3	4	4	4	5.1%	3.3%	-0.7%	1.3%	1.1%	1.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	2.5%	5.2%	0.5%	2.1%	1.9%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	10.4%	2.8%	0.0%	0.0%	0.0%
Transport	10	13	15	17	18	19	20	3.1%	1.3%	1.4%	0.6%	0.5%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	11	12	13	13	12	12	2.1%	0.4%	0.8%	0.1%	-0.7%	-0.5%
Gas	0	1	2	3	2	2	2	22.7%	4.7%	1.9%	-2.4%	-0.9%	0.6%
Electricity	0	0	0	0	1	2	3	5.2%	2.5%	3.9%	28.2%	7.4%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	1	2	3	3	n.s.	n.s.	8.7%	3.9%	3.7%	2.2%
Other Energy Transformation & Losses⁴	6	5	11	9	11	13	14	-2.0%	8.8%	-2.3%	2.0%	1.4%	1.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Brazil	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	150	176	199	216	229	236	238	1.6%	1.2%	0.8%	0.6%	0.3%	0.1%
GDP per capita (ppp, k\$'05)	7	8	10	10	12	15	18	1.0%	2.4%	-0.4%	2.0%	2.4%	2.0%
GDP per capita (mer, k\$'05)	4	4	6	5	7	9	10	1.0%	2.4%	-0.2%	2.0%	2.4%	2.0%
Share Value Added - Agriculture (%)	8	6	5	5	5	4	4	-3.8%	-1.3%	0.8%	-0.9%	-0.9%	-0.6%
Share Value Added - Industry (%)	39	27	27	22	22	20	19	-3.6%	0.3%	-2.1%	-0.3%	-0.6%	-0.7%
Share Value Added - Services (%)	53	68	68	72	74	75	77	2.5%	0.0%	0.7%	0.1%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	18	21	-4.2%	5.6%	0.8%	0.8%	1.8%	1.5%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 381	2 080	1 279	1 209	1 236	1 282	1 327	4.2%	-4.7%	-0.6%	0.2%	0.4%	0.3%
Total GHG (excl. sinks)	1 381	2 080	1 279	1 209	1 236	1 307	1 383	4.2%	-4.7%	-0.6%	0.2%	0.6%	0.6%
Total GHG (energy, industry, agriculture)	620	816	962	1 050	1 137	1 264	1 362	2.8%	1.7%	0.9%	0.8%	1.1%	0.7%
CO ₂	214	334	423	465	506	599	674	4.6%	2.4%	1.0%	0.9%	1.7%	1.2%
CH ₄	285	338	357	383	410	429	442	1.7%	0.6%	0.7%	0.7%	0.5%	0.3%
N ₂ O	118	142	175	195	212	224	232	1.9%	2.1%	1.1%	0.8%	0.6%	0.4%
F gases	4	2	6	7	9	11	14	-5.9%	12.0%	0.6%	2.6%	2.5%	1.7%
Total GHG from Energy and Industry	267	398	498	549	594	693	770	4.1%	2.3%	1.0%	0.8%	1.5%	1.1%
CO₂ Emissions from Fuel Comb.	186	295	379	415	446	530	599	4.7%	2.6%	0.9%	0.7%	1.7%	1.2%
Power generation/District heating	10	27	40	30	21	46	92	10.5%	4.0%	-2.8%	-3.7%	8.5%	7.1%
Industry	52	85	100	111	139	174	199	5.0%	1.6%	1.1%	2.2%	2.3%	1.4%
Buildings	20	25	23	19	15	14	12	2.2%	-0.6%	-2.2%	-2.1%	-1.2%	-0.9%
Agriculture	10	14	19	19	20	21	23	3.5%	2.5%	0.0%	0.7%	0.7%	0.6%
Transport	80	124	171	200	213	230	221	4.5%	3.3%	1.6%	0.6%	0.8%	-0.4%
Other	13	19	26	36	39	45	52	3.3%	3.4%	3.4%	0.7%	1.4%	1.6%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	94	143	241	410	454	509	603	4.2%	5.4%	5.5%	1.0%	1.1%	1.7%
Coal	1	3	2	3	3	4	5	6.9%	-2.1%	2.2%	-0.5%	3.6%	3.9%
Oil	32	63	106	209	195	185	195	6.9%	5.3%	7.0%	-0.7%	-0.5%	0.5%
Natural gas	3	6	12	18	24	32	57	9.3%	6.9%	4.3%	2.9%	2.9%	5.8%
Biomass	40	43	82	131	167	204	251	0.8%	6.6%	4.8%	2.5%	2.0%	2.1%
Nuclear ¹	1	2	4	5	5	11	15	10.5%	9.2%	1.6%	2.0%	7.0%	3.1%
Hydro	18	26	35	37	42	40	41	3.9%	2.9%	0.7%	1.3%	-0.5%	0.1%
Other renewables	0	0	1	8	17	33	40	n.s.	33.7%	30.1%	8.3%	6.6%	2.0%
Net Imports	36	41	24	-125	-128	-120	-165						
Coal	7	10	12	14	15	23	35						
Oil	26	25	-1	-98	-77	-57	-68						
Natural gas	1	2	11	7	4	4	-14						
Biomass	0	0	0	-50	-71	-87	-109						
Biofuels	1	0	-1	0	-1	-6	-12						
Electricity	2	4	3	2	2	2	2						
Primary Energy Demand²	131	184	265	285	327	389	439	3.5%	3.7%	0.7%	1.4%	1.8%	1.2%
Coal	8	13	14	17	18	27	41	5.1%	1.0%	1.7%	0.3%	4.2%	4.3%
Oil	58	88	105	110	118	128	127	4.2%	1.7%	0.5%	0.7%	0.8%	-0.1%
Natural gas	3	8	23	25	28	36	43	9.2%	11.4%	0.7%	1.2%	2.6%	1.8%
Biomass	40	43	82	81	96	117	142	0.8%	6.6%	-0.1%	1.7%	2.0%	2.0%
Nuclear ¹	1	2	4	5	5	11	15	10.5%	9.2%	1.6%	2.0%	7.0%	3.1%
Hydro	18	26	35	37	42	40	41	3.9%	2.9%	0.7%	1.3%	-0.5%	0.1%
Other renewables	0	0	1	8	17	33	40	n.s.	33.7%	30.1%	8.3%	6.6%	2.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	131	184	265	285	327	389	439	3.5%	3.7%	0.7%	1.4%	1.8%	1.2%
Energy for Power Generation	22	37	58	64	76	103	135	5.5%	4.6%	0.9%	1.7%	3.1%	2.7%
Other Energy Transformation & Losses	20	24	44	51	65	80	92	1.9%	6.4%	1.5%	2.4%	2.1%	1.3%
Final consumption	113	156	215	230	262	302	324	3.3%	3.2%	0.7%	1.3%	1.4%	0.7%
Steel, Non-Met. Minerals and Chem.	21	28	32	33	33	34	35	2.9%	1.6%	0.1%	0.1%	0.3%	0.2%
Other Industry	21	32	51	53	68	84	97	4.0%	4.9%	0.4%	2.5%	2.1%	1.4%
Non-Energy Use	9	14	17	15	17	20	21	3.7%	2.2%	-1.2%	1.5%	1.4%	0.6%
Residential	18	21	24	23	24	26	29	1.4%	1.4%	-0.4%	0.4%	1.1%	0.8%
Services	5	8	11	13	16	21	27	5.2%	2.7%	2.1%	2.1%	2.8%	2.2%
Agriculture	6	7	10	11	11	12	13	2.0%	3.1%	0.8%	0.7%	0.7%	0.7%
Road	29	43	65	76	85	94	93	3.9%	4.2%	1.7%	1.1%	1.0%	-0.1%
Rail	1	1	1	1	1	1	1	-2.0%	7.6%	0.5%	0.7%	0.9%	0.8%
Aviation	2	3	3	3	4	6	7	5.1%	0.2%	0.3%	2.3%	2.8%	1.8%
Other Transport	1	1	1	1	1	2	2	-1.6%	4.1%	-1.5%	2.2%	2.0%	1.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Brazil	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	4	9	19	15	11	20	40	10.4%	7.4%	-2.6%	-3.1%	6.2%	7.4%
Coal	1	3	3	4	4	9	19	8.3%	-0.2%	3.5%	-1.5%	9.6%	7.2%
Oil	1	4	4	1	0	0	0	11.7%	-0.4%	-17.0%	-45.6%	25.4%	36.6%
Gas	0	1	7	5	2	4	7	28.1%	22.8%	-3.6%	-6.2%	4.7%	6.4%
Biomass & Waste	1	2	6	5	5	6	14	7.7%	14.0%	-0.9%	-1.3%	3.4%	8.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	223	349	515	592	741	952	1 159	4.6%	4.0%	1.4%	2.3%	2.5%	2.0%
Coal	5	11	11	19	18	49	99	8.8%	0.3%	5.6%	-0.7%	10.4%	7.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	15	16	3	0	0	1	11.9%	0.6%	-16.6%	-45.6%	25.4%	36.8%
Gas	0	4	36	25	14	22	41	28.7%	24.5%	-3.7%	-5.6%	4.6%	6.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	4	8	31	26	23	32	68	7.4%	14.9%	-1.8%	-1.5%	3.4%	8.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	2	6	15	17	21	43	59	10.5%	9.2%	1.7%	2.1%	7.3%	3.2%
Hydro	207	304	403	431	493	468	471	3.9%	2.9%	0.7%	1.3%	-0.5%	0.1%
Wind	0	0	2	67	140	246	289	n.s.	n.s.	41.0%	7.6%	5.8%	1.6%
Solar	0	0	0	3	32	92	126	n.s.	n.s.	n.s.	25.0%	11.0%	3.2%
Other	0	0	0	0	0	1	4	n.s.	n.s.	25.7%	25.6%	16.9%	13.0%
Generation Capacity (GW_e)	54	74	112	199	276	367	408	3.3%	4.2%	5.9%	3.3%	2.9%	1.1%
Coal	1	2	2	5	8	18	25	2.7%	-2.0%	12.6%	4.8%	7.7%	3.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	6	8	21	25	27	31	3.5%	2.9%	9.8%	1.8%	1.0%	1.2%
Gas	0	1	11	17	23	29	24	12.0%	23.2%	4.0%	3.3%	2.4%	-2.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	1	2	8	20	23	24	22	5.1%	16.0%	9.6%	1.7%	0.3%	-0.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	2	2	2	3	6	8	11.8%	0.0%	2.1%	2.0%	7.0%	2.9%
Hydro	46	61	81	106	121	115	116	3.0%	2.8%	2.8%	1.3%	-0.5%	0.1%
Wind	0	0	1	27	53	87	97	n.s.	46.8%	40.0%	7.0%	5.2%	1.1%
Solar	0	0	0	2	21	61	86	n.s.	n.s.	n.s.	25.5%	11.4%	3.5%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.9%	16.3%	12.5%
Total Final Consumption² (Mtoe)	113	156	215	230	262	302	324	3.3%	3.2%	0.7%	1.3%	1.4%	0.7%
Coal	6	9	11	12	13	16	20	3.9%	2.4%	0.8%	1.0%	2.1%	2.0%
Oil	53	80	94	102	110	120	119	4.2%	1.6%	0.8%	0.8%	0.9%	-0.1%
Gas	2	5	13	13	19	25	27	7.2%	10.0%	0.6%	3.7%	2.6%	1.0%
Electricity	18	28	38	42	53	68	83	4.3%	3.1%	1.2%	2.3%	2.6%	2.0%
Heat	0	0	0	2	2	4	4	n.s.	28.4%	16.1%	4.1%	3.9%	1.4%
Biomass & Other	34	35	60	58	65	69	71	0.4%	5.4%	-0.2%	1.0%	0.6%	0.3%
Share of Renewables ³ (%)	48%	41%	46%	47%	53%	55%	57%	-1.5%	1.1%	0.2%	1.1%	0.4%	0.3%
Industry (incl. non-energy use)	52	73	100	101	119	138	152	3.5%	3.3%	0.1%	1.6%	1.5%	1.0%
Coal	6	9	11	12	13	16	20	3.9%	2.4%	0.8%	1.0%	2.1%	2.0%
Oil	17	27	27	27	32	38	40	4.6%	0.3%	-0.2%	1.8%	1.6%	0.7%
Gas	2	4	10	11	16	20	21	7.0%	8.8%	1.1%	3.5%	2.4%	0.5%
Electricity	10	13	17	17	22	28	33	2.7%	3.3%	-0.3%	2.7%	2.4%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	17	20	34	34	35	36	38	2.0%	5.3%	-0.2%	0.3%	0.3%	0.5%
Buildings	23	29	34	36	40	48	55	2.3%	1.8%	0.5%	1.1%	1.8%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	8	7	5	4	3	2	2.2%	-0.9%	-2.5%	-3.7%	-2.4%	-1.9%
Gas	0	0	0	1	1	2	2	1.9%	7.3%	2.8%	8.5%	2.3%	0.9%
Electricity	8	14	19	23	27	34	41	5.9%	3.0%	2.0%	1.7%	2.4%	1.9%
Heat	0	0	0	2	2	4	4	n.s.	28.4%	16.1%	4.1%	3.9%	1.4%
Biomass & Other	9	7	8	6	6	6	6	-2.1%	1.1%	-3.5%	-0.1%	0.2%	0.6%
Agriculture	6	7	10	11	11	12	13	2.0%	3.1%	0.8%	0.7%	0.7%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	5	6	6	6	7	7	3.5%	2.5%	0.0%	0.7%	0.7%	0.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	1	1	2	2	3	3	4	6.8%	3.2%	4.9%	1.3%	1.3%	1.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	2	2	3	2	2	2	2	-2.8%	4.4%	-0.5%	0.0%	0.0%	0.0%
Transport	33	47	70	82	92	103	103	3.7%	4.0%	1.6%	1.2%	1.1%	0.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	27	41	54	64	68	73	69	4.5%	2.7%	1.7%	0.6%	0.7%	-0.5%
Gas	0	0	2	1	2	2	4	n.s.	21.9%	-3.2%	1.6%	4.4%	4.5%
Electricity	0	0	0	0	1	3	6	0.5%	2.9%	3.0%	19.6%	11.0%	5.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	6	15	17	22	25	25	-0.3%	9.3%	1.3%	2.6%	1.3%	0.1%
Other Energy Transformation & Losses⁴	20	24	44	51	65	80	92	1.9%	6.4%	1.5%	2.4%	2.1%	1.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Canada	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	28	31	34	38	40	42	44	1.0%	1.1%	1.0%	0.7%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	27	33	35	38	43	50	58	1.9%	0.8%	0.9%	1.2%	1.4%	1.5%
GDP per capita (mer, k\$'05)	28	33	36	40	45	52	60	1.8%	0.8%	1.0%	1.2%	1.4%	1.5%
Share Value Added - Agriculture (%)	2	2	1	2	2	2	2	-1.7%	-0.7%	2.0%	-0.4%	-0.4%	-0.3%
Share Value Added - Industry (%)	34	32	29	28	26	23	19	-0.8%	-1.1%	-0.2%	-0.9%	-1.2%	-1.6%
Share Value Added - Services (%)	64	67	70	70	73	76	79	0.5%	0.5%	0.0%	0.4%	0.4%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	16	18	-4.2%	5.6%	0.4%	0.6%	0.9%	1.2%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	511	661	760	767	633	662	626	2.6%	1.4%	0.1%	-1.9%	0.5%	-0.6%
Total GHG (excl. sinks)	606	728	760	773	723	780	760	1.8%	0.4%	0.2%	-0.7%	0.8%	-0.2%
Total GHG (energy, industry, agriculture)	587	716	701	701	642	662	652	2.0%	-0.2%	0.0%	-0.9%	0.3%	-0.1%
CO ₂	446	551	543	559	512	522	513	2.1%	-0.1%	0.3%	-0.9%	0.2%	-0.2%
CH ₄	72	95	89	75	69	79	77	2.8%	-0.7%	-1.7%	-0.8%	1.3%	-0.2%
N ₂ O	59	60	60	58	55	55	56	0.2%	0.1%	-0.4%	-0.6%	0.0%	0.2%
F gases	11	10	9	9	5	6	6	-0.4%	-1.2%	0.1%	-5.3%	0.4%	-0.2%
Total GHG from Energy and Industry	541	660	646	647	586	602	588	2.0%	-0.2%	0.0%	-1.0%	0.3%	-0.2%
CO₂ Emissions from Fuel Comb.	420	517	514	527	483	494	486	2.1%	-0.1%	0.3%	-0.9%	0.2%	-0.2%
Power generation/District heating	97	134	109	61	47	40	47	3.3%	-2.1%	-5.5%	-2.7%	-1.4%	1.5%
Industry	76	82	63	75	64	59	55	0.8%	-2.6%	1.8%	-1.7%	-0.7%	-0.7%
Buildings	74	85	72	76	71	68	67	1.5%	-1.7%	0.6%	-0.7%	-0.4%	-0.2%
Agriculture	8	10	15	17	17	17	17	3.1%	3.6%	1.4%	0.1%	0.0%	0.1%
Transport	115	136	158	162	143	128	111	1.7%	1.5%	0.3%	-1.2%	-1.1%	-1.4%
Other	51	69	98	135	142	181	189	3.1%	3.6%	3.3%	0.5%	2.4%	0.4%
CO₂ captured (CCS)	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	26.9%	12.0%	7.1%
Coal	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	32.9%	12.7%	7.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	20.7%	6.8%	2.6%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.1%	0.7%	2.3%
Energy Balance, by fuel (Mtoe)													
Primary Production	276	382	398	594	760	979	910	3.3%	0.4%	4.1%	2.5%	2.6%	-0.7%
Coal	37	37	34	23	89	124	37	0.2%	-0.8%	-3.8%	14.3%	3.4%	-11.4%
Oil	96	133	162	266	322	461	459	3.3%	2.0%	5.1%	1.9%	3.6%	0.0%
Natural gas	90	150	132	207	207	218	226	5.2%	-1.3%	4.6%	0.0%	0.5%	0.4%
Biomass	8	12	14	32	55	66	66	3.8%	2.0%	8.2%	5.7%	1.9%	-0.1%
Nuclear ¹	19	19	24	28	42	56	59	0.0%	2.2%	1.4%	4.3%	2.9%	0.5%
Hydro	26	31	30	34	35	36	37	1.9%	-0.2%	1.1%	0.4%	0.3%	0.3%
Other renewables	0	0	1	5	10	17	26	n.s.	42.2%	20.4%	7.1%	5.3%	4.5%
Net Imports	-64	-130	-145	-328	-479	-667	-588						
Coal	-12	-6	-12	-10	-71	-96	-3						
Oil	-16	-46	-78	-190	-259	-407	-417						
Natural gas	-36	-76	-53	-111	-123	-136	-146						
Biomass	0	0	0	-13	-20	-21	-16						
Biofuels	0	0	0	0	-1	-1	-2						
Electricity	0	-3	-2	-5	-5	-5	-5						
Primary Energy Demand²	212	252	253	266	281	312	322	1.7%	0.0%	0.5%	0.6%	1.0%	0.3%
Coal	24	31	22	14	17	28	34	2.5%	-3.4%	-4.6%	2.3%	4.9%	2.1%
Oil	80	87	85	75	63	54	43	0.8%	-0.3%	-1.1%	-1.7%	-1.7%	-2.3%
Natural gas	55	74	79	96	84	82	80	3.1%	0.6%	2.0%	-1.4%	-0.3%	-0.2%
Biomass	8	12	14	19	35	45	49	3.7%	1.9%	3.0%	6.2%	2.7%	0.8%
Nuclear ¹	19	19	24	28	42	56	59	0.0%	2.2%	1.4%	4.3%	2.9%	0.5%
Hydro	26	31	30	34	35	36	37	1.9%	-0.2%	1.1%	0.4%	0.3%	0.3%
Other renewables	0	0	1	5	10	17	26	n.s.	42.2%	20.4%	7.1%	5.3%	4.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	212	252	253	266	281	312	322	1.7%	0.0%	0.5%	0.6%	1.0%	0.3%
Energy for Power Generation	72	89	89	88	106	124	139	2.2%	0.0%	-0.1%	1.8%	1.6%	1.2%
Other Energy Transformation & Losses	20	19	17	18	26	45	47	-0.5%	-1.1%	0.7%	3.6%	5.6%	0.5%
Final consumption	157	185	189	204	205	210	214	1.7%	0.2%	0.8%	0.0%	0.3%	0.2%
Steel, Non-Met. Minerals and Chem.	11	12	11	12	10	9	8	0.9%	-1.0%	1.0%	-2.2%	-1.3%	-1.1%
Other Industry	37	44	33	39	40	40	40	1.7%	-2.9%	1.8%	0.2%	0.1%	0.0%
Non-Energy Use	15	20	23	25	24	24	23	2.9%	1.7%	0.6%	-0.3%	-0.1%	-0.3%
Residential	29	31	33	35	36	39	41	0.7%	0.7%	0.4%	0.5%	0.6%	0.6%
Services	22	27	25	26	30	36	43	2.2%	-0.7%	0.4%	1.5%	1.7%	1.8%
Agriculture	3	4	6	6	7	8	8	2.6%	2.8%	1.5%	0.9%	0.8%	0.8%
Road	33	39	49	51	48	46	41	1.7%	2.2%	0.5%	-0.7%	-0.4%	-1.1%
Rail	2	2	2	2	2	2	2	-0.7%	0.2%	1.0%	-0.1%	0.0%	0.0%
Aviation	3	4	4	5	6	6	6	2.4%	-0.7%	2.8%	0.2%	0.4%	0.2%
Other Transport	2	2	3	2	2	2	2	0.1%	6.6%	-3.6%	0.8%	0.5%	0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Canada	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	27	39	34	22	18	15	17	3.9%	-1.3%	-4.5%	-1.7%	-2.3%	1.5%
Coal	20	27	19	9	9	10	11	2.9%	-3.3%	-6.9%	0.1%	0.2%	1.7%
Oil	4	3	2	0	0	0	0	-1.9%	-4.3%	-28.7%	-31.5%	n.s.	n.s.
Gas	2	7	11	10	4	1	1	14.7%	4.4%	-0.9%	-9.1%	-12.3%	1.4%
Biomass & Waste	1	2	2	2	5	4	4	7.8%	0.7%	0.0%	9.2%	-2.6%	1.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	482	605	599	651	764	891	1 024	2.3%	-0.1%	0.8%	1.6%	1.5%	1.4%
Coal	82	118	80	35	38	42	52	3.6%	-3.8%	-8.0%	0.9%	1.2%	2.1%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	23.7%
Oil	16	15	8	0	0	0	0	-1.1%	-6.1%	-28.1%	-30.9%	n.s.	n.s.
Gas	10	33	52	51	23	7	8	13.2%	4.4%	0.0%	-7.8%	-11.4%	1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	8.3%
Biomass & Waste	4	8	9	9	22	18	21	7.2%	1.4%	-0.2%	9.6%	-2.0%	1.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	73	73	91	105	164	224	237	0.0%	2.2%	1.5%	4.6%	3.2%	0.6%
Hydro	297	359	351	393	408	421	433	1.9%	-0.2%	1.1%	0.4%	0.3%	0.3%
Wind	0	0	9	57	108	174	258	n.s.	41.9%	20.7%	6.6%	4.9%	4.0%
Solar	0	0	0	1	2	5	15	n.s.	27.7%	18.3%	10.0%	10.8%	12.8%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	25.2%	15.7%	12.8%
Generation Capacity (GW_e)	103	111	131	170	206	251	297	0.7%	1.7%	2.6%	2.0%	2.0%	1.7%
Coal	19	18	14	9	8	13	17	-0.8%	-2.3%	-4.5%	-1.0%	4.7%	2.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	24.2%
Oil	7	8	7	20	21	21	24	0.5%	-0.9%	10.8%	0.4%	0.1%	1.5%
Gas	4	7	13	17	21	24	26	5.9%	7.0%	2.9%	2.2%	1.2%	0.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	12.3%
Biomass & Waste	1	1	5	4	7	11	13	2.2%	15.1%	-1.5%	6.1%	4.2%	1.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	13	10	13	14	21	29	30	-2.2%	2.3%	0.7%	4.5%	3.2%	0.5%
Hydro	59	67	75	81	84	86	89	1.3%	1.1%	0.7%	0.4%	0.3%	0.3%
Wind	0	0	4	24	42	63	86	n.s.	39.9%	19.4%	5.9%	4.1%	3.2%
Solar	0	0	0	2	3	5	12	n.s.	44.3%	21.4%	3.1%	6.6%	9.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.5%	15.2%	12.3%
Total Final Consumption² (Mtoe)	157	185	189	204	205	210	214	1.7%	0.2%	0.8%	0.0%	0.3%	0.2%
Coal	4	5	4	4	4	5	6	0.8%	-1.4%	-0.1%	0.3%	2.5%	2.3%
Oil	69	80	92	94	83	74	64	1.6%	1.4%	0.2%	-1.2%	-1.2%	-1.5%
Gas	40	49	40	49	45	44	43	1.9%	-2.0%	2.2%	-0.9%	-0.3%	-0.2%
Electricity	36	41	41	42	50	59	69	1.4%	0.0%	0.3%	1.8%	1.7%	1.5%
Heat	1	1	0	1	1	2	3	2.5%	-5.9%	5.8%	5.6%	5.1%	4.3%
Biomass & Other	7	10	11	14	21	27	29	3.1%	1.6%	2.5%	4.0%	2.3%	0.9%
Share of Renewables ³ (%)	22%	24%	25%	29%	37%	44%	50%	0.6%	0.4%	1.5%	2.7%	1.7%	1.3%
Industry (incl. non-energy use)	63	76	67	76	74	73	71	1.8%	-1.2%	1.3%	-0.3%	-0.2%	-0.2%
Coal	4	5	4	4	4	5	6	0.9%	-1.4%	-0.1%	0.3%	2.6%	2.3%
Oil	18	22	27	26	23	20	17	2.0%	1.9%	-0.2%	-1.3%	-1.5%	-1.6%
Gas	20	23	16	22	20	19	18	1.5%	-3.9%	3.6%	-1.2%	-0.4%	-0.8%
Electricity	14	17	15	16	18	19	20	1.9%	-1.5%	0.3%	1.2%	0.8%	0.5%
Heat	1	1	0	1	1	1	1	2.5%	-6.6%	4.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	6	8	6	8	9	9	10	3.1%	-3.1%	3.1%	1.5%	0.4%	0.3%
Buildings	50	58	58	61	67	75	84	1.4%	0.1%	0.4%	0.9%	1.1%	1.2%
Coal	0	0	0	0	0	0	0	-3.1%	-1.1%	-9.4%	-3.2%	-3.5%	-3.8%
Oil	9	9	5	5	5	6	6	0.0%	-5.0%	-0.4%	0.5%	0.6%	0.5%
Gas	20	25	24	26	23	21	20	2.3%	-0.5%	0.9%	-1.1%	-0.8%	-0.4%
Electricity	20	23	25	25	30	36	43	1.0%	0.9%	0.2%	1.6%	1.8%	1.8%
Heat	0	0	0	0	1	2	3	4.4%	17.3%	13.9%	18.1%	8.3%	5.7%
Biomass & Other	1	2	5	5	8	10	12	2.1%	9.4%	0.2%	5.4%	2.9%	1.6%
Agriculture	3	4	6	6	7	8	8	2.6%	2.8%	1.5%	0.9%	0.8%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	4	5	5	5	5	3.3%	4.2%	1.1%	0.1%	0.0%	0.0%
Gas	0	1	1	1	1	1	1	1.6%	-0.3%	4.2%	0.1%	0.1%	0.1%
Electricity	1	1	1	1	1	1	2	1.1%	-0.2%	1.0%	2.5%	2.3%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.6%	6.3%	3.8%
Transport	40	47	57	61	57	56	51	1.6%	2.0%	0.5%	-0.6%	-0.3%	-0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	40	47	56	58	50	44	36	1.6%	1.9%	0.3%	-1.5%	-1.3%	-1.8%
Gas	0	0	0	0	1	3	4	3.6%	-2.2%	23.2%	16.3%	5.5%	4.8%
Electricity	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	26.1%	6.8%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	2	4	6	6	n.s.	24.2%	6.1%	7.0%	4.3%	0.0%
Other Energy Transformation & Losses⁴	20	19	17	18	26	45	47	-0.5%	-1.1%	0.7%	3.6%	5.6%	0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Chile	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	13	15	17	19	20	21	22	1.4%	1.2%	1.0%	0.7%	0.4%	0.2%
GDP per capita (ppp, k\$'05)	7	11	15	18	22	26	30	4.9%	2.7%	2.2%	2.1%	1.5%	1.3%
GDP per capita (mer, k\$'05)	4	7	9	11	13	15	18	4.9%	2.7%	2.2%	2.1%	1.5%	1.3%
Share Value Added - Agriculture (%)	9	6	3	4	4	3	3	-3.8%	-5.2%	0.9%	-0.5%	-0.3%	-0.2%
Share Value Added - Industry (%)	41	32	40	32	31	30	29	-2.5%	2.1%	-2.0%	-0.4%	-0.4%	-0.4%
Share Value Added - Services (%)	50	62	57	64	65	66	68	2.2%	-0.8%	1.1%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	18	21	-4.2%	5.6%	0.8%	0.8%	1.8%	1.5%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	55	66	96	115	132	143	147	1.9%	3.7%	1.8%	1.4%	0.8%	0.3%
Total GHG (excl. sinks)	55	79	111	127	148	163	174	3.7%	3.5%	1.4%	1.5%	1.0%	0.7%
Total GHG (energy, industry, agriculture)	50	79	103	127	148	163	174	4.7%	2.7%	2.1%	1.5%	1.0%	0.7%
CO ₂	33	55	77	96	113	126	135	5.2%	3.4%	2.3%	1.7%	1.0%	0.7%
CH ₄	12	17	18	22	24	26	27	3.6%	0.6%	1.8%	1.0%	0.8%	0.4%
N ₂ O	5	7	8	10	10	11	11	3.0%	1.8%	1.7%	0.7%	0.5%	0.4%
F gases	0	0	0	0	0	0	0	-8.4%	1.9%	0.2%	1.4%	0.6%	0.2%
Total GHG from Energy and Industry	40	67	89	111	130	144	155	5.2%	2.9%	2.2%	1.6%	1.0%	0.7%
CO₂ Emissions from Fuel Comb.	30	50	71	88	104	115	124	5.3%	3.5%	2.2%	1.7%	1.0%	0.7%
Power generation/District heating	8	14	25	36	47	53	63	5.2%	6.4%	3.6%	2.7%	1.2%	1.7%
Industry	7	11	14	16	18	22	22	4.9%	2.3%	1.6%	0.7%	2.0%	0.2%
Buildings	3	5	6	5	5	5	5	3.7%	1.7%	-0.6%	-0.8%	0.2%	-1.0%
Agriculture	0	1	1	1	1	1	1	3.7%	4.6%	-1.6%	1.2%	0.9%	0.8%
Transport	9	17	19	24	26	26	25	6.7%	0.9%	2.4%	1.0%	0.0%	-0.6%
Other	2	3	6	6	7	8	9	2.7%	8.3%	-0.9%	2.1%	1.6%	0.7%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	7	8	9	14	20	26	33	1.1%	0.8%	4.3%	3.7%	3.0%	2.3%
Coal	1	0	0	2	3	3	4	-15.4%	0.5%	23.3%	2.7%	2.0%	1.9%
Oil	1	0	1	0	1	1	1	-9.3%	4.2%	-5.0%	3.9%	3.5%	2.8%
Natural gas	1	2	2	1	3	5	8	1.2%	-0.3%	-0.5%	8.9%	4.8%	3.6%
Biomass	3	4	5	7	9	12	14	4.6%	0.5%	4.3%	3.0%	2.4%	1.5%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	9.0%	11.7%
Hydro	1	2	2	2	2	2	3	7.6%	1.6%	0.7%	1.0%	1.1%	0.9%
Other renewables	0	0	0	1	1	2	3	n.s.	n.s.	37.2%	6.2%	6.5%	4.2%
Net Imports	6	17	22	25	27	27	25						
Coal	1	3	4	5	8	10	13						
Oil	5	10	14	17	16	15	13						
Natural gas	0	4	3	2	2	2	-1						
Biomass	0	0	0	0	1	1	1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	14	25	31	38	47	54	58	6.1%	2.1%	2.3%	2.0%	1.4%	0.8%
Coal	2	3	4	7	11	13	17	2.3%	3.8%	5.2%	3.7%	2.4%	2.3%
Oil	6	10	15	17	16	15	14	4.9%	3.7%	1.4%	-0.4%	-0.7%	-0.7%
Natural gas	1	5	4	4	6	7	6	15.9%	-1.5%	-2.0%	4.9%	2.2%	-1.2%
Biomass	3	4	5	8	10	13	14	4.6%	0.5%	5.0%	3.3%	2.0%	1.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	9.0%	11.7%
Hydro	1	2	2	2	2	2	3	7.6%	1.6%	0.7%	1.0%	1.1%	0.9%
Other renewables	0	0	0	1	1	2	3	n.s.	n.s.	37.2%	6.2%	6.5%	4.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	14	25	31	38	47	54	58	6.1%	2.1%	2.3%	2.0%	1.4%	0.8%
Energy for Power Generation	3	6	10	15	20	24	27	7.2%	4.7%	4.3%	2.9%	1.9%	1.4%
Other Energy Transformation & Losses	1	1	2	1	3	4	5	5.9%	2.3%	-1.2%	5.7%	3.9%	2.4%
Final consumption	11	21	24	29	34	38	40	6.2%	1.5%	1.8%	1.6%	1.2%	0.7%
Steel, Non-Met. Minerals and Chem.	0	1	1	1	1	1	1	4.1%	-0.3%	5.4%	0.3%	1.0%	-0.3%
Other Industry	3	6	8	11	13	16	18	7.1%	2.8%	2.7%	2.3%	1.8%	1.1%
Non-Energy Use	1	2	1	1	1	1	1	10.1%	-8.2%	-3.8%	0.7%	1.3%	0.3%
Residential	3	5	5	5	5	6	6	4.5%	0.9%	-0.2%	0.3%	0.5%	0.3%
Services	0	1	1	2	2	2	3	2.7%	8.2%	1.3%	2.1%	1.8%	1.2%
Agriculture	0	0	0	0	0	0	0	4.3%	4.2%	-1.3%	1.3%	1.0%	0.8%
Road	3	5	6	8	10	10	10	6.8%	2.2%	2.7%	1.6%	0.7%	0.2%
Rail	0	0	0	0	0	0	0	0.2%	8.1%	1.3%	1.1%	0.7%	0.5%
Aviation	0	0	0	0	0	1	1	7.4%	4.8%	1.7%	1.2%	0.5%	0.1%
Other Transport	0	0	0	0	1	1	1	2.0%	2.2%	0.9%	2.9%	1.3%	0.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Chile	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2	5	8	12	16	19	21	7.1%	5.6%	4.4%	3.0%	1.6%	1.1%
Coal	2	2	4	7	10	11	14	2.4%	6.5%	5.6%	3.5%	1.6%	2.1%
Oil	0	0	2	2	1	1	1	-0.4%	14.4%	0.6%	-3.4%	-3.3%	3.7%
Gas	0	2	2	1	2	2	1	38.7%	0.6%	-2.8%	4.4%	1.0%	-5.7%
Biomass & Waste	0	0	0	2	3	4	5	13.5%	1.0%	18.8%	4.5%	3.2%	0.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	18	40	60	83	111	139	167	8.5%	4.2%	3.2%	2.9%	2.3%	1.8%
Coal	7	8	17	30	44	54	69	2.6%	7.1%	6.0%	3.8%	2.0%	2.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	2	8	8	6	4	6	-0.4%	17.4%	-0.2%	-3.4%	-3.3%	3.9%
Gas	0	10	11	7	11	12	7	49.4%	0.2%	-4.0%	4.3%	1.1%	-5.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	2	7	12	18	19	13.4%	9.1%	12.6%	5.2%	3.7%	0.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	9	19	22	23	26	29	32	7.6%	1.6%	0.7%	1.0%	1.1%	0.9%
Wind	0	0	0	5	10	19	28	n.s.	n.s.	31.1%	6.9%	7.2%	3.6%
Solar	0	0	0	2	2	4	7	n.s.	n.s.	n.s.	3.9%	5.0%	6.4%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.9%	16.9%	12.6%
Generation Capacity (GW_e)	5	10	16	26	33	44	49	8.0%	4.9%	4.7%	2.5%	2.8%	1.0%
Coal	1	2	2	5	7	11	12	6.5%	0.9%	7.1%	4.0%	4.1%	1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	3	4	4	4	4	-0.9%	13.9%	1.4%	0.3%	-0.2%	-0.2%
Gas	0	3	4	3	4	3	1	43.0%	4.8%	-2.5%	0.6%	-1.8%	-8.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	2	2	3	3	4.3%	12.3%	7.5%	-0.8%	4.1%	-0.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	2	4	5	7	7	8	9	5.8%	2.8%	2.1%	1.1%	1.1%	0.9%
Wind	0	0	0	3	6	10	13	n.s.	n.s.	33.0%	6.5%	6.3%	2.8%
Solar	0	0	0	3	4	5	7	n.s.	n.s.	n.s.	4.4%	2.4%	2.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.3%	12.1%
Total Final Consumption² (Mtoe)	11	21	24	29	34	38	40	6.2%	1.5%	1.8%	1.6%	1.2%	0.7%
Coal	1	1	0	1	1	2	3	1.0%	-5.6%	8.9%	3.0%	5.3%	1.7%
Oil	5	9	12	14	14	13	12	5.3%	2.8%	1.6%	-0.1%	-0.5%	-1.1%
Gas	1	3	2	2	3	4	4	13.4%	-3.3%	-3.3%	5.1%	2.9%	0.8%
Electricity	1	3	5	6	8	10	13	9.0%	4.1%	2.9%	2.9%	2.3%	1.8%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	5.7%	4.9%	4.4%
Biomass & Other	3	4	4	5	7	7	8	4.1%	0.4%	2.3%	2.4%	1.0%	1.3%
Share of Renewables ³ (%)	33%	31%	26%	30%	34%	38%	43%	-0.7%	-1.4%	1.1%	1.4%	1.2%	1.3%
Industry (incl. non-energy use)	4	9	10	12	15	18	20	7.5%	0.6%	2.4%	2.0%	1.7%	1.0%
Coal	1	1	0	1	1	2	3	1.7%	-5.5%	8.9%	3.0%	5.3%	1.7%
Oil	2	2	3	4	3	3	3	3.5%	4.6%	1.2%	-1.0%	-0.6%	-1.7%
Gas	1	3	2	1	1	2	2	14.9%	-4.8%	-6.2%	3.5%	2.7%	0.7%
Electricity	1	2	3	4	6	7	8	9.7%	3.4%	3.3%	2.9%	2.3%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.2%	-0.3%	-0.2%
Biomass & Other	1	1	1	2	3	3	4	5.3%	-0.3%	8.1%	3.3%	0.4%	1.2%
Buildings	4	5	7	7	7	8	8	4.3%	2.0%	0.2%	0.7%	0.9%	0.6%
Coal	0	0	0	0	0	0	0	-15.5%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	1	1	1	3.6%	1.1%	-1.2%	-2.8%	-1.4%	-1.9%
Gas	0	0	1	1	1	1	1	5.4%	4.5%	1.5%	3.3%	2.3%	-0.1%
Electricity	0	1	2	2	2	3	3	7.8%	5.6%	1.9%	1.5%	1.3%	1.2%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	5.8%	4.9%	4.4%
Biomass & Other	2	3	3	3	3	3	3	3.7%	0.7%	-0.9%	0.6%	0.4%	0.3%
Agriculture	0	0	0	0	0	0	0	4.3%	4.2%	-1.3%	1.3%	1.0%	0.8%
Coal	0	0	0	0	0	0	0	-13.4%	-8.8%	-4.5%	0.0%	0.0%	0.0%
Oil	0	0	0	0	0	0	0	8.3%	5.0%	-1.6%	1.2%	0.9%	0.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	5.7%	-6.8%	7.3%	2.0%	1.7%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	3	6	7	9	11	12	12	6.4%	2.3%	2.5%	1.6%	0.7%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	6	7	9	9	9	8	6.4%	2.3%	2.3%	0.5%	-0.4%	-0.9%
Gas	0	0	0	0	1	1	1	3.5%	8.5%	21.5%	17.0%	4.3%	1.9%
Electricity	0	0	0	0	0	1	1	0.4%	7.0%	3.7%	21.9%	7.5%	3.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.9%	8.0%	4.9%
Other Energy Transformation & Losses⁴	1	1	2	1	3	4	5	5.9%	2.3%	-1.2%	5.7%	3.9%	2.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Mexico	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	86	103	119	135	148	158	164	1.8%	1.4%	1.3%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	10	12	12	14	18	23	29	1.7%	0.3%	1.4%	2.2%	2.5%	2.4%
GDP per capita (mer, k\$'05)	7	8	8	9	11	15	18	1.7%	0.3%	1.3%	2.2%	2.5%	2.4%
Share Value Added - Agriculture (%)	8	4	3	4	3	3	3	-7.7%	-0.2%	0.4%	-0.9%	-0.8%	-0.6%
Share Value Added - Industry (%)	28	35	35	32	32	30	28	2.1%	0.1%	-0.8%	-0.3%	-0.5%	-0.6%
Share Value Added - Services (%)	64	62	61	64	65	67	69	-0.3%	0.0%	0.4%	0.2%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	12	12	15	18	-4.2%	5.6%	-0.7%	-0.1%	2.2%	1.9%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	485	589	718	734	753	806	802	2.0%	2.0%	0.2%	0.3%	0.7%	0.0%
Total GHG (excl. sinks)	498	613	731	734	779	856	882	2.1%	1.8%	0.1%	0.6%	0.9%	0.3%
Total GHG (energy, industry, agriculture)	445	561	694	723	774	832	862	2.3%	2.2%	0.4%	0.7%	0.7%	0.4%
CO ₂	284	381	452	507	567	620	646	3.0%	1.7%	1.2%	1.1%	0.9%	0.4%
CH ₄	103	118	166	136	128	126	126	1.3%	3.4%	-2.0%	-0.6%	-0.1%	0.0%
N ₂ O	56	58	69	72	76	80	84	0.3%	1.7%	0.4%	0.5%	0.6%	0.4%
F gases	1	3	8	8	4	5	7	7.9%	10.1%	-0.1%	-6.6%	2.9%	2.4%
Total GHG from Energy and Industry	352	474	602	623	670	719	744	3.0%	2.4%	0.3%	0.7%	0.7%	0.3%
CO₂ Emissions from Fuel Comb.	262	346	412	460	513	559	579	2.8%	1.8%	1.1%	1.1%	0.9%	0.4%
Power generation/District heating	63	112	122	157	200	230	244	5.9%	0.9%	2.6%	2.4%	1.4%	0.6%
Industry	55	52	47	60	61	64	68	-0.6%	-1.0%	2.5%	0.0%	0.6%	0.6%
Buildings	24	31	28	27	27	27	25	2.5%	-1.1%	-0.5%	0.0%	0.1%	-0.5%
Agriculture	5	7	9	9	10	10	11	2.6%	2.6%	0.7%	0.4%	0.4%	0.3%
Transport	83	104	148	143	142	149	153	2.3%	3.6%	-0.4%	0.0%	0.5%	0.3%
Other	31	39	57	64	75	79	78	2.5%	3.9%	1.1%	1.6%	0.6%	-0.1%
CO₂ captured (CCS)	0	0	0	0	1	5	12	n.s.	n.s.	n.s.	44.4%	14.0%	8.5%
Coal	0	0	0	0	1	5	11	n.s.	n.s.	n.s.	43.5%	15.6%	8.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	4.1%	2.7%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	23.5%	0.5%	3.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	196	230	221	186	184	177	198	1.6%	-0.4%	-1.7%	-0.1%	-0.4%	1.1%
Coal	3	5	6	6	9	14	20	6.8%	1.7%	-0.1%	3.4%	5.2%	3.5%
Oil	155	174	148	115	91	52	35	1.1%	-1.5%	-2.5%	-2.3%	-5.4%	-3.8%
Natural gas	23	32	48	43	42	38	34	3.4%	4.2%	-0.9%	-0.4%	-1.0%	-1.0%
Biomass	9	9	8	8	14	22	30	0.4%	-0.7%	-0.9%	5.9%	5.0%	3.3%
Nuclear ¹	1	2	2	3	7	15	28	10.8%	-3.3%	6.9%	8.2%	8.6%	6.1%
Hydro	2	3	3	3	3	3	3	3.5%	1.1%	-1.1%	0.2%	0.0%	0.0%
Other renewables	4	5	6	8	19	32	47	1.5%	1.5%	2.6%	9.7%	5.2%	3.9%
Net Imports	-81	-84	-45	13	57	111	133						
Coal	1	2	3	5	9	18	26						
Oil	-82	-83	-54	-22	-1	34	50						
Natural gas	1	-3	6	28	47	54	48						
Biomass	0	0	0	1	2	4	8						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	115	145	176	198	241	288	331	2.4%	2.0%	1.2%	2.0%	1.8%	1.4%
Coal	4	7	9	11	18	33	47	6.6%	3.3%	1.9%	4.5%	6.2%	3.7%
Oil	72	90	95	93	90	86	85	2.2%	0.5%	-0.2%	-0.3%	-0.4%	-0.1%
Natural gas	23	29	53	71	89	92	82	2.3%	6.3%	3.0%	2.2%	0.4%	-1.1%
Biomass	9	9	8	9	16	26	38	0.4%	-0.7%	0.6%	5.9%	5.3%	3.8%
Nuclear ¹	1	2	2	3	7	15	28	10.8%	-3.3%	6.9%	8.2%	8.6%	6.1%
Hydro	2	3	3	3	3	3	3	3.5%	1.1%	-1.1%	0.2%	0.0%	0.0%
Other renewables	4	5	6	8	19	32	47	1.5%	1.5%	2.6%	9.7%	5.2%	3.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	115	145	176	198	241	288	331	2.4%	2.0%	1.2%	2.0%	1.8%	1.4%
Energy for Power Generation	28	48	56	73	104	135	166	5.5%	1.5%	2.7%	3.6%	2.6%	2.1%
Other Energy Transformation & Losses	11	13	25	29	37	45	51	1.2%	7.0%	1.6%	2.4%	1.9%	1.3%
Final consumption	84	99	114	122	140	165	191	1.6%	1.4%	0.7%	1.4%	1.7%	1.5%
Steel, Non-Met. Minerals and Chem.	15	14	12	13	13	14	15	-0.5%	-1.6%	0.6%	0.1%	0.8%	0.9%
Other Industry	12	14	16	25	31	38	46	2.1%	1.0%	4.6%	2.2%	2.2%	1.9%
Non-Energy Use	9	10	8	6	7	9	11	0.8%	-1.9%	-2.4%	1.4%	2.1%	1.6%
Residential	16	18	18	17	19	21	23	1.4%	-0.1%	-0.5%	1.0%	1.1%	1.0%
Services	2	3	5	6	9	12	16	4.7%	3.1%	3.2%	3.6%	2.9%	2.6%
Agriculture	2	3	4	4	5	5	6	2.4%	2.2%	1.2%	1.4%	1.4%	1.3%
Road	27	34	50	49	54	63	71	2.3%	4.0%	-0.3%	1.0%	1.5%	1.2%
Rail	1	1	1	1	1	1	1	-1.0%	0.5%	1.0%	1.3%	1.7%	1.6%
Aviation	0	0	0	0	0	0	0	n.s.	1.1%	-8.4%	3.4%	3.5%	2.8%
Other Transport	0	1	1	1	1	1	1	11.4%	-5.6%	0.1%	2.0%	1.8%	1.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Mexico	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	21	38	45	59	75	85	89	6.1%	1.8%	2.8%	2.4%	1.2%	0.5%
Coal	2	5	8	8	13	25	35	10.0%	5.3%	0.5%	4.7%	6.6%	3.5%
Oil	15	23	10	12	13	9	9	4.3%	-7.9%	2.1%	0.7%	-3.5%	-0.7%
Gas	3	9	25	36	45	44	34	9.7%	11.3%	3.7%	2.1%	-0.3%	-2.4%
Biomass & Waste	0	1	1	2	2	5	9	n.s.	4.1%	3.6%	3.7%	8.1%	5.5%
Other	0	1	1	1	1	2	2	1.4%	1.2%	-1.1%	9.5%	3.0%	1.4%
Gross Elec. Generation (TWh_e)	116	204	271	365	529	714	914	5.8%	2.9%	3.0%	3.8%	3.1%	2.5%
Coal	8	19	33	35	58	119	176	9.6%	5.3%	0.7%	5.3%	7.4%	4.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	25.0%
Oil	62	94	44	53	58	41	39	4.3%	-7.4%	2.0%	0.8%	-3.3%	-0.6%
Gas	14	41	141	196	257	253	197	11.1%	13.0%	3.3%	2.8%	-0.2%	-2.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	9.5%
Biomass & Waste	0	2	3	3	8	23	43	n.s.	4.9%	-0.6%	12.9%	10.5%	6.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	3	8	6	12	26	62	113	10.8%	-3.3%	7.0%	8.6%	8.8%	6.2%
Hydro	23	33	37	33	34	34	34	3.5%	1.1%	-1.1%	0.2%	0.0%	0.0%
Wind	0	0	1	26	62	133	221	34.2%	51.9%	35.7%	9.0%	7.9%	5.2%
Solar	0	0	0	1	9	28	66	19.9%	8.0%	37.8%	20.8%	12.0%	8.9%
Other	5	6	7	6	15	20	25	1.4%	1.2%	-1.1%	9.6%	3.2%	2.0%
Generation Capacity (GW_e)	27	42	62	78	113	167	220	4.6%	3.9%	2.3%	3.7%	4.0%	2.8%
Coal	1	5	6	6	8	17	25	15.6%	1.7%	0.1%	3.0%	7.2%	4.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	25.2%
Oil	12	16	14	11	11	8	8	2.9%	-1.4%	-1.8%	-0.2%	-2.9%	-0.2%
Gas	5	9	28	34	44	51	38	7.1%	11.7%	2.2%	2.5%	1.5%	-2.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	10.0%
Biomass & Waste	0	0	0	0	1	3	6	n.s.	1.2%	-1.0%	10.8%	10.6%	6.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	1	1	1	3	8	14	7.7%	0.0%	0.4%	8.6%	8.8%	6.2%
Hydro	8	10	12	12	12	12	12	2.1%	1.8%	0.5%	0.2%	0.0%	0.0%
Wind	0	0	1	10	22	44	69	n.s.	n.s.	34.3%	8.4%	7.2%	4.6%
Solar	0	0	0	1	8	21	44	19.9%	8.0%	47.5%	18.6%	9.9%	7.9%
Other	1	1	1	1	2	3	3	2.0%	1.2%	-1.5%	10.0%	2.8%	1.7%
Total Final Consumption² (Mtoe)	84	99	114	122	140	165	191	1.6%	1.4%	0.7%	1.4%	1.7%	1.5%
Coal	2	2	2	4	5	6	7	1.2%	-0.1%	6.1%	2.5%	2.5%	2.5%
Oil	51	62	74	70	66	67	66	1.9%	1.8%	-0.6%	-0.5%	0.1%	-0.1%
Gas	14	13	13	16	20	24	27	-0.9%	-0.2%	2.5%	2.2%	1.9%	0.9%
Electricity	9	14	18	25	37	50	64	4.9%	2.5%	3.6%	3.8%	3.1%	2.5%
Heat	0	0	0	0	1	1	3	9.6%	10.4%	4.2%	11.6%	9.6%	8.2%
Biomass & Other	9	8	7	7	11	17	24	-0.4%	-1.2%	-0.5%	5.3%	4.3%	3.2%
Share of Renewables ³ (%)	14%	12%	10%	10%	17%	26%	35%	-1.3%	-2.0%	0.3%	5.1%	4.2%	3.1%
Industry (incl. non-energy use)	36	38	36	44	51	62	72	0.7%	-0.6%	2.0%	1.5%	1.9%	1.6%
Coal	2	2	2	4	5	6	7	1.2%	-0.1%	6.1%	2.5%	2.5%	2.5%
Oil	14	14	11	11	11	11	11	0.1%	-2.2%	-0.4%	-0.1%	0.4%	0.2%
Gas	13	12	12	14	13	14	14	-0.9%	-0.4%	1.5%	-0.3%	0.5%	0.1%
Electricity	5	9	10	14	19	25	32	6.4%	1.5%	3.7%	3.1%	2.8%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	10.4%	5.9%	-0.2%	-0.3%	-0.2%
Biomass & Other	2	1	1	2	3	5	7	-3.4%	-2.9%	5.0%	7.2%	4.6%	3.4%
Buildings	18	22	23	23	28	33	39	1.8%	0.5%	0.4%	1.8%	1.8%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	8	7	6	5	4	2.8%	-1.5%	-1.4%	-1.9%	-1.5%	-1.5%
Gas	1	1	1	2	4	5	5	-1.6%	3.4%	6.8%	6.6%	3.0%	0.7%
Electricity	3	5	7	10	13	17	21	3.2%	4.5%	3.1%	3.0%	2.6%	2.4%
Heat	0	0	0	0	1	1	3	9.6%	10.4%	4.1%	12.0%	9.8%	8.2%
Biomass & Other	7	7	6	5	5	5	5	0.3%	-0.9%	-2.7%	0.9%	0.5%	-0.1%
Agriculture	2	3	4	4	5	5	6	2.4%	2.2%	1.2%	1.4%	1.4%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	2	3	3	3	3	3	2.6%	2.6%	0.7%	0.4%	0.4%	0.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	1	1	1	1	1	2	2	1.7%	0.9%	2.6%	2.6%	2.5%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	22.7%	6.6%	4.0%
Transport	29	36	52	51	56	65	74	2.4%	3.7%	-0.2%	1.0%	1.5%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	28	36	52	49	47	47	47	2.4%	3.7%	-0.5%	-0.5%	0.2%	0.0%
Gas	0	0	0	1	3	6	7	n.s.	7.8%	51.3%	16.8%	5.0%	2.8%
Electricity	0	0	0	0	3	6	8	3.2%	0.8%	14.9%	22.5%	6.2%	3.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	6	10	n.s.	n.s.	n.s.	20.8%	8.7%	5.2%
Other Energy Transformation & Losses⁴	11	13	25	29	37	45	51	1.2%	7.0%	1.6%	2.4%	1.9%	1.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

United States	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	253	283	310	334	356	374	389	1.1%	0.9%	0.7%	0.6%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	33	41	44	50	56	64	71	2.3%	0.7%	1.4%	1.1%	1.2%	1.1%
GDP per capita (mer, k\$'05)	33	41	44	50	56	64	71	2.3%	0.7%	1.4%	1.1%	1.2%	1.1%
Share Value Added - Agriculture (%)	1	1	1	1	1	1	1	-1.5%	-0.1%	1.0%	-0.5%	-0.5%	-0.4%
Share Value Added - Industry (%)	24	23	20	20	19	18	16	-0.3%	-1.3%	-0.2%	-0.6%	-0.7%	-0.8%
Share Value Added - Services (%)	75	76	78	79	80	81	83	0.1%	0.4%	0.0%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	16	18	-4.2%	5.6%	0.4%	0.6%	0.9%	1.2%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	5 233	6 146	5 691	5 514	5 190	5 349	5 411	1.6%	-0.8%	-0.3%	-0.6%	0.3%	0.1%
Total GHG (excl. sinks)	6 056	6 830	6 649	6 361	5 849	5 819	5 998	1.2%	-0.3%	-0.4%	-0.8%	-0.1%	0.3%
Total GHG (energy, industry, agriculture)	6 056	6 829	6 649	6 361	5 849	5 819	5 998	1.2%	-0.3%	-0.4%	-0.8%	-0.1%	0.3%
CO ₂	4 938	5 721	5 515	5 194	4 663	4 589	4 704	1.5%	-0.4%	-0.6%	-1.1%	-0.2%	0.2%
CH ₄	633	588	581	566	546	552	581	-0.7%	-0.1%	-0.3%	-0.3%	0.1%	0.5%
N ₂ O	395	384	404	421	433	445	455	-0.3%	0.5%	0.4%	0.3%	0.3%	0.2%
F gases	90	136	150	181	207	234	258	4.2%	1.0%	1.9%	1.4%	1.2%	1.0%
Total GHG from Energy and Industry	5 582	6 355	6 115	5 800	5 260	5 206	5 363	1.3%	-0.4%	-0.5%	-1.0%	-0.1%	0.3%
CO₂ Emissions from Fuel Comb.	4 809	5 587	5 390	5 058	4 528	4 458	4 580	1.5%	-0.4%	-0.6%	-1.1%	-0.2%	0.3%
Power generation/District heating	1 866	2 372	2 332	1 923	1 862	1 986	2 220	2.4%	-0.2%	-1.9%	-0.3%	0.6%	1.1%
Industry	581	524	428	460	425	402	378	-1.0%	-2.0%	0.7%	-0.8%	-0.5%	-0.6%
Buildings	544	602	545	515	454	409	363	1.0%	-1.0%	-0.6%	-1.2%	-1.0%	-1.2%
Agriculture	46	45	53	57	60	63	66	-0.2%	1.8%	0.7%	0.5%	0.5%	0.5%
Transport	1 424	1 713	1 677	1 698	1 350	1 224	1 168	1.9%	-0.2%	0.1%	-2.3%	-1.0%	-0.5%
Other	349	331	354	405	377	374	384	-0.5%	0.7%	1.4%	-0.7%	-0.1%	0.3%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	1 623	1 692	1 777	2 080	2 071	2 268	2 713	0.4%	0.5%	1.6%	0.0%	0.9%	1.8%
Coal	488	542	540	424	508	817	1 285	1.1%	-0.1%	-2.4%	1.8%	4.9%	4.6%
Oil	433	376	355	628	554	433	349	-1.4%	-0.6%	5.9%	-1.2%	-2.4%	-2.1%
Natural gas	420	448	499	618	494	424	399	0.7%	1.1%	2.2%	-2.2%	-1.5%	-0.6%
Biomass	82	76	112	113	130	151	188	-0.8%	3.9%	0.1%	1.4%	1.5%	2.2%
Nuclear ¹	162	211	222	212	215	200	199	2.7%	0.5%	-0.5%	0.1%	-0.7%	0.0%
Hydro	25	24	25	24	24	25	25	-0.3%	0.2%	-0.2%	0.1%	0.1%	0.0%
Other renewables	14	15	25	62	147	218	268	0.3%	5.6%	9.4%	9.1%	4.0%	2.1%
Net Imports	329	590	472	231	207	61	-289						
Coal	-32	-9	-37	-81	-132	-358	-710						
Oil	340	496	450	164	111	173	223						
Natural gas	21	100	58	112	117	91	14						
Biomass	0	0	0	26	98	149	189						
Biofuels	0	0	-1	4	8	2	-10						
Electricity	0	3	2	5	5	5	5						
Primary Energy Demand²	1 953	2 282	2 249	2 311	2 279	2 329	2 424	1.6%	-0.1%	0.3%	-0.1%	0.2%	0.4%
Coal	456	534	503	343	376	460	575	1.6%	-0.6%	-3.8%	0.9%	2.0%	2.3%
Oil	772	871	805	792	666	607	572	1.2%	-0.8%	-0.2%	-1.7%	-0.9%	-0.6%
Natural gas	441	548	556	730	611	514	413	2.2%	0.2%	2.8%	-1.8%	-1.7%	-2.2%
Biomass	82	76	112	139	227	300	377	-0.8%	3.9%	2.2%	5.1%	2.8%	2.3%
Nuclear ¹	162	211	222	212	215	200	199	2.7%	0.5%	-0.5%	0.1%	-0.7%	0.0%
Hydro	25	24	25	24	24	25	25	-0.3%	0.2%	-0.2%	0.1%	0.1%	0.0%
Other renewables	14	15	25	62	147	218	268	0.3%	5.6%	9.4%	9.1%	4.0%	2.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	1 953	2 282	2 249	2 311	2 279	2 329	2 424	1.6%	-0.1%	0.3%	-0.1%	0.2%	0.4%
Energy for Power Generation	754	931	958	920	979	1 064	1 169	2.1%	0.3%	-0.4%	0.6%	0.8%	1.0%
Other Energy Transformation & Losses	127	124	160	250	284	299	316	-0.2%	2.6%	4.5%	1.3%	0.5%	0.5%
Final consumption	1 300	1 538	1 489	1 528	1 471	1 490	1 532	1.7%	-0.3%	0.3%	-0.4%	0.1%	0.3%
Steel, Non-Met. Minerals and Chem.	127	152	97	97	88	83	79	1.8%	-4.4%	0.0%	-1.0%	-0.7%	-0.5%
Other Industry	181	185	169	193	191	190	190	0.2%	-0.9%	1.3%	-0.1%	-0.1%	0.0%
Non-Energy Use	119	153	135	122	125	127	128	2.5%	-1.2%	-1.0%	0.2%	0.2%	0.1%
Residential	224	265	268	262	261	269	278	1.7%	0.1%	-0.2%	0.0%	0.3%	0.3%
Services	157	193	217	234	254	285	317	2.1%	1.2%	0.8%	0.8%	1.1%	1.1%
Agriculture	14	14	18	19	20	21	22	-0.2%	2.2%	0.9%	0.5%	0.5%	0.5%
Road	397	493	522	520	441	421	420	2.2%	0.6%	0.0%	-1.6%	-0.5%	0.0%
Rail	11	10	9	13	14	15	16	-0.5%	-1.3%	4.0%	0.6%	0.6%	0.5%
Aviation	64	68	49	58	65	68	69	0.7%	-3.2%	1.7%	1.1%	0.5%	0.1%
Other Transport	6	4	4	9	11	12	13	-4.3%	0.5%	7.9%	1.5%	1.1%	0.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

United States	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	554	681	686	623	593	622	677	2.1%	0.1%	-1.0%	-0.5%	0.5%	0.9%
Coal	392	492	469	302	317	377	468	2.3%	-0.5%	-4.3%	0.5%	1.8%	2.2%
Oil	27	30	11	15	17	14	15	0.8%	-9.5%	3.4%	1.3%	-1.7%	0.3%
Gas	93	137	185	287	234	187	132	3.9%	3.1%	4.5%	-2.0%	-2.2%	-3.4%
Biomass & Waste	40	21	20	16	21	37	56	-6.0%	-0.5%	-2.4%	2.6%	6.0%	4.4%
Other	1	1	2	2	5	6	6	-0.9%	1.9%	2.7%	8.8%	2.7%	-0.2%
Gross Elec. Generation (TWh_e)	3 210	4 052	4 378	4 580	5 091	5 722	6 394	2.4%	0.8%	0.5%	1.1%	1.2%	1.1%
Coal	1 700	2 129	1 994	1 303	1 379	1 650	2 059	2.3%	-0.7%	-4.2%	0.6%	1.8%	2.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	131	118	48	63	74	64	67	-1.0%	-8.6%	2.8%	1.6%	-1.4%	0.4%
Gas	382	634	1 018	1 595	1 338	1 094	758	5.2%	4.8%	4.6%	-1.7%	-2.0%	-3.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	79	72	75	58	85	167	275	-0.9%	0.5%	-2.6%	3.9%	6.9%	5.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	612	798	839	802	814	781	798	2.7%	0.5%	-0.5%	0.1%	-0.4%	0.2%
Hydro	289	280	286	280	284	286	287	-0.3%	0.2%	-0.2%	0.1%	0.1%	0.0%
Wind	3	6	95	372	819	1 116	1 309	6.3%	32.6%	14.6%	8.2%	3.1%	1.6%
Solar	0	0	4	84	243	493	766	14.3%	36.7%	35.0%	11.3%	7.3%	4.5%
Other	16	15	18	23	54	72	76	-0.9%	1.9%	2.7%	8.9%	3.0%	0.6%
Generation Capacity (GW_e)	739	859	1 040	1 074	1 276	1 498	1 616	1.5%	1.9%	0.3%	1.7%	1.6%	0.8%
Coal	271	321	319	221	212	273	337	1.7%	-0.1%	-3.6%	-0.5%	2.6%	2.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	82	130	56	32	34	33	31	4.7%	-8.1%	-5.4%	0.5%	-0.2%	-0.5%
Gas	176	190	407	448	444	381	211	0.8%	7.9%	1.0%	-0.1%	-1.5%	-5.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	11	15	12	9	12	23	38	3.2%	-2.6%	-3.2%	3.3%	7.0%	5.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	102	98	101	98	100	96	98	-0.4%	0.3%	-0.3%	0.1%	-0.4%	0.2%
Hydro	92	99	101	102	104	104	104	0.7%	0.2%	0.1%	0.1%	0.1%	0.0%
Wind	2	2	39	116	232	305	351	4.5%	32.3%	11.5%	7.1%	2.8%	1.4%
Solar	0	1	3	43	132	274	434	2.3%	18.9%	30.5%	11.8%	7.6%	4.7%
Other	3	3	2	3	7	9	11	0.5%	-1.5%	2.3%	8.5%	2.7%	2.1%
Total Final Consumption² (Mtoe)	1 300	1 538	1 489	1 528	1 471	1 490	1 532	1.7%	-0.3%	0.3%	-0.4%	0.1%	0.3%
Coal	58	39	31	27	37	48	58	-3.8%	-2.4%	-1.2%	3.2%	2.7%	1.8%
Oil	683	793	761	729	607	555	524	1.5%	-0.4%	-0.4%	-1.8%	-0.9%	-0.6%
Gas	288	345	295	325	279	246	216	1.8%	-1.6%	1.0%	-1.5%	-1.3%	-1.3%
Electricity	226	301	326	340	379	426	477	2.9%	0.8%	0.4%	1.1%	1.2%	1.1%
Heat	2	7	8	9	16	26	38	11.3%	1.3%	1.3%	5.5%	5.1%	3.7%
Biomass & Other	43	52	69	98	153	188	218	2.1%	2.8%	3.5%	4.6%	2.1%	1.5%
Share of Renewables ³ (%)	6%	6%	8%	12%	23%	31%	37%	-0.4%	2.9%	4.1%	7.0%	3.1%	1.8%
Industry (incl. non-energy use)	427	490	402	412	405	399	396	1.4%	-2.0%	0.3%	-0.2%	-0.1%	-0.1%
Coal	53	37	29	26	36	47	57	-3.6%	-2.3%	-1.2%	3.3%	2.8%	1.9%
Oil	147	160	150	124	120	110	99	0.8%	-0.6%	-1.9%	-0.3%	-0.9%	-1.1%
Gas	124	155	111	144	119	103	90	2.3%	-3.3%	2.7%	-1.9%	-1.4%	-1.4%
Electricity	75	98	74	76	79	80	79	2.8%	-2.7%	0.2%	0.5%	0.1%	-0.1%
Heat	0	4	5	5	5	5	5	n.s.	2.2%	-0.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	29	36	32	37	45	54	67	2.2%	-1.1%	1.5%	2.0%	1.9%	2.0%
Buildings	381	458	485	496	515	553	596	1.8%	0.6%	0.2%	0.4%	0.7%	0.7%
Coal	5	2	2	1	1	1	1	-7.0%	-3.8%	-2.3%	-0.8%	-1.1%	-1.4%
Oil	45	48	36	33	40	44	44	0.5%	-2.8%	-0.9%	-2.0%	0.9%	0.1%
Gas	164	189	182	174	138	114	94	1.5%	-0.4%	-0.4%	-2.3%	-1.9%	-1.9%
Electricity	152	202	251	262	278	311	350	2.9%	2.2%	0.4%	0.6%	1.1%	1.2%
Heat	2	3	3	4	11	21	33	1.7%	-0.2%	3.7%	10.1%	7.0%	4.5%
Biomass & Other	14	13	12	22	46	62	73	-0.3%	-0.7%	6.0%	7.8%	2.9%	1.8%
Agriculture	14	14	18	19	20	21	22	-0.2%	2.2%	0.9%	0.5%	0.5%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	14	16	17	18	19	20	-0.2%	1.1%	0.9%	0.5%	0.5%	0.5%
Gas	0	0	1	1	1	1	2	n.s.	n.s.	-1.4%	0.5%	0.5%	0.5%
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	1	1	1	n.s.	n.s.	8.0%	0.0%	0.0%	0.0%
Transport	477	576	584	601	531	516	518	1.9%	0.1%	0.3%	-1.2%	-0.3%	0.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	477	572	559	555	429	383	362	1.8%	-0.2%	-0.1%	-2.5%	-1.1%	-0.6%
Gas	0	0	1	5	20	27	30	n.s.	10.2%	23.1%	14.3%	3.0%	1.1%
Electricity	0	0	1	3	21	35	48	0.7%	3.6%	17.4%	22.8%	5.3%	3.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	3	24	38	60	71	78	n.s.	22.5%	4.5%	4.8%	1.7%	0.9%
Other Energy Transformation & Losses⁴	127	124	160	250	284	299	316	-0.2%	2.6%	4.5%	1.3%	0.5%	0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest Central America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	63	74	84	93	102	109	113	1.6%	1.3%	1.1%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	3	4	5	6	8	10	13	3.2%	2.7%	2.4%	2.8%	2.9%	2.8%
GDP per capita (mer, k\$'05)	3	3	4	5	6	9	11	1.7%	1.7%	1.9%	2.8%	2.9%	2.8%
Share Value Added - Agriculture (%)	8	5	6	6	5	4	4	-3.9%	0.4%	1.5%	-2.1%	-1.6%	-1.2%
Share Value Added - Industry (%)	37	40	42	27	26	25	25	0.9%	0.4%	-4.4%	-0.2%	-0.2%	-0.3%
Share Value Added - Services (%)	55	55	53	67	69	70	71	-0.1%	-0.4%	2.4%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	12	12	15	18	-4.2%	5.6%	-0.7%	-0.1%	2.2%	1.9%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	282	293	322	366	388	422	447	0.4%	1.0%	1.3%	0.6%	0.8%	0.6%
Total GHG (excl. sinks)	295	328	349	366	388	422	459	1.1%	0.6%	0.5%	0.6%	0.8%	0.8%
Total GHG (energy, industry, agriculture)	168	202	253	285	334	391	441	1.8%	2.3%	1.2%	1.6%	1.6%	1.2%
CO ₂	95	126	163	187	221	263	302	2.9%	2.6%	1.4%	1.7%	1.8%	1.4%
CH ₄	48	51	64	70	80	89	97	0.6%	2.3%	0.8%	1.4%	1.1%	0.8%
N ₂ O	25	24	24	27	32	36	39	-0.7%	0.2%	1.3%	1.4%	1.2%	1.0%
F gases	0	0	1	1	2	3	4	n.s.	16.9%	-0.8%	4.0%	3.7%	3.3%
Total GHG from Energy and Industry	117	153	203	229	271	321	366	2.7%	2.9%	1.2%	1.7%	1.7%	1.3%
CO₂ Emissions from Fuel Comb.	85	111	138	164	192	229	261	2.7%	2.2%	1.8%	1.6%	1.7%	1.3%
Power generation/District heating	23	37	51	57	61	75	88	4.7%	3.4%	1.0%	0.6%	2.1%	1.6%
Industry	22	23	25	34	43	53	62	0.4%	0.8%	3.1%	2.6%	2.0%	1.6%
Buildings	8	9	9	9	11	13	13	0.8%	-0.2%	0.7%	1.9%	1.5%	0.3%
Agriculture	2	1	1	1	1	1	1	-1.6%	-4.4%	0.1%	1.2%	1.3%	1.2%
Transport	20	31	40	44	50	55	58	4.6%	2.4%	1.1%	1.2%	0.9%	0.6%
Other	10	10	13	20	26	32	39	-0.1%	2.6%	4.5%	3.0%	2.1%	1.9%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	33	42	70	63	56	67	85	2.6%	5.1%	-1.0%	-1.2%	1.8%	2.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	10	11	8	11	14	17	1.9%	0.1%	-2.3%	2.9%	2.4%	1.8%
Natural gas	4	13	38	24	4	4	7	11.7%	11.0%	-4.6%	-17.1%	1.6%	4.7%
Biomass	18	16	16	24	24	27	32	-1.5%	0.5%	3.7%	0.1%	1.4%	1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.6%	15.3%
Hydro	1	1	2	2	2	2	2	2.8%	3.4%	0.5%	0.6%	0.3%	0.2%
Other renewables	1	2	3	6	15	19	27	9.2%	6.1%	6.3%	10.7%	2.3%	3.4%
Net Imports	18	20	10	31	66	80	91						
Coal	0	0	1	4	9	19	29						
Oil	17	24	26	32	29	26	25						
Natural gas	0	-4	-18	2	32	38	39						
Biomass	0	0	0	-6	-4	-3	-3						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	51	62	80	95	122	147	176	2.0%	2.5%	1.7%	2.6%	1.9%	1.8%
Coal	0	0	1	4	9	19	29	5.8%	13.5%	10.5%	9.9%	7.5%	4.3%
Oil	26	34	37	40	40	40	42	2.8%	0.8%	0.9%	-0.1%	0.0%	0.5%
Natural gas	5	9	20	26	35	42	45	6.6%	8.2%	2.7%	3.1%	1.8%	0.8%
Biomass	18	16	16	17	20	24	29	-1.5%	0.5%	0.4%	1.6%	1.8%	2.0%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.6%	15.3%
Hydro	1	1	2	2	2	2	2	2.8%	3.4%	0.5%	0.6%	0.3%	0.2%
Other renewables	1	2	3	6	15	19	27	9.2%	6.1%	6.3%	10.7%	2.3%	3.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	51	62	80	95	122	147	176	2.0%	2.5%	1.7%	2.6%	1.9%	1.8%
Energy for Power Generation	11	16	24	28	41	48	60	4.3%	4.0%	1.4%	3.9%	1.8%	2.2%
Other Energy Transformation & Losses	6	6	6	8	11	15	19	-0.4%	-0.4%	4.0%	3.2%	3.0%	2.4%
Final consumption	38	46	57	68	84	103	125	1.7%	2.2%	1.8%	2.2%	2.1%	1.9%
Steel, Non-Met. Minerals and Chem.	0	1	1	1	2	3	4	6.4%	4.9%	1.0%	5.0%	4.5%	3.1%
Other Industry	14	12	11	16	20	25	31	-0.9%	-0.9%	3.3%	2.4%	2.3%	2.1%
Non-Energy Use	3	6	11	14	19	24	30	7.3%	6.6%	2.2%	3.1%	2.6%	2.3%
Residential	11	13	16	18	19	20	22	1.4%	2.5%	0.9%	0.7%	0.8%	0.7%
Services	2	2	3	4	5	8	10	1.8%	4.2%	2.5%	3.5%	3.2%	2.8%
Agriculture	1	1	0	1	1	1	1	-1.3%	-1.6%	1.2%	1.4%	1.5%	1.5%
Road	8	11	13	15	18	21	25	3.9%	1.6%	1.2%	1.9%	1.8%	1.6%
Rail	0	0	0	0	0	0	0	-8.6%	10.0%	4.7%	2.1%	1.9%	1.6%
Aviation	0	0	0	0	0	1	1	4.7%	9.3%	1.5%	4.0%	3.8%	3.2%
Other Transport	1	0	0	0	0	0	1	-8.9%	-1.5%	0.0%	3.3%	2.8%	2.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Central America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	13	19	20	23	27	31	4.0%	3.7%	0.4%	1.4%	1.6%	1.4%
Coal	0	0	1	2	4	10	15	33.6%	14.9%	9.3%	9.1%	8.4%	4.0%
Oil	7	10	13	13	10	6	4	4.3%	2.4%	0.1%	-2.7%	-4.3%	-3.5%
Gas	1	2	4	4	5	7	6	5.6%	6.8%	1.1%	2.9%	2.2%	-0.4%
Biomass & Waste	1	1	2	1	2	3	4	-1.9%	5.7%	-5.9%	8.7%	1.5%	3.4%
Other	0	0	0	0	1	1	1	9.1%	5.5%	4.6%	10.0%	0.2%	2.0%
Gross Elec. Generation (TWh_e)	43	68	95	118	158	222	305	4.8%	3.3%	2.2%	3.0%	3.4%	3.2%
Coal	0	1	3	8	21	51	78	33.5%	14.7%	10.2%	10.2%	9.1%	4.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	24	40	47	56	42	27	19	5.4%	1.8%	1.6%	-2.7%	-4.3%	-3.3%
Gas	4	7	14	17	23	30	31	6.6%	7.4%	1.9%	3.3%	2.7%	0.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	2	2	3	1	4	8	17	-0.1%	4.7%	-7.2%	9.3%	7.9%	8.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	13	17	23	24	26	27	27	2.8%	3.4%	0.5%	0.6%	0.3%	0.2%
Wind	0	0	1	5	19	41	75	n.s.	12.3%	24.1%	13.9%	8.2%	6.3%
Solar	0	0	0	1	10	25	39	n.s.	-15.9%	n.s.	23.9%	9.4%	4.7%
Other	1	2	3	5	13	14	17	9.1%	5.5%	4.6%	10.0%	0.3%	2.4%
Generation Capacity (GW_e)	13	18	25	30	40	59	81	3.6%	2.9%	1.9%	3.0%	4.0%	3.3%
Coal	0	0	0	1	3	7	11	5.6%	1.1%	10.6%	8.5%	8.7%	5.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	11	15	15	12	10	8	3.6%	2.7%	0.1%	-1.9%	-1.5%	-2.5%
Gas	1	2	3	4	4	5	6	4.3%	3.6%	2.7%	0.9%	1.4%	1.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	1	1	1	1	2	6.1%	5.1%	1.2%	-1.8%	3.2%	8.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	4	5	6	6	6	6	2.3%	2.9%	1.2%	0.6%	0.3%	0.2%
Wind	0	0	0	2	6	12	22	n.s.	14.9%	21.3%	13.0%	7.7%	5.9%
Solar	0	0	0	1	6	15	23	n.s.	-15.9%	n.s.	24.2%	9.5%	4.7%
Other	0	0	1	1	2	2	2	9.3%	2.4%	4.3%	8.9%	1.4%	1.6%
Total Final Consumption² (Mtoe)	38	46	57	68	84	103	125	1.7%	2.2%	1.8%	2.2%	2.1%	1.9%
Coal	0	0	1	1	4	7	11	-1.0%	12.3%	9.7%	10.3%	6.7%	4.3%
Oil	17	21	23	25	28	32	35	2.1%	0.9%	1.0%	1.1%	1.2%	1.1%
Gas	3	6	12	17	23	27	30	8.1%	7.0%	3.0%	3.2%	1.7%	1.1%
Electricity	3	5	7	8	11	16	22	4.6%	3.7%	2.2%	3.1%	3.5%	3.2%
Heat	0	0	0	1	1	2	3	n.s.	n.s.	n.s.	8.7%	2.8%	3.4%
Biomass & Other	15	14	14	16	16	19	23	-1.2%	0.4%	0.9%	0.6%	1.7%	1.8%
Share of Renewables ³ (%)	45%	36%	35%	33%	35%	39%	44%	-2.1%	-0.4%	-0.5%	0.6%	1.1%	1.3%
Industry (incl. non-energy use)	17	19	24	31	41	52	66	1.2%	2.2%	2.7%	2.8%	2.5%	2.3%
Coal	0	0	1	1	4	7	11	-1.0%	12.3%	9.7%	10.3%	6.7%	4.3%
Oil	7	7	7	8	10	12	16	0.2%	-0.8%	2.1%	2.2%	2.3%	2.2%
Gas	3	6	12	16	20	22	24	8.0%	7.2%	2.5%	2.3%	1.2%	0.9%
Electricity	1	2	2	3	4	6	8	4.5%	2.7%	2.9%	3.7%	3.5%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	4	2	3	3	5	6	-3.7%	-6.2%	2.8%	1.0%	3.9%	3.5%
Buildings	13	15	19	21	24	28	32	1.5%	2.7%	1.2%	1.2%	1.4%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	3	3	2	2	2	2	0.4%	0.0%	-1.4%	-1.6%	-1.0%	-0.8%
Gas	0	0	0	1	2	3	4	11.9%	-2.6%	19.6%	9.4%	4.0%	1.1%
Electricity	2	3	4	5	6	8	11	4.8%	4.1%	1.8%	1.8%	2.6%	2.6%
Heat	0	0	0	1	1	2	3	n.s.	n.s.	n.s.	8.7%	2.8%	3.4%
Biomass & Other	8	9	12	12	12	13	13	0.8%	3.1%	0.4%	0.0%	0.3%	0.3%
Agriculture	1	1	0	1	1	1	1	-1.3%	-1.6%	1.2%	1.4%	1.5%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	0	0	0	0	0	0	-1.6%	-4.4%	0.1%	1.2%	1.3%	1.2%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-1.4%	10.5%	2.3%	2.1%	2.1%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	3.1%	-2.7%	4.5%	0.0%	0.0%	0.0%
Transport	8	12	14	15	19	23	27	3.2%	1.6%	1.2%	2.0%	1.9%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	11	13	15	16	17	18	4.3%	2.2%	0.9%	0.8%	0.7%	0.4%
Gas	0	0	0	0	1	2	2	n.s.	n.s.	n.s.	17.6%	5.3%	3.2%
Electricity	0	0	0	0	1	2	3	-0.7%	10.0%	7.5%	31.4%	9.7%	5.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	0	0	1	2	4	-4.9%	-12.0%	4.4%	10.8%	7.6%	5.8%
Other Energy Transformation & Losses⁴	6	6	6	8	11	15	19	-0.4%	-0.4%	4.0%	3.2%	3.0%	2.4%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest South America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	102	122	140	158	173	184	192	1.8%	1.4%	1.2%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	6	7	9	11	16	22	30	0.9%	2.6%	2.8%	3.4%	3.4%	3.2%
GDP per capita (mer, k\$'05)	3	3	4	5	7	10	14	0.8%	2.5%	2.8%	3.4%	3.4%	3.2%
Share Value Added - Agriculture (%)	12	8	7	8	7	6	6	-3.8%	-0.7%	0.4%	-1.2%	-0.9%	-0.6%
Share Value Added - Industry (%)	43	37	42	34	32	30	28	-1.5%	1.3%	-2.2%	-0.4%	-0.6%	-0.8%
Share Value Added - Services (%)	45	55	50	59	61	64	66	2.0%	-0.8%	1.5%	0.4%	0.4%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	18	21	-4.2%	5.6%	0.8%	0.8%	1.8%	1.5%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	17	26	22	25	41	57	83	4.7%	-1.9%	1.4%	5.1%	3.5%	3.8%
GHG emissions (Mt CO₂ eq.)													
Total GHG	872	914	1 122	1 085	1 110	1 167	1 206	0.5%	2.1%	-0.3%	0.2%	0.5%	0.3%
Total GHG (excl. sinks)	891	985	1 183	1 085	1 110	1 167	1 219	1.0%	1.8%	-0.9%	0.2%	0.5%	0.4%
Total GHG (energy, industry, agriculture)	414	504	661	719	830	969	1 089	2.0%	2.7%	0.8%	1.5%	1.6%	1.2%
CO ₂	206	265	378	421	506	617	721	2.6%	3.6%	1.1%	1.9%	2.0%	1.6%
CH ₄	152	182	210	221	240	260	269	1.8%	1.4%	0.5%	0.8%	0.8%	0.4%
N ₂ O	53	55	70	73	79	85	89	0.4%	2.3%	0.5%	0.8%	0.6%	0.5%
F gases	4	2	3	4	6	8	10	-8.2%	8.2%	1.5%	3.6%	3.5%	2.9%
Total GHG from Energy and Industry	266	338	463	515	614	742	853	2.4%	3.2%	1.1%	1.8%	1.9%	1.4%
CO₂ Emissions from Fuel Comb.	188	238	348	389	464	567	664	2.4%	3.9%	1.1%	1.8%	2.0%	1.6%
Power generation/District heating	29	31	62	61	88	133	180	0.7%	7.0%	-0.1%	3.7%	4.2%	3.1%
Industry	44	56	84	91	112	137	162	2.5%	4.1%	0.8%	2.0%	2.1%	1.6%
Buildings	17	19	22	25	28	33	34	1.6%	1.1%	1.6%	1.1%	1.4%	0.4%
Agriculture	2	5	6	9	11	12	14	7.3%	2.9%	3.8%	1.7%	1.6%	1.5%
Transport	65	80	119	146	159	162	160	2.1%	4.1%	2.1%	0.9%	0.2%	-0.2%
Other	31	46	55	56	66	90	114	4.0%	1.8%	0.1%	1.7%	3.1%	2.4%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	218	317	362	455	646	725	775	3.8%	1.3%	2.3%	3.6%	1.2%	0.7%
Coal	15	31	51	72	179	116	34	7.6%	5.1%	3.6%	9.6%	-4.3%	-11.6%
Oil	155	229	227	254	260	347	417	3.9%	-0.1%	1.1%	0.2%	2.9%	1.9%
Natural gas	25	31	53	72	120	136	150	2.3%	5.4%	3.3%	5.2%	1.3%	0.9%
Biomass	13	11	13	33	57	83	116	-2.2%	2.1%	9.7%	5.7%	3.8%	3.3%
Nuclear ¹	0	0	0	0	1	3	7	n.s.	n.s.	n.s.	30.2%	14.6%	8.2%
Hydro	10	16	18	21	24	26	29	4.6%	1.5%	1.6%	1.2%	0.9%	1.0%
Other renewables	0	0	0	1	5	13	24	n.s.	-11.4%	54.4%	15.6%	10.0%	5.9%
Net Imports	- 129	- 206	- 208	- 281	- 427	- 447	- 431						
Coal	- 11	- 28	- 46	- 64	- 160	- 71	33						
Oil	- 111	- 173	- 143	- 164	- 170	- 260	- 333						
Natural gas	- 4	- 1	- 15	- 33	- 68	- 78	- 84						
Biomass	0	0	0	- 15	- 25	- 32	- 41						
Biofuels	0	0	0	0	- 1	- 1	- 3						
Electricity	- 2	- 4	- 4	- 4	- 4	- 4	- 4						
Primary Energy Demand²	89	111	154	174	219	278	344	2.3%	3.3%	1.2%	2.3%	2.4%	2.1%
Coal	4	3	4	8	20	45	67	-0.9%	2.4%	5.8%	10.1%	8.6%	4.1%
Oil	44	55	84	90	90	86	84	2.3%	4.3%	0.7%	0.0%	-0.4%	-0.2%
Natural gas	20	30	38	39	52	58	65	4.0%	2.2%	0.4%	2.8%	1.2%	1.1%
Biomass	13	11	13	18	32	51	75	-2.2%	2.1%	3.2%	6.0%	4.8%	3.9%
Nuclear ¹	0	0	0	0	1	3	7	n.s.	n.s.	n.s.	30.2%	14.6%	8.2%
Hydro	10	16	18	21	24	26	29	4.6%	1.5%	1.6%	1.2%	0.9%	1.0%
Other renewables	0	0	0	1	5	13	24	n.s.	-11.4%	54.4%	15.6%	10.0%	5.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	89	111	154	174	219	278	344	2.3%	3.3%	1.2%	2.3%	2.4%	2.1%
Energy for Power Generation	21	27	42	46	64	90	124	2.8%	4.3%	0.9%	3.4%	3.5%	3.2%
Other Energy Transformation & Losses	9	14	18	20	29	45	62	3.9%	3.0%	1.0%	3.7%	4.3%	3.4%
Final consumption	67	82	111	131	162	198	237	2.0%	3.1%	1.7%	2.1%	2.0%	1.8%
Steel, Non-Met. Minerals and Chem.	9	12	17	16	19	23	27	3.0%	3.3%	-0.5%	1.7%	1.9%	1.7%
Other Industry	13	15	24	31	42	56	72	1.6%	4.7%	2.7%	3.1%	2.9%	2.5%
Non-Energy Use	2	5	3	3	3	4	5	10.1%	-4.8%	-0.7%	1.7%	1.8%	1.6%
Residential	16	16	18	20	22	25	28	-0.3%	1.6%	0.7%	1.1%	1.3%	1.1%
Services	3	4	6	8	12	17	24	3.6%	4.0%	3.1%	3.9%	3.8%	3.2%
Agriculture	2	2	3	4	5	6	6	2.4%	2.4%	2.7%	1.5%	1.5%	1.5%
Road	22	27	39	48	57	65	72	2.2%	3.7%	2.2%	1.7%	1.3%	1.0%
Rail	0	0	0	0	0	0	0	-2.7%	1.3%	4.8%	1.6%	1.6%	1.5%
Aviation	0	0	0	0	0	1	1	-0.8%	1.1%	3.9%	4.5%	3.6%	0.9%
Other Transport	1	0	0	1	1	1	2	-5.5%	2.7%	3.6%	4.0%	3.3%	2.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	11	12	24	23	34	48	65	0.9%	7.2%	-0.1%	3.9%	3.5%	3.0%
Coal	1	1	1	2	9	25	37	-4.2%	7.9%	5.5%	14.2%	10.7%	4.0%
Oil	3	4	9	10	7	2	2	1.9%	7.8%	0.7%	-3.4%	-9.5%	-1.7%
Gas	6	7	12	9	13	10	11	0.9%	6.2%	-2.7%	3.6%	-2.3%	0.4%
Biomass & Waste	0	0	1	2	5	10	14	1.7%	17.7%	6.3%	9.2%	6.8%	3.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	154	226	303	363	498	706	954	3.9%	3.0%	1.8%	3.2%	3.5%	3.1%
Coal	4	3	5	11	45	131	199	-3.7%	6.9%	8.0%	15.5%	11.2%	4.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	16	32	41	30	11	10	2.2%	7.5%	2.5%	-3.3%	-9.2%	-1.6%
Gas	21	25	50	43	66	57	60	1.8%	7.0%	-1.5%	4.4%	-1.5%	0.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	1	1	4	8	21	45	69	3.6%	19.1%	6.4%	10.5%	7.7%	4.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	3	12	27	n.s.	n.s.	n.s.	30.4%	14.8%	8.2%
Hydro	116	182	212	247	277	303	333	4.6%	1.5%	1.6%	1.2%	0.9%	1.0%
Wind	0	0	0	9	32	78	126	n.s.	n.s.	54.8%	13.8%	9.3%	4.9%
Solar	0	0	0	4	24	68	126	n.s.	n.s.	n.s.	19.4%	11.1%	6.3%
Other	0	0	0	0	0	1	4	n.s.	n.s.	26.1%	25.5%	18.9%	15.0%
Generation Capacity (GW_e)	43	55	65	96	135	220	318	2.5%	1.8%	4.0%	3.5%	5.0%	3.7%
Coal	1	1	1	2	6	20	35	4.7%	-0.2%	7.0%	14.4%	12.1%	5.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	9	8	15	15	18	24	3.3%	-0.6%	6.1%	0.5%	1.7%	2.7%
Gas	8	10	16	26	26	32	37	1.8%	5.3%	4.9%	0.0%	2.2%	1.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	2	3	7	13	1.9%	14.0%	10.0%	7.5%	8.6%	5.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	2	4	n.s.	n.s.	n.s.	30.1%	14.5%	8.0%
Hydro	28	36	40	44	50	54	60	2.4%	1.1%	1.1%	1.2%	0.9%	1.0%
Wind	0	0	0	6	20	45	66	n.s.	n.s.	58.5%	12.8%	8.2%	3.9%
Solar	0	0	0	2	14	42	79	n.s.	n.s.	n.s.	19.9%	11.5%	6.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.8%	18.4%	14.5%
Total Final Consumption² (Mtoe)	67	82	111	131	162	198	237	2.0%	3.1%	1.7%	2.1%	2.0%	1.8%
Coal	2	3	2	5	9	15	20	2.6%	-2.2%	6.9%	6.9%	4.8%	3.4%
Oil	36	46	60	70	73	73	71	2.6%	2.7%	1.6%	0.4%	0.0%	-0.3%
Gas	8	11	19	19	25	31	34	3.3%	5.9%	0.0%	2.7%	2.1%	1.0%
Electricity	8	12	17	23	32	47	65	3.4%	4.0%	2.7%	3.6%	3.9%	3.3%
Heat	0	0	0	0	0	1	2	n.s.	-17.4%	30.5%	12.0%	8.5%	9.8%
Biomass & Other	13	10	12	14	22	32	44	-2.3%	1.3%	2.0%	4.3%	3.6%	3.3%
Share of Renewables ³ (%)	34%	32%	26%	27%	34%	41%	48%	-0.5%	-1.9%	0.4%	2.1%	2.0%	1.5%
Industry (incl. non-energy use)	24	32	44	50	65	84	104	3.1%	3.1%	1.3%	2.6%	2.6%	2.3%
Coal	2	3	2	5	9	15	20	3.0%	-2.2%	7.0%	7.0%	4.9%	3.4%
Oil	8	12	15	16	16	16	16	4.8%	2.1%	0.5%	0.2%	0.1%	-0.2%
Gas	7	9	16	14	15	17	18	2.3%	5.5%	-1.4%	0.9%	1.2%	0.6%
Electricity	4	5	7	10	14	21	30	2.2%	3.9%	3.7%	3.7%	4.0%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	4	6	10	15	20	1.0%	2.1%	4.4%	5.3%	3.6%	3.5%
Buildings	19	20	24	28	34	42	52	0.4%	2.1%	1.4%	2.0%	2.3%	2.1%
Coal	0	0	0	0	0	0	0	-5.9%	-3.0%	3.5%	-0.8%	-1.1%	-1.4%
Oil	5	5	5	5	4	4	4	0.4%	0.3%	0.0%	-2.3%	-0.6%	-0.4%
Gas	1	2	2	4	7	9	10	10.0%	4.1%	5.1%	5.1%	2.8%	0.9%
Electricity	4	7	10	12	15	19	25	4.2%	4.1%	1.9%	2.2%	2.7%	2.8%
Heat	0	0	0	0	0	1	2	n.s.	-17.4%	30.5%	12.0%	8.5%	9.8%
Biomass & Other	9	6	7	7	8	9	11	-3.4%	0.7%	-0.4%	1.7%	1.9%	1.5%
Agriculture	2	2	3	4	5	6	6	2.4%	2.4%	2.7%	1.5%	1.5%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	3	3	4	5	7.2%	3.0%	3.8%	1.7%	1.6%	1.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	2.1%	1.5%	1.4%	1.3%
Electricity	0	0	0	1	1	1	1	7.7%	5.2%	4.0%	2.5%	2.4%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	1	1	1	1	1	-3.4%	0.2%	-1.5%	0.0%	0.0%	0.0%
Transport	23	27	39	49	59	67	74	2.0%	3.7%	2.2%	1.8%	1.3%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	22	27	38	46	49	49	47	1.9%	3.4%	2.0%	0.6%	-0.1%	-0.4%
Gas	0	0	1	2	4	5	7	28.3%	23.7%	2.2%	8.0%	4.1%	2.5%
Electricity	0	0	0	0	2	6	9	0.7%	1.3%	11.3%	39.6%	9.3%	4.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	3	7	11	-22.0%	n.s.	18.2%	12.2%	7.4%	5.2%
Other Energy Transformation & Losses⁴	9	14	18	20	29	45	62	3.9%	3.0%	1.0%	3.7%	4.3%	3.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Egypt	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	56	68	82	101	117	134	151	1.9%	1.8%	2.1%	1.5%	1.4%	1.2%
GDP per capita (ppp, k\$'05)	3	4	5	6	10	14	18	2.3%	2.9%	1.5%	4.2%	3.6%	2.7%
GDP per capita (mer, k\$'05)	1	1	1	2	3	4	5	2.3%	2.9%	1.6%	4.2%	3.6%	2.7%
Share Value Added - Agriculture (%)	19	17	14	10	8	7	6	-1.4%	-1.8%	-3.4%	-2.6%	-1.5%	-0.9%
Share Value Added - Industry (%)	29	33	38	37	37	34	31	1.4%	1.3%	-0.2%	-0.1%	-0.7%	-1.0%
Share Value Added - Services (%)	52	50	49	53	56	59	63	-0.3%	-0.3%	0.9%	0.5%	0.6%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	20	-3.4%	3.6%	-3.0%	0.7%	2.3%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	138	172	273	314	408	537	662	2.2%	4.8%	1.4%	2.7%	2.8%	2.1%
Total GHG (excl. sinks)	138	172	274	314	409	537	662	2.2%	4.7%	1.4%	2.7%	2.8%	2.1%
Total GHG (energy, industry, agriculture)	138	172	274	314	409	537	662	2.2%	4.7%	1.4%	2.7%	2.8%	2.1%
CO ₂	92	116	197	228	308	418	526	2.3%	5.5%	1.5%	3.0%	3.1%	2.3%
CH ₄	25	36	48	51	59	70	82	3.7%	3.0%	0.5%	1.4%	1.8%	1.6%
N ₂ O	19	18	24	31	37	44	48	-0.8%	3.2%	2.5%	2.0%	1.6%	0.9%
F gases	2	3	4	4	5	6	7	3.5%	2.8%	0.8%	1.8%	1.7%	1.4%
Total GHG from Energy and Industry	120	147	245	277	367	492	614	2.1%	5.3%	1.2%	2.9%	3.0%	2.2%
CO₂ Emissions from Fuel Comb.	81	99	171	193	258	353	448	2.1%	5.6%	1.2%	2.9%	3.2%	2.4%
Power generation/District heating	22	27	62	77	102	146	202	2.0%	8.7%	2.1%	2.9%	3.7%	3.3%
Industry	26	23	30	32	39	49	54	-1.1%	2.6%	0.7%	2.2%	2.1%	1.0%
Buildings	11	12	18	18	25	34	42	1.6%	3.7%	0.2%	3.2%	3.3%	2.0%
Agriculture	0	0	7	8	10	12	14	n.s.	40.6%	1.3%	1.9%	1.9%	1.6%
Transport	16	29	39	45	63	84	101	6.1%	3.1%	1.5%	3.4%	3.0%	1.8%
Other	6	8	16	14	19	27	36	2.1%	7.1%	-1.4%	3.5%	3.6%	2.9%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	54	55	88	89	114	156	208	0.2%	4.8%	0.1%	2.5%	3.2%	2.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	45	35	34	26	21	18	18	-2.4%	-0.2%	-2.8%	-2.3%	-1.5%	0.0%
Natural gas	7	17	51	58	86	126	173	9.9%	11.3%	1.3%	4.1%	3.9%	3.2%
Biomass	2	1	2	1	2	2	2	-1.7%	1.7%	-1.8%	2.3%	1.0%	0.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	1.3%	18.0%
Hydro	1	1	1	1	1	1	1	3.3%	-0.5%	1.0%	0.8%	0.2%	0.2%
Other renewables	0	0	0	3	4	9	14	14.1%	16.7%	33.0%	4.5%	8.1%	5.1%
Net Imports	-22	-14	-15	-1	6	10	-1						
Coal	1	1	0	2	3	9	20						
Oil	-23	-12	-1	10	24	36	43						
Natural gas	0	-3	-15	-13	-22	-35	-65						
Biomass	0	0	0	0	0	0	1						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	32	41	73	88	119	165	207	2.4%	6.0%	1.9%	3.1%	3.3%	2.3%
Coal	1	1	0	2	3	9	20	2.4%	-6.2%	14.1%	7.5%	10.2%	8.5%
Oil	22	23	34	37	44	53	61	0.3%	3.9%	0.8%	1.9%	1.9%	1.3%
Natural gas	7	14	36	44	65	91	108	7.9%	9.5%	2.2%	3.8%	3.5%	1.7%
Biomass	2	1	2	1	2	2	2	-1.9%	1.7%	-1.6%	2.9%	1.9%	1.5%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	1.3%	18.0%
Hydro	1	1	1	1	1	1	1	3.3%	-0.5%	1.0%	0.8%	0.2%	0.2%
Other renewables	0	0	0	3	4	9	14	14.1%	16.7%	33.0%	4.5%	8.1%	5.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	32	41	73	88	119	165	207	2.4%	6.0%	1.9%	3.1%	3.3%	2.3%
Energy for Power Generation	9	12	26	35	46	67	89	3.1%	8.0%	3.0%	2.8%	3.8%	3.0%
Other Energy Transformation & Losses	2	2	4	5	7	11	15	0.6%	5.6%	1.2%	4.5%	4.4%	2.9%
Final consumption	24	32	53	63	87	119	147	2.8%	5.3%	1.7%	3.3%	3.2%	2.2%
Steel, Non-Met. Minerals and Chem.	1	1	0	1	1	1	1	1.0%	-5.3%	10.5%	-1.3%	-0.9%	-0.9%
Other Industry	10	9	14	15	20	27	32	-0.3%	4.1%	0.7%	2.9%	2.9%	1.7%
Non-Energy Use	2	3	7	8	12	17	20	4.0%	7.7%	1.8%	4.1%	3.2%	1.9%
Residential	6	7	12	14	19	25	32	2.8%	4.9%	2.0%	2.6%	3.1%	2.3%
Services	0	1	2	3	5	8	12	11.3%	6.9%	3.5%	4.1%	5.2%	4.0%
Agriculture	0	0	3	3	4	5	6	10.1%	24.9%	2.1%	2.1%	2.1%	1.8%
Road	5	8	14	16	24	33	41	4.9%	5.1%	1.8%	3.7%	3.4%	2.2%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.6%	4.0%	3.1%
Aviation	0	0	1	1	1	2	3	8.0%	2.5%	1.2%	5.5%	5.2%	3.5%
Other Transport	0	1	1	0	0	1	1	n.s.	-3.5%	-5.3%	4.9%	3.7%	2.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Egypt	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	8	11	25	31	41	57	74	3.0%	8.6%	2.3%	2.7%	3.4%	2.7%
Coal	0	0	0	0	1	6	15	n.s.	n.s.	n.s.	31.6%	15.6%	10.1%
Oil	4	2	5	5	6	5	6	-6.9%	10.1%	-0.5%	1.1%	-0.3%	1.6%
Gas	4	9	20	26	34	45	52	8.3%	8.3%	2.9%	2.7%	3.0%	1.3%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	42	78	147	212	289	438	598	6.3%	6.5%	3.7%	3.2%	4.2%	3.2%
Coal	0	0	0	0	7	31	83	n.s.	n.s.	n.s.	31.9%	15.9%	10.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	22	20	22	25	24	28	5.2%	-1.2%	1.0%	1.2%	-0.2%	1.7%
Gas	19	42	112	149	200	272	313	8.3%	10.3%	2.8%	3.0%	3.1%	1.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	15.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	10	14	13	14	16	16	16	3.3%	-0.5%	1.0%	0.8%	0.2%	0.2%
Wind	0	0	1	26	39	86	129	n.s.	27.0%	33.0%	4.1%	8.3%	4.1%
Solar	0	0	0	0	3	9	26	n.s.	n.s.	28.8%	23.5%	12.5%	11.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.6%	14.8%
Generation Capacity (GW_e)	12	19	26	51	67	101	142	5.1%	3.3%	6.8%	2.8%	4.2%	3.4%
Coal	0	0	0	0	1	4	12	n.s.	n.s.	n.s.	32.0%	16.1%	10.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	6	5	7	8	6	8	3.5%	-2.5%	2.9%	1.4%	-1.5%	1.7%
Gas	5	10	18	33	42	57	68	8.3%	6.2%	6.1%	2.4%	3.1%	1.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	15.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	3	3	3	3	3	3	0.3%	0.2%	0.7%	0.8%	0.2%	0.2%
Wind	0	0	1	8	12	25	36	n.s.	40.0%	31.0%	3.8%	7.7%	3.7%
Solar	0	0	0	0	2	5	15	n.s.	n.s.	28.9%	23.7%	12.6%	11.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.0%	14.3%
Total Final Consumption² (Mtoe)	24	32	53	63	87	119	147	2.8%	5.3%	1.7%	3.3%	3.2%	2.2%
Coal	1	1	0	1	2	3	4	1.0%	-5.3%	12.2%	2.7%	4.1%	3.3%
Oil	16	20	30	32	39	47	54	2.2%	3.8%	0.7%	2.0%	2.1%	1.3%
Gas	2	4	11	14	24	36	44	5.0%	10.7%	2.4%	5.7%	4.0%	2.1%
Electricity	3	6	11	14	20	30	41	5.9%	6.8%	3.0%	3.2%	4.3%	3.2%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	3.3%	2.7%	5.9%
Biomass & Other	2	1	2	1	2	3	4	-1.9%	1.7%	-1.3%	4.0%	3.7%	3.7%
Share of Renewables ³ (%)	11%	8%	6%	9%	9%	12%	15%	-2.6%	-3.6%	4.1%	0.6%	2.8%	2.2%
Industry (incl. non-energy use)	13	13	21	24	33	45	53	0.6%	4.8%	1.4%	3.2%	2.9%	1.7%
Coal	1	1	0	1	2	3	4	1.0%	-5.3%	12.2%	2.7%	4.1%	3.3%
Oil	8	7	8	8	9	11	13	-0.9%	1.0%	0.5%	1.5%	1.9%	1.3%
Gas	2	4	10	11	16	22	24	4.4%	10.4%	1.4%	3.9%	2.8%	1.1%
Electricity	1	2	4	4	6	9	12	3.8%	5.2%	0.9%	3.9%	4.4%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	0	0	0	0	1	1	n.s.	n.s.	n.s.	38.4%	5.6%	0.2%
Buildings	6	9	14	18	24	33	44	3.6%	5.2%	2.2%	2.9%	3.5%	2.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	5	4	3	3	2	1.1%	3.1%	-1.9%	-2.8%	-2.0%	-1.9%
Gas	0	0	1	2	6	11	15	16.9%	9.7%	9.7%	11.5%	5.8%	3.0%
Electricity	2	3	7	10	12	18	24	7.5%	7.7%	3.8%	2.4%	3.8%	3.1%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	3.3%	2.7%	5.9%
Biomass & Other	1	1	2	1	1	1	1	2.1%	1.7%	-1.6%	0.2%	-0.9%	1.0%
Agriculture	0	0	3	3	4	5	6	10.1%	24.9%	2.1%	2.1%	2.1%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	2	3	3	4	4	n.s.	40.6%	1.3%	1.9%	1.9%	1.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	1	1	1	2	6.9%	6.9%	5.5%	2.8%	2.7%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	5	10	15	17	25	36	45	6.0%	4.5%	1.6%	3.8%	3.5%	2.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	10	15	17	23	30	34	6.0%	4.3%	1.5%	3.1%	2.7%	1.5%
Gas	0	0	0	1	1	3	5	n.s.	n.s.	4.2%	10.5%	7.3%	4.8%
Electricity	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	27.7%	10.7%	5.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	25.8%	12.0%	7.2%
Other Energy Transformation & Losses⁴	2	2	4	5	7	11	15	0.6%	5.6%	1.2%	4.5%	4.4%	2.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Algeria & Libya	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	30	37	42	50	56	60	65	1.9%	1.5%	1.6%	1.1%	0.8%	0.7%
GDP per capita (ppp, k\$'05)	5	7	6	8	12	16	21	2.9%	-0.7%	2.6%	3.9%	3.1%	2.3%
GDP per capita (mer, k\$'05)	2	3	4	4	7	9	11	3.7%	2.6%	0.8%	3.9%	3.1%	2.3%
Share Value Added - Agriculture (%)	8	5	7	10	8	7	7	-3.9%	2.6%	4.1%	-1.9%	-1.1%	-0.6%
Share Value Added - Industry (%)	33	34	62	45	43	39	35	0.5%	6.0%	-3.1%	-0.5%	-0.9%	-1.0%
Share Value Added - Services (%)	59	60	32	45	49	53	58	0.2%	-6.2%	3.6%	0.8%	0.9%	0.8%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	20	-3.4%	3.6%	-3.0%	0.7%	2.3%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	169	198	253	350	458	560	641	1.6%	2.5%	3.3%	2.7%	2.0%	1.4%
Total GHG (excl. sinks)	169	199	254	351	459	560	643	1.6%	2.5%	3.3%	2.7%	2.0%	1.4%
Total GHG (energy, industry, agriculture)	167	197	252	348	457	557	641	1.7%	2.5%	3.3%	2.7%	2.0%	1.4%
CO ₂	113	134	179	283	383	478	559	1.7%	3.0%	4.7%	3.1%	2.2%	1.6%
CH ₄	48	57	64	54	59	63	65	1.7%	1.2%	-1.7%	0.9%	0.6%	0.3%
N ₂ O	6	5	7	10	12	14	15	-0.4%	2.9%	3.5%	2.0%	1.4%	0.7%
F gases	1	1	1	1	2	2	3	4.0%	3.0%	1.7%	2.7%	2.2%	1.3%
Total GHG from Energy and Industry	159	189	242	335	442	541	624	1.7%	2.5%	3.3%	2.8%	2.1%	1.4%
CO₂ Emissions from Fuel Comb.	80	102	145	233	319	403	476	2.5%	3.5%	4.9%	3.2%	2.4%	1.7%
Power generation/District heating	18	32	47	65	102	141	183	5.8%	4.1%	3.3%	4.5%	3.4%	2.6%
Industry	8	10	15	22	25	27	26	2.0%	4.2%	4.3%	1.3%	0.4%	-0.3%
Buildings	10	14	20	30	36	41	45	3.6%	3.7%	4.4%	1.8%	1.4%	0.9%
Agriculture	0	0	0	0	0	0	0	0.9%	17.6%	6.6%	1.7%	1.4%	1.2%
Transport	18	23	46	81	106	127	137	2.6%	7.1%	5.8%	2.8%	1.8%	0.8%
Other	26	24	17	34	49	66	84	-0.9%	-3.4%	7.0%	3.9%	3.0%	2.4%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	179	227	255	218	293	352	381	2.4%	1.1%	-1.5%	3.0%	1.9%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	133	150	174	125	135	142	147	1.2%	1.5%	-3.3%	0.8%	0.4%	0.4%
Natural gas	46	77	80	93	156	209	232	5.3%	0.4%	1.5%	5.3%	3.0%	1.0%
Biomass	0	0	0	1	1	2	1	3.6%	1.1%	11.3%	6.6%	2.7%	-2.1%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.5%
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	0.4%	0.3%	0.5%
Other renewables	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	12.1%	14.8%	12.1%
Net Imports	-145	-185	-195	-123	-159	-180	-175						
Coal	0	1	0	0	1	2	3						
Oil	-116	-129	-144	-78	-77	-76	-79						
Natural gas	-30	-56	-51	-45	-82	-106	-101						
Biomass	0	0	0	0	0	1	1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	34	43	60	96	134	172	205	2.3%	3.5%	4.8%	3.4%	2.5%	1.8%
Coal	0	1	0	0	1	2	3	2.6%	-4.1%	0.4%	8.3%	7.6%	5.5%
Oil	17	21	30	47	58	65	68	2.0%	3.8%	4.4%	2.2%	1.2%	0.4%
Natural gas	16	21	29	48	74	102	130	2.6%	3.3%	5.1%	4.5%	3.3%	2.4%
Biomass	0	0	0	1	1	2	3	3.6%	1.1%	9.2%	9.2%	5.8%	2.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.5%
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	0.4%	0.3%	0.5%
Other renewables	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	12.1%	14.8%	12.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	34	43	60	96	134	172	205	2.3%	3.5%	4.8%	3.4%	2.5%	1.8%
Energy for Power Generation	7	12	19	26	41	58	76	5.8%	4.5%	3.3%	4.7%	3.5%	2.8%
Other Energy Transformation & Losses	11	9	7	12	20	27	35	-1.9%	-2.6%	6.3%	4.7%	3.4%	2.5%
Final consumption	18	24	40	65	87	108	123	3.0%	5.0%	5.0%	3.0%	2.2%	1.3%
Steel, Non-Met. Minerals and Chem.	1	1	2	4	5	5	4	-1.6%	12.1%	6.7%	0.7%	0.0%	-0.5%
Other Industry	3	4	5	7	9	11	12	3.3%	2.0%	3.8%	3.0%	2.0%	1.1%
Non-Energy Use	3	5	5	8	11	14	15	3.5%	1.5%	3.9%	3.6%	2.0%	1.1%
Residential	4	6	8	12	15	18	20	4.5%	3.0%	4.3%	2.0%	1.6%	1.2%
Services	0	1	3	5	7	11	14	4.3%	17.7%	4.6%	4.8%	3.7%	2.8%
Agriculture	0	0	0	0	1	1	1	0.9%	10.0%	2.5%	2.4%	2.1%	1.9%
Road	7	8	16	28	38	49	55	2.2%	6.5%	5.9%	3.2%	2.4%	1.3%
Rail	0	0	0	0	0	0	0	1.2%	9.5%	2.9%	0.6%	0.4%	0.2%
Aviation	0	0	0	0	0	0	0	7.2%	26.5%	8.8%	4.7%	3.4%	0.7%
Other Transport	0	0	0	0	0	0	0	0.9%	9.8%	4.5%	4.2%	2.7%	1.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Algeria & Libya	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	12	19	26	41	57	75	5.9%	4.5%	3.3%	4.7%	3.5%	2.7%
Coal	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	29.9%	14.0%	8.1%
Oil	3	5	5	6	8	8	7	5.1%	0.5%	2.8%	1.9%	0.3%	-0.6%
Gas	4	7	14	19	33	48	65	6.3%	6.5%	3.5%	5.4%	4.0%	3.0%
Biomass & Waste	0	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	16.9%	10.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	27	43	81	130	223	339	455	4.6%	6.5%	4.8%	5.6%	4.3%	3.0%
Coal	0	0	0	0	1	5	10	n.s.	n.s.	n.s.	30.2%	14.3%	8.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	11	13	18	27	33	35	34	1.5%	3.6%	4.0%	1.9%	0.6%	-0.3%
Gas	16	30	62	102	187	295	399	6.4%	7.6%	5.0%	6.3%	4.7%	3.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	17.1%	10.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	0.4%	0.3%	0.5%
Wind	0	0	0	0	1	3	7	n.s.	n.s.	n.s.	20.6%	14.1%	10.5%
Solar	0	0	0	0	0	1	2	n.s.	n.s.	37.9%	3.6%	7.9%	9.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.9%	13.4%
Generation Capacity (GW_e)	8	11	20	30	39	54	76	2.7%	6.2%	4.4%	2.6%	3.5%	3.4%
Coal	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	30.4%	14.2%	8.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	4	5	7	9	9	-0.5%	-0.1%	2.7%	2.6%	2.4%	0.7%
Gas	4	6	15	24	31	43	61	5.8%	9.1%	4.7%	2.5%	3.4%	3.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.0%	10.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	-0.4%	0.0%	-0.8%	0.4%	0.3%	0.5%
Wind	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	19.7%	13.4%	9.7%
Solar	0	0	0	0	0	1	1	n.s.	n.s.	48.1%	1.5%	5.5%	8.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	12.9%
Total Final Consumption² (Mtoe)	18	24	40	65	87	108	123	3.0%	5.0%	5.0%	3.0%	2.2%	1.3%
Coal	0	0	0	0	1	1	1	-3.2%	-0.9%	1.1%	5.7%	3.6%	1.2%
Oil	12	15	23	38	47	54	58	2.3%	4.9%	4.9%	2.3%	1.4%	0.6%
Gas	4	7	11	18	25	30	34	4.6%	4.6%	5.6%	3.1%	2.0%	1.2%
Electricity	2	2	5	7	13	19	26	4.7%	7.5%	3.8%	5.6%	4.3%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	31.3%	16.5%
Biomass & Other	0	0	0	1	2	3	4	3.6%	1.1%	14.4%	6.7%	6.1%	4.0%
Share of Renewables ³ (%)	1%	1%	1%	1%	1%	2%	3%	0.0%	-3.6%	2.1%	4.1%	5.2%	4.4%
Industry (incl. non-energy use)	7	9	12	19	25	29	32	2.9%	3.0%	4.4%	2.8%	1.7%	0.9%
Coal	0	0	0	0	1	1	1	-3.2%	-0.9%	1.1%	5.7%	3.6%	1.2%
Oil	2	3	4	6	8	9	10	2.6%	2.8%	3.3%	2.9%	1.4%	0.7%
Gas	3	5	6	10	13	14	15	3.7%	3.1%	4.8%	2.0%	1.1%	0.4%
Electricity	1	1	1	2	4	5	7	2.7%	4.0%	6.3%	5.1%	3.5%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	0.4%	3.0%	2.5%
Buildings	4	7	11	17	22	28	34	4.5%	5.3%	4.4%	2.9%	2.4%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	3	4	4	3	3	2.3%	1.0%	2.1%	-0.5%	-0.7%	-0.4%
Gas	1	2	4	8	11	13	15	6.9%	7.5%	6.3%	3.2%	2.2%	1.3%
Electricity	1	1	3	5	7	10	14	6.6%	9.0%	2.9%	4.7%	3.7%	2.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	31.3%	16.5%
Biomass & Other	0	0	0	1	1	1	1	3.6%	1.1%	13.0%	2.3%	2.8%	2.1%
Agriculture	0	0	0	0	1	1	1	0.9%	10.0%	2.5%	2.4%	2.1%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	0.9%	12.0%	1.6%	1.8%	1.5%	1.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	11.8%	1.6%	1.3%	1.1%
Electricity	0	0	0	0	0	1	1	1.0%	8.8%	1.1%	2.6%	2.4%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	7	9	16	29	39	50	56	2.2%	6.6%	5.9%	3.2%	2.3%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	16	28	36	42	44	2.2%	6.6%	5.8%	2.4%	1.6%	0.6%
Gas	0	0	0	0	2	3	5	n.s.	n.s.	n.s.	21.8%	6.8%	3.6%
Electricity	0	0	0	0	1	3	5	3.0%	7.5%	7.7%	26.7%	10.2%	5.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	33.8%	10.0%	5.4%
Other Energy Transformation & Losses⁴	11	9	7	12	20	27	35	-1.9%	-2.6%	6.3%	4.7%	3.4%	2.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Morocco & Tunisia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	33	39	43	49	53	56	58	1.6%	1.1%	1.2%	0.8%	0.5%	0.3%
GDP per capita (ppp, k\$'05)	3	4	5	7	11	16	23	1.7%	3.7%	3.2%	4.2%	4.1%	3.4%
GDP per capita (mer, k\$'05)	2	2	3	4	5	8	11	1.9%	3.7%	3.1%	4.2%	4.1%	3.4%
Share Value Added - Agriculture (%)	17	13	12	10	8	7	6	-3.2%	-0.1%	-2.0%	-2.3%	-1.5%	-0.9%
Share Value Added - Industry (%)	32	30	30	30	29	26	22	-0.6%	-0.2%	0.0%	-0.3%	-1.1%	-1.6%
Share Value Added - Services (%)	51	57	58	60	63	67	72	1.2%	0.1%	0.4%	0.5%	0.6%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	20	-3.4%	3.6%	-3.0%	0.7%	2.3%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	50	69	104	133	189	250	286	3.2%	4.2%	2.6%	3.6%	2.8%	1.3%
Total GHG (excl. sinks)	59	79	104	133	190	251	289	3.0%	2.8%	2.5%	3.6%	2.8%	1.4%
Total GHG (energy, industry, agriculture)	58	78	103	132	190	247	289	3.0%	2.9%	2.5%	3.7%	2.7%	1.6%
CO ₂	37	54	77	101	149	197	233	3.8%	3.6%	2.8%	3.9%	2.8%	1.7%
CH ₄	13	16	18	21	29	37	43	2.1%	1.3%	1.4%	3.3%	2.3%	1.4%
N ₂ O	8	8	8	9	11	13	14	-0.2%	0.6%	1.3%	1.7%	1.4%	0.7%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	45	64	89	117	173	229	270	3.5%	3.4%	2.7%	4.0%	2.8%	1.7%
CO₂ Emissions from Fuel Comb.	32	47	67	89	131	174	208	4.0%	3.7%	2.8%	4.0%	2.9%	1.8%
Power generation/District heating	12	17	24	33	51	69	85	3.9%	3.7%	3.1%	4.5%	3.2%	2.0%
Industry	8	8	11	14	20	25	26	0.0%	2.3%	2.8%	4.0%	2.0%	0.6%
Buildings	3	5	7	9	16	24	30	5.8%	2.9%	2.5%	6.5%	4.2%	2.2%
Agriculture	2	3	5	6	8	9	10	6.6%	4.7%	2.1%	1.7%	1.7%	1.5%
Transport	6	12	17	24	31	38	44	6.4%	3.8%	3.2%	2.6%	2.3%	1.4%
Other	1	1	3	4	6	8	12	4.8%	9.7%	1.0%	4.8%	4.0%	3.5%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	7	8	10	11	18	28	40	0.8%	2.5%	1.0%	5.4%	4.3%	3.6%
Coal	0	0	0	0	0	0	0	-22.5%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	4	4	4	6	9	12	-2.2%	0.6%	-0.9%	4.7%	4.1%	3.1%
Natural gas	0	2	3	4	8	12	18	17.5%	6.0%	3.2%	6.3%	4.8%	4.1%
Biomass	1	2	2	2	2	2	2	2.7%	1.2%	-2.6%	3.3%	-0.4%	-0.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.9%	14.7%
Hydro	0	0	0	0	0	0	0	-4.7%	16.8%	-2.9%	0.8%	0.5%	0.5%
Other renewables	0	0	0	1	2	4	7	n.s.	29.8%	25.6%	7.6%	7.8%	4.9%
Net Imports	5	11	17	25	33	39	41						
Coal	1	3	3	4	9	16	20						
Oil	3	7	11	17	18	17	17						
Natural gas	1	1	3	3	5	6	3						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	12	18	27	35	51	67	80	3.9%	4.0%	2.8%	3.8%	2.8%	1.8%
Coal	1	3	3	4	9	16	20	8.4%	0.2%	4.4%	8.1%	5.2%	2.6%
Oil	8	10	16	20	24	26	29	2.4%	4.1%	2.7%	1.5%	1.1%	0.9%
Natural gas	1	3	6	7	13	18	21	8.2%	7.4%	2.6%	5.9%	3.3%	1.8%
Biomass	1	2	2	2	2	2	2	2.7%	1.2%	-2.4%	3.1%	-0.4%	-0.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.9%	14.7%
Hydro	0	0	0	0	0	0	0	-4.7%	16.8%	-2.9%	0.8%	0.5%	0.5%
Other renewables	0	0	0	1	2	4	7	n.s.	29.8%	25.6%	7.6%	7.8%	4.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	12	18	27	35	51	67	80	3.9%	4.0%	2.8%	3.8%	2.8%	1.8%
Energy for Power Generation	4	5	8	12	18	25	32	3.7%	4.4%	3.4%	4.3%	3.4%	2.5%
Other Energy Transformation & Losses	0	0	2	2	4	5	6	4.3%	13.5%	3.6%	4.5%	2.3%	2.1%
Final consumption	9	14	20	26	38	50	59	4.2%	3.6%	2.6%	3.7%	2.8%	1.8%
Steel, Non-Met. Minerals and Chem.	0	0	2	3	5	6	6	0.1%	20.9%	4.2%	3.3%	2.1%	0.8%
Other Industry	3	3	3	3	5	7	8	1.2%	-2.5%	2.5%	4.6%	2.7%	1.3%
Non-Energy Use	0	0	1	1	1	1	1	8.5%	4.7%	3.4%	1.6%	0.4%	-0.8%
Residential	2	3	4	5	7	10	12	4.5%	2.9%	1.4%	3.9%	2.9%	1.8%
Services	1	1	2	2	4	6	9	3.6%	4.9%	0.8%	7.5%	5.4%	3.6%
Agriculture	1	1	2	2	3	3	4	6.5%	4.9%	2.3%	1.8%	1.8%	1.6%
Road	2	4	6	8	11	14	17	6.1%	3.6%	3.3%	3.2%	2.7%	1.7%
Rail	0	0	0	0	0	0	0	5.7%	3.4%	2.0%	1.0%	1.0%	0.7%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	6.5%	5.5%	4.7%	1.7%
Other Transport	0	0	1	1	1	2	2	9.9%	5.3%	4.0%	4.2%	3.4%	2.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Morocco & Tunisia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	4	5	8	10	15	20	24	3.8%	4.1%	2.8%	4.0%	2.7%	1.9%
Coal	1	2	3	4	8	12	15	10.9%	2.7%	3.4%	7.0%	4.9%	2.3%
Oil	2	1	1	2	3	2	3	-5.9%	1.7%	6.4%	0.4%	-1.5%	1.8%
Gas	1	2	4	4	5	6	6	9.2%	6.2%	0.7%	2.5%	0.9%	0.9%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	15	23	40	61	98	151	206	4.3%	5.4%	4.3%	4.9%	4.4%	3.2%
Coal	2	9	11	16	34	57	75	14.8%	2.2%	3.9%	7.7%	5.4%	2.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	5	6	11	11	10	12	-5.8%	2.4%	6.3%	0.6%	-1.2%	1.9%
Gas	4	9	19	20	27	30	33	9.6%	7.2%	0.9%	2.7%	1.2%	1.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	1	4	3	3	3	3	-4.7%	16.8%	-2.9%	0.8%	0.5%	0.5%
Wind	0	0	1	10	20	40	62	n.s.	24.8%	29.3%	6.8%	7.1%	4.4%
Solar	0	0	0	0	3	10	19	n.s.	n.s.	21.3%	22.4%	11.8%	6.7%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	27.2%	18.5%	14.0%
Generation Capacity (GW_e)	4	7	10	17	25	41	57	6.8%	3.5%	5.2%	4.2%	5.0%	3.3%
Coal	0	1	2	3	5	10	12	12.1%	2.1%	4.4%	6.9%	5.8%	2.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	2	2	2	3	3	4	3.4%	-0.6%	1.1%	1.3%	1.5%	2.2%
Gas	1	2	4	5	6	6	7	10.7%	7.7%	2.6%	0.4%	1.2%	1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	2	2	2	2	2	3	4.3%	1.4%	1.8%	0.8%	0.5%	0.5%
Wind	0	0	0	4	7	14	20	n.s.	18.7%	27.9%	6.4%	6.4%	3.7%
Solar	0	0	0	0	2	6	12	n.s.	n.s.	21.6%	22.7%	12.1%	6.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.9%	13.5%
Total Final Consumption² (Mtoe)	9	14	20	26	38	50	59	4.2%	3.6%	2.6%	3.7%	2.8%	1.8%
Coal	0	1	0	0	2	3	3	2.8%	-30.6%	37.3%	15.3%	5.7%	2.5%
Oil	6	9	14	17	20	23	24	4.3%	4.1%	2.2%	1.7%	1.3%	0.7%
Gas	0	1	1	3	7	11	14	6.1%	6.1%	8.2%	10.0%	5.0%	2.3%
Electricity	1	2	3	5	7	11	15	5.2%	5.5%	3.7%	4.6%	4.3%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	-4.0%	-4.0%	1.7%
Biomass & Other	1	2	2	2	2	3	3	2.7%	1.2%	-2.4%	3.0%	1.2%	1.8%
Share of Renewables ³ (%)	16%	14%	13%	11%	11%	14%	17%	-1.6%	-1.0%	-1.8%	0.7%	2.0%	2.1%
Industry (incl. non-energy use)	3	4	6	8	11	14	15	1.7%	3.2%	3.3%	3.7%	2.2%	0.9%
Coal	0	1	0	0	2	3	3	2.8%	-30.6%	37.3%	15.3%	5.7%	2.5%
Oil	2	2	3	4	4	4	4	-0.3%	5.5%	2.0%	0.6%	-0.6%	-1.4%
Gas	0	0	1	1	2	2	2	5.1%	5.7%	2.1%	4.9%	2.1%	-0.2%
Electricity	1	1	1	2	3	5	6	4.3%	3.1%	5.4%	4.8%	3.7%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	1.5%	3.6%	3.9%	-0.8%	-2.3%
Buildings	3	4	6	7	11	16	21	4.3%	3.4%	1.2%	4.9%	3.8%	2.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	2	2	5.5%	2.6%	-1.3%	0.7%	1.1%	1.1%
Gas	0	0	0	1	4	8	10	10.1%	6.9%	16.7%	12.1%	5.6%	2.6%
Electricity	0	1	2	2	3	5	7	6.4%	7.6%	2.3%	3.9%	4.1%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	-4.0%	-4.0%	1.7%
Biomass & Other	1	2	2	2	2	2	2	2.3%	1.2%	-3.1%	0.6%	-0.1%	0.7%
Agriculture	1	1	2	2	3	3	4	6.5%	4.9%	2.3%	1.8%	1.8%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	3	3	6.6%	4.7%	2.1%	1.7%	1.7%	1.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	13.9%	1.5%	1.5%	1.3%
Electricity	0	0	0	0	0	0	1	6.1%	6.9%	3.7%	2.5%	2.5%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	2	5	7	9	13	16	20	6.3%	3.8%	3.3%	3.2%	2.7%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	5	7	9	11	14	15	6.4%	3.8%	3.1%	2.3%	2.0%	1.1%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.4%	7.9%	4.4%
Electricity	0	0	0	0	0	1	2	2.8%	-1.8%	7.5%	20.3%	9.8%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	21.1%	4.7%	4.3%
Other Energy Transformation & Losses⁴	0	0	2	2	4	5	6	4.3%	13.5%	3.6%	4.5%	2.3%	2.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

South Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	37	45	52	57	60	63	66	2.0%	1.4%	0.9%	0.6%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	8	7	9	10	13	18	21	-0.2%	2.1%	0.9%	2.6%	3.0%	1.8%
GDP per capita (mer, k\$'05)	5	5	6	6	8	11	13	-0.2%	2.0%	0.8%	2.6%	3.0%	1.8%
Share Value Added - Agriculture (%)	5	3	3	2	2	2	2	-3.4%	-2.2%	-1.2%	-0.7%	-0.6%	-0.3%
Share Value Added - Industry (%)	40	32	30	29	26	23	21	-2.3%	-0.5%	-0.5%	-0.8%	-1.2%	-1.0%
Share Value Added - Services (%)	55	65	67	69	71	75	77	1.6%	0.4%	0.3%	0.3%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	15	20	24	-3.4%	3.6%	-3.2%	2.0%	2.5%	2.1%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	351	403	511	560	642	743	773	1.4%	2.4%	0.9%	1.4%	1.5%	0.4%
Total GHG (excl. sinks)	351	405	511	560	642	744	774	1.5%	2.3%	0.9%	1.4%	1.5%	0.4%
Total GHG (energy, industry, agriculture)	347	402	510	547	631	706	746	1.5%	2.4%	0.7%	1.4%	1.1%	0.6%
CO ₂	275	324	426	458	528	592	628	1.7%	2.8%	0.7%	1.4%	1.2%	0.6%
CH ₄	51	57	63	67	79	88	92	1.2%	1.0%	0.6%	1.7%	1.1%	0.4%
N ₂ O	20	19	18	19	21	22	23	-0.4%	-0.4%	0.7%	0.8%	0.5%	0.3%
F gases	1	2	3	3	3	4	4	0.6%	5.2%	0.2%	1.9%	1.8%	1.0%
Total GHG from Energy and Industry	315	370	476	511	593	667	706	1.6%	2.5%	0.7%	1.5%	1.2%	0.6%
CO₂ Emissions from Fuel Comb.	254	304	405	427	488	544	576	1.8%	2.9%	0.5%	1.4%	1.1%	0.6%
Power generation/District heating	142	188	242	201	244	283	310	2.8%	2.6%	-1.8%	2.0%	1.5%	0.9%
Industry	32	28	42	35	35	32	28	-1.3%	4.2%	-1.7%	-0.1%	-0.7%	-1.4%
Buildings	12	9	17	27	27	26	25	-2.2%	6.3%	4.8%	-0.2%	-0.1%	-0.5%
Agriculture	3	4	3	6	7	8	9	2.0%	-1.1%	6.4%	1.2%	1.4%	1.0%
Transport	29	36	42	55	61	69	72	2.0%	1.5%	2.8%	1.0%	1.2%	0.4%
Other	36	40	60	102	115	125	133	1.1%	4.1%	5.4%	1.2%	0.9%	0.6%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	108	153	166	167	262	351	397	3.6%	0.8%	0.1%	4.6%	3.0%	1.2%
Coal	91	128	145	145	234	318	363	3.5%	1.3%	0.0%	4.9%	3.1%	1.3%
Oil	5	10	5	7	8	6	3	7.2%	-8.0%	4.2%	1.3%	-2.7%	-7.4%
Natural gas	2	1	1	1	1	1	2	-0.8%	-1.0%	-5.8%	6.6%	1.0%	2.1%
Biomass	8	9	11	9	11	13	14	1.9%	1.4%	-1.6%	2.1%	1.6%	0.6%
Nuclear ¹	2	3	3	3	3	6	6	4.4%	-0.7%	0.2%	0.1%	5.8%	0.5%
Hydro	0	0	0	0	0	1	1	3.3%	2.6%	-0.9%	1.5%	1.7%	1.7%
Other renewables	0	0	0	2	4	6	9	n.s.	n.s.	37.5%	7.7%	5.7%	3.6%
Net Imports	-21	-47	-27	-31	-105	-172	-207						
Coal	-23	-46	-45	-50	-125	-199	-237						
Oil	3	-2	15	13	12	16	19						
Natural gas	-1	0	3	4	5	9	10						
Biomass	0	0	0	3	2	2	2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	1	0	0	0	0	0						
Primary Energy Demand²	87	106	138	137	157	179	190	2.0%	2.7%	-0.1%	1.4%	1.3%	0.6%
Coal	68	82	100	96	110	119	125	1.9%	2.1%	-0.5%	1.4%	0.8%	0.6%
Oil	9	9	20	20	20	22	22	0.2%	8.5%	0.0%	0.1%	0.9%	0.0%
Natural gas	0	1	4	5	7	11	12	10.9%	10.7%	1.5%	3.8%	5.2%	0.7%
Biomass	8	9	11	12	14	15	16	1.9%	1.4%	0.8%	1.5%	1.0%	0.4%
Nuclear ¹	2	3	3	3	3	6	6	4.4%	-0.7%	0.2%	0.1%	5.8%	0.5%
Hydro	0	0	0	0	0	1	1	3.3%	2.6%	-0.9%	1.5%	1.7%	1.7%
Other renewables	0	0	0	2	4	6	9	n.s.	n.s.	37.5%	7.7%	5.7%	3.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	87	106	138	137	157	179	190	2.0%	2.7%	-0.1%	1.4%	1.3%	0.6%
Energy for Power Generation	38	51	64	56	70	86	97	3.0%	2.4%	-1.3%	2.1%	2.2%	1.2%
Other Energy Transformation & Losses	8	13	21	22	27	31	34	4.8%	4.8%	0.5%	1.8%	1.4%	1.0%
Final consumption	52	57	70	75	84	93	97	0.8%	2.1%	0.7%	1.1%	1.1%	0.4%
Steel, Non-Met. Minerals and Chem.	10	7	10	10	10	10	9	-3.5%	3.4%	-0.2%	0.4%	-0.2%	-0.8%
Other Industry	13	14	18	16	18	19	19	0.9%	2.7%	-1.4%	1.2%	0.8%	0.1%
Non-Energy Use	4	6	4	3	3	3	3	2.8%	-2.6%	-4.7%	0.7%	0.5%	-0.1%
Residential	10	12	15	16	17	17	16	1.5%	2.2%	0.9%	0.1%	0.0%	-0.4%
Services	3	4	5	6	7	9	11	2.5%	1.8%	2.4%	1.9%	2.4%	1.5%
Agriculture	1	2	2	2	3	3	4	1.7%	0.3%	4.5%	1.5%	1.6%	1.2%
Road	9	11	15	20	23	28	31	1.8%	3.0%	2.8%	1.7%	1.9%	0.9%
Rail	0	1	0	0	1	1	1	5.2%	-6.5%	2.9%	1.6%	1.8%	1.0%
Aviation	0	1	1	1	2	3	3	5.7%	5.0%	3.0%	3.6%	3.7%	2.0%
Other Transport	0	0	0	0	0	0	0	n.s.	4.5%	32.7%	2.3%	2.3%	0.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

South Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	36	47	61	51	62	74	81	2.9%	2.6%	-1.8%	2.0%	1.7%	1.0%
Coal	36	47	61	50	61	69	75	2.8%	2.6%	-1.9%	1.9%	1.2%	0.9%
Oil	0	0	0	0	0	1	1	n.s.	n.s.	19.5%	3.0%	4.6%	1.3%
Gas	0	0	0	0	0	3	3	n.s.	n.s.	n.s.	21.3%	21.0%	0.5%
Biomass & Waste	0	0	0	0	0	1	2	n.s.	-0.7%	11.6%	4.4%	8.7%	6.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	167	211	260	241	321	425	498	2.3%	2.1%	-0.7%	2.9%	2.8%	1.6%
Coal	156	193	242	204	259	306	344	2.2%	2.3%	-1.7%	2.4%	1.7%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	1	2	3	3	n.s.	n.s.	19.0%	3.4%	5.2%	1.7%
Gas	0	0	0	0	2	15	17	n.s.	n.s.	n.s.	20.9%	19.8%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	1	2	5	10	n.s.	-0.7%	11.6%	6.4%	11.5%	7.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	8	13	12	12	12	23	25	4.4%	-0.7%	0.2%	0.1%	6.2%	0.7%
Hydro	3	4	5	5	5	6	8	3.3%	2.6%	-0.9%	1.5%	1.7%	1.7%
Wind	0	0	0	8	20	43	62	n.s.	n.s.	n.s.	9.4%	7.8%	3.9%
Solar	0	0	0	10	19	24	29	n.s.	n.s.	n.s.	7.1%	2.4%	1.8%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.0%	16.9%	12.8%
Generation Capacity (GW_e)	35	41	44	54	73	98	117	1.7%	0.7%	2.1%	3.0%	3.0%	1.9%
Coal	31	37	38	35	40	47	54	1.8%	0.2%	-0.7%	1.1%	1.7%	1.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	1	1	29.8%	0.0%	-1.2%	1.3%	5.8%	4.3%
Gas	0	0	2	3	3	5	5	n.s.	n.s.	2.7%	2.6%	3.7%	0.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	1	n.s.	0.0%	11.8%	2.0%	11.2%	7.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	2	2	2	2	2	3	3	0.0%	0.0%	0.2%	-0.1%	6.0%	0.5%
Hydro	2	2	2	2	3	3	4	0.3%	0.1%	0.8%	1.5%	1.7%	1.7%
Wind	0	0	0	4	9	18	24	n.s.	n.s.	n.s.	8.7%	7.0%	3.1%
Solar	0	0	0	8	16	20	24	n.s.	n.s.	n.s.	7.4%	2.6%	1.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.3%	12.3%
Total Final Consumption² (Mtoe)	52	57	70	75	84	93	97	0.8%	2.1%	0.7%	1.1%	1.1%	0.4%
Coal	17	16	16	15	15	14	12	-0.9%	-0.1%	0.0%	-0.2%	-1.1%	-1.5%
Oil	15	16	23	28	29	31	31	0.7%	3.6%	2.1%	0.3%	0.7%	0.0%
Gas	0	1	4	4	5	7	7	5.6%	15.2%	0.5%	3.6%	2.6%	0.8%
Electricity	12	15	17	16	22	29	34	2.3%	1.5%	-0.6%	3.0%	2.8%	1.6%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	11.6%	3.0%	8.6%	7.2%
Biomass & Other	8	9	11	11	12	13	12	1.8%	1.5%	0.3%	0.9%	0.4%	-0.4%
Share of Renewables ³ (%)	16%	17%	16%	17%	19%	21%	24%	0.8%	-0.8%	0.8%	1.0%	1.1%	1.2%
Industry (incl. non-energy use)	27	27	32	28	31	32	32	-0.2%	2.0%	-1.4%	0.9%	0.5%	-0.2%
Coal	15	14	12	9	9	8	7	-0.4%	-1.5%	-2.5%	-0.1%	-1.5%	-1.9%
Oil	4	2	4	4	4	4	3	-6.6%	9.4%	-0.6%	-0.9%	-0.8%	-1.5%
Gas	0	1	4	3	3	3	3	5.5%	15.6%	-0.7%	0.0%	0.1%	-1.5%
Electricity	7	8	10	10	12	15	16	1.6%	2.2%	-0.8%	2.6%	2.0%	0.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	2	2	2	3	1.3%	1.6%	-1.1%	2.2%	1.9%	0.9%
Buildings	14	16	20	22	24	26	27	1.7%	2.1%	1.3%	0.7%	0.8%	0.3%
Coal	2	1	3	6	6	5	5	-4.6%	8.3%	5.7%	-0.3%	-0.6%	-0.9%
Oil	1	1	1	1	1	1	1	5.0%	1.6%	-0.6%	-2.9%	-1.3%	-1.1%
Gas	0	0	0	0	1	1	2	8.2%	-4.5%	26.0%	12.2%	5.8%	2.1%
Electricity	4	6	6	6	8	10	12	3.4%	0.7%	-0.6%	2.4%	3.1%	1.9%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	11.6%	3.0%	8.6%	7.2%
Biomass & Other	6	8	9	9	9	8	6	1.9%	1.4%	0.4%	-0.2%	-1.2%	-2.4%
Agriculture	1	2	2	2	3	3	4	1.7%	0.3%	4.5%	1.5%	1.6%	1.2%
Coal	0	0	0	0	0	0	0	3.3%	-0.3%	22.6%	0.0%	0.0%	0.0%
Oil	1	1	1	2	2	2	2	2.0%	-1.2%	4.5%	1.6%	1.6%	1.2%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	1	1	1	1	1	0.8%	4.1%	0.2%	2.3%	2.4%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	10	12	16	22	26	32	35	2.1%	2.8%	2.9%	1.8%	2.0%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	10	12	16	21	22	24	25	2.1%	3.0%	2.7%	0.6%	0.9%	0.2%
Gas	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	20.1%	5.8%	2.9%
Electricity	0	0	0	0	2	3	4	2.9%	-4.1%	1.8%	15.5%	7.5%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	18.0%	8.0%	4.0%
Other Energy Transformation & Losses⁴	8	13	21	22	27	31	34	4.8%	4.8%	0.5%	1.8%	1.4%	1.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Sub-Saharan Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	475	625	825	1 084	1 393	1 749	2 138	2.8%	2.8%	2.8%	2.5%	2.3%	2.0%
GDP per capita (ppp, k\$'05)	1	1	1	2	3	4	6	-0.3%	3.6%	3.0%	3.9%	4.0%	4.0%
GDP per capita (mer, k\$'05)	1	0	1	1	1	2	3	-0.5%	3.5%	2.9%	3.9%	4.0%	4.0%
Share Value Added - Agriculture (%)	32	27	23	17	11	8	6	-1.7%	-1.6%	-2.8%	-4.4%	-3.1%	-2.1%
Share Value Added - Industry (%)	29	33	29	27	29	30	29	1.3%	-1.2%	-0.7%	0.6%	0.2%	-0.2%
Share Value Added - Services (%)	39	40	47	55	60	62	64	0.2%	1.8%	1.5%	0.8%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	15	20	24	-3.4%	3.6%	-3.2%	2.0%	2.5%	2.1%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 701	1 841	1 878	2 481	3 524	4 627	5 559	0.8%	0.2%	2.8%	3.6%	2.8%	1.9%
Total GHG (excl. sinks)	1 701	1 841	1 878	2 481	3 524	4 627	5 559	0.8%	0.2%	2.8%	3.6%	2.8%	1.9%
Total GHG (energy, industry, agriculture)	629	759	884	1 249	1 701	2 410	3 342	1.9%	1.5%	3.5%	3.1%	3.5%	3.3%
CO ₂	160	208	241	452	768	1 238	1 857	2.7%	1.5%	6.5%	5.4%	4.9%	4.1%
CH ₄	310	394	454	591	702	908	1 178	2.4%	1.4%	2.7%	1.7%	2.6%	2.6%
N ₂ O	157	155	186	201	222	248	279	-0.2%	1.9%	0.8%	1.0%	1.1%	1.2%
F gases	2	2	2	4	8	16	28	-0.2%	3.7%	5.9%	6.5%	6.5%	6.0%
Total GHG from Energy and Industry	329	399	459	801	1 222	1 900	2 804	1.9%	1.4%	5.7%	4.3%	4.5%	4.0%
CO₂ Emissions from Fuel Comb.	99	130	192	365	587	926	1 391	2.8%	4.0%	6.6%	4.9%	4.7%	4.2%
Power generation/District heating	20	27	40	107	186	312	506	3.0%	4.0%	10.2%	5.7%	5.3%	4.9%
Industry	21	19	28	51	88	132	177	-1.2%	4.1%	6.2%	5.5%	4.2%	3.0%
Buildings	12	17	24	39	54	75	102	3.6%	3.4%	4.8%	3.4%	3.2%	3.2%
Agriculture	2	4	4	6	7	9	10	6.2%	0.4%	3.8%	1.7%	1.9%	2.0%
Transport	38	52	83	140	211	325	479	3.2%	4.7%	5.4%	4.2%	4.4%	4.0%
Other	5	10	13	22	41	73	116	8.3%	2.2%	5.8%	6.2%	6.0%	4.8%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	309	438	611	527	638	763	910	3.6%	3.4%	-1.5%	1.9%	1.8%	1.8%
Coal	4	4	3	41	13	22	38	-0.5%	-4.0%	31.4%	-11.1%	5.6%	5.8%
Oil	151	227	310	213	225	224	234	4.1%	3.2%	-3.7%	0.6%	-0.1%	0.4%
Natural gas	5	15	46	60	107	154	196	12.2%	11.6%	2.7%	5.9%	3.7%	2.4%
Biomass	144	186	243	195	264	319	371	2.6%	2.7%	-2.2%	3.1%	1.9%	1.5%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	23.6%	18.6%
Hydro	4	5	8	9	10	12	14	3.1%	4.4%	1.4%	1.5%	1.4%	1.6%
Other renewables	0	0	1	9	19	32	57	2.9%	13.0%	21.2%	8.1%	5.4%	5.8%
Net Imports	- 127	- 200	- 287	- 103	- 92	- 68	- 14						
Coal	1	0	1	-30	22	49	82						
Oil	- 127	- 192	- 256	- 116	- 99	- 52	7						
Natural gas	- 1	- 8	- 32	- 35	- 58	- 65	- 63						
Biomass	0	0	0	80	48	6	- 38						
Biofuels	0	0	0	- 2	- 7	- 6	- 2						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	181	237	323	424	546	695	896	2.7%	3.1%	2.7%	2.6%	2.4%	2.6%
Coal	5	4	3	11	35	70	120	-1.9%	-1.3%	12.4%	12.1%	7.3%	5.4%
Oil	25	34	54	97	126	172	241	3.3%	4.7%	6.0%	2.7%	3.1%	3.4%
Natural gas	4	8	14	25	49	88	132	7.2%	6.1%	6.1%	7.1%	6.0%	4.1%
Biomass	144	186	243	275	312	325	333	2.6%	2.7%	1.3%	1.3%	0.4%	0.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	23.6%	18.6%
Hydro	4	5	8	9	10	12	14	3.1%	4.4%	1.4%	1.5%	1.4%	1.6%
Other renewables	0	0	1	9	19	32	57	2.9%	13.0%	21.2%	8.1%	5.4%	5.8%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	181	237	323	424	546	695	896	2.7%	3.1%	2.7%	2.6%	2.4%	2.6%
Energy for Power Generation	11	15	24	54	90	145	236	3.5%	4.8%	8.5%	5.2%	4.9%	5.0%
Other Energy Transformation & Losses	2	4	6	11	27	43	68	8.1%	4.3%	6.3%	9.6%	5.0%	4.5%
Final consumption	174	225	304	379	467	575	714	2.6%	3.1%	2.2%	2.1%	2.1%	2.2%
Steel, Non-Met. Minerals and Chem.	2	1	1	2	4	6	9	-3.9%	0.1%	7.8%	4.6%	4.4%	4.0%
Other Industry	14	17	28	40	58	80	109	2.4%	5.1%	3.6%	3.7%	3.4%	3.1%
Non-Energy Use	1	1	2	4	8	14	23	0.8%	3.8%	8.8%	6.7%	6.1%	5.4%
Residential	137	175	228	257	281	293	295	2.5%	2.7%	1.2%	0.9%	0.4%	0.1%
Services	6	9	10	17	27	42	64	3.8%	1.6%	5.3%	4.6%	4.5%	4.4%
Agriculture	1	2	2	3	4	4	5	4.7%	1.1%	2.9%	1.3%	1.5%	1.7%
Road	12	18	31	52	82	129	196	4.0%	5.4%	5.5%	4.6%	4.6%	4.3%
Rail	0	0	0	0	0	0	1	-5.6%	-0.8%	4.1%	1.8%	2.4%	2.7%
Aviation	0	0	1	2	3	6	12	4.3%	8.2%	6.8%	7.1%	7.2%	6.7%
Other Transport	0	0	0	0	1	1	2	-1.2%	2.2%	6.3%	5.5%	5.1%	4.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Sub-Saharan Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	9	15	36	60	101	165	3.7%	4.6%	9.4%	5.2%	5.2%	5.1%
Coal	2	2	1	6	24	51	89	-1.2%	-3.0%	15.9%	14.6%	7.7%	5.7%
Oil	2	3	6	18	16	14	19	4.2%	5.6%	11.8%	-1.0%	-1.3%	2.9%
Gas	2	4	7	10	16	27	39	7.1%	6.1%	4.4%	4.2%	5.6%	3.8%
Biomass & Waste	0	0	1	1	3	7	17	4.1%	6.2%	4.5%	12.3%	9.7%	9.4%
Other	0	0	0	1	1	1	1	2.9%	13.0%	20.1%	4.9%	-0.1%	1.2%
Gross Elec. Generation (TWh_e)	66	90	147	277	486	872	1 493	3.1%	5.1%	6.5%	5.8%	6.0%	5.5%
Coal	6	5	5	26	116	256	464	-1.1%	-1.7%	19.1%	15.9%	8.3%	6.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	12	20	79	73	66	89	3.7%	5.5%	14.5%	-0.9%	-1.0%	3.0%
Gas	7	12	29	47	78	142	210	5.3%	8.9%	4.8%	5.3%	6.1%	4.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	1	2	11	31	81	3.8%	5.1%	7.1%	17.0%	11.0%	10.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	44	59	90	103	121	139	163	3.1%	4.4%	1.4%	1.5%	1.4%	1.6%
Wind	0	0	0	6	38	114	263	21.8%	11.3%	n.s.	19.6%	11.5%	8.7%
Solar	0	0	0	3	34	108	203	n.s.	39.0%	42.1%	26.6%	12.1%	6.5%
Other	0	0	1	9	15	15	20	2.9%	13.0%	20.1%	5.0%	0.4%	2.7%
Generation Capacity (GW_e)	23	27	41	71	132	248	421	1.6%	4.2%	5.6%	6.4%	6.6%	5.4%
Coal	2	2	2	4	17	37	68	-0.5%	1.4%	7.6%	15.2%	7.8%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	5	8	20	29	36	43	1.2%	5.0%	9.6%	3.8%	2.2%	1.9%
Gas	3	6	11	18	19	30	44	8.2%	6.6%	5.3%	0.9%	4.5%	3.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	2	4	12	1.0%	7.6%	1.4%	14.5%	10.5%	10.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	15	15	20	23	27	31	36	0.3%	3.0%	1.3%	1.5%	1.4%	1.6%
Wind	0	0	0	3	16	45	95	n.s.	13.2%	n.s.	18.5%	10.7%	7.9%
Solar	0	0	0	2	20	64	120	n.s.	39.0%	42.4%	26.9%	12.3%	6.5%
Other	0	0	0	1	2	2	3	4.1%	12.0%	18.5%	4.9%	1.9%	2.5%
Total Final Consumption² (Mtoe)	174	225	304	379	467	575	714	2.6%	3.1%	2.2%	2.1%	2.1%	2.2%
Coal	3	2	2	5	10	16	24	-2.6%	0.2%	9.0%	7.2%	5.4%	3.9%
Oil	21	29	46	75	106	154	217	3.1%	4.8%	5.0%	3.5%	3.7%	3.5%
Gas	1	2	4	9	22	40	62	5.3%	6.1%	9.7%	9.4%	6.3%	4.4%
Electricity	4	6	10	19	34	62	105	3.3%	5.6%	6.4%	5.9%	6.1%	5.5%
Heat	0	0	0	0	0	1	3	n.s.	n.s.	4.0%	40.4%	21.3%	17.5%
Biomass & Other	144	186	242	271	295	303	304	2.6%	2.7%	1.1%	0.9%	0.3%	0.0%
Share of Renewables ³ (%)	84%	84%	81%	73%	66%	57%	51%	0.0%	-0.3%	-1.1%	-1.0%	-1.3%	-1.2%
Industry (incl. non-energy use)	16	20	31	46	69	100	140	1.7%	4.8%	4.1%	4.0%	3.8%	3.5%
Coal	2	1	1	4	9	15	23	-3.6%	-1.5%	12.5%	8.7%	5.9%	4.2%
Oil	5	4	6	10	14	18	24	-0.4%	3.9%	4.4%	3.5%	2.8%	2.7%
Gas	1	1	4	7	13	21	29	2.3%	9.2%	7.1%	6.3%	5.0%	3.3%
Electricity	2	3	4	8	15	26	42	1.9%	4.2%	7.0%	5.8%	5.8%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	7	10	16	18	19	20	23	3.9%	5.1%	1.1%	0.8%	0.4%	1.4%
Buildings	143	184	239	275	308	334	359	2.6%	2.6%	1.4%	1.1%	0.8%	0.7%
Coal	0	0	0	0	0	0	0	-2.8%	6.2%	1.2%	-0.3%	-0.6%	-0.9%
Oil	3	5	7	10	11	13	15	3.3%	4.0%	3.8%	0.9%	1.1%	1.9%
Gas	0	0	0	2	7	14	23	n.s.	n.s.	n.s.	15.4%	7.1%	4.8%
Electricity	2	3	6	11	18	31	52	4.9%	7.0%	5.9%	5.3%	5.6%	5.4%
Heat	0	0	0	0	0	1	3	n.s.	n.s.	4.0%	40.4%	21.3%	17.5%
Biomass & Other	137	175	225	251	271	276	266	2.5%	2.5%	1.1%	0.8%	0.2%	-0.4%
Agriculture	1	2	2	3	4	4	5	4.7%	1.1%	2.9%	1.3%	1.5%	1.7%
Coal	0	0	0	1	1	1	1	6.1%	1.0%	2.5%	0.0%	0.0%	0.0%
Oil	0	1	1	1	2	2	3	6.4%	0.0%	4.8%	2.6%	2.6%	2.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	3.2%	-0.6%	4.7%	3.3%	3.3%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	1	1	1	1	1	3.2%	2.3%	1.2%	0.0%	0.0%	0.0%
Transport	13	19	32	55	86	137	210	3.8%	5.3%	5.5%	4.7%	4.7%	4.4%
Coal	0	0	0	0	0	0	0	-21.2%	1.4%	2.7%	0.0%	0.0%	0.0%
Oil	13	19	32	54	80	121	175	3.9%	5.3%	5.4%	4.0%	4.2%	3.8%
Gas	0	0	0	0	2	5	10	n.s.	n.s.	n.s.	26.5%	10.4%	7.2%
Electricity	0	0	0	0	1	5	10	n.s.	4.7%	32.7%	41.8%	13.5%	8.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	6	14	n.s.	n.s.	n.s.	22.6%	6.9%	8.5%
Other Energy Transformation & Losses⁴	2	4	6	11	27	43	68	8.1%	4.3%	6.3%	9.6%	5.0%	4.5%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Iran	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	56	66	74	83	89	91	92	1.6%	1.2%	1.2%	0.6%	0.3%	0.1%
GDP per capita (ppp, k\$'05)	6	7	11	12	17	24	32	2.1%	4.0%	0.6%	3.8%	3.7%	2.7%
GDP per capita (mer, k\$'05)	2	2	3	3	5	7	9	2.1%	3.8%	0.6%	3.8%	3.7%	2.7%
Share Value Added - Agriculture (%)	13	9	7	9	8	7	7	-3.3%	-2.8%	2.4%	-1.3%	-0.9%	-0.5%
Share Value Added - Industry (%)	34	41	41	38	36	33	31	1.9%	0.2%	-0.9%	-0.5%	-0.7%	-0.7%
Share Value Added - Services (%)	54	50	52	54	56	60	62	-0.7%	0.3%	0.3%	0.5%	0.5%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	17	19	-3.4%	3.6%	-3.7%	1.6%	1.6%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	292	456	678	864	1 124	1 349	1 516	4.5%	4.0%	2.5%	2.7%	1.8%	1.2%
Total GHG (excl. sinks)	293	456	681	866	1 128	1 350	1 525	4.5%	4.1%	2.4%	2.7%	1.8%	1.2%
Total GHG (energy, industry, agriculture)	293	456	681	866	1 128	1 347	1 525	4.5%	4.1%	2.4%	2.7%	1.8%	1.2%
CO ₂	214	352	541	710	949	1 149	1 307	5.1%	4.4%	2.8%	2.9%	1.9%	1.3%
CH ₄	57	80	115	124	141	155	172	3.5%	3.8%	0.7%	1.3%	0.9%	1.0%
N ₂ O	19	23	23	29	34	39	42	1.6%	0.2%	2.3%	1.6%	1.3%	0.8%
F gases	3	2	2	2	3	4	5	-1.5%	-1.6%	2.5%	3.3%	2.6%	1.4%
Total GHG from Energy and Industry	260	418	641	815	1 071	1 285	1 461	4.8%	4.4%	2.4%	2.8%	1.8%	1.3%
CO₂ Emissions from Fuel Comb.	184	316	485	644	864	1 048	1 196	5.6%	4.4%	2.9%	3.0%	1.9%	1.3%
Power generation/District heating	36	69	131	195	305	405	504	6.8%	6.6%	4.0%	4.6%	2.9%	2.2%
Industry	38	43	84	132	201	260	298	1.4%	6.9%	4.6%	4.3%	2.6%	1.4%
Buildings	43	92	122	133	142	137	131	8.0%	2.8%	0.9%	0.6%	-0.3%	-0.4%
Agriculture	12	11	14	11	13	15	16	-0.8%	1.8%	-2.0%	1.5%	1.4%	1.0%
Transport	39	75	101	115	125	135	134	6.6%	3.1%	1.4%	0.8%	0.7%	-0.1%
Other	16	26	34	58	78	97	113	4.9%	2.5%	5.5%	3.0%	2.1%	1.6%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	187	251	349	435	690	919	975	3.0%	3.4%	2.2%	4.7%	2.9%	0.6%
Coal	0	1	1	1	1	0	0	8.0%	-0.4%	0.2%	-0.9%	-1.7%	-2.1%
Oil	164	200	221	223	273	325	402	2.0%	1.0%	0.1%	2.0%	1.8%	2.1%
Natural gas	22	49	126	207	410	585	561	8.5%	9.9%	5.1%	7.1%	3.6%	-0.4%
Biomass	0	0	1	2	3	3	3	-1.8%	16.4%	12.2%	3.9%	1.4%	-0.1%
Nuclear ¹	0	0	0	1	2	3	4	n.s.	n.s.	n.s.	3.4%	4.2%	3.0%
Hydro	1	0	1	1	1	2	2	-5.0%	10.1%	5.4%	0.6%	0.4%	0.4%
Other renewables	0	0	0	0	0	1	2	n.s.	17.6%	22.1%	14.0%	10.1%	6.5%
Net Imports	- 117	- 128	- 141	- 148	- 297	- 433	- 417						
Coal	0	1	1	1	2	4	7						
Oil	- 113	- 132	- 138	- 119	- 143	- 175	- 231						
Natural gas	- 4	3	- 4	- 28	- 154	- 262	- 195						
Biomass	0	0	0	- 1	0	1	3						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	- 1	- 1	- 1	- 1						
Primary Energy Demand²	70	123	208	287	394	487	558	5.8%	5.4%	3.3%	3.2%	2.1%	1.4%
Coal	1	1	1	1	2	4	7	10.8%	0.2%	-1.8%	5.8%	7.2%	5.0%
Oil	51	69	83	104	129	150	171	2.9%	1.9%	2.3%	2.3%	1.5%	1.3%
Natural gas	17	53	122	179	256	323	366	11.7%	8.8%	3.9%	3.6%	2.3%	1.3%
Biomass	0	0	1	1	3	4	6	-1.8%	16.4%	8.5%	6.9%	4.5%	3.3%
Nuclear ¹	0	0	0	1	2	3	4	n.s.	n.s.	n.s.	3.4%	4.2%	3.0%
Hydro	1	0	1	1	1	2	2	-5.0%	10.1%	5.4%	0.6%	0.4%	0.4%
Other renewables	0	0	0	0	0	1	2	n.s.	17.6%	22.1%	14.0%	10.1%	6.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	70	123	208	287	394	487	558	5.8%	5.4%	3.3%	3.2%	2.1%	1.4%
Energy for Power Generation	14	27	52	78	123	167	208	7.2%	6.8%	4.1%	4.6%	3.1%	2.2%
Other Energy Transformation & Losses	6	9	15	23	33	42	49	5.1%	4.5%	4.7%	3.5%	2.5%	1.6%
Final consumption	55	95	157	213	285	348	391	5.6%	5.2%	3.1%	2.9%	2.0%	1.2%
Steel, Non-Met. Minerals and Chem.	1	3	9	14	25	32	36	17.6%	12.1%	4.7%	5.5%	2.5%	1.2%
Other Industry	14	16	30	48	70	90	105	1.7%	6.4%	4.9%	3.7%	2.6%	1.6%
Non-Energy Use	6	8	14	26	42	59	71	1.9%	6.0%	6.5%	5.2%	3.3%	1.9%
Residential	13	30	47	59	66	69	71	8.9%	4.6%	2.3%	1.3%	0.4%	0.2%
Services	4	9	11	13	19	25	30	7.4%	2.3%	1.5%	3.5%	2.9%	2.0%
Agriculture	4	4	6	7	9	11	13	0.4%	4.0%	1.3%	2.0%	1.9%	1.6%
Road	13	24	40	45	53	62	66	6.3%	5.0%	1.4%	1.6%	1.5%	0.6%
Rail	0	0	0	0	0	0	0	n.s.	36.8%	5.6%	3.1%	2.8%	1.9%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	0	1	0	0	0	0	0	n.s.	-30.1%	4.7%	3.5%	2.7%	1.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Iran	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	13	27	51	75	119	161	200	7.5%	6.7%	3.9%	4.7%	3.1%	2.2%
Coal	0	0	0	0	1	2	5	22.3%	-3.1%	-6.6%	28.4%	12.8%	7.4%
Oil	6	7	13	23	32	31	38	1.5%	6.1%	5.7%	3.6%	-0.5%	2.0%
Gas	7	19	38	52	85	127	157	11.2%	7.0%	3.2%	5.1%	4.1%	2.1%
Biomass & Waste	0	0	0	0	0	1	1	n.s.	n.s.	9.7%	35.5%	15.0%	7.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	59	121	233	375	628	931	1 189	7.5%	6.7%	4.9%	5.3%	4.0%	2.5%
Coal	0	0	0	0	3	12	24	22.2%	-3.1%	-2.5%	28.7%	13.1%	7.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	22	25	46	94	133	130	163	1.5%	6.1%	7.3%	3.6%	-0.2%	2.3%
Gas	31	92	177	258	461	742	934	11.5%	6.8%	3.8%	6.0%	4.9%	2.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	1	3	7	n.s.	n.s.	11.3%	37.8%	15.4%	8.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	6	8	13	17	n.s.	n.s.	n.s.	3.6%	4.4%	3.1%
Hydro	6	4	10	16	17	18	19	-5.0%	10.1%	5.4%	0.6%	0.4%	0.4%
Wind	0	0	0	1	5	12	22	n.s.	16.0%	23.5%	13.7%	9.6%	6.2%
Solar	0	0	0	0	0	1	3	n.s.	n.s.	2.9%	22.2%	15.9%	10.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.0%	12.8%
Generation Capacity (GW_e)	18	34	61	85	121	166	206	6.5%	6.2%	3.4%	3.5%	3.3%	2.2%
Coal	0	0	0	0	0	2	3	22.2%	n.s.	n.s.	28.9%	13.1%	7.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	8	13	18	24	35	38	3.5%	4.1%	3.8%	2.6%	3.8%	0.9%
Gas	10	23	40	54	80	109	138	8.6%	5.8%	3.0%	4.1%	3.1%	2.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	1	n.s.	n.s.	-2.6%	38.0%	15.4%	8.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	1	2	3	n.s.	n.s.	n.s.	3.4%	4.2%	2.9%
Hydro	2	2	8	12	12	13	13	0.2%	15.6%	3.2%	0.6%	0.4%	0.4%
Wind	0	0	0	1	2	5	8	n.s.	n.s.	20.8%	12.8%	8.8%	5.4%
Solar	0	0	0	0	0	1	2	n.s.	n.s.	3.0%	22.1%	15.9%	10.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	12.3%
Total Final Consumption² (Mtoe)	55	95	157	213	285	348	391	5.6%	5.2%	3.1%	2.9%	2.0%	1.2%
Coal	0	1	1	1	1	2	2	7.4%	-0.8%	0.5%	3.8%	4.5%	2.5%
Oil	41	56	64	73	88	110	123	3.3%	1.3%	1.2%	2.0%	2.2%	1.1%
Gas	9	29	75	109	144	161	170	12.0%	10.0%	3.8%	2.8%	1.1%	0.5%
Electricity	4	8	16	27	45	67	86	6.7%	7.0%	5.3%	5.4%	4.0%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	3.0%
Biomass & Other	0	0	1	4	5	7	9	-1.8%	16.3%	19.6%	3.5%	3.2%	3.0%
Share of Renewables ³ (%)	1%	1%	1%	1%	2%	2%	3%	-9.6%	6.9%	3.8%	1.9%	2.5%	2.6%
Industry (incl. non-energy use)	21	27	53	89	137	181	212	2.7%	7.0%	5.3%	4.5%	2.8%	1.6%
Coal	0	1	1	1	1	2	2	7.2%	-0.7%	0.5%	3.8%	4.5%	2.5%
Oil	12	12	16	19	33	53	67	0.3%	2.6%	1.9%	5.6%	4.6%	2.5%
Gas	7	11	31	59	88	105	115	4.6%	11.2%	6.9%	4.0%	1.8%	0.9%
Electricity	1	3	5	9	14	21	27	8.6%	6.7%	5.0%	4.8%	3.8%	2.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	4.9%	4.2%	3.7%
Buildings	17	39	58	72	85	94	100	8.6%	4.1%	2.2%	1.7%	1.0%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	-7.3%	-1.0%	-2.3%	-2.6%	-2.9%
Oil	12	15	9	7	7	8	9	3.0%	-5.0%	-2.0%	-0.1%	1.2%	0.7%
Gas	3	19	40	47	51	47	44	21.7%	7.9%	1.7%	0.8%	-0.7%	-0.7%
Electricity	3	5	8	14	23	35	44	5.3%	6.5%	5.1%	5.2%	4.1%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	3.0%
Biomass & Other	0	0	1	3	4	4	4	-1.8%	16.3%	18.4%	1.0%	0.1%	0.6%
Agriculture	4	4	6	7	9	11	13	0.4%	4.0%	1.3%	2.0%	1.9%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	4	3	3	4	4	-0.8%	1.1%	-3.0%	1.5%	1.4%	1.0%
Gas	0	0	0	1	1	1	1	n.s.	n.s.	6.6%	1.5%	1.4%	1.0%
Electricity	0	1	2	4	5	6	7	9.4%	10.2%	5.9%	2.5%	2.4%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	13	25	40	46	54	62	66	6.6%	4.7%	1.4%	1.6%	1.5%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	25	35	43	44	45	43	6.6%	3.4%	2.1%	0.3%	0.3%	-0.6%
Gas	0	0	5	2	5	8	10	n.s.	n.s.	-6.9%	8.5%	4.4%	2.6%
Electricity	0	0	0	0	3	6	8	n.s.	36.8%	28.5%	26.0%	6.8%	3.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	34.4%	9.8%	5.6%
Other Energy Transformation & Losses⁴	6	9	15	23	33	42	49	5.1%	4.5%	4.7%	3.5%	2.5%	1.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Saudi Arabia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	16	21	28	34	39	43	46	2.7%	2.8%	2.0%	1.3%	1.0%	0.7%
GDP per capita (ppp, k\$'05)	19	19	24	27	31	37	41	0.0%	2.5%	1.1%	1.5%	1.7%	1.1%
GDP per capita (mer, k\$'05)	12	12	15	17	20	23	26	0.0%	2.3%	1.3%	1.5%	1.7%	1.1%
Share Value Added - Agriculture (%)	6	5	2	2	2	2	2	-1.5%	-7.1%	-0.5%	-0.2%	-0.2%	-0.1%
Share Value Added - Industry (%)	49	54	58	46	44	42	40	1.0%	0.8%	-2.4%	-0.4%	-0.5%	-0.4%
Share Value Added - Services (%)	45	41	39	52	54	56	58	-1.0%	-0.5%	2.8%	0.4%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	17	19	-3.4%	3.6%	-3.7%	1.6%	1.6%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	211	316	545	739	800	905	959	4.1%	5.6%	3.1%	0.8%	1.2%	0.6%
Total GHG (excl. sinks)	211	316	545	740	800	906	960	4.1%	5.6%	3.1%	0.8%	1.2%	0.6%
Total GHG (energy, industry, agriculture)	211	316	545	739	800	904	960	4.1%	5.6%	3.1%	0.8%	1.2%	0.6%
CO ₂	171	266	477	642	702	794	845	4.5%	6.0%	3.0%	0.9%	1.2%	0.6%
CH ₄	31	43	60	87	88	99	103	3.5%	3.4%	3.8%	0.0%	1.2%	0.5%
N ₂ O	6	6	8	10	10	11	11	0.2%	1.7%	2.4%	0.5%	0.7%	0.1%
F gases	2	0	0	0	0	0	0	-26.3%	11.7%	-0.1%	0.1%	0.1%	0.0%
Total GHG from Energy and Industry	206	311	541	734	794	897	953	4.2%	5.7%	3.1%	0.8%	1.2%	0.6%
CO₂ Emissions from Fuel Comb.	156	240	429	571	616	694	738	4.4%	6.0%	2.9%	0.8%	1.2%	0.6%
Power generation/District heating	59	104	181	251	254	276	294	5.9%	5.7%	3.4%	0.1%	0.8%	0.6%
Industry	28	53	112	146	167	189	201	6.5%	7.8%	2.7%	1.4%	1.3%	0.6%
Buildings	3	4	5	8	13	19	23	3.0%	2.8%	4.0%	5.3%	3.9%	1.9%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	49	61	106	143	155	178	182	2.1%	5.8%	3.0%	0.9%	1.3%	0.3%
Other	17	19	25	24	27	32	37	1.2%	2.6%	-0.5%	1.3%	1.9%	1.4%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	380	491	559	785	919	1 090	1 155	2.6%	1.3%	3.5%	1.6%	1.7%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	352	450	486	686	737	825	866	2.5%	0.8%	3.5%	0.7%	1.1%	0.5%
Natural gas	28	41	72	98	179	262	286	3.9%	5.8%	3.1%	6.2%	3.9%	0.9%
Biomass	0	0	0	1	1	1	1	-9.3%	2.9%	n.s.	2.8%	2.4%	0.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	1	2	2	2	n.s.	n.s.	n.s.	13.7%	0.3%	0.1%
Net Imports	- 318	- 393	- 373	- 551	- 656	- 785	- 825						
Coal	0	0	0	0	1	4	6						
Oil	- 309	- 383	- 361	- 541	- 598	- 690	- 738						
Natural gas	- 8	- 10	- 13	- 10	- 59	- 100	- 95						
Biomass	0	0	0	0	0	1	2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	62	98	186	234	263	305	330	4.6%	6.6%	2.4%	1.2%	1.5%	0.8%
Coal	0	0	0	0	1	4	6	n.s.	n.s.	n.s.	16.0%	9.6%	5.1%
Oil	43	67	126	144	138	135	127	4.6%	6.5%	1.4%	-0.4%	-0.2%	-0.6%
Natural gas	19	31	60	88	120	162	191	4.7%	6.9%	4.0%	3.1%	3.0%	1.7%
Biomass	0	0	0	1	1	2	3	-9.5%	2.9%	n.s.	5.9%	6.5%	4.4%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	1	2	2	2	n.s.	n.s.	n.s.	13.7%	0.3%	0.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	62	98	186	234	263	305	330	4.6%	6.6%	2.4%	1.2%	1.5%	0.8%
Energy for Power Generation	22	37	65	92	98	110	120	5.6%	5.7%	3.6%	0.6%	1.2%	0.8%
Other Energy Transformation & Losses	6	5	17	4	6	8	10	-0.4%	12.3%	-13.7%	3.3%	3.9%	2.5%
Final consumption	39	64	121	164	191	226	247	4.9%	6.6%	3.1%	1.5%	1.7%	0.9%
Steel, Non-Met. Minerals and Chem.	0	0	1	2	3	4	4	n.s.	n.s.	5.6%	2.0%	2.6%	1.5%
Other Industry	11	20	42	56	66	76	82	6.3%	7.7%	2.9%	1.6%	1.4%	0.8%
Non-Energy Use	7	14	25	34	40	47	51	7.1%	5.7%	3.1%	1.6%	1.6%	0.9%
Residential	3	6	11	15	18	22	25	5.9%	6.1%	3.5%	1.4%	2.1%	1.3%
Services	1	2	5	8	10	13	16	5.3%	8.2%	4.2%	2.4%	2.8%	1.8%
Agriculture	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Road	16	20	35	46	53	63	67	2.2%	5.8%	3.0%	1.3%	1.8%	0.7%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	1	1	1	1	1	1	1	2.0%	0.5%	2.9%	0.0%	0.5%	0.0%
Other Transport	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Saudi Arabia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	22	37	65	92	96	108	118	5.6%	5.7%	3.5%	0.4%	1.2%	0.9%
Coal	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	23.5%	11.0%	6.0%
Oil	9	19	35	44	37	26	20	7.7%	6.0%	2.4%	-1.8%	-3.3%	-2.8%
Gas	12	18	30	47	58	79	93	3.7%	5.3%	4.6%	2.0%	3.2%	1.6%
Biomass & Waste	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	10.7%	10.1%	6.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	69	126	240	364	426	539	633	6.2%	6.6%	4.2%	1.6%	2.4%	1.6%
Coal	0	0	0	0	4	11	20	n.s.	n.s.	n.s.	23.8%	11.3%	6.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	34	68	129	180	151	114	90	7.2%	6.6%	3.4%	-1.7%	-2.8%	-2.3%
Gas	35	58	111	176	246	385	491	5.1%	6.7%	4.7%	3.4%	4.6%	2.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	1	4	7	n.s.	n.s.	n.s.	11.8%	11.1%	7.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	7	22	22	21	n.s.	n.s.	n.s.	13.1%	0.0%	-0.6%
Solar	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	23.0%	1.6%	3.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.2%	13.2%
Generation Capacity (GW_e)	24	31	60	93	94	101	130	2.6%	6.8%	4.5%	0.1%	0.8%	2.5%
Coal	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	23.9%	11.4%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	18	33	50	41	34	41	3.2%	6.4%	4.4%	-2.1%	-1.9%	1.9%
Gas	11	13	27	40	41	55	74	1.9%	7.2%	3.9%	0.4%	2.9%	3.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	11.8%	11.1%	7.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	3	10	10	9	n.s.	n.s.	n.s.	12.8%	0.0%	-0.7%
Solar	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	23.1%	1.7%	3.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	12.6%
Total Final Consumption² (Mtoe)	39	64	121	164	191	226	247	4.9%	6.6%	3.1%	1.5%	1.7%	0.9%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	10.5%	7.3%	3.2%
Oil	29	43	76	100	101	109	108	4.3%	5.7%	2.7%	0.2%	0.7%	-0.1%
Gas	6	12	27	38	58	76	90	6.4%	9.0%	3.3%	4.3%	2.8%	1.6%
Electricity	5	9	17	26	30	39	45	6.1%	7.4%	4.0%	1.6%	2.4%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	23.0%	9.4%
Biomass & Other	0	0	0	0	1	2	3	-9.6%	2.9%	55.5%	6.5%	7.5%	5.0%
Share of Renewables ³ (%)	0%	0%	0%	1%	2%	2%	2%	n.s.	n.s.	n.s.	9.2%	0.9%	1.3%
Industry (incl. non-energy use)	18	34	69	93	109	127	138	6.6%	7.2%	3.0%	1.6%	1.5%	0.8%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	10.5%	7.3%	3.2%
Oil	11	22	39	51	50	52	51	6.9%	6.0%	2.6%	-0.1%	0.3%	-0.2%
Gas	6	12	27	37	52	66	75	6.4%	9.0%	3.0%	3.5%	2.4%	1.4%
Electricity	1	1	2	5	6	8	9	4.2%	8.7%	6.7%	2.5%	2.7%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	0.1%	3.4%	2.9%
Buildings	5	8	16	23	28	35	41	5.7%	6.8%	3.7%	1.7%	2.4%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	2	2	3.0%	2.8%	1.5%	-1.2%	0.3%	0.1%
Gas	0	0	0	1	3	6	7	n.s.	n.s.	n.s.	16.2%	5.9%	2.6%
Electricity	4	7	15	21	23	27	31	6.3%	7.3%	3.5%	0.9%	1.8%	1.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	23.0%	9.4%
Biomass & Other	0	0	0	0	0	1	1	-9.6%	2.9%	33.9%	9.8%	6.1%	3.2%
Agriculture	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	16	20	35	47	54	64	68	2.2%	5.6%	3.0%	1.2%	1.7%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	16	20	35	47	49	55	55	2.2%	5.6%	2.9%	0.5%	1.1%	0.0%
Gas	0	0	0	0	3	5	7	n.s.	n.s.	n.s.	24.7%	6.6%	3.4%
Electricity	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	32.0%	8.4%	4.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	41.6%	12.6%	7.0%
Other Energy Transformation & Losses⁴	6	5	17	4	6	8	10	-0.4%	12.3%	-13.7%	3.3%	3.9%	2.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Turkey	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	54	63	72	82	88	93	96	1.6%	1.3%	1.3%	0.6%	0.6%	0.3%
GDP per capita (ppp, k\$'05)	8	10	13	16	21	26	31	2.0%	2.5%	2.4%	2.8%	2.2%	1.6%
GDP per capita (mer, k\$'05)	5	6	8	10	13	16	19	2.0%	2.5%	2.5%	2.8%	2.2%	1.6%
Share Value Added - Agriculture (%)	18	11	9	8	8	7	7	-4.6%	-1.8%	-1.3%	-0.7%	-0.5%	-0.3%
Share Value Added - Industry (%)	32	31	26	26	25	24	23	-0.3%	-1.7%	-0.1%	-0.5%	-0.5%	-0.4%
Share Value Added - Services (%)	50	57	64	66	68	69	70	1.4%	1.1%	0.2%	0.3%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	17	19	-3.4%	3.6%	-2.9%	0.9%	1.7%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	18	21	30	46	52	64	85	1.4%	3.8%	4.3%	1.3%	2.0%	2.9%
GHG emissions (Mt CO₂ eq.)													
Total GHG	137	238	309	420	530	665	743	5.6%	2.6%	3.1%	2.4%	2.3%	1.1%
Total GHG (excl. sinks)	181	288	367	462	569	705	788	4.7%	2.4%	2.3%	2.1%	2.2%	1.1%
Total GHG (energy, industry, agriculture)	181	288	367	462	565	705	788	4.7%	2.4%	2.3%	2.0%	2.2%	1.1%
CO ₂	135	216	291	375	472	604	683	4.8%	3.0%	2.6%	2.3%	2.5%	1.2%
CH ₄	34	53	57	65	68	72	74	4.7%	0.7%	1.3%	0.5%	0.5%	0.3%
N ₂ O	12	17	14	17	19	21	24	3.4%	-1.9%	1.6%	1.3%	1.2%	1.1%
F gases	1	2	5	6	7	7	8	10.6%	11.4%	2.0%	1.0%	1.0%	0.6%
Total GHG from Energy and Industry	151	260	340	427	526	662	742	5.6%	2.7%	2.3%	2.1%	2.3%	1.1%
CO₂ Emissions from Fuel Comb.	118	195	254	328	415	539	614	5.1%	2.7%	2.6%	2.4%	2.7%	1.3%
Power generation/District heating	31	68	96	116	179	266	331	8.1%	3.6%	1.8%	4.5%	4.0%	2.2%
Industry	28	52	44	41	45	55	55	6.5%	-1.7%	-0.7%	0.9%	2.1%	0.0%
Buildings	23	27	49	48	45	47	42	1.6%	6.2%	-0.1%	-0.6%	0.3%	-1.0%
Agriculture	6	8	14	14	16	18	20	3.4%	5.4%	-0.2%	1.4%	1.2%	0.9%
Transport	26	34	43	79	87	91	87	2.6%	2.3%	6.3%	1.0%	0.4%	-0.4%
Other	4	6	8	30	42	63	79	3.2%	3.3%	13.8%	3.6%	4.1%	2.3%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	23	26	31	51	72	93	110	1.0%	2.0%	4.9%	3.6%	2.5%	1.8%
Coal	10	13	18	15	18	22	27	2.4%	3.3%	-1.8%	1.7%	2.4%	1.7%
Oil	4	3	2	3	5	6	8	-2.9%	-1.0%	1.5%	4.6%	3.0%	2.1%
Natural gas	0	1	1	1	2	3	5	11.6%	0.7%	3.2%	8.1%	6.1%	5.3%
Biomass	7	7	5	15	20	23	27	-1.0%	-3.5%	13.0%	2.6%	1.6%	1.4%
Nuclear ¹	0	0	0	0	0	2	4	n.s.	n.s.	n.s.	27.6%	14.6%	8.3%
Hydro	2	3	4	7	8	9	9	2.9%	5.3%	4.2%	1.9%	0.8%	0.5%
Other renewables	0	0	1	10	20	27	31	13.1%	14.3%	22.9%	7.2%	3.2%	1.3%
Net Imports	26	50	73	84	104	131	142						
Coal	4	10	14	21	38	62	78						
Oil	19	28	28	35	36	36	32						
Natural gas	3	12	31	36	37	39	36						
Biomass	0	0	0	-8	-7	-7	-5						
Biofuels	0	0	0	0	0	1	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	50	76	104	135	176	224	253	4.4%	3.2%	2.7%	2.7%	2.4%	1.2%
Coal	15	23	32	36	55	84	105	4.6%	3.5%	1.2%	4.3%	4.3%	2.2%
Oil	23	31	30	38	41	42	39	3.0%	-0.3%	2.3%	0.7%	0.3%	-0.7%
Natural gas	3	13	31	37	38	42	42	16.0%	9.5%	1.5%	0.5%	0.8%	-0.1%
Biomass	7	7	5	7	13	17	22	-1.0%	-3.5%	5.0%	5.5%	2.9%	2.6%
Nuclear ¹	0	0	0	0	0	2	4	n.s.	n.s.	n.s.	27.6%	14.6%	8.3%
Hydro	2	3	4	7	8	9	9	2.9%	5.3%	4.2%	1.9%	0.8%	0.5%
Other renewables	0	0	1	10	20	27	31	13.1%	14.3%	22.9%	7.2%	3.2%	1.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	50	76	104	135	176	224	253	4.4%	3.2%	2.7%	2.7%	2.4%	1.2%
Energy for Power Generation	11	24	37	54	84	116	141	7.9%	4.6%	3.8%	4.6%	3.2%	1.9%
Other Energy Transformation & Losses	2	3	4	8	12	18	24	5.4%	3.5%	6.3%	4.1%	4.6%	2.6%
Final consumption	41	59	80	99	117	141	153	3.7%	3.1%	2.2%	1.7%	1.8%	0.8%
Steel, Non-Met. Minerals and Chem.	5	6	9	14	17	23	26	2.1%	4.6%	3.8%	2.0%	3.2%	1.3%
Other Industry	7	15	15	15	18	22	24	8.1%	0.3%	-0.1%	1.9%	2.0%	0.9%
Non-Energy Use	3	4	7	8	10	11	12	2.3%	7.3%	1.2%	1.7%	1.8%	0.6%
Residential	15	18	23	22	23	26	27	1.8%	2.7%	-0.4%	0.6%	1.3%	0.4%
Services	1	2	6	12	15	18	20	13.4%	9.7%	7.4%	2.1%	2.0%	1.2%
Agriculture	2	3	5	5	6	6	7	4.1%	5.5%	-0.1%	1.4%	1.2%	0.9%
Road	8	11	13	22	27	31	32	2.3%	2.4%	5.2%	2.0%	1.3%	0.5%
Rail	0	0	0	0	0	0	0	0.4%	-3.6%	2.5%	1.2%	1.0%	0.6%
Aviation	0	1	0	1	1	1	1	9.5%	-5.7%	3.7%	4.4%	3.1%	1.9%
Other Transport	0	0	1	1	1	1	1	-2.6%	11.9%	2.9%	2.9%	1.6%	0.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Turkey	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	21	32	37	56	78	97	8.7%	4.3%	1.7%	4.1%	3.4%	2.1%
Coal	6	11	14	19	34	55	71	6.4%	2.6%	3.3%	5.9%	5.0%	2.6%
Oil	1	3	1	1	1	2	1	8.9%	-14.3%	0.6%	4.3%	5.3%	-1.3%
Gas	2	7	17	16	18	18	18	13.3%	8.7%	-0.4%	0.9%	0.1%	0.2%
Biomass & Waste	0	0	0	1	2	3	4	n.s.	7.3%	21.2%	10.6%	1.4%	5.5%
Other	0	0	0	0	1	1	1	-0.5%	24.3%	23.7%	8.9%	1.2%	-0.8%
Gross Elec. Generation (TWh_e)	58	125	211	301	436	606	747	8.1%	5.4%	3.6%	3.8%	3.3%	2.1%
Coal	20	38	55	76	138	232	306	6.6%	3.7%	3.3%	6.1%	5.3%	2.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	9	2	3	4	7	6	9.0%	-13.5%	1.9%	4.3%	5.5%	-1.1%
Gas	10	46	98	99	106	103	106	16.3%	7.8%	0.1%	0.7%	-0.3%	0.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	3	9	11	21	n.s.	7.6%	21.8%	10.8%	2.2%	6.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	2	7	15	n.s.	n.s.	n.s.	29.2%	14.7%	8.3%
Hydro	23	31	52	78	94	102	107	2.9%	5.3%	4.2%	1.9%	0.8%	0.5%
Wind	0	0	3	32	51	89	104	n.s.	56.5%	27.1%	4.8%	5.7%	1.6%
Solar	0	0	0	4	19	41	67	n.s.	n.s.	n.s.	16.4%	8.1%	5.0%
Other	0	0	1	6	13	15	15	-0.5%	24.3%	23.7%	9.0%	1.4%	-0.1%
Generation Capacity (GW_e)	17	27	49	102	140	195	231	5.0%	6.1%	7.6%	3.2%	3.4%	1.7%
Coal	6	7	12	17	24	36	47	2.9%	5.1%	3.5%	3.4%	4.2%	2.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	2	2	1	2	2	2	-2.7%	-0.4%	-2.0%	1.9%	4.1%	0.7%
Gas	2	7	18	31	37	46	44	12.3%	10.0%	5.6%	1.7%	2.2%	-0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	1	1	2	3	n.s.	11.5%	21.7%	5.5%	1.7%	6.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	28.9%	14.5%	8.1%
Hydro	7	11	16	34	40	43	45	5.1%	3.5%	7.9%	1.6%	0.8%	0.5%
Wind	0	0	1	14	23	37	40	n.s.	53.0%	26.9%	4.6%	5.0%	0.9%
Solar	0	0	0	3	12	26	44	n.s.	n.s.	n.s.	16.7%	8.3%	5.3%
Other	0	0	0	1	2	2	2	0.0%	20.2%	22.2%	8.9%	2.7%	0.7%
Total Final Consumption² (Mtoe)	41	59	80	99	117	141	153	3.7%	3.1%	2.2%	1.7%	1.8%	0.8%
Coal	8	12	17	12	13	16	16	3.5%	3.3%	-3.5%	1.1%	2.0%	0.1%
Oil	20	26	28	37	39	40	38	2.5%	0.8%	2.7%	0.6%	0.2%	-0.6%
Gas	1	5	13	19	19	22	22	21.0%	10.3%	3.8%	0.1%	1.5%	-0.3%
Electricity	4	8	15	21	31	43	53	7.9%	5.9%	3.7%	3.9%	3.4%	2.1%
Heat	0	1	3	4	5	6	7	12.4%	9.2%	3.6%	1.2%	1.3%	1.9%
Biomass & Other	7	6	4	6	10	14	18	-1.1%	-3.7%	3.8%	4.7%	3.4%	2.2%
Share of Renewables ³ (%)	24%	16%	13%	19%	26%	30%	34%	-3.7%	-2.4%	4.3%	3.0%	1.5%	1.3%
Industry (incl. non-energy use)	15	24	32	37	44	56	63	5.3%	2.7%	1.4%	1.9%	2.4%	1.0%
Coal	5	10	9	6	8	12	12	6.5%	-0.8%	-3.6%	2.5%	3.5%	0.6%
Oil	6	8	8	9	9	9	7	2.9%	-0.2%	0.8%	0.1%	-0.3%	-1.4%
Gas	1	2	7	8	8	8	8	10.1%	14.0%	2.7%	-0.6%	0.4%	-0.8%
Electricity	2	4	7	10	15	21	27	5.4%	5.3%	4.2%	3.8%	3.8%	2.4%
Heat	0	0	1	2	2	2	2	50.7%	10.9%	4.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	1	3	5	7	n.s.	n.s.	n.s.	11.1%	5.3%	3.1%
Buildings	15	20	29	34	38	44	47	2.6%	3.7%	1.7%	1.1%	1.6%	0.7%
Coal	3	2	7	5	5	4	4	-4.5%	13.9%	-3.3%	-0.8%	-1.1%	-1.4%
Oil	3	4	1	1	1	1	1	1.4%	-8.7%	-1.7%	0.8%	1.0%	-0.2%
Gas	0	3	6	10	9	11	10	50.4%	7.5%	4.6%	-0.6%	1.4%	-0.9%
Electricity	1	4	7	10	14	18	21	10.7%	6.5%	3.3%	2.9%	2.6%	1.7%
Heat	0	1	2	2	3	4	5	7.4%	8.0%	3.0%	2.3%	2.3%	3.0%
Biomass & Other	7	6	4	5	6	7	7	-1.1%	-3.7%	1.1%	1.7%	1.1%	0.5%
Agriculture	2	3	5	5	6	6	7	4.1%	5.5%	-0.1%	1.4%	1.2%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	28.0%	0.0%	0.0%	0.0%
Oil	2	3	4	4	5	6	6	3.4%	5.3%	-0.3%	1.4%	1.2%	0.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	13.0%	1.2%	1.0%	0.7%
Electricity	0	0	0	0	1	1	1	18.2%	6.2%	0.3%	1.7%	1.5%	1.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	9	12	14	24	29	34	36	2.4%	2.1%	5.1%	2.1%	1.4%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	12	14	23	24	24	23	2.4%	2.1%	4.7%	0.7%	0.1%	-0.7%
Gas	0	0	0	0	2	3	4	n.s.	36.7%	16.8%	19.2%	6.3%	3.1%
Electricity	0	0	0	0	2	3	5	8.3%	-6.5%	22.3%	22.4%	5.9%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	1	3	4	n.s.	n.s.	54.5%	10.8%	6.9%	4.0%
Other Energy Transformation & Losses⁴	2	3	4	8	12	18	24	5.4%	3.5%	6.3%	4.1%	4.6%	2.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Mediterranean Middle East	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	27	36	46	54	65	73	80	2.9%	2.5%	1.6%	1.9%	1.2%	1.0%
GDP per capita (ppp, k\$'05)	5	7	8	10	12	15	20	2.7%	1.5%	1.8%	2.0%	2.5%	2.4%
GDP per capita (mer, k\$'05)	3	5	5	6	7	9	12	4.0%	-0.1%	1.8%	2.0%	2.5%	2.4%
Share Value Added - Agriculture (%)	6	4	1	1	1	1	1	-4.3%	-11.8%	1.3%	-0.9%	-0.9%	-0.7%
Share Value Added - Industry (%)	6	8	5	6	6	6	5	3.1%	-4.2%	1.5%	-0.2%	-0.3%	-0.4%
Share Value Added - Services (%)	89	88	94	93	93	93	94	0.0%	0.6%	-0.1%	0.0%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	17	19	-3.4%	3.6%	-3.7%	1.6%	1.6%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	110	166	197	195	247	305	361	4.2%	1.7%	-0.1%	2.4%	2.1%	1.7%
Total GHG (excl. sinks)	110	167	198	197	249	306	363	4.3%	1.7%	-0.1%	2.4%	2.1%	1.7%
Total GHG (energy, industry, agriculture)	110	167	198	197	249	306	363	4.3%	1.7%	-0.1%	2.4%	2.1%	1.7%
CO ₂	90	140	168	176	217	262	307	4.6%	1.8%	0.5%	2.1%	1.9%	1.6%
CH ₄	12	17	19	12	21	30	38	4.0%	0.8%	-4.3%	5.6%	3.6%	2.4%
N ₂ O	7	7	8	4	4	4	5	0.6%	1.2%	-7.7%	1.1%	0.9%	0.6%
F gases	1	1	3	4	6	9	13	3.4%	6.6%	4.5%	4.1%	3.8%	3.4%
Total GHG from Energy and Industry	101	157	187	194	246	303	359	4.5%	1.7%	0.4%	2.4%	2.1%	1.7%
CO₂ Emissions from Fuel Comb.	81	127	158	164	201	242	282	4.6%	2.2%	0.4%	2.1%	1.9%	1.6%
Power generation/District heating	29	59	88	95	120	144	172	7.3%	4.1%	0.7%	2.4%	1.9%	1.7%
Industry	8	10	13	14	18	22	27	2.4%	2.3%	0.6%	2.7%	2.4%	2.1%
Buildings	14	17	18	14	14	17	18	2.1%	0.9%	-3.0%	0.6%	1.3%	0.8%
Agriculture	1	1	2	1	2	2	2	4.0%	2.5%	-3.2%	1.6%	1.5%	1.4%
Transport	21	31	31	34	38	44	47	4.0%	0.1%	1.0%	1.1%	1.3%	0.7%
Other	9	8	6	6	9	13	17	-0.2%	-3.9%	1.2%	3.3%	3.8%	2.6%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	22	33	31	11	19	29	46	4.0%	-0.6%	-9.7%	5.2%	4.4%	4.8%
Coal	0	0	0	0	0	0	0	5.4%	0.1%	n.s.	n.s.	n.s.	n.s.
Oil	20	27	20	0	0	1	6	3.1%	-3.1%	-50.6%	19.3%	28.3%	16.4%
Natural gas	1	4	9	9	14	19	26	12.2%	7.8%	-0.6%	4.4%	3.4%	3.0%
Biomass	0	0	0	0	1	1	1	3.0%	1.3%	8.7%	5.9%	0.6%	0.7%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	26.1%	14.3%	11.0%
Hydro	0	0	0	0	0	0	0	1.5%	-0.6%	0.2%	0.6%	0.4%	0.3%
Other renewables	0	1	1	2	4	6	11	4.8%	6.7%	2.4%	8.3%	5.8%	5.4%
Net Imports	5	10	27	47	56	66	72						
Coal	2	7	8	11	18	27	35						
Oil	2	3	15	35	33	25	21						
Natural gas	0	0	5	1	5	11	9						
Biomass	0	0	0	0	1	3	7						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	27	43	58	58	75	95	119	4.8%	3.0%	0.0%	2.5%	2.4%	2.3%
Coal	2	7	8	11	18	27	35	11.2%	1.4%	4.3%	4.6%	4.2%	2.6%
Oil	23	31	35	35	33	26	27	3.2%	1.1%	0.2%	-0.6%	-2.2%	0.1%
Natural gas	1	5	15	10	18	30	35	12.4%	11.8%	-3.9%	6.4%	5.2%	1.4%
Biomass	0	0	0	0	1	3	7	2.9%	1.3%	12.4%	10.8%	8.9%	8.7%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	26.1%	14.3%	11.0%
Hydro	0	0	0	0	0	0	0	1.5%	-0.6%	0.2%	0.6%	0.4%	0.3%
Other renewables	0	1	1	2	4	6	11	4.8%	6.7%	2.4%	8.3%	5.8%	5.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	27	43	58	58	75	95	119	4.8%	3.0%	0.0%	2.5%	2.4%	2.3%
Energy for Power Generation	9	19	31	31	41	53	68	7.0%	5.2%	0.0%	2.8%	2.6%	2.7%
Other Energy Transformation & Losses	3	2	1	2	3	6	8	-1.6%	-5.0%	3.9%	5.5%	4.9%	3.6%
Final consumption	18	29	37	37	47	60	76	4.9%	2.4%	0.0%	2.4%	2.6%	2.3%
Steel, Non-Met. Minerals and Chem.	0	1	2	1	2	2	3	17.8%	2.5%	-1.8%	2.5%	2.3%	2.0%
Other Industry	3	4	5	5	7	10	14	2.1%	2.7%	0.6%	3.1%	3.2%	3.1%
Non-Energy Use	1	4	3	3	4	4	5	11.9%	-1.9%	-1.6%	2.5%	2.2%	1.9%
Residential	3	6	8	7	9	11	14	6.2%	3.3%	-1.0%	1.9%	2.2%	2.2%
Services	3	4	6	5	7	10	13	1.7%	3.3%	-0.3%	3.0%	3.2%	2.9%
Agriculture	0	1	1	1	1	1	1	4.6%	2.7%	-0.9%	2.0%	1.9%	1.8%
Road	6	9	12	14	17	21	25	3.7%	3.1%	1.2%	2.2%	2.3%	1.8%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	32.7%	-12.2%	-2.4%	4.3%	3.9%	2.9%
Other Transport	0	0	0	0	0	0	0	n.s.	5.8%	-2.2%	3.0%	2.5%	2.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Mediterranean Middle East	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	18	29	29	36	45	54	7.3%	5.2%	-0.2%	2.4%	2.1%	1.9%
Coal	2	6	7	11	16	24	31	10.6%	1.7%	3.7%	4.4%	4.0%	2.4%
Oil	6	9	9	12	10	3	4	4.5%	0.3%	2.4%	-1.6%	-10.1%	1.3%
Gas	1	2	13	6	10	16	16	13.8%	18.1%	-6.7%	4.4%	5.1%	0.1%
Biomass & Waste	0	0	0	0	0	1	4	n.s.	n.s.	9.6%	21.5%	13.7%	11.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	38	85	136	137	189	269	377	8.5%	4.8%	0.1%	3.3%	3.6%	3.4%
Coal	10	29	34	49	76	114	148	10.9%	1.6%	3.6%	4.5%	4.2%	2.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	21	42	39	50	43	15	18	7.0%	-0.8%	2.7%	-1.7%	-9.8%	1.4%
Gas	3	10	59	30	48	84	91	13.6%	19.3%	-6.5%	4.7%	5.8%	0.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	2	6	19	n.s.	n.s.	11.4%	22.6%	14.4%	12.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	1	5	13	n.s.	n.s.	n.s.	26.1%	14.4%	11.1%
Hydro	3	4	4	4	4	4	4	1.5%	-0.6%	0.2%	0.6%	0.4%	0.3%
Wind	0	0	0	0	4	15	42	11.6%	13.9%	44.1%	24.5%	14.7%	10.7%
Solar	0	0	0	3	13	27	41	n.s.	n.s.	37.7%	15.4%	7.9%	4.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	28.4%	16.2%	13.5%
Generation Capacity (GW_e)	11	20	27	38	49	65	90	6.4%	2.8%	3.3%	2.6%	2.9%	3.4%
Coal	2	4	5	7	12	18	22	7.8%	1.2%	4.0%	5.4%	3.8%	2.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	6	7	6	5	5	2.9%	-4.3%	1.5%	-0.8%	-2.0%	0.3%
Gas	1	5	15	19	18	15	16	19.5%	11.5%	2.9%	-0.8%	-1.5%	0.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	7.5%	22.7%	14.3%	12.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	25.9%	14.2%	10.9%
Hydro	1	2	2	2	2	2	2	4.6%	-2.0%	-0.4%	0.6%	0.4%	0.3%
Wind	0	0	0	0	2	6	15	n.s.	18.1%	38.8%	23.4%	13.9%	10.0%
Solar	0	0	0	2	8	17	24	n.s.	n.s.	40.9%	14.5%	7.2%	3.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.6%	13.0%
Total Final Consumption² (Mtoe)	18	29	37	37	47	60	76	4.9%	2.4%	0.0%	2.4%	2.6%	2.3%
Coal	0	0	0	1	1	2	3	30.2%	-0.1%	17.7%	5.7%	4.9%	3.8%
Oil	14	20	24	22	22	22	22	3.5%	1.9%	-0.9%	-0.1%	0.1%	-0.1%
Gas	1	2	2	3	7	11	15	11.5%	-2.5%	3.8%	10.1%	5.3%	3.0%
Electricity	3	6	9	10	14	20	28	8.4%	4.8%	0.3%	3.5%	3.7%	3.4%
Heat	0	1	1	1	2	3	4	4.8%	6.6%	0.4%	5.1%	2.2%	2.7%
Biomass & Other	0	0	0	0	1	2	4	2.9%	-0.1%	11.4%	10.2%	8.5%	6.0%
Share of Renewables ³ (%)	4%	4%	5%	6%	11%	17%	25%	-0.7%	1.4%	3.0%	5.9%	4.3%	3.8%
Industry (incl. non-energy use)	5	9	10	10	13	17	22	6.9%	0.9%	-0.5%	2.8%	2.8%	2.6%
Coal	0	0	0	1	1	2	3	30.2%	-0.1%	17.7%	5.7%	4.9%	3.8%
Oil	4	5	6	5	5	5	5	2.7%	1.1%	-1.6%	0.8%	0.4%	0.3%
Gas	0	2	2	2	3	4	6	55.4%	-2.5%	-0.6%	5.5%	3.8%	2.8%
Electricity	1	2	3	2	3	5	7	7.3%	3.7%	-0.7%	3.2%	3.9%	3.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	15.6%	10.4%	7.8%
Buildings	7	10	14	13	16	21	27	4.1%	3.3%	-0.7%	2.4%	2.7%	2.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	5	6	4	3	3	2	3.5%	0.9%	-4.1%	-2.3%	-1.6%	-1.2%
Gas	1	0	0	1	2	4	5	n.s.	n.s.	n.s.	13.1%	5.6%	2.4%
Electricity	2	4	7	7	8	11	15	9.1%	5.4%	0.4%	2.3%	2.9%	3.0%
Heat	0	1	1	1	2	3	4	4.8%	6.6%	0.4%	5.1%	2.2%	2.7%
Biomass & Other	0	0	0	0	0	1	1	2.9%	-0.1%	7.3%	5.4%	7.2%	4.9%
Agriculture	0	1	1	1	1	1	1	4.6%	2.7%	-0.9%	2.0%	1.9%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	0	0	1	1	4.0%	2.5%	-3.2%	1.6%	1.5%	1.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	5.8%	3.0%	2.5%	2.4%	2.3%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	6	9	12	14	17	21	26	4.0%	2.8%	1.2%	2.2%	2.3%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	9	12	13	13	14	13	4.0%	2.8%	0.8%	0.1%	0.3%	-0.2%
Gas	0	0	0	0	2	4	5	n.s.	n.s.	n.s.	19.8%	7.1%	3.6%
Electricity	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	27.6%	7.8%	4.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	17.0%	9.2%	6.4%
Other Energy Transformation & Losses⁴	3	2	1	2	3	6	8	-1.6%	-5.0%	3.9%	5.5%	4.9%	3.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Persian Gulf	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	34	48	69	90	111	133	155	3.3%	3.8%	2.7%	2.1%	1.8%	1.5%
GDP per capita (ppp, k\$'05)	6	11	12	11	13	14	15	7.2%	0.5%	-0.7%	1.6%	0.9%	0.4%
GDP per capita (mer, k\$'05)	5	7	8	10	12	13	13	4.2%	1.3%	2.3%	1.6%	0.9%	0.4%
Share Value Added - Agriculture (%)	1	1	1	0	0	0	0	4.8%	-4.8%	-11.9%	-0.7%	-0.3%	-0.1%
Share Value Added - Industry (%)	4	17	29	24	24	23	23	16.5%	5.6%	-1.9%	-0.2%	-0.1%	-0.1%
Share Value Added - Services (%)	96	82	70	76	76	76	77	-1.5%	-1.6%	0.8%	0.1%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	17	19	-3.4%	3.6%	-3.7%	1.6%	1.6%	1.3%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	284	413	685	930	1 132	1 258	1 377	3.8%	5.2%	3.1%	2.0%	1.1%	0.9%
Total GHG (excl. sinks)	284	415	686	930	1 133	1 258	1 379	3.8%	5.2%	3.1%	2.0%	1.0%	0.9%
Total GHG (energy, industry, agriculture)	284	415	686	930	1 133	1 258	1 379	3.8%	5.2%	3.1%	2.0%	1.0%	0.9%
CO ₂	214	319	540	731	919	1 014	1 117	4.1%	5.4%	3.1%	2.3%	1.0%	1.0%
CH ₄	57	85	131	187	200	228	245	4.2%	4.4%	3.7%	0.7%	1.4%	0.7%
N ₂ O	10	9	12	8	9	9	10	-1.3%	2.8%	-3.9%	1.0%	0.7%	0.5%
F gases	4	2	4	5	6	6	7	-5.5%	6.0%	1.4%	2.1%	1.0%	1.1%
Total GHG from Energy and Industry	273	402	670	924	1 126	1 250	1 371	3.9%	5.3%	3.3%	2.0%	1.0%	0.9%
CO₂ Emissions from Fuel Comb.	174	277	479	655	818	901	996	4.8%	5.6%	3.2%	2.2%	1.0%	1.0%
Power generation/District heating	60	105	207	258	318	351	399	5.7%	7.1%	2.2%	2.1%	1.0%	1.3%
Industry	44	67	112	181	242	262	284	4.3%	5.3%	4.9%	2.9%	0.8%	0.8%
Buildings	9	15	19	22	28	36	42	4.8%	2.6%	1.4%	2.6%	2.5%	1.5%
Agriculture	0	1	1	1	1	1	1	11.0%	-5.2%	0.8%	1.4%	1.0%	0.8%
Transport	42	55	83	106	112	117	117	2.8%	4.2%	2.5%	0.5%	0.4%	0.0%
Other	19	35	58	88	116	135	154	6.1%	5.2%	4.2%	2.8%	1.5%	1.3%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	351	539	719	1 108	1 346	1 486	1 519	4.4%	2.9%	4.4%	2.0%	1.0%	0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	314	460	517	760	827	974	1 047	3.9%	1.2%	3.9%	0.8%	1.6%	0.7%
Natural gas	36	79	202	346	517	508	468	8.1%	9.8%	5.6%	4.1%	-0.2%	-0.8%
Biomass	0	0	0	1	1	1	1	2.4%	6.3%	17.8%	5.8%	0.8%	-1.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	1	1	1	1	-13.5%	22.8%	2.0%	0.6%	0.3%	0.4%
Other renewables	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	12.8%	7.9%	4.4%
Net Imports	- 282	- 429	- 518	- 815	- 972	- 1 067	- 1 057						
Coal	0	0	1	2	4	6	8						
Oil	- 279	- 409	- 433	- 669	- 737	- 886	- 952						
Natural gas	- 3	- 19	- 86	- 149	- 240	- 188	- 116						
Biomass	0	0	0	0	0	1	2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	1	1	1	1	1						
Primary Energy Demand²	69	111	202	293	374	418	462	4.8%	6.2%	3.8%	2.4%	1.1%	1.0%
Coal	0	0	1	2	4	6	8	n.s.	n.s.	11.1%	4.2%	4.6%	3.4%
Oil	35	51	84	91	90	87	95	3.7%	5.1%	0.9%	-0.1%	-0.3%	0.8%
Natural gas	33	60	116	197	276	320	352	6.0%	6.9%	5.5%	3.4%	1.5%	1.0%
Biomass	0	0	0	1	2	2	3	2.5%	6.3%	18.4%	7.7%	4.2%	3.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	1	1	1	1	-13.5%	22.8%	2.0%	0.6%	0.3%	0.4%
Other renewables	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	12.8%	7.9%	4.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	69	111	202	293	374	418	462	4.8%	6.2%	3.8%	2.4%	1.1%	1.0%
Energy for Power Generation	23	40	79	102	130	149	170	5.7%	7.2%	2.6%	2.5%	1.3%	1.3%
Other Energy Transformation & Losses	7	13	26	49	63	72	79	6.0%	6.9%	6.7%	2.6%	1.3%	1.0%
Final consumption	44	68	116	173	225	255	283	4.3%	5.5%	4.1%	2.6%	1.3%	1.1%
Steel, Non-Met. Minerals and Chem.	2	3	6	13	19	23	26	5.6%	5.2%	8.3%	4.1%	2.0%	1.0%
Other Industry	17	26	43	67	88	93	101	4.6%	5.2%	4.6%	2.8%	0.5%	0.8%
Non-Energy Use	5	6	13	20	28	34	39	3.5%	7.1%	4.5%	3.5%	2.0%	1.3%
Residential	6	9	14	18	23	29	35	4.4%	4.2%	2.8%	2.4%	2.3%	1.7%
Services	1	3	8	13	19	25	30	11.3%	10.6%	5.0%	3.7%	2.6%	1.8%
Agriculture	0	0	0	0	0	0	0	8.0%	-4.4%	1.3%	1.5%	1.1%	0.9%
Road	14	19	32	41	46	50	53	3.3%	5.1%	2.6%	1.1%	0.9%	0.5%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	1.9%	0.4%	0.5%	0.4%
Other Transport	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Persian Gulf	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	23	40	79	102	129	147	167	5.8%	7.1%	2.5%	2.4%	1.3%	1.3%
Coal	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	25.5%	10.5%	6.7%
Oil	9	14	26	24	19	8	8	5.0%	6.6%	-0.9%	-2.3%	-8.7%	0.9%
Gas	14	26	53	77	109	137	154	6.3%	7.4%	3.9%	3.5%	2.3%	1.2%
Biomass & Waste	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	13.5%	8.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	79	140	284	454	639	806	974	5.9%	7.4%	4.8%	3.5%	2.3%	1.9%
Coal	0	0	0	0	3	9	17	n.s.	n.s.	n.s.	25.8%	10.7%	6.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	31	53	62	102	80	33	36	5.6%	1.6%	5.1%	-2.4%	-8.5%	1.0%
Gas	45	86	218	343	539	736	880	6.7%	9.7%	4.6%	4.6%	3.2%	1.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	1	3	7	n.s.	n.s.	n.s.	n.s.	13.9%	8.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	1	5	6	6	6	7	-13.5%	22.8%	2.0%	0.6%	0.3%	0.4%
Wind	0	0	0	0	1	2	6	n.s.	n.s.	n.s.	30.0%	14.3%	10.6%
Solar	0	0	0	3	9	16	21	n.s.	n.s.	n.s.	12.2%	6.7%	2.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	24.1%	14.7%
Generation Capacity (GW_e)	26	35	68	115	132	157	180	2.9%	6.9%	5.5%	1.3%	1.8%	1.4%
Coal	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	25.9%	10.8%	7.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	14	16	25	18	16	16	-0.1%	1.2%	4.9%	-3.4%	-1.4%	0.5%
Gas	10	18	50	86	105	127	143	5.7%	10.5%	5.6%	2.1%	1.9%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	14.0%	8.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	2	3	3	3	3	3	4	4.7%	-0.4%	2.3%	0.6%	0.3%	0.4%
Wind	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	28.9%	13.7%	9.8%
Solar	0	0	0	1	5	9	12	n.s.	n.s.	n.s.	12.3%	6.7%	2.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.3%
Total Final Consumption² (Mtoe)	44	68	116	173	225	255	283	4.3%	5.5%	4.1%	2.6%	1.3%	1.1%
Coal	0	0	1	2	3	4	4	n.s.	n.s.	10.8%	2.3%	2.7%	1.6%
Oil	24	33	53	67	74	82	87	3.3%	4.7%	2.5%	1.0%	1.0%	0.6%
Gas	15	25	43	72	102	111	120	5.2%	5.7%	5.3%	3.6%	0.8%	0.8%
Electricity	6	10	19	31	44	55	67	6.2%	6.8%	4.9%	3.4%	2.3%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	37.4%	9.6%
Biomass & Other	0	0	0	1	1	3	4	2.5%	6.3%	17.5%	8.3%	6.3%	4.5%
Share of Renewables ³ (%)	1%	0%	0%	1%	1%	2%	2%	-11.7%	9.8%	5.1%	3.4%	4.2%	2.9%
Industry (incl. non-energy use)	23	36	61	100	136	150	166	4.5%	5.6%	5.0%	3.1%	1.0%	1.0%
Coal	0	0	1	2	3	4	4	n.s.	n.s.	10.8%	2.3%	2.7%	1.6%
Oil	7	9	14	20	27	35	41	2.4%	5.0%	3.5%	3.0%	2.5%	1.6%
Gas	15	24	43	70	94	98	104	5.1%	5.8%	5.0%	3.1%	0.4%	0.6%
Electricity	1	3	4	7	11	13	16	6.3%	3.1%	7.5%	4.1%	1.9%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-1.1%	0.4%	2.3%
Buildings	7	12	22	32	43	54	64	5.7%	6.1%	3.7%	3.0%	2.4%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	6	6	4	4	4	4.6%	2.7%	-0.5%	-2.1%	-1.2%	-0.9%
Gas	0	0	0	2	6	10	13	12.0%	-2.7%	26.4%	13.1%	5.3%	2.7%
Electricity	4	7	16	24	32	39	46	6.2%	7.9%	4.2%	2.8%	2.2%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	37.4%	9.6%
Biomass & Other	0	0	0	0	1	1	1	2.5%	6.3%	10.0%	3.9%	4.3%	2.8%
Agriculture	0	0	0	0	0	0	0	8.0%	-4.4%	1.3%	1.5%	1.1%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	11.0%	-5.2%	0.8%	1.4%	1.0%	0.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-24.9%	22.5%	5.8%	2.4%	2.0%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	14	19	32	42	46	50	53	3.3%	5.2%	2.6%	1.1%	0.9%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	19	32	41	42	43	42	3.3%	5.2%	2.5%	0.2%	0.1%	-0.2%
Gas	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	25.0%	5.8%	3.3%
Electricity	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	31.5%	7.0%	3.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	30.0%	8.8%	5.5%
Other Energy Transformation & Losses⁴	7	13	26	49	63	72	79	6.0%	6.9%	6.7%	2.6%	1.3%	1.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

China	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	1 155	1 270	1 342	1 403	1 416	1 395	1 349	1.0%	0.5%	0.5%	0.1%	-0.1%	-0.3%
GDP per capita (ppp, k\$'05)	1	3	7	13	21	30	38	8.9%	9.6%	6.5%	4.9%	3.6%	2.3%
GDP per capita (mer, k\$'05)	1	1	3	6	9	13	16	8.6%	9.4%	6.4%	4.9%	3.6%	2.3%
Share Value Added - Agriculture (%)	22	13	9	8	7	7	7	-5.2%	-3.3%	-1.3%	-0.9%	-0.4%	-0.2%
Share Value Added - Industry (%)	34	41	45	38	33	28	24	2.1%	0.8%	-1.6%	-1.3%	-1.6%	-1.5%
Share Value Added - Services (%)	44	46	46	54	59	65	69	0.3%	0.1%	1.6%	1.0%	0.9%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	26	10	23	20	22	25	28	-9.4%	8.8%	-1.3%	0.8%	1.4%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	3 707	4 773	10 942	13 821	16 736	17 950	16 662	2.6%	8.7%	2.4%	1.9%	0.7%	-0.7%
Total GHG (excl. sinks)	3 811	5 105	11 235	14 185	17 135	18 418	17 203	3.0%	8.2%	2.4%	1.9%	0.7%	-0.7%
Total GHG (energy, industry, agriculture)	3 811	5 105	11 235	14 185	17 135	18 418	17 203	3.0%	8.2%	2.4%	1.9%	0.7%	-0.7%
CO ₂	2 445	3 632	8 884	11 394	13 949	15 054	13 964	4.0%	9.4%	2.5%	2.0%	0.8%	-0.7%
CH ₄	1 016	1 045	1 644	1 843	2 033	2 094	1 944	0.3%	4.6%	1.1%	1.0%	0.3%	-0.7%
N ₂ O	338	378	529	644	733	762	748	1.1%	3.4%	2.0%	1.3%	0.4%	-0.2%
F gases	13	51	177	303	421	507	547	14.8%	13.3%	5.5%	3.3%	1.9%	0.8%
Total GHG from Energy and Industry	3 035	4 316	10 231	13 013	15 786	16 994	15 757	3.6%	9.0%	2.4%	2.0%	0.7%	-0.8%
CO₂ Emissions from Fuel Comb.	2 206	3 196	7 737	9 753	12 036	13 082	12 121	3.8%	9.2%	2.3%	2.1%	0.8%	-0.8%
Power generation/District heating	594	1 253	3 175	4 454	6 235	6 944	6 557	7.8%	9.7%	3.4%	3.4%	1.1%	-0.6%
Industry	801	935	2 711	2 630	2 661	2 513	1 920	1.6%	11.2%	-0.3%	0.1%	-0.6%	-2.7%
Buildings	417	319	502	620	653	649	616	-2.6%	4.6%	2.1%	0.5%	-0.1%	-0.5%
Agriculture	89	49	89	112	117	119	118	-5.9%	6.3%	2.3%	0.4%	0.2%	-0.1%
Transport	115	249	524	991	1 267	1 479	1 518	8.0%	7.7%	6.6%	2.5%	1.6%	0.3%
Other	190	392	736	945	1 103	1 377	1 392	7.5%	6.5%	2.5%	1.6%	2.2%	0.1%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	898	1 145	2 251	2 569	3 086	3 620	3 469	2.5%	7.0%	1.3%	1.9%	1.6%	-0.4%
Coal	537	733	1 660	1 690	1 869	1 886	1 463	3.2%	8.5%	0.2%	1.0%	0.1%	-2.5%
Oil	137	161	202	236	226	168	107	1.7%	2.3%	1.6%	-0.4%	-2.9%	-4.4%
Natural gas	13	23	82	112	282	628	751	5.8%	13.4%	3.2%	9.6%	8.3%	1.8%
Biomass	201	203	214	251	271	296	321	0.1%	0.5%	1.6%	0.8%	0.9%	0.8%
Nuclear ¹	0	4	19	85	170	282	375	n.s.	15.9%	16.0%	7.2%	5.2%	2.9%
Hydro	11	19	62	121	142	150	153	5.8%	12.5%	6.9%	1.6%	0.6%	0.2%
Other renewables	0	1	12	73	126	210	299	29.4%	27.6%	19.4%	5.6%	5.2%	3.6%
Net Imports	- 66	1	377	982	1 404	1 512	1 607						
Coal	- 48	- 65	135	339	469	452	643						
Oil	- 20	65	230	509	647	811	829						
Natural gas	1	0	11	115	242	186	48						
Biomass	0	0	1	19	45	60	81						
Biofuels	0	0	0	0	1	3	6						
Electricity	0	0	0	- 1	- 1	- 1	- 1						
Primary Energy Demand²	832	1 146	2 628	3 551	4 490	5 132	5 076	3.3%	8.6%	3.1%	2.4%	1.3%	-0.1%
Coal	489	668	1 795	2 029	2 338	2 339	2 106	3.2%	10.4%	1.2%	1.4%	0.0%	-1.0%
Oil	117	227	432	745	873	978	937	6.8%	6.7%	5.6%	1.6%	1.1%	-0.4%
Natural gas	15	23	93	227	524	814	799	4.7%	14.8%	9.4%	8.7%	4.5%	-0.2%
Biomass	201	204	215	270	317	356	402	0.1%	0.5%	2.3%	1.6%	1.2%	1.2%
Nuclear ¹	0	4	19	85	170	282	375	n.s.	15.9%	16.0%	7.2%	5.2%	2.9%
Hydro	11	19	62	121	142	150	153	5.8%	12.5%	6.9%	1.6%	0.6%	0.2%
Other renewables	0	1	12	73	126	210	299	29.4%	27.6%	19.4%	5.6%	5.2%	3.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	832	1 146	2 628	3 551	4 490	5 132	5 076	3.3%	8.6%	3.1%	2.4%	1.3%	-0.1%
Energy for Power Generation	163	344	911	1 442	2 117	2 594	2 702	7.8%	10.2%	4.7%	3.9%	2.1%	0.4%
Other Energy Transformation & Losses	50	101	315	390	488	600	632	7.4%	12.1%	2.1%	2.3%	2.1%	0.5%
Final consumption	676	821	1 777	2 375	2 821	3 111	3 027	2.0%	8.0%	2.9%	1.7%	1.0%	-0.3%
Steel, Non-Met. Minerals and Chem.	143	209	664	735	836	828	688	3.9%	12.3%	1.0%	1.3%	-0.1%	-1.8%
Other Industry	107	117	298	394	515	625	627	0.9%	9.8%	2.9%	2.7%	2.0%	0.0%
Non-Energy Use	43	61	121	192	192	198	175	3.6%	7.1%	4.7%	0.0%	0.3%	-1.2%
Residential	294	284	361	454	487	489	473	-0.3%	2.4%	2.3%	0.7%	0.0%	-0.3%
Services	26	41	98	168	245	327	388	4.8%	9.2%	5.5%	3.9%	2.9%	1.7%
Agriculture	29	18	34	42	45	47	47	-4.5%	6.2%	2.2%	0.7%	0.4%	0.0%
Road	22	66	161	318	396	465	487	11.7%	9.2%	7.1%	2.2%	1.6%	0.4%
Rail	10	9	12	13	16	18	20	-1.3%	2.9%	0.8%	1.9%	1.4%	0.7%
Aviation	1	4	11	27	42	57	65	22.1%	10.3%	9.0%	4.6%	3.1%	1.3%
Other Transport	3	12	17	32	47	56	58	16.7%	3.8%	6.5%	3.8%	1.9%	0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

China	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	152	320	817	1 162	1 679	1 951	1 875	7.7%	9.8%	3.6%	3.7%	1.5%	-0.4%
Coal	139	302	783	1 072	1 429	1 492	1 398	8.1%	10.0%	3.2%	2.9%	0.4%	-0.6%
Oil	13	13	4	24	39	69	64	0.6%	-10.6%	18.7%	5.0%	5.7%	-0.8%
Gas	1	4	18	46	179	336	338	19.5%	17.1%	9.8%	14.5%	6.5%	0.1%
Biomass & Waste	0	1	12	19	31	55	76	n.s.	30.2%	5.1%	4.9%	5.8%	3.3%
Other	0	0	0	0	0	0	0	6.7%	1.4%	0.8%	-16.9%	n.s.	n.s.
Gross Elec. Generation (TWh_e)	651	1 389	4 247	7 362	10 907	13 605	14 684	7.9%	11.8%	5.7%	4.0%	2.2%	0.8%
Coal	470	1 080	3 274	4 796	6 400	6 660	6 249	8.7%	11.7%	3.9%	2.9%	0.4%	-0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	52	49	14	108	178	308	288	-0.5%	-11.5%	22.3%	5.1%	5.6%	-0.7%
Gas	3	18	83	233	925	1 773	1 841	20.6%	16.6%	10.8%	14.8%	6.7%	0.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	2	34	52	105	231	355	n.s.	30.2%	4.4%	7.2%	8.2%	4.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	17	74	335	681	1 143	1 526	n.s.	16.0%	16.3%	7.3%	5.3%	2.9%
Hydro	127	222	722	1 410	1 648	1 744	1 778	5.8%	12.5%	6.9%	1.6%	0.6%	0.2%
Wind	0	1	45	326	722	1 287	1 937	n.s.	53.5%	22.0%	8.3%	6.0%	4.2%
Solar	0	0	1	101	248	454	692	26.7%	22.7%	n.s.	9.4%	6.2%	4.3%
Other	0	0	0	0	1	6	18	6.7%	3.1%	5.8%	16.9%	16.8%	11.6%
Generation Capacity (GW_e)	158	346	1 013	1 880	2 621	3 372	3 947	8.2%	11.3%	6.4%	3.4%	2.6%	1.6%
Coal	98	232	701	1 063	1 269	1 428	1 496	9.0%	11.7%	4.3%	1.8%	1.2%	0.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	21	21	15	24	40	53	64	0.2%	-3.1%	4.4%	5.4%	2.8%	2.0%
Gas	3	11	31	55	157	270	316	14.9%	11.2%	5.8%	11.0%	5.6%	1.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	7	9	16	32	49	n.s.	30.4%	3.1%	5.3%	7.4%	4.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	10	51	101	166	217	n.s.	16.6%	17.5%	7.1%	5.1%	2.7%
Hydro	36	79	216	393	449	471	479	8.2%	10.5%	6.2%	1.3%	0.5%	0.2%
Wind	0	0	31	193	392	629	868	n.s.	57.2%	20.0%	7.3%	4.8%	3.3%
Solar	0	0	1	92	198	323	453	26.7%	31.7%	n.s.	8.0%	5.0%	3.5%
Other	0	0	0	0	0	1	2	0.0%	0.4%	3.1%	16.7%	16.2%	11.1%
Total Final Consumption² (Mtoe)	676	821	1 777	2 375	2 821	3 111	3 027	2.0%	8.0%	2.9%	1.7%	1.0%	-0.3%
Coal	322	297	767	719	679	601	462	-0.8%	10.0%	-0.6%	-0.6%	-1.2%	-2.6%
Oil	87	185	373	642	743	814	781	7.8%	7.2%	5.6%	1.5%	0.9%	-0.4%
Gas	10	16	62	140	234	303	293	5.0%	14.3%	8.5%	5.3%	2.6%	-0.3%
Electricity	43	92	301	528	784	979	1 058	7.8%	12.5%	5.8%	4.0%	2.3%	0.8%
Heat	13	28	73	118	142	175	194	7.7%	10.2%	4.9%	1.9%	2.1%	1.1%
Biomass & Other	201	202	201	228	239	238	238	0.1%	-0.1%	1.3%	0.5%	0.0%	0.0%
Share of Renewables ³ (%)	33%	28%	16%	19%	19%	20%	24%	-1.4%	-5.4%	1.3%	0.0%	0.8%	1.8%
Industry (incl. non-energy use)	292	387	1 082	1 322	1 544	1 651	1 490	2.8%	10.8%	2.0%	1.6%	0.7%	-1.0%
Coal	204	226	670	627	602	536	407	1.0%	11.5%	-0.7%	-0.4%	-1.2%	-2.7%
Oil	40	72	138	205	196	187	145	6.1%	6.7%	4.0%	-0.4%	-0.5%	-2.5%
Gas	8	10	28	75	136	189	171	2.4%	11.2%	10.4%	6.1%	3.4%	-1.0%
Electricity	30	60	204	345	515	621	635	7.1%	13.0%	5.4%	4.1%	1.9%	0.2%
Heat	11	19	43	58	71	82	87	5.9%	8.4%	3.2%	2.0%	1.4%	0.7%
Biomass & Other	0	0	0	12	24	35	45	n.s.	n.s.	n.s.	7.2%	4.1%	2.5%
Buildings	319	324	459	621	732	816	860	0.2%	3.5%	3.1%	1.6%	1.1%	0.5%
Coal	97	61	82	77	63	53	44	-4.6%	3.1%	-0.7%	-2.0%	-1.6%	-1.9%
Oil	8	19	34	63	66	67	66	9.8%	6.0%	6.2%	0.5%	0.1%	-0.2%
Gas	2	7	27	49	82	96	99	10.8%	15.4%	5.9%	5.4%	1.6%	0.4%
Electricity	9	27	85	166	242	322	382	11.4%	12.3%	6.9%	3.9%	2.9%	1.7%
Heat	3	9	31	60	71	93	107	13.4%	13.2%	6.9%	1.8%	2.7%	1.4%
Biomass & Other	201	202	199	207	206	184	162	0.1%	-0.2%	0.4%	0.0%	-1.1%	-1.3%
Agriculture	29	18	34	42	45	47	47	-4.5%	6.2%	2.2%	0.7%	0.4%	0.0%
Coal	11	6	11	12	11	10	9	-5.8%	6.8%	0.9%	-1.0%	-1.0%	-1.0%
Oil	15	8	14	20	23	25	26	-5.9%	5.8%	3.6%	1.4%	0.8%	0.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	1.9%	1.3%	0.8%
Electricity	4	5	8	10	11	12	13	2.2%	6.2%	1.5%	1.4%	0.8%	0.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	35	92	201	390	500	597	629	10.0%	8.2%	6.8%	2.5%	1.8%	0.5%
Coal	10	4	3	2	2	2	1	-8.0%	-2.8%	-2.9%	-2.0%	-2.0%	-2.0%
Oil	25	86	186	355	457	535	545	13.1%	8.0%	6.7%	2.6%	1.6%	0.2%
Gas	0	0	7	17	17	18	23	n.s.	46.2%	9.4%	0.1%	0.6%	2.5%
Electricity	1	1	3	7	15	23	30	9.6%	10.3%	7.3%	8.1%	4.4%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	2	10	9	19	31	n.s.	n.s.	19.2%	-0.5%	7.5%	5.2%
Other Energy Transformation & Losses⁴	50	101	315	390	488	600	632	7.4%	12.1%	2.1%	2.3%	2.1%	0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

India	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	871	1 053	1 231	1 389	1 528	1 634	1 705	1.9%	1.6%	1.2%	1.0%	0.7%	0.4%
GDP per capita (ppp, k\$'05)	1	2	3	5	9	14	20	3.6%	5.9%	5.5%	6.0%	4.4%	3.5%
GDP per capita (mer, k\$'05)	0	1	1	2	3	5	7	3.6%	5.9%	5.8%	6.0%	4.4%	3.5%
Share Value Added - Agriculture (%)	29	23	18	16	14	13	13	-2.3%	-2.3%	-1.5%	-1.3%	-0.6%	-0.3%
Share Value Added - Industry (%)	26	26	27	30	27	23	18	-0.2%	0.5%	0.9%	-1.0%	-1.7%	-2.2%
Share Value Added - Services (%)	44	51	55	54	59	64	69	1.4%	0.7%	0.0%	0.9%	0.8%	0.7%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	23	25	27	29	-7.8%	10.3%	1.4%	0.8%	0.9%	0.7%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 200	1 633	2 334	3 620	5 079	6 488	7 488	3.1%	3.6%	4.5%	3.4%	2.5%	1.4%
Total GHG (excl. sinks)	1 229	1 682	2 463	3 718	5 156	6 553	7 561	3.2%	3.9%	4.2%	3.3%	2.4%	1.4%
Total GHG (energy, industry, agriculture)	1 229	1 682	2 462	3 718	5 151	6 550	7 561	3.2%	3.9%	4.2%	3.3%	2.4%	1.4%
CO ₂	546	929	1 610	2 694	3 957	5 189	6 060	5.5%	5.7%	5.3%	3.9%	2.7%	1.6%
CH ₄	507	555	615	718	813	907	988	0.9%	1.0%	1.6%	1.3%	1.1%	0.9%
N ₂ O	166	188	220	267	309	351	387	1.3%	1.5%	2.0%	1.5%	1.3%	1.0%
F gases	10	10	18	39	72	102	125	0.6%	5.8%	8.2%	6.2%	3.6%	2.0%
Total GHG from Energy and Industry	748	1 165	1 922	3 117	4 495	5 836	6 789	4.5%	5.1%	5.0%	3.7%	2.6%	1.5%
CO₂ Emissions from Fuel Comb.	502	866	1 442	2 410	3 468	4 569	5 395	5.6%	5.2%	5.3%	3.7%	2.8%	1.7%
Power generation/District heating	215	490	792	1 283	1 904	2 651	3 284	8.6%	4.9%	4.9%	4.0%	3.4%	2.2%
Industry	107	125	260	493	661	758	777	1.5%	7.6%	6.6%	3.0%	1.4%	0.2%
Buildings	76	97	157	225	329	418	458	2.5%	5.0%	3.7%	3.9%	2.4%	0.9%
Agriculture	14	26	27	37	46	54	60	6.6%	0.5%	3.4%	2.2%	1.5%	1.1%
Transport	74	96	164	281	382	477	542	2.5%	5.5%	5.5%	3.1%	2.2%	1.3%
Other	16	33	42	90	145	211	274	7.6%	2.6%	7.9%	4.8%	3.8%	2.6%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	268	350	493	639	716	806	902	2.7%	3.5%	2.6%	1.1%	1.2%	1.1%
Coal	85	134	216	317	356	403	434	4.7%	4.9%	3.9%	1.2%	1.3%	0.8%
Oil	35	38	44	41	39	36	33	0.8%	1.5%	-0.8%	-0.5%	-0.6%	-1.1%
Natural gas	10	22	41	51	43	36	29	8.0%	6.5%	2.3%	-1.7%	-1.9%	-1.9%
Biomass	130	145	173	185	189	188	187	1.1%	1.8%	0.7%	0.2%	-0.1%	-0.1%
Nuclear ¹	2	4	7	14	28	53	86	10.7%	4.4%	7.6%	7.0%	6.5%	5.0%
Hydro	6	6	11	14	17	17	18	0.4%	5.2%	3.1%	1.5%	0.3%	0.2%
Other renewables	0	0	2	17	45	74	116	32.5%	27.1%	23.8%	10.5%	4.9%	4.6%
Net Imports	32	87	195	422	742	1 076	1 325						
Coal	7	12	64	135	203	262	327						
Oil	24	74	118	227	297	353	374						
Natural gas	1	1	14	58	241	461	626						
Biomass	0	0	0	1	0	-4	-7						
Biofuels	0	0	0	0	1	3	6						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	300	438	689	1 061	1 459	1 882	2 228	3.8%	4.6%	4.4%	3.2%	2.6%	1.7%
Coal	92	146	280	452	559	665	761	4.7%	6.7%	4.9%	2.1%	1.8%	1.4%
Oil	59	112	162	267	335	389	407	6.6%	3.7%	5.2%	2.3%	1.5%	0.4%
Natural gas	11	23	54	109	284	497	655	7.9%	9.0%	7.2%	10.0%	5.8%	2.8%
Biomass	130	145	173	186	189	184	180	1.1%	1.8%	0.7%	0.2%	-0.3%	-0.2%
Nuclear ¹	2	4	7	14	28	53	86	10.7%	4.4%	7.6%	7.0%	6.5%	5.0%
Hydro	6	6	11	14	17	17	18	0.4%	5.2%	3.1%	1.5%	0.3%	0.2%
Other renewables	0	0	2	17	45	74	116	32.5%	27.1%	23.8%	10.5%	4.9%	4.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	300	438	689	1 061	1 459	1 882	2 228	3.8%	4.6%	4.4%	3.2%	2.6%	1.7%
Energy for Power Generation	64	140	239	398	641	935	1 217	8.1%	5.5%	5.2%	4.9%	3.8%	2.7%
Other Energy Transformation & Losses	7	8	29	45	72	106	143	2.0%	13.5%	4.3%	4.8%	4.0%	3.0%
Final consumption	247	321	483	740	960	1 167	1 319	2.6%	4.2%	4.4%	2.6%	2.0%	1.2%
Steel, Non-Met. Minerals and Chem.	24	38	72	144	148	147	142	4.7%	6.6%	7.2%	0.3%	-0.1%	-0.3%
Other Industry	46	49	86	136	209	262	281	0.6%	5.8%	4.7%	4.4%	2.3%	0.7%
Non-Energy Use	14	30	37	61	84	96	98	7.7%	2.3%	5.2%	3.2%	1.3%	0.2%
Residential	120	141	172	208	229	253	274	1.7%	2.0%	1.9%	1.0%	1.0%	0.8%
Services	14	16	33	50	93	153	217	1.6%	7.1%	4.3%	6.5%	5.0%	3.6%
Agriculture	9	15	19	30	38	45	51	6.0%	2.3%	4.5%	2.4%	1.7%	1.3%
Road	16	28	58	102	143	185	218	6.2%	7.4%	5.8%	3.5%	2.6%	1.7%
Rail	4	2	4	5	8	12	16	-6.2%	5.0%	4.3%	4.3%	3.7%	3.0%
Aviation	1	1	2	3	6	11	16	3.0%	8.5%	6.3%	7.7%	5.6%	4.0%
Other Transport	1	1	1	1	2	3	4	-0.5%	4.4%	2.2%	6.6%	4.3%	3.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

India	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	57	129	220	353	551	791	997	8.6%	5.4%	4.9%	4.6%	3.7%	2.3%
Coal	48	110	177	288	409	523	621	8.7%	4.9%	5.0%	3.6%	2.5%	1.7%
Oil	5	9	7	12	15	22	21	6.0%	-1.9%	4.8%	2.4%	3.8%	-0.1%
Gas	3	9	27	42	98	215	318	10.3%	11.1%	4.7%	8.9%	8.2%	4.0%
Biomass & Waste	0	1	8	11	29	32	37	n.s.	27.3%	2.8%	10.4%	1.0%	1.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	293	570	979	1 874	3 175	4 715	6 226	6.9%	5.6%	6.7%	5.4%	4.0%	2.8%
Coal	192	390	658	1 179	1 736	2 278	2 757	7.4%	5.4%	6.0%	3.9%	2.8%	1.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	29	24	53	66	97	97	8.2%	-1.8%	8.0%	2.4%	3.8%	0.0%
Gas	10	56	113	195	459	1 030	1 562	18.8%	7.3%	5.6%	8.9%	8.4%	4.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	15	33	96	116	162	n.s.	27.6%	8.6%	11.2%	1.9%	3.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	6	17	26	56	112	214	353	10.7%	4.5%	7.8%	7.2%	6.7%	5.1%
Hydro	72	74	123	167	194	200	204	0.4%	5.2%	3.1%	1.5%	0.3%	0.2%
Wind	0	2	20	110	222	450	684	48.6%	27.9%	18.8%	7.3%	7.3%	4.3%
Solar	0	0	0	80	289	330	404	8.8%	11.8%	n.s.	13.7%	1.3%	2.0%
Other	0	0	0	0	0	1	4	n.s.	n.s.	19.3%	31.4%	16.9%	12.3%
Generation Capacity (GW_e)	78	123	202	470	804	1 132	1 490	4.6%	5.1%	8.8%	5.5%	3.5%	2.8%
Coal	52	79	118	241	325	425	519	4.3%	4.1%	7.4%	3.0%	2.7%	2.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	5	5	9	13	18	22	5.9%	-1.2%	6.6%	3.8%	3.2%	2.3%
Gas	3	10	21	32	69	153	253	11.4%	7.5%	4.4%	8.0%	8.3%	5.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	3	13	16	16	23	n.s.	14.6%	14.6%	2.0%	0.1%	3.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	3	4	8	16	29	47	8.2%	4.9%	6.5%	7.0%	6.5%	4.9%
Hydro	19	24	37	53	62	64	65	2.3%	4.7%	3.5%	1.5%	0.3%	0.2%
Wind	0	1	13	61	114	209	291	44.9%	27.1%	16.4%	6.4%	6.3%	3.4%
Solar	0	0	0	53	190	219	270	8.8%	11.8%	n.s.	13.7%	1.4%	2.1%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	30.7%	16.3%	11.8%
Total Final Consumption² (Mtoe)	247	321	483	740	960	1 167	1 319	2.6%	4.2%	4.4%	2.6%	2.0%	1.2%
Coal	43	41	99	157	144	138	133	-0.5%	9.4%	4.7%	-0.8%	-0.4%	-0.4%
Oil	50	94	134	229	288	330	347	6.5%	3.6%	5.5%	2.3%	1.4%	0.5%
Gas	6	10	22	57	160	234	269	5.1%	8.6%	10.0%	10.8%	3.9%	1.4%
Electricity	18	32	62	121	208	307	405	5.8%	6.8%	6.9%	5.5%	4.0%	2.8%
Heat	0	0	0	0	1	6	22	16.5%	23.5%	3.8%	13.3%	15.9%	13.1%
Biomass & Other	130	144	165	176	159	151	142	1.0%	1.3%	0.6%	-1.0%	-0.5%	-0.6%
Share of Renewables ³ (%)	57%	49%	38%	29%	24%	21%	22%	-1.5%	-2.5%	-2.7%	-1.8%	-1.2%	0.1%
Industry (incl. non-energy use)	84	116	194	341	441	505	522	3.3%	5.3%	5.8%	2.6%	1.4%	0.3%
Coal	30	32	84	139	123	114	108	0.5%	10.1%	5.2%	-1.2%	-0.7%	-0.5%
Oil	17	36	37	70	84	86	79	8.1%	0.2%	6.7%	1.8%	0.2%	-0.8%
Gas	6	9	17	44	113	158	174	4.8%	6.6%	9.8%	9.8%	3.4%	1.0%
Electricity	9	14	28	52	81	107	124	4.1%	7.3%	6.5%	4.5%	2.9%	1.5%
Heat	0	0	0	0	0	0	0	n.s.	23.5%	3.4%	-0.2%	-0.3%	-0.2%
Biomass & Other	23	26	29	36	40	40	36	1.3%	1.3%	2.2%	1.0%	0.0%	-1.2%
Buildings	134	158	205	258	322	406	491	1.7%	2.6%	2.3%	2.3%	2.3%	1.9%
Coal	10	9	16	18	21	25	25	-1.4%	5.9%	1.5%	1.7%	1.4%	0.0%
Oil	11	19	27	40	45	50	52	5.6%	3.6%	3.7%	1.3%	1.0%	0.3%
Gas	0	0	3	12	43	69	84	21.0%	27.7%	13.8%	13.9%	5.0%	2.0%
Electricity	5	11	23	49	97	157	226	8.5%	7.8%	7.9%	7.1%	5.0%	3.7%
Heat	0	0	0	0	1	6	22	16.5%	23.5%	3.8%	13.8%	16.1%	13.1%
Biomass & Other	108	119	136	139	114	98	83	1.0%	1.3%	0.2%	-1.9%	-1.5%	-1.7%
Agriculture	9	15	19	30	38	45	51	6.0%	2.3%	4.5%	2.4%	1.7%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	8	8	12	14	17	19	6.6%	0.4%	3.4%	2.2%	1.5%	1.1%
Gas	0	0	0	0	0	0	0	5.4%	2.7%	1.8%	2.0%	1.3%	0.9%
Electricity	4	7	11	18	23	28	32	5.3%	4.1%	5.3%	2.5%	1.8%	1.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	21	32	64	111	160	211	255	4.4%	7.2%	5.7%	3.7%	2.8%	1.9%
Coal	2	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	18	31	62	107	143	177	198	5.5%	7.1%	5.7%	3.0%	2.1%	1.1%
Gas	0	0	1	1	4	7	10	n.s.	33.6%	0.4%	10.5%	5.7%	4.3%
Electricity	0	1	1	3	7	15	23	7.2%	5.0%	8.3%	11.3%	7.2%	4.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	5	12	23	n.s.	-0.7%	19.9%	28.4%	9.6%	6.5%
Other Energy Transformation & Losses⁴	7	8	29	45	72	106	143	2.0%	13.5%	4.3%	4.8%	4.0%	3.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Indonesia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	181	212	242	272	295	312	322	1.5%	1.3%	1.2%	0.8%	0.6%	0.3%
GDP per capita (ppp, k\$'05)	2	3	4	6	9	13	18	2.6%	3.8%	4.4%	4.4%	3.5%	3.2%
GDP per capita (mer, k\$'05)	1	1	2	2	4	5	7	2.6%	3.8%	4.3%	4.4%	3.5%	3.2%
Share Value Added - Agriculture (%)	19	16	14	12	11	10	10	-2.2%	-1.1%	-1.1%	-1.2%	-0.6%	-0.4%
Share Value Added - Industry (%)	39	46	43	40	39	37	34	1.6%	-0.7%	-0.6%	-0.2%	-0.5%	-0.8%
Share Value Added - Services (%)	41	38	43	47	50	52	56	-0.7%	1.2%	0.9%	0.5%	0.5%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	31	34	-7.8%	10.3%	1.0%	1.6%	1.7%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	996	1 325	1 920	1 923	1 710	1 950	2 123	2.9%	3.8%	0.0%	-1.2%	1.3%	0.9%
Total GHG (excl. sinks)	1 333	1 572	1 920	1 923	1 710	1 950	2 123	1.7%	2.0%	0.0%	-1.2%	1.3%	0.9%
Total GHG (energy, industry, agriculture)	377	511	701	904	1 100	1 336	1 522	3.1%	3.2%	2.6%	2.0%	2.0%	1.3%
CO ₂	158	291	414	554	716	921	1 084	6.3%	3.6%	3.0%	2.6%	2.5%	1.6%
CH ₄	141	158	214	259	277	292	301	1.1%	3.1%	1.9%	0.7%	0.5%	0.3%
N ₂ O	76	62	73	89	104	118	130	-2.0%	1.5%	2.1%	1.5%	1.3%	1.0%
F gases	2	0	1	1	3	5	7	-12.9%	3.7%	7.6%	8.4%	5.6%	3.9%
Total GHG from Energy and Industry	248	384	548	728	903	1 118	1 288	4.5%	3.6%	2.9%	2.2%	2.2%	1.4%
CO₂ Emissions from Fuel Comb.	137	265	383	510	654	845	996	6.8%	3.8%	2.9%	2.5%	2.6%	1.7%
Power generation/District heating	22	62	122	167	186	249	281	10.7%	7.1%	3.2%	1.1%	2.9%	1.3%
Industry	31	60	93	105	149	188	216	6.9%	4.5%	1.1%	3.6%	2.3%	1.4%
Buildings	21	38	25	31	43	60	76	5.9%	-4.3%	2.4%	3.2%	3.4%	2.5%
Agriculture	3	8	9	7	9	10	12	9.4%	2.0%	-3.0%	2.2%	1.7%	1.4%
Transport	32	64	94	125	146	172	193	7.0%	4.0%	2.9%	1.5%	1.6%	1.2%
Other	27	34	39	75	121	166	218	2.0%	1.6%	6.7%	4.9%	3.2%	2.7%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	161	229	371	500	369	322	289	3.6%	4.9%	3.0%	-3.0%	-1.4%	-1.1%
Coal	6	46	189	279	90	16	0	22.7%	15.2%	4.0%	-10.7%	-16.0%	n.s.
Oil	75	72	49	54	71	73	67	-0.5%	-3.7%	1.0%	2.8%	0.2%	-0.8%
Natural gas	37	57	71	88	120	126	104	4.6%	2.1%	2.2%	3.2%	0.5%	-1.9%
Biomass	42	49	52	65	63	71	73	1.6%	0.6%	2.3%	-0.4%	1.2%	0.3%
Nuclear ¹	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	11.6%
Hydro	0	1	2	1	2	2	3	5.8%	5.7%	-0.6%	1.4%	3.0%	2.3%
Other renewables	1	4	8	13	23	33	40	15.8%	6.9%	4.7%	6.2%	3.6%	1.7%
Net Imports	- 65	- 78	- 169	- 247	- 42	91	199						
Coal	- 1	- 34	- 159	- 252	- 60	32	48						
Oil	- 41	- 14	22	38	23	24	37						
Natural gas	- 22	- 31	- 32	- 29	- 3	44	124						
Biomass	0	0	0	- 4	- 3	- 10	- 11						
Biofuels	0	0	0	- 1	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	96	151	202	253	327	413	488	4.6%	2.9%	2.3%	2.6%	2.4%	1.7%
Coal	5	12	30	27	30	47	48	10.2%	9.8%	-1.3%	1.2%	4.6%	0.1%
Oil	34	58	71	92	94	97	104	5.6%	2.0%	2.7%	0.2%	0.3%	0.7%
Natural gas	15	27	39	59	117	171	228	6.1%	3.9%	4.3%	7.1%	3.8%	2.9%
Biomass	42	49	52	62	60	61	62	1.6%	0.6%	1.7%	-0.3%	0.2%	0.2%
Nuclear ¹	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	11.6%
Hydro	0	1	2	1	2	2	3	5.8%	5.7%	-0.6%	1.4%	3.0%	2.3%
Other renewables	1	4	8	13	23	33	40	15.8%	6.9%	4.7%	6.2%	3.6%	1.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	96	151	202	253	327	413	488	4.6%	2.9%	2.3%	2.6%	2.4%	1.7%
Energy for Power Generation	8	24	46	68	87	118	142	11.7%	6.7%	3.8%	2.6%	3.1%	1.9%
Other Energy Transformation & Losses	11	12	18	21	40	61	87	1.1%	4.2%	1.4%	6.7%	4.3%	3.6%
Final consumption	80	121	150	188	230	275	315	4.3%	2.1%	2.3%	2.0%	1.8%	1.4%
Steel, Non-Met. Minerals and Chem.	3	5	10	13	19	22	25	6.3%	6.1%	3.4%	3.6%	1.8%	1.2%
Other Industry	15	25	32	36	49	63	73	5.2%	2.2%	1.2%	3.3%	2.5%	1.5%
Non-Energy Use	7	10	9	13	17	19	20	2.9%	-1.4%	4.0%	2.8%	1.3%	0.5%
Residential	42	53	56	67	73	79	84	2.4%	0.6%	1.8%	0.9%	0.8%	0.5%
Services	1	4	5	7	11	18	27	13.2%	3.2%	4.0%	4.4%	4.9%	4.0%
Agriculture	1	2	3	2	3	4	4	9.4%	2.4%	-2.7%	2.3%	1.8%	1.5%
Road	10	20	32	43	47	56	65	7.4%	4.9%	3.0%	1.1%	1.7%	1.4%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	1	2	4	6	8	10	7.4%	14.1%	6.3%	3.7%	3.1%	2.4%
Other Transport	1	2	2	3	4	6	7	7.9%	2.0%	4.2%	3.9%	2.3%	1.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Indonesia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	19	37	53	62	82	98	11.3%	6.7%	3.8%	1.6%	2.8%	1.8%
Coal	2	8	19	21	23	38	37	13.7%	8.4%	1.3%	0.7%	5.2%	-0.4%
Oil	4	5	8	13	10	4	4	1.5%	6.3%	4.5%	-2.7%	-8.9%	-0.5%
Gas	0	6	9	17	27	36	52	39.3%	4.1%	7.0%	4.5%	3.0%	3.9%
Biomass & Waste	0	0	0	0	1	1	1	n.s.	31.5%	26.5%	3.0%	4.2%	4.4%
Other	0	0	1	1	2	3	3	15.8%	6.8%	2.1%	6.0%	4.4%	1.4%
Gross Elec. Generation (TWh_e)	33	93	170	276	363	490	635	11.1%	6.2%	5.0%	2.8%	3.0%	2.6%
Coal	10	34	68	84	93	159	160	13.3%	7.2%	2.1%	0.9%	5.5%	0.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	15	18	34	55	42	17	17	1.8%	6.4%	4.9%	-2.7%	-8.5%	-0.3%
Gas	1	26	40	75	127	188	293	42.9%	4.4%	6.4%	5.4%	4.0%	4.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	2	2	4	6	n.s.	31.5%	32.9%	3.3%	5.3%	5.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	3	10	n.s.	n.s.	n.s.	n.s.	n.s.	11.7%
Hydro	6	10	17	16	19	25	32	5.8%	5.7%	-0.6%	1.4%	3.0%	2.3%
Wind	0	0	0	16	29	29	40	n.s.	n.s.	n.s.	5.9%	0.1%	3.2%
Solar	0	0	0	16	31	33	41	n.s.	n.s.	n.s.	7.2%	0.4%	2.3%
Other	1	5	9	12	21	32	37	15.8%	6.8%	2.1%	6.0%	4.5%	1.5%
Generation Capacity (GW_e)	13	25	34	76	101	121	156	6.9%	3.0%	8.4%	2.8%	1.8%	2.6%
Coal	2	8	13	30	31	35	34	16.1%	5.4%	8.6%	0.4%	1.2%	-0.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	5	6	9	8	4	4	-4.6%	2.2%	4.2%	-1.2%	-5.9%	0.7%
Gas	1	8	10	14	19	27	44	32.6%	2.1%	3.0%	3.3%	3.6%	4.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	1	n.s.	31.2%	13.9%	3.1%	5.2%	5.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	11.5%
Hydro	3	4	4	6	8	15	22	2.9%	-1.2%	4.3%	3.3%	6.5%	3.9%
Wind	0	0	0	7	13	13	17	n.s.	n.s.	n.s.	5.7%	0.0%	2.6%
Solar	0	0	0	9	20	21	28	n.s.	n.s.	n.s.	7.7%	0.9%	2.8%
Other	0	0	1	1	3	4	5	9.9%	12.7%	2.1%	5.7%	4.6%	1.4%
Total Final Consumption² (Mtoe)	80	121	150	188	230	275	315	4.3%	2.1%	2.3%	2.0%	1.8%	1.4%
Coal	2	5	8	8	10	12	13	7.7%	5.9%	-0.4%	2.0%	1.9%	1.2%
Oil	27	49	61	74	80	89	95	6.0%	2.3%	1.8%	0.9%	1.0%	0.7%
Gas	6	12	16	27	55	80	100	6.7%	3.2%	5.6%	7.2%	3.8%	2.3%
Electricity	2	7	13	21	28	37	48	10.8%	6.5%	5.1%	2.8%	3.0%	2.6%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	8.0%	3.0%	7.6%
Biomass & Other	42	49	51	58	57	57	57	1.6%	0.4%	1.2%	-0.1%	0.0%	0.0%
Share of Renewables ³ (%)	58%	45%	37%	35%	31%	27%	25%	-2.6%	-1.8%	-0.6%	-1.4%	-1.4%	-0.6%
Industry (incl. non-energy use)	26	40	50	62	85	105	119	4.7%	2.1%	2.2%	3.2%	2.1%	1.3%
Coal	2	5	8	8	10	12	13	7.7%	5.9%	-0.4%	2.0%	1.9%	1.2%
Oil	9	13	15	16	16	16	15	3.8%	1.7%	0.5%	0.2%	-0.2%	-0.7%
Gas	6	11	16	25	45	62	74	6.7%	3.2%	4.8%	6.1%	3.1%	1.8%
Electricity	1	3	4	7	8	11	13	8.9%	4.2%	4.1%	2.5%	2.3%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	7	9	6	6	5	5	4	1.8%	-3.0%	0.0%	-1.6%	-1.1%	-0.9%
Buildings	43	57	61	74	84	97	110	2.9%	0.7%	2.0%	1.3%	1.5%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.3%	-0.6%	-0.9%
Oil	7	12	8	8	7	6	6	5.9%	-4.4%	0.8%	-1.7%	-1.0%	-0.5%
Gas	0	0	0	2	9	17	25	8.1%	14.4%	30.0%	15.6%	6.8%	3.7%
Electricity	1	4	8	14	19	25	33	12.6%	7.8%	5.7%	2.7%	3.1%	2.8%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	8.0%	3.0%	7.6%
Biomass & Other	35	41	45	49	49	48	45	1.6%	1.0%	0.9%	0.0%	-0.3%	-0.6%
Agriculture	1	2	3	2	3	4	4	9.4%	2.4%	-2.7%	2.3%	1.8%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	2	3	3	4	9.4%	2.0%	-3.0%	2.2%	1.7%	1.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	3.7%	3.2%	2.7%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	11	22	36	50	58	70	81	7.4%	5.1%	3.3%	1.5%	1.9%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	11	22	36	47	54	63	71	7.4%	5.1%	2.9%	1.4%	1.5%	1.1%
Gas	0	0	0	0	1	1	2	n.s.	-6.6%	29.3%	18.6%	5.2%	5.1%
Electricity	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	51.6%	10.6%	5.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	2	2	4	7	n.s.	n.s.	29.3%	0.4%	6.0%	5.4%
Other Energy Transformation & Losses⁴	11	12	18	21	40	61	87	1.1%	4.2%	1.4%	6.7%	4.3%	3.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Malaysia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	18	23	28	32	36	39	41	2.5%	1.8%	1.4%	1.1%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	7	11	14	20	27	36	46	4.4%	2.7%	3.5%	3.3%	2.8%	2.5%
GDP per capita (mer, k\$'05)	3	5	6	9	12	17	21	4.4%	2.7%	3.5%	3.3%	2.8%	2.5%
Share Value Added - Agriculture (%)	15	9	10	8	8	8	8	-5.5%	1.6%	-2.0%	-0.3%	-0.2%	-0.1%
Share Value Added - Industry (%)	42	48	41	37	32	27	22	1.4%	-1.7%	-0.9%	-1.4%	-1.7%	-2.0%
Share Value Added - Services (%)	43	43	49	55	60	65	70	0.1%	1.4%	1.0%	0.9%	0.8%	0.7%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	31	34	-7.8%	10.3%	1.0%	1.6%	1.7%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	- 153	- 57	404	491	534	581	619	n.s.	n.s.	2.0%	0.8%	0.8%	0.6%
Total GHG (excl. sinks)	126	211	404	491	534	581	619	5.3%	6.7%	2.0%	0.8%	0.8%	0.6%
Total GHG (energy, industry, agriculture)	91	165	257	344	390	436	477	6.1%	4.6%	2.9%	1.3%	1.1%	0.9%
CO ₂	63	127	211	286	331	378	418	7.3%	5.2%	3.1%	1.4%	1.3%	1.0%
CH ₄	18	28	33	40	39	35	33	4.4%	1.7%	2.0%	-0.2%	-1.1%	-0.6%
N ₂ O	9	9	13	16	18	21	23	0.1%	3.3%	2.4%	1.4%	1.2%	0.9%
F gases	1	1	1	2	3	3	3	0.7%	7.1%	4.2%	3.0%	1.6%	0.3%
Total GHG from Energy and Industry	78	152	242	326	369	412	451	6.9%	4.8%	3.0%	1.3%	1.1%	0.9%
CO₂ Emissions from Fuel Comb.	58	116	192	261	300	345	385	7.2%	5.1%	3.1%	1.4%	1.4%	1.1%
Power generation/District heating	16	37	96	127	147	171	197	8.9%	9.9%	2.8%	1.5%	1.5%	1.4%
Industry	14	26	31	38	41	42	41	6.4%	1.6%	2.3%	0.6%	0.3%	-0.4%
Buildings	2	4	6	7	10	14	18	7.0%	3.5%	0.4%	4.3%	3.6%	2.3%
Agriculture	0	0	3	3	4	5	5	n.s.	25.9%	0.5%	1.8%	1.4%	1.2%
Transport	15	31	40	62	68	77	85	7.9%	2.6%	4.4%	0.9%	1.3%	0.9%
Other	11	17	15	23	30	35	39	4.2%	-1.0%	4.3%	2.4%	1.7%	1.0%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	47	74	91	126	136	103	85	4.6%	2.1%	3.4%	0.8%	-2.7%	-1.9%
Coal	0	0	2	2	3	4	5	14.5%	20.3%	3.9%	2.7%	2.8%	2.5%
Oil	31	33	36	42	32	17	9	0.6%	0.9%	1.6%	-2.7%	-6.1%	-5.8%
Natural gas	14	38	50	74	87	63	48	10.4%	2.7%	4.0%	1.6%	-3.2%	-2.8%
Biomass	1	2	2	6	12	16	17	1.8%	2.2%	10.6%	7.4%	2.9%	0.4%
Nuclear ¹	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	12.7%	9.0%
Hydro	0	1	1	1	1	1	1	5.7%	-0.7%	8.0%	0.2%	0.5%	0.5%
Other renewables	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	17.9%	11.4%	8.1%
Net Imports	- 25	- 25	- 16	- 20	- 11	41	76						
Coal	1	2	13	21	24	27	31						
Oil	- 19	- 14	- 10	- 2	7	24	33						
Natural gas	- 7	- 14	- 19	- 36	- 37	- 3	18						
Biomass	0	0	0	- 2	- 6	- 8	- 7						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	22	49	74	106	125	145	161	8.1%	4.3%	3.7%	1.6%	1.5%	1.1%
Coal	1	2	15	24	27	31	36	5.7%	20.3%	4.9%	1.5%	1.3%	1.5%
Oil	12	19	26	40	39	41	43	4.6%	2.9%	4.5%	-0.2%	0.4%	0.4%
Natural gas	7	25	31	38	50	60	66	13.6%	2.4%	2.0%	2.8%	1.9%	0.9%
Biomass	1	2	2	4	6	9	10	1.8%	2.2%	5.2%	5.1%	3.6%	1.2%
Nuclear ¹	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	12.7%	9.0%
Hydro	0	1	1	1	1	1	1	5.7%	-0.7%	8.0%	0.2%	0.5%	0.5%
Other renewables	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	17.9%	11.4%	8.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	22	49	74	106	125	145	161	8.1%	4.3%	3.7%	1.6%	1.5%	1.1%
Energy for Power Generation	6	15	33	41	50	60	70	10.7%	8.0%	2.3%	2.0%	1.9%	1.5%
Other Energy Transformation & Losses	5	9	8	14	17	20	24	6.5%	-0.7%	5.1%	2.2%	1.9%	1.5%
Final consumption	14	30	43	66	76	88	98	8.0%	3.7%	4.4%	1.5%	1.5%	1.0%
Steel, Non-Met. Minerals and Chem.	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Industry	6	12	15	19	23	25	24	7.9%	2.4%	2.7%	1.6%	0.8%	-0.1%
Non-Energy Use	1	2	4	11	12	11	10	10.4%	5.1%	11.8%	0.4%	-0.5%	-1.0%
Residential	2	3	4	6	6	8	9	4.2%	3.5%	2.4%	1.6%	1.6%	1.1%
Services	1	2	4	6	9	14	20	10.9%	6.9%	3.0%	4.6%	4.5%	3.4%
Agriculture	0	0	1	1	1	2	2	n.s.	26.2%	0.6%	1.8%	1.5%	1.2%
Road	5	10	15	23	25	29	33	8.5%	3.3%	4.5%	1.0%	1.6%	1.3%
Rail	0	0	0	0	0	0	0	n.s.	15.1%	3.8%	3.2%	2.5%	2.0%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	0	0	0	0	0	0	0	-20.8%	11.6%	19.4%	3.0%	1.8%	1.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Malaysia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	5	15	32	39	48	57	64	10.9%	8.2%	2.1%	1.9%	1.7%	1.2%
Coal	1	1	13	21	25	28	33	6.3%	24.1%	4.9%	1.6%	1.3%	1.6%
Oil	3	1	1	2	1	0	1	-10.7%	-2.6%	11.0%	-11.4%	-11.8%	13.9%
Gas	1	12	18	16	20	25	28	24.4%	4.1%	-1.3%	2.6%	2.1%	1.0%
Biomass & Waste	0	0	0	1	2	3	3	n.s.	n.s.	7.2%	12.6%	4.3%	-1.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	23	69	125	172	225	291	355	11.6%	6.1%	3.2%	2.8%	2.6%	2.0%
Coal	3	8	43	82	96	109	128	10.1%	18.7%	6.8%	1.6%	1.2%	1.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	11	4	4	9	3	1	3	-10.2%	0.2%	9.1%	-11.4%	-11.1%	14.0%
Gas	6	51	71	63	97	132	150	24.9%	3.3%	-1.1%	4.4%	3.1%	1.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	2	8	13	11	n.s.	n.s.	8.4%	13.1%	5.1%	-1.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	1	2	6	n.s.	n.s.	n.s.	n.s.	12.7%	9.1%
Hydro	4	7	6	14	14	15	16	5.7%	-0.7%	8.0%	0.2%	0.5%	0.5%
Wind	0	0	0	0	2	9	22	n.s.	n.s.	n.s.	29.5%	14.5%	9.3%
Solar	0	0	0	1	4	10	19	n.s.	n.s.	n.s.	14.4%	9.2%	6.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.1%	15.7%	11.2%
Generation Capacity (GW_e)	5	14	27	40	44	57	73	11.4%	7.0%	3.9%	1.1%	2.7%	2.4%
Coal	1	1	8	13	15	16	18	0.8%	19.4%	5.6%	0.9%	0.9%	1.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	2	3	2	2	2	4.7%	-3.6%	5.7%	-3.7%	-0.1%	1.4%
Gas	1	8	15	16	16	21	23	24.4%	6.6%	0.3%	0.5%	2.4%	1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	1	2	2	2	n.s.	20.9%	8.1%	1.1%	2.9%	-2.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	12.5%	8.9%
Hydro	1	2	2	6	6	6	7	6.6%	0.1%	10.9%	0.1%	0.5%	0.5%
Wind	0	0	0	0	1	3	8	n.s.	n.s.	52.4%	28.7%	13.7%	8.6%
Solar	0	0	0	1	3	7	13	n.s.	n.s.	n.s.	14.7%	9.4%	7.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.1%	10.7%
Total Final Consumption² (Mtoe)	14	30	43	66	76	88	98	8.0%	3.7%	4.4%	1.5%	1.5%	1.0%
Coal	1	1	2	3	3	3	3	6.8%	6.3%	3.2%	0.4%	1.6%	1.0%
Oil	9	18	23	34	35	37	39	7.1%	2.7%	3.9%	0.2%	0.6%	0.3%
Gas	1	4	6	13	18	21	22	13.5%	4.9%	7.4%	3.2%	1.6%	0.7%
Electricity	2	5	10	14	18	23	28	11.9%	6.1%	3.6%	2.8%	2.6%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	2	3	4	6	1.8%	-0.3%	3.8%	2.3%	2.9%	2.9%
Share of Renewables ³ (%)	13%	8%	6%	7%	8%	11%	14%	-5.0%	-3.5%	2.1%	2.1%	2.6%	2.8%
Industry (incl. non-energy use)	6	14	19	31	34	36	34	8.2%	2.9%	5.2%	1.1%	0.4%	-0.4%
Coal	1	1	2	3	3	3	3	6.8%	6.3%	3.2%	0.4%	1.6%	1.0%
Oil	4	6	6	10	8	7	6	5.1%	0.3%	4.4%	-1.2%	-1.3%	-1.9%
Gas	1	4	6	12	15	16	15	13.5%	4.5%	7.3%	2.1%	0.5%	-0.4%
Electricity	1	3	5	6	8	9	9	12.9%	4.9%	3.4%	2.2%	1.1%	0.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	2.5%	n.s.	n.s.	9.2%	6.1%	2.7%
Buildings	3	5	9	11	16	22	28	6.5%	5.0%	2.7%	3.2%	3.4%	2.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	1	1	1	7.0%	3.4%	-1.4%	-1.9%	-1.9%	-1.5%
Gas	0	0	0	0	2	5	6	7.4%	8.2%	29.7%	17.2%	6.8%	3.4%
Electricity	1	2	5	7	10	14	18	10.7%	7.3%	3.7%	3.1%	3.5%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	2	2	2	2	2	1.6%	1.8%	1.5%	0.5%	0.7%	0.8%
Agriculture	0	0	1	1	1	2	2	n.s.	26.2%	0.6%	1.8%	1.5%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	1	1	2	2	n.s.	25.9%	0.5%	1.8%	1.4%	1.2%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	5.2%	2.8%	2.5%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	5	10	15	23	25	29	33	8.4%	3.3%	4.5%	1.0%	1.6%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	10	14	22	24	27	30	8.4%	3.1%	4.5%	0.9%	1.3%	0.9%
Gas	0	0	0	0	0	0	1	n.s.	42.2%	-1.9%	2.7%	4.0%	6.2%
Electricity	0	0	0	0	0	0	1	n.s.	15.1%	4.3%	18.1%	10.5%	6.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	54.5%	6.3%	6.7%	6.0%
Other Energy Transformation & Losses⁴	5	9	8	14	17	20	24	6.5%	-0.7%	5.1%	2.2%	1.9%	1.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Thailand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	57	63	67	69	68	66	62	1.0%	0.6%	0.3%	0.0%	-0.3%	-0.6%
GDP per capita (ppp, k\$'05)	4	6	8	10	15	21	28	3.4%	3.7%	2.6%	3.6%	3.7%	3.0%
GDP per capita (mer, k\$'05)	2	2	3	4	6	8	11	3.4%	3.7%	2.6%	3.6%	3.7%	3.0%
Share Value Added - Agriculture (%)	12	9	11	10	10	9	9	-3.8%	2.2%	-0.3%	-0.6%	-0.4%	-0.2%
Share Value Added - Industry (%)	37	37	40	36	34	30	26	-0.1%	0.8%	-1.0%	-0.7%	-1.1%	-1.3%
Share Value Added - Services (%)	50	55	49	54	57	61	65	0.8%	-1.0%	0.8%	0.5%	0.7%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	31	34	-7.8%	10.3%	1.0%	1.6%	1.7%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	210	278	365	447	499	586	657	2.9%	2.8%	2.0%	1.1%	1.6%	1.2%
Total GHG (excl. sinks)	210	284	383	452	504	597	677	3.1%	3.0%	1.7%	1.1%	1.7%	1.3%
Total GHG (energy, industry, agriculture)	191	268	367	447	500	584	659	3.4%	3.2%	2.0%	1.1%	1.6%	1.2%
CO ₂	93	169	249	317	357	429	495	6.2%	4.0%	2.4%	1.2%	1.9%	1.4%
CH ₄	82	81	97	106	116	125	131	0.0%	1.8%	0.9%	0.9%	0.8%	0.5%
N ₂ O	16	16	20	24	27	30	33	0.2%	2.4%	1.7%	1.3%	1.2%	0.9%
F gases	1	1	0	1	1	1	1	-2.4%	-8.4%	1.2%	0.0%	1.0%	0.5%
Total GHG from Energy and Industry	121	203	293	367	412	488	558	5.3%	3.7%	2.3%	1.2%	1.7%	1.3%
CO₂ Emissions from Fuel Comb.	82	154	231	298	335	404	469	6.5%	4.1%	2.6%	1.2%	1.9%	1.5%
Power generation/District heating	27	54	81	86	89	123	173	7.1%	4.2%	0.5%	0.3%	3.3%	3.5%
Industry	14	31	50	75	86	91	88	8.2%	4.8%	4.1%	1.5%	0.5%	-0.3%
Buildings	3	5	9	8	11	16	19	6.0%	5.8%	-1.1%	3.1%	3.6%	1.8%
Agriculture	6	9	11	14	16	18	20	4.5%	2.1%	2.4%	1.5%	1.4%	1.0%
Transport	27	44	61	82	90	104	110	4.9%	3.3%	3.0%	1.0%	1.4%	0.6%
Other	5	11	19	33	42	52	60	8.8%	5.9%	5.8%	2.3%	2.2%	1.3%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	21	41	72	69	63	55	48	6.8%	5.8%	-0.4%	-0.9%	-1.4%	-1.2%
Coal	3	5	5	5	7	10	14	4.9%	0.4%	-0.2%	2.4%	3.6%	3.8%
Oil	3	9	19	18	11	5	2	11.0%	7.9%	-0.9%	-4.9%	-8.2%	-10.2%
Natural gas	5	17	30	28	21	14	7	11.9%	6.0%	-0.8%	-2.8%	-3.7%	-6.6%
Biomass	9	10	17	16	19	19	18	0.7%	5.8%	-1.0%	2.3%	0.0%	-0.7%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	15.1%	9.4%
Hydro	0	1	0	1	1	1	1	1.9%	-0.8%	2.3%	0.5%	0.4%	0.4%
Other renewables	0	0	0	3	5	5	4	n.s.	6.4%	n.s.	6.0%	1.1%	-2.0%
Net Imports	15	26	40	80	107	142	166						
Coal	1	2	11	15	15	18	22						
Oil	15	23	26	45	52	61	64						
Natural gas	0	1	3	15	36	59	77						
Biomass	0	0	0	3	1	2	1						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	37	68	113	149	170	196	214	6.3%	5.2%	2.9%	1.3%	1.5%	0.9%
Coal	4	8	16	20	22	27	36	7.1%	7.9%	2.2%	0.8%	2.2%	2.7%
Oil	18	32	45	63	63	66	65	5.8%	3.5%	3.4%	0.0%	0.4%	-0.1%
Natural gas	5	17	33	43	57	73	85	13.3%	6.6%	2.6%	3.0%	2.6%	1.5%
Biomass	9	10	17	19	21	21	19	0.7%	5.8%	0.9%	1.1%	0.2%	-1.2%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	15.1%	9.4%
Hydro	0	1	0	1	1	1	1	1.9%	-0.8%	2.3%	0.5%	0.4%	0.4%
Other renewables	0	0	0	3	5	5	4	n.s.	6.4%	n.s.	6.0%	1.1%	-2.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	37	68	113	149	170	196	214	6.3%	5.2%	2.9%	1.3%	1.5%	0.9%
Energy for Power Generation	9	20	33	36	41	53	66	8.0%	4.9%	1.1%	1.1%	2.8%	2.1%
Other Energy Transformation & Losses	2	4	8	18	23	28	33	7.9%	8.1%	7.9%	2.4%	2.2%	1.6%
Final consumption	29	51	85	112	127	141	148	5.8%	5.2%	2.8%	1.2%	1.1%	0.4%
Steel, Non-Met. Minerals and Chem.	2	6	12	16	18	18	18	8.4%	7.8%	2.9%	1.2%	0.2%	-0.1%
Other Industry	6	12	15	20	24	26	26	6.5%	2.4%	3.1%	1.8%	1.0%	0.0%
Non-Energy Use	0	6	18	26	28	29	27	29.3%	12.4%	3.8%	0.7%	0.1%	-0.7%
Residential	8	8	11	12	13	14	14	0.2%	3.9%	0.9%	0.6%	0.6%	0.1%
Services	1	3	6	7	9	13	18	8.2%	6.1%	1.6%	3.1%	4.2%	2.9%
Agriculture	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.5%	1.4%	1.0%
Road	9	14	19	26	29	34	37	5.3%	3.0%	3.1%	1.1%	1.6%	0.9%
Rail	0	0	0	0	0	0	0	-0.6%	-1.1%	1.4%	1.1%	1.2%	0.9%
Aviation	0	0	0	1	1	1	1	n.s.	n.s.	4.4%	0.5%	0.6%	0.1%
Other Transport	0	0	0	0	0	0	0	-16.2%	2.7%	8.8%	2.2%	1.6%	0.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Thailand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	20	32	33	35	47	58	8.2%	5.0%	0.3%	0.6%	2.8%	2.3%
Coal	3	4	7	8	10	15	23	5.0%	5.2%	2.0%	1.5%	4.4%	4.5%
Oil	3	2	0	1	0	1	3	-0.8%	-19.6%	13.7%	-29.2%	47.7%	7.9%
Gas	4	13	23	21	21	25	30	12.8%	5.9%	-0.7%	0.1%	1.7%	1.8%
Biomass & Waste	0	0	2	3	4	5	2	n.s.	17.5%	1.5%	4.4%	1.8%	-10.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	44	96	160	196	230	299	361	8.1%	5.2%	2.1%	1.6%	2.6%	1.9%
Coal	11	18	30	30	37	61	98	4.9%	5.4%	0.1%	2.0%	5.1%	4.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	10	10	1	4	0	7	14	-0.3%	-19.3%	13.7%	-29.2%	47.6%	8.0%
Gas	18	62	119	116	117	143	176	13.2%	6.8%	-0.3%	0.1%	2.0%	2.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	3	9	14	17	6	n.s.	20.9%	10.3%	4.5%	2.0%	-9.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	1	4	10	n.s.	n.s.	n.s.	n.s.	15.2%	9.5%
Hydro	5	6	6	7	7	8	8	1.9%	-0.8%	2.3%	0.5%	0.4%	0.4%
Wind	0	0	0	20	27	27	19	n.s.	n.s.	n.s.	3.1%	0.1%	-3.2%
Solar	0	0	0	10	27	32	29	n.s.	n.s.	n.s.	10.3%	2.0%	-1.1%
Other	0	0	0	0	0	0	0	7.2%	2.4%	1.7%	26.1%	15.7%	10.9%
Generation Capacity (GW_e)	10	27	41	68	85	92	88	10.9%	4.2%	5.2%	2.2%	0.7%	-0.4%
Coal	1	3	4	5	6	9	14	5.7%	4.3%	1.9%	2.3%	3.9%	4.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	6	10	8	7	4	5	7.0%	5.6%	-2.1%	-2.0%	-5.2%	1.7%
Gas	3	15	21	25	26	28	29	17.7%	3.4%	1.7%	0.3%	0.9%	0.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	3	3	3	1	n.s.	9.8%	12.1%	0.4%	-2.5%	-10.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	15.0%	9.3%
Hydro	2	3	5	6	7	7	7	3.5%	3.9%	2.9%	0.5%	0.4%	0.4%
Wind	0	0	0	13	18	18	10	n.s.	n.s.	n.s.	2.8%	0.0%	-5.7%
Solar	0	0	0	7	19	23	20	n.s.	n.s.	n.s.	10.0%	1.9%	-1.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.2%	10.4%
Total Final Consumption² (Mtoe)	29	51	85	112	127	141	148	5.8%	5.2%	2.8%	1.2%	1.1%	0.4%
Coal	1	4	9	12	12	12	13	10.3%	10.0%	2.6%	0.3%	0.1%	0.1%
Oil	15	29	44	58	59	60	58	6.9%	4.2%	2.9%	0.1%	0.2%	-0.4%
Gas	0	2	5	11	21	29	33	27.0%	11.8%	8.8%	7.1%	3.3%	1.1%
Electricity	3	8	13	16	19	24	29	8.7%	5.4%	2.4%	1.6%	2.5%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	9	9	14	15	15	15	15	0.2%	4.4%	0.5%	0.0%	-0.3%	0.2%
Share of Renewables ³ (%)	31%	20%	21%	21%	21%	20%	18%	-4.2%	0.5%	-0.2%	0.2%	-0.8%	-0.8%
Industry (incl. non-energy use)	9	23	45	62	69	73	71	9.6%	6.9%	3.3%	1.2%	0.5%	-0.3%
Coal	1	4	9	12	12	12	13	10.3%	10.0%	2.6%	0.3%	0.1%	0.1%
Oil	3	10	20	28	25	22	18	12.1%	7.1%	3.5%	-1.0%	-1.5%	-2.2%
Gas	0	2	3	8	17	23	25	27.0%	7.6%	10.0%	8.0%	3.0%	0.6%
Electricity	2	3	5	7	8	9	9	8.4%	4.7%	2.2%	1.1%	1.4%	0.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	4	7	7	7	6	6	4.0%	5.0%	0.0%	-0.4%	-0.6%	0.0%
Buildings	9	11	17	19	22	27	32	1.9%	4.6%	1.1%	1.5%	2.2%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	2	2	1	1	6.0%	5.8%	-2.9%	-3.1%	-2.2%	-2.0%
Gas	0	0	0	1	3	5	7	n.s.	n.s.	n.s.	16.0%	6.7%	2.8%
Electricity	2	4	7	9	11	15	19	8.9%	6.0%	2.5%	1.7%	3.0%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	5	7	7	7	6	5	-2.1%	2.9%	0.2%	-0.2%	-1.1%	-1.0%
Agriculture	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.5%	1.4%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.5%	1.4%	1.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	4.8%	8.1%	4.9%	2.5%	2.4%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	9	15	20	27	30	35	38	4.9%	3.1%	3.1%	1.1%	1.6%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	15	18	24	27	31	33	4.9%	2.0%	3.0%	1.3%	1.5%	0.5%
Gas	0	0	1	2	1	1	1	n.s.	n.s.	2.9%	-5.4%	-2.0%	2.7%
Electricity	0	0	0	0	0	1	1	n.s.	6.6%	13.4%	22.6%	11.3%	6.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	1	2	2	3	n.s.	n.s.	6.5%	3.7%	3.0%	3.4%
Other Energy Transformation & Losses⁴	2	4	8	18	23	28	33	7.9%	8.1%	7.9%	2.4%	2.2%	1.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Vietnam	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	68	80	88	98	105	110	113	1.6%	1.0%	1.1%	0.7%	0.4%	0.3%
GDP per capita (ppp, k\$'05)	1	2	3	5	8	12	16	5.8%	5.6%	4.9%	4.9%	4.1%	3.3%
GDP per capita (mer, k\$'05)	0	1	1	1	2	3	5	5.8%	5.6%	4.9%	4.9%	4.1%	3.3%
Share Value Added - Agriculture (%)	39	23	18	15	13	12	11	-5.2%	-2.1%	-1.9%	-1.6%	-0.8%	-0.5%
Share Value Added - Industry (%)	23	34	32	34	34	32	30	4.2%	-0.6%	0.5%	-0.1%	-0.5%	-0.7%
Share Value Added - Services (%)	39	43	50	51	53	56	59	1.1%	1.4%	0.3%	0.5%	0.5%	0.5%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	31	34	-7.8%	10.3%	1.0%	1.6%	1.7%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	112	100	273	404	514	651	764	-1.1%	10.5%	4.0%	2.4%	2.4%	1.6%
Total GHG (excl. sinks)	112	144	288	416	530	673	793	2.6%	7.2%	3.7%	2.4%	2.4%	1.7%
Total GHG (energy, industry, agriculture)	89	144	287	416	526	662	775	4.9%	7.2%	3.8%	2.4%	2.3%	1.6%
CO ₂	20	52	147	252	352	467	562	10.0%	11.0%	5.5%	3.4%	2.9%	1.9%
CH ₄	59	74	109	118	121	133	144	2.3%	4.0%	0.8%	0.2%	1.0%	0.8%
N ₂ O	10	18	31	46	54	62	68	5.7%	5.4%	4.0%	1.6%	1.4%	1.0%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	36	78	204	304	401	524	629	8.2%	10.0%	4.1%	2.8%	2.7%	1.8%
CO₂ Emissions from Fuel Comb.	17	44	124	214	295	395	480	9.9%	10.9%	5.6%	3.3%	3.0%	2.0%
Power generation/District heating	5	11	41	87	136	199	256	9.0%	13.7%	7.9%	4.5%	3.9%	2.5%
Industry	6	14	41	65	81	92	98	9.9%	11.1%	4.8%	2.2%	1.2%	0.6%
Buildings	2	7	11	13	19	27	34	12.9%	5.4%	1.4%	4.0%	3.5%	2.2%
Agriculture	1	1	2	2	3	3	3	5.0%	3.8%	1.7%	2.3%	1.8%	1.4%
Transport	4	11	28	42	51	67	80	9.8%	10.4%	4.0%	2.0%	2.7%	1.8%
Other	0	0	1	4	5	7	9	8.4%	45.6%	14.4%	1.6%	2.8%	2.7%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	17	39	65	62	53	57	63	8.4%	5.3%	-0.4%	-1.6%	0.8%	0.9%
Coal	2	7	25	13	1	0	0	10.3%	14.5%	-6.6%	-26.5%	n.s.	n.s.
Oil	3	16	16	19	18	17	15	20.0%	-0.5%	1.8%	-0.4%	-0.5%	-1.1%
Natural gas	0	1	8	9	12	16	20	44.5%	19.4%	1.7%	2.3%	3.1%	2.2%
Biomass	12	13	14	15	16	16	17	1.2%	0.3%	0.8%	0.4%	0.4%	0.8%
Nuclear ¹	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	12.5%
Hydro	0	1	2	5	5	5	5	10.5%	6.6%	7.8%	0.0%	0.1%	0.2%
Other renewables	0	0	0	1	2	3	4	n.s.	n.s.	n.s.	4.3%	2.3%	2.6%
Net Imports	0	-11	-7	25	64	94	118						
Coal	0	-2	-11	15	38	50	64						
Oil	0	-9	3	6	10	18	24						
Natural gas	0	0	0	4	15	26	29						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	17	28	58	87	117	152	181	4.9%	7.6%	4.2%	2.9%	2.6%	1.8%
Coal	2	4	15	28	38	50	64	7.0%	12.9%	6.8%	3.1%	2.8%	2.5%
Oil	3	8	19	24	29	35	40	11.2%	9.1%	2.7%	1.6%	2.1%	1.2%
Natural gas	0	1	8	13	27	42	49	n.s.	21.9%	4.9%	7.5%	4.4%	1.6%
Biomass	12	13	14	15	16	16	17	1.2%	0.3%	0.9%	0.3%	0.4%	0.8%
Nuclear ¹	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	12.5%
Hydro	0	1	2	5	5	5	5	10.5%	6.6%	7.8%	0.0%	0.1%	0.2%
Other renewables	0	0	0	1	2	3	4	n.s.	n.s.	n.s.	4.3%	2.3%	2.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	17	28	58	87	117	152	181	4.9%	7.6%	4.2%	2.9%	2.6%	1.8%
Energy for Power Generation	2	5	16	32	47	67	85	10.7%	12.8%	7.3%	3.8%	3.6%	2.3%
Other Energy Transformation & Losses	0	0	1	-1	0	2	4	n.s.	n.s.	n.s.	n.s.	19.4%	8.6%
Final consumption	16	25	48	70	90	111	128	4.6%	6.8%	3.9%	2.4%	2.2%	1.4%
Steel, Non-Met. Minerals and Chem.	0	0	6	13	16	21	24	n.s.	n.s.	7.8%	2.5%	2.5%	1.4%
Other Industry	5	8	11	17	24	30	33	5.7%	3.8%	4.4%	3.4%	2.0%	1.0%
Non-Energy Use	0	0	2	3	4	4	4	16.9%	32.8%	2.0%	3.0%	1.2%	0.6%
Residential	10	12	16	19	20	22	23	2.4%	2.9%	1.5%	0.7%	0.8%	0.4%
Services	0	1	2	3	5	8	11	12.6%	4.8%	4.9%	5.6%	5.0%	3.4%
Agriculture	0	0	1	1	1	1	2	5.4%	3.8%	3.0%	2.6%	2.1%	1.7%
Road	1	3	10	15	19	25	31	10.3%	11.4%	4.1%	2.3%	3.0%	2.2%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	1.4%	3.9%	3.0%	1.1%	1.0%	0.5%
Other Transport	0	0	0	0	0	0	0	17.8%	8.3%	-3.1%	4.2%	2.8%	1.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Vietnam	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	1	4	14	26	40	59	74	10.8%	14.4%	6.6%	4.4%	3.9%	2.3%
Coal	1	1	5	16	25	37	51	2.6%	15.5%	12.4%	5.0%	3.9%	3.1%
Oil	0	1	1	2	1	2	3	13.1%	-1.2%	3.0%	-0.8%	5.0%	1.5%
Gas	0	1	8	9	13	19	20	n.s.	21.4%	1.4%	4.0%	3.8%	0.4%
Biomass & Waste	0	0	0	0	0	0	0	1	n.s.	5.7%	18.0%	12.9%	8.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.5%	0.6%	0.2%
Gross Elec. Generation (TWh_e)	9	27	95	188	259	361	447	11.8%	13.6%	7.1%	3.3%	3.4%	2.2%
Coal	2	3	20	66	111	164	225	4.6%	20.2%	12.9%	5.2%	4.0%	3.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	5	3	7	6	11	12	13.2%	-2.8%	7.5%	-0.8%	5.0%	1.6%
Gas	0	4	44	49	73	107	113	n.s.	26.1%	1.1%	4.0%	3.9%	0.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	1	2	6	n.s.	n.s.	6.0%	20.3%	13.7%	9.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	n.s.	12.7%
Hydro	5	15	28	58	58	59	60	10.5%	6.6%	7.8%	0.0%	0.1%	0.2%
Wind	0	0	0	5	6	10	13	n.s.	n.s.	58.1%	2.2%	4.7%	3.5%
Solar	0	0	0	1	2	4	9	n.s.	n.s.	n.s.	13.2%	6.8%	8.2%
Other	0	0	0	1	2	2	2	n.s.	n.s.	n.s.	4.6%	1.0%	1.1%
Generation Capacity (GW_e)	2	6	20	49	62	81	95	11.7%	11.7%	9.6%	2.4%	2.7%	1.7%
Coal	1	1	3	17	25	34	42	-1.0%	17.4%	18.5%	3.7%	3.1%	2.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	2	4	4	3	3	8.2%	2.2%	6.5%	0.5%	-1.0%	-0.8%
Gas	0	1	6	8	11	16	17	n.s.	19.4%	1.6%	3.6%	4.4%	0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	1	n.s.	n.s.	0.8%	20.1%	13.7%	9.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	12.4%
Hydro	1	3	8	15	15	15	15	16.6%	9.7%	6.6%	0.0%	0.1%	0.2%
Wind	0	0	0	5	5	8	8	n.s.	n.s.	n.s.	1.4%	3.5%	0.5%
Solar	0	0	0	0	2	3	7	n.s.	n.s.	n.s.	13.6%	7.1%	8.4%
Other	0	0	0	0	0	0	0	3.4%	0.0%	8.5%	4.5%	1.0%	0.9%
Total Final Consumption² (Mtoe)	16	25	48	70	90	111	128	4.6%	6.8%	3.9%	2.4%	2.2%	1.4%
Coal	1	3	10	13	13	13	13	9.2%	11.8%	2.6%	0.2%	0.1%	0.2%
Oil	2	7	17	24	28	33	37	10.8%	9.8%	3.5%	1.6%	1.7%	1.1%
Gas	0	0	0	5	14	23	29	n.s.	39.2%	25.1%	11.8%	4.9%	2.3%
Electricity	1	2	7	14	20	28	34	13.7%	14.5%	6.8%	3.3%	3.3%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.2%
Biomass & Other	12	13	14	15	15	15	15	1.2%	0.3%	0.8%	-0.1%	0.0%	0.2%
Share of Renewables ³ (%)	76%	58%	34%	29%	23%	20%	19%	-2.7%	-5.2%	-1.5%	-2.2%	-1.7%	-0.4%
Industry (incl. non-energy use)	5	8	20	33	45	55	61	5.7%	9.4%	5.3%	3.1%	2.1%	1.1%
Coal	1	2	8	11	12	12	12	8.5%	13.4%	3.3%	0.3%	0.2%	0.3%
Oil	0	2	4	6	7	7	6	13.2%	10.3%	3.3%	1.2%	-0.5%	-1.1%
Gas	0	0	0	4	10	15	17	n.s.	39.2%	23.0%	10.2%	3.9%	1.5%
Electricity	0	1	4	9	12	18	22	12.3%	17.7%	7.9%	3.8%	3.6%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	3	3	3	4	4	1.3%	-2.1%	1.8%	0.7%	0.9%	0.8%
Buildings	10	13	18	22	25	30	34	2.9%	3.1%	1.9%	1.5%	1.8%	1.3%
Coal	0	1	2	1	1	1	1	14.3%	6.2%	-1.3%	-0.3%	-0.6%	-0.9%
Oil	0	1	2	2	2	2	1	11.7%	4.6%	1.6%	-1.0%	-0.9%	-0.6%
Gas	0	0	0	1	4	7	11	n.s.	n.s.	n.s.	18.1%	7.2%	3.6%
Electricity	0	1	3	6	7	9	11	15.9%	12.1%	5.4%	2.2%	2.7%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.2%
Biomass & Other	9	10	11	12	11	10	9	1.2%	1.0%	0.5%	-0.7%	-0.9%	-1.1%
Agriculture	0	0	1	1	1	1	2	5.4%	3.8%	3.0%	2.6%	2.1%	1.7%
Coal	0	0	0	0	0	0	0	-9.4%	-2.0%	-0.7%	0.0%	0.0%	0.0%
Oil	0	0	1	1	1	1	1	8.8%	4.2%	1.8%	2.4%	1.9%	1.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	4.0%	3.5%	8.8%	3.4%	2.9%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	1	3	10	15	19	25	32	9.7%	11.2%	4.0%	2.3%	2.9%	2.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	3	10	15	18	24	28	9.9%	11.2%	4.0%	2.0%	2.6%	1.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.3%	7.7%	7.8%
Electricity	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	14.7%	8.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	22.1%	7.7%	6.9%
Other Energy Transformation & Losses⁴	0	0	1	-1	0	2	4	n.s.	n.s.	n.s.	n.s.	19.4%	8.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest South Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	262	333	398	468	531	585	626	2.4%	1.8%	1.6%	1.3%	1.0%	0.7%
GDP per capita (ppp, k\$'05)	1	1	2	3	5	8	12	1.9%	3.4%	3.8%	5.4%	5.2%	4.4%
GDP per capita (mer, k\$'05)	0	1	1	1	2	3	4	1.9%	3.4%	3.8%	5.4%	5.2%	4.4%
Share Value Added - Agriculture (%)	30	25	21	17	13	11	10	-1.7%	-1.9%	-2.0%	-2.8%	-1.6%	-0.9%
Share Value Added - Industry (%)	23	24	23	25	27	26	24	0.2%	-0.1%	0.7%	0.7%	-0.2%	-0.9%
Share Value Added - Services (%)	47	51	56	58	60	63	66	0.9%	0.9%	0.4%	0.4%	0.4%	0.5%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	27	29	-7.8%	10.3%	1.1%	1.0%	1.0%	0.7%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	439	537	662	865	1 225	1 622	1 970	2.0%	2.1%	2.7%	3.5%	2.9%	2.0%
Total GHG (excl. sinks)	439	537	662	865	1 225	1 622	1 970	2.0%	2.1%	2.7%	3.5%	2.9%	2.0%
Total GHG (energy, industry, agriculture)	341	444	606	812	1 182	1 579	1 934	2.7%	3.2%	3.0%	3.8%	2.9%	2.0%
CO ₂	82	146	234	399	680	989	1 260	6.0%	4.8%	5.5%	5.5%	3.8%	2.5%
CH ₄	216	245	307	340	419	493	562	1.3%	2.3%	1.0%	2.1%	1.7%	1.3%
N ₂ O	42	52	64	72	82	94	108	2.1%	2.2%	1.1%	1.3%	1.4%	1.4%
F gases	1	1	1	1	2	2	3	-2.1%	3.0%	2.4%	2.5%	3.2%	1.9%
Total GHG from Energy and Industry	144	231	353	556	921	1 312	1 654	4.8%	4.3%	4.6%	5.2%	3.6%	2.3%
CO₂ Emissions from Fuel Comb.	75	135	213	368	631	920	1 174	6.0%	4.7%	5.6%	5.5%	3.8%	2.5%
Power generation/District heating	20	45	67	122	166	251	344	8.4%	4.2%	6.1%	3.1%	4.2%	3.2%
Industry	20	28	50	62	131	187	230	3.6%	5.8%	2.2%	7.8%	3.6%	2.1%
Buildings	12	18	26	47	114	173	200	3.5%	4.1%	6.0%	9.4%	4.3%	1.5%
Agriculture	2	3	3	5	6	9	11	3.2%	2.8%	3.5%	3.1%	2.8%	2.3%
Transport	19	37	60	122	193	267	335	6.8%	4.8%	7.5%	4.7%	3.3%	2.3%
Other	2	5	7	11	20	33	54	10.4%	3.0%	5.3%	6.3%	5.0%	5.1%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	56	76	114	117	121	134	149	3.2%	4.1%	0.2%	0.4%	1.0%	1.1%
Coal	1	1	2	2	4	7	11	2.3%	5.1%	1.1%	5.7%	5.5%	4.0%
Oil	3	3	4	5	8	11	16	1.0%	2.2%	2.8%	3.7%	4.0%	3.8%
Natural gas	14	26	51	62	58	57	54	6.0%	7.2%	1.9%	-0.7%	-0.3%	-0.5%
Biomass	36	43	52	41	43	44	43	2.0%	1.7%	-2.3%	0.4%	0.2%	-0.1%
Nuclear ¹	0	1	1	1	2	4	8	21.2%	5.5%	5.1%	5.0%	6.2%	5.9%
Hydro	2	2	4	4	5	5	6	0.4%	7.0%	0.1%	1.0%	0.7%	1.0%
Other renewables	0	0	0	1	2	6	12	n.s.	n.s.	44.9%	13.5%	11.4%	7.7%
Net Imports	12	23	24	67	170	274	357						
Coal	1	1	4	9	16	29	48						
Oil	11	24	28	58	76	95	110						
Natural gas	-1	-2	-7	-2	77	149	197						
Biomass	0	0	0	2	1	0	0						
Biofuels	0	0	0	0	0	1	2						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	68	100	139	184	291	407	506	4.0%	3.3%	2.9%	4.7%	3.4%	2.2%
Coal	2	3	6	11	20	36	59	1.3%	8.6%	6.7%	6.1%	6.2%	5.0%
Oil	14	27	32	64	84	106	127	6.7%	1.6%	7.1%	2.8%	2.3%	1.8%
Natural gas	14	24	44	60	135	206	251	5.8%	6.3%	3.0%	8.5%	4.3%	2.0%
Biomass	36	43	52	43	43	44	43	2.0%	1.7%	-1.8%	0.1%	0.1%	-0.2%
Nuclear ¹	0	1	1	1	2	4	8	21.2%	5.5%	5.1%	5.0%	6.2%	5.9%
Hydro	2	2	4	4	5	5	6	0.4%	7.0%	0.1%	1.0%	0.7%	1.0%
Other renewables	0	0	0	1	2	6	12	n.s.	n.s.	44.9%	13.5%	11.4%	7.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	68	100	139	184	291	407	506	4.0%	3.3%	2.9%	4.7%	3.4%	2.2%
Energy for Power Generation	10	19	30	49	70	107	147	6.8%	4.9%	5.0%	3.6%	4.3%	3.2%
Other Energy Transformation & Losses	1	3	3	4	10	19	33	15.2%	0.1%	3.2%	10.0%	7.0%	5.4%
Final consumption	60	84	116	148	241	333	404	3.4%	3.3%	2.4%	5.0%	3.3%	2.0%
Steel, Non-Met. Minerals and Chem.	3	4	7	8	13	19	23	2.7%	5.0%	1.9%	4.8%	3.3%	2.0%
Other Industry	7	11	19	24	56	78	90	4.9%	5.3%	2.3%	8.9%	3.4%	1.4%
Non-Energy Use	4	5	5	6	10	13	15	4.2%	-0.4%	1.4%	5.7%	2.6%	1.3%
Residential	38	48	60	62	79	98	106	2.4%	2.3%	0.3%	2.5%	2.2%	0.8%
Services	1	2	3	5	10	17	25	5.0%	5.1%	3.7%	6.8%	6.0%	3.9%
Agriculture	1	1	2	3	4	5	7	2.0%	4.1%	3.3%	3.5%	3.2%	2.7%
Road	6	11	18	38	64	95	126	6.2%	5.5%	7.6%	5.4%	4.0%	2.9%
Rail	0	0	0	1	1	1	1	1.5%	0.4%	3.6%	1.9%	2.3%	2.1%
Aviation	0	1	1	1	3	5	8	16.1%	0.1%	3.3%	7.5%	6.9%	5.4%
Other Transport	0	0	1	1	1	2	3	5.2%	10.5%	2.9%	5.8%	4.9%	3.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	8	16	25	43	61	92	121	7.8%	4.5%	5.5%	3.5%	4.2%	2.8%
Coal	0	0	0	4	7	18	34	17.8%	12.7%	28.4%	7.3%	9.1%	6.7%
Oil	2	8	9	18	13	8	6	12.5%	2.0%	6.7%	-2.9%	-4.6%	-2.9%
Gas	5	8	16	21	40	66	80	4.8%	6.3%	3.2%	6.6%	5.0%	2.0%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	8.6%	3.8%	12.1%	8.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	52	95	157	249	387	643	907	6.2%	5.2%	4.7%	4.5%	5.2%	3.5%
Coal	0	0	1	13	32	87	176	20.3%	13.6%	31.6%	9.2%	10.4%	7.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	32	40	80	60	38	28	14.2%	2.3%	7.1%	-2.9%	-4.5%	-2.8%
Gas	19	36	64	94	208	373	461	6.4%	5.9%	4.0%	8.3%	6.0%	2.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	1	2	n.s.	n.s.	10.7%	6.4%	18.9%	9.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	3	6	10	18	32	21.2%	5.5%	5.3%	5.2%	6.5%	6.0%
Hydro	24	25	49	50	55	59	65	0.4%	7.0%	0.1%	1.0%	0.7%	1.0%
Wind	0	0	0	6	21	58	112	n.s.	33.3%	n.s.	12.6%	10.8%	6.8%
Solar	0	0	0	0	2	10	30	n.s.	n.s.	2.7%	32.1%	15.6%	12.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	22.2%	15.4%	11.8%
Generation Capacity (GW_e)	13	24	34	53	78	123	190	6.5%	3.7%	4.4%	4.0%	4.7%	4.4%
Coal	0	0	0	2	5	12	24	0.0%	10.7%	17.7%	8.1%	9.8%	7.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	5	7	14	14	12	12	4.7%	3.5%	7.2%	0.3%	-1.9%	0.5%
Gas	4	11	16	21	35	57	79	9.9%	3.6%	3.2%	5.1%	4.9%	3.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	5.8%	1.5%	18.1%	9.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	2	3	5	13.7%	0.0%	7.1%	5.0%	6.2%	5.8%
Hydro	5	7	11	12	13	14	15	3.7%	4.0%	0.8%	1.0%	0.7%	1.0%
Wind	0	0	0	3	8	20	37	n.s.	29.9%	51.2%	11.9%	10.0%	6.1%
Solar	0	0	0	0	2	6	18	n.s.	n.s.	9.4%	27.9%	13.4%	11.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	14.9%	11.3%
Total Final Consumption² (Mtoe)	60	84	116	148	241	333	404	3.4%	3.3%	2.4%	5.0%	3.3%	2.0%
Coal	2	2	5	7	12	18	24	0.3%	9.0%	2.9%	5.5%	4.0%	2.8%
Oil	11	19	22	44	69	95	118	5.0%	1.6%	7.4%	4.5%	3.3%	2.1%
Gas	8	14	27	36	89	130	153	5.7%	6.7%	3.0%	9.5%	3.8%	1.7%
Electricity	3	6	11	17	27	45	64	6.1%	6.5%	4.7%	4.5%	5.2%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	36	43	52	43	44	45	46	2.0%	1.7%	-1.7%	0.1%	0.2%	0.3%
Share of Renewables ³ (%)	64%	56%	49%	32%	21%	17%	17%	-1.4%	-1.4%	-4.1%	-4.2%	-1.9%	-0.4%
Industry (incl. non-energy use)	14	21	31	38	80	110	128	4.2%	4.0%	2.1%	7.6%	3.3%	1.5%
Coal	2	2	5	7	12	18	23	0.5%	8.5%	3.1%	5.7%	4.1%	2.8%
Oil	2	3	2	3	6	9	10	6.0%	-4.1%	3.8%	6.0%	4.0%	1.9%
Gas	6	9	15	17	39	53	62	4.7%	4.7%	1.0%	8.9%	3.2%	1.5%
Electricity	1	2	4	7	10	15	19	4.6%	7.4%	4.9%	4.8%	3.8%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	4	5	5	12	15	13	4.2%	1.9%	0.3%	9.7%	1.8%	-1.6%
Buildings	39	50	63	67	89	115	132	2.5%	2.5%	0.5%	2.9%	2.6%	1.3%
Coal	0	0	0	0	0	0	0	-11.7%	31.8%	-0.3%	-0.8%	-1.1%	-1.4%
Oil	2	2	2	3	4	5	6	-0.1%	-2.1%	3.5%	3.8%	3.3%	1.0%
Gas	2	4	8	16	43	66	77	7.8%	6.4%	7.0%	10.5%	4.4%	1.5%
Electricity	2	3	6	10	12	20	28	8.4%	6.0%	4.8%	2.5%	4.8%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	33	40	47	38	29	23	20	1.9%	1.7%	-2.0%	-2.7%	-2.2%	-1.4%
Agriculture	1	1	2	3	4	5	7	2.0%	4.1%	3.3%	3.5%	3.2%	2.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	2	3	3	3.1%	2.8%	3.6%	3.1%	2.8%	2.3%
Gas	0	0	0	0	0	0	0	n.s.	2.9%	0.9%	2.9%	2.6%	2.1%
Electricity	0	0	1	1	2	2	3	0.1%	6.0%	3.0%	4.0%	3.6%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	7	12	20	40	69	103	138	6.4%	5.1%	7.3%	5.4%	4.1%	3.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	12	17	37	57	79	98	6.3%	3.2%	8.3%	4.5%	3.3%	2.2%
Gas	0	0	3	3	7	10	13	n.s.	42.7%	-0.7%	7.6%	4.0%	3.1%
Electricity	0	0	0	0	3	8	14	-7.2%	n.s.	n.s.	39.7%	11.1%	6.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	7	13	n.s.	n.s.	n.s.	23.5%	10.6%	7.1%
Other Energy Transformation & Losses⁴	1	3	3	4	10	19	33	15.2%	0.1%	3.2%	10.0%	7.0%	5.4%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest South East Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	170	202	229	257	281	300	314	1.8%	1.3%	1.1%	0.9%	0.7%	0.4%
GDP per capita (ppp, k\$'05)	2	2	3	4	5	6	8	2.8%	4.1%	3.3%	1.9%	1.9%	2.1%
GDP per capita (mer, k\$'05)	1	1	2	2	3	3	4	3.1%	4.2%	3.4%	1.9%	1.9%	2.1%
Share Value Added - Agriculture (%)	12	7	6	5	5	4	4	-4.9%	-1.1%	-2.5%	-0.8%	-0.7%	-0.6%
Share Value Added - Industry (%)	34	34	29	26	26	26	26	0.3%	-1.6%	-1.4%	0.1%	0.0%	-0.1%
Share Value Added - Services (%)	55	58	64	69	70	70	70	0.7%	0.9%	0.8%	0.0%	0.0%	0.1%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	31	34	-7.8%	10.3%	1.0%	1.6%	1.7%	1.0%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	740	857	949	1 148	1 289	1 354	1 416	1.5%	1.0%	1.9%	1.2%	0.5%	0.5%
Total GHG (excl. sinks)	740	857	949	1 148	1 289	1 388	1 491	1.5%	1.0%	1.9%	1.2%	0.7%	0.7%
Total GHG (energy, industry, agriculture)	525	671	782	972	1 125	1 187	1 260	2.5%	1.5%	2.2%	1.5%	0.5%	0.6%
CO ₂	338	454	524	627	696	743	789	3.0%	1.4%	1.8%	1.1%	0.7%	0.6%
CH ₄	141	161	196	268	336	333	342	1.4%	2.0%	3.2%	2.3%	-0.1%	0.2%
N ₂ O	44	43	42	52	60	67	73	-0.1%	-0.3%	2.3%	1.3%	1.2%	0.9%
F gases	3	12	20	25	34	44	57	15.7%	5.3%	2.5%	2.9%	2.7%	2.6%
Total GHG from Energy and Industry	404	538	626	792	926	971	1 030	2.9%	1.5%	2.4%	1.6%	0.5%	0.6%
CO₂ Emissions from Fuel Comb.	310	430	496	592	647	684	724	3.3%	1.4%	1.8%	0.9%	0.6%	0.6%
Power generation/District heating	88	180	228	280	308	332	359	7.4%	2.4%	2.1%	1.0%	0.7%	0.8%
Industry	127	110	121	130	142	144	144	-1.4%	1.0%	0.7%	0.9%	0.1%	0.1%
Buildings	30	31	32	36	43	47	47	0.4%	0.3%	1.2%	1.8%	0.9%	0.0%
Agriculture	4	4	2	3	3	4	4	-0.6%	-5.7%	3.2%	1.2%	1.1%	1.0%
Transport	42	73	82	101	105	112	121	5.8%	1.2%	2.1%	0.4%	0.6%	0.8%
Other	19	31	30	42	44	46	49	5.1%	-0.5%	3.4%	0.6%	0.5%	0.5%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	84	88	121	353	524	336	257	0.6%	3.2%	11.3%	4.0%	-4.3%	-2.7%
Coal	27	20	40	244	353	138	53	-2.8%	7.0%	19.7%	3.8%	-9.0%	-9.1%
Oil	9	11	11	7	8	10	18	2.1%	-0.3%	-3.4%	1.1%	1.9%	6.2%
Natural gas	9	13	24	24	62	60	40	3.3%	6.4%	0.2%	9.8%	-0.3%	-3.9%
Biomass	22	21	23	52	55	64	63	-0.4%	0.9%	8.2%	0.6%	1.5%	0.0%
Nuclear ¹	9	10	11	11	12	19	22	1.6%	0.8%	-0.1%	0.7%	4.8%	1.5%
Hydro	3	3	3	3	4	4	4	0.2%	1.3%	0.8%	0.4%	0.7%	0.6%
Other renewables	5	10	9	12	31	42	56	7.9%	-1.4%	3.1%	10.0%	3.2%	2.9%
Net Imports	54	96	102	-79	-200	26	136						
Coal	15	34	28	-172	-278	-58	36						
Oil	44	66	70	95	86	80	70						
Natural gas	-5	-3	4	22	15	30	55						
Biomass	0	0	0	-24	-21	-25	-25						
Biofuels	0	0	0	0	-1	-2	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	137	185	223	274	324	362	393	3.0%	1.9%	2.1%	1.7%	1.1%	0.8%
Coal	43	54	69	71	75	80	89	2.5%	2.4%	0.4%	0.5%	0.7%	1.0%
Oil	53	77	81	102	94	90	89	3.8%	0.5%	2.4%	-0.8%	-0.4%	-0.2%
Natural gas	4	10	28	47	77	90	95	10.0%	11.0%	5.4%	5.1%	1.6%	0.6%
Biomass	22	21	23	28	33	39	39	-0.4%	0.9%	1.7%	1.9%	1.5%	0.0%
Nuclear ¹	9	10	11	11	12	19	22	1.6%	0.8%	-0.1%	0.7%	4.8%	1.5%
Hydro	3	3	3	3	4	4	4	0.2%	1.3%	0.8%	0.4%	0.7%	0.6%
Other renewables	5	10	9	12	31	42	56	7.9%	-1.4%	3.1%	10.0%	3.2%	2.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	137	185	223	274	324	362	393	3.0%	1.9%	2.1%	1.7%	1.1%	0.8%
Energy for Power Generation	42	76	93	115	146	172	196	6.1%	2.1%	2.1%	2.4%	1.6%	1.3%
Other Energy Transformation & Losses	7	12	12	12	16	20	20	5.1%	-0.5%	0.6%	2.8%	2.3%	0.0%
Final consumption	101	119	150	187	211	230	248	1.6%	2.4%	2.3%	1.2%	0.9%	0.7%
Steel, Non-Met. Minerals and Chem.	14	18	23	27	31	32	32	2.4%	2.4%	1.6%	1.5%	0.4%	0.1%
Other Industry	27	25	28	34	41	45	49	-0.9%	1.3%	1.7%	1.9%	1.1%	0.9%
Non-Energy Use	6	11	28	42	45	47	50	5.7%	9.8%	4.1%	0.8%	0.5%	0.5%
Residential	26	28	29	33	35	37	38	0.5%	0.6%	1.2%	0.6%	0.5%	0.2%
Services	9	11	14	18	21	26	31	2.0%	2.4%	2.3%	1.9%	2.0%	1.8%
Agriculture	1	1	1	1	2	2	2	-0.1%	-3.2%	3.3%	1.6%	1.5%	1.5%
Road	14	22	24	30	32	36	40	4.4%	0.8%	2.1%	0.9%	1.1%	1.1%
Rail	0	0	1	1	1	1	1	0.1%	11.0%	4.4%	0.9%	0.9%	0.9%
Aviation	1	1	1	1	1	1	1	5.4%	-4.5%	6.1%	1.8%	1.3%	0.4%
Other Transport	1	1	1	1	2	2	2	5.6%	-0.8%	1.1%	1.5%	0.8%	0.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South East Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	26	53	70	89	100	107	115	7.4%	2.9%	2.4%	1.2%	0.7%	0.7%
Coal	12	29	40	43	49	56	64	9.6%	3.1%	0.9%	1.2%	1.3%	1.4%
Oil	12	16	7	10	6	6	5	2.4%	-7.6%	3.6%	-5.0%	-0.8%	-0.2%
Gas	1	6	21	32	40	39	37	18.2%	12.9%	4.5%	2.3%	-0.3%	-0.7%
Biomass & Waste	0	1	2	2	2	3	4	11.5%	9.0%	-0.4%	1.0%	4.6%	2.5%
Other	0	1	1	1	3	4	4	7.8%	-1.6%	2.7%	10.0%	2.4%	1.6%
Gross Elec. Generation (TWh_e)	168	296	402	512	610	720	840	5.8%	3.1%	2.5%	1.8%	1.7%	1.5%
Coal	41	116	161	180	205	235	271	11.1%	3.3%	1.1%	1.3%	1.4%	1.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	53	67	29	45	27	25	24	2.3%	-8.0%	4.5%	-5.0%	-0.8%	-0.2%
Gas	3	28	117	182	232	232	215	23.7%	15.2%	4.5%	2.5%	0.0%	-0.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	1	2	5	5	6	12	18	13.8%	8.4%	-0.1%	1.7%	7.4%	4.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	33	39	42	41	44	73	87	1.6%	0.8%	-0.1%	0.7%	5.2%	1.7%
Hydro	32	32	37	40	42	45	47	0.2%	1.3%	0.8%	0.4%	0.7%	0.6%
Wind	0	0	1	3	8	23	53	n.s.	n.s.	11.7%	10.4%	10.6%	8.7%
Solar	0	0	0	4	13	33	73	n.s.	n.s.	n.s.	11.8%	9.8%	8.5%
Other	5	12	10	13	34	43	51	7.8%	-1.6%	2.7%	10.0%	2.5%	1.8%
Generation Capacity (GW_e)	41	69	103	116	135	169	199	5.2%	4.2%	1.2%	1.5%	2.3%	1.7%
Coal	11	22	35	38	40	45	42	7.3%	4.4%	0.9%	0.6%	1.2%	-0.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	19	12	12	10	6	5	4.1%	-4.5%	0.2%	-1.5%	-5.4%	-2.0%
Gas	2	7	30	35	39	45	37	16.5%	15.6%	1.4%	1.1%	1.5%	-2.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	1	1	1	2	2	23.2%	4.2%	-0.9%	-1.2%	6.7%	4.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	5	5	5	5	5	9	11	0.0%	0.2%	0.2%	0.7%	5.2%	1.7%
Hydro	10	13	18	18	19	20	21	2.3%	3.4%	0.1%	0.4%	0.7%	0.6%
Wind	0	0	1	2	5	13	26	n.s.	n.s.	13.8%	10.5%	9.6%	7.6%
Solar	0	0	0	4	11	24	48	n.s.	n.s.	35.7%	9.6%	8.1%	7.3%
Other	1	2	2	2	5	6	7	8.1%	0.2%	-0.2%	9.8%	1.9%	1.8%
Total Final Consumption² (Mtoe)	101	119	150	187	211	230	248	1.6%	2.4%	2.3%	1.2%	0.9%	0.7%
Coal	30	23	27	25	23	21	22	-2.7%	1.7%	-1.0%	-0.8%	-0.6%	0.1%
Oil	34	51	66	86	83	80	78	4.0%	2.5%	2.8%	-0.4%	-0.4%	-0.2%
Gas	1	2	4	12	32	45	53	5.5%	8.3%	10.7%	10.4%	3.4%	1.5%
Electricity	12	21	30	39	46	54	64	5.8%	3.5%	2.5%	1.8%	1.7%	1.6%
Heat	1	1	1	1	1	2	3	-2.9%	4.0%	1.3%	0.9%	4.8%	6.4%
Biomass & Other	22	21	22	25	26	28	28	-0.7%	0.5%	1.3%	0.6%	0.6%	0.3%
Share of Renewables ³ (%)	25%	21%	20%	19%	20%	22%	25%	-1.9%	-0.7%	-0.3%	0.3%	1.0%	1.5%
Industry (incl. non-energy use)	48	54	79	102	116	125	132	1.2%	3.9%	2.6%	1.3%	0.7%	0.6%
Coal	26	19	23	22	20	18	19	-2.8%	2.0%	-0.8%	-0.9%	-0.6%	0.2%
Oil	14	21	35	48	44	40	36	4.2%	5.2%	3.3%	-0.8%	-1.1%	-0.9%
Gas	1	1	3	9	25	35	40	6.6%	10.6%	12.1%	10.4%	3.5%	1.6%
Electricity	6	10	15	20	24	28	32	5.0%	3.6%	2.9%	2.2%	1.4%	1.2%
Heat	0	0	0	0	0	0	0	-3.6%	0.7%	0.5%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	2	2	3	3	3	4	7.7%	2.8%	1.7%	-0.2%	1.6%	2.5%
Buildings	36	39	43	51	57	63	69	0.9%	1.2%	1.6%	1.1%	1.1%	0.9%
Coal	5	4	4	3	3	3	3	-1.6%	0.4%	-2.0%	-0.3%	-0.6%	-0.9%
Oil	3	4	4	5	4	4	4	2.6%	-0.4%	2.4%	-1.9%	-1.1%	-0.7%
Gas	1	1	1	3	7	10	11	4.3%	3.4%	7.8%	10.2%	3.2%	0.8%
Electricity	5	11	14	18	20	24	29	6.9%	3.2%	2.1%	1.1%	1.9%	1.9%
Heat	1	0	1	1	1	2	3	-2.5%	5.3%	1.6%	1.2%	5.7%	7.1%
Biomass & Other	21	19	19	21	21	21	20	-1.2%	0.1%	1.0%	0.1%	-0.2%	-0.4%
Agriculture	1	1	1	1	2	2	2	-0.1%	-3.2%	3.3%	1.6%	1.5%	1.5%
Coal	0	0	0	0	0	0	0	-32.8%	12.8%	4.7%	0.0%	0.0%	0.0%
Oil	1	1	1	1	1	1	1	0.0%	-5.7%	3.2%	1.2%	1.1%	1.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	1	1	1	1	1.5%	4.7%	3.5%	2.2%	2.1%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	4.3%	7.0%	-1.5%	0.0%	0.0%	0.0%
Transport	16	25	26	33	36	41	45	4.4%	0.8%	2.3%	1.0%	1.1%	1.0%
Coal	0	0	0	0	0	0	0	-4.4%	n.s.	n.s.	0.0%	0.0%	0.0%
Oil	16	24	26	32	33	35	37	4.4%	0.5%	2.1%	0.4%	0.5%	0.7%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	0.6%	11.3%	5.4%	5.4%
Electricity	0	0	0	0	1	1	2	4.5%	15.0%	3.9%	6.4%	5.5%	3.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	2	4	4	n.s.	n.s.	14.1%	11.1%	5.7%	1.6%
Other Energy Transformation & Losses⁴	7	12	12	12	16	20	20	5.1%	-0.5%	0.6%	2.8%	2.3%	0.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Australia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	17	19	22	26	28	31	33	1.1%	1.5%	1.5%	1.1%	0.9%	0.8%
GDP per capita (ppp, k\$'05)	24	30	34	39	46	53	61	2.2%	1.5%	1.3%	1.6%	1.5%	1.3%
GDP per capita (mer, k\$'05)	25	31	36	41	48	56	64	2.2%	1.5%	1.3%	1.6%	1.5%	1.3%
Share Value Added - Agriculture (%)	5	3	2	2	2	2	2	-3.0%	-3.5%	-0.3%	-0.6%	-0.4%	-0.3%
Share Value Added - Industry (%)	31	27	27	26	25	23	21	-1.5%	0.1%	-0.3%	-0.7%	-0.7%	-0.7%
Share Value Added - Services (%)	64	70	71	71	73	75	77	0.9%	0.1%	0.1%	0.3%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	32	-7.8%	10.3%	1.2%	1.1%	1.1%	1.2%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	502	534	558	508	477	484	482	0.6%	0.4%	-0.9%	-0.6%	0.2%	-0.1%
Total GHG (excl. sinks)	540	549	581	515	482	515	550	0.2%	0.6%	-1.2%	-0.7%	0.6%	0.7%
Total GHG (energy, industry, agriculture)	408	482	536	500	466	485	507	1.7%	1.1%	-0.7%	-0.7%	0.4%	0.4%
CO ₂	265	342	394	374	354	366	382	2.6%	1.4%	-0.5%	-0.5%	0.3%	0.4%
CH ₄	110	107	102	88	79	85	89	-0.3%	-0.4%	-1.5%	-1.0%	0.7%	0.5%
N ₂ O	28	31	33	30	27	27	27	1.1%	0.5%	-0.8%	-1.2%	0.0%	0.2%
F gases	5	3	7	8	6	7	9	-6.6%	10.6%	0.6%	-2.4%	2.1%	1.7%
Total GHG from Energy and Industry	328	402	464	430	397	413	433	2.0%	1.5%	-0.8%	-0.8%	0.4%	0.5%
CO₂ Emissions from Fuel Comb.	250	325	375	356	334	344	359	2.6%	1.4%	-0.5%	-0.6%	0.3%	0.4%
Power generation/District heating	132	182	206	160	132	132	144	3.3%	1.2%	-2.5%	-1.9%	0.0%	0.9%
Industry	35	41	39	50	50	54	57	1.4%	-0.5%	2.5%	0.0%	0.9%	0.5%
Buildings	9	11	13	12	15	17	17	2.1%	1.8%	-0.5%	1.7%	1.3%	0.0%
Agriculture	3	4	6	7	7	6	6	2.2%	3.9%	1.0%	-0.5%	-0.6%	-0.7%
Transport	58	70	83	91	85	82	78	1.9%	1.7%	0.8%	-0.6%	-0.4%	-0.6%
Other	12	17	28	37	45	53	58	2.9%	5.3%	2.9%	2.9%	1.5%	0.9%
CO₂ captured (CCS)	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	17.7%	14.6%	11.4%
Coal	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	2.5%	21.7%	16.7%
Gas	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	42.7%	13.8%	9.0%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	3.2%	1.0%	6.7%
Energy Balance, by fuel (Mtoe)													
Primary Production	176	235	313	338	455	561	653	2.9%	2.9%	0.8%	3.0%	2.1%	1.5%
Coal	126	166	240	224	263	306	328	2.8%	3.7%	-0.7%	1.6%	1.5%	0.7%
Oil	28	35	23	22	34	37	36	2.2%	-4.0%	-0.5%	4.2%	0.7%	-0.2%
Natural gas	16	26	43	72	125	179	244	4.9%	5.1%	5.2%	5.6%	3.7%	3.1%
Biomass	4	5	4	14	23	25	26	2.4%	-1.7%	12.6%	5.2%	0.7%	0.4%
Nuclear ¹	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	29.5%	13.4%	8.8%
Hydro	1	1	1	1	2	1	2	1.2%	-2.1%	2.4%	0.3%	-0.1%	0.1%
Other renewables	0	0	1	4	8	12	15	0.9%	23.0%	19.1%	7.6%	3.7%	2.1%
Net Imports	-87	-126	-188	-208	-317	-408	-485						
Coal	-90	-118	-190	-188	-240	-286	-307						
Oil	4	-1	17	25	7	1	-1						
Natural gas	-2	-7	-15	-38	-72	-113	-168						
Biomass	0	0	0	-6	-11	-10	-8						
Biofuels	0	0	0	0	-1	-1	-1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	89	108	124	130	138	153	168	2.0%	1.4%	0.5%	0.6%	1.0%	0.9%
Coal	36	48	50	36	23	20	21	2.9%	0.3%	-3.3%	-4.2%	-1.6%	0.8%
Oil	33	34	40	48	41	38	34	0.5%	1.6%	1.7%	-1.4%	-0.8%	-1.0%
Natural gas	14	19	28	34	52	67	76	3.0%	4.0%	1.9%	4.2%	2.5%	1.3%
Biomass	4	5	4	8	12	15	18	2.4%	-1.7%	6.1%	4.3%	2.4%	2.1%
Nuclear ¹	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	29.5%	13.4%	8.8%
Hydro	1	1	1	1	2	1	2	1.2%	-2.1%	2.4%	0.3%	-0.1%	0.1%
Other renewables	0	0	1	4	8	12	15	0.9%	23.0%	19.1%	7.6%	3.7%	2.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	89	108	124	130	138	153	168	2.0%	1.4%	0.5%	0.6%	1.0%	0.9%
Energy for Power Generation	37	50	58	53	54	62	72	3.0%	1.6%	-1.0%	0.3%	1.3%	1.6%
Other Energy Transformation & Losses	5	3	7	10	15	20	24	-5.6%	9.8%	3.0%	4.3%	2.9%	1.8%
Final consumption	58	71	77	87	92	101	108	2.0%	0.9%	1.2%	0.6%	0.9%	0.7%
Steel, Non-Met. Minerals and Chem.	7	8	8	8	8	7	7	0.4%	0.5%	0.1%	-0.5%	-0.2%	-0.4%
Other Industry	13	17	16	21	24	27	29	2.8%	-1.0%	3.1%	1.0%	1.3%	0.9%
Non-Energy Use	4	4	5	5	5	5	6	1.2%	0.7%	1.1%	-0.3%	0.5%	0.4%
Residential	7	9	10	10	11	13	14	1.9%	1.3%	0.0%	1.0%	1.3%	0.9%
Services	3	5	7	7	9	12	14	3.8%	3.4%	0.4%	2.3%	2.3%	1.8%
Agriculture	1	2	2	2	3	3	3	2.1%	3.2%	1.1%	1.0%	0.9%	0.8%
Road	19	22	25	27	27	28	28	1.8%	1.0%	0.8%	-0.1%	0.3%	0.3%
Rail	1	1	1	1	1	1	1	0.9%	4.2%	1.2%	0.2%	0.2%	0.1%
Aviation	1	2	2	4	4	4	5	5.9%	2.8%	3.8%	1.6%	0.7%	0.4%
Other Transport	1	0	1	0	0	0	0	-3.9%	6.7%	-10.5%	1.4%	0.8%	0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Australia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	35	48	56	47	44	47	53	3.1%	1.6%	-1.8%	-0.7%	0.7%	1.3%
Coal	30	43	46	30	20	16	18	3.5%	0.6%	-4.0%	-4.2%	-1.9%	0.7%
Oil	1	1	1	2	1	1	1	-5.7%	4.5%	7.9%	-5.2%	-2.2%	3.6%
Gas	3	4	9	14	21	28	32	1.6%	8.6%	4.3%	4.2%	2.6%	1.3%
Biomass & Waste	1	1	1	1	2	2	3	-0.2%	0.5%	1.6%	6.7%	2.8%	3.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	155	210	252	256	305	376	446	3.1%	1.8%	0.2%	1.8%	2.1%	1.7%
Coal	121	174	181	119	77	65	72	3.7%	0.4%	-4.1%	-4.2%	-1.6%	1.0%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	21.3%
Oil	4	2	4	7	4	3	5	-6.7%	9.3%	4.8%	-5.1%	-1.8%	3.8%
Gas	14	16	45	68	106	142	166	1.2%	10.8%	4.1%	4.5%	3.0%	1.5%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
Biomass & Waste	1	1	3	3	6	9	14	4.2%	9.4%	0.9%	7.9%	3.7%	4.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	1	4	10	n.s.	n.s.	n.s.	30.6%	13.6%	8.8%
Hydro	15	17	14	17	18	17	18	1.2%	-2.1%	2.4%	0.3%	-0.1%	0.1%
Wind	0	0	5	31	73	110	130	n.s.	56.3%	19.8%	9.0%	4.2%	1.7%
Solar	0	0	0	12	20	24	31	13.6%	22.3%	44.6%	5.6%	1.8%	2.6%
Other	0	0	0	0	0	0	1	n.s.	n.s.	14.3%	29.4%	15.2%	12.1%
Generation Capacity (GW_e)	38	46	60	74	87	102	115	1.9%	2.6%	2.1%	1.7%	1.6%	1.2%
Coal	24	27	30	24	15	13	12	0.9%	1.2%	-2.1%	-4.5%	-1.6%	-0.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	21.2%
Oil	2	4	2	2	2	1	1	9.3%	-5.9%	0.5%	0.0%	-4.2%	-0.3%
Gas	4	6	16	18	22	27	31	4.6%	10.5%	0.9%	2.2%	2.1%	1.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Biomass & Waste	0	0	1	0	1	1	2	4.5%	4.0%	-1.1%	7.0%	3.4%	4.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	30.4%	13.4%	8.6%
Hydro	8	9	9	9	9	9	9	1.0%	-0.5%	0.1%	0.3%	-0.1%	0.1%
Wind	0	0	2	10	21	31	36	n.s.	49.7%	18.3%	8.0%	3.8%	1.4%
Solar	0	0	0	10	16	18	22	13.6%	22.3%	48.7%	5.1%	1.2%	2.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	14.7%	11.6%
Total Final Consumption² (Mtoe)	58	71	77	87	92	101	108	2.0%	0.9%	1.2%	0.6%	0.9%	0.7%
Coal	6	5	4	5	3	4	4	-0.4%	-2.1%	1.8%	-3.8%	0.2%	0.5%
Oil	29	35	39	44	39	36	32	1.8%	1.1%	1.1%	-1.2%	-0.8%	-1.0%
Gas	9	11	12	13	19	24	27	2.5%	1.0%	0.8%	3.7%	2.0%	1.2%
Electricity	11	15	18	18	22	27	32	2.9%	1.9%	0.2%	1.9%	2.1%	1.7%
Heat	0	0	0	0	0	1	1	0.0%	11.9%	5.2%	1.2%	4.0%	4.9%
Biomass & Other	3	4	3	6	8	10	12	2.9%	-2.6%	6.0%	3.2%	2.1%	1.9%
Share of Renewables ³ (%)	8%	8%	7%	13%	21%	26%	30%	0.2%	-1.8%	6.7%	4.7%	2.2%	1.4%
Industry (incl. non-energy use)	24	29	29	35	37	40	42	1.9%	-0.3%	2.0%	0.5%	0.9%	0.6%
Coal	5	5	4	5	3	4	4	-0.2%	-2.1%	1.9%	-3.7%	0.2%	0.5%
Oil	6	8	7	10	8	7	6	1.8%	-0.3%	2.6%	-2.2%	-1.1%	-1.1%
Gas	6	8	8	9	13	16	17	2.1%	0.9%	1.4%	3.2%	1.8%	0.9%
Electricity	5	7	7	7	8	10	11	2.7%	0.4%	0.3%	1.7%	1.8%	1.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	4	4	4	4	5.2%	-3.3%	7.5%	1.1%	-0.3%	0.4%
Buildings	11	14	17	18	21	25	28	2.5%	2.1%	0.1%	1.6%	1.8%	1.3%
Coal	0	0	0	0	0	0	0	-10.4%	-3.9%	-3.4%	-7.0%	-7.3%	-7.5%
Oil	1	1	1	1	1	2	2	0.4%	4.1%	1.5%	0.9%	2.0%	0.4%
Gas	3	4	4	4	5	5	5	3.1%	1.3%	-1.2%	2.1%	1.1%	-0.2%
Electricity	6	8	11	11	12	14	16	3.2%	3.1%	-0.1%	1.1%	1.7%	1.6%
Heat	0	0	0	0	0	1	1	0.0%	11.9%	5.2%	1.2%	4.0%	4.9%
Biomass & Other	2	2	1	2	3	3	4	0.6%	-2.9%	3.0%	3.5%	2.8%	1.7%
Agriculture	1	2	2	2	3	3	3	2.1%	3.2%	1.1%	1.0%	0.9%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	2	2	2.2%	3.9%	0.9%	-0.5%	-0.6%	-0.7%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	21.5%	-0.2%	-0.3%	-0.4%
Electricity	0	0	0	0	0	0	1	2.0%	-2.0%	0.7%	3.7%	3.1%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.4%	5.9%	3.4%
Transport	21	25	29	32	32	34	35	1.9%	1.4%	0.9%	0.2%	0.4%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	21	25	28	31	28	25	23	1.8%	1.3%	0.8%	-1.0%	-0.8%	-1.1%
Gas	0	0	0	0	2	3	5	24.9%	-1.0%	14.9%	19.3%	5.0%	4.1%
Electricity	0	0	0	0	2	3	4	2.6%	5.4%	3.4%	13.2%	5.9%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	8.5%	10.2%	5.7%	4.0%
Other Energy Transformation & Losses⁴	5	3	7	10	15	20	24	-5.6%	9.8%	3.0%	4.3%	2.9%	1.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Japan	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	122	126	127	125	120	114	107	0.3%	0.1%	-0.2%	-0.4%	-0.5%	-0.6%
GDP per capita (ppp, k\$'05)	27	29	31	34	38	44	51	0.8%	0.6%	0.8%	1.2%	1.5%	1.5%
GDP per capita (mer, k\$'05)	32	34	37	40	45	52	60	0.8%	0.6%	0.8%	1.2%	1.5%	1.5%
Share Value Added - Agriculture (%)	2	2	1	1	1	1	1	-2.8%	-2.9%	-0.3%	-0.6%	-0.6%	-0.5%
Share Value Added - Industry (%)	38	31	28	27	27	27	27	-2.0%	-1.2%	-0.2%	0.0%	0.0%	0.0%
Share Value Added - Services (%)	60	67	71	72	72	72	72	1.2%	0.6%	0.1%	0.0%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	27	29	-7.8%	10.3%	1.2%	0.7%	1.0%	0.9%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 058	1 139	1 067	942	911	876	799	0.7%	-0.6%	-1.2%	-0.3%	-0.4%	-0.9%
Total GHG (excl. sinks)	1 133	1 228	1 142	984	911	879	804	0.8%	-0.7%	-1.5%	-0.8%	-0.4%	-0.9%
Total GHG (energy, industry, agriculture)	1 125	1 224	1 140	983	907	850	789	0.9%	-0.7%	-1.5%	-0.8%	-0.7%	-0.7%
CO ₂	1 037	1 146	1 089	933	857	798	736	1.0%	-0.5%	-1.5%	-0.8%	-0.7%	-0.8%
CH ₄	32	26	21	20	20	19	18	-2.2%	-2.3%	-0.3%	-0.2%	-0.3%	-0.4%
N ₂ O	30	28	21	19	18	17	16	-0.8%	-2.8%	-0.8%	-0.8%	-0.6%	-0.5%
F gases	26	25	9	11	13	16	19	-0.2%	-10.2%	2.7%	1.8%	1.7%	1.6%
Total GHG from Energy and Industry	1 096	1 199	1 115	958	883	825	765	0.9%	-0.7%	-1.5%	-0.8%	-0.7%	-0.8%
CO₂ Emissions from Fuel Comb.	950	1 061	1 022	867	795	741	682	1.1%	-0.4%	-1.6%	-0.9%	-0.7%	-0.8%
Power generation/District heating	333	383	431	358	360	361	354	1.4%	1.2%	-1.8%	0.1%	0.0%	-0.2%
Industry	200	185	157	143	129	116	105	-0.8%	-1.6%	-0.9%	-1.0%	-1.1%	-1.0%
Buildings	143	177	156	122	102	88	75	2.1%	-1.3%	-2.5%	-1.7%	-1.5%	-1.6%
Agriculture	21	16	10	10	10	11	11	-2.6%	-4.3%	-0.4%	0.3%	0.4%	0.4%
Transport	213	260	229	193	156	128	98	2.0%	-1.2%	-1.7%	-2.1%	-2.0%	-2.7%
Other	40	40	39	40	36	37	40	0.1%	-0.3%	0.3%	-1.1%	0.2%	0.8%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	76	107	101	90	104	117	128	3.5%	-0.7%	-1.2%	1.5%	1.1%	1.0%
Coal	4	2	0	0	0	0	0	-9.0%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	0	0	0	0	1.3%	-0.7%	-3.9%	0.1%	-0.6%	-1.7%
Natural gas	2	2	3	2	1	0	0	1.5%	3.0%	-5.2%	-8.9%	-9.0%	-11.4%
Biomass	5	6	10	10	15	18	23	1.6%	5.5%	-0.2%	4.5%	2.1%	2.5%
Nuclear ¹	54	85	76	58	57	55	51	4.8%	-1.1%	-2.8%	0.0%	-0.5%	-0.7%
Hydro	8	8	8	8	9	9	9	0.1%	-0.7%	0.4%	0.7%	0.1%	0.1%
Other renewables	3	4	3	12	22	34	45	3.4%	-1.1%	13.7%	6.3%	4.4%	2.7%
Net Imports	363	413	400	350	327	302	280						
Coal	73	96	115	105	110	115	112						
Oil	243	254	202	160	122	99	78						
Natural gas	47	63	83	82	87	75	75						
Biomass	0	0	0	3	8	12	14						
Biofuels	0	0	0	0	0	1	2						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	439	521	500	439	431	419	409	1.7%	-0.4%	-1.3%	-0.2%	-0.3%	-0.3%
Coal	77	97	115	105	110	115	112	2.4%	1.7%	-0.9%	0.4%	0.5%	-0.3%
Oil	243	255	202	160	123	99	78	0.5%	-2.3%	-2.3%	-2.6%	-2.1%	-2.4%
Natural gas	49	66	86	83	87	76	75	2.9%	2.7%	-0.3%	0.5%	-1.4%	-0.1%
Biomass	5	6	10	13	23	30	37	1.6%	5.5%	2.8%	6.1%	2.7%	2.2%
Nuclear ¹	54	85	76	58	57	55	51	4.8%	-1.1%	-2.8%	0.0%	-0.5%	-0.7%
Hydro	8	8	8	8	9	9	9	0.1%	-0.7%	0.4%	0.7%	0.1%	0.1%
Other renewables	3	4	3	12	22	34	45	3.4%	-1.1%	13.7%	6.3%	4.4%	2.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	439	521	500	439	431	419	409	1.7%	-0.4%	-1.3%	-0.2%	-0.3%	-0.3%
Energy for Power Generation	174	222	230	199	210	214	221	2.4%	0.4%	-1.4%	0.6%	0.2%	0.3%
Other Energy Transformation & Losses	15	20	16	12	11	12	14	3.2%	-2.1%	-2.6%	-0.7%	0.8%	1.0%
Final consumption	316	362	342	309	298	289	280	1.4%	-0.6%	-1.0%	-0.4%	-0.3%	-0.3%
Steel, Non-Met. Minerals and Chem.	62	62	60	60	57	50	42	0.0%	-0.3%	0.1%	-0.5%	-1.4%	-1.7%
Other Industry	52	51	42	35	36	38	40	-0.2%	-1.8%	-1.8%	0.3%	0.5%	0.6%
Non-Energy Use	39	46	45	41	41	42	43	1.5%	-0.3%	-0.8%	-0.2%	0.3%	0.3%
Residential	38	49	50	40	39	38	38	2.5%	0.2%	-2.1%	-0.4%	-0.1%	-0.1%
Services	45	62	64	61	65	68	71	3.1%	0.3%	-0.4%	0.5%	0.5%	0.4%
Agriculture	7	5	3	3	3	3	4	-2.6%	-4.4%	-0.4%	0.3%	0.4%	0.4%
Road	63	78	69	59	48	41	33	2.1%	-1.2%	-1.6%	-1.9%	-1.6%	-2.3%
Rail	2	2	2	2	2	2	2	0.4%	-0.1%	-0.6%	0.6%	0.6%	0.6%
Aviation	3	4	4	4	4	4	5	2.1%	1.1%	-1.4%	0.6%	0.8%	0.6%
Other Transport	4	5	3	3	3	3	3	0.9%	-3.3%	-0.8%	-0.1%	-0.2%	-0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Japan	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	110	124	142	121	122	116	116	1.2%	1.4%	-1.6%	0.1%	-0.5%	0.0%
Coal	25	47	61	51	58	68	68	6.6%	2.6%	-1.9%	1.4%	1.5%	0.0%
Oil	49	27	18	10	3	2	2	-5.9%	-4.1%	-5.4%	-10.7%	-3.4%	-2.7%
Gas	33	47	56	53	50	35	33	3.5%	1.9%	-0.6%	-0.6%	-3.5%	-0.6%
Biomass & Waste	2	3	7	6	9	10	12	2.9%	8.6%	-1.1%	3.4%	1.0%	2.2%
Other	0	0	0	1	1	1	1	6.8%	-2.4%	9.4%	5.4%	0.2%	2.0%
Gross Elec. Generation (TWh_e)	842	1 059	1 117	1 017	1 101	1 179	1 258	2.3%	0.5%	-0.9%	0.8%	0.7%	0.7%
Coal	116	229	299	245	281	328	336	7.0%	2.7%	-2.0%	1.4%	1.6%	0.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	237	135	92	44	14	10	8	-5.4%	-3.8%	-7.0%	-10.7%	-3.4%	-2.7%
Gas	179	256	301	295	278	194	184	3.7%	1.6%	-0.2%	-0.6%	-3.5%	-0.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	11	16	36	31	43	46	58	3.7%	8.8%	-1.5%	3.1%	0.7%	2.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	202	322	288	230	229	218	203	4.8%	-1.1%	-2.2%	0.0%	-0.5%	-0.7%
Hydro	96	97	91	94	101	102	103	0.1%	-0.7%	0.4%	0.7%	0.1%	0.1%
Wind	0	0	4	26	77	156	223	n.s.	43.4%	20.8%	11.4%	7.3%	3.7%
Solar	0	0	4	45	66	111	124	39.2%	27.0%	28.0%	3.9%	5.4%	1.1%
Other	2	3	3	7	11	13	19	6.8%	-2.4%	9.5%	5.7%	1.3%	3.9%
Generation Capacity (GW_e)	225	258	283	328	364	418	427	1.4%	0.9%	1.5%	1.0%	1.4%	0.2%
Coal	31	63	63	76	85	86	73	7.4%	0.1%	1.9%	1.1%	0.1%	-1.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	78	66	56	50	41	36	35	-1.6%	-1.6%	-1.1%	-2.1%	-1.1%	-0.3%
Gas	47	37	55	53	50	47	43	-2.3%	4.1%	-0.4%	-0.6%	-0.7%	-0.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	3	3	8	6	7	7	9	1.8%	9.6%	-1.7%	1.6%	-0.4%	1.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	29	42	46	37	36	34	31	4.0%	0.9%	-2.2%	-0.2%	-0.7%	-0.9%
Hydro	38	46	48	51	55	56	56	2.0%	0.4%	0.7%	0.7%	0.1%	0.1%
Wind	0	0	2	11	30	56	76	n.s.	32.7%	17.4%	10.1%	6.5%	3.0%
Solar	0	0	4	41	57	94	102	43.4%	27.1%	27.4%	3.5%	5.1%	0.7%
Other	0	1	1	1	2	2	3	7.0%	0.1%	5.8%	5.9%	1.5%	3.5%
Total Final Consumption² (Mtoe)	316	362	342	309	298	289	280	1.4%	-0.6%	-1.0%	-0.4%	-0.3%	-0.3%
Coal	50	46	48	49	46	41	36	-0.8%	0.3%	0.4%	-0.7%	-1.2%	-1.1%
Oil	182	208	170	141	113	92	72	1.3%	-2.0%	-1.8%	-2.2%	-2.0%	-2.4%
Gas	15	23	35	31	38	42	43	4.2%	4.1%	-1.0%	2.0%	0.9%	0.4%
Electricity	64	81	86	79	85	92	98	2.3%	0.6%	-0.9%	0.8%	0.7%	0.7%
Heat	1	1	1	1	1	2	4	0.4%	-2.9%	-0.8%	2.0%	6.9%	5.7%
Biomass & Other	3	3	3	7	15	21	26	0.2%	0.3%	9.6%	7.8%	3.8%	2.1%
Share of Renewables ³ (%)	5%	4%	5%	9%	15%	24%	31%	-1.2%	1.7%	6.0%	5.9%	4.4%	2.7%
Industry (incl. non-energy use)	153	158	147	137	134	130	125	0.3%	-0.7%	-0.7%	-0.2%	-0.4%	-0.3%
Coal	49	45	47	49	46	41	36	-0.7%	0.4%	0.4%	-0.7%	-1.2%	-1.1%
Oil	69	74	61	52	42	33	28	0.7%	-1.9%	-1.6%	-2.2%	-2.1%	-1.9%
Gas	4	5	8	9	16	21	23	2.9%	4.5%	1.2%	5.7%	2.7%	1.1%
Electricity	29	31	28	24	27	29	31	0.7%	-1.0%	-1.7%	1.2%	0.8%	0.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	3	3	4	6	7	0.4%	0.4%	1.7%	3.4%	2.6%	2.4%
Buildings	83	110	113	101	103	106	109	2.8%	0.3%	-1.1%	0.2%	0.3%	0.3%
Coal	1	1	1	0	0	0	0	-4.4%	-1.6%	-1.4%	-2.3%	-2.6%	-2.9%
Oil	36	42	29	22	17	14	12	1.6%	-3.6%	-2.9%	-2.4%	-1.8%	-1.9%
Gas	11	18	26	22	20	18	16	4.7%	4.0%	-1.9%	-0.7%	-1.2%	-1.3%
Electricity	34	48	56	53	56	59	62	3.6%	1.5%	-0.5%	0.4%	0.5%	0.6%
Heat	1	1	1	1	1	2	4	0.4%	-2.9%	-0.8%	2.0%	6.9%	5.7%
Biomass & Other	0	0	0	3	9	13	15	-10.8%	-20.8%	n.s.	10.4%	3.7%	1.7%
Agriculture	7	5	3	3	3	3	4	-2.6%	-4.4%	-0.4%	0.3%	0.4%	0.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	5	3	3	3	3	4	-2.6%	-4.3%	-0.4%	0.3%	0.4%	0.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-0.3%	-5.7%	0.3%	0.6%	0.7%	0.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	72	88	78	67	57	50	42	2.0%	-1.2%	-1.5%	-1.6%	-1.2%	-1.8%
Coal	0	0	0	0	0	0	0	n.s.	-0.4%	0.1%	0.0%	0.0%	0.0%
Oil	71	87	77	65	51	41	29	2.0%	-1.2%	-1.7%	-2.3%	-2.2%	-3.2%
Gas	0	0	0	0	2	3	4	n.s.	15.1%	11.9%	18.7%	5.1%	3.8%
Electricity	1	2	2	2	3	4	5	1.0%	0.2%	0.2%	6.2%	3.4%	1.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	12.4%	7.2%	3.4%
Other Energy Transformation & Losses⁴	15	20	16	12	11	12	14	3.2%	-2.1%	-2.6%	-0.7%	0.8%	1.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

South Korea	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	43	46	49	51	53	52	51	0.7%	0.6%	0.4%	0.2%	0.0%	-0.3%
GDP per capita (ppp, k\$'05)	11	19	27	34	44	51	57	5.3%	3.5%	2.5%	2.4%	1.5%	1.1%
GDP per capita (mer, k\$'05)	9	15	22	29	36	42	47	5.8%	3.8%	2.5%	2.4%	1.5%	1.1%
Share Value Added - Agriculture (%)	8	4	2	2	2	2	2	-6.1%	-5.6%	-0.9%	-0.3%	-0.2%	-0.1%
Share Value Added - Industry (%)	38	38	38	37	34	32	30	0.0%	0.1%	-0.4%	-0.8%	-0.7%	-0.5%
Share Value Added - Services (%)	54	58	59	61	64	66	68	0.7%	0.3%	0.3%	0.5%	0.3%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	27	29	-7.8%	10.3%	1.2%	0.7%	1.1%	0.9%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	274	489	598	642	677	648	613	5.9%	2.0%	0.7%	0.5%	-0.4%	-0.6%
Total GHG (excl. sinks)	302	516	632	677	710	671	636	5.5%	2.1%	0.7%	0.5%	-0.6%	-0.5%
Total GHG (energy, industry, agriculture)	301	515	630	667	700	670	636	5.5%	2.0%	0.6%	0.5%	-0.4%	-0.5%
CO ₂	253	455	577	612	646	615	583	6.0%	2.4%	0.6%	0.5%	-0.5%	-0.5%
CH ₄	31	31	32	33	33	35	33	-0.1%	0.3%	0.3%	-0.1%	0.5%	-0.3%
N ₂ O	11	16	13	15	14	14	14	4.3%	-2.0%	1.2%	-0.4%	0.1%	-0.3%
F gases	6	13	8	7	7	7	6	7.5%	-4.7%	-0.4%	-0.6%	-0.1%	-1.0%
Total GHG from Energy and Industry	281	498	610	643	677	645	611	5.9%	2.1%	0.5%	0.5%	-0.5%	-0.5%
CO₂ Emissions from Fuel Comb.	230	413	540	571	602	571	542	6.1%	2.7%	0.6%	0.5%	-0.5%	-0.5%
Power generation/District heating	42	133	264	264	278	254	250	12.1%	7.1%	0.0%	0.5%	-0.9%	-0.2%
Industry	60	97	98	111	118	116	106	4.9%	0.2%	1.2%	0.6%	-0.2%	-0.8%
Buildings	69	65	55	53	63	66	61	-0.6%	-1.7%	-0.4%	1.8%	0.4%	-0.8%
Agriculture	5	10	7	7	8	8	7	7.5%	-3.7%	0.8%	0.4%	0.0%	-0.3%
Transport	44	80	91	107	107	100	91	6.2%	1.2%	1.7%	0.0%	-0.7%	-0.9%
Other	9	28	26	29	28	27	26	11.5%	-1.0%	1.2%	-0.3%	-0.4%	-0.6%
CO₂ captured (CCS)	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	25.6%	14.9%	10.3%
Coal	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	26.1%	13.8%	10.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	9.5%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	25.6%	10.1%	2.3%
Energy Balance, by fuel (Mtoe)													
Primary Production	24	37	49	64	83	110	118	4.2%	2.8%	2.8%	2.7%	2.8%	0.6%
Coal	7	4	1	1	1	0	0	-6.1%	-12.2%	-3.8%	-2.4%	-1.4%	-0.1%
Oil	0	1	1	0	0	0	0	3.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Natural gas	0	0	0	0	0	0	0	n.s.	n.s.	-24.1%	5.7%	0.7%	1.6%
Biomass	3	3	7	10	10	9	9	2.2%	7.5%	3.8%	0.2%	-1.1%	0.3%
Nuclear ¹	14	29	39	49	65	89	94	7.5%	3.1%	2.3%	2.8%	3.1%	0.5%
Hydro	1	0	1	1	1	1	1	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Other renewables	0	0	0	4	7	11	14	15.9%	14.3%	36.5%	6.4%	5.1%	1.8%
Net Imports	69	154	206	233	254	246	235						
Coal	16	38	72	74	66	62	62						
Oil	50	98	94	107	100	88	75						
Natural gas	3	17	38	51	86	93	95						
Biomass	0	0	1	1	0	0	0						
Biofuels	0	0	0	0	1	3	4						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	93	191	254	297	337	357	352	7.4%	2.9%	1.6%	1.3%	0.6%	-0.1%
Coal	23	42	73	75	67	63	62	6.2%	5.8%	0.1%	-1.1%	-0.6%	-0.2%
Oil	50	99	95	107	100	88	75	7.0%	-0.4%	1.2%	-0.7%	-1.3%	-1.6%
Natural gas	3	17	39	51	86	93	95	20.1%	8.5%	2.7%	5.4%	0.8%	0.2%
Biomass	3	3	7	11	10	9	9	2.5%	7.9%	4.2%	-0.5%	-1.3%	0.3%
Nuclear ¹	14	29	39	49	65	89	94	7.5%	3.1%	2.3%	2.8%	3.1%	0.5%
Hydro	1	0	1	1	1	1	1	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Other renewables	0	0	0	4	7	11	14	15.9%	14.3%	36.5%	6.4%	5.1%	1.8%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	93	191	254	297	337	357	352	7.4%	2.9%	1.6%	1.3%	0.6%	-0.1%
Energy for Power Generation	27	67	115	132	163	185	192	9.5%	5.6%	1.4%	2.1%	1.2%	0.4%
Other Energy Transformation & Losses	4	15	13	13	14	16	17	15.4%	-1.3%	-0.1%	0.7%	1.3%	0.4%
Final consumption	71	135	169	205	229	237	231	6.7%	2.3%	1.9%	1.1%	0.3%	-0.2%
Steel, Non-Met. Minerals and Chem.	13	25	32	37	37	35	31	6.5%	2.7%	1.4%	0.1%	-0.6%	-1.2%
Other Industry	11	21	24	30	37	40	40	7.2%	1.1%	2.4%	2.1%	0.8%	0.1%
Non-Energy Use	7	25	38	51	53	52	48	14.0%	4.4%	2.9%	0.3%	-0.2%	-0.8%
Residential	14	15	20	21	24	24	23	0.7%	2.9%	0.5%	1.0%	0.2%	-0.3%
Services	10	18	21	25	35	42	44	6.4%	1.6%	1.8%	3.5%	1.6%	0.7%
Agriculture	2	4	3	4	4	5	5	8.1%	-1.8%	2.0%	1.5%	1.1%	0.8%
Road	11	22	28	34	36	37	36	7.7%	2.5%	1.8%	0.5%	0.3%	-0.2%
Rail	0	0	0	0	0	0	1	2.9%	-2.7%	0.1%	1.6%	0.9%	0.4%
Aviation	2	3	1	2	2	2	2	3.9%	-11.6%	6.4%	1.7%	0.9%	0.1%
Other Transport	2	1	1	0	0	0	0	-1.4%	-6.1%	-10.9%	1.5%	0.2%	-0.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

South Korea	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	12	37	75	78	90	84	84	11.7%	7.2%	0.4%	1.4%	-0.8%	0.0%
Coal	6	24	52	47	41	36	34	15.2%	8.1%	-0.9%	-1.4%	-1.4%	-0.5%
Oil	5	8	5	5	5	5	5	5.4%	-4.7%	0.5%	-0.9%	0.1%	0.6%
Gas	2	6	18	25	43	41	43	10.9%	12.0%	3.5%	5.3%	-0.3%	0.3%
Biomass & Waste	0	0	0	0	2	2	2	n.s.	34.9%	1.1%	13.8%	-1.1%	2.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	105	290	499	623	808	927	980	10.7%	5.6%	2.2%	2.6%	1.4%	0.6%
Coal	18	111	219	202	177	162	162	20.2%	7.0%	-0.8%	-1.3%	-0.9%	0.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	21.8%
Oil	19	35	19	22	20	20	22	6.3%	-5.8%	1.5%	-0.9%	0.1%	0.7%
Gas	10	29	103	158	262	249	256	11.9%	13.4%	4.3%	5.2%	-0.5%	0.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	8.8%
Biomass & Waste	0	0	1	1	5	5	7	n.s.	28.1%	2.8%	13.8%	-1.1%	4.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	53	109	149	189	254	352	373	7.5%	3.2%	2.4%	3.0%	3.3%	0.6%
Hydro	6	6	6	9	9	9	9	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Wind	0	0	1	30	51	89	100	n.s.	47.3%	43.2%	5.6%	5.7%	1.1%
Solar	0	0	1	13	28	40	49	n.s.	n.s.	32.6%	8.2%	3.6%	1.9%
Other	0	0	0	0	0	1	2	n.s.	n.s.	23.9%	25.1%	15.4%	11.9%
Generation Capacity (GW_e)	20	49	77	133	186	233	230	9.4%	4.6%	5.6%	3.4%	2.3%	-0.1%
Coal	4	14	28	31	28	33	26	14.3%	7.1%	0.8%	-0.8%	1.7%	-2.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	21.8%
Oil	4	4	4	5	4	4	5	2.1%	0.0%	0.1%	-0.9%	0.4%	1.4%
Gas	3	13	20	39	64	72	68	17.5%	4.6%	6.8%	5.3%	1.1%	-0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	9.1%
Biomass & Waste	0	1	0	1	1	1	1	n.s.	-12.0%	23.1%	-1.8%	-3.3%	3.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	8	14	18	24	31	43	46	6.1%	2.6%	2.9%	2.8%	3.3%	0.6%
Hydro	2	3	6	7	7	7	8	3.0%	5.8%	2.3%	0.5%	0.2%	0.1%
Wind	0	0	0	14	24	40	40	n.s.	40.3%	43.8%	5.3%	5.0%	0.2%
Solar	0	0	1	13	25	33	37	n.s.	n.s.	34.8%	6.9%	2.6%	1.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.4%	14.8%	11.4%
Total Final Consumption² (Mtoe)	71	135	169	205	229	237	231	6.7%	2.3%	1.9%	1.1%	0.3%	-0.2%
Coal	16	15	18	22	20	21	22	-0.5%	1.9%	1.9%	-0.6%	0.5%	0.2%
Oil	44	80	82	96	90	78	66	6.2%	0.2%	1.6%	-0.7%	-1.4%	-1.7%
Gas	1	11	21	25	43	51	51	32.1%	6.5%	1.9%	5.6%	1.7%	0.1%
Electricity	8	23	39	49	63	72	77	10.8%	5.5%	2.3%	2.7%	1.4%	0.6%
Heat	0	3	4	4	4	4	5	n.s.	2.8%	-1.0%	-0.1%	0.4%	1.4%
Biomass & Other	3	3	6	10	9	10	11	2.1%	6.4%	5.6%	-1.1%	0.8%	1.0%
Share of Renewables ³ (%)	5%	3%	5%	9%	10%	13%	16%	-3.2%	3.9%	5.9%	0.9%	3.0%	1.7%
Industry (incl. non-energy use)	31	71	94	118	127	127	119	8.8%	2.9%	2.3%	0.7%	0.0%	-0.6%
Coal	7	14	17	21	20	21	22	8.1%	1.7%	2.1%	-0.5%	0.6%	0.3%
Oil	18	36	44	53	47	38	30	7.4%	2.0%	1.9%	-1.1%	-2.0%	-2.3%
Gas	0	3	7	11	23	29	30	44.4%	9.4%	4.3%	7.9%	2.3%	0.2%
Electricity	5	13	20	25	30	33	34	10.0%	4.3%	2.4%	1.9%	1.0%	0.2%
Heat	0	2	2	2	2	2	2	n.s.	1.0%	-2.0%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	3	5	7	5	3	2	8.2%	5.1%	4.8%	-3.6%	-4.6%	-3.5%
Buildings	24	33	41	47	59	66	68	3.3%	2.2%	1.2%	2.4%	1.1%	0.3%
Coal	9	1	1	1	0	0	0	-24.1%	4.5%	-2.8%	-3.2%	-3.5%	-3.8%
Oil	10	14	7	6	6	6	5	3.3%	-6.7%	-1.2%	-0.4%	-0.4%	-0.9%
Gas	1	8	12	13	18	20	19	29.6%	4.5%	0.4%	3.4%	0.8%	-0.6%
Electricity	3	9	18	22	30	35	38	11.9%	7.1%	2.1%	3.2%	1.5%	0.7%
Heat	0	1	2	2	2	2	3	n.s.	5.5%	0.0%	0.1%	1.0%	2.5%
Biomass & Other	1	0	1	2	2	2	3	-11.3%	10.2%	9.1%	-1.0%	0.5%	1.9%
Agriculture	2	4	3	4	4	5	5	8.1%	-1.8%	2.0%	1.5%	1.1%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	2	2	2	2	2	7.5%	-3.7%	0.8%	0.4%	0.0%	-0.3%
Gas	0	0	0	0	0	0	0	n.s.	-9.6%	-1.3%	0.4%	0.0%	-0.3%
Electricity	0	0	1	1	2	2	3	13.8%	6.6%	4.1%	2.8%	2.2%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	8.2%	4.4%	3.2%
Transport	15	27	30	36	38	39	39	6.3%	1.2%	1.7%	0.6%	0.3%	-0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	27	29	34	34	31	28	6.3%	0.7%	1.7%	-0.1%	-0.8%	-1.3%
Gas	0	0	1	1	2	2	3	n.s.	n.s.	0.8%	3.3%	3.3%	4.2%
Electricity	0	0	0	0	1	2	2	7.2%	0.7%	3.9%	14.2%	5.6%	2.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	4	6	n.s.	n.s.	2.2%	16.8%	9.4%	2.9%
Other Energy Transformation & Losses⁴	4	15	13	13	14	16	17	15.4%	-1.3%	-0.1%	0.7%	1.3%	0.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

New Zealand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	3	4	4	5	5	5	6	1.3%	1.3%	0.8%	0.8%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	19	23	25	30	35	40	47	1.7%	1.1%	1.8%	1.6%	1.4%	1.5%
GDP per capita (mer, k\$'05)	21	24	28	33	39	44	52	1.7%	1.3%	1.8%	1.6%	1.4%	1.5%
Share Value Added - Agriculture (%)	6	8	7	6	5	5	5	2.6%	-1.5%	-2.0%	-0.7%	-0.5%	-0.5%
Share Value Added - Industry (%)	29	25	23	22	21	20	19	-1.2%	-0.9%	-0.2%	-0.5%	-0.5%	-0.6%
Share Value Added - Services (%)	65	66	70	72	73	75	76	0.2%	0.5%	0.3%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	32	-7.8%	10.3%	1.2%	1.1%	1.1%	1.2%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	23	38	42	55	59	65	68	5.4%	0.9%	2.8%	0.7%	1.0%	0.4%
Total GHG (excl. sinks)	60	71	73	79	83	90	94	1.7%	0.4%	0.8%	0.4%	0.8%	0.5%
Total GHG (energy, industry, agriculture)	60	71	73	79	83	90	94	1.7%	0.4%	0.8%	0.4%	0.8%	0.5%
CO ₂	24	31	33	37	38	43	45	2.5%	0.7%	1.0%	0.3%	1.2%	0.6%
CH ₄	27	29	28	30	31	33	33	1.0%	-0.3%	0.4%	0.5%	0.5%	0.3%
N ₂ O	8	10	10	11	11	12	12	1.7%	0.6%	0.6%	0.2%	0.2%	0.2%
F gases	1	0	1	2	2	3	3	-6.7%	13.5%	5.3%	2.3%	1.9%	1.7%
Total GHG from Energy and Industry	30	37	40	44	46	51	55	2.2%	0.8%	1.0%	0.4%	1.1%	0.6%
CO₂ Emissions from Fuel Comb.	23	29	31	33	33	38	40	2.5%	0.4%	0.8%	0.0%	1.3%	0.7%
Power generation/District heating	4	6	6	4	3	6	9	5.1%	0.2%	-4.0%	-4.5%	9.1%	3.7%
Industry	7	7	6	9	11	12	12	-0.1%	-0.7%	3.9%	1.9%	0.7%	0.3%
Buildings	1	1	1	1	2	2	2	0.7%	-0.2%	-1.1%	3.2%	2.1%	0.8%
Agriculture	1	2	1	2	2	2	2	2.2%	-0.6%	2.0%	0.8%	0.7%	0.7%
Transport	9	12	14	15	14	13	12	3.4%	1.3%	0.6%	-0.7%	-0.4%	-0.8%
Other	1	2	2	2	2	3	3	2.9%	1.0%	2.8%	-0.2%	1.2%	1.4%
CO₂ captured (CCS)	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.						
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	13	15	18	21	20	20	24	1.8%	1.8%	1.7%	-0.8%	0.3%	1.5%
Coal	1	2	3	2	2	2	3	4.9%	2.8%	-1.4%	-0.2%	0.4%	0.2%
Oil	3	2	3	2	3	4	4	-2.7%	3.2%	-0.8%	3.2%	2.1%	0.6%
Natural gas	4	5	4	4	3	3	2	2.5%	-2.6%	-0.3%	-2.2%	-1.0%	-1.3%
Biomass	1	1	1	1	1	2	2	4.0%	0.7%	1.2%	0.4%	1.8%	1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	7.0%
Hydro	2	2	2	2	2	2	2	0.5%	0.1%	-0.6%	0.6%	-0.1%	0.0%
Other renewables	2	3	5	9	7	7	10	3.2%	7.5%	5.8%	-2.3%	-0.3%	3.7%
Net Imports	1	3	2	4	5	6	7						
Coal	0	-1	-1	-1	-1	-1	-1						
Oil	2	4	4	4	3	2	1						
Natural gas	-1	0	0	1	3	5	7						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	13	18	20	25	24	26	30	2.9%	1.2%	2.5%	-0.4%	0.8%	1.6%
Coal	1	1	1	2	1	1	2	-0.3%	1.7%	2.2%	-3.2%	0.5%	2.5%
Oil	4	6	6	7	6	6	6	2.7%	0.8%	0.9%	-0.8%	-0.3%	-0.5%
Natural gas	3	5	4	5	6	8	9	5.0%	-3.0%	1.9%	3.2%	2.8%	1.1%
Biomass	1	1	1	1	1	1	2	4.0%	0.7%	-0.2%	0.4%	1.8%	1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	7.0%
Hydro	2	2	2	2	2	2	2	0.5%	0.1%	-0.6%	0.6%	-0.1%	0.0%
Other renewables	2	3	5	9	7	7	10	3.2%	7.5%	5.8%	-2.3%	-0.3%	3.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	13	18	20	25	24	26	30	2.9%	1.2%	2.5%	-0.4%	0.8%	1.6%
Energy for Power Generation	6	7	10	13	11	12	17	2.8%	3.4%	2.7%	-2.0%	1.1%	3.1%
Other Energy Transformation & Losses	0	0	0	0	0	1	1	1.2%	n.s.	n.s.	n.s.	6.1%	0.2%
Final consumption	10	13	13	16	17	18	19	2.8%	0.0%	1.7%	1.0%	0.6%	0.4%
Steel, Non-Met. Minerals and Chem.	1	1	1	2	2	2	2	0.4%	-2.5%	4.7%	1.6%	-0.9%	-0.9%
Other Industry	3	3	3	4	5	5	6	2.1%	0.5%	1.7%	1.5%	1.3%	0.9%
Non-Energy Use	1	2	1	2	2	2	2	10.3%	-5.2%	6.0%	1.3%	-0.4%	-0.2%
Residential	1	1	1	1	2	2	2	1.1%	0.7%	-0.5%	0.7%	1.2%	1.0%
Services	1	1	1	1	1	2	2	1.7%	1.8%	0.2%	1.9%	1.8%	1.6%
Agriculture	0	1	1	1	1	1	1	2.8%	0.5%	2.6%	0.9%	0.8%	0.8%
Road	3	3	4	4	4	4	4	3.0%	1.7%	0.8%	-0.2%	0.1%	-0.3%
Rail	0	0	0	0	0	0	0	10.4%	-4.8%	0.7%	0.3%	0.3%	0.3%
Aviation	0	0	0	0	0	0	0	2.4%	-1.6%	-1.4%	2.2%	1.8%	1.5%
Other Transport	0	0	0	0	0	0	0	4.7%	-3.9%	4.6%	1.5%	0.7%	0.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

New Zealand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2	3	3	2	2	3	4	4.4%	0.9%	-2.5%	-3.9%	7.1%	3.6%
Coal	0	0	0	0	0	0	1	8.2%	2.7%	0.0%	-6.3%	4.1%	6.4%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	9.6%
Gas	1	2	2	1	1	2	3	4.3%	-0.7%	-6.7%	-2.9%	11.6%	2.7%
Biomass & Waste	0	0	0	0	0	0	0	1.3%	0.2%	-17.3%	-14.9%	31.6%	6.6%
Other	0	0	1	1	1	1	1	3.2%	7.2%	5.6%	-3.6%	-0.2%	4.3%
Gross Elec. Generation (TWh_e)	32	39	45	46	51	58	66	2.0%	1.4%	0.2%	1.0%	1.3%	1.3%
Coal	1	2	2	2	1	2	3	8.8%	2.9%	0.0%	-6.4%	3.7%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	24.7%	n.s.	n.s.	9.6%
Gas	6	10	10	5	4	11	15	5.3%	0.4%	-6.7%	-3.1%	11.7%	2.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	1	1	1	0	0	0	1	1.6%	0.2%	-16.9%	-13.0%	30.0%	6.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	23	24	25	23	25	25	24	0.5%	0.1%	-0.6%	0.6%	-0.1%	0.0%
Wind	0	0	2	5	13	12	10	n.s.	29.8%	11.8%	10.3%	-1.3%	-1.2%
Solar	0	0	0	0	1	1	2	n.s.	n.s.	42.6%	15.5%	6.0%	4.6%
Other	2	3	6	10	7	7	11	3.2%	7.2%	5.6%	-3.6%	-0.1%	4.4%
Generation Capacity (GW_e)	7	8	10	12	18	20	21	0.8%	1.9%	2.3%	3.9%	1.0%	0.8%
Coal	1	1	1	0	0	0	1	-1.0%	-4.8%	-4.2%	-5.6%	6.1%	4.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	1.2%	0.9%	0.1%	-0.1%
Gas	1	1	2	2	4	5	6	2.7%	4.4%	0.4%	5.1%	3.3%	1.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	0.9%	8.9%	0.7%	0.0%	-6.4%	1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	5	5	5	5	5	5	5	0.9%	0.1%	-0.2%	0.7%	-0.1%	0.0%
Wind	0	0	1	1	4	3	3	n.s.	30.8%	10.7%	9.9%	-1.3%	-1.6%
Solar	0	0	0	0	1	2	3	n.s.	n.s.	43.2%	16.3%	6.9%	5.6%
Other	0	0	1	2	3	3	3	3.4%	7.1%	11.6%	3.6%	-0.5%	-1.4%
Total Final Consumption² (Mtoe)	10	13	13	16	17	18	19	2.8%	0.0%	1.7%	1.0%	0.6%	0.4%
Coal	1	1	1	1	1	1	1	-2.3%	1.9%	0.9%	-1.6%	-0.8%	-0.2%
Oil	4	5	6	6	6	6	5	2.8%	1.1%	0.8%	-0.8%	-0.3%	-0.6%
Gas	2	3	2	3	5	6	6	5.3%	-5.4%	7.0%	4.3%	1.1%	0.4%
Electricity	2	3	3	3	4	4	5	2.0%	1.3%	0.3%	1.1%	1.3%	1.4%
Heat	0	0	0	0	0	0	0	1.4%	1.6%	2.1%	-0.1%	-0.1%	0.5%
Biomass & Other	1	1	1	1	1	1	2	4.5%	0.7%	0.8%	0.4%	1.3%	1.4%
Share of Renewables ³ (%)	29%	28%	30%	30%	33%	33%	35%	-0.4%	0.7%	0.1%	1.1%	-0.1%	0.7%
Industry (incl. non-energy use)	4	6	5	7	8	9	9	3.2%	-1.4%	3.2%	1.5%	0.5%	0.3%
Coal	1	1	1	1	1	1	1	-2.0%	2.1%	1.1%	-1.7%	-0.8%	-0.1%
Oil	1	1	1	1	1	1	1	1.0%	1.8%	2.1%	-0.1%	0.5%	0.2%
Gas	2	3	1	3	4	5	5	5.8%	-6.1%	7.9%	3.6%	0.6%	0.2%
Electricity	1	1	1	1	1	2	2	2.3%	0.5%	0.3%	1.2%	1.3%	1.2%
Heat	0	0	0	0	0	0	0	2.1%	0.7%	2.4%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	1	1	1	1	1	1	5.6%	0.9%	0.1%	-1.8%	-1.3%	-0.8%
Buildings	2	2	3	3	3	3	4	1.4%	1.2%	-0.2%	1.3%	1.5%	1.3%
Coal	0	0	0	0	0	0	0	-5.8%	-4.0%	-4.0%	-2.3%	-2.6%	-2.9%
Oil	0	0	0	0	0	0	0	0.6%	1.7%	0.1%	0.5%	1.2%	0.5%
Gas	0	0	0	0	0	1	1	5.6%	-0.5%	-1.6%	6.5%	3.0%	1.1%
Electricity	1	2	2	2	2	2	2	1.5%	1.7%	-0.2%	0.4%	0.9%	1.3%
Heat	0	0	0	0	0	0	0	-0.4%	3.8%	1.5%	-0.1%	0.2%	2.0%
Biomass & Other	0	0	0	0	0	0	0	0.1%	-0.5%	2.4%	3.6%	3.3%	2.4%
Agriculture	0	1	1	1	1	1	1	2.8%	0.5%	2.6%	0.9%	0.8%	0.8%
Coal	0	0	0	0	0	0	0	4.6%	12.4%	1.7%	0.0%	0.0%	0.0%
Oil	0	0	0	0	0	1	1	2.3%	-1.4%	1.5%	0.9%	0.8%	0.8%
Gas	0	0	0	0	0	0	0	0.5%	-3.5%	8.4%	0.7%	0.6%	0.6%
Electricity	0	0	0	0	0	0	0	6.6%	5.1%	3.7%	1.2%	1.1%	1.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	3	4	5	5	5	5	5	3.1%	1.2%	0.8%	0.0%	0.2%	-0.1%
Coal	0	0	0	0	0	0	0	0.0%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	5	5	4	4	4	3.3%	1.2%	0.5%	-1.2%	-0.7%	-1.0%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	19.5%	3.6%	1.8%
Electricity	0	0	0	0	0	0	0	1.8%	-0.8%	15.3%	21.9%	5.9%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	27.1%	14.7%	6.7%	3.9%
Other Energy Transformation & Losses⁴	0	0	0	0	0	1	1	1.2%	n.s.	n.s.	n.s.	6.1%	0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Pacific	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	6	8	9	11	13	15	17	2.3%	2.0%	1.8%	1.6%	1.4%	1.1%
GDP per capita (ppp, k\$'05)	2	2	2	3	4	6	9	1.2%	1.1%	3.1%	2.7%	3.9%	4.3%
GDP per capita (mer, k\$'05)	1	1	1	2	2	3	5	1.0%	1.0%	3.1%	2.7%	3.9%	4.3%
Share Value Added - Agriculture (%)	27	28	29	9	3	1	0	0.5%	0.4%	-11.6%	-10.1%	-10.6%	-7.9%
Share Value Added - Industry (%)	27	31	30	11	11	11	11	1.3%	-0.2%	-9.5%	0.0%	-0.1%	-0.3%
Share Value Added - Services (%)	46	41	40	80	86	88	89	-1.2%	-0.1%	7.1%	0.7%	0.2%	0.1%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	32	-7.8%	10.3%	1.2%	1.1%	1.1%	1.2%
Oil	33	32	72	76	86	100	128	-0.2%	8.4%	0.5%	1.2%	1.5%	2.5%
Gas	28	24	47	58	48	62	86	-1.2%	6.8%	2.0%	-1.9%	2.6%	3.4%
GHG emissions (Mt CO₂ eq.)													
Total GHG	101	96	102	113	127	147	178	-0.6%	0.6%	1.1%	1.2%	1.4%	1.9%
Total GHG (excl. sinks)	101	96	102	113	127	147	178	-0.6%	0.6%	1.1%	1.2%	1.4%	1.9%
Total GHG (energy, industry, agriculture)	13	12	16	20	31	53	91	-0.2%	2.7%	2.1%	4.2%	5.6%	5.6%
CO ₂	3	5	8	10	20	42	79	3.5%	5.5%	3.0%	6.9%	7.5%	6.6%
CH ₄	5	4	5	5	5	6	6	-0.7%	0.6%	1.3%	0.4%	0.5%	0.4%
N ₂ O	5	4	4	5	5	5	5	-3.0%	0.7%	1.4%	0.3%	0.5%	0.8%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	-4.9%	4.9%	5.8%	5.6%
Total GHG from Energy and Industry	5	6	10	13	23	45	83	2.5%	4.6%	2.4%	6.0%	6.9%	6.3%
CO₂ Emissions from Fuel Comb.	3	4	7	10	19	39	75	2.9%	5.0%	3.7%	6.8%	7.7%	6.8%
Power generation/District heating	1	1	2	3	5	9	16	6.4%	2.6%	7.0%	4.4%	5.7%	6.1%
Industry	1	1	2	2	3	4	6	6.7%	9.2%	-3.4%	4.1%	4.5%	4.3%
Buildings	0	0	0	0	1	1	1	-4.1%	-0.3%	5.6%	5.0%	1.9%	0.9%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	1	2	2	3	3	4	5	2.1%	2.5%	3.0%	1.4%	2.7%	2.7%
Other	0	0	0	2	7	22	47	1.4%	36.1%	14.9%	16.5%	11.5%	8.2%
CO₂ captured (CCS)	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	6	6	3	6	7	8	9	-1.2%	-7.3%	8.2%	1.4%	1.8%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	0	1	1	2	2	-2.1%	-21.0%	9.9%	3.5%	3.1%	2.3%
Natural gas	0	0	0	0	0	0	0	6.2%	0.0%	-4.7%	-3.0%	-1.5%	-1.5%
Biomass	2	2	2	4	4	4	4	0.2%	-0.1%	9.5%	-0.1%	0.3%	0.1%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	0	1	2	2	n.s.	n.s.	3.7%	8.5%	5.9%	1.4%
Net Imports	-3	-2	2	-1	2	7	17						
Coal	0	0	0	0	2	6	13						
Oil	-3	-2	2	1	1	1	1						
Natural gas	0	0	0	0	1	3	6						
Biomass	0	0	0	-3	-3	-3	-2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	3	3	5	5	8	15	26	1.5%	2.9%	0.7%	5.4%	6.3%	5.7%
Coal	0	0	0	0	2	6	13	n.s.	n.s.	47.7%	20.4%	12.1%	8.4%
Oil	1	1	2	2	2	3	3	3.0%	3.1%	2.1%	0.3%	0.9%	1.3%
Natural gas	0	0	0	0	1	3	6	30.1%	16.9%	-10.3%	24.1%	9.3%	6.8%
Biomass	2	2	2	2	2	2	2	0.2%	-0.1%	-0.6%	0.6%	1.0%	1.8%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	0	1	2	2	n.s.	n.s.	3.7%	8.5%	5.9%	1.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	3	3	5	5	8	15	26	1.5%	2.9%	0.7%	5.4%	6.3%	5.7%
Energy for Power Generation	0	1	1	2	3	5	8	4.7%	6.1%	4.8%	6.0%	6.0%	4.7%
Other Energy Transformation & Losses	0	0	0	0	2	5	12	n.s.	7.7%	-14.5%	45.9%	13.0%	8.6%
Final consumption	3	3	4	4	5	6	9	0.9%	2.1%	0.0%	2.3%	3.1%	3.3%
Steel, Non-Met. Minerals and Chem.	0	0	0	0	0	1	1	n.s.	n.s.	-5.1%	5.9%	3.4%	3.4%
Other Industry	1	1	1	1	1	2	2	3.2%	2.2%	-5.0%	3.6%	5.1%	4.8%
Non-Energy Use	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Residential	1	1	2	2	2	2	2	-0.1%	0.2%	0.7%	0.5%	0.6%	0.6%
Services	0	0	0	0	1	1	1	2.8%	3.5%	9.8%	5.1%	5.4%	5.2%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Road	0	1	1	1	1	1	1	2.2%	0.9%	3.1%	1.5%	2.4%	2.6%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	1	1.4%	2.9%	4.2%	4.8%	5.8%	4.5%
Other Transport	0	0	0	0	0	0	0	0.0%	0.0%	1.5%	3.4%	4.0%	4.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Pacific	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	0	0	1	1	2	3	6	6.3%	3.0%	7.3%	5.0%	6.0%	6.1%
Coal	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	29.4%	13.2%	9.0%
Oil	0	0	1	1	1	1	1	6.4%	2.6%	5.8%	-0.2%	-1.2%	-0.8%
Gas	0	0	0	0	1	2	4	6.2%	0.0%	31.4%	17.0%	10.3%	7.6%
Biomass & Waste	0	0	0	0	0	0	0	5.4%	-0.1%	11.7%	1.1%	5.4%	8.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	2.4%	8.2%	5.4%	-0.1%
Gross Elec. Generation (TWh_e)	2	3	4	6	9	16	26	3.8%	3.2%	2.3%	5.1%	5.5%	5.3%
Coal	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	29.6%	13.3%	8.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	2	4	4	4	3	6.0%	4.3%	5.7%	-0.2%	-1.1%	-0.6%
Gas	0	0	0	1	3	7	12	41.5%	-1.1%	13.1%	14.6%	8.5%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	1	1.7%	1.3%	9.6%	3.6%	9.2%	9.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	1	1	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	16.5%	12.3%	9.6%
Solar	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	10.1%	3.7%	3.9%
Other	0	0	0	0	1	2	2	n.s.	n.s.	2.4%	8.2%	5.5%	0.3%
Generation Capacity (GW_e)	0	0	1	1	2	3	5	0.7%	4.9%	2.4%	5.6%	5.7%	5.8%
Coal	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	29.7%	13.3%	9.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	1	1	1	1	-0.3%	4.5%	1.0%	-0.5%	-1.1%	0.7%
Gas	0	0	0	0	0	1	2	7.4%	0.0%	3.5%	14.7%	8.5%	6.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	0	0.0%	9.4%	0.0%	1.1%	9.0%	9.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	0	0	0	1	n.s.	n.s.	10.1%	15.4%	11.8%	8.8%
Solar	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	11.0%	4.6%	4.7%
Other	0	0	0	0	0	0	0	0.0%	28.4%	0.0%	7.7%	5.0%	-0.1%
Total Final Consumption² (Mtoe)	3	3	4	4	5	6	9	0.9%	2.1%	0.0%	2.3%	3.1%	3.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	10.8%	10.5%	9.7%	7.4%
Oil	1	1	1	1	1	2	2	1.9%	2.4%	0.7%	0.6%	2.0%	2.2%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	-1.6%	10.5%	5.5%	4.4%
Electricity	0	0	0	0	1	1	2	3.8%	3.1%	1.8%	5.2%	5.5%	5.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	9.0%	7.7%	4.2%
Biomass & Other	2	2	2	2	2	2	2	0.2%	-0.1%	-1.1%	-0.1%	0.5%	1.0%
Share of Renewables ³ (%)	65%	60%	49%	44%	38%	34%	31%	-0.7%	-2.0%	-1.2%	-1.4%	-1.1%	-0.9%
Industry (incl. non-energy use)	1	1	1	1	1	2	3	3.2%	5.1%	-5.0%	4.2%	4.7%	4.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	10.8%	10.5%	9.7%	7.4%
Oil	0	0	1	0	0	0	0	8.1%	4.8%	-4.0%	-0.7%	1.0%	1.4%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	-3.0%	9.2%	5.8%	4.8%
Electricity	0	0	0	0	0	0	0	3.7%	2.4%	-7.4%	4.3%	5.8%	5.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	0.6%	-0.8%	-8.4%	1.7%	3.5%	4.0%
Buildings	2	2	2	2	2	3	3	0.0%	0.4%	1.7%	1.4%	1.9%	2.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	-4.0%	-0.3%	3.3%	0.2%	0.1%	0.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	15.3%	3.4%	1.5%
Electricity	0	0	0	0	1	1	1	4.0%	4.4%	8.6%	4.9%	5.3%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	9.0%	7.7%	4.2%
Biomass & Other	1	1	1	1	1	1	1	0.1%	0.1%	0.1%	-0.5%	-0.4%	-0.3%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	0	1	1	1	1	2	2	2.1%	1.2%	3.2%	2.1%	3.2%	3.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	1	1	1	1	1	2	2.1%	1.2%	3.0%	1.1%	2.5%	2.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	20.9%	6.4%	4.6%
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	29.6%	8.3%	5.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	13.9%	7.7%	6.4%
Other Energy Transformation & Losses⁴	0	0	0	0	2	5	12	n.s.	7.7%	-14.5%	45.9%	13.0%	8.6%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

8 GECO2017_INDC scenario

World	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	5 308	6 126	6 930	7 762	8 509	9 174	9 750	1.4%	1.2%	1.1%	0.9%	0.8%	0.6%
GDP per capita (ppp, k\$'05)	7	8	10	12	15	20	24	1.5%	2.2%	2.1%	2.6%	2.4%	1.9%
GDP per capita (mer, k\$'05)	6	7	8	9	10	12	14	1.3%	1.3%	1.4%	1.8%	1.8%	1.6%
Share Value Added - Agriculture (%)	8	5	5	6	6	6	6	-3.2%	-0.1%	0.6%	0.1%	0.1%	0.1%
Share Value Added - Industry (%)	32	30	30	29	28	25	23	-0.7%	0.1%	-0.4%	-0.4%	-0.8%	-1.0%
Share Value Added - Services (%)	60	65	64	65	67	69	71	0.7%	-0.1%	0.1%	0.2%	0.3%	0.3%
Prices													
International (\$'05/boe)													
Coal	17	9	20	20	21	23	24	-5.9%	7.9%	-0.1%	0.7%	0.6%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	19	23	33	44	46	58	73	2.3%	3.4%	3.0%	0.4%	2.3%	2.4%
GHG emissions (MtCO₂ eq.)													
Total GHG	33 102	35 509	44 517	50 160	50 761	46 895	42 808	0.7%	2.3%	1.2%	0.1%	-0.8%	-0.9%
Total GHG (excl. sinks)	35 498	38 554	47 398	52 527	53 259	50 683	47 713	0.8%	2.1%	1.0%	0.1%	-0.5%	-0.6%
Total GHG (energy, industry, agriculture)	31 128	33 812	43 478	48 949	50 455	48 439	45 195	0.8%	2.5%	1.2%	0.3%	-0.4%	-0.7%
CO ₂	22 096	24 818	32 862	37 499	39 827	38 818	36 113	1.2%	2.8%	1.3%	0.6%	-0.3%	-0.7%
CH ₄	5 981	6 044	7 182	7 620	6 933	6 211	5 977	0.1%	1.7%	0.6%	-0.9%	-1.1%	-0.4%
N ₂ O	2 747	2 564	2 868	3 097	3 100	3 041	2 984	-0.7%	1.1%	0.8%	0.0%	-0.2%	-0.2%
F gases	304	386	566	732	595	370	121	2.4%	3.9%	2.6%	-2.1%	-4.6%	-10.6%
Total GHG from Energy and Industry	26 182	29 010	38 131	43 205	44 854	43 017	39 923	1.0%	2.8%	1.3%	0.4%	-0.4%	-0.7%
CO₂ Emissions from Fuel Comb.													
Total	20 665	23 112	30 232	34 065	35 697	34 301	31 515	1.1%	2.7%	1.2%	0.5%	-0.4%	-0.8%
Power generation/District heating	6 774	8 433	11 587	12 830	13 553	12 141	9 962	2.2%	3.2%	1.0%	0.5%	-1.1%	-2.0%
Industry	3 768	3 706	5 664	6 109	6 249	5 792	5 241	-0.2%	4.3%	0.8%	0.2%	-0.8%	-1.0%
Buildings	2 942	2 753	2 984	2 979	2 966	2 747	2 529	-0.7%	0.8%	0.0%	0.0%	-0.8%	-0.8%
Agriculture	424	363	424	472	463	412	342	-1.5%	1.6%	1.1%	-0.2%	-1.2%	-1.9%
Transport	4 663	5 774	6 947	8 466	9 020	9 524	9 876	2.2%	1.9%	2.0%	0.6%	0.5%	0.4%
Other	2 093	2 083	2 626	3 210	3 446	3 684	3 564	0.0%	2.3%	2.0%	0.7%	0.7%	-0.3%
CO₂ captured (CCS)													
Total	0	0	0	4	36	282	1 686	n.s.	n.s.	n.s.	25.2%	23.0%	19.6%
Coal	0	0	0	3	26	177	796	n.s.	n.s.	n.s.	24.1%	21.0%	16.2%
Gas	0	0	0	0	8	91	466	n.s.	n.s.	n.s.	44.4%	27.4%	17.8%
Biomass	0	0	0	1	1	14	424	n.s.	n.s.	n.s.	10.3%	26.3%	40.2%
Energy Balance, by fuel (Mtoe)													
Primary Production													
Total	8 717	10 015	12 948	15 018	17 060	18 415	19 320	1.4%	2.6%	1.5%	1.3%	0.8%	0.5%
Coal	2 133	2 314	3 649	3 834	3 664	2 951	2 458	0.8%	4.7%	0.5%	-0.5%	-2.1%	-1.8%
Oil	3 280	3 706	4 189	4 929	5 035	5 054	4 992	1.2%	1.2%	1.6%	0.2%	0.0%	-0.1%
Natural gas	1 687	2 068	2 737	3 282	4 197	4 861	5 135	2.1%	2.8%	1.8%	2.5%	1.5%	0.6%
Biomass	862	958	1 235	1 451	1 825	2 121	2 460	1.1%	2.6%	1.6%	2.3%	1.5%	1.5%
Nuclear ¹	533	686	728	783	1 132	1 700	2 050	2.6%	0.6%	0.7%	3.8%	4.1%	1.9%
Hydro	188	232	303	384	431	443	455	2.1%	2.7%	2.4%	1.2%	0.3%	0.3%
Other renewables	34	52	106	355	776	1 285	1 770	4.6%	7.3%	12.8%	8.1%	5.2%	3.3%
International Bunkers													
Total	240	324	425	577	688	751	825	3.0%	2.8%	3.1%	1.8%	0.9%	0.9%
Maritime Bunkers	154	206	273	381	446	450	460	2.9%	2.9%	3.4%	1.6%	0.1%	0.2%
Oil	151	202	266	367	420	420	428	2.9%	2.8%	3.3%	1.4%	0.0%	0.2%
Aviation Bunkers	86	117	152	196	242	301	365	3.2%	2.6%	2.6%	2.1%	2.2%	1.9%
Oil	86	117	152	195	239	295	354	3.2%	2.6%	2.5%	2.1%	2.1%	1.8%
Regional Energy Demand (excl. bunkers)													
Total	8 480	9 695	12 530	14 455	16 398	17 693	18 527	1.3%	2.6%	1.4%	1.3%	0.8%	0.5%
Coal	2 133	2 314	3 649	3 834	3 664	2 951	2 458	0.8%	4.7%	0.5%	-0.5%	-2.1%	-1.8%
Oil	3 043	3 386	3 771	4 366	4 376	4 339	4 210	1.1%	1.1%	1.5%	0.0%	-0.1%	-0.3%
Natural gas	1 687	2 068	2 737	3 282	4 197	4 861	5 135	2.1%	2.8%	1.8%	2.5%	1.5%	0.6%
Biomass	862	958	1 235	1 451	1 821	2 114	2 449	1.1%	2.6%	1.6%	2.3%	1.5%	1.5%
Nuclear ¹	533	686	728	783	1 132	1 700	2 050	2.6%	0.6%	0.7%	3.8%	4.1%	1.9%
Hydro	188	232	303	384	431	443	455	2.1%	2.7%	2.4%	1.2%	0.3%	0.3%
Other renewables	34	52	106	355	776	1 285	1 770	4.6%	7.3%	12.8%	8.1%	5.2%	3.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand													
Total	8 717	10 015	12 948	15 018	17 060	18 415	19 320	1.4%	2.6%	1.5%	1.3%	0.8%	0.5%
Energy for Power Generation	2 775	3 466	4 640	5 461	6 702	7 742	8 607	2.2%	3.0%	1.6%	2.1%	1.5%	1.1%
Other Energy Transformation & Losses	763	763	1 162	1 379	1 637	1 878	2 028	0.0%	4.3%	1.7%	1.7%	1.4%	0.8%
Final consumption (incl. bunkers)	6 356	7 139	9 027	10 551	11 799	12 595	13 151	1.2%	2.4%	1.6%	1.1%	0.7%	0.4%
Steel, Non-Met. Minerals and Chem.	810	888	1 385	1 559	1 621	1 497	1 355	0.9%	4.5%	1.2%	0.4%	-0.8%	-1.0%
Other Industry	1 109	1 086	1 358	1 673	2 047	2 280	2 419	-0.2%	2.3%	2.1%	2.0%	1.1%	0.6%
Non-Energy Use	486	627	786	953	1 050	1 097	1 099	2.6%	2.3%	1.9%	1.0%	0.4%	0.0%
Residential	1 626	1 796	2 053	2 178	2 285	2 299	2 285	1.0%	1.3%	0.6%	0.5%	0.1%	-0.1%
Services	593	634	830	974	1 199	1 443	1 691	0.7%	2.7%	1.6%	2.1%	1.9%	1.6%
Agriculture	168	148	179	210	237	264	288	-1.3%	1.9%	1.6%	1.3%	1.1%	0.9%
Road	1 134	1 443	1 818	2 181	2 378	2 620	2 813	2.4%	2.3%	1.8%	0.9%	1.0%	0.7%
Rail	59	47	52	61	69	77	84	-2.2%	0.9%	1.6%	1.3%	1.1%	0.8%
Aviation	182	226	252	329	405	499	591	2.2%	1.1%	2.7%	2.1%	2.1%	1.7%
Other Transport								n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

World	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2 024	2 500	3 508	3 949	4 382	4 336	4 356	2.1%	3.4%	1.2%	1.0%	-0.1%	0.0%
Coal	1 155	1 508	2 114	2 259	2 263	1 782	1 444	2.7%	3.4%	0.7%	0.0%	-2.4%	-2.1%
Oil	334	290	247	321	307	255	245	-1.4%	-1.6%	2.7%	-0.4%	-1.9%	-0.4%
Gas	479	646	1 022	1 207	1 527	1 881	2 026	3.0%	4.7%	1.7%	2.4%	2.1%	0.7%
Biomass & Waste	53	52	120	153	265	395	618	-0.3%	8.7%	2.5%	5.7%	4.1%	4.6%
Other	3	4	6	10	19	23	24	3.6%	2.8%	5.3%	6.7%	1.8%	0.7%
Gross Elec. Generation (TWh_e)	11 844	15 472	21 504	27 450	35 537	43 541	50 676	2.7%	3.3%	2.5%	2.6%	2.1%	1.5%
Coal	4 423	5 999	8 661	9 679	9 866	7 955	6 653	3.1%	3.7%	1.1%	0.2%	-2.1%	-1.8%
of which CCS	0	0	0	0	0	118	820	n.s.	n.s.	n.s.	n.s.	n.s.	21.4%
Oil	1 292	1 178	931	1 372	1 325	1 132	1 100	-0.9%	-2.3%	4.0%	-0.3%	-1.6%	-0.3%
Gas	1 761	2 753	4 806	5 945	7 908	10 075	11 112	4.6%	5.7%	2.2%	2.9%	2.5%	1.0%
of which CCS	0	0	0	0	0	189	1 112	n.s.	n.s.	n.s.	n.s.	n.s.	19.4%
Biomass & Waste	123	169	380	521	996	1 642	2 830	3.2%	8.4%	3.2%	6.7%	5.1%	5.6%
of which CCS	0	0	0	0	0	9	511	n.s.	n.s.	n.s.	n.s.	n.s.	49.8%
Nuclear	2 013	2 591	2 756	2 995	4 429	6 805	8 313	2.6%	0.6%	0.8%	4.0%	4.4%	2.0%
Hydro	2 191	2 698	3 528	4 461	5 007	5 152	5 290	2.1%	2.7%	2.4%	1.2%	0.3%	0.3%
Wind	4	31	341	1 723	4 036	7 147	10 018	23.2%	27.0%	17.6%	8.9%	5.9%	3.4%
Solar	0	1	33	591	1 655	3 223	4 882	25.1%	42.3%	33.3%	10.9%	6.9%	4.2%
Other	36	52	69	163	315	410	480	3.6%	2.8%	9.1%	6.8%	2.7%	1.6%
Generation Capacity (GW_e)	2 730	3 553	5 142	7 279	9 789	12 723	15 005	2.7%	3.8%	3.5%	3.0%	2.7%	1.7%
Coal	890	1 140	1 687	2 097	2 193	2 164	2 009	2.5%	4.0%	2.2%	0.4%	-0.1%	-0.7%
of which CCS	0	0	0	0	0	17	112	n.s.	n.s.	n.s.	n.s.	n.s.	20.8%
Oil	448	496	412	456	453	452	478	1.0%	-1.8%	1.0%	-0.1%	0.0%	0.5%
Gas	503	712	1 313	1 585	1 952	2 289	2 307	3.5%	6.3%	1.9%	2.1%	1.6%	0.1%
of which CCS	0	0	0	0	0	24	148	n.s.	n.s.	n.s.	n.s.	n.s.	19.7%
Biomass & Waste	27	45	99	150	218	315	478	5.3%	8.2%	4.2%	3.8%	3.8%	4.2%
of which CCS	0	0	0	0	0	1	73	n.s.	n.s.	n.s.	n.s.	n.s.	50.5%
Nuclear	290	352	375	410	602	922	1 115	2.0%	0.6%	0.9%	3.9%	4.4%	1.9%
Hydro	564	782	1 020	1 311	1 451	1 494	1 534	3.3%	2.7%	2.5%	1.0%	0.3%	0.3%
Wind	2	17	184	773	1 673	2 821	3 807	23.8%	27.0%	15.5%	8.0%	5.4%	3.0%
Solar	0	1	40	462	1 179	2 182	3 188	10.0%	41.8%	27.7%	9.8%	6.3%	3.9%
Other	6	9	12	34	69	84	90	3.9%	3.1%	11.4%	7.3%	2.0%	0.8%
Total Final Consumption (Mtoe)	6 356	7 139	9 027	10 551	11 799	12 595	13 151	1.2%	2.4%	1.6%	1.1%	0.7%	0.4%
Coal	850	660	1 205	1 222	1 064	836	679	-2.5%	6.2%	0.1%	-1.4%	-2.4%	-2.0%
Oil	2 639	3 169	3 660	4 312	4 434	4 508	4 472	1.8%	1.5%	1.7%	0.3%	0.2%	-0.1%
Gas	895	1 073	1 275	1 517	1 974	2 166	2 239	1.8%	1.7%	1.8%	2.7%	0.9%	0.3%
Electricity	831	1 086	1 531	1 953	2 528	3 097	3 607	2.7%	3.5%	2.5%	2.6%	2.1%	1.5%
Heat	339	256	294	321	382	458	537	-2.8%	1.4%	0.9%	1.7%	1.8%	1.6%
Biomass & Other	802	896	1 063	1 226	1 417	1 532	1 616	1.1%	1.7%	1.4%	1.5%	0.8%	0.5%
Share of Renewables ² (%)	17%	18%	18%	20%	23%	27%	31%	0.3%	-0.1%	1.2%	1.5%	1.5%	1.3%
Industry (incl. non-energy use)	2 405	2 601	3 530	4 184	4 718	4 873	4 873	0.8%	3.1%	1.7%	1.2%	0.3%	0.0%
Coal	590	540	1 048	1 075	960	775	648	-0.9%	6.9%	0.3%	-1.1%	-2.1%	-1.8%
Oil	687	800	912	1 041	1 043	1 008	925	1.5%	1.3%	1.3%	0.0%	-0.3%	-0.9%
Gas	452	532	621	842	1 140	1 275	1 314	1.7%	1.6%	3.1%	3.1%	1.1%	0.3%
Electricity	381	460	637	853	1 107	1 292	1 416	1.9%	3.3%	3.0%	2.6%	1.6%	0.9%
Heat	163	105	126	133	151	159	162	-4.3%	1.8%	0.6%	1.3%	0.5%	0.2%
Biomass & Other	132	163	185	240	318	365	407	2.1%	1.3%	2.6%	2.8%	1.4%	1.1%
Buildings	2 218	2 430	2 883	3 152	3 484	3 743	3 976	0.9%	1.7%	0.9%	1.0%	0.7%	0.6%
Coal	233	108	140	129	91	52	25	-7.4%	2.7%	-0.8%	-3.4%	-5.4%	-6.9%
Oil	316	342	310	320	292	264	242	0.8%	-1.0%	0.3%	-0.9%	-1.0%	-0.8%
Gas	434	531	618	621	719	729	711	2.1%	1.5%	0.0%	1.5%	0.1%	-0.3%
Electricity	403	581	834	1 015	1 241	1 520	1 799	3.7%	3.7%	2.0%	2.0%	2.0%	1.7%
Heat	176	151	168	188	231	299	375	-1.5%	1.1%	1.2%	2.1%	2.6%	2.3%
Biomass & Other	657	717	813	879	911	879	823	0.9%	1.3%	0.8%	0.4%	-0.4%	-0.7%
Agriculture	168	148	179	210	237	264	288	-1.3%	1.9%	1.6%	1.3%	1.1%	0.9%
Coal	14	8	13	14	11	7	4	-6.1%	5.5%	0.9%	-2.6%	-4.5%	-5.0%
Oil	110	101	112	125	126	116	98	-0.9%	1.1%	1.1%	0.1%	-0.8%	-1.6%
Gas	7	6	7	8	8	7	6	-2.6%	2.9%	1.1%	-0.4%	-1.3%	-1.9%
Electricity	30	29	39	54	71	92	116	-0.4%	3.2%	3.2%	2.8%	2.7%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	5	7	8	21	41	64	-1.7%	3.9%	1.5%	9.7%	7.1%	4.4%
Transport (incl. bunkers)	1 565	1 960	2 436	3 006	3 359	3 715	4 014	2.3%	2.2%	2.1%	1.1%	1.0%	0.8%
Coal	13	4	3	2	2	2	1	-10.1%	-2.7%	-2.8%	-2.0%	-1.9%	-1.9%
Oil	1 526	1 926	2 326	2 826	2 973	3 120	3 206	2.4%	1.9%	2.0%	0.5%	0.5%	0.3%
Gas	2	3	28	47	107	154	209	5.3%	24.2%	5.3%	8.7%	3.7%	3.1%
Electricity	17	16	21	32	109	193	276	-0.7%	2.5%	4.5%	13.0%	5.9%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	8	11	58	99	168	246	322	3.7%	18.1%	5.5%	5.4%	3.9%	2.7%
Other Energy Transformation & Losses³	763	763	1 162	1 379	1 637	1 878	2 028	0.0%	4.3%	1.7%	1.7%	1.4%	0.8%

² ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

³ includes statistical differences

EU28	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	476	487	503	513	519	524	525	0.2%	0.3%	0.2%	0.1%	0.1%	0.0%
GDP per capita (ppp, k\$'05)	20	25	28	30	34	39	45	1.9%	1.2%	0.8%	1.4%	1.4%	1.4%
GDP per capita (mer, k\$'05)	22	27	30	32	37	42	49	2.0%	1.1%	0.7%	1.3%	1.4%	1.5%
Share Value Added - Agriculture (%)	4	2	2	2	2	1	1	-3.8%	-3.6%	-0.4%	-0.5%	-0.5%	-0.5%
Share Value Added - Industry ¹ (%)	32	28	25	24	23	22	21	-1.3%	-1.1%	-0.4%	-0.4%	-0.5%	-0.6%
Share Value Added - Services (%)	64	69	73	74	75	76	78	0.8%	0.5%	0.1%	0.1%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	23	14	19	16	17	19	22	-5.3%	3.6%	-1.9%	0.7%	1.1%	1.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (MtCO₂ eq.)													
Total GHG	5 196	4 697	4 328	3 500	2 885	2 680	2 344	-1.0%	-0.8%	-2.1%	-1.9%	-0.7%	-1.3%
Total GHG (excl. sinks)	5 495	5 028	4 664	3 764	3 182	2 937	2 594	-0.9%	-0.7%	-2.1%	-1.7%	-0.8%	-1.2%
Total GHG (energy, industry, agriculture)	5 466	5 012	4 651	3 749	3 170	2 870	2 494	-0.9%	-0.7%	-2.1%	-1.7%	-0.8%	-1.4%
CO ₂	4 252	3 997	3 780	3 044	2 664	2 367	2 033	-0.6%	-0.6%	-2.1%	-1.3%	-1.2%	-1.5%
CH ₄	601	495	409	332	239	234	201	-1.9%	-1.9%	-2.1%	-3.2%	-0.2%	-1.5%
N ₂ O	557	455	373	305	246	246	238	-2.0%	-2.0%	-2.0%	-2.1%	0.0%	-0.4%
F gases	56	65	90	68	20	22	22	1.5%	3.3%	-2.7%	-11.5%	0.8%	0.2%
Total GHG from Energy and Industry	4 849	4 491	4 176	3 306	2 809	2 498	2 133	-0.8%	-0.7%	-2.3%	-1.6%	-1.2%	-1.6%
CO₂ Emissions from Fuel Comb.	4 006	3 759	3 572	2 852	2 485	2 196	1 877	-0.6%	-0.5%	-2.2%	-1.4%	-1.2%	-1.6%
Power generation/District heating	1 427	1 283	1 235	861	698	597	488	-1.1%	-0.4%	-3.5%	-2.1%	-1.5%	-2.0%
Industry	745	602	453	363	296	261	214	-2.1%	-2.8%	-2.2%	-2.0%	-1.2%	-2.0%
Buildings	724	652	660	497	449	353	279	-1.1%	0.1%	-2.8%	-1.0%	-2.4%	-2.3%
Agriculture	84	72	59	58	48	34	22	-1.5%	-2.0%	-0.2%	-1.8%	-3.5%	-4.1%
Transport	764	900	925	855	795	769	718	1.7%	0.3%	-0.8%	-0.7%	-0.3%	-0.7%
Other	262	251	241	219	198	181	156	-0.4%	-0.4%	-0.9%	-1.0%	-0.9%	-1.5%
CO₂ captured (CCS)	0	0	0	3	13	60	237	n.s.	n.s.	n.s.	15.3%	16.5%	14.6%
Coal	0	0	0	3	11	47	177	n.s.	n.s.	n.s.	15.2%	15.5%	14.3%
Gas	0	0	0	0	1	13	46	n.s.	n.s.	n.s.	27.9%	24.7%	13.6%
Biomass	0	0	0	0	1	1	14	n.s.	n.s.	n.s.	7.3%	4.2%	29.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	885	939	843	802	861	829	807	0.6%	-1.1%	-0.5%	0.7%	-0.4%	-0.3%
Coal	313	219	168	116	90	70	54	-3.5%	-2.6%	-3.6%	-2.5%	-2.5%	-2.5%
Oil	134	174	100	93	78	56	41	2.7%	-5.4%	-0.7%	-1.8%	-3.2%	-3.2%
Natural gas	154	192	146	104	118	110	106	2.2%	-2.7%	-3.3%	1.3%	-0.6%	-0.4%
Biomass	44	63	130	165	209	208	222	3.7%	7.5%	2.4%	2.4%	0.0%	0.6%
Nuclear ¹	210	250	242	223	226	214	182	1.7%	-0.3%	-0.8%	0.1%	-0.5%	-1.6%
Hydro	27	33	35	33	33	32	31	2.3%	0.5%	-0.5%	0.0%	-0.4%	-0.3%
Other renewables	3	6	21	68	108	138	171	8.0%	12.6%	12.4%	4.7%	2.5%	2.1%
Net Imports	760	762	893	756	706	691	683						
Coal	135	104	114	102	63	49	64						
Oil	480	451	472	398	374	370	345						
Natural gas	141	204	302	237	246	243	234						
Biomass	0	0	2	19	21	25	34						
Biofuels	0	0	2	1	3	5	6						
Electricity	4	2	1	0	-1	-1	-1						
Primary Energy Demand²	1 645	1 701	1 736	1 559	1 567	1 520	1 490	0.3%	0.2%	-1.1%	0.1%	-0.3%	-0.2%
Coal	447	324	282	218	153	119	119	-3.2%	-1.4%	-2.6%	-3.5%	-2.5%	0.0%
Oil	614	626	572	491	452	426	386	0.2%	-0.9%	-1.5%	-0.8%	-0.6%	-1.0%
Natural gas	295	396	447	341	364	353	339	3.0%	1.2%	-2.7%	0.7%	-0.3%	-0.4%
Biomass	44	63	133	183	230	233	256	3.7%	7.7%	3.3%	2.3%	0.2%	0.9%
Nuclear ¹	210	250	242	223	226	214	182	1.7%	-0.3%	-0.8%	0.1%	-0.5%	-1.6%
Hydro	27	33	35	33	33	32	31	2.3%	0.5%	-0.5%	0.0%	-0.4%	-0.3%
Other renewables	3	6	21	68	108	138	171	8.0%	12.6%	12.4%	4.7%	2.5%	2.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	1 645	1 701	1 736	1 559	1 567	1 520	1 490	0.3%	0.2%	-1.1%	0.1%	-0.3%	-0.2%
Energy for Power Generation	636	674	721	648	680	698	733	0.6%	0.7%	-1.1%	0.5%	0.3%	0.5%
Other Energy Transformation & Losses	99	94	110	103	106	104	105	-0.5%	1.6%	-0.6%	0.3%	-0.2%	0.0%
Final consumption	1 152	1 197	1 217	1 116	1 135	1 097	1 065	0.4%	0.2%	-0.9%	0.2%	-0.3%	-0.3%
Steel, Non-Met. Minerals and Chem.	190	165	139	125	119	110	102	-1.4%	-1.7%	-1.0%	-0.5%	-0.8%	-0.7%
Other Industry	175	163	145	139	142	139	137	-0.8%	-1.1%	-0.5%	0.2%	-0.2%	-0.2%
Non-Energy Use	100	113	108	106	118	120	117	1.2%	-0.4%	-0.2%	1.1%	0.2%	-0.3%
Residential	276	289	312	264	269	240	221	0.5%	0.8%	-1.6%	0.2%	-1.1%	-0.9%
Services	118	133	166	152	170	173	181	1.3%	2.2%	-0.9%	1.1%	0.2%	0.5%
Agriculture	33	29	26	25	27	28	30	-1.4%	-1.1%	-0.1%	0.5%	0.5%	0.5%
Road	237	281	299	284	270	265	256	1.7%	0.6%	-0.5%	-0.5%	-0.2%	-0.3%
Rail	10	10	8	8	9	9	9	0.1%	-1.7%	-0.2%	0.8%	0.2%	0.2%
Aviation	6	7	7	7	7	8	8	2.3%	-0.4%	-0.4%	0.2%	1.0%	0.5%
Other Transport	7	6	6	5	5	5	5	-1.0%	-0.8%	-1.1%	0.3%	-0.3%	-1.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

EU28	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	396	385	423	324	315	315	351	-0.3%	0.9%	-2.6%	-0.3%	0.0%	1.1%
Coal	285	234	209	156	106	85	93	-2.0%	-1.1%	-2.8%	-3.9%	-2.2%	1.0%
Oil	55	41	23	11	8	6	6	-2.9%	-5.5%	-6.9%	-3.2%	-3.2%	0.2%
Gas	50	94	141	86	108	122	131	6.6%	4.1%	-4.8%	2.2%	1.3%	0.7%
Biomass & Waste	6	15	49	69	92	101	119	9.8%	12.9%	3.4%	2.9%	1.0%	1.6%
Other	0	0	0	1	1	2	2	4.0%	1.6%	6.9%	4.2%	0.8%	2.3%
Gross Elec. Generation (TWh_e)	2 594	3 031	3 356	3 297	3 619	3 881	4 232	1.6%	1.0%	-0.2%	0.9%	0.7%	0.9%
Coal	1 050	966	862	664	480	415	471	-0.8%	-1.1%	-2.6%	-3.2%	-1.4%	1.3%
of which CCS	0	0	0	0	0	0	210	n.s.	n.s.	n.s.	n.s.	n.s.	17.4%
Oil	224	181	87	49	35	26	27	-2.1%	-7.1%	-5.5%	-3.3%	-3.1%	0.4%
Gas	193	480	763	475	597	683	744	9.5%	4.8%	-4.6%	2.3%	1.3%	0.9%
of which CCS	0	0	0	0	0	34	130	n.s.	n.s.	n.s.	n.s.	n.s.	14.4%
Biomass & Waste	20	46	143	235	327	367	446	8.9%	12.0%	5.1%	3.4%	1.2%	2.0%
of which CCS	0	0	0	0	0	0	9	n.s.	n.s.	n.s.	n.s.	n.s.	52.1%
Nuclear	795	945	917	847	863	827	724	1.7%	-0.3%	-0.8%	0.2%	-0.4%	-1.3%
Hydro	309	386	407	387	386	373	363	2.3%	0.5%	-0.5%	0.0%	-0.4%	-0.3%
Wind	1	22	149	409	558	723	953	39.8%	21.0%	10.6%	3.1%	2.6%	2.8%
Solar	0	0	23	173	267	327	356	33.0%	n.s.	22.5%	4.5%	2.0%	0.9%
Other	3	5	6	59	107	142	148	4.0%	1.6%	26.4%	6.2%	2.9%	0.4%
Generation Capacity (GW_e)	635	719	919	1 150	1 353	1 424	1 430	1.3%	2.5%	2.3%	1.6%	0.5%	0.0%
Coal	223	201	192	166	127	101	92	-1.0%	-0.4%	-1.4%	-2.7%	-2.3%	-0.9%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	15.9%
Oil	95	81	65	39	30	23	21	-1.5%	-2.2%	-5.1%	-2.5%	-2.6%	-1.1%
Gas	65	129	218	243	300	311	268	7.1%	5.4%	1.1%	2.1%	0.3%	-1.5%
of which CCS	0	0	0	0	0	5	19	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Biomass & Waste	10	17	48	68	88	96	95	5.9%	10.9%	3.6%	2.6%	0.9%	-0.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	46.4%
Nuclear	126	137	131	120	120	112	96	0.9%	-0.4%	-0.9%	0.0%	-0.6%	-1.5%
Hydro	116	140	148	155	156	152	149	1.9%	0.5%	0.5%	0.1%	-0.2%	-0.2%
Wind	0	12	85	193	262	301	362	40.0%	21.4%	8.5%	3.1%	1.4%	1.9%
Solar	0	0	31	148	231	283	307	36.9%	n.s.	17.1%	4.6%	2.1%	0.8%
Other	0	1	1	18	39	45	42	2.0%	2.4%	37.3%	8.1%	1.3%	-0.8%
Total Final Consumption² (Mtoe)	1 152	1 197	1 217	1 116	1 135	1 097	1 065	0.4%	0.2%	-0.9%	0.2%	-0.3%	-0.3%
Coal	141	73	57	46	32	20	12	-6.3%	-2.5%	-2.1%	-3.8%	-4.6%	-5.1%
Oil	503	540	505	447	415	393	356	0.7%	-0.7%	-1.2%	-0.8%	-0.5%	-1.0%
Gas	229	273	279	230	233	209	188	1.8%	0.2%	-1.9%	0.1%	-1.1%	-1.1%
Electricity	186	218	244	239	262	280	305	1.6%	1.2%	-0.2%	0.9%	0.7%	0.9%
Heat	55	45	55	50	69	74	78	-1.9%	1.9%	-0.9%	3.3%	0.7%	0.6%
Biomass & Other	38	48	78	103	126	120	125	2.3%	4.9%	2.9%	2.0%	-0.4%	0.4%
Share of Renewables ³ (%)	6%	8%	12%	21%	27%	31%	36%	2.5%	4.7%	5.4%	2.6%	1.3%	1.5%
Industry (incl. non-energy use)	466	441	393	370	379	369	356	-0.5%	-1.1%	-0.6%	0.2%	-0.3%	-0.4%
Coal	93	60	44	37	29	19	11	-4.2%	-3.1%	-1.6%	-2.6%	-4.0%	-4.9%
Oil	139	144	127	113	119	121	111	0.3%	-1.3%	-1.2%	0.5%	0.1%	-0.9%
Gas	114	118	97	84	76	76	76	0.4%	-1.9%	-1.4%	-1.1%	0.0%	0.1%
Electricity	85	91	89	87	90	95	100	0.7%	-0.3%	-0.2%	0.3%	0.6%	0.5%
Heat	21	11	15	16	23	22	21	-6.5%	3.6%	0.3%	3.7%	-0.3%	-0.3%
Biomass & Other	14	17	22	33	43	36	35	1.9%	2.6%	4.3%	2.8%	-1.8%	-0.2%
Buildings	394	423	478	416	439	413	401	0.7%	1.2%	-1.4%	0.5%	-0.6%	-0.3%
Coal	46	12	12	8	3	1	0	-12.8%	0.0%	-3.7%	-10.8%	-15.0%	-17.1%
Oil	89	80	63	44	29	20	14	-1.1%	-2.4%	-3.5%	-4.1%	-3.8%	-3.5%
Gas	110	150	177	139	148	123	100	3.2%	1.6%	-2.4%	0.6%	-1.8%	-2.0%
Electricity	90	116	146	141	157	167	180	2.5%	2.3%	-0.3%	1.1%	0.6%	0.8%
Heat	34	35	40	34	47	52	57	0.2%	1.3%	-1.4%	3.1%	1.1%	0.9%
Biomass & Other	24	30	41	49	55	51	50	2.3%	3.2%	2.0%	1.0%	-0.6%	-0.2%
Agriculture	33	29	26	25	27	28	30	-1.4%	-1.1%	-0.1%	0.5%	0.5%	0.5%
Coal	2	1	1	1	0	0	0	-4.9%	0.8%	-2.4%	-7.7%	-9.2%	-10.3%
Oil	21	18	14	14	12	9	6	-1.2%	-2.3%	-0.1%	-1.6%	-3.5%	-4.3%
Gas	5	4	4	4	3	3	2	-1.6%	-1.0%	0.3%	-1.1%	-2.5%	-3.0%
Electricity	5	4	5	5	6	9	11	-1.7%	1.3%	0.2%	2.9%	3.4%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	2	2	5	8	11	2.4%	4.4%	0.1%	9.3%	6.1%	3.1%
Transport	259	305	320	303	291	286	278	1.6%	0.5%	-0.5%	-0.4%	-0.2%	-0.3%
Coal	0	0	0	0	0	0	0	-26.4%	1.7%	-3.5%	0.0%	0.0%	0.0%
Oil	254	297	300	276	254	244	226	1.6%	0.1%	-0.8%	-0.8%	-0.4%	-0.8%
Gas	0	0	1	2	5	7	9	5.3%	12.9%	7.4%	7.7%	3.6%	2.0%
Electricity	5	6	5	6	8	10	14	1.3%	-1.4%	1.8%	3.0%	1.6%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	1	14	19	23	25	29	n.s.	34.1%	3.3%	2.1%	0.8%	1.4%
Other Energy Transformation & Losses⁴	99	94	110	103	106	104	105	-0.5%	1.6%	-0.6%	0.3%	-0.2%	0.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

EFTA	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	11	12	13	15	16	17	18	0.7%	0.9%	1.2%	0.9%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	34	39	42	44	48	53	58	1.5%	0.7%	0.5%	0.9%	0.9%	1.0%
GDP per capita (mer, k\$'05)	48	56	61	64	70	77	85	1.5%	0.9%	0.4%	0.9%	0.9%	1.0%
Share Value Added - Agriculture (%)	3	2	1	1	1	1	1	-4.8%	-2.7%	0.1%	0.0%	0.0%	0.0%
Share Value Added - Industry ¹ (%)	32	33	32	29	27	25	22	0.3%	-0.4%	-0.8%	-0.8%	-0.8%	-1.0%
Share Value Added - Services (%)	65	65	67	70	72	74	76	0.0%	0.2%	0.4%	0.3%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	18	-3.4%	3.6%	-2.8%	0.9%	1.0%	1.1%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (MtCO₂ eq.)													
Total GHG	90	79	77	90	72	66	51	-1.4%	-0.2%	1.6%	-2.1%	-0.9%	-2.6%
Total GHG (excl. sinks)	103	104	106	116	101	99	86	0.1%	0.2%	0.9%	-1.4%	-0.2%	-1.4%
Total GHG (energy, industry, agriculture)	101	102	104	114	100	98	85	0.0%	0.2%	1.0%	-1.3%	-0.2%	-1.4%
CO ₂	75	79	84	96	85	83	70	0.5%	0.7%	1.4%	-1.2%	-0.3%	-1.6%
CH ₄	10	9	9	7	7	7	7	-0.5%	-0.8%	-1.6%	-1.1%	0.2%	-0.2%
N ₂ O	11	10	8	8	8	8	8	-0.4%	-2.1%	0.2%	-1.0%	0.4%	-0.1%
F gases	6	3	3	2	1	1	1	-5.7%	-2.2%	-1.9%	-9.9%	0.2%	-0.9%
Total GHG from Energy and Industry	89	90	93	104	89	87	74	0.1%	0.3%	1.1%	-1.5%	-0.3%	-1.6%
CO₂ Emissions from Fuel Comb.	67	70	77	89	77	74	62	0.5%	0.9%	1.4%	-1.4%	-0.4%	-1.8%
Power generation/District heating	1	1	3	7	8	9	4	-2.5%	13.3%	11.4%	0.2%	2.1%	-8.9%
Industry	10	10	10	9	9	9	8	-0.4%	0.0%	-1.2%	-0.2%	0.0%	-1.0%
Buildings	20	18	18	11	8	7	5	-1.1%	0.2%	-4.5%	-3.0%	-2.3%	-2.1%
Agriculture	2	3	3	2	2	1	1	2.1%	-0.7%	-2.5%	-1.7%	-2.7%	-3.8%
Transport	25	28	31	33	28	25	21	1.1%	1.0%	0.5%	-1.4%	-1.3%	-1.6%
Other	8	11	13	26	22	23	23	3.0%	1.5%	7.3%	-1.7%	0.3%	-0.1%
CO₂ captured (CCS)	0	0	0	0	0	3	10	n.s.	n.s.	n.s.	19.8%	19.5%	15.1%
Coal	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	19.0%	18.8%	14.6%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	33.2%	8.0%
Biomass	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	17.7%	3.3%	34.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	127	230	221	193	158	116	93	6.2%	-0.4%	-1.4%	-1.9%	-3.1%	-2.2%
Coal	0	0	1	1	2	2	2	9.0%	12.1%	1.1%	2.4%	2.3%	0.2%
Oil	83	162	102	85	54	25	11	6.9%	-4.5%	-1.8%	-4.5%	-7.4%	-8.1%
Natural gas	21	41	89	74	60	43	33	6.8%	8.0%	-1.8%	-2.0%	-3.4%	-2.4%
Biomass	2	3	4	3	7	6	6	2.4%	1.9%	-0.8%	6.6%	-0.4%	-0.5%
Nuclear ¹	6	7	7	7	11	12	11	1.1%	0.0%	0.1%	4.3%	1.5%	-1.5%
Hydro	13	16	14	16	16	17	17	1.8%	-1.1%	1.2%	0.1%	0.1%	0.1%
Other renewables	0	1	4	6	8	10	13	16.1%	13.1%	3.4%	4.3%	2.1%	2.0%
Net Imports	-80	-177	-156	-123	-86	-40	-17						
Coal	1	1	0	0	1	1	2						
Oil	-62	-141	-79	-62	-34	-8	4						
Natural gas	-18	-34	-78	-59	-48	-30	-20						
Biomass	0	0	0	-1	-2	-2	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	-2	-2	1	-2	-2	-2	-2						
Primary Energy Demand²	46	54	66	69	73	76	76	1.5%	2.0%	0.6%	0.5%	0.5%	0.0%
Coal	1	1	1	2	2	4	4	0.0%	-2.5%	4.2%	5.1%	4.2%	0.6%
Oil	21	21	24	23	20	17	14	0.0%	1.5%	-0.3%	-1.7%	-1.5%	-1.6%
Natural gas	4	7	11	15	13	13	14	6.2%	5.0%	3.2%	-1.6%	0.4%	0.5%
Biomass	2	3	4	3	4	5	5	2.4%	1.9%	-3.2%	4.7%	1.0%	1.4%
Nuclear ¹	6	7	7	7	11	12	11	1.1%	0.0%	0.1%	4.3%	1.5%	-1.5%
Hydro	13	16	14	16	16	17	17	1.8%	-1.1%	1.2%	0.1%	0.1%	0.1%
Other renewables	0	1	4	6	8	10	13	16.1%	13.1%	3.4%	4.3%	2.1%	2.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	46	54	66	69	73	76	76	1.5%	2.0%	0.6%	0.5%	0.5%	0.0%
Energy for Power Generation	21	25	28	32	39	44	45	2.0%	0.9%	1.4%	2.0%	1.1%	0.4%
Other Energy Transformation & Losses	2	3	11	14	13	13	14	4.6%	15.0%	1.9%	-0.8%	0.7%	0.3%
Final consumption	37	41	45	43	43	44	45	1.0%	0.9%	-0.4%	0.1%	0.3%	0.2%
Steel, Non-Met. Minerals and Chem.	4	4	4	4	4	4	4	1.6%	-0.6%	-0.3%	-0.2%	-0.3%	-0.4%
Other Industry	6	7	7	8	8	9	9	1.2%	0.3%	0.6%	0.8%	0.7%	0.4%
Non-Energy Use	2	3	3	3	3	3	3	1.3%	0.2%	0.8%	-0.3%	-0.3%	-0.6%
Residential	10	10	11	9	9	10	10	-0.1%	1.4%	-1.8%	0.1%	0.4%	0.5%
Services	5	6	7	6	6	7	8	1.0%	1.9%	-1.5%	0.6%	0.9%	1.1%
Agriculture	1	1	1	1	1	1	1	3.4%	-0.6%	-1.3%	1.0%	0.8%	0.8%
Road	8	9	10	10	9	9	8	1.4%	0.9%	0.4%	-0.7%	-0.5%	-0.9%
Rail	0	0	0	0	0	0	0	-0.3%	1.4%	0.2%	1.1%	1.0%	0.8%
Aviation	0	0	0	1	1	1	1	5.3%	1.4%	2.6%	1.6%	1.6%	1.1%
Other Transport	1	1	1	1	1	1	1	0.9%	1.3%	-1.6%	0.3%	-0.2%	-1.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

EFTA	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	1	1	3	4	4	5	5	2.8%	7.6%	2.8%	1.1%	1.7%	1.5%
Coal	0	0	0	0	1	2	2	-5.0%	1.6%	32.3%	10.3%	6.2%	0.9%
Oil	0	0	0	0	0	0	0	-9.4%	-7.2%	31.7%	-4.3%	-4.4%	-11.5%
Gas	0	0	1	2	1	1	1	2.2%	16.9%	7.1%	-5.8%	0.3%	1.3%
Biomass & Waste	1	1	1	0	1	1	2	3.8%	3.4%	-10.9%	9.4%	-1.0%	5.4%
Other	0	0	0	0	1	1	1	16.0%	12.9%	1.0%	3.4%	0.1%	-1.4%
Gross Elec. Generation (TWh_e)	182	218	208	248	279	311	343	1.8%	-0.5%	1.8%	1.2%	1.1%	1.0%
Coal	0	0	0	2	5	10	11	-5.1%	3.8%	33.8%	10.9%	6.4%	0.9%
of which CCS	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	n.s.	17.3%
Oil	0	0	0	2	1	1	0	-4.9%	-8.2%	31.5%	-4.1%	-4.2%	-11.4%
Gas	0	1	6	9	5	6	8	12.5%	18.6%	4.4%	-5.3%	1.9%	1.8%
of which CCS	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	5.5%
Biomass & Waste	1	2	3	1	4	4	8	6.9%	3.5%	-6.8%	11.0%	-0.4%	7.0%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	24	26	26	27	42	49	42	1.1%	0.0%	0.2%	4.5%	1.7%	-1.5%
Hydro	157	187	168	189	191	194	195	1.8%	-1.1%	1.2%	0.1%	0.1%	0.1%
Wind	0	0	1	11	18	32	58	n.s.	39.0%	28.3%	4.9%	5.9%	6.3%
Solar	0	0	0	3	5	9	13	25.5%	20.1%	33.8%	6.2%	5.4%	4.4%
Other	0	1	4	5	7	7	7	16.0%	12.9%	1.0%	3.5%	0.4%	-0.6%
Generation Capacity (GW_e)	45	49	55	74	93	108	119	1.0%	1.1%	3.0%	2.3%	1.5%	1.0%
Coal	0	0	0	1	2	3	4	1.4%	3.4%	20.3%	8.9%	5.4%	3.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	19.4%
Oil	0	0	0	1	1	2	2	-5.3%	1.9%	14.6%	2.5%	1.5%	1.7%
Gas	0	0	2	9	15	17	17	10.2%	20.2%	17.5%	5.4%	1.4%	0.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	16.6%
Biomass & Waste	0	1	0	1	3	4	6	7.1%	-3.1%	12.5%	7.2%	1.8%	5.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	3	3	3	4	6	7	6	0.8%	0.2%	2.2%	4.3%	1.5%	-1.7%
Hydro	41	45	48	49	50	50	50	1.0%	0.7%	0.2%	0.1%	0.1%	0.1%
Wind	0	0	0	5	9	14	18	n.s.	40.6%	25.3%	6.5%	5.2%	2.4%
Solar	0	0	0	3	6	9	13	25.9%	19.9%	37.2%	6.1%	5.1%	3.2%
Other	0	0	1	1	2	2	2	14.4%	12.8%	8.5%	4.5%	1.3%	0.6%
Total Final Consumption² (Mtoe)	37	41	45	43	43	44	45	1.0%	0.9%	-0.4%	0.1%	0.3%	0.2%
Coal	1	1	1	1	1	1	1	0.2%	-3.1%	0.2%	0.7%	1.0%	-0.6%
Oil	19	19	20	17	14	11	9	0.0%	0.3%	-1.3%	-2.2%	-2.0%	-2.2%
Gas	1	3	3	3	4	4	4	7.0%	2.2%	0.3%	1.5%	0.9%	0.2%
Electricity	13	15	16	17	19	22	24	1.4%	1.1%	0.4%	1.3%	1.2%	1.0%
Heat	1	1	2	2	2	3	3	2.6%	4.9%	0.0%	2.8%	1.9%	1.1%
Biomass & Other	2	2	3	2	3	3	4	1.9%	1.7%	-1.4%	2.4%	1.3%	1.0%
Share of Renewables ³ (%)	41%	45%	39%	46%	53%	57%	66%	0.8%	-1.4%	1.8%	1.2%	0.9%	1.3%
Industry (incl. non-energy use)	12	14	14	15	15	16	16	1.3%	0.0%	0.4%	0.3%	0.3%	0.1%
Coal	1	1	1	1	1	1	1	0.2%	-3.2%	0.3%	0.7%	1.0%	-0.6%
Oil	4	4	4	3	3	2	2	-1.2%	0.0%	-1.3%	-1.8%	-1.9%	-1.9%
Gas	0	1	2	2	2	2	2	11.9%	1.7%	0.9%	0.7%	0.5%	-0.1%
Electricity	6	6	7	8	8	9	9	1.3%	0.3%	1.3%	0.9%	0.8%	0.5%
Heat	0	0	0	0	0	0	0	7.9%	2.6%	0.3%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	1	1	1	1	1	1	5.7%	-1.7%	-1.0%	2.0%	0.6%	1.2%
Buildings	15	15	18	15	16	17	18	0.3%	1.6%	-1.7%	0.3%	0.6%	0.7%
Coal	0	0	0	0	0	0	0	-5.6%	-1.2%	n.s.	n.s.	n.s.	n.s.
Oil	6	5	4	2	2	1	1	-1.8%	-0.5%	-5.7%	-4.4%	-3.6%	-3.1%
Gas	1	1	2	2	2	1	1	3.7%	3.1%	-1.0%	-0.6%	-0.7%	-1.2%
Electricity	7	8	9	9	10	11	12	1.3%	1.8%	-0.3%	1.1%	1.2%	1.2%
Heat	1	1	1	1	2	2	3	1.7%	5.3%	0.0%	3.2%	2.1%	1.2%
Biomass & Other	1	1	2	1	1	1	1	-0.9%	3.3%	-2.7%	-0.2%	-0.9%	-0.3%
Agriculture	1	1	1	1	1	1	1	3.4%	-0.6%	-1.3%	1.0%	0.8%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	1	0	0	1.9%	-0.3%	-2.6%	-1.7%	-2.8%	-3.9%
Gas	0	0	0	0	0	0	0	7.3%	-9.1%	0.5%	-1.2%	-1.9%	-2.7%
Electricity	0	0	0	0	0	1	1	6.5%	0.4%	0.9%	2.6%	2.4%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	41.3%	-3.4%	6.3%	14.1%	5.7%	3.4%
Transport	9	10	11	12	11	11	10	1.4%	1.0%	0.4%	-0.5%	-0.3%	-0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	10	11	11	9	7	6	1.5%	0.8%	0.1%	-1.9%	-1.8%	-2.1%
Gas	0	0	0	0	1	1	1	n.s.	n.s.	19.9%	17.6%	4.9%	2.5%
Electricity	0	0	0	0	1	1	2	0.1%	1.7%	1.6%	9.0%	3.9%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	6.6%	8.9%	4.3%	1.5%
Other Energy Transformation & Losses⁴	2	3	11	14	13	13	14	4.6%	15.0%	1.9%	-0.8%	0.7%	0.3%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest Balkans	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	24	23	23	22	21	20	19	-0.5%	-0.3%	-0.2%	-0.3%	-0.6%	-0.7%
GDP per capita (ppp, k\$'05)	5	4	7	8	11	15	20	-0.9%	4.1%	1.9%	3.1%	3.6%	2.8%
GDP per capita (mer, k\$'05)	0	2	3	3	5	7	9	14.0%	4.6%	1.9%	3.1%	3.6%	2.8%
Share Value Added - Agriculture (%)	22	15	12	10	9	8	7	-3.6%	-2.6%	-1.2%	-1.7%	-1.4%	-0.8%
Share Value Added - Industry (%)	31	24	27	27	26	25	24	-2.6%	1.3%	0.1%	-0.3%	-0.4%	-0.5%
Share Value Added - Services (%)	47	61	61	62	65	67	69	2.6%	0.0%	0.2%	0.4%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	18	-3.4%	3.6%	-2.8%	0.9%	1.0%	1.1%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	129	75	118	120	120	104	81	-5.3%	4.6%	0.2%	0.0%	-1.4%	-2.5%
Total GHG (excl. sinks)	129	94	119	121	121	111	92	-3.1%	2.3%	0.2%	0.0%	-0.9%	-1.9%
Total GHG (energy, industry, agriculture)	129	92	118	116	116	106	84	-3.3%	2.5%	-0.2%	0.0%	-0.9%	-2.3%
CO ₂	101	71	88	82	84	79	63	-3.4%	2.1%	-0.7%	0.2%	-0.6%	-2.2%
CH ₄	17	12	11	11	10	9	8	-3.5%	-0.7%	-0.1%	-1.4%	-0.5%	-0.9%
N ₂ O	9	6	10	11	11	11	11	-4.4%	5.4%	0.5%	0.6%	0.2%	-0.2%
F gases	1	3	9	12	12	7	1	8.5%	11.5%	2.8%	-0.5%	-5.0%	-14.3%
Total GHG from Energy and Industry	113	81	104	100	100	90	68	-3.3%	2.6%	-0.4%	-0.1%	-1.0%	-2.8%
CO₂ Emissions from Fuel Comb.	97	69	84	78	79	74	58	-3.3%	2.0%	-0.8%	0.1%	-0.7%	-2.4%
Power generation/District heating	52	47	52	48	48	42	28	-1.0%	1.0%	-0.8%	0.1%	-1.4%	-4.1%
Industry	16	8	9	8	8	8	7	-6.8%	1.1%	-1.7%	0.2%	0.1%	-0.5%
Buildings	14	5	6	4	3	3	3	-10.3%	1.5%	-3.5%	-1.2%	-1.0%	-1.7%
Agriculture	0	1	1	1	1	1	1	9.7%	-4.7%	4.1%	0.7%	0.4%	-0.5%
Transport	8	6	13	13	12	12	12	-2.4%	7.2%	-0.3%	-0.5%	0.2%	-0.1%
Other	6	2	4	6	7	8	8	-9.6%	6.7%	2.1%	2.1%	1.8%	-0.4%
CO₂ captured (CCS)	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	31.3%	18.2%
Coal	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	30.1%	18.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	23.7%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	8.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	20	18	21	13	15	17	19	-1.0%	1.5%	-4.5%	1.2%	1.2%	1.1%
Coal	14	13	14	4	5	4	4	-1.1%	1.2%	-11.6%	1.2%	-0.6%	-1.8%
Oil	2	1	2	2	2	2	1	-5.0%	2.2%	3.9%	-1.4%	-2.0%	-3.1%
Natural gas	1	1	0	1	1	1	1	-1.4%	-6.4%	5.3%	4.7%	1.4%	0.6%
Biomass	2	2	2	4	4	5	5	-0.2%	2.1%	6.3%	0.7%	1.5%	1.4%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.3%	11.7%
Hydro	1	2	3	2	3	3	4	3.7%	3.9%	-1.6%	1.9%	1.7%	1.5%
Other renewables	0	0	0	0	1	2	3	n.s.	19.5%	31.4%	17.5%	11.8%	7.4%
Net Imports	12	5	10	15	16	17	14						
Coal	2	0	1	10	9	7	4						
Oil	7	4	7	5	5	5	5						
Natural gas	3	1	2	1	3	5	5						
Biomass	0	0	0	-2	-1	-1	-1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	32	24	31	29	31	34	33	-3.1%	2.7%	-0.7%	0.8%	0.8%	-0.2%
Coal	16	13	15	14	14	11	8	-2.2%	1.6%	-0.7%	-0.3%	-2.3%	-3.4%
Oil	9	5	9	7	7	7	6	-6.4%	5.8%	-1.7%	-0.7%	0.1%	-0.7%
Natural gas	4	2	2	2	4	6	6	-6.8%	1.8%	-1.8%	6.7%	5.8%	-0.4%
Biomass	2	2	2	2	3	4	5	-0.2%	2.3%	0.6%	3.1%	2.5%	1.8%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.3%	11.7%
Hydro	1	2	3	2	3	3	4	3.7%	3.9%	-1.6%	1.9%	1.7%	1.5%
Other renewables	0	0	0	0	1	2	3	n.s.	19.5%	31.4%	17.5%	11.8%	7.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	32	24	31	29	31	34	33	-3.1%	2.7%	-0.7%	0.8%	0.8%	-0.2%
Energy for Power Generation	15	14	16	15	16	17	17	-0.6%	1.5%	-0.9%	1.1%	0.7%	-0.5%
Other Energy Transformation & Losses	2	1	2	3	4	4	5	-5.3%	5.9%	4.1%	2.4%	2.1%	0.4%
Final consumption	21	13	19	18	19	21	23	-4.4%	3.6%	-0.7%	0.9%	1.1%	0.5%
Steel, Non-Met. Minerals and Chem.	0	1	3	2	2	2	2	5.2%	14.3%	-2.8%	-0.1%	-0.5%	-1.1%
Other Industry	7	3	2	2	3	3	4	-8.3%	-3.4%	1.1%	2.1%	2.1%	1.3%
Non-Energy Use	2	0	1	1	1	1	1	-13.4%	10.4%	-5.5%	1.2%	1.5%	0.7%
Residential	4	5	6	6	6	7	7	1.0%	1.8%	-0.4%	0.8%	0.9%	0.3%
Services	4	2	2	2	2	3	3	-9.8%	2.6%	-1.0%	1.6%	2.1%	1.3%
Agriculture	0	0	0	0	0	0	0	11.2%	-3.1%	2.8%	1.1%	1.2%	1.0%
Road	3	2	5	5	5	5	5	-1.1%	6.9%	0.0%	0.3%	0.8%	0.4%
Rail	0	0	0	0	0	0	0	2.1%	18.1%	-3.0%	0.6%	0.8%	0.5%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	3.0%	3.3%	2.2%
Other Transport	0	0	0	0	0	0	0	n.s.	4.8%	8.0%	1.8%	1.7%	0.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Balkans	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	13	12	13	12	13	12	9	-1.1%	1.0%	-0.9%	0.6%	-0.5%	-3.0%
Coal	12	11	13	12	11	8	5	-0.4%	1.0%	-0.6%	-0.5%	-2.9%	-4.5%
Oil	1	0	0	0	0	1	0	-12.5%	-2.9%	-24.5%	33.6%	7.8%	-1.5%
Gas	0	0	0	0	1	3	3	-7.4%	7.7%	-12.8%	34.6%	10.4%	-1.5%
Biomass & Waste	0	0	0	0	0	0	0	1	n.s.	n.s.	14.8%	11.2%	7.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	65	59	79	76	93	112	125	-0.9%	3.0%	-0.4%	2.0%	2.0%	1.1%
Coal	44	35	45	46	47	38	25	-2.3%	2.6%	0.2%	0.3%	-2.1%	-4.3%
of which CCS	0	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	47.6%
Oil	3	1	0	0	1	2	2	-11.9%	-12.4%	-13.7%	33.7%	7.7%	-1.3%
Gas	1	0	0	0	4	13	12	-11.4%	0.3%	-3.9%	31.6%	11.4%	-0.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	17.4%	12.4%	7.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	16	23	34	29	34	40	47	3.7%	3.9%	-1.6%	1.9%	1.7%	1.5%
Wind	0	0	0	1	4	12	24	n.s.	n.s.	n.s.	18.2%	12.2%	7.0%
Solar	0	0	0	0	1	5	11	n.s.	n.s.	51.8%	21.2%	14.1%	9.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	20.0%	14.9%
Generation Capacity (GW_e)	26	13	16	20	23	31	43	-6.7%	2.6%	1.8%	1.6%	2.9%	3.4%
Coal	25	8	8	11	11	11	12	-10.5%	0.4%	2.3%	0.1%	0.3%	0.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	44.5%
Oil	1	1	1	1	0	0	1	-0.6%	2.4%	-2.6%	-3.3%	2.8%	2.9%
Gas	0	0	3	3	3	3	3	-1.1%	31.4%	-1.5%	0.5%	-0.5%	2.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	13.7%	12.1%	8.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	4	4	5	6	8	9	n.s.	0.9%	2.3%	1.8%	1.7%	1.5%
Wind	0	0	0	0	2	5	9	n.s.	n.s.	n.s.	17.4%	11.4%	6.3%
Solar	0	0	0	0	1	4	9	n.s.	n.s.	52.1%	21.5%	14.4%	9.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.4%
Total Final Consumption² (Mtoe)	21	13	19	18	19	21	23	-4.4%	3.6%	-0.7%	0.9%	1.1%	0.5%
Coal	4	2	2	2	2	1	1	-7.0%	1.2%	-1.8%	-0.3%	-0.9%	-1.3%
Oil	8	4	8	7	6	6	5	-6.1%	6.3%	-1.2%	-1.0%	-0.4%	-0.6%
Gas	3	1	1	1	2	2	2	-7.6%	0.0%	-3.2%	4.7%	3.1%	1.1%
Electricity	4	4	5	5	6	8	9	-0.8%	2.5%	0.8%	1.9%	1.9%	1.1%
Heat	1	1	1	1	1	1	2	-1.9%	5.2%	-1.4%	2.3%	2.0%	1.3%
Biomass & Other	2	2	2	2	2	3	3	-0.2%	2.2%	-0.1%	1.8%	1.9%	1.1%
Share of Renewables ³ (%)	15%	26%	26%	25%	30%	38%	49%	5.2%	0.2%	-0.4%	1.9%	2.3%	2.6%
Industry (incl. non-energy use)	9	4	6	5	6	6	7	-7.9%	3.7%	-1.7%	1.2%	1.2%	0.5%
Coal	1	1	1	1	1	1	1	-2.4%	1.3%	-0.4%	0.5%	-0.1%	-0.7%
Oil	4	1	2	1	1	1	1	-15.1%	7.7%	-3.5%	-1.2%	-1.0%	-1.4%
Gas	1	1	1	0	1	1	1	-2.4%	-0.6%	-6.3%	3.3%	2.9%	1.2%
Electricity	2	1	1	2	2	2	3	-7.8%	5.3%	1.1%	2.3%	1.9%	1.1%
Heat	0	0	0	0	0	0	0	-6.1%	9.0%	-5.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	1	n.s.	-3.4%	8.9%	3.8%	4.8%	3.2%
Buildings	9	6	8	7	8	9	10	-3.1%	2.0%	-0.5%	1.0%	1.2%	0.6%
Coal	2	1	1	0	0	0	0	-12.7%	2.1%	-5.0%	-3.5%	-5.1%	-7.5%
Oil	1	1	1	0	0	0	0	-1.0%	1.1%	-3.6%	-2.7%	-1.9%	-1.8%
Gas	2	0	0	0	1	1	1	-14.8%	1.1%	0.1%	3.6%	2.2%	0.1%
Electricity	2	3	3	4	4	5	5	3.1%	1.5%	0.6%	1.2%	1.6%	1.0%
Heat	0	0	1	1	1	1	1	0.0%	3.7%	0.3%	2.9%	2.4%	1.5%
Biomass & Other	2	2	2	2	2	2	2	-1.2%	2.8%	-1.0%	0.7%	0.8%	0.2%
Agriculture	0	0	0	0	0	0	0	11.2%	-3.1%	2.8%	1.1%	1.2%	1.0%
Coal	0	0	0	0	0	0	0	2.3%	-29.6%	-5.0%	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	16.2%	-2.0%	3.3%	0.7%	0.4%	-0.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	12.6%	0.6%	0.4%	-0.3%
Electricity	0	0	0	0	0	0	0	5.0%	6.0%	-1.5%	2.2%	2.9%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	-13.8%	-7.8%	5.5%	9.4%	8.7%
Transport	3	2	5	5	5	6	6	-1.0%	7.3%	-0.1%	0.4%	0.9%	0.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	2	5	5	4	4	4	-0.9%	7.3%	-0.4%	-0.9%	-0.2%	-0.4%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	19.2%	18.9%	5.5%	2.5%
Electricity	0	0	0	0	0	0	1	-5.5%	3.9%	6.9%	15.2%	5.5%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	15.1%	5.2%	2.8%
Other Energy Transformation & Losses⁴	2	1	2	3	4	4	5	-5.3%	5.9%	4.1%	2.4%	2.1%	0.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Russia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	148	146	143	143	139	133	129	-0.1%	-0.2%	0.0%	-0.3%	-0.4%	-0.3%
GDP per capita (ppp, k\$'05)	13	9	14	16	20	24	25	-3.8%	5.1%	1.3%	2.3%	1.8%	0.4%
GDP per capita (mer, k\$'05)	6	4	6	7	9	11	11	-3.8%	5.1%	1.1%	2.3%	1.8%	0.4%
Share Value Added - Agriculture (%)	17	6	4	5	4	4	4	-9.0%	-5.0%	1.7%	-0.6%	-0.4%	-0.1%
Share Value Added - Industry (%)	48	38	35	32	31	30	30	-2.4%	-0.9%	-0.7%	-0.4%	-0.4%	-0.1%
Share Value Added - Services (%)	35	56	61	63	65	66	66	4.8%	1.0%	0.3%	0.2%	0.2%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	17	-3.4%	3.6%	-3.1%	1.0%	1.0%	0.8%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	3 428	1 649	1 612	1 742	1 948	1 591	1 227	-7.1%	-0.2%	0.8%	1.1%	-2.0%	-2.6%
Total GHG (excl. sinks)	3 428	2 108	2 230	2 177	2 181	1 728	1 335	-4.7%	0.6%	-0.2%	0.0%	-2.3%	-2.5%
Total GHG (energy, industry, agriculture)	3 300	2 092	2 218	2 171	2 181	1 728	1 254	-4.5%	0.6%	-0.2%	0.0%	-2.3%	-3.2%
CO ₂	2 418	1 497	1 563	1 519	1 509	1 298	898	-4.7%	0.4%	-0.3%	-0.1%	-1.5%	-3.6%
CH ₄	593	435	491	469	488	260	197	-3.1%	1.2%	-0.5%	0.4%	-6.1%	-2.7%
N ₂ O	248	131	150	165	172	168	158	-6.2%	1.3%	1.0%	0.5%	-0.2%	-0.6%
F gases	41	29	14	18	11	2	1	-3.5%	-6.8%	2.2%	-4.3%	-15.5%	-9.3%
Total GHG from Energy and Industry	2 978	1 938	2 077	2 017	2 013	1 558	1 086	-4.2%	0.7%	-0.3%	0.0%	-2.5%	-3.6%
CO₂ Emissions from Fuel Comb.	2 285	1 420	1 458	1 427	1 418	1 214	830	-4.6%	0.3%	-0.2%	-0.1%	-1.5%	-3.7%
Power generation/District heating	795	586	623	604	610	471	268	-3.0%	0.6%	-0.3%	0.1%	-2.6%	-5.5%
Industry	227	157	140	150	154	137	105	-3.6%	-1.1%	0.7%	0.2%	-1.1%	-2.7%
Buildings	336	170	137	107	105	99	66	-6.6%	-2.1%	-2.5%	-0.2%	-0.6%	-4.0%
Agriculture	49	21	14	13	14	14	11	-8.3%	-4.1%	-0.4%	0.8%	-0.1%	-2.6%
Transport	252	112	157	184	191	185	158	-7.8%	3.4%	1.6%	0.3%	-0.3%	-1.6%
Other	626	375	386	368	344	307	223	-5.0%	0.3%	-0.5%	-0.7%	-1.1%	-3.2%
CO₂ captured (CCS)	0	0	0	0	0	3	40	n.s.	n.s.	n.s.	n.s.	n.s.	28.9%
Coal	0	0	0	0	0	1	9	n.s.	n.s.	n.s.	n.s.	n.s.	25.9%
Gas	0	0	0	0	0	2	25	n.s.	n.s.	n.s.	n.s.	n.s.	27.5%
Biomass	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	1 234	944	1 229	1 301	1 538	1 662	1 706	-2.6%	2.7%	0.6%	1.7%	0.8%	0.3%
Coal	164	130	169	155	207	219	227	-2.3%	2.7%	-0.8%	2.9%	0.6%	0.4%
Oil	526	325	510	539	570	557	497	-4.7%	4.6%	0.6%	0.6%	-0.2%	-1.1%
Natural gas	491	436	486	523	649	723	794	-1.2%	1.1%	0.7%	2.2%	1.1%	0.9%
Biomass	8	5	4	16	35	44	52	-5.5%	-0.9%	13.8%	8.6%	2.2%	1.6%
Nuclear ¹	31	35	45	51	58	93	103	1.0%	2.7%	1.3%	1.2%	4.8%	1.1%
Hydro	14	14	14	16	16	18	20	0.0%	0.2%	0.8%	0.4%	1.0%	1.0%
Other renewables	0	0	0	1	3	7	13	7.6%	24.1%	12.2%	6.3%	10.1%	6.9%
Net Imports	- 353	- 324	- 539	- 611	- 829	- 965	- 1 106						
Coal	11	- 10	- 68	- 33	- 66	- 111	- 161						
Oil	- 265	- 199	- 370	- 367	- 408	- 407	- 373						
Natural gas	- 103	- 117	- 103	- 208	- 352	- 454	- 588						
Biomass	4	2	3	0	0	11	21						
Biofuels	0	0	0	- 1	- 2	- 3	- 3						
Electricity	- 1	- 1	- 2	- 2	- 2	- 2	- 2						
Primary Energy Demand²	880	619	690	690	709	697	600	-3.5%	1.1%	0.0%	0.3%	-0.2%	-1.5%
Coal	175	120	101	122	141	109	66	-3.7%	-1.7%	1.9%	1.4%	-2.6%	-4.9%
Oil	261	126	140	172	162	150	124	-7.0%	1.1%	2.1%	-0.6%	-0.7%	-1.9%
Natural gas	388	319	384	315	297	269	206	-1.9%	1.9%	-2.0%	-0.6%	-1.0%	-2.7%
Biomass	12	7	7	16	36	55	74	-5.6%	0.0%	8.7%	8.6%	4.4%	2.9%
Nuclear ¹	31	35	45	51	58	93	103	1.0%	2.7%	1.3%	1.2%	4.8%	1.1%
Hydro	14	14	14	16	16	18	20	0.0%	0.2%	0.8%	0.4%	1.0%	1.0%
Other renewables	0	0	0	1	3	7	13	7.6%	24.1%	12.2%	6.3%	10.1%	6.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	880	619	690	690	709	697	600	-3.5%	1.1%	0.0%	0.3%	-0.2%	-1.5%
Energy for Power Generation	325	252	286	282	288	289	252	-2.5%	1.2%	-0.1%	0.2%	0.0%	-1.3%
Other Energy Transformation & Losses	224	154	154	148	148	146	134	-3.6%	0.0%	-0.4%	0.0%	-0.1%	-0.9%
Final consumption	603	400	425	426	448	443	390	-4.0%	0.6%	0.0%	0.5%	-0.1%	-1.3%
Steel, Non-Met. Minerals and Chem.	102	78	91	93	97	88	72	-2.7%	1.6%	0.2%	0.4%	-0.9%	-2.0%
Other Industry	128	65	52	56	57	56	51	-6.5%	-2.2%	0.6%	0.3%	-0.2%	-0.9%
Non-Energy Use	40	36	66	74	79	80	71	-1.0%	6.2%	1.2%	0.7%	0.0%	-1.2%
Residential	168	140	111	97	95	95	83	-1.8%	-2.3%	-1.4%	-0.2%	-0.1%	-1.3%
Services	62	25	37	34	41	44	39	-8.7%	3.9%	-0.7%	1.7%	0.8%	-1.2%
Agriculture	22	9	6	6	6	7	7	-8.3%	-4.4%	-0.2%	1.0%	0.8%	0.4%
Road	52	34	48	50	55	57	52	-4.1%	3.4%	0.5%	0.8%	0.3%	-0.9%
Rail	12	5	7	7	7	7	7	-7.6%	2.1%	0.8%	0.2%	0.0%	-0.6%
Aviation	9	5	5	6	7	8	7	-6.9%	1.5%	1.5%	1.6%	0.6%	-0.9%
Other Transport	7	1	1	2	3	2	2	-14.7%	-1.4%	6.7%	1.1%	-0.4%	-2.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Russia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	279	204	226	214	211	171	116	-3.1%	1.0%	-0.5%	-0.1%	-2.1%	-3.8%
Coal	63	63	59	66	77	53	27	0.0%	-0.6%	1.0%	1.6%	-3.7%	-6.5%
Oil	46	12	4	9	5	4	3	-12.6%	-10.2%	8.5%	-5.3%	-1.8%	-4.1%
Gas	170	127	160	134	123	107	76	-2.9%	2.4%	-1.8%	-0.9%	-1.4%	-3.3%
Biomass & Waste	0	2	2	5	6	7	10	29.4%	1.7%	9.1%	1.9%	2.8%	3.1%
Other	0	0	0	0	0	0	0	7.6%	24.2%	8.3%	5.5%	1.0%	2.3%
Gross Elec. Generation (TWh_e)	1 082	878	1 038	1 093	1 261	1 356	1 254	-2.1%	1.7%	0.5%	1.4%	0.7%	-0.8%
Coal	157	176	166	202	269	196	104	1.1%	-0.6%	2.0%	2.9%	-3.1%	-6.2%
of which CCS	0	0	0	0	0	1	10	n.s.	n.s.	n.s.	n.s.	n.s.	30.9%
Oil	129	33	9	41	23	20	13	-12.7%	-11.9%	15.9%	-5.4%	-1.8%	-4.0%
Gas	512	370	521	450	523	499	373	-3.2%	3.5%	-1.4%	1.5%	-0.5%	-2.9%
of which CCS	0	0	0	0	0	2	45	n.s.	n.s.	n.s.	n.s.	n.s.	36.4%
Biomass & Waste	0	3	3	15	19	29	47	52.6%	0.9%	18.7%	2.4%	4.1%	5.0%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	118	131	170	196	224	371	417	1.0%	2.7%	1.4%	1.3%	5.2%	1.2%
Hydro	166	165	168	183	190	210	231	0.0%	0.2%	0.8%	0.4%	1.0%	1.0%
Wind	0	0	0	4	7	20	40	n.s.	7.2%	n.s.	5.4%	11.4%	6.9%
Solar	0	0	0	1	3	9	26	n.s.	n.s.	n.s.	15.6%	13.6%	11.0%
Other	0	0	1	1	2	2	3	7.6%	24.2%	8.3%	5.7%	1.9%	3.9%
Generation Capacity (GW_e)	144	211	231	231	245	290	317	3.9%	0.9%	0.0%	0.6%	1.7%	0.9%
Coal	42	42	42	38	42	43	42	0.0%	0.0%	-1.1%	1.1%	0.2%	-0.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	31.0%
Oil	16	16	16	13	8	6	5	0.0%	0.0%	-1.8%	-4.4%	-2.7%	-1.7%
Gas	86	88	104	100	106	116	110	0.3%	1.7%	-0.4%	0.6%	1.0%	-0.6%
of which CCS	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	36.9%
Biomass & Waste	0	1	1	2	3	4	6	36.8%	0.0%	13.4%	2.1%	4.1%	5.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	20	23	25	28	46	51	n.s.	1.3%	1.0%	1.1%	5.0%	1.1%
Hydro	0	44	45	49	51	56	61	n.s.	0.2%	0.8%	0.4%	1.0%	1.0%
Wind	0	0	0	3	4	11	19	n.s.	19.6%	n.s.	5.0%	9.9%	5.7%
Solar	0	0	0	1	3	8	20	n.s.	n.s.	n.s.	10.8%	10.6%	10.3%
Other	0	0	0	0	0	0	0	n.s.	14.6%	6.8%	5.5%	1.5%	3.3%
Total Final Consumption² (Mtoe)	603	400	425	426	448	443	390	-4.0%	0.6%	0.0%	0.5%	-0.1%	-1.3%
Coal	68	29	28	33	35	27	17	-8.3%	-0.2%	1.6%	0.6%	-2.4%	-4.5%
Oil	145	91	109	125	122	114	95	-4.6%	1.9%	1.4%	-0.2%	-0.7%	-1.9%
Gas	110	90	110	97	106	107	88	-2.0%	2.0%	-1.3%	1.0%	0.1%	-2.0%
Electricity	68	50	60	63	73	79	73	-2.9%	1.8%	0.5%	1.4%	0.7%	-0.7%
Heat	203	137	115	102	99	99	98	-3.9%	-1.8%	-1.2%	-0.2%	0.0%	-0.1%
Biomass & Other	8	3	2	6	11	17	19	-9.3%	-2.5%	9.5%	7.0%	3.7%	1.4%
Share of Renewables ³ (%)	6%	8%	7%	8%	9%	12%	18%	2.1%	-0.9%	1.5%	1.5%	2.9%	3.7%
Industry (incl. non-energy use)	270	179	210	223	234	224	194	-4.0%	1.6%	0.6%	0.5%	-0.4%	-1.4%
Coal	28	19	24	30	33	26	17	-3.9%	2.6%	2.3%	0.8%	-2.3%	-4.3%
Oil	44	36	43	52	51	48	41	-2.0%	1.9%	2.0%	-0.2%	-0.6%	-1.4%
Gas	52	43	66	67	71	70	59	-1.9%	4.5%	0.1%	0.6%	-0.2%	-1.7%
Electricity	41	27	28	30	34	36	34	-4.2%	0.5%	0.6%	1.4%	0.6%	-0.8%
Heat	105	55	48	42	40	39	37	-6.4%	-1.4%	-1.3%	-0.3%	-0.4%	-0.4%
Biomass & Other	0	1	0	2	4	5	6	n.s.	-2.9%	13.2%	8.9%	3.9%	1.3%
Buildings	231	166	148	131	136	139	122	-3.3%	-1.1%	-1.2%	0.4%	0.2%	-1.3%
Coal	40	10	4	3	2	1	0	-13.1%	-8.8%	-4.0%	-2.3%	-5.0%	-11.2%
Oil	14	7	6	9	7	5	3	-7.0%	-0.6%	3.9%	-3.2%	-2.7%	-4.1%
Gas	57	47	43	29	32	33	23	-1.9%	-0.8%	-4.1%	1.2%	0.3%	-3.7%
Electricity	15	18	26	26	30	31	27	1.7%	3.8%	0.3%	1.2%	0.5%	-1.3%
Heat	98	82	67	60	59	60	61	-1.7%	-2.0%	-1.1%	-0.2%	0.2%	0.1%
Biomass & Other	7	2	2	4	6	7	7	-10.8%	-2.6%	8.4%	4.1%	1.8%	-0.7%
Agriculture	22	9	6	6	6	7	7	-8.3%	-4.4%	-0.2%	1.0%	0.8%	0.4%
Coal	1	0	0	0	0	0	0	-7.1%	-11.5%	-3.4%	0.0%	-1.2%	-4.3%
Oil	14	6	4	4	4	4	3	-8.7%	-4.2%	-0.4%	0.9%	-0.1%	-2.6%
Gas	1	1	1	1	1	1	1	-0.8%	0.9%	0.6%	0.7%	-0.1%	-2.0%
Electricity	6	3	1	1	2	2	2	-7.7%	-6.2%	0.1%	1.7%	1.9%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	0	0	0	0	0	1	-15.8%	1.1%	0.4%	0.0%	10.2%	11.7%
Transport	80	46	61	66	72	74	67	-5.4%	3.0%	0.7%	0.8%	0.3%	-0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	73	42	56	60	60	57	47	-5.3%	2.8%	0.6%	0.1%	-0.5%	-2.0%
Gas	1	0	0	0	2	4	6	-23.1%	3.4%	11.9%	19.6%	6.2%	4.8%
Electricity	6	3	5	6	7	9	9	-5.5%	4.5%	1.1%	2.5%	1.9%	0.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	4	5	n.s.	n.s.	n.s.	23.0%	7.5%	3.1%
Other Energy Transformation & Losses⁴	224	154	154	148	148	146	134	-3.6%	0.0%	-0.4%	0.0%	-0.1%	-0.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Ukraine	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	51	49	46	44	41	38	35	-0.5%	-0.7%	-0.4%	-0.7%	-0.8%	-0.7%
GDP per capita (ppp, k\$'05)	8	4	6	7	10	15	21	-7.5%	5.0%	1.0%	4.2%	3.9%	3.5%
GDP per capita (mer, k\$'05)	3	1	2	2	3	5	7	-7.5%	5.0%	0.7%	4.2%	3.9%	3.5%
Share Value Added - Agriculture (%)	26	17	8	12	10	8	7	-4.0%	-7.0%	4.0%	-2.5%	-1.6%	-1.0%
Share Value Added - Industry (%)	45	36	31	26	25	24	23	-2.0%	-1.5%	-1.9%	-0.2%	-0.4%	-0.5%
Share Value Added - Services (%)	30	47	60	62	65	67	69	4.6%	2.6%	0.2%	0.5%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	17	-3.4%	3.6%	-3.1%	1.0%	1.0%	0.8%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	804	345	311	260	300	241	244	-8.1%	-1.1%	-1.8%	1.4%	-2.2%	0.2%
Total GHG (excl. sinks)	873	396	349	286	322	261	264	-7.6%	-1.3%	-2.0%	1.2%	-2.1%	0.1%
Total GHG (energy, industry, agriculture)	873	396	349	286	322	261	264	-7.6%	-1.3%	-2.0%	1.2%	-2.1%	0.1%
CO ₂	652	277	253	200	240	200	208	-8.2%	-0.9%	-2.3%	1.8%	-1.8%	0.4%
CH ₄	162	93	66	53	47	29	24	-5.4%	-3.3%	-2.2%	-1.2%	-4.8%	-1.7%
N ₂ O	59	26	29	32	35	32	31	-7.7%	0.9%	1.0%	0.8%	-0.8%	-0.2%
F gases	0	0	1	1	0	0	0	-5.6%	17.0%	0.4%	-10.0%	-11.1%	-11.8%
Total GHG from Energy and Industry	770	359	314	248	282	220	225	-7.3%	-1.3%	-2.3%	1.3%	-2.4%	0.2%
CO₂ Emissions from Fuel Comb.	613	258	234	182	221	180	190	-8.3%	-1.0%	-2.5%	2.0%	-2.0%	0.5%
Power generation/District heating	209	77	93	80	113	72	84	-9.5%	1.9%	-1.4%	3.4%	-4.4%	1.6%
Industry	127	47	31	25	28	27	24	-9.5%	-3.9%	-2.2%	1.0%	-0.3%	-1.1%
Buildings	56	44	37	21	19	17	15	-2.5%	-1.8%	-5.5%	-0.9%	-1.2%	-0.9%
Agriculture	23	3	4	4	5	5	5	-17.2%	2.4%	0.0%	1.1%	0.5%	-0.3%
Transport	53	17	30	25	27	28	28	-10.6%	5.5%	-1.8%	0.7%	0.5%	-0.1%
Other	144	69	38	26	29	32	33	-7.1%	-5.8%	-3.8%	1.3%	0.8%	0.5%
CO₂ captured (CCS)	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	21.4%
Coal	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	20.4%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	33.6%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	105	71	80	76	74	78	71	-3.8%	1.1%	-0.4%	-0.3%	0.5%	-0.9%
Coal	57	32	34	30	23	13	6	-5.5%	0.6%	-1.3%	-2.6%	-5.3%	-7.7%
Oil	6	4	4	3	4	4	4	-3.2%	-0.2%	-2.6%	1.8%	1.3%	0.4%
Natural gas	21	13	15	17	18	18	17	-4.5%	1.4%	0.9%	0.7%	0.0%	-0.5%
Biomass	0	0	1	1	2	2	3	-2.2%	18.6%	-1.4%	3.2%	2.7%	3.7%
Nuclear ¹	20	20	24	23	23	32	31	0.2%	1.4%	-0.2%	0.0%	3.4%	-0.5%
Hydro	1	1	1	1	1	1	1	0.7%	1.4%	-0.1%	-0.1%	0.3%	0.0%
Other renewables	0	0	0	1	3	6	8	n.s.	n.s.	n.s.	12.1%	7.8%	2.5%
Net Imports	148	58	53	20	37	37	49						
Coal	18	2	4	3	18	15	22						
Oil	62	8	9	8	10	11	11						
Natural gas	71	49	40	9	9	10	15						
Biomass	0	0	0	0	1	1	1						
Biofuels	0	0	0	0	0	0	0						
Electricity	-2	0	0	0	0	0	0						
Primary Energy Demand²	253	130	133	97	111	114	120	-6.4%	0.2%	-3.1%	1.4%	0.3%	0.5%
Coal	75	34	39	33	41	28	28	-7.5%	1.2%	-1.6%	2.3%	-3.7%	-0.3%
Oil	67	12	13	11	13	15	15	-15.9%	1.0%	-1.4%	1.4%	1.2%	0.4%
Natural gas	92	62	55	26	27	28	32	-3.8%	-1.2%	-7.3%	0.3%	0.4%	1.3%
Biomass	0	0	1	1	2	3	5	-2.2%	18.9%	-0.8%	5.2%	4.3%	3.3%
Nuclear ¹	20	20	24	23	23	32	31	0.2%	1.4%	-0.2%	0.0%	3.4%	-0.5%
Hydro	1	1	1	1	1	1	1	0.7%	1.4%	-0.1%	-0.1%	0.3%	0.0%
Other renewables	0	0	0	1	3	6	8	n.s.	n.s.	n.s.	12.1%	7.8%	2.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	253	130	133	97	111	114	120	-6.4%	0.2%	-3.1%	1.4%	0.3%	0.5%
Energy for Power Generation	81	44	51	48	61	65	71	-5.9%	1.4%	-0.6%	2.3%	0.7%	1.0%
Other Energy Transformation & Losses	60	34	30	12	12	13	14	-5.4%	-1.3%	-8.8%	0.3%	0.5%	0.8%
Final consumption	160	74	75	55	61	64	65	-7.4%	0.2%	-3.1%	1.1%	0.4%	0.2%
Steel, Non-Met. Minerals and Chem.	27	13	22	16	17	15	12	-7.0%	5.5%	-3.2%	0.4%	-1.2%	-2.0%
Other Industry	61	24	8	5	7	9	10	-8.8%	-10.9%	-3.7%	2.9%	2.0%	1.6%
Non-Energy Use	6	1	6	3	4	5	5	-15.4%	16.4%	-6.0%	2.3%	1.9%	1.4%
Residential	32	24	24	16	16	16	15	-2.8%	-0.1%	-4.1%	0.3%	-0.2%	-0.3%
Services	3	2	5	4	6	7	9	-0.7%	6.6%	-0.4%	3.1%	1.9%	1.5%
Agriculture	9	2	2	2	2	2	2	-16.6%	1.2%	-0.1%	1.2%	1.2%	1.2%
Road	18	6	9	8	9	10	10	-9.6%	2.9%	-1.3%	1.2%	1.1%	0.7%
Rail	2	1	1	1	1	1	1	-6.9%	-0.5%	-1.7%	1.7%	1.4%	1.1%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	1	0	0	0	0	0	0	n.s.	n.s.	-7.1%	2.7%	1.4%	1.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Ukraine	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	60	23	26	23	33	25	31	-9.3%	1.5%	-1.4%	3.7%	-2.9%	2.2%
Coal	35	14	19	16	22	10	12	-8.5%	3.0%	-1.9%	3.2%	-7.5%	1.6%
Oil	13	0	0	0	1	1	2	-30.9%	0.3%	1.9%	6.8%	5.0%	2.6%
Gas	12	8	6	7	10	12	15	-4.2%	-2.5%	0.4%	4.3%	1.8%	2.6%
Biomass & Waste	0	0	0	0	1	2	2	n.s.	n.s.	-40.3%	n.s.	9.9%	3.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	299	171	189	189	267	316	361	-5.4%	1.0%	0.0%	3.5%	1.7%	1.3%
Coal	114	52	70	57	86	44	52	-7.6%	3.0%	-2.0%	4.2%	-6.4%	1.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	37.4%
Oil	48	1	1	2	3	6	7	-30.9%	-3.6%	8.0%	7.0%	5.1%	2.7%
Gas	50	30	16	19	41	57	76	-5.0%	-6.3%	2.0%	7.8%	3.4%	2.9%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	38.6%
Biomass & Waste	0	0	0	0	2	6	9	n.s.	n.s.	-27.0%	n.s.	9.9%	3.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	76	77	89	88	88	126	123	0.2%	1.4%	-0.2%	0.0%	3.7%	-0.2%
Hydro	11	11	13	13	13	13	13	0.7%	1.4%	-0.1%	-0.1%	0.3%	0.0%
Wind	0	0	0	7	26	54	73	n.s.	23.6%	n.s.	13.8%	7.5%	3.0%
Solar	0	0	0	4	8	9	7	n.s.	n.s.	n.s.	7.2%	1.4%	-3.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	19.2%	13.3%
Generation Capacity (GW_e)	42	52	54	46	66	86	90	2.2%	0.3%	-1.5%	3.6%	2.8%	0.4%
Coal	23	22	22	12	16	18	19	-0.2%	-0.1%	-5.5%	2.8%	1.2%	0.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	37.5%
Oil	7	1	1	0	1	2	2	-18.2%	0.0%	-9.1%	10.1%	5.7%	2.3%
Gas	12	14	12	8	12	16	18	0.8%	-1.0%	-4.7%	5.0%	2.8%	0.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	38.8%
Biomass & Waste	0	0	0	1	2	2	1	n.s.	n.s.	32.9%	9.7%	-1.6%	-3.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	11	13	13	13	18	17	n.s.	1.6%	-0.1%	-0.2%	3.5%	-0.4%
Hydro	0	5	5	6	6	6	6	n.s.	1.5%	0.3%	-0.1%	0.3%	0.0%
Wind	0	0	0	3	8	16	21	n.s.	n.s.	39.3%	12.1%	6.9%	2.6%
Solar	0	0	0	4	7	7	5	n.s.	n.s.	n.s.	6.6%	1.1%	-3.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	12.8%
Total Final Consumption² (Mtoe)	160	74	75	55	61	64	65	-7.4%	0.2%	-3.1%	1.1%	0.4%	0.2%
Coal	35	15	13	12	13	11	9	-8.4%	-1.3%	-1.0%	0.9%	-1.2%	-2.3%
Oil	43	11	13	11	12	13	13	-13.0%	1.7%	-1.5%	1.2%	0.8%	0.2%
Gas	33	26	25	12	11	11	11	-2.6%	-0.2%	-6.8%	-0.8%	-0.6%	-0.2%
Electricity	18	10	11	11	16	19	22	-5.8%	1.7%	0.0%	3.6%	1.7%	1.4%
Heat	31	13	12	7	7	8	8	-8.0%	-0.6%	-5.9%	0.1%	1.1%	0.4%
Biomass & Other	0	0	1	2	2	2	2	-2.2%	14.7%	4.8%	0.4%	0.4%	2.4%
Share of Renewables ³ (%)	2%	3%	4%	7%	10%	15%	19%	2.8%	4.7%	4.6%	3.7%	4.6%	2.1%
Industry (incl. non-energy use)	95	39	36	25	28	28	27	-8.6%	-0.8%	-3.7%	1.2%	0.2%	-0.2%
Coal	27	12	12	11	13	11	9	-7.9%	0.2%	-0.6%	0.9%	-1.2%	-2.2%
Oil	15	2	2	2	2	3	4	-16.8%	-0.4%	-2.5%	3.1%	2.4%	1.5%
Gas	23	12	11	4	4	4	4	-6.5%	-1.2%	-9.1%	-0.3%	0.1%	0.0%
Electricity	13	5	6	5	6	7	8	-8.4%	0.9%	-2.0%	2.8%	1.8%	1.4%
Heat	16	7	5	3	3	2	2	-8.0%	-3.6%	-6.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	-0.7%	7.1%	2.5%	5.5%
Buildings	35	27	28	20	22	23	24	-2.6%	0.7%	-3.4%	1.0%	0.4%	0.3%
Coal	7	3	1	0	0	0	0	-9.0%	-13.1%	-8.1%	-1.0%	-3.1%	-5.8%
Oil	2	0	0	0	1	1	1	-13.8%	-7.5%	4.8%	7.2%	2.6%	1.6%
Gas	10	14	14	8	7	6	5	3.2%	0.5%	-5.5%	-1.4%	-1.5%	-1.1%
Electricity	1	3	5	6	9	10	11	8.5%	3.7%	2.2%	4.1%	1.4%	1.0%
Heat	14	6	8	4	4	5	6	-8.1%	2.1%	-5.6%	0.2%	1.8%	0.7%
Biomass & Other	0	0	1	1	1	1	1	-2.2%	14.0%	3.9%	-1.3%	-2.8%	-0.3%
Agriculture	9	2	2	2	2	2	2	-16.6%	1.2%	-0.1%	1.2%	1.2%	1.2%
Coal	1	0	0	0	0	0	0	n.s.	n.s.	-9.7%	0.0%	-0.9%	-2.1%
Oil	6	1	1	1	1	2	1	-15.7%	1.5%	0.3%	1.1%	0.5%	-0.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	-2.4%	0.9%	0.5%	-0.1%
Electricity	2	0	0	0	0	0	1	-15.9%	-4.2%	-0.5%	1.9%	3.8%	4.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	-1.4%	0.0%	9.3%	10.8%
Transport	21	7	10	8	9	11	11	-9.9%	2.6%	-1.4%	1.3%	1.2%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	-15.8%	0.0%	0.0%	0.0%
Oil	20	7	9	7	8	8	8	-10.3%	2.7%	-1.6%	0.4%	0.2%	-0.5%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	0.7%	18.6%	7.0%	5.7%
Electricity	1	1	1	1	1	1	2	-4.7%	0.1%	-0.6%	4.4%	3.2%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	8.1%	6.7%	4.3%
Other Energy Transformation & Losses⁴	60	34	30	12	12	13	14	-5.4%	-1.3%	-8.8%	0.3%	0.5%	0.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest CIS	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	77	81	88	98	105	110	114	0.5%	0.8%	1.1%	0.7%	0.5%	0.3%
GDP per capita (ppp, k\$'05)	5	3	6	10	15	22	27	-4.0%	7.5%	4.3%	4.6%	3.4%	2.4%
GDP per capita (mer, k\$'05)	2	1	2	4	6	8	10	-4.1%	7.4%	4.3%	4.6%	3.4%	2.4%
Share Value Added - Agriculture (%)	20	20	9	8	7	6	6	-0.4%	-7.3%	-0.9%	-1.8%	-0.9%	-0.5%
Share Value Added - Industry (%)	26	35	44	35	33	31	30	3.0%	2.1%	-2.2%	-0.4%	-0.6%	-0.5%
Share Value Added - Services (%)	53	45	47	57	60	62	64	-1.7%	0.5%	1.9%	0.5%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	17	-3.4%	3.6%	-3.1%	1.0%	1.0%	0.8%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	926	546	739	897	948	1 064	1 131	-5.1%	3.1%	2.0%	0.6%	1.2%	0.6%
Total GHG (excl. sinks)	955	588	798	951	996	1 106	1 170	-4.7%	3.1%	1.8%	0.5%	1.1%	0.6%
Total GHG (energy, industry, agriculture)	955	586	788	941	988	1 098	1 163	-4.8%	3.0%	1.8%	0.5%	1.1%	0.6%
CO ₂	709	407	536	697	759	859	921	-5.4%	2.8%	2.7%	0.8%	1.2%	0.7%
CH ₄	174	133	193	181	166	174	176	-2.6%	3.8%	-0.6%	-0.9%	0.5%	0.1%
N ₂ O	69	45	56	59	61	64	64	-4.2%	2.3%	0.5%	0.3%	0.4%	0.1%
F gases	3	1	3	3	2	1	1	-9.0%	10.0%	0.2%	-6.8%	-3.3%	-5.7%
Total GHG from Energy and Industry	829	503	678	829	875	982	1 045	-4.9%	3.0%	2.0%	0.5%	1.2%	0.6%
CO₂ Emissions from Fuel Comb.	674	374	489	642	699	792	849	-5.7%	2.7%	2.8%	0.9%	1.3%	0.7%
Power generation/District heating	248	152	165	229	258	291	297	-4.8%	0.8%	3.3%	1.2%	1.2%	0.2%
Industry	128	51	81	117	110	118	125	-8.8%	4.7%	3.7%	-0.5%	0.7%	0.6%
Buildings	159	83	104	129	136	159	182	-6.3%	2.3%	2.1%	0.6%	1.6%	1.4%
Agriculture	13	8	8	9	10	9	9	-4.2%	-0.4%	1.8%	0.3%	-0.4%	-0.7%
Transport	56	27	41	50	53	57	59	-6.9%	4.1%	1.9%	0.6%	0.7%	0.4%
Other	70	53	90	109	132	157	177	-2.9%	5.5%	2.0%	1.9%	1.8%	1.2%
CO₂ captured (CCS)	0	0	0	0	1	6	26	n.s.	n.s.	n.s.	22.9%	20.1%	16.2%
Coal	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	22.5%	19.5%	17.8%
Gas	0	0	0	0	0	3	13	n.s.	n.s.	n.s.	34.1%	21.2%	15.0%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	0.2%	1.3%	11.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	214	194	308	434	568	625	653	-1.0%	4.7%	3.5%	2.7%	1.0%	0.4%
Coal	52	36	51	69	74	69	71	-3.6%	3.6%	3.0%	0.8%	-0.7%	0.3%
Oil	47	66	148	192	225	218	200	3.4%	8.4%	2.7%	1.6%	-0.3%	-0.9%
Natural gas	109	86	101	163	253	314	347	-2.4%	1.6%	4.9%	4.5%	2.2%	1.0%
Biomass	1	1	2	3	5	6	7	5.3%	1.6%	7.1%	3.3%	1.9%	1.8%
Nuclear ¹	0	1	1	1	4	8	12	n.s.	2.2%	3.3%	15.1%	7.7%	4.6%
Hydro	4	4	5	5	6	6	6	-0.6%	2.3%	-0.4%	0.8%	0.1%	0.0%
Other renewables	0	0	0	0	2	5	10	n.s.	n.s.	n.s.	40.9%	12.2%	7.6%
Net Imports	35	-45	-120	-181	-273	-273	-251						
Coal	0	-14	-14	-21	-32	-27	-26						
Oil	46	-30	-113	-138	-171	-161	-143						
Natural gas	-13	-2	7	-24	-76	-98	-100						
Biomass	0	0	1	2	7	14	19						
Biofuels	0	0	0	0	-1	0	0						
Electricity	1	1	0	0	0	0	0						
Primary Energy Demand²	248	150	188	252	295	352	402	-4.9%	2.3%	3.0%	1.6%	1.8%	1.3%
Coal	52	23	37	48	42	42	45	-8.0%	5.2%	2.6%	-1.3%	0.1%	0.6%
Oil	93	36	35	54	54	57	56	-9.1%	-0.3%	4.4%	0.1%	0.5%	-0.1%
Natural gas	96	84	108	140	176	216	247	-1.4%	2.6%	2.6%	2.3%	2.1%	1.4%
Biomass	1	2	2	5	12	19	25	6.6%	3.0%	9.2%	8.4%	4.8%	2.9%
Nuclear ¹	0	1	1	1	4	8	12	n.s.	2.2%	3.3%	15.1%	7.7%	4.6%
Hydro	4	4	5	5	6	6	6	-0.6%	2.3%	-0.4%	0.8%	0.1%	0.0%
Other renewables	0	0	0	0	2	5	10	n.s.	n.s.	n.s.	40.9%	12.2%	7.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	248	150	188	252	295	352	402	-4.9%	2.3%	3.0%	1.6%	1.8%	1.3%
Energy for Power Generation	84	56	63	85	105	128	148	-4.0%	1.1%	3.0%	2.1%	2.0%	1.5%
Other Energy Transformation & Losses	27	22	36	49	60	72	82	-2.1%	5.2%	3.1%	2.0%	1.9%	1.3%
Final consumption	189	100	121	158	179	214	246	-6.2%	1.9%	2.7%	1.3%	1.8%	1.4%
Steel, Non-Met. Minerals and Chem.	8	5	13	15	15	16	16	-3.6%	8.9%	1.4%	-0.1%	0.5%	0.4%
Other Industry	51	23	26	38	43	51	59	-7.8%	1.2%	3.9%	1.3%	1.8%	1.4%
Non-Energy Use	15	7	6	8	10	12	13	-7.6%	-1.8%	3.0%	2.3%	2.0%	1.3%
Residential	14	27	31	35	37	42	48	7.0%	1.1%	1.5%	0.5%	1.3%	1.3%
Services	72	22	25	37	45	58	70	-11.1%	1.4%	3.8%	2.1%	2.5%	1.9%
Agriculture	8	5	5	6	7	9	10	-5.1%	-0.4%	2.2%	2.2%	1.9%	1.5%
Road	18	9	14	18	20	23	25	-6.5%	4.5%	2.0%	1.2%	1.4%	1.0%
Rail	2	1	1	1	2	2	2	-7.3%	1.2%	0.8%	2.1%	1.4%	0.8%
Aviation	1	0	0	1	1	1	1	-1.0%	-1.0%	2.2%	4.6%	3.7%	1.2%
Other Transport	0	0	0	0	0	0	0	-7.8%	4.9%	0.5%	3.7%	2.3%	1.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest CIS	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	80	51	57	79	94	110	120	-4.3%	1.0%	3.3%	1.8%	1.6%	0.9%
Coal	28	16	19	28	27	28	31	-5.5%	2.0%	3.6%	-0.2%	0.5%	1.0%
Oil	19	7	1	4	3	4	3	-9.8%	-19.6%	18.1%	-2.0%	2.3%	-3.1%
Gas	32	29	37	45	60	72	78	-1.2%	2.5%	2.2%	2.9%	1.8%	0.8%
Biomass & Waste	0	0	0	2	3	5	7	n.s.	n.s.	31.9%	8.1%	4.5%	3.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	295	201	256	362	493	642	788	-3.8%	2.4%	3.5%	3.1%	2.7%	2.1%
Coal	73	38	69	100	106	121	141	-6.3%	6.1%	3.7%	0.6%	1.4%	1.5%
of which CCS	0	0	0	0	0	2	14	n.s.	n.s.	n.s.	n.s.	n.s.	22.5%
Oil	53	23	2	18	15	19	14	-8.1%	-19.9%	22.0%	-2.0%	2.3%	-3.1%
Gas	116	88	119	178	273	346	397	-2.7%	3.0%	4.1%	4.4%	2.4%	1.4%
of which CCS	0	0	0	0	0	4	28	n.s.	n.s.	n.s.	n.s.	n.s.	22.0%
Biomass & Waste	0	0	0	3	11	21	32	n.s.	n.s.	40.7%	14.2%	7.0%	4.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	2	3	15	32	51	n.s.	2.2%	3.4%	15.7%	7.9%	4.7%
Hydro	52	49	62	60	65	65	65	-0.6%	2.3%	-0.4%	0.8%	0.1%	0.0%
Wind	0	0	0	0	7	28	66	n.s.	n.s.	39.8%	39.4%	14.7%	8.9%
Solar	0	0	0	0	3	10	23	n.s.	n.s.	n.s.	29.5%	14.4%	8.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.6%	12.4%
Generation Capacity (GW_e)	50	66	69	68	94	126	170	2.8%	0.4%	-0.2%	3.3%	3.0%	3.0%
Coal	15	15	15	16	18	20	24	-0.2%	0.3%	0.3%	1.6%	0.9%	1.8%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	22.6%
Oil	14	7	7	7	5	4	4	-6.2%	-0.5%	0.3%	-4.1%	-0.9%	0.2%
Gas	22	29	30	27	45	59	72	2.9%	0.3%	-0.7%	5.0%	2.7%	2.1%
of which CCS	0	0	0	0	0	0	4	n.s.	n.s.	n.s.	n.s.	n.s.	22.3%
Biomass & Waste	0	0	1	1	2	3	4	n.s.	n.s.	2.9%	8.7%	6.4%	4.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	2	4	7	n.s.	0.0%	2.1%	15.5%	7.7%	4.5%
Hydro	0	15	17	17	18	18	18	n.s.	1.0%	-0.2%	0.8%	0.1%	0.0%
Wind	0	0	0	0	3	11	24	n.s.	n.s.	34.6%	38.5%	14.0%	8.2%
Solar	0	0	0	0	2	7	16	n.s.	n.s.	n.s.	29.8%	14.6%	8.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	11.9%
Total Final Consumption² (Mtoe)	189	100	121	158	179	214	246	-6.2%	1.9%	2.7%	1.3%	1.8%	1.4%
Coal	23	7	17	19	12	10	9	-11.6%	9.6%	0.8%	-3.9%	-1.9%	-1.2%
Oil	60	24	30	40	41	43	44	-8.8%	2.2%	3.1%	0.3%	0.4%	0.2%
Gas	53	40	41	57	70	89	105	-2.9%	0.4%	3.3%	2.1%	2.4%	1.7%
Electricity	23	13	16	24	33	43	53	-5.0%	2.0%	3.9%	3.2%	2.7%	2.1%
Heat	29	15	15	15	15	16	17	-6.4%	0.0%	-0.3%	0.5%	0.6%	0.6%
Biomass & Other	1	1	2	3	7	12	17	5.2%	0.7%	7.6%	8.3%	5.4%	3.6%
Share of Renewables ³ (%)	5%	7%	7%	6%	9%	12%	15%	4.3%	-0.5%	-1.2%	3.8%	2.8%	2.2%
Industry (incl. non-energy use)	74	35	44	60	67	79	89	-7.2%	2.4%	3.1%	1.1%	1.6%	1.2%
Coal	19	6	12	14	10	9	8	-10.8%	7.3%	1.9%	-3.7%	-1.1%	-0.6%
Oil	22	7	6	11	12	13	14	-11.1%	-0.7%	5.4%	1.0%	0.9%	0.7%
Gas	12	11	13	20	26	31	36	-0.9%	1.3%	4.5%	2.6%	2.1%	1.4%
Electricity	13	6	8	11	14	19	23	-8.1%	3.4%	3.1%	3.2%	2.7%	2.0%
Heat	8	5	5	4	4	4	4	-3.8%	-0.2%	-2.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	1	3	4	n.s.	-2.0%	23.3%	12.9%	6.5%	3.3%
Buildings	86	49	56	72	82	100	118	-5.4%	1.2%	2.6%	1.3%	2.0%	1.6%
Coal	5	1	5	4	2	1	1	-14.9%	18.3%	-2.2%	-5.0%	-6.6%	-6.8%
Oil	16	4	6	9	8	8	8	-12.1%	3.9%	3.5%	-0.7%	-0.4%	-0.2%
Gas	39	28	28	36	43	55	66	-3.3%	-0.1%	2.7%	1.7%	2.5%	1.8%
Electricity	4	5	6	10	13	17	20	1.8%	1.0%	5.6%	2.6%	2.5%	2.0%
Heat	21	10	10	11	11	12	13	-7.6%	0.2%	0.8%	0.7%	0.8%	0.8%
Biomass & Other	1	1	1	3	4	7	10	4.7%	0.3%	6.2%	5.7%	4.3%	3.4%
Agriculture	8	5	5	6	7	9	10	-5.1%	-0.4%	2.2%	2.2%	1.9%	1.5%
Coal	0	0	0	0	0	0	0	-26.7%	43.6%	-0.8%	-2.1%	-2.7%	-2.7%
Oil	3	2	2	2	3	3	2	-1.8%	-1.8%	2.0%	0.5%	-0.3%	-0.7%
Gas	1	0	0	0	0	0	0	-17.0%	3.6%	2.3%	0.7%	0.1%	-0.3%
Electricity	4	2	2	3	4	5	6	-5.6%	-0.4%	2.6%	3.2%	2.8%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	8.3%	18.2%	3.3%	15.1%	7.1%	3.9%
Transport	21	11	16	20	22	26	29	-6.4%	4.0%	2.0%	1.4%	1.5%	1.0%
Coal	0	0	0	0	0	0	0	-9.9%	3.8%	4.4%	0.0%	0.0%	0.0%
Oil	20	10	15	18	19	19	20	-6.2%	3.8%	1.9%	0.3%	0.5%	0.1%
Gas	0	0	0	1	1	2	3	-7.0%	12.3%	3.7%	8.0%	4.7%	3.5%
Electricity	1	0	1	1	2	3	3	-10.3%	6.1%	1.6%	8.1%	4.1%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	28.9%	20.8%	7.9%	4.5%
Other Energy Transformation & Losses⁴	27	22	36	49	60	72	82	-2.1%	5.2%	3.1%	2.0%	1.9%	1.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Argentina	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	33	37	41	46	49	53	55	1.2%	1.1%	1.0%	0.8%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	7	10	13	15	19	23	28	3.3%	2.7%	1.4%	2.2%	1.9%	1.7%
GDP per capita (mer, k\$'05)	4	5	7	8	10	12	15	3.3%	2.7%	1.4%	2.2%	1.9%	1.7%
Share Value Added - Agriculture (%)	8	5	8	6	6	5	5	-4.6%	5.3%	-3.5%	-0.6%	-0.4%	-0.3%
Share Value Added - Industry (%)	36	28	30	27	26	25	24	-2.4%	0.6%	-0.9%	-0.4%	-0.4%	-0.4%
Share Value Added - Services (%)	56	67	62	67	68	69	71	1.8%	-0.8%	0.8%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	17	19	-4.2%	5.6%	0.8%	0.7%	1.0%	1.3%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	318	356	383	380	402	271	247	1.1%	0.8%	-0.1%	0.6%	-3.9%	-0.9%
Total GHG (excl. sinks)	359	404	426	410	426	330	325	1.2%	0.5%	-0.4%	0.4%	-2.5%	-0.1%
Total GHG (energy, industry, agriculture)	242	285	321	327	360	330	325	1.6%	1.2%	0.2%	1.0%	-0.9%	-0.1%
CO ₂	107	150	185	185	206	201	202	3.5%	2.1%	0.0%	1.1%	-0.3%	0.1%
CH ₄	98	97	85	88	95	76	72	-0.2%	-1.2%	0.3%	0.8%	-2.2%	-0.6%
N ₂ O	35	38	50	54	58	52	51	0.9%	2.9%	0.6%	0.8%	-1.0%	-0.3%
F gases	2	0	1	1	1	0	0	-19.9%	9.2%	-1.2%	-0.1%	-6.2%	-12.9%
Total GHG from Energy and Industry	133	179	213	212	238	225	226	3.0%	1.8%	0.0%	1.2%	-0.6%	0.0%
CO₂ Emissions from Fuel Comb.	101	143	176	175	195	189	190	3.5%	2.1%	-0.1%	1.1%	-0.3%	0.0%
Power generation/District heating	19	30	45	43	58	55	58	4.6%	4.2%	-0.4%	3.0%	-0.5%	0.5%
Industry	15	25	29	29	33	35	36	5.3%	1.5%	0.0%	1.1%	0.5%	0.4%
Buildings	18	20	27	27	25	21	19	1.0%	3.0%	-0.1%	-0.7%	-1.5%	-1.3%
Agriculture	5	8	11	10	11	12	11	5.1%	3.3%	-0.7%	1.3%	0.5%	-0.4%
Transport	29	41	44	48	47	43	42	3.7%	0.5%	0.9%	-0.2%	-0.8%	-0.3%
Other	15	18	21	19	21	22	23	1.9%	1.3%	-1.2%	1.4%	0.4%	0.4%
CO₂ captured (CCS)	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	n.s.	n.s.	23.4%
Coal	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	25.1%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	8.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	46	79	80	71	77	92	107	5.6%	0.1%	-1.1%	0.8%	1.8%	1.5%
Coal	0	0	0	0	0	0	0	0.6%	-12.3%	9.9%	7.0%	3.9%	2.0%
Oil	26	41	37	34	48	54	57	4.7%	-1.2%	-0.8%	3.5%	1.3%	0.5%
Natural gas	15	31	33	22	8	3	3	7.6%	0.7%	-3.9%	-9.2%	-8.8%	-1.1%
Biomass	2	3	5	8	11	15	20	6.4%	6.4%	4.0%	3.3%	3.2%	2.9%
Nuclear ¹	2	2	2	3	5	10	15	-1.6%	1.5%	3.2%	5.8%	8.4%	4.1%
Hydro	2	2	3	3	3	4	4	4.7%	1.6%	-0.3%	1.1%	1.3%	1.1%
Other renewables	0	0	0	2	2	6	8	n.s.	-3.3%	n.s.	2.6%	10.2%	3.3%
Net Imports	-2	-18	0	11	18	13	12						
Coal	1	0	1	2	5	9	12						
Oil	-7	-18	-5	-7	-21	-31	-34						
Natural gas	4	0	5	17	35	37	38						
Biomass	0	0	0	-2	-3	-3	-5						
Biofuels	0	0	-1	-1	-1	-1	0						
Electricity	0	0	1	2	2	2	2						
Primary Energy Demand²	44	61	80	82	95	105	119	3.4%	2.7%	0.2%	1.5%	1.0%	1.2%
Coal	1	1	1	2	5	9	12	-6.3%	7.1%	7.1%	10.0%	5.7%	2.7%
Oil	19	23	31	27	27	23	22	2.0%	3.0%	-1.4%	-0.1%	-1.4%	-0.5%
Natural gas	19	30	38	39	44	41	41	4.9%	2.2%	0.3%	1.2%	-0.8%	0.1%
Biomass	2	3	5	6	8	12	15	6.4%	6.4%	0.7%	3.7%	3.7%	2.7%
Nuclear ¹	2	2	2	3	5	10	15	-1.6%	1.5%	3.2%	5.8%	8.4%	4.1%
Hydro	2	2	3	3	3	4	4	4.7%	1.6%	-0.3%	1.1%	1.3%	1.1%
Other renewables	0	0	0	2	2	6	8	n.s.	-3.3%	n.s.	2.6%	10.2%	3.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	44	61	80	82	95	105	119	3.4%	2.7%	0.2%	1.5%	1.0%	1.2%
Energy for Power Generation	11	16	23	24	32	40	51	4.2%	3.4%	0.3%	3.0%	2.4%	2.3%
Other Energy Transformation & Losses	6	5	11	9	11	13	14	-2.0%	8.8%	-2.3%	2.0%	1.3%	1.4%
Final consumption	31	47	56	62	69	75	81	4.3%	1.8%	1.0%	1.1%	0.8%	0.8%
Steel, Non-Met. Minerals and Chem.	1	3	3	4	3	3	3	13.4%	1.7%	1.4%	-1.4%	-0.8%	-0.8%
Other Industry	8	12	14	14	17	20	23	4.2%	0.8%	0.2%	2.4%	1.6%	1.4%
Non-Energy Use	2	4	5	6	7	8	9	9.2%	0.8%	3.0%	1.7%	1.1%	1.0%
Residential	6	9	13	14	14	14	14	3.9%	3.0%	0.9%	0.0%	0.1%	0.3%
Services	3	3	4	4	5	6	7	0.2%	4.2%	0.6%	2.4%	1.8%	1.5%
Agriculture	2	3	4	3	4	4	5	5.3%	3.5%	-0.5%	1.2%	1.1%	1.0%
Road	9	12	14	16	17	17	18	3.4%	1.3%	1.3%	0.5%	0.2%	0.4%
Rail	0	0	0	0	0	0	0	5.2%	2.5%	0.3%	2.1%	1.7%	1.4%
Aviation	1	0	0	0	1	1	1	-3.3%	-3.0%	2.4%	3.6%	2.7%	2.3%
Other Transport	0	0	0	0	0	1	1	24.0%	14.7%	0.7%	2.7%	1.6%	1.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Argentina	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	12	18	17	22	21	23	5.2%	3.9%	-0.9%	2.9%	-0.6%	1.3%
Coal	0	0	1	2	4	6	8	3.8%	5.1%	7.9%	8.4%	5.2%	2.2%
Oil	2	1	4	4	3	1	1	-6.1%	15.6%	-0.2%	-3.1%	-13.1%	0.8%
Gas	5	11	13	10	14	12	12	7.4%	1.7%	-1.9%	3.3%	-2.0%	0.1%
Biomass & Waste	0	0	1	1	1	2	3	6.6%	13.5%	-2.0%	5.3%	5.9%	4.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	51	89	126	143	191	248	307	5.7%	3.5%	1.3%	3.0%	2.6%	2.2%
Coal	1	2	3	6	17	31	40	11.4%	4.7%	8.6%	10.3%	6.1%	2.5%
of which CCS	0	0	0	0	0	0	0	5	n.s.	n.s.	n.s.	n.s.	37.3%
Oil	5	3	17	16	12	3	3	-5.4%	19.2%	-0.4%	-2.8%	-12.8%	1.0%
Gas	20	49	63	56	79	65	66	9.4%	2.6%	-1.2%	3.5%	-1.8%	0.1%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	29.0%
Biomass & Waste	0	1	2	2	4	8	13	20.2%	12.5%	-2.0%	7.3%	7.9%	5.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	7	6	7	10	18	41	62	-1.6%	1.5%	3.4%	6.1%	8.7%	4.2%
Hydro	18	29	34	33	37	41	46	4.7%	1.6%	-0.3%	1.1%	1.3%	1.1%
Wind	0	0	0	20	24	53	65	n.s.	-3.3%	n.s.	2.0%	8.2%	2.1%
Solar	0	0	0	0	1	4	11	n.s.	n.s.	n.s.	21.5%	14.0%	9.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	27.1%	16.3%	13.3%
Generation Capacity (GW_e)	17	23	32	43	48	69	84	2.9%	3.6%	2.9%	1.1%	3.7%	1.9%
Coal	1	1	1	1	2	5	6	-1.9%	0.0%	5.1%	8.0%	6.9%	2.6%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	37.2%
Oil	2	1	2	3	2	2	3	-3.8%	4.9%	2.5%	-3.1%	1.1%	1.4%
Gas	7	11	17	19	19	20	18	4.8%	4.8%	1.2%	-0.3%	0.7%	-1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	29.4%
Biomass & Waste	0	0	1	0	1	1	2	19.6%	12.8%	-1.2%	2.1%	7.8%	5.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	1	1	2	3	6	9	0.0%	0.0%	5.6%	5.8%	8.5%	3.9%
Hydro	7	9	11	11	13	14	16	3.0%	2.1%	0.4%	1.1%	1.2%	1.0%
Wind	0	0	0	6	8	16	19	n.s.	13.6%	n.s.	1.9%	7.6%	1.6%
Solar	0	0	0	0	1	4	10	n.s.	n.s.	n.s.	22.2%	14.3%	10.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.8%	12.8%
Total Final Consumption² (Mtoe)	31	47	56	62	69	75	81	4.3%	1.8%	1.0%	1.1%	0.8%	0.8%
Coal	1	1	1	1	2	3	3	0.1%	1.0%	2.9%	8.0%	3.4%	1.5%
Oil	16	22	25	24	25	24	23	3.6%	1.1%	-0.1%	0.3%	-0.5%	-0.5%
Gas	10	15	19	22	22	21	21	4.4%	2.6%	1.5%	-0.1%	-0.3%	0.0%
Electricity	4	6	10	11	15	19	23	6.4%	4.1%	1.4%	2.7%	2.4%	2.1%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	41.5%	5.8%
Biomass & Other	1	3	2	3	5	7	9	6.4%	-3.2%	4.7%	4.8%	3.8%	2.8%
Share of Renewables ³ (%)	10%	12%	9%	13%	17%	27%	32%	1.5%	-2.1%	3.4%	2.8%	4.5%	2.0%
Industry (incl. non-energy use)	11	19	21	24	28	31	35	6.0%	1.0%	1.0%	1.7%	1.2%	1.1%
Coal	1	1	1	1	2	3	3	0.1%	1.0%	2.9%	8.0%	3.4%	1.5%
Oil	3	7	7	7	7	7	7	9.3%	0.6%	-0.3%	0.3%	-0.6%	-0.5%
Gas	4	7	8	10	11	12	13	4.3%	2.1%	2.1%	0.9%	0.7%	0.7%
Electricity	2	3	4	5	6	8	9	4.8%	3.3%	0.8%	2.8%	2.5%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	1	1	2	2	3	7.0%	-8.1%	0.9%	4.5%	3.6%	3.1%
Buildings	9	12	16	18	19	20	22	2.9%	3.3%	0.9%	0.6%	0.6%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	1	2	1	1	1	1	-3.5%	4.1%	-3.8%	-1.2%	-1.4%	-1.2%
Gas	5	7	9	9	9	8	7	2.8%	2.7%	0.8%	-0.6%	-1.5%	-1.4%
Electricity	2	3	5	7	8	9	10	8.1%	4.7%	1.9%	1.6%	1.5%	1.4%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	41.5%	5.8%
Biomass & Other	0	0	0	1	1	2	2	2.8%	-3.7%	6.6%	8.3%	4.1%	2.5%
Agriculture	2	3	4	3	4	4	5	5.3%	3.5%	-0.5%	1.2%	1.1%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	3	4	4	4	5.1%	3.3%	-0.7%	1.3%	0.5%	-0.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	2.5%	5.2%	0.5%	2.1%	7.2%	7.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	10.4%	2.8%	0.0%	6.7%	7.8%
Transport	10	13	15	17	18	19	20	3.1%	1.3%	1.4%	0.7%	0.4%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	11	12	13	13	12	12	2.1%	0.4%	0.8%	0.2%	-0.8%	-0.5%
Gas	0	1	2	3	2	2	2	22.7%	4.7%	1.9%	-2.3%	-1.0%	0.9%
Electricity	0	0	0	0	1	2	3	5.2%	2.5%	3.9%	28.1%	7.5%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	1	2	3	3	n.s.	n.s.	8.7%	3.8%	3.5%	2.0%
Other Energy Transformation & Losses⁴	6	5	11	9	11	13	14	-2.0%	8.8%	-2.3%	2.0%	1.3%	1.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Brazil	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	150	176	199	216	229	236	238	1.6%	1.2%	0.8%	0.6%	0.3%	0.1%
GDP per capita (ppp, k\$'05)	7	8	10	10	12	15	18	1.0%	2.4%	-0.4%	2.0%	2.4%	2.0%
GDP per capita (mer, k\$'05)	4	4	6	5	7	9	10	1.0%	2.4%	-0.2%	2.0%	2.4%	2.0%
Share Value Added - Agriculture (%)	8	6	5	5	5	4	4	-3.8%	-1.3%	0.8%	-0.9%	-0.9%	-0.6%
Share Value Added - Industry (%)	39	27	27	22	22	20	19	-3.6%	0.3%	-2.1%	-0.3%	-0.6%	-0.7%
Share Value Added - Services (%)	53	68	68	72	74	75	77	2.5%	0.0%	0.7%	0.1%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	17	19	-4.2%	5.6%	0.8%	0.7%	1.0%	1.3%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 381	2 080	1 279	1 209	1 150	913	749	4.2%	-4.7%	-0.6%	-0.5%	-2.3%	-2.0%
Total GHG (excl. sinks)	1 381	2 080	1 279	1 209	1 162	1 114	1 108	4.2%	-4.7%	-0.6%	-0.4%	-0.4%	-0.1%
Total GHG (energy, industry, agriculture)	620	816	962	1 049	1 098	1 114	1 108	2.8%	1.7%	0.9%	0.5%	0.1%	-0.1%
CO ₂	214	334	423	464	501	574	606	4.6%	2.4%	0.9%	0.8%	1.4%	0.5%
CH ₄	285	338	357	383	384	338	311	1.7%	0.6%	0.7%	0.0%	-1.3%	-0.9%
N ₂ O	118	142	175	195	206	198	190	1.9%	2.1%	1.1%	0.5%	-0.4%	-0.4%
F gases	4	2	6	7	6	4	1	-5.9%	12.0%	0.6%	-0.6%	-5.4%	-14.9%
Total GHG from Energy and Industry	267	398	498	548	579	641	665	4.1%	2.3%	1.0%	0.5%	1.0%	0.4%
CO₂ Emissions from Fuel Comb.	186	295	379	414	442	505	533	4.7%	2.6%	0.9%	0.6%	1.3%	0.5%
Power generation/District heating	10	27	40	30	18	37	54	10.5%	4.0%	-2.8%	-4.7%	7.4%	3.8%
Industry	52	85	100	111	137	167	185	5.0%	1.6%	1.1%	2.1%	2.0%	1.0%
Buildings	20	25	23	19	15	13	12	2.2%	-0.6%	-2.2%	-2.1%	-1.4%	-0.8%
Agriculture	10	14	19	19	20	20	18	3.5%	2.5%	0.0%	0.6%	0.0%	-0.8%
Transport	80	124	171	200	213	225	216	4.5%	3.3%	1.6%	0.6%	0.6%	-0.4%
Other	13	19	26	36	38	43	46	3.3%	3.4%	3.4%	0.6%	1.0%	0.9%
CO₂ captured (CCS)	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	34.0%	19.8%
Coal	0	0	0	0	0	2	11	n.s.	n.s.	n.s.	n.s.	38.4%	19.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	20.9%	11.3%
Biomass	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	9.2%	30.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	94	143	241	409	456	521	626	4.2%	5.4%	5.5%	1.1%	1.3%	1.9%
Coal	1	3	2	3	2	3	4	6.9%	-2.1%	2.2%	-1.1%	2.5%	2.3%
Oil	32	63	106	209	194	184	186	6.9%	5.3%	7.0%	-0.7%	-0.5%	0.1%
Natural gas	3	6	12	18	24	32	52	9.3%	6.9%	4.3%	2.9%	2.7%	5.0%
Biomass	40	43	82	130	170	217	283	0.8%	6.6%	4.8%	2.7%	2.5%	2.7%
Nuclear ¹	1	2	4	5	6	13	19	10.5%	9.2%	1.6%	2.3%	8.4%	4.4%
Hydro	18	26	35	37	42	38	37	3.9%	2.9%	0.7%	1.3%	-1.2%	0.0%
Other renewables	0	0	1	8	18	35	45	n.s.	33.7%	30.2%	8.5%	7.2%	2.5%
Net Imports	36	41	24	-125	-130	-132	-188						
Coal	7	10	12	14	14	19	24						
Oil	26	25	-1	-99	-77	-59	-64						
Natural gas	1	2	11	7	4	6	-5						
Biomass	0	0	0	-49	-73	-93	-131						
Biofuels	1	0	-1	0	-1	-7	-15						
Electricity	2	4	3	2	2	2	2						
Primary Energy Demand²	131	184	265	284	327	389	438	3.5%	3.7%	0.7%	1.4%	1.8%	1.2%
Coal	8	13	14	17	17	22	28	5.1%	1.0%	1.7%	-0.3%	3.0%	2.3%
Oil	58	88	105	110	118	125	123	4.2%	1.7%	0.5%	0.7%	0.6%	-0.2%
Natural gas	3	8	23	25	29	38	47	9.2%	11.4%	0.7%	1.4%	2.8%	2.3%
Biomass	40	43	82	81	98	124	151	0.8%	6.6%	-0.1%	1.9%	2.4%	2.1%
Nuclear ¹	1	2	4	5	6	13	19	10.5%	9.2%	1.6%	2.3%	8.4%	4.4%
Hydro	18	26	35	37	42	38	37	3.9%	2.9%	0.7%	1.3%	-1.2%	0.0%
Other renewables	0	0	1	8	18	35	45	n.s.	33.7%	30.2%	8.5%	7.2%	2.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	131	184	265	284	327	389	438	3.5%	3.7%	0.7%	1.4%	1.8%	1.2%
Energy for Power Generation	22	37	58	64	76	105	135	5.5%	4.6%	0.9%	1.7%	3.3%	2.6%
Other Energy Transformation & Losses	20	24	44	51	66	81	94	1.9%	6.4%	1.5%	2.5%	2.2%	1.4%
Final consumption	113	156	215	230	262	299	321	3.3%	3.2%	0.7%	1.3%	1.3%	0.7%
Steel, Non-Met. Minerals and Chem.	21	28	32	33	33	33	34	2.9%	1.6%	0.1%	0.1%	0.2%	0.1%
Other Industry	21	32	51	53	68	85	97	4.0%	4.9%	0.4%	2.5%	2.2%	1.4%
Non-Energy Use	9	14	17	15	17	19	21	3.7%	2.2%	-1.2%	1.4%	1.2%	0.6%
Residential	18	21	24	23	24	26	29	1.4%	1.4%	-0.4%	0.4%	1.1%	0.8%
Services	5	8	11	13	16	21	26	5.2%	2.7%	2.1%	2.1%	2.7%	2.2%
Agriculture	6	7	10	11	11	12	13	2.0%	3.1%	0.8%	0.7%	0.7%	0.6%
Road	29	43	65	76	85	93	91	3.9%	4.2%	1.7%	1.1%	0.8%	-0.2%
Rail	1	1	1	1	1	1	1	-2.0%	7.6%	0.5%	0.7%	0.9%	0.7%
Aviation	2	3	3	3	4	5	6	5.1%	0.2%	0.3%	2.3%	2.5%	1.8%
Other Transport	1	1	1	1	1	2	2	-1.6%	4.1%	-1.5%	2.2%	1.7%	0.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Brazil	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	4	9	19	15	11	20	34	10.4%	7.4%	-2.6%	-3.1%	6.3%	5.4%
Coal	1	3	3	4	3	7	10	8.3%	-0.2%	3.5%	-3.1%	8.1%	4.2%
Oil	1	4	4	1	0	0	0	11.7%	-0.4%	-17.2%	-45.4%	35.8%	28.2%
Gas	0	1	7	5	2	4	8	28.1%	22.8%	-3.7%	-5.9%	5.6%	6.2%
Biomass & Waste	1	2	6	5	5	9	15	7.7%	14.0%	-0.9%	-0.3%	5.4%	5.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	223	349	515	592	741	955	1 167	4.6%	4.0%	1.4%	2.3%	2.6%	2.0%
Coal	5	11	11	20	15	36	55	8.8%	0.3%	5.6%	-2.3%	8.8%	4.3%
of which CCS	0	0	0	0	0	0	0	9	n.s.	n.s.	n.s.	n.s.	40.8%
Oil	5	15	16	3	0	0	2	11.9%	0.6%	-16.8%	-45.4%	35.8%	28.3%
Gas	0	4	36	25	14	24	46	28.7%	24.5%	-3.8%	-5.3%	5.5%	6.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	28.3%
Biomass & Waste	4	8	31	26	25	42	74	7.4%	14.9%	-1.8%	-0.5%	5.4%	5.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	2	6	15	17	22	51	78	10.5%	9.2%	1.7%	2.4%	8.7%	4.5%
Hydro	207	304	403	431	490	436	434	3.9%	2.9%	0.7%	1.3%	-1.2%	0.0%
Wind	0	0	2	67	142	269	350	n.s.	n.s.	41.0%	7.8%	6.6%	2.7%
Solar	0	0	0	3	32	96	124	n.s.	n.s.	n.s.	25.1%	11.4%	2.6%
Other	0	0	0	0	0	1	4	n.s.	n.s.	25.7%	25.5%	16.3%	13.1%
Generation Capacity (GW_e)	54	74	112	199	276	366	410	3.3%	4.2%	5.9%	3.3%	2.9%	1.1%
Coal	1	2	2	5	8	13	15	2.7%	-2.0%	12.6%	4.1%	5.2%	1.7%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	41.2%
Oil	4	6	8	21	24	26	28	3.5%	2.9%	9.8%	1.6%	0.8%	0.5%
Gas	0	1	11	17	23	29	25	12.0%	23.2%	4.0%	3.4%	2.4%	-1.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	29.0%
Biomass & Waste	1	2	8	20	23	26	25	5.1%	16.0%	9.6%	1.8%	0.9%	-0.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	2	2	2	3	7	11	11.8%	0.0%	2.1%	2.3%	8.4%	4.2%
Hydro	46	61	81	106	120	107	106	3.0%	2.8%	2.8%	1.3%	-1.2%	0.0%
Wind	0	0	1	27	54	95	116	n.s.	46.8%	40.0%	7.2%	5.9%	2.1%
Solar	0	0	0	2	21	63	84	n.s.	n.s.	n.s.	25.5%	11.8%	2.8%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.8%	15.8%	12.5%
Total Final Consumption² (Mtoe)	113	156	215	230	262	299	321	3.3%	3.2%	0.7%	1.3%	1.3%	0.7%
Coal	6	9	11	12	13	15	16	3.9%	2.4%	0.9%	0.7%	1.2%	1.0%
Oil	53	80	94	102	110	117	114	4.2%	1.6%	0.8%	0.7%	0.7%	-0.2%
Gas	2	5	13	13	19	25	30	7.2%	10.0%	0.6%	3.9%	2.7%	1.5%
Electricity	18	28	38	42	53	69	83	4.3%	3.1%	1.2%	2.3%	2.6%	2.0%
Heat	0	0	0	2	2	4	4	n.s.	28.4%	16.2%	4.1%	3.9%	1.4%
Biomass & Other	34	35	60	59	65	69	73	0.4%	5.4%	-0.2%	1.0%	0.7%	0.5%
Share of Renewables ³ (%)	48%	41%	46%	47%	53%	56%	59%	-1.5%	1.1%	0.2%	1.2%	0.6%	0.4%
Industry (incl. non-energy use)	52	73	100	101	119	138	151	3.5%	3.3%	0.1%	1.6%	1.5%	1.0%
Coal	6	9	11	12	13	15	16	3.9%	2.4%	0.9%	0.7%	1.2%	1.0%
Oil	17	27	27	27	32	37	39	4.6%	0.3%	-0.2%	1.7%	1.4%	0.6%
Gas	2	4	10	11	16	21	23	7.0%	8.8%	1.1%	3.8%	2.6%	1.0%
Electricity	10	13	17	17	22	28	33	2.7%	3.3%	-0.3%	2.7%	2.4%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	17	20	34	34	35	37	40	2.0%	5.3%	-0.2%	0.4%	0.5%	0.7%
Buildings	23	29	34	36	40	48	55	2.3%	1.8%	0.4%	1.1%	1.8%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	8	7	5	4	3	2	2.2%	-0.9%	-2.6%	-3.8%	-2.7%	-2.1%
Gas	0	0	0	1	1	2	2	1.9%	7.3%	2.7%	8.8%	2.2%	1.4%
Electricity	8	14	19	23	27	34	41	5.9%	3.0%	2.0%	1.7%	2.4%	1.9%
Heat	0	0	0	2	2	4	4	n.s.	28.4%	16.2%	4.1%	3.9%	1.4%
Biomass & Other	9	7	8	6	6	6	6	-2.1%	1.1%	-3.5%	-0.1%	0.2%	0.6%
Agriculture	6	7	10	11	11	12	13	2.0%	3.1%	0.8%	0.7%	0.7%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	5	6	6	6	6	6	3.5%	2.5%	0.0%	0.6%	0.0%	-0.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	1	1	2	2	3	3	4	6.8%	3.2%	4.9%	1.3%	1.5%	1.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	2	2	3	2	2	3	4	-2.8%	4.4%	-0.5%	0.3%	1.5%	2.4%
Transport	33	47	70	82	92	101	101	3.7%	4.0%	1.5%	1.2%	0.9%	0.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	27	41	54	64	68	71	67	4.5%	2.7%	1.7%	0.6%	0.5%	-0.6%
Gas	0	0	2	1	2	3	4	n.s.	21.9%	-3.2%	1.7%	4.5%	4.8%
Electricity	0	0	0	0	1	3	6	0.5%	2.9%	3.0%	19.6%	11.3%	5.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	6	15	17	22	24	24	-0.3%	9.3%	1.3%	2.5%	1.1%	-0.1%
Other Energy Transformation & Losses⁴	20	24	44	51	66	81	94	1.9%	6.4%	1.5%	2.5%	2.2%	1.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Canada	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	28	31	34	38	40	42	44	1.0%	1.1%	1.0%	0.7%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	27	33	35	38	43	50	58	1.9%	0.8%	0.9%	1.2%	1.4%	1.5%
GDP per capita (mer, k\$'05)	28	33	36	40	45	52	60	1.8%	0.8%	1.0%	1.2%	1.4%	1.5%
Share Value Added - Agriculture (%)	2	2	1	2	2	2	2	-1.7%	-0.7%	2.0%	-0.4%	-0.4%	-0.3%
Share Value Added - Industry (%)	34	32	29	28	26	23	19	-0.8%	-1.1%	-0.2%	-0.9%	-1.2%	-1.6%
Share Value Added - Services (%)	64	67	70	70	73	76	79	0.5%	0.5%	0.0%	0.4%	0.4%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	14	14	15	-4.2%	5.6%	0.4%	0.1%	0.3%	0.7%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	511	661	760	766	558	520	320	2.6%	1.4%	0.1%	-3.1%	-0.7%	-4.8%
Total GHG (excl. sinks)	606	728	760	772	666	646	460	1.8%	0.4%	0.2%	-1.5%	-0.3%	-3.3%
Total GHG (energy, industry, agriculture)	587	716	701	700	615	557	431	2.0%	-0.2%	0.0%	-1.3%	-0.1%	-2.5%
CO ₂	446	551	543	559	494	436	323	2.1%	-0.1%	0.3%	-1.2%	-1.3%	-2.9%
CH ₄	72	95	89	75	64	68	59	2.8%	-0.7%	-1.7%	-1.6%	0.6%	-1.3%
N ₂ O	59	60	60	58	54	52	48	0.2%	0.1%	-0.4%	-0.7%	-0.4%	-0.7%
F gases	11	10	9	9	3	1	1	-0.4%	-1.2%	-0.6%	-9.4%	-7.5%	-8.6%
Total GHG from Energy and Industry	541	660	646	646	562	502	377	2.0%	-0.2%	0.0%	-1.4%	-1.1%	-2.8%
CO₂ Emissions from Fuel Comb.	420	517	514	527	466	411	302	2.1%	-0.1%	0.3%	-1.2%	-1.2%	-3.0%
Power generation/District heating	97	134	109	61	35	7	-14	3.3%	-2.1%	-5.5%	-5.4%	-14.9%	n.s.
Industry	76	82	63	75	62	52	40	0.8%	-2.6%	1.7%	-1.9%	-1.8%	-2.5%
Buildings	74	85	72	76	69	60	51	1.5%	-1.7%	0.6%	-0.9%	-1.5%	-1.6%
Agriculture	8	10	15	17	16	13	9	3.1%	3.6%	1.4%	-0.4%	-2.2%	-3.7%
Transport	115	136	158	162	146	126	103	1.7%	1.5%	0.3%	-1.1%	-1.5%	-2.0%
Other	51	69	98	135	137	154	114	3.1%	3.6%	3.3%	0.1%	1.1%	-3.0%
CO₂ captured (CCS)	0	0	0	0	1	7	33	n.s.	n.s.	n.s.	33.5%	16.7%	17.6%
Coal	0	0	0	0	1	5	11	n.s.	n.s.	n.s.	36.3%	17.5%	8.1%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	45.4%	11.3%	-3.1%
Biomass	0	0	0	0	0	1	22	n.s.	n.s.	n.s.	5.2%	30.3%	44.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	276	382	398	595	719	909	916	3.3%	0.4%	4.1%	1.9%	2.4%	0.1%
Coal	37	37	34	23	67	96	75	0.2%	-0.8%	-4.0%	11.5%	3.6%	-2.4%
Oil	96	133	162	266	321	435	427	3.3%	2.0%	5.1%	1.9%	3.1%	-0.2%
Natural gas	90	150	132	208	184	192	198	5.2%	-1.3%	4.7%	-1.2%	0.4%	0.3%
Biomass	8	12	14	31	56	62	79	3.8%	2.0%	8.1%	6.0%	1.0%	2.4%
Nuclear ¹	19	19	24	28	45	71	73	0.0%	2.2%	1.4%	4.9%	4.8%	0.3%
Hydro	26	31	30	34	35	36	37	1.9%	-0.2%	1.1%	0.4%	0.3%	0.3%
Other renewables	0	0	1	5	10	17	26	n.s.	42.2%	20.4%	7.1%	5.1%	4.4%
Net Imports	-64	-130	-145	-329	-437	-607	-613						
Coal	-12	-6	-12	-9	-54	-81	-67						
Oil	-16	-46	-78	-191	-257	-385	-393						
Natural gas	-36	-76	-53	-112	-101	-117	-130						
Biomass	0	0	0	-12	-20	-17	-17						
Biofuels	0	0	0	0	-1	-2	-1						
Electricity	0	-3	-2	-5	-5	-5	-5						
Primary Energy Demand²	212	252	253	266	281	302	302	1.7%	0.0%	0.5%	0.6%	0.7%	0.0%
Coal	24	31	22	14	13	14	9	2.5%	-3.4%	-4.6%	-0.7%	1.0%	-5.0%
Oil	80	87	85	75	64	49	34	0.8%	-0.3%	-1.1%	-1.7%	-2.5%	-3.8%
Natural gas	55	74	79	96	84	76	68	3.1%	0.6%	2.0%	-1.4%	-1.0%	-1.1%
Biomass	8	12	14	19	37	46	62	3.7%	1.9%	3.1%	6.8%	2.1%	3.2%
Nuclear ¹	19	19	24	28	45	71	73	0.0%	2.2%	1.4%	4.9%	4.8%	0.3%
Hydro	26	31	30	34	35	36	37	1.9%	-0.2%	1.1%	0.4%	0.3%	0.3%
Other renewables	0	0	1	5	10	17	26	n.s.	42.2%	20.4%	7.1%	5.1%	4.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	212	252	253	266	281	302	302	1.7%	0.0%	0.5%	0.6%	0.7%	0.0%
Energy for Power Generation	72	89	89	88	106	128	144	2.2%	0.0%	-0.1%	1.8%	1.9%	1.2%
Other Energy Transformation & Losses	20	19	17	18	26	39	37	-0.5%	-1.1%	0.7%	3.6%	4.0%	-0.5%
Final consumption	157	185	189	204	205	204	201	1.7%	0.2%	0.8%	0.0%	-0.1%	-0.1%
Steel, Non-Met. Minerals and Chem.	11	12	11	12	10	8	7	0.9%	-1.0%	0.9%	-2.3%	-1.9%	-1.3%
Other Industry	37	44	33	39	40	39	39	1.7%	-2.9%	1.8%	0.1%	-0.2%	0.0%
Non-Energy Use	15	20	23	25	24	23	22	2.9%	1.7%	0.6%	-0.4%	-0.5%	-0.4%
Residential	29	31	33	35	36	37	37	0.7%	0.7%	0.4%	0.4%	0.2%	0.1%
Services	22	27	25	26	30	34	39	2.2%	-0.7%	0.4%	1.4%	1.3%	1.3%
Agriculture	3	4	6	6	7	8	8	2.6%	2.8%	1.5%	0.9%	0.8%	0.7%
Road	33	39	49	51	49	46	40	1.7%	2.2%	0.5%	-0.4%	-0.7%	-1.4%
Rail	2	2	2	2	2	2	2	-0.7%	0.2%	1.0%	-0.1%	-0.2%	-0.2%
Aviation	3	4	4	5	5	5	5	2.4%	-0.7%	2.7%	0.1%	-0.1%	0.0%
Other Transport	2	2	3	2	2	2	2	0.1%	6.6%	-3.6%	0.7%	-0.2%	-0.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Canada	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	27	39	34	22	16	4	7	3.9%	-1.3%	-4.5%	-3.0%	-13.3%	6.4%
Coal	20	27	19	9	6	2	1	2.9%	-3.3%	-6.9%	-3.6%	-12.5%	-4.0%
Oil	4	3	2	0	0	0	0	-1.9%	-4.3%	-29.0%	-34.2%	n.s.	n.s.
Gas	2	7	11	10	4	1	1	14.7%	4.4%	-0.9%	-8.9%	-15.1%	2.3%
Biomass & Waste	1	2	2	2	6	1	5	7.8%	0.7%	0.1%	10.2%	-13.1%	14.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	482	605	599	651	766	899	1 032	2.3%	-0.1%	0.8%	1.7%	1.6%	1.4%
Coal	82	118	80	35	26	9	6	3.6%	-3.8%	-8.0%	-2.7%	-10.7%	-3.8%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Oil	16	15	8	0	0	0	0	-1.1%	-6.1%	-28.4%	-33.6%	n.s.	n.s.
Gas	10	33	52	51	23	5	6	13.2%	4.4%	-0.1%	-7.5%	-14.4%	2.1%
of which CCS	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	n.s.	-3.1%
Biomass & Waste	4	8	9	9	25	7	26	7.2%	1.4%	-0.2%	10.6%	-12.1%	14.4%
of which CCS	0	0	0	0	0	0	26	n.s.	n.s.	n.s.	n.s.	n.s.	53.1%
Nuclear	73	73	91	105	175	285	296	0.0%	2.2%	1.5%	5.2%	5.0%	0.4%
Hydro	297	359	351	393	408	422	435	1.9%	-0.2%	1.1%	0.4%	0.3%	0.3%
Wind	0	0	9	57	107	167	245	n.s.	41.9%	20.7%	6.5%	4.5%	3.9%
Solar	0	0	0	1	2	5	17	n.s.	27.7%	18.3%	10.1%	11.6%	13.2%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	25.2%	16.0%	12.7%
Generation Capacity (GW_e)	103	111	131	170	206	251	299	0.7%	1.7%	2.6%	2.0%	2.0%	1.8%
Coal	19	18	14	9	7	6	6	-0.8%	-2.3%	-4.5%	-2.9%	-1.3%	-0.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	17.3%
Oil	7	8	7	20	20	21	23	0.5%	-0.9%	10.8%	0.4%	0.0%	1.0%
Gas	4	7	13	17	21	23	24	5.9%	7.0%	2.9%	2.1%	0.9%	0.6%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Biomass & Waste	1	1	5	4	8	12	23	2.2%	15.1%	-1.5%	6.8%	5.0%	6.1%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	13	10	13	14	22	37	38	-2.2%	2.3%	0.7%	5.1%	5.1%	0.3%
Hydro	59	67	75	81	84	87	89	1.3%	1.1%	0.7%	0.4%	0.3%	0.3%
Wind	0	0	4	24	42	60	82	n.s.	39.9%	19.4%	5.8%	3.8%	3.1%
Solar	0	0	0	2	3	5	14	n.s.	44.3%	21.4%	3.2%	7.3%	10.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.5%	15.5%	12.2%
Total Final Consumption² (Mtoe)	157	185	189	204	205	204	201	1.7%	0.2%	0.8%	0.0%	-0.1%	-0.1%
Coal	4	5	4	4	4	4	4	0.8%	-1.4%	-0.1%	-0.4%	0.7%	0.4%
Oil	69	80	92	94	83	70	56	1.6%	1.4%	0.2%	-1.2%	-1.7%	-2.2%
Gas	40	49	40	49	45	40	36	1.9%	-2.0%	2.1%	-0.9%	-1.1%	-1.0%
Electricity	36	41	41	42	50	60	69	1.4%	0.0%	0.3%	1.8%	1.7%	1.5%
Heat	1	1	0	1	1	3	4	2.5%	-5.9%	5.8%	5.9%	6.2%	4.0%
Biomass & Other	7	10	11	14	22	27	32	3.1%	1.6%	2.5%	4.2%	2.2%	1.6%
Share of Renewables ³ (%)	22%	24%	25%	29%	38%	45%	55%	0.6%	0.4%	1.5%	2.8%	1.9%	2.0%
Industry (incl. non-energy use)	63	76	67	76	73	70	68	1.8%	-1.2%	1.3%	-0.4%	-0.5%	-0.3%
Coal	4	5	4	4	4	4	4	0.9%	-1.4%	-0.1%	-0.4%	0.7%	0.4%
Oil	18	22	27	26	23	19	16	2.0%	1.9%	-0.2%	-1.4%	-1.9%	-1.8%
Gas	20	23	16	22	20	18	16	1.5%	-3.9%	3.6%	-1.3%	-1.0%	-1.2%
Electricity	14	17	15	16	18	19	20	1.9%	-1.5%	0.3%	1.2%	0.8%	0.5%
Heat	1	1	0	1	1	1	1	2.5%	-6.6%	4.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	6	8	6	8	9	10	12	3.1%	-3.1%	3.1%	1.7%	0.6%	1.8%
Buildings	50	58	58	61	66	71	76	1.4%	0.1%	0.4%	0.9%	0.7%	0.7%
Coal	0	0	0	0	0	0	0	-3.1%	-1.1%	-9.4%	-4.5%	-10.5%	n.s.
Oil	9	9	5	5	5	5	5	0.0%	-5.0%	-0.5%	0.4%	-0.3%	-0.9%
Gas	20	25	24	26	23	19	15	2.3%	-0.5%	0.9%	-1.2%	-1.9%	-1.9%
Electricity	20	23	25	25	30	35	41	1.0%	0.9%	0.2%	1.6%	1.7%	1.7%
Heat	0	0	0	0	1	2	3	4.4%	17.3%	14.0%	18.6%	9.7%	5.1%
Biomass & Other	1	2	5	5	8	10	12	2.1%	9.4%	0.2%	5.6%	2.4%	1.3%
Agriculture	3	4	6	6	7	8	8	2.6%	2.8%	1.5%	0.9%	0.8%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	4	5	4	4	2	3.3%	4.2%	1.1%	-0.4%	-2.3%	-3.9%
Gas	0	1	1	1	1	1	1	1.6%	-0.3%	4.2%	-0.2%	-1.6%	-2.6%
Electricity	1	1	1	1	1	2	3	1.1%	-0.2%	1.0%	3.2%	4.5%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	26.2%	11.4%	5.6%
Transport	40	47	57	61	59	55	49	1.6%	2.0%	0.5%	-0.3%	-0.6%	-1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	40	47	56	58	51	43	33	1.6%	1.9%	0.3%	-1.3%	-1.8%	-2.5%
Gas	0	0	0	0	2	3	4	3.6%	-2.2%	23.3%	17.9%	5.3%	4.3%
Electricity	0	0	0	0	2	4	5	n.s.	n.s.	n.s.	27.3%	7.6%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	2	4	6	6	n.s.	24.2%	6.2%	7.1%	3.5%	0.3%
Other Energy Transformation & Losses⁴	20	19	17	18	26	39	37	-0.5%	-1.1%	0.7%	3.6%	4.0%	-0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Chile	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	13	15	17	19	20	21	22	1.4%	1.2%	1.0%	0.7%	0.4%	0.2%
GDP per capita (ppp, k\$'05)	7	11	15	18	22	26	30	4.9%	2.7%	2.2%	2.1%	1.5%	1.3%
GDP per capita (mer, k\$'05)	4	7	9	11	13	15	18	4.9%	2.7%	2.2%	2.1%	1.5%	1.3%
Share Value Added - Agriculture (%)	9	6	3	4	4	3	3	-3.8%	-5.2%	0.9%	-0.5%	-0.3%	-0.2%
Share Value Added - Industry (%)	41	32	40	32	31	30	29	-2.5%	2.1%	-2.0%	-0.4%	-0.4%	-0.4%
Share Value Added - Services (%)	50	62	57	64	65	66	68	2.2%	-0.8%	1.1%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	17	19	-4.2%	5.6%	0.8%	0.7%	1.0%	1.3%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	55	66	96	115	75	66	47	1.9%	3.7%	1.8%	-4.1%	-1.3%	-3.4%
Total GHG (excl. sinks)	55	79	111	127	130	135	125	3.7%	3.5%	1.4%	0.2%	0.4%	-0.8%
Total GHG (energy, industry, agriculture)	50	79	103	127	130	135	125	4.7%	2.7%	2.1%	0.2%	0.4%	-0.8%
CO ₂	33	55	77	96	104	108	100	5.2%	3.4%	2.3%	0.8%	0.4%	-0.8%
CH ₄	12	17	18	22	17	18	17	3.6%	0.6%	1.8%	-2.1%	0.4%	-0.6%
N ₂ O	5	7	8	10	8	8	8	3.0%	1.8%	1.7%	-1.5%	0.1%	-0.7%
F gases	0	0	0	0	0	0	0	-8.4%	1.9%	0.2%	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	40	67	89	110	115	120	111	5.2%	2.9%	2.2%	0.4%	0.4%	-0.7%
CO₂ Emissions from Fuel Comb.	30	50	71	88	94	97	89	5.3%	3.5%	2.2%	0.7%	0.3%	-0.9%
Power generation/District heating	8	14	25	36	40	40	35	5.2%	6.4%	3.6%	1.0%	0.1%	-1.2%
Industry	7	11	14	16	17	19	18	4.9%	2.3%	1.6%	0.3%	1.3%	-0.6%
Buildings	3	5	6	5	5	5	4	3.7%	1.7%	-0.6%	-1.3%	-0.4%	-1.5%
Agriculture	0	1	1	1	1	1	1	3.7%	4.6%	-1.6%	0.4%	-0.6%	-2.0%
Transport	9	17	19	24	26	25	24	6.7%	0.9%	2.4%	0.8%	-0.1%	-0.6%
Other	2	3	6	6	7	7	7	2.7%	8.3%	-0.9%	1.9%	0.8%	-1.0%
CO₂ captured (CCS)	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	23.5%	20.8%
Coal	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	27.1%	20.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	27.8%	21.1%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	2.9%	20.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	7	8	9	14	20	27	34	1.1%	0.8%	4.3%	3.9%	2.8%	2.5%
Coal	1	0	0	2	2	3	3	-15.4%	0.5%	23.3%	1.0%	1.1%	0.7%
Oil	1	0	1	0	1	1	1	-9.3%	4.2%	-5.0%	3.9%	3.5%	2.7%
Natural gas	1	2	2	1	3	6	8	1.2%	-0.3%	-0.5%	9.2%	4.7%	3.5%
Biomass	3	4	5	7	10	13	15	4.6%	0.5%	4.3%	3.6%	2.1%	2.0%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.8%	13.9%
Hydro	1	2	2	2	2	3	3	7.6%	1.6%	0.7%	1.4%	1.2%	1.1%
Other renewables	0	0	0	1	1	3	4	n.s.	n.s.	37.3%	6.8%	6.8%	5.1%
Net Imports	6	17	22	25	26	24	20						
Coal	1	3	4	5	6	7	7						
Oil	5	10	14	17	16	14	13						
Natural gas	0	4	3	2	3	2	-1						
Biomass	0	0	0	0	1	1	1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	14	25	31	38	46	51	53	6.1%	2.1%	2.3%	1.7%	1.1%	0.5%
Coal	2	3	4	7	8	9	10	2.3%	3.8%	5.2%	1.0%	1.2%	0.3%
Oil	6	10	15	17	16	15	14	4.9%	3.7%	1.4%	-0.5%	-0.8%	-0.8%
Natural gas	1	5	4	4	6	8	7	15.9%	-1.5%	-2.0%	5.7%	2.0%	-1.0%
Biomass	3	4	5	8	11	14	16	4.6%	0.5%	5.0%	4.1%	1.9%	1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.8%	13.9%
Hydro	1	2	2	2	2	3	3	7.6%	1.6%	0.7%	1.4%	1.2%	1.1%
Other renewables	0	0	0	1	1	3	4	n.s.	n.s.	37.3%	6.8%	6.8%	5.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	14	25	31	38	46	51	53	6.1%	2.1%	2.3%	1.7%	1.1%	0.5%
Energy for Power Generation	3	6	10	15	19	22	24	7.2%	4.7%	4.3%	2.5%	1.5%	1.1%
Other Energy Transformation & Losses	1	1	2	1	3	4	4	5.9%	2.3%	-1.2%	5.7%	3.5%	1.8%
Final consumption	11	21	24	29	33	36	38	6.2%	1.5%	1.8%	1.4%	1.0%	0.5%
Steel, Non-Met. Minerals and Chem.	0	1	1	1	1	1	1	4.1%	-0.3%	5.4%	-0.1%	0.3%	-0.8%
Other Industry	3	6	8	11	13	15	16	7.1%	2.8%	2.7%	2.1%	1.4%	1.0%
Non-Energy Use	1	2	1	1	1	1	1	10.1%	-8.2%	-3.8%	0.5%	1.1%	0.2%
Residential	3	5	5	5	5	5	5	4.5%	0.9%	-0.2%	0.1%	0.3%	0.0%
Services	0	1	1	2	2	2	2	2.7%	8.2%	1.3%	1.9%	1.5%	1.0%
Agriculture	0	0	0	0	0	0	0	4.3%	4.2%	-1.3%	1.3%	0.9%	0.7%
Road	3	5	6	8	9	10	10	6.8%	2.2%	2.7%	1.5%	0.7%	0.2%
Rail	0	0	0	0	0	0	0	0.2%	8.1%	1.3%	1.1%	0.6%	0.4%
Aviation	0	0	0	0	0	0	0	7.4%	4.8%	1.7%	0.8%	0.4%	-0.1%
Other Transport	0	0	0	0	1	1	1	2.0%	2.2%	0.9%	2.6%	1.0%	0.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Chile	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2	5	8	12	15	17	17	7.1%	5.6%	4.4%	2.4%	1.0%	0.3%
Coal	2	2	4	7	7	8	8	2.4%	6.5%	5.7%	0.7%	0.4%	0.1%
Oil	0	0	2	2	2	1	2	-0.4%	14.4%	0.5%	-1.8%	-2.5%	2.9%
Gas	0	2	2	1	2	3	2	38.7%	0.6%	-2.7%	6.2%	0.8%	-4.5%
Biomass & Waste	0	0	0	2	4	5	6	13.5%	1.0%	18.8%	6.9%	2.9%	1.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	18	40	60	83	108	133	157	8.5%	4.2%	3.2%	2.7%	2.1%	1.7%
Coal	7	8	17	30	33	36	38	2.6%	7.1%	6.0%	1.0%	0.9%	0.4%
of which CCS	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	26.9%
Oil	2	2	8	8	7	5	7	-0.4%	17.4%	-0.3%	-1.8%	-2.6%	3.1%
Gas	0	10	11	7	13	14	9	49.4%	0.2%	-4.0%	6.0%	0.8%	-4.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	1	2	7	16	22	27	13.4%	9.1%	12.6%	7.9%	3.3%	2.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	9	19	22	23	27	30	34	7.6%	1.6%	0.7%	1.4%	1.2%	1.1%
Wind	0	0	0	5	10	19	27	n.s.	n.s.	31.1%	7.2%	6.8%	3.4%
Solar	0	0	0	2	3	6	15	n.s.	n.s.	n.s.	5.0%	8.8%	9.8%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	25.6%	17.2%	12.7%
Generation Capacity (GW_e)	5	10	16	26	34	44	52	8.0%	4.9%	4.7%	2.6%	2.7%	1.7%
Coal	1	2	2	5	6	8	8	6.5%	0.9%	7.1%	2.5%	2.8%	-0.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	27.0%
Oil	1	1	3	4	4	4	4	-0.9%	13.9%	1.4%	0.6%	-0.1%	0.0%
Gas	0	3	4	3	4	3	2	43.0%	4.8%	-2.5%	0.7%	-1.4%	-6.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	0	0	1	2	3	4	4	4.3%	12.3%	7.6%	1.8%	4.2%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	2	4	5	7	8	9	10	5.8%	2.8%	2.1%	1.4%	1.2%	1.1%
Wind	0	0	0	3	6	10	13	n.s.	n.s.	33.0%	6.9%	5.9%	2.4%
Solar	0	0	0	3	4	6	12	n.s.	n.s.	n.s.	4.7%	4.3%	6.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.7%	12.2%
Total Final Consumption² (Mtoe)	11	21	24	29	33	36	38	6.2%	1.5%	1.8%	1.4%	1.0%	0.5%
Coal	1	1	0	1	1	2	2	1.0%	-5.6%	8.9%	1.9%	3.9%	0.2%
Oil	5	9	12	14	14	13	11	5.3%	2.8%	1.6%	-0.3%	-0.6%	-1.2%
Gas	1	3	2	2	3	4	4	13.4%	-3.3%	-3.3%	5.1%	2.9%	0.9%
Electricity	1	3	5	6	8	10	12	9.0%	4.1%	2.9%	2.7%	2.1%	1.7%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	7.1%	4.7%	4.3%
Biomass & Other	3	4	4	5	7	7	8	4.1%	0.4%	2.3%	2.4%	0.9%	1.3%
Share of Renewables ³ (%)	33%	31%	26%	30%	36%	42%	50%	-0.7%	-1.4%	1.1%	2.0%	1.5%	1.8%
Industry (incl. non-energy use)	4	9	10	12	15	17	18	7.5%	0.6%	2.4%	1.8%	1.3%	0.8%
Coal	1	1	0	1	1	2	2	1.7%	-5.5%	8.9%	1.9%	3.9%	0.2%
Oil	2	2	3	4	3	3	2	3.5%	4.6%	1.2%	-1.3%	-0.9%	-2.0%
Gas	1	3	2	1	1	2	2	14.9%	-4.8%	-6.2%	3.8%	2.9%	1.1%
Electricity	1	2	3	4	6	7	8	9.7%	3.4%	3.3%	2.7%	2.0%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.2%	-0.3%	-0.2%
Biomass & Other	1	1	1	2	3	3	4	5.3%	-0.3%	8.1%	3.4%	0.3%	1.6%
Buildings	4	5	7	7	7	8	8	4.3%	2.0%	0.1%	0.6%	0.6%	0.3%
Coal	0	0	0	0	0	0	0	-15.5%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	1	1	1	3.6%	1.1%	-1.2%	-3.3%	-2.1%	-2.6%
Gas	0	0	1	1	1	1	1	5.4%	4.5%	1.5%	2.9%	1.8%	-0.6%
Electricity	0	1	2	2	2	2	3	7.8%	5.6%	1.9%	1.3%	1.1%	1.0%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	7.2%	4.7%	4.3%
Biomass & Other	2	3	3	3	3	3	3	3.7%	0.7%	-0.9%	0.5%	0.3%	0.0%
Agriculture	0	0	0	0	0	0	0	4.3%	4.2%	-1.3%	1.3%	0.9%	0.7%
Coal	0	0	0	0	0	0	0	-13.4%	-8.8%	-4.5%	-1.2%	-2.3%	-4.1%
Oil	0	0	0	0	0	0	0	8.3%	5.0%	-1.6%	0.4%	-0.6%	-2.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	5.7%	-6.8%	7.3%	4.8%	5.0%	4.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	10.8%	7.3%
Transport	3	6	7	9	11	11	12	6.4%	2.3%	2.5%	1.5%	0.7%	0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	6	7	9	9	9	8	6.4%	2.3%	2.3%	0.4%	-0.4%	-0.9%
Gas	0	0	0	0	1	1	1	3.5%	8.5%	21.5%	17.1%	4.4%	2.1%
Electricity	0	0	0	0	0	1	1	0.4%	7.0%	3.7%	22.0%	7.3%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.5%	7.5%	4.3%
Other Energy Transformation & Losses⁴	1	1	2	1	3	4	4	5.9%	2.3%	-1.2%	5.7%	3.5%	1.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Mexico	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	86	103	119	135	148	158	164	1.8%	1.4%	1.3%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	10	12	12	14	18	23	29	1.7%	0.3%	1.4%	2.2%	2.5%	2.4%
GDP per capita (mer, k\$'05)	7	8	8	9	11	15	18	1.7%	0.3%	1.3%	2.2%	2.5%	2.4%
Share Value Added - Agriculture (%)	8	4	3	4	3	3	3	-7.7%	-0.2%	0.4%	-0.9%	-0.8%	-0.6%
Share Value Added - Industry (%)	28	35	35	32	32	30	28	2.1%	0.1%	-0.8%	-0.3%	-0.5%	-0.6%
Share Value Added - Services (%)	64	62	61	64	65	67	69	-0.3%	0.0%	0.4%	0.2%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	12	12	13	16	-4.2%	5.6%	-0.7%	-0.2%	1.0%	1.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	485	589	718	737	623	615	568	2.0%	2.0%	0.3%	-1.7%	-0.1%	-0.8%
Total GHG (excl. sinks)	498	613	731	737	725	740	728	2.1%	1.8%	0.1%	-0.2%	0.2%	-0.2%
Total GHG (energy, industry, agriculture)	445	561	694	726	725	727	728	2.3%	2.2%	0.4%	0.0%	0.0%	0.0%
CO ₂	284	381	452	507	532	539	546	3.0%	1.7%	1.2%	0.5%	0.1%	0.1%
CH ₄	103	118	166	136	112	109	106	1.3%	3.4%	-2.0%	-1.9%	-0.3%	-0.3%
N ₂ O	56	58	69	72	70	72	74	0.3%	1.7%	0.4%	-0.3%	0.4%	0.2%
F gases	1	3	8	12	11	7	1	7.9%	10.1%	3.6%	-0.3%	-5.3%	-16.2%
Total GHG from Energy and Industry	352	474	602	626	633	631	630	3.0%	2.4%	0.4%	0.1%	0.0%	0.0%
CO₂ Emissions from Fuel Comb.	262	346	412	460	480	480	481	2.8%	1.8%	1.1%	0.4%	0.0%	0.0%
Power generation/District heating	63	112	122	157	181	175	167	5.9%	0.9%	2.5%	1.4%	-0.3%	-0.5%
Industry	55	52	47	60	56	57	61	-0.6%	-1.0%	2.5%	-0.8%	0.2%	0.7%
Buildings	24	31	28	26	25	23	23	2.5%	-1.1%	-0.5%	-0.7%	-0.5%	-0.3%
Agriculture	5	7	9	9	9	8	6	2.6%	2.6%	0.7%	-0.8%	-1.5%	-1.6%
Transport	83	104	148	142	139	145	152	2.3%	3.6%	-0.4%	-0.3%	0.4%	0.5%
Other	31	39	57	63	71	72	72	2.5%	3.9%	1.1%	1.1%	0.2%	0.0%
CO₂ captured (CCS)	0	0	0	0	2	12	40	n.s.	n.s.	n.s.	49.5%	19.7%	12.6%
Coal	0	0	0	0	1	9	29	n.s.	n.s.	n.s.	46.8%	19.8%	12.6%
Gas	0	0	0	0	1	3	9	n.s.	n.s.	n.s.	n.s.	19.7%	10.9%
Biomass	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	23.7%	16.3%	26.5%
Energy Balance, by fuel (Mtoe)													
Primary Production	196	230	221	186	185	182	202	1.6%	-0.4%	-1.7%	0.0%	-0.2%	1.0%
Coal	3	5	6	6	7	10	14	6.8%	1.7%	-0.1%	1.1%	3.2%	3.6%
Oil	155	174	148	115	90	52	33	1.1%	-1.5%	-2.5%	-2.4%	-5.4%	-4.5%
Natural gas	23	32	48	43	41	37	33	3.4%	4.2%	-0.9%	-0.6%	-1.0%	-1.0%
Biomass	9	9	8	8	15	25	33	0.4%	-0.7%	-0.8%	6.9%	5.0%	2.9%
Nuclear ¹	1	2	2	3	8	21	39	10.8%	-3.3%	6.9%	10.8%	9.6%	6.3%
Hydro	2	3	3	3	3	3	3	3.5%	1.1%	-1.1%	0.3%	0.0%	0.0%
Other renewables	4	5	6	8	21	36	48	1.5%	1.5%	2.6%	10.6%	5.5%	3.1%
Net Imports	-81	-84	-45	12	50	96	124						
Coal	1	2	3	5	6	10	16						
Oil	-82	-83	-54	-22	-3	30	49						
Natural gas	1	-3	6	28	45	52	53						
Biomass	0	0	0	1	2	4	6						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	115	145	176	198	236	278	327	2.4%	2.0%	1.2%	1.7%	1.7%	1.6%
Coal	4	7	9	11	13	20	29	6.6%	3.3%	2.0%	1.6%	4.0%	4.1%
Oil	72	90	95	93	87	82	82	2.2%	0.5%	-0.2%	-0.6%	-0.6%	0.0%
Natural gas	23	29	53	71	86	88	86	2.3%	6.3%	3.0%	1.8%	0.3%	-0.3%
Biomass	9	9	8	9	17	29	39	0.4%	-0.7%	0.6%	6.8%	5.2%	3.2%
Nuclear ¹	1	2	2	3	8	21	39	10.8%	-3.3%	6.9%	10.8%	9.6%	6.3%
Hydro	2	3	3	3	3	3	3	3.5%	1.1%	-1.1%	0.3%	0.0%	0.0%
Other renewables	4	5	6	8	21	36	48	1.5%	1.5%	2.6%	10.6%	5.5%	3.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	115	145	176	198	236	278	327	2.4%	2.0%	1.2%	1.7%	1.7%	1.6%
Energy for Power Generation	28	48	56	73	102	132	166	5.5%	1.5%	2.7%	3.5%	2.6%	2.4%
Other Energy Transformation & Losses	11	13	25	29	36	43	50	1.2%	7.0%	1.6%	2.1%	1.8%	1.5%
Final consumption	84	99	114	122	137	160	187	1.6%	1.4%	0.7%	1.2%	1.6%	1.5%
Steel, Non-Met. Minerals and Chem.	15	14	12	13	12	13	15	-0.5%	-1.6%	0.6%	-0.3%	0.7%	1.1%
Other Industry	12	14	16	25	30	38	46	2.1%	1.0%	4.6%	2.0%	2.2%	2.0%
Non-Energy Use	9	10	8	6	7	9	10	0.8%	-1.9%	-2.4%	1.1%	1.9%	1.8%
Residential	16	18	18	17	19	20	23	1.4%	-0.1%	-0.5%	0.9%	1.0%	1.0%
Services	2	3	5	6	9	12	15	4.7%	3.1%	3.2%	3.4%	2.8%	2.6%
Agriculture	2	3	4	4	5	5	6	2.4%	2.2%	1.2%	1.4%	1.3%	1.2%
Road	27	34	50	49	53	61	70	2.3%	4.0%	-0.3%	0.8%	1.4%	1.3%
Rail	1	1	1	1	1	1	1	-1.0%	0.5%	1.0%	1.3%	1.6%	1.6%
Aviation	0	0	0	0	0	0	0	n.s.	1.1%	-8.4%	3.0%	3.5%	3.0%
Other Transport	0	1	1	1	1	1	1	11.4%	-5.6%	0.0%	1.5%	1.4%	0.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Mexico	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	21	38	45	59	70	72	76	6.1%	1.8%	2.8%	1.7%	0.3%	0.6%
Coal	2	5	8	8	10	14	20	10.0%	5.3%	0.6%	1.7%	3.4%	3.9%
Oil	15	23	10	12	13	9	8	4.3%	-7.9%	2.1%	0.5%	-3.8%	-0.4%
Gas	3	9	25	36	43	42	37	9.7%	11.3%	3.7%	1.7%	-0.3%	-1.3%
Biomass & Waste	0	1	1	2	3	6	9	n.s.	4.1%	3.6%	5.8%	8.1%	4.3%
Other	0	1	1	1	1	2	2	1.4%	1.2%	-1.1%	9.6%	3.0%	1.3%
Gross Elec. Generation (TWh_e)	116	204	271	365	524	708	913	5.8%	2.9%	3.0%	3.7%	3.1%	2.6%
Coal	8	19	33	35	43	65	100	9.6%	5.3%	0.7%	2.0%	4.3%	4.5%
of which CCS	0	0	0	0	0	3	22	n.s.	n.s.	n.s.	n.s.	n.s.	21.8%
Oil	62	94	44	53	56	39	37	4.3%	-7.4%	1.9%	0.6%	-3.6%	-0.4%
Gas	14	41	141	196	245	241	213	11.1%	13.0%	3.4%	2.3%	-0.2%	-1.2%
of which CCS	0	0	0	0	0	8	27	n.s.	n.s.	n.s.	n.s.	n.s.	12.3%
Biomass & Waste	0	2	3	3	11	28	45	n.s.	4.9%	-0.6%	15.8%	9.9%	4.9%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	35.2%
Nuclear	3	8	6	12	34	86	159	10.8%	-3.3%	7.0%	11.3%	9.8%	6.4%
Hydro	23	33	37	33	34	34	34	3.5%	1.1%	-1.1%	0.3%	0.0%	0.0%
Wind	0	0	1	26	75	158	214	34.2%	51.9%	35.7%	11.1%	7.7%	3.1%
Solar	0	0	0	1	11	37	85	19.9%	8.0%	37.8%	22.8%	13.2%	8.7%
Other	5	6	7	6	15	21	25	1.4%	1.2%	-1.1%	9.7%	3.2%	1.9%
Generation Capacity (GW_e)	27	42	62	78	116	175	225	4.6%	3.9%	2.3%	4.0%	4.2%	2.6%
Coal	1	5	6	6	6	9	14	15.6%	1.7%	0.1%	0.3%	3.7%	4.4%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	21.9%
Oil	12	16	14	11	11	8	8	2.9%	-1.4%	-1.8%	-0.3%	-3.2%	0.1%
Gas	5	9	28	34	43	49	39	7.1%	11.7%	2.2%	2.2%	1.4%	-2.1%
of which CCS	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	13.1%
Biomass & Waste	0	0	0	0	1	4	6	n.s.	1.2%	-1.0%	13.8%	10.0%	5.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	35.3%
Nuclear	1	1	1	1	4	11	20	7.7%	0.0%	0.4%	11.2%	9.8%	6.4%
Hydro	8	10	12	12	13	13	13	2.1%	1.8%	0.5%	0.3%	0.0%	0.0%
Wind	0	0	1	10	26	53	68	n.s.	n.s.	34.3%	10.3%	7.1%	2.6%
Solar	0	0	0	1	9	26	53	19.9%	8.0%	47.5%	20.3%	11.0%	7.4%
Other	1	1	1	1	2	3	3	2.0%	1.2%	-1.5%	10.1%	2.8%	1.8%
Total Final Consumption² (Mtoe)	84	99	114	122	137	160	187	1.6%	1.4%	0.7%	1.2%	1.6%	1.5%
Coal	2	2	2	4	4	4	6	1.2%	-0.1%	6.1%	0.1%	2.0%	2.5%
Oil	51	62	74	70	64	63	63	1.9%	1.8%	-0.6%	-0.9%	-0.1%	0.0%
Gas	14	13	13	16	20	23	27	-0.9%	-0.2%	2.4%	2.0%	1.7%	1.4%
Electricity	9	14	18	25	36	49	64	4.9%	2.5%	3.6%	3.7%	3.1%	2.6%
Heat	0	0	0	0	1	2	3	9.6%	10.4%	4.2%	15.7%	8.5%	5.8%
Biomass & Other	9	8	7	7	12	19	24	-0.4%	-1.2%	-0.5%	6.1%	4.1%	2.8%
Share of Renewables ³ (%)	14%	12%	10%	10%	19%	30%	36%	-1.3%	-2.0%	0.3%	6.4%	4.4%	2.0%
Industry (incl. non-energy use)	36	38	36	44	50	60	71	0.7%	-0.6%	2.0%	1.3%	1.8%	1.8%
Coal	2	2	2	4	4	4	6	1.2%	-0.1%	6.1%	0.1%	2.0%	2.5%
Oil	14	14	11	11	10	10	11	0.1%	-2.2%	-0.5%	-0.5%	0.2%	0.4%
Gas	13	12	12	14	13	13	14	-0.9%	-0.4%	1.5%	-0.5%	0.4%	0.6%
Electricity	5	9	10	14	19	25	32	6.4%	1.5%	3.7%	2.9%	2.8%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	10.4%	5.9%	-0.2%	-0.3%	-0.2%
Biomass & Other	2	1	1	2	4	6	8	-3.4%	-2.9%	5.1%	9.1%	4.4%	2.9%
Buildings	18	22	23	23	28	32	38	1.8%	0.5%	0.4%	1.6%	1.6%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	8	7	5	4	4	2.8%	-1.5%	-1.5%	-2.6%	-2.2%	-1.5%
Gas	1	1	1	2	3	4	5	-1.6%	3.4%	6.8%	5.8%	2.6%	1.2%
Electricity	3	5	7	10	13	17	21	3.2%	4.5%	3.1%	3.0%	2.6%	2.4%
Heat	0	0	0	0	1	2	3	9.6%	10.4%	4.1%	16.2%	8.6%	5.9%
Biomass & Other	7	7	6	5	5	5	5	0.3%	-0.9%	-2.7%	0.9%	0.2%	-0.3%
Agriculture	2	3	4	4	5	5	6	2.4%	2.2%	1.2%	1.4%	1.3%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	2	3	3	3	2	2	2.6%	2.6%	0.7%	-0.8%	-1.5%	-1.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	1	1	1	1	1	2	2	1.7%	0.9%	2.6%	3.3%	3.2%	2.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	32.9%	7.9%	3.7%
Transport	29	36	52	51	55	63	72	2.4%	3.7%	-0.2%	0.8%	1.5%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	28	36	52	49	46	46	47	2.4%	3.7%	-0.5%	-0.7%	0.1%	0.2%
Gas	0	0	0	1	4	6	8	n.s.	7.8%	51.4%	16.9%	4.8%	3.0%
Electricity	0	0	0	0	3	6	8	3.2%	0.8%	14.9%	22.7%	6.2%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	6	10	n.s.	n.s.	n.s.	20.4%	8.4%	4.8%
Other Energy Transformation & Losses⁴	11	13	25	29	36	43	50	1.2%	7.0%	1.6%	2.1%	1.8%	1.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

United States	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	253	283	310	334	356	374	389	1.1%	0.9%	0.7%	0.6%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	33	41	44	50	56	64	71	2.3%	0.7%	1.4%	1.1%	1.2%	1.1%
GDP per capita (mer, k\$'05)	33	41	44	50	56	64	71	2.3%	0.7%	1.4%	1.1%	1.2%	1.1%
Share Value Added - Agriculture (%)	1	1	1	1	1	1	1	-1.5%	-0.1%	1.0%	-0.5%	-0.5%	-0.4%
Share Value Added - Industry (%)	24	23	20	20	19	18	16	-0.3%	-1.3%	-0.2%	-0.6%	-0.7%	-0.8%
Share Value Added - Services (%)	75	76	78	79	80	81	83	0.1%	0.4%	0.0%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	14	14	15	-4.2%	5.6%	0.4%	0.1%	0.3%	0.7%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	5 233	6 146	6 691	6 150	3 514	3 008	2 327	1.6%	-0.8%	-1.0%	-3.8%	-1.5%	-2.5%
Total GHG (excl. sinks)	6 056	6 830	6 649	6 025	4 331	3 679	2 965	1.2%	-0.3%	-1.0%	-3.2%	-1.6%	-2.1%
Total GHG (energy, industry, agriculture)	6 056	6 829	6 649	6 025	4 331	3 679	2 965	1.2%	-0.3%	-1.0%	-3.2%	-1.6%	-2.1%
CO ₂	4 938	5 721	5 515	5 042	3 577	2 961	2 284	1.5%	-0.4%	-0.9%	-3.4%	-1.9%	-2.6%
CH ₄	633	588	581	450	320	307	284	-0.7%	-0.1%	-2.5%	-3.4%	-0.4%	-0.8%
N ₂ O	395	384	404	402	387	392	389	-0.3%	0.5%	0.0%	-0.4%	0.1%	-0.1%
F gases	90	136	150	131	47	19	8	4.2%	1.0%	-1.4%	-9.8%	-8.7%	-8.1%
Total GHG from Energy and Industry	5 582	6 355	6 115	5 506	3 834	3 171	2 462	1.3%	-0.4%	-1.0%	-3.6%	-1.9%	-2.5%
CO₂ Emissions from Fuel Comb.	4 809	5 587	5 390	4 913	3 463	2 848	2 181	1.5%	-0.4%	-0.9%	-3.4%	-1.9%	-2.6%
Power generation/District heating	1 866	2 372	2 332	1 777	1 011	681	359	2.4%	-0.2%	-2.7%	-5.5%	-3.9%	-6.2%
Industry	581	524	428	445	330	298	226	-1.0%	-2.0%	0.4%	-3.0%	-1.0%	-2.7%
Buildings	544	602	545	503	376	319	255	1.0%	-1.0%	-0.8%	-2.9%	-1.6%	-2.2%
Agriculture	46	45	53	55	41	30	20	-0.2%	1.8%	0.4%	-2.9%	-3.1%	-4.1%
Transport	1 424	1 713	1 677	1 725	1 404	1 269	1 141	1.9%	-0.2%	0.3%	-2.0%	-1.0%	-1.1%
Other	349	331	354	407	300	251	180	-0.5%	0.7%	1.4%	-1.4%	-1.8%	-3.3%
CO₂ captured (CCS)	0	0	0	0	11	62	421	n.s.	n.s.	n.s.	57.7%	18.6%	21.1%
Coal	0	0	0	0	9	41	122	n.s.	n.s.	n.s.	n.s.	16.4%	11.6%
Gas	0	0	0	0	2	13	30	n.s.	n.s.	n.s.	57.0%	18.5%	9.0%
Biomass	0	0	0	0	0	8	269	n.s.	n.s.	n.s.	0.5%	n.s.	41.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	1 623	1 692	1 777	2 052	1 925	2 010	2 119	0.4%	0.5%	1.5%	-0.6%	0.4%	0.5%
Coal	488	542	540	372	285	342	433	1.1%	-0.1%	-3.6%	-2.7%	1.9%	2.4%
Oil	433	376	355	628	550	431	336	-1.4%	-0.6%	5.9%	-1.3%	-2.4%	-2.5%
Natural gas	420	448	499	624	439	393	370	0.7%	1.1%	2.3%	-3.5%	-1.1%	-0.6%
Biomass	82	76	112	120	147	176	236	-0.8%	3.9%	0.7%	2.1%	1.8%	3.0%
Nuclear ¹	162	211	222	212	281	351	401	2.7%	0.5%	-0.5%	2.8%	2.3%	1.3%
Hydro	25	24	25	24	25	25	25	-0.3%	0.2%	-0.1%	0.3%	0.0%	0.0%
Other renewables	14	15	25	71	199	292	319	0.3%	5.6%	11.0%	10.8%	3.9%	0.9%
Net Imports	329	590	472	247	211	172	139						
Coal	-32	-9	-37	-81	-126	-212	-299						
Oil	340	496	450	176	110	160	192						
Natural gas	21	100	58	114	92	36	2						
Biomass	0	0	0	28	121	179	243						
Biofuels	0	0	-1	4	9	5	-4						
Electricity	0	3	2	5	5	5	5						
Primary Energy Demand²	1 953	2 282	2 249	2 299	2 136	2 181	2 258	1.6%	-0.1%	0.2%	-0.7%	0.2%	0.3%
Coal	456	534	503	292	158	130	134	1.6%	-0.6%	-5.3%	-5.9%	-2.0%	0.3%
Oil	772	871	805	804	659	591	528	1.2%	-0.8%	0.0%	-2.0%	-1.1%	-1.1%
Natural gas	441	548	556	738	531	429	372	2.2%	0.2%	2.9%	-3.2%	-2.1%	-1.4%
Biomass	82	76	112	148	268	355	479	-0.8%	3.9%	2.8%	6.1%	2.8%	3.1%
Nuclear ¹	162	211	222	212	281	351	401	2.7%	0.5%	-0.5%	2.8%	2.3%	1.3%
Hydro	25	24	25	24	25	25	25	-0.3%	0.2%	-0.1%	0.3%	0.0%	0.0%
Other renewables	14	15	25	71	199	292	319	0.3%	5.6%	11.0%	10.8%	3.9%	0.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	1 953	2 282	2 249	2 299	2 136	2 181	2 258	1.6%	-0.1%	0.2%	-0.7%	0.2%	0.3%
Energy for Power Generation	754	931	958	901	883	969	1 107	2.1%	0.3%	-0.6%	-0.2%	0.9%	1.3%
Other Energy Transformation & Losses	127	124	160	254	274	287	291	-0.2%	2.6%	4.7%	0.8%	0.5%	0.2%
Final consumption	1 300	1 538	1 489	1 531	1 430	1 457	1 463	1.7%	-0.3%	0.3%	-0.7%	0.2%	0.0%
Steel, Non-Met. Minerals and Chem.	127	152	97	95	76	72	68	1.8%	-4.4%	-0.2%	-2.2%	-0.5%	-0.6%
Other Industry	181	185	169	192	181	183	184	0.2%	-0.9%	1.3%	-0.6%	0.2%	0.0%
Non-Energy Use	119	153	135	122	117	121	121	2.5%	-1.2%	-1.1%	-0.4%	0.3%	0.0%
Residential	224	265	268	259	237	242	243	1.7%	0.1%	-0.3%	-0.9%	0.2%	0.1%
Services	157	193	217	232	233	259	283	2.1%	1.2%	0.7%	0.1%	1.0%	0.9%
Agriculture	14	14	18	19	20	21	22	-0.2%	2.2%	0.9%	0.5%	0.4%	0.3%
Road	397	493	522	532	481	469	454	2.2%	0.6%	0.2%	-1.0%	-0.3%	-0.3%
Rail	11	10	9	13	14	14	15	-0.5%	-1.3%	3.9%	0.4%	0.3%	0.2%
Aviation	64	68	49	57	61	66	65	0.7%	-3.2%	1.5%	0.6%	0.7%	-0.1%
Other Transport	6	4	4	9	9	10	9	-4.3%	0.5%	7.6%	0.4%	0.4%	-0.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

United States	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	554	681	686	594	378	302	363	2.1%	0.1%	-1.4%	-4.4%	-2.2%	1.9%
Coal	392	492	469	255	125	84	78	2.3%	-0.5%	-5.9%	-6.9%	-4.0%	-0.7%
Oil	27	30	11	20	17	12	15	0.8%	-9.5%	6.3%	-1.9%	-3.2%	2.2%
Gas	93	137	185	300	197	143	126	3.9%	3.1%	4.9%	-4.1%	-3.2%	-1.3%
Biomass & Waste	40	21	20	17	34	57	139	-6.0%	-0.5%	-1.6%	7.0%	5.4%	9.2%
Other	1	1	2	2	5	6	6	-0.9%	1.9%	4.3%	7.9%	2.0%	-0.6%
Gross Elec. Generation (TWh_e)	3 210	4 052	4 378	4 544	4 892	5 688	6 446	2.4%	0.8%	0.4%	0.7%	1.5%	1.3%
Coal	1 700	2 129	1 994	1 099	542	369	356	2.3%	-0.7%	-5.8%	-6.8%	-3.8%	-0.3%
of which CCS	0	0	0	0	0	13	78	n.s.	n.s.	n.s.	n.s.	n.s.	20.1%
Oil	131	118	48	83	71	53	66	-1.0%	-8.6%	5.6%	-1.5%	-2.9%	2.1%
Gas	382	634	1 018	1 667	1 128	833	728	5.2%	4.8%	5.1%	-3.8%	-3.0%	-1.3%
of which CCS	0	0	0	0	0	33	85	n.s.	n.s.	n.s.	n.s.	n.s.	9.8%
Biomass & Waste	79	72	75	63	145	261	682	-0.9%	0.5%	-1.7%	8.6%	6.1%	10.1%
of which CCS	0	0	0	0	0	5	311	n.s.	n.s.	n.s.	n.s.	n.s.	51.1%
Nuclear	612	798	839	802	1 085	1 393	1 615	2.7%	0.5%	-0.5%	3.1%	2.5%	1.5%
Hydro	289	280	286	283	291	290	291	-0.3%	0.2%	-0.1%	0.3%	0.0%	0.0%
Wind	3	6	95	430	1 198	1 615	1 546	6.3%	32.6%	16.3%	10.8%	3.0%	-0.4%
Solar	0	0	4	91	375	800	1 086	14.3%	36.7%	36.1%	15.2%	7.9%	3.1%
Other	16	15	18	27	58	73	75	-0.9%	1.9%	4.3%	8.0%	2.3%	0.3%
Generation Capacity (GW_e)	739	859	1 040	1 090	1 388	1 707	1 787	1.5%	1.9%	0.5%	2.4%	2.1%	0.5%
Coal	271	321	319	218	116	92	95	1.7%	-0.1%	-3.7%	-6.1%	-2.3%	0.3%
of which CCS	0	0	0	0	0	2	10	n.s.	n.s.	n.s.	n.s.	n.s.	20.1%
Oil	82	130	56	32	33	31	31	4.7%	-8.1%	-5.3%	0.3%	-0.8%	0.1%
Gas	176	190	407	445	433	372	214	0.8%	7.9%	0.9%	-0.3%	-1.5%	-5.4%
of which CCS	0	0	0	0	0	4	13	n.s.	n.s.	n.s.	n.s.	n.s.	11.3%
Biomass & Waste	11	15	12	9	20	38	98	3.2%	-2.6%	-2.6%	8.4%	6.5%	9.8%
of which CCS	0	0	0	0	0	1	42	n.s.	n.s.	n.s.	n.s.	n.s.	51.2%
Nuclear	102	98	101	98	133	172	199	-0.4%	0.3%	-0.3%	3.1%	2.6%	1.5%
Hydro	92	99	101	103	106	106	106	0.7%	0.2%	0.2%	0.3%	0.0%	0.0%
Wind	2	2	39	133	332	441	418	4.5%	32.3%	13.0%	9.6%	2.9%	-0.5%
Solar	0	1	3	48	206	447	615	2.3%	18.9%	31.7%	15.8%	8.0%	3.2%
Other	3	3	2	4	7	9	11	0.5%	-1.5%	3.9%	7.1%	2.5%	2.3%
Total Final Consumption² (Mtoe)	1 300	1 538	1 489	1 531	1 430	1 457	1 463	1.7%	-0.3%	0.3%	-0.7%	0.2%	0.0%
Coal	58	39	31	25	21	28	30	-3.8%	-2.4%	-2.1%	-1.6%	3.0%	0.6%
Oil	683	793	761	736	600	539	476	1.5%	-0.4%	-0.3%	-2.0%	-1.1%	-1.2%
Gas	288	345	295	318	248	217	187	1.8%	-1.6%	0.8%	-2.5%	-1.3%	-1.5%
Electricity	226	301	326	337	364	424	481	2.9%	0.8%	0.4%	0.8%	1.5%	1.3%
Heat	2	7	8	10	21	30	42	11.3%	1.3%	2.2%	7.6%	3.6%	3.2%
Biomass & Other	43	52	69	104	175	218	249	2.1%	2.8%	4.2%	5.4%	2.2%	1.3%
Share of Renewables ³ (%)	6%	6%	8%	13%	30%	42%	51%	-0.4%	2.9%	4.8%	9.3%	3.4%	1.8%
Industry (incl. non-energy use)	427	490	402	408	374	376	373	1.4%	-2.0%	0.2%	-0.9%	0.1%	-0.1%
Coal	53	37	29	24	21	28	30	-3.6%	-2.3%	-2.1%	-1.4%	3.1%	0.6%
Oil	147	160	150	124	112	104	93	0.8%	-0.6%	-1.9%	-0.9%	-0.7%	-1.1%
Gas	124	155	111	142	105	92	80	2.3%	-3.3%	2.5%	-2.9%	-1.3%	-1.4%
Electricity	75	98	74	75	74	76	76	2.8%	-2.7%	0.1%	-0.1%	0.3%	0.0%
Heat	0	4	5	5	5	5	5	n.s.	2.2%	-0.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	29	36	32	39	56	71	89	2.2%	-1.1%	2.0%	3.7%	2.3%	2.3%
Buildings	381	458	485	492	471	501	526	1.8%	0.6%	0.1%	-0.4%	0.6%	0.5%
Coal	5	2	2	1	0	0	0	-7.0%	-3.8%	-3.4%	-11.1%	-12.1%	-15.3%
Oil	45	48	36	32	34	35	31	0.5%	-2.8%	-1.0%	0.6%	0.2%	-1.2%
Gas	164	189	182	170	114	89	67	1.5%	-0.4%	-0.7%	-3.9%	-2.5%	-2.8%
Electricity	152	202	251	259	258	291	324	2.9%	2.2%	0.3%	-0.1%	1.2%	1.1%
Heat	2	3	3	5	16	25	37	1.7%	-0.2%	5.5%	12.6%	4.6%	3.8%
Biomass & Other	14	13	12	24	48	61	67	-0.3%	-0.7%	7.1%	7.2%	2.4%	0.9%
Agriculture	14	14	18	19	20	21	22	-0.2%	2.2%	0.9%	0.5%	0.4%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	14	16	16	12	9	6	-0.2%	1.1%	0.5%	-2.9%	-3.2%	-4.2%
Gas	0	0	1	1	1	1	1	n.s.	n.s.	-1.6%	-1.9%	-2.1%	-2.8%
Electricity	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	24.2%	6.5%	4.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	5	9	11	n.s.	n.s.	13.2%	15.4%	4.7%	2.8%
Transport	477	576	584	611	565	558	543	1.9%	0.1%	0.5%	-0.8%	-0.1%	-0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	477	572	559	564	441	391	346	1.8%	-0.2%	0.1%	-2.4%	-1.2%	-1.2%
Gas	0	0	1	6	28	36	39	n.s.	10.2%	24.2%	17.0%	2.5%	1.0%
Electricity	0	0	1	3	31	54	76	0.7%	3.6%	18.7%	26.2%	5.7%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	3	24	39	65	78	82	n.s.	22.5%	4.9%	5.2%	1.8%	0.5%
Other Energy Transformation & Losses⁴	127	124	160	254	274	287	291	-0.2%	2.6%	4.7%	0.8%	0.5%	0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest Central America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	63	74	84	93	102	109	113	1.6%	1.3%	1.1%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	3	4	5	6	8	10	13	3.2%	2.7%	2.4%	2.8%	2.9%	2.8%
GDP per capita (mer, k\$'05)	3	3	4	5	6	9	11	1.7%	1.7%	1.9%	2.8%	2.9%	2.8%
Share Value Added - Agriculture (%)	8	5	6	6	5	4	4	-3.9%	0.4%	1.5%	-2.1%	-1.6%	-1.2%
Share Value Added - Industry (%)	37	40	42	27	26	25	25	0.9%	0.4%	-4.4%	-0.2%	-0.2%	-0.3%
Share Value Added - Services (%)	55	55	53	67	69	70	71	-0.1%	-0.4%	2.4%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	12	12	13	16	-4.2%	5.6%	-0.7%	-0.2%	1.0%	1.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	282	293	322	365	385	266	264	0.4%	1.0%	1.2%	0.5%	-3.6%	-0.1%
Total GHG (excl. sinks)	295	328	349	365	385	349	367	1.1%	0.6%	0.4%	0.5%	-1.0%	0.5%
Total GHG (energy, industry, agriculture)	168	202	253	284	331	349	367	1.8%	2.3%	1.2%	1.5%	0.5%	0.5%
CO ₂	95	126	163	186	218	246	263	2.9%	2.6%	1.3%	1.6%	1.2%	0.7%
CH ₄	48	51	64	70	80	73	74	0.6%	2.3%	0.8%	1.4%	-0.9%	0.1%
N ₂ O	25	24	24	27	32	29	30	-0.7%	0.2%	1.3%	1.4%	-0.7%	0.1%
F gases	0	0	1	1	1	1	0	n.s.	16.9%	-0.8%	0.1%	-5.3%	-16.7%
Total GHG from Energy and Industry	117	153	203	228	267	292	311	2.7%	2.9%	1.2%	1.6%	0.9%	0.6%
CO₂ Emissions from Fuel Comb.	85	111	138	163	190	213	226	2.7%	2.2%	1.7%	1.5%	1.2%	0.6%
Power generation/District heating	23	37	51	56	60	68	69	4.7%	3.4%	0.9%	0.6%	1.2%	0.1%
Industry	22	23	25	34	42	47	52	0.4%	0.8%	3.1%	2.3%	1.2%	0.9%
Buildings	8	9	9	9	11	13	13	0.8%	-0.2%	0.6%	1.9%	1.3%	0.2%
Agriculture	2	1	1	1	1	1	1	-1.6%	-4.4%	0.1%	1.2%	0.7%	-0.2%
Transport	20	31	40	44	50	54	58	4.6%	2.4%	1.0%	1.2%	0.8%	0.8%
Other	10	10	13	20	26	31	34	-0.1%	2.6%	4.5%	3.0%	1.6%	1.0%
CO₂ captured (CCS)	0	0	0	0	0	1	8	n.s.	n.s.	n.s.	n.s.	n.s.	23.3%
Coal	0	0	0	0	0	1	8	n.s.	n.s.	n.s.	n.s.	n.s.	23.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	8.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	33	42	70	63	56	68	87	2.6%	5.1%	-1.0%	-1.2%	1.9%	2.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	10	11	8	11	14	17	1.9%	0.1%	-2.2%	2.8%	2.4%	1.6%
Natural gas	4	13	38	24	4	4	7	11.7%	11.0%	-4.6%	-16.9%	1.4%	4.5%
Biomass	18	16	16	23	24	28	34	-1.5%	0.5%	3.6%	0.1%	1.5%	2.0%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.3%	13.4%
Hydro	1	1	2	2	2	2	2	2.8%	3.4%	0.5%	0.6%	0.4%	0.3%
Other renewables	1	2	3	6	16	20	28	9.2%	6.1%	6.5%	10.6%	2.5%	3.4%
Net Imports	18	20	10	31	65	75	83						
Coal	0	0	1	4	9	15	20						
Oil	17	24	26	32	29	26	26						
Natural gas	0	-4	-18	2	31	38	40						
Biomass	0	0	0	-6	-4	-3	-3						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	51	62	80	94	122	144	170	2.0%	2.5%	1.7%	2.6%	1.7%	1.7%
Coal	0	0	1	4	9	15	20	5.8%	13.5%	10.5%	9.1%	5.7%	3.0%
Oil	26	34	37	40	40	40	43	2.8%	0.8%	0.8%	0.0%	0.0%	0.7%
Natural gas	5	9	20	26	35	42	46	6.6%	8.2%	2.7%	3.1%	1.8%	1.0%
Biomass	18	16	16	17	20	24	30	-1.5%	0.5%	0.4%	1.6%	2.0%	2.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.3%	13.4%
Hydro	1	1	2	2	2	2	2	2.8%	3.4%	0.5%	0.6%	0.4%	0.3%
Other renewables	1	2	3	6	16	20	28	9.2%	6.1%	6.5%	10.6%	2.5%	3.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	51	62	80	94	122	144	170	2.0%	2.5%	1.7%	2.6%	1.7%	1.7%
Energy for Power Generation	11	16	24	28	41	48	59	4.3%	4.0%	1.3%	3.9%	1.6%	2.1%
Other Energy Transformation & Losses	6	6	6	8	11	15	19	-0.4%	-0.4%	4.0%	3.2%	3.0%	2.4%
Final consumption	38	46	57	68	84	101	120	1.7%	2.2%	1.8%	2.1%	1.9%	1.8%
Steel, Non-Met. Minerals and Chem.	0	1	1	1	1	2	2	6.4%	4.9%	1.1%	1.0%	0.6%	0.5%
Other Industry	14	12	11	16	20	25	30	-0.9%	-0.9%	3.3%	2.4%	2.1%	2.0%
Non-Energy Use	3	6	11	14	19	24	30	7.3%	6.6%	2.2%	3.1%	2.5%	2.3%
Residential	11	13	16	17	19	20	21	1.4%	2.5%	0.9%	0.7%	0.8%	0.6%
Services	2	2	3	4	5	7	10	1.8%	4.2%	2.5%	3.5%	3.2%	2.6%
Agriculture	1	1	0	1	1	1	1	-1.3%	-1.6%	1.2%	1.4%	1.5%	1.4%
Road	8	11	13	15	18	21	25	3.9%	1.6%	1.2%	1.9%	1.7%	1.6%
Rail	0	0	0	0	0	0	0	-8.6%	10.0%	4.7%	2.1%	1.9%	1.6%
Aviation	0	0	0	0	0	1	1	4.7%	9.3%	1.4%	4.0%	3.6%	3.2%
Other Transport	1	0	0	0	0	0	0	-8.9%	-1.5%	0.0%	3.3%	2.5%	2.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Central America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	13	19	20	23	25	28	4.0%	3.7%	0.3%	1.4%	1.0%	1.1%
Coal	0	0	1	2	4	8	10	33.6%	14.9%	9.3%	8.8%	6.4%	2.5%
Oil	7	10	13	12	10	6	5	4.3%	2.4%	-0.1%	-2.6%	-4.1%	-2.0%
Gas	1	2	4	4	5	7	7	5.6%	6.8%	1.0%	2.9%	2.4%	-0.1%
Biomass & Waste	1	1	2	1	2	3	5	-1.9%	5.7%	-6.1%	8.9%	2.0%	4.6%
Other	0	0	0	0	1	1	1	9.1%	5.5%	4.7%	10.1%	0.1%	2.2%
Gross Elec. Generation (TWh_e)	43	68	95	117	158	221	300	4.8%	3.3%	2.1%	3.0%	3.4%	3.1%
Coal	0	1	3	8	21	41	54	33.5%	14.7%	10.1%	9.9%	7.1%	2.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	38.7%
Oil	24	40	47	55	42	27	23	5.4%	1.8%	1.4%	-2.7%	-4.1%	-1.9%
Gas	4	7	14	17	23	31	33	6.6%	7.4%	1.8%	3.4%	3.0%	0.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	26.1%
Biomass & Waste	2	2	3	1	4	8	20	-0.1%	4.7%	-7.4%	9.4%	8.9%	9.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	13	17	23	24	26	27	28	2.8%	3.4%	0.5%	0.6%	0.4%	0.3%
Wind	0	0	1	5	18	45	75	n.s.	12.3%	24.1%	13.7%	9.4%	5.3%
Solar	0	0	0	1	11	27	48	n.s.	-15.9%	n.s.	22.6%	9.8%	5.9%
Other	1	2	3	5	14	14	18	9.1%	5.5%	4.7%	10.1%	0.3%	2.6%
Generation Capacity (GW_e)	13	18	25	30	40	60	85	3.6%	2.9%	1.9%	2.9%	4.2%	3.5%
Coal	0	0	0	1	3	6	8	5.6%	1.1%	10.6%	8.2%	6.8%	3.6%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	39.1%
Oil	8	11	15	15	12	10	8	3.6%	2.7%	0.0%	-2.0%	-1.3%	-2.3%
Gas	1	2	3	4	4	5	6	4.3%	3.6%	2.7%	0.8%	1.8%	2.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	26.6%
Biomass & Waste	0	1	1	1	1	1	3	6.1%	5.1%	1.2%	-1.8%	4.1%	9.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	4	5	6	6	6	6	2.3%	2.9%	1.2%	0.6%	0.4%	0.3%
Wind	0	0	0	2	6	14	22	n.s.	14.9%	21.3%	12.8%	8.8%	5.0%
Solar	0	0	0	1	6	16	28	n.s.	-15.9%	n.s.	23.0%	9.9%	5.8%
Other	0	0	1	1	2	2	2	9.3%	2.4%	4.3%	8.9%	1.4%	1.6%
Total Final Consumption² (Mtoe)	38	46	57	68	84	101	120	1.7%	2.2%	1.8%	2.1%	1.9%	1.8%
Coal	0	0	1	1	3	5	7	-1.0%	12.3%	9.7%	8.8%	4.7%	3.1%
Oil	17	21	23	25	28	31	35	2.1%	0.9%	1.0%	1.1%	1.1%	1.1%
Gas	3	6	12	17	23	27	30	8.1%	7.0%	3.0%	3.2%	1.6%	1.2%
Electricity	3	5	7	8	11	16	22	4.6%	3.7%	2.1%	3.1%	3.5%	3.1%
Heat	0	0	0	1	1	2	3	n.s.	n.s.	n.s.	8.0%	3.3%	3.0%
Biomass & Other	15	14	14	16	16	19	23	-1.2%	0.4%	0.9%	0.6%	1.7%	1.8%
Share of Renewables ³ (%)	45%	36%	35%	33%	35%	41%	48%	-2.1%	-0.4%	-0.5%	0.6%	1.6%	1.5%
Industry (incl. non-energy use)	17	19	24	31	40	50	62	1.2%	2.2%	2.7%	2.7%	2.2%	2.1%
Coal	0	0	1	1	3	5	7	-1.0%	12.3%	9.7%	8.8%	4.7%	3.1%
Oil	7	7	7	8	10	12	15	0.2%	-0.8%	2.1%	2.2%	2.2%	2.3%
Gas	3	6	12	16	20	22	24	8.0%	7.2%	2.5%	2.3%	1.1%	1.0%
Electricity	1	2	2	3	4	6	8	4.5%	2.7%	2.9%	3.7%	3.4%	3.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	4	2	3	3	5	7	-3.7%	-6.2%	2.8%	0.9%	4.2%	3.7%
Buildings	13	15	19	21	24	28	31	1.5%	2.7%	1.1%	1.2%	1.4%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	3	3	2	2	2	2	0.4%	0.0%	-1.4%	-1.6%	-1.2%	-1.2%
Gas	0	0	0	1	2	3	3	11.9%	-2.6%	19.4%	9.5%	3.8%	1.1%
Electricity	2	3	4	5	6	8	10	4.8%	4.1%	1.7%	1.9%	2.6%	2.5%
Heat	0	0	0	1	1	2	3	n.s.	n.s.	n.s.	8.0%	3.3%	3.0%
Biomass & Other	8	9	12	12	12	13	13	0.8%	3.1%	0.4%	0.0%	0.3%	0.2%
Agriculture	1	1	0	1	1	1	1	-1.3%	-1.6%	1.2%	1.4%	1.5%	1.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	0	0	0	0	0	0	-1.6%	-4.4%	0.1%	1.2%	0.7%	-0.2%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-1.4%	10.5%	2.3%	2.1%	2.3%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	3.1%	-2.7%	4.5%	0.0%	2.6%	4.3%
Transport	8	12	14	15	19	22	26	3.2%	1.6%	1.2%	2.0%	1.8%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	11	13	15	16	17	18	4.3%	2.2%	0.9%	0.8%	0.5%	0.5%
Gas	0	0	0	0	1	2	2	n.s.	n.s.	n.s.	17.7%	5.3%	3.5%
Electricity	0	0	0	0	1	2	3	-0.7%	10.0%	7.6%	31.3%	9.8%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	0	0	1	2	3	-4.9%	-12.0%	4.4%	10.6%	7.3%	5.3%
Other Energy Transformation & Losses⁴	6	6	6	8	11	15	19	-0.4%	-0.4%	4.0%	3.2%	3.0%	2.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest South America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	102	122	140	158	173	184	192	1.8%	1.4%	1.2%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	6	7	9	11	16	22	30	0.9%	2.6%	2.8%	3.4%	3.4%	3.2%
GDP per capita (mer, k\$'05)	3	3	4	5	7	10	14	0.8%	2.5%	2.8%	3.4%	3.4%	3.2%
Share Value Added - Agriculture (%)	12	8	7	8	7	6	6	-3.8%	-0.7%	0.4%	-1.2%	-0.9%	-0.6%
Share Value Added - Industry (%)	43	37	42	34	32	30	28	-1.5%	1.3%	-2.2%	-0.4%	-0.6%	-0.8%
Share Value Added - Services (%)	45	55	50	59	61	64	66	2.0%	-0.8%	1.5%	0.4%	0.4%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	15	17	19	-4.2%	5.6%	0.8%	0.7%	1.0%	1.3%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	17	26	22	25	38	54	71	4.7%	-1.9%	1.5%	4.3%	3.6%	2.7%
GHG emissions (Mt CO₂ eq.)													
Total GHG	872	914	1 122	1 085	1 109	207	47	0.5%	2.1%	-0.3%	0.2%	-15.5%	-13.7%
Total GHG (excl. sinks)	891	985	1 183	1 085	1 109	896	930	1.0%	1.8%	-0.9%	0.2%	-2.1%	0.4%
Total GHG (energy, industry, agriculture)	414	504	661	719	830	846	865	2.0%	2.7%	0.8%	1.4%	0.2%	0.2%
CO ₂	206	265	378	420	507	577	609	2.6%	3.6%	1.1%	1.9%	1.3%	0.5%
CH ₄	152	182	210	221	239	195	185	1.8%	1.4%	0.5%	0.8%	-2.0%	-0.5%
N ₂ O	53	55	70	73	79	72	70	0.4%	2.3%	0.5%	0.8%	-1.0%	-0.3%
F gases	4	2	3	4	4	2	1	-8.2%	8.2%	1.5%	0.5%	-5.9%	-10.1%
Total GHG from Energy and Industry	266	338	463	515	613	662	691	2.4%	3.2%	1.1%	1.8%	0.8%	0.4%
CO₂ Emissions from Fuel Comb.	188	238	348	388	466	528	554	2.4%	3.9%	1.1%	1.8%	1.3%	0.5%
Power generation/District heating	29	31	62	61	88	109	111	0.7%	7.0%	-0.1%	3.7%	2.1%	0.2%
Industry	44	56	84	91	112	130	143	2.5%	4.1%	0.8%	2.1%	1.5%	1.0%
Buildings	17	19	22	25	29	32	33	1.6%	1.1%	1.6%	1.2%	1.1%	0.3%
Agriculture	2	5	6	9	11	12	12	7.3%	2.9%	3.8%	1.7%	1.0%	0.1%
Transport	65	80	119	145	160	161	161	2.1%	4.1%	2.0%	0.9%	0.1%	0.0%
Other	31	46	55	56	67	86	95	4.0%	1.8%	0.1%	1.8%	2.5%	1.1%
CO₂ captured (CCS)	0	0	0	0	0	3	24	n.s.	n.s.	n.s.	n.s.	n.s.	22.4%
Coal	0	0	0	0	0	3	23	n.s.	n.s.	n.s.	n.s.	n.s.	22.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.0%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	23.5%
Energy Balance, by fuel (Mtoe)													
Primary Production	218	317	362	454	621	740	764	3.8%	1.3%	2.3%	3.2%	1.8%	0.3%
Coal	15	31	51	72	155	134	42	7.6%	5.1%	3.5%	8.0%	-1.4%	-11.0%
Oil	155	229	227	255	259	343	388	3.9%	-0.1%	1.1%	0.2%	2.8%	1.3%
Natural gas	25	31	53	72	120	130	138	2.3%	5.4%	3.2%	5.2%	0.8%	0.6%
Biomass	13	11	13	33	58	88	129	-2.2%	2.1%	9.6%	5.9%	4.3%	3.9%
Nuclear ¹	0	0	0	0	1	4	9	n.s.	n.s.	n.s.	30.3%	17.1%	9.1%
Hydro	10	16	18	21	24	26	29	4.6%	1.5%	1.6%	1.1%	1.0%	1.0%
Other renewables	0	0	0	1	5	15	28	n.s.	-11.4%	54.5%	15.5%	11.3%	6.4%
Net Imports	- 129	- 206	- 208	- 281	- 402	- 466	- 430						
Coal	- 11	- 28	- 46	- 64	- 135	- 99	2						
Oil	- 111	- 173	- 143	- 165	- 169	- 257	- 305						
Natural gas	- 4	- 1	- 15	- 33	- 67	- 70	- 69						
Biomass	0	0	0	- 15	- 26	- 35	- 50						
Biofuels	0	0	0	0	- 1	- 2	- 4						
Electricity	- 2	- 4	- 4	- 4	- 4	- 4	- 4						
Primary Energy Demand²	89	111	154	174	220	274	334	2.3%	3.3%	1.2%	2.4%	2.2%	2.0%
Coal	4	3	4	8	20	35	43	-0.9%	2.4%	5.8%	10.0%	6.1%	2.1%
Oil	44	55	84	90	90	86	83	2.3%	4.3%	0.7%	0.0%	-0.5%	-0.3%
Natural gas	20	30	38	39	53	60	69	4.0%	2.2%	0.4%	3.0%	1.3%	1.4%
Biomass	13	11	13	18	32	53	79	-2.2%	2.1%	3.2%	6.0%	5.2%	4.0%
Nuclear ¹	0	0	0	0	1	4	9	n.s.	n.s.	n.s.	30.3%	17.1%	9.1%
Hydro	10	16	18	21	24	26	29	4.6%	1.5%	1.6%	1.1%	1.0%	1.0%
Other renewables	0	0	0	1	5	15	28	n.s.	-11.4%	54.5%	15.5%	11.3%	6.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	89	111	154	174	220	274	334	2.3%	3.3%	1.2%	2.4%	2.2%	2.0%
Energy for Power Generation	21	27	42	46	64	89	119	2.8%	4.3%	0.9%	3.4%	3.3%	3.0%
Other Energy Transformation & Losses	9	14	18	20	30	45	61	3.9%	3.0%	1.0%	3.8%	4.2%	3.2%
Final consumption	67	82	111	131	162	196	232	2.0%	3.1%	1.7%	2.1%	1.9%	1.7%
Steel, Non-Met. Minerals and Chem.	9	12	17	16	19	23	26	3.0%	3.3%	-0.5%	1.8%	1.6%	1.4%
Other Industry	13	15	24	31	42	56	70	1.6%	4.7%	2.7%	3.1%	2.8%	2.4%
Non-Energy Use	2	5	3	3	3	4	5	10.1%	-4.8%	-0.7%	1.7%	1.6%	1.4%
Residential	16	16	18	19	22	25	27	-0.3%	1.6%	0.7%	1.1%	1.3%	1.1%
Services	3	4	6	8	12	17	23	3.6%	4.0%	3.1%	3.9%	3.7%	3.1%
Agriculture	2	2	3	4	5	6	6	2.4%	2.4%	2.7%	1.5%	1.5%	1.4%
Road	22	27	39	48	57	64	71	2.2%	3.7%	2.2%	1.8%	1.2%	1.0%
Rail	0	0	0	0	0	0	0	-2.7%	1.3%	4.8%	1.6%	1.6%	1.5%
Aviation	0	0	0	0	0	1	1	-0.8%	1.1%	3.9%	4.6%	3.4%	1.0%
Other Transport	1	0	0	1	1	1	2	-5.5%	2.7%	3.6%	4.0%	3.0%	2.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	11	12	24	23	34	44	53	0.9%	7.2%	-0.1%	3.9%	2.5%	1.9%
Coal	1	1	1	2	9	18	21	-4.2%	7.9%	5.5%	14.0%	7.4%	1.4%
Oil	3	4	9	9	7	3	3	1.9%	7.8%	0.6%	-3.4%	-8.3%	-0.5%
Gas	6	7	12	9	13	11	13	0.9%	6.2%	-2.7%	3.7%	-1.5%	1.2%
Biomass & Waste	0	0	1	2	5	11	16	1.7%	17.7%	6.3%	9.1%	7.8%	3.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	154	226	303	363	499	707	953	3.9%	3.0%	1.8%	3.2%	3.6%	3.0%
Coal	4	3	5	11	45	96	111	-3.7%	6.9%	8.0%	15.4%	7.9%	1.5%
of which CCS	0	0	0	0	0	1	17	n.s.	n.s.	n.s.	n.s.	n.s.	36.7%
Oil	13	16	32	41	29	13	12	2.2%	7.5%	2.4%	-3.3%	-8.0%	-0.4%
Gas	21	25	50	43	67	62	71	1.8%	7.0%	-1.4%	4.5%	-0.8%	1.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	24.2%
Biomass & Waste	1	1	4	8	21	50	77	3.6%	19.1%	6.4%	10.4%	8.8%	4.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	3	15	37	n.s.	n.s.	n.s.	30.4%	17.2%	9.2%
Hydro	116	182	212	247	277	307	340	4.6%	1.5%	1.6%	1.1%	1.0%	1.0%
Wind	0	0	0	9	32	88	158	n.s.	n.s.	54.9%	13.8%	10.6%	6.0%
Solar	0	0	0	4	24	76	143	n.s.	n.s.	n.s.	19.5%	12.3%	6.6%
Other	0	0	0	0	0	1	3	n.s.	n.s.	26.1%	25.5%	18.3%	14.6%
Generation Capacity (GW_e)	43	55	65	96	135	229	337	2.5%	1.8%	4.0%	3.5%	5.4%	4.0%
Coal	1	1	1	2	6	16	21	4.7%	-0.2%	7.0%	14.3%	9.4%	3.1%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	37.4%
Oil	6	9	8	15	15	18	24	3.3%	-0.6%	6.1%	0.4%	1.9%	2.6%
Gas	8	10	16	26	26	33	40	1.8%	5.3%	4.9%	0.1%	2.5%	1.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	25.5%
Biomass & Waste	0	0	1	2	3	8	15	1.9%	14.0%	10.1%	7.5%	9.8%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	30.2%	17.0%	9.1%
Hydro	28	36	40	44	50	55	61	2.4%	1.1%	1.1%	1.2%	1.0%	1.0%
Wind	0	0	0	6	20	50	82	n.s.	n.s.	n.s.	12.8%	9.4%	5.0%
Solar	0	0	0	2	14	46	89	n.s.	n.s.	n.s.	20.0%	12.5%	6.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.8%	17.7%	14.1%
Total Final Consumption² (Mtoe)	67	82	111	131	162	196	232	2.0%	3.1%	1.7%	2.1%	1.9%	1.7%
Coal	2	3	2	5	9	13	15	2.6%	-2.2%	6.9%	6.9%	3.4%	1.9%
Oil	36	46	60	70	73	72	70	2.6%	2.7%	1.5%	0.4%	-0.2%	-0.3%
Gas	8	11	19	19	25	31	35	3.3%	5.9%	0.0%	2.8%	2.0%	1.4%
Electricity	8	12	17	23	32	47	65	3.4%	4.0%	2.7%	3.6%	3.9%	3.2%
Heat	0	0	0	0	0	1	2	n.s.	-17.4%	30.9%	11.0%	11.1%	8.3%
Biomass & Other	13	10	12	15	22	32	44	-2.3%	1.3%	2.0%	4.2%	3.8%	3.3%
Share of Renewables ³ (%)	34%	32%	26%	27%	34%	43%	52%	-0.5%	-1.9%	0.4%	2.1%	2.5%	1.8%
Industry (incl. non-energy use)	24	32	44	50	65	82	101	3.1%	3.1%	1.3%	2.6%	2.4%	2.1%
Coal	2	3	2	5	9	13	15	3.0%	-2.2%	7.0%	6.9%	3.4%	2.0%
Oil	8	12	15	16	16	16	16	4.8%	2.1%	0.4%	0.2%	-0.1%	-0.3%
Gas	7	9	16	14	15	17	19	2.3%	5.5%	-1.4%	1.1%	1.3%	1.1%
Electricity	4	5	7	10	14	21	30	2.2%	3.9%	3.7%	3.7%	4.0%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	4	6	10	15	21	1.0%	2.1%	4.4%	5.2%	4.0%	3.6%
Buildings	19	20	24	28	34	42	51	0.4%	2.1%	1.3%	2.0%	2.2%	1.9%
Coal	0	0	0	0	0	0	0	-5.9%	-3.0%	3.5%	-0.8%	-2.9%	-5.6%
Oil	5	5	5	5	4	4	3	0.4%	0.3%	-0.1%	-2.3%	-0.8%	-0.7%
Gas	1	2	2	4	7	9	9	10.0%	4.1%	5.1%	5.3%	2.4%	0.9%
Electricity	4	7	10	12	15	19	25	4.2%	4.1%	1.9%	2.2%	2.6%	2.7%
Heat	0	0	0	0	0	1	2	n.s.	-17.4%	30.9%	11.0%	11.1%	8.3%
Biomass & Other	9	6	7	7	8	9	11	-3.4%	0.7%	-0.4%	1.7%	1.9%	1.4%
Agriculture	2	2	3	4	5	6	6	2.4%	2.4%	2.7%	1.5%	1.5%	1.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	3	3	4	4	7.2%	3.0%	3.8%	1.7%	1.0%	0.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	2.1%	1.5%	1.0%	0.3%
Electricity	0	0	0	1	1	1	1	7.7%	5.2%	4.0%	2.5%	2.8%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	1	1	1	1	1	-3.4%	0.2%	-1.5%	0.0%	2.4%	4.2%
Transport	23	27	39	49	59	66	73	2.0%	3.7%	2.2%	1.8%	1.2%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	22	27	38	46	50	49	47	1.9%	3.4%	2.0%	0.7%	-0.2%	-0.3%
Gas	0	0	1	2	4	5	7	28.3%	23.7%	2.2%	8.1%	4.0%	2.9%
Electricity	0	0	0	0	2	6	9	0.7%	1.3%	11.3%	39.5%	9.4%	4.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	3	7	10	-22.0%	n.s.	18.2%	12.0%	7.1%	4.7%
Other Energy Transformation & Losses⁴	9	14	18	20	30	45	61	3.9%	3.0%	1.0%	3.8%	4.2%	3.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Egypt	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	56	68	82	101	117	134	151	1.9%	1.8%	2.1%	1.5%	1.4%	1.2%
GDP per capita (ppp, k\$'05)	3	4	5	6	10	14	18	2.3%	2.9%	1.5%	4.2%	3.6%	2.7%
GDP per capita (mer, k\$'05)	1	1	1	2	3	4	5	2.3%	2.9%	1.6%	4.2%	3.6%	2.7%
Share Value Added - Agriculture (%)	19	17	14	10	8	7	6	-1.4%	-1.8%	-3.4%	-2.6%	-1.5%	-0.9%
Share Value Added - Industry (%)	29	33	38	37	37	34	31	1.4%	1.3%	-0.2%	-0.1%	-0.7%	-1.0%
Share Value Added - Services (%)	52	50	49	53	56	59	63	-0.3%	-0.3%	0.9%	0.5%	0.6%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	15	18	-3.4%	3.6%	-3.0%	0.5%	1.3%	1.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	138	172	273	313	408	486	558	2.2%	4.8%	1.4%	2.7%	1.8%	1.4%
Total GHG (excl. sinks)	138	172	274	314	408	486	558	2.2%	4.7%	1.4%	2.7%	1.8%	1.4%
Total GHG (energy, industry, agriculture)	138	172	274	314	408	486	558	2.2%	4.7%	1.4%	2.7%	1.8%	1.4%
CO ₂	92	116	197	228	308	399	468	2.3%	5.5%	1.4%	3.1%	2.6%	1.6%
CH ₄	25	36	48	51	59	53	56	3.7%	3.0%	0.5%	1.4%	-1.0%	0.5%
N ₂ O	19	18	24	31	37	32	34	-0.8%	3.2%	2.5%	2.0%	-1.6%	0.6%
F gases	2	3	4	4	4	2	1	3.5%	2.8%	0.8%	0.6%	-7.3%	-5.8%
Total GHG from Energy and Industry	120	147	245	277	367	443	513	2.1%	5.3%	1.2%	2.9%	1.9%	1.5%
CO₂ Emissions from Fuel Comb.	81	99	171	193	258	335	393	2.1%	5.6%	1.2%	2.9%	2.6%	1.6%
Power generation/District heating	22	27	62	77	102	136	163	2.0%	8.7%	2.1%	2.9%	3.0%	1.8%
Industry	26	23	30	32	40	47	51	-1.1%	2.6%	0.7%	2.2%	1.8%	0.8%
Buildings	11	12	18	18	25	33	37	1.6%	3.7%	0.2%	3.2%	2.7%	1.2%
Agriculture	0	0	7	8	10	11	11	n.s.	40.6%	1.3%	1.9%	1.2%	0.1%
Transport	16	29	39	45	63	82	98	6.1%	3.1%	1.5%	3.5%	2.6%	1.8%
Other	6	8	16	14	19	26	33	2.1%	7.1%	-1.5%	3.4%	3.2%	2.3%
CO₂ captured (CCS)	0	0	0	0	0	1	12	n.s.	n.s.	n.s.	n.s.	n.s.	31.4%
Coal	0	0	0	0	0	0	5	n.s.	n.s.	n.s.	n.s.	n.s.	34.0%
Gas	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	30.5%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	1.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	54	55	88	89	112	148	185	0.2%	4.8%	0.1%	2.4%	2.8%	2.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	45	35	34	26	21	17	17	-2.4%	-0.2%	-2.8%	-2.4%	-1.6%	-0.4%
Natural gas	7	17	51	58	85	117	147	9.9%	11.3%	1.3%	3.9%	3.3%	2.2%
Biomass	2	1	2	1	2	2	2	-1.7%	1.7%	-1.8%	2.3%	1.3%	0.5%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.0%	15.8%
Hydro	1	1	1	1	1	1	1	3.3%	-0.5%	1.0%	0.8%	0.3%	0.3%
Other renewables	0	0	0	3	4	10	18	14.1%	16.7%	33.0%	4.5%	9.8%	5.9%
Net Imports	-22	-14	-15	-2	7	12	13						
Coal	1	1	0	2	3	7	13						
Oil	-23	-12	-1	10	24	34	42						
Natural gas	0	-3	-15	-14	-20	-30	-43						
Biomass	0	0	0	0	0	0	1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	32	41	73	87	119	161	198	2.4%	6.0%	1.9%	3.2%	3.0%	2.1%
Coal	1	1	0	2	3	7	13	2.4%	-6.2%	14.1%	7.4%	8.1%	5.8%
Oil	22	23	34	36	44	52	58	0.3%	3.9%	0.8%	2.0%	1.6%	1.2%
Natural gas	7	14	36	44	65	88	104	7.9%	9.5%	2.2%	3.9%	3.1%	1.7%
Biomass	2	1	2	1	2	2	3	-1.9%	1.7%	-1.6%	2.8%	2.5%	1.4%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.0%	15.8%
Hydro	1	1	1	1	1	1	1	3.3%	-0.5%	1.0%	0.8%	0.3%	0.3%
Other renewables	0	0	0	3	4	10	18	14.1%	16.7%	33.0%	4.5%	9.8%	5.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	32	41	73	87	119	161	198	2.4%	6.0%	1.9%	3.2%	3.0%	2.1%
Energy for Power Generation	9	12	26	35	46	65	85	3.1%	8.0%	3.0%	2.8%	3.6%	2.7%
Other Energy Transformation & Losses	2	2	4	5	7	11	15	0.6%	5.6%	1.2%	4.5%	4.2%	3.0%
Final consumption	24	32	53	63	87	116	142	2.8%	5.3%	1.7%	3.3%	3.0%	2.0%
Steel, Non-Met. Minerals and Chem.	1	1	0	1	1	1	1	1.0%	-5.3%	10.5%	-1.3%	-0.9%	-0.7%
Other Industry	10	9	14	15	20	26	31	-0.3%	4.1%	0.7%	3.0%	2.6%	1.5%
Non-Energy Use	2	3	7	8	12	16	19	4.0%	7.7%	1.8%	4.2%	3.0%	1.8%
Residential	6	7	12	14	19	25	30	2.8%	4.9%	2.0%	2.7%	2.8%	1.9%
Services	0	1	2	3	5	8	12	11.3%	6.9%	3.5%	4.1%	5.0%	3.8%
Agriculture	0	0	3	3	4	5	6	10.1%	24.9%	2.1%	2.1%	2.1%	1.8%
Road	5	8	14	16	24	32	40	4.9%	5.1%	1.8%	3.8%	3.1%	2.2%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.6%	4.0%	3.1%
Aviation	0	0	1	1	1	2	3	8.0%	2.5%	1.2%	5.6%	4.6%	3.4%
Other Transport	0	1	1	0	0	1	1	n.s.	-3.5%	-5.3%	4.9%	3.4%	2.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Egypt	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	8	11	25	31	41	54	66	3.0%	8.6%	2.3%	2.7%	2.8%	2.1%
Coal	0	0	0	0	1	4	9	n.s.	n.s.	n.s.	31.4%	12.5%	6.9%
Oil	4	2	5	5	5	5	6	-6.9%	10.1%	-0.5%	1.1%	-0.2%	1.4%
Gas	4	9	20	26	34	44	51	8.3%	8.3%	2.9%	2.7%	2.6%	1.5%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	42	78	147	212	289	433	587	6.3%	6.5%	3.7%	3.2%	4.1%	3.1%
Coal	0	0	0	0	7	23	46	n.s.	n.s.	n.s.	31.7%	12.8%	7.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	42.2%
Oil	13	22	20	22	25	24	28	5.2%	-1.2%	1.0%	1.2%	-0.1%	1.5%
Gas	19	42	112	149	200	261	305	8.3%	10.3%	2.8%	3.0%	2.7%	1.6%
of which CCS	0	0	0	0	0	1	15	n.s.	n.s.	n.s.	n.s.	n.s.	35.1%
Biomass & Waste	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	10	14	13	14	16	16	17	3.3%	-0.5%	1.0%	0.8%	0.3%	0.3%
Wind	0	0	1	26	39	96	150	n.s.	27.0%	33.1%	4.1%	9.5%	4.5%
Solar	0	0	0	0	3	12	39	n.s.	n.s.	28.8%	23.6%	15.4%	12.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	19.4%	15.0%
Generation Capacity (GW_e)	12	19	26	51	67	104	148	5.1%	3.3%	6.8%	2.8%	4.5%	3.6%
Coal	0	0	0	0	1	3	6	n.s.	n.s.	n.s.	31.9%	13.0%	7.1%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	42.1%
Oil	4	6	5	7	8	7	8	3.5%	-2.5%	2.9%	1.4%	-1.4%	1.7%
Gas	5	10	18	33	42	56	66	8.3%	6.2%	6.1%	2.4%	2.9%	1.6%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	35.6%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	3	3	3	3	3	3	0.3%	0.2%	0.7%	0.8%	0.3%	0.3%
Wind	0	0	1	8	12	28	42	n.s.	40.0%	31.0%	3.8%	8.9%	4.2%
Solar	0	0	0	0	2	7	22	n.s.	n.s.	29.0%	23.8%	15.5%	12.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.8%	14.5%
Total Final Consumption² (Mtoe)	24	32	53	63	87	116	142	2.8%	5.3%	1.7%	3.3%	3.0%	2.0%
Coal	1	1	0	1	2	2	3	1.0%	-5.3%	12.2%	2.7%	3.2%	2.3%
Oil	16	20	30	32	39	46	52	2.2%	3.8%	0.7%	2.0%	1.8%	1.1%
Gas	2	4	11	14	24	34	41	5.0%	10.7%	2.4%	5.8%	3.6%	1.8%
Electricity	3	6	11	14	20	30	40	5.9%	6.8%	3.0%	3.2%	4.2%	3.2%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	2.9%	8.5%	7.6%
Biomass & Other	2	1	2	1	2	3	4	-1.9%	1.7%	-1.3%	3.9%	3.7%	3.0%
Share of Renewables ³ (%)	11%	8%	6%	9%	9%	14%	19%	-2.6%	-3.6%	4.1%	0.5%	4.4%	3.0%
Industry (incl. non-energy use)	13	13	21	24	33	44	51	0.6%	4.8%	1.3%	3.2%	2.7%	1.5%
Coal	1	1	0	1	2	2	3	1.0%	-5.3%	12.2%	2.7%	3.2%	2.3%
Oil	8	7	8	8	9	11	13	-0.9%	1.0%	0.5%	1.5%	1.7%	1.2%
Gas	2	4	10	11	16	21	24	4.4%	10.4%	1.4%	3.9%	2.6%	1.2%
Electricity	1	2	4	4	6	8	11	3.8%	5.2%	0.9%	3.9%	4.1%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	0	0	0	0	1	0	n.s.	n.s.	n.s.	38.4%	5.8%	-2.0%
Buildings	6	9	14	18	24	33	41	3.6%	5.2%	2.2%	2.9%	3.3%	2.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	5	4	3	3	2	1.1%	3.1%	-1.9%	-2.8%	-2.1%	-2.0%
Gas	0	0	1	2	6	11	13	16.9%	9.7%	9.7%	11.6%	5.0%	2.1%
Electricity	2	3	7	10	12	18	23	7.5%	7.7%	3.7%	2.4%	3.7%	2.9%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	2.9%	8.5%	7.6%
Biomass & Other	1	1	2	1	1	1	1	2.1%	1.7%	-1.6%	0.0%	-1.5%	-0.5%
Agriculture	0	0	3	3	4	5	6	10.1%	24.9%	2.1%	2.1%	2.1%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	2	3	3	4	4	n.s.	40.6%	1.3%	1.9%	1.2%	0.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	1	1	1	2	6.9%	6.9%	5.5%	2.8%	3.8%	4.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	11.9%
Transport	5	10	15	17	26	35	44	6.0%	4.5%	1.6%	3.9%	3.2%	2.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	10	15	17	23	29	33	6.0%	4.3%	1.4%	3.2%	2.3%	1.5%
Gas	0	0	0	1	1	3	4	n.s.	n.s.	4.2%	10.5%	7.0%	4.9%
Electricity	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	27.6%	10.8%	5.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	25.6%	11.7%	6.5%
Other Energy Transformation & Losses⁴	2	2	4	5	7	11	15	0.6%	5.6%	1.2%	4.5%	4.2%	3.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Algeria & Libya	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	30	37	42	50	56	60	65	1.9%	1.5%	1.6%	1.1%	0.8%	0.7%
GDP per capita (ppp, k\$'05)	5	7	6	8	12	16	21	2.9%	-0.7%	2.6%	3.9%	3.1%	2.3%
GDP per capita (mer, k\$'05)	2	3	4	4	7	9	11	3.7%	2.6%	0.8%	3.9%	3.1%	2.3%
Share Value Added - Agriculture (%)	8	5	7	10	8	7	7	-3.9%	2.6%	4.1%	-1.9%	-1.1%	-0.6%
Share Value Added - Industry (%)	33	34	62	45	43	39	35	0.5%	6.0%	-3.1%	-0.5%	-0.9%	-1.0%
Share Value Added - Services (%)	59	60	32	45	49	53	58	0.2%	-6.2%	3.6%	0.8%	0.9%	0.8%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	15	18	-3.4%	3.6%	-3.0%	0.5%	1.3%	1.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	169	198	253	350	428	503	531	1.6%	2.5%	3.3%	2.0%	1.6%	0.6%
Total GHG (excl. sinks)	169	199	254	351	429	504	533	1.6%	2.5%	3.3%	2.0%	1.6%	0.6%
Total GHG (energy, industry, agriculture)	167	197	252	348	427	501	531	1.7%	2.5%	3.3%	2.1%	1.6%	0.6%
CO ₂	113	134	179	282	374	448	479	1.7%	3.0%	4.7%	2.8%	1.8%	0.7%
CH ₄	48	57	64	54	42	42	41	1.7%	1.2%	-1.7%	-2.5%	0.0%	-0.4%
N ₂ O	6	5	7	10	10	11	11	-0.4%	2.9%	3.5%	0.1%	0.4%	0.4%
F gases	1	1	1	2	1	1	1	4.0%	3.0%	2.9%	-4.0%	-0.4%	-2.8%
Total GHG from Energy and Industry	159	189	242	334	412	486	515	1.7%	2.5%	3.3%	2.1%	1.6%	0.6%
CO₂ Emissions from Fuel Comb.	80	102	145	232	312	379	408	2.5%	3.5%	4.8%	3.0%	2.0%	0.7%
Power generation/District heating	18	32	47	65	101	137	150	5.8%	4.1%	3.3%	4.4%	3.1%	0.9%
Industry	8	10	15	22	24	22	19	2.0%	4.2%	4.3%	0.6%	-0.8%	-1.1%
Buildings	10	14	20	30	35	37	36	3.6%	3.7%	4.4%	1.5%	0.5%	-0.1%
Agriculture	0	0	0	0	0	0	0	0.9%	17.6%	6.6%	1.5%	0.9%	0.0%
Transport	18	23	46	80	104	122	131	2.6%	7.1%	5.8%	2.6%	1.6%	0.7%
Other	26	24	17	34	48	61	71	-0.9%	-3.4%	7.0%	3.6%	2.5%	1.4%
CO₂ captured (CCS)	0	0	0	0	0	1	20	n.s.	n.s.	n.s.	n.s.	24.4%	32.5%
Coal	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	2.7%	32.3%
Gas	0	0	0	0	0	1	19	n.s.	n.s.	n.s.	n.s.	36.1%	32.9%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	0.9%	6.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	179	227	255	218	289	341	369	2.4%	1.1%	-1.5%	2.8%	1.7%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	133	150	174	125	134	136	139	1.2%	1.5%	-3.3%	0.7%	0.1%	0.2%
Natural gas	46	77	80	93	153	203	226	5.3%	0.4%	1.5%	5.1%	2.8%	1.1%
Biomass	0	0	0	1	1	2	1	3.6%	1.1%	11.3%	6.7%	3.0%	-1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	0.4%
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	0.5%	0.6%	0.9%
Other renewables	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	15.0%	20.2%	14.9%
Net Imports	-145	-185	-195	-123	-158	-179	-182						
Coal	0	1	0	0	1	2	3						
Oil	-116	-129	-144	-78	-77	-73	-75						
Natural gas	-30	-56	-51	-45	-81	-108	-113						
Biomass	0	0	0	0	0	1	2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	34	43	60	96	131	163	187	2.3%	3.5%	4.8%	3.2%	2.2%	1.4%
Coal	0	1	0	0	1	2	3	2.6%	-4.1%	0.4%	8.4%	7.5%	5.9%
Oil	17	21	30	47	57	62	64	2.0%	3.8%	4.4%	2.0%	1.0%	0.2%
Natural gas	16	21	29	48	72	95	113	2.6%	3.3%	5.1%	4.2%	2.8%	1.7%
Biomass	0	0	0	1	1	2	4	3.6%	1.1%	9.2%	8.9%	6.8%	4.1%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	0.4%
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	0.5%	0.6%	0.9%
Other renewables	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	15.0%	20.2%	14.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	34	43	60	96	131	163	187	2.3%	3.5%	4.8%	3.2%	2.2%	1.4%
Energy for Power Generation	7	12	19	26	41	57	71	5.8%	4.5%	3.3%	4.6%	3.4%	2.3%
Other Energy Transformation & Losses	11	9	7	12	19	26	32	-1.9%	-2.6%	6.3%	4.4%	3.1%	2.1%
Final consumption	18	24	40	65	85	101	111	3.0%	5.0%	5.0%	2.7%	1.7%	1.0%
Steel, Non-Met. Minerals and Chem.	1	1	2	4	4	4	3	-1.6%	12.1%	6.7%	-0.3%	-1.2%	-1.2%
Other Industry	3	4	5	7	9	10	10	3.3%	2.0%	3.8%	2.6%	1.2%	0.4%
Non-Energy Use	3	5	5	8	11	13	13	3.5%	1.5%	3.9%	3.3%	1.4%	0.8%
Residential	4	6	8	12	15	16	17	4.5%	3.0%	4.3%	1.8%	1.1%	0.7%
Services	0	1	3	5	7	10	13	4.3%	17.7%	4.6%	4.6%	3.4%	2.4%
Agriculture	0	0	0	0	1	1	1	0.9%	10.0%	2.5%	2.4%	2.1%	1.9%
Road	7	8	16	28	38	47	53	2.2%	6.5%	5.9%	3.1%	2.1%	1.2%
Rail	0	0	0	0	0	0	0	1.2%	9.5%	2.9%	0.5%	0.4%	0.2%
Aviation	0	0	0	0	0	0	0	7.2%	26.5%	8.8%	4.3%	3.1%	0.7%
Other Transport	0	0	0	0	0	0	0	0.9%	9.8%	4.5%	3.8%	2.3%	1.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Algeria & Libya	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	12	19	26	40	56	68	5.9%	4.5%	3.3%	4.6%	3.3%	2.0%
Coal	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	30.3%	14.3%	8.3%
Oil	3	5	5	6	7	8	7	5.1%	0.5%	2.7%	1.4%	0.6%	-0.9%
Gas	4	7	14	19	33	47	58	6.3%	6.5%	3.5%	5.4%	3.6%	2.1%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	27.4%	14.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	27	43	81	130	222	333	423	4.6%	6.5%	4.8%	5.5%	4.1%	2.4%
Coal	0	0	0	0	1	5	11	n.s.	n.s.	n.s.	30.6%	14.6%	8.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	53.3%
Oil	11	13	18	27	31	34	32	1.5%	3.6%	4.0%	1.5%	0.8%	-0.7%
Gas	16	30	62	102	188	286	353	6.4%	7.6%	5.0%	6.3%	4.3%	2.1%
of which CCS	0	0	0	0	0	1	43	n.s.	n.s.	n.s.	n.s.	n.s.	47.4%
Biomass & Waste	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	27.7%	14.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	0.5%	0.6%	0.9%
Wind	0	0	0	0	1	4	16	n.s.	n.s.	n.s.	23.6%	17.5%	13.6%
Solar	0	0	0	0	0	1	4	n.s.	n.s.	37.9%	4.6%	11.6%	14.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.0%	15.9%
Generation Capacity (GW_e)	8	11	20	30	39	55	76	2.7%	6.2%	4.4%	2.6%	3.5%	3.4%
Coal	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	30.8%	14.5%	8.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	49.2%
Oil	4	4	4	5	7	9	10	-0.5%	-0.1%	2.7%	2.8%	2.9%	1.0%
Gas	4	6	15	24	31	42	54	5.8%	9.1%	4.7%	2.4%	3.1%	2.7%
of which CCS	0	0	0	0	0	0	5	n.s.	n.s.	n.s.	n.s.	n.s.	47.5%
Biomass & Waste	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	27.6%	14.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	-0.4%	0.0%	-0.8%	0.5%	0.6%	0.9%
Wind	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	22.7%	16.7%	12.8%
Solar	0	0	0	0	0	1	3	n.s.	n.s.	48.1%	2.2%	8.7%	13.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Total Final Consumption² (Mtoe)	18	24	40	65	85	101	111	3.0%	5.0%	5.0%	2.7%	1.7%	1.0%
Coal	0	0	0	0	0	1	1	-3.2%	-0.9%	1.1%	5.4%	2.5%	0.0%
Oil	12	15	23	38	47	52	54	2.3%	4.9%	4.9%	2.1%	1.1%	0.4%
Gas	4	7	11	18	23	26	28	4.6%	4.6%	5.5%	2.5%	1.2%	0.6%
Electricity	2	2	5	7	13	19	24	4.7%	7.5%	3.8%	5.5%	4.1%	2.4%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	35.6%	16.6%
Biomass & Other	0	0	0	1	2	3	4	3.6%	1.1%	14.4%	6.3%	5.8%	3.4%
Share of Renewables ³ (%)	1%	1%	1%	1%	1%	3%	6%	0.0%	-3.6%	2.2%	4.3%	7.9%	8.1%
Industry (incl. non-energy use)	7	9	12	19	24	26	27	2.9%	3.0%	4.4%	2.3%	0.9%	0.3%
Coal	0	0	0	0	0	1	1	-3.2%	-0.9%	1.1%	5.4%	2.5%	0.0%
Oil	2	3	4	6	8	8	9	2.6%	2.8%	3.3%	2.8%	0.8%	0.3%
Gas	3	5	6	10	11	12	11	3.7%	3.1%	4.8%	1.1%	0.1%	-0.1%
Electricity	1	1	1	2	4	5	6	2.7%	4.0%	6.3%	5.0%	3.1%	1.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.3%	2.7%	2.1%
Buildings	4	7	11	17	22	26	30	4.5%	5.3%	4.4%	2.6%	1.9%	1.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	3	4	4	3	3	2.3%	1.0%	2.1%	-0.6%	-1.1%	-1.0%
Gas	1	2	4	8	10	11	12	6.9%	7.5%	6.3%	2.7%	1.2%	0.2%
Electricity	1	1	3	5	7	10	13	6.6%	9.0%	2.9%	4.8%	3.6%	2.3%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	35.6%	16.6%
Biomass & Other	0	0	0	1	1	1	1	3.6%	1.1%	13.0%	1.7%	2.3%	1.3%
Agriculture	0	0	0	0	1	1	1	0.9%	10.0%	2.5%	2.4%	2.1%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	0.9%	12.0%	1.6%	1.6%	0.9%	-0.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	11.8%	1.5%	0.9%	0.1%
Electricity	0	0	0	0	0	1	1	1.0%	8.8%	1.1%	2.7%	2.5%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	14.2%	10.5%
Transport	7	9	16	29	39	48	54	2.2%	6.6%	5.9%	3.1%	2.1%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	16	28	35	40	42	2.2%	6.6%	5.7%	2.3%	1.3%	0.5%
Gas	0	0	0	0	2	3	5	n.s.	n.s.	n.s.	21.5%	6.8%	3.8%
Electricity	0	0	0	0	1	3	4	3.0%	7.5%	7.7%	26.7%	9.9%	4.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	2	n.s.	n.s.	n.s.	33.6%	9.7%	4.7%
Other Energy Transformation & Losses⁴	11	9	7	12	19	26	32	-1.9%	-2.6%	6.3%	4.4%	3.1%	2.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Morocco & Tunisia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	33	39	43	49	53	56	58	1.6%	1.1%	1.2%	0.8%	0.5%	0.3%
GDP per capita (ppp, k\$'05)	3	4	5	7	11	16	23	1.7%	3.7%	3.2%	4.2%	4.1%	3.4%
GDP per capita (mer, k\$'05)	2	2	3	4	5	8	11	1.9%	3.7%	3.1%	4.2%	4.1%	3.4%
Share Value Added - Agriculture (%)	17	13	12	10	8	7	6	-3.2%	-0.1%	-2.0%	-2.3%	-1.5%	-0.9%
Share Value Added - Industry (%)	32	30	30	30	29	26	22	-0.6%	-0.2%	0.0%	-0.3%	-1.1%	-1.6%
Share Value Added - Services (%)	51	57	58	60	63	67	72	1.2%	0.1%	0.4%	0.5%	0.6%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	15	18	-3.4%	3.6%	-3.0%	0.5%	1.3%	1.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	50	69	104	133	158	184	204	3.2%	4.2%	2.6%	1.7%	1.5%	1.0%
Total GHG (excl. sinks)	59	79	104	133	161	186	207	3.0%	2.8%	2.5%	1.9%	1.5%	1.1%
Total GHG (energy, industry, agriculture)	58	78	103	132	161	186	207	3.0%	2.9%	2.5%	2.0%	1.5%	1.1%
CO ₂	37	54	77	101	131	152	171	3.8%	3.6%	2.8%	2.6%	1.5%	1.1%
CH ₄	13	16	18	21	21	24	25	2.1%	1.3%	1.4%	-0.3%	1.4%	0.7%
N ₂ O	8	8	8	9	9	10	11	-0.2%	0.6%	1.3%	-0.2%	1.1%	0.8%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	45	64	89	117	145	170	189	3.5%	3.4%	2.7%	2.2%	1.6%	1.1%
CO₂ Emissions from Fuel Comb.	32	47	67	89	114	132	148	4.0%	3.7%	2.8%	2.6%	1.5%	1.1%
Power generation/District heating	12	17	24	33	43	50	55	3.9%	3.7%	3.1%	2.7%	1.5%	0.9%
Industry	8	8	11	14	17	18	19	0.0%	2.3%	2.8%	2.2%	0.4%	0.8%
Buildings	3	5	7	9	14	18	22	5.8%	2.9%	2.5%	5.2%	2.5%	2.1%
Agriculture	2	3	5	6	6	5	4	6.6%	4.7%	2.1%	-0.5%	-2.4%	-2.6%
Transport	6	12	17	24	29	36	41	6.4%	3.8%	3.2%	2.1%	2.1%	1.5%
Other	1	1	3	4	5	6	7	4.8%	9.7%	1.0%	3.2%	1.7%	1.7%
CO₂ captured (CCS)	0	0	0	0	0	3	13	n.s.	n.s.	n.s.	n.s.	29.9%	14.6%
Coal	0	0	0	0	0	2	10	n.s.	n.s.	n.s.	n.s.	29.2%	16.0%
Gas	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	35.8%	11.4%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.0%	1.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	7	8	10	11	19	29	40	0.8%	2.5%	1.0%	5.6%	4.5%	3.4%
Coal	0	0	0	0	0	0	0	-22.5%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	4	4	4	6	9	12	-2.2%	0.6%	-0.9%	4.7%	4.0%	3.0%
Natural gas	0	2	3	4	8	12	18	17.5%	6.0%	3.2%	6.3%	4.7%	3.8%
Biomass	1	2	2	2	2	2	2	2.7%	1.2%	-2.6%	3.6%	-0.2%	-0.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	12.0%	12.2%
Hydro	0	0	0	0	0	0	0	-4.7%	16.8%	-2.9%	1.5%	0.5%	0.4%
Other renewables	0	0	0	1	2	5	8	n.s.	29.8%	25.6%	8.6%	8.5%	4.9%
Net Imports	5	11	17	24	29	29	29						
Coal	1	3	3	4	6	8	11						
Oil	3	7	11	16	16	14	13						
Natural gas	1	1	3	3	7	7	5						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	12	18	27	35	47	58	70	3.9%	4.0%	2.8%	3.0%	2.0%	1.9%
Coal	1	3	3	4	6	8	11	8.4%	0.2%	4.4%	2.5%	3.3%	3.3%
Oil	8	10	16	20	22	23	24	2.4%	4.1%	2.7%	0.8%	0.3%	0.7%
Natural gas	1	3	6	7	14	19	23	8.2%	7.4%	2.6%	6.9%	2.9%	1.9%
Biomass	1	2	2	2	2	2	2	2.7%	1.2%	-2.4%	3.4%	-0.2%	-0.4%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	12.0%	12.2%
Hydro	0	0	0	0	0	0	0	-4.7%	16.8%	-2.9%	1.5%	0.5%	0.4%
Other renewables	0	0	0	1	2	5	8	n.s.	29.8%	25.6%	8.6%	8.5%	4.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	12	18	27	35	47	58	70	3.9%	4.0%	2.8%	3.0%	2.0%	1.9%
Energy for Power Generation	4	5	8	12	17	23	30	3.7%	4.4%	3.4%	3.7%	3.0%	2.9%
Other Energy Transformation & Losses	0	0	2	2	4	4	5	4.3%	13.5%	3.6%	4.4%	1.8%	1.6%
Final consumption	9	14	20	26	35	43	51	4.2%	3.6%	2.6%	2.9%	2.1%	1.8%
Steel, Non-Met. Minerals and Chem.	0	0	2	3	4	4	5	0.1%	20.9%	4.1%	1.9%	0.7%	1.0%
Other Industry	3	3	3	3	5	6	7	1.2%	-2.5%	2.5%	3.9%	2.0%	1.6%
Non-Energy Use	0	0	1	1	1	1	1	8.5%	4.7%	3.4%	0.0%	-0.7%	-0.2%
Residential	2	3	4	5	7	8	9	4.5%	2.9%	1.4%	2.9%	1.5%	1.6%
Services	1	1	2	2	3	5	7	3.6%	4.9%	0.8%	6.2%	4.1%	3.6%
Agriculture	1	1	2	2	3	3	4	6.5%	4.9%	2.3%	1.8%	1.7%	1.5%
Road	2	4	6	8	10	14	16	6.1%	3.6%	3.2%	2.8%	2.6%	1.9%
Rail	0	0	0	0	0	0	0	5.7%	3.4%	2.0%	0.9%	0.8%	0.6%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	6.5%	4.3%	4.8%	2.5%
Other Transport	0	0	1	1	1	1	2	9.9%	5.3%	4.0%	2.9%	2.6%	1.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Morocco & Tunisia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	4	5	8	10	14	17	21	3.8%	4.1%	2.8%	3.1%	1.9%	2.2%
Coal	1	2	3	4	4	6	8	10.9%	2.7%	3.4%	1.1%	3.1%	3.3%
Oil	2	1	1	2	3	3	3	-5.9%	1.7%	6.4%	2.1%	-0.6%	1.8%
Gas	1	2	4	4	7	9	10	9.2%	6.2%	0.7%	5.2%	2.1%	1.5%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	15	23	40	61	97	148	207	4.3%	5.4%	4.3%	4.8%	4.3%	3.4%
Coal	2	9	11	16	19	27	39	14.8%	2.2%	4.0%	1.7%	3.7%	3.8%
of which CCS	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	n.s.	20.1%
Oil	8	5	6	11	13	13	15	-5.8%	2.4%	6.3%	2.3%	-0.3%	1.9%
Gas	4	9	19	20	36	46	55	9.6%	7.2%	0.9%	5.7%	2.6%	1.7%
of which CCS	0	0	0	0	0	3	9	n.s.	n.s.	n.s.	n.s.	n.s.	12.6%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	1	4	3	3	3	3	-4.7%	16.8%	-2.9%	1.5%	0.5%	0.4%
Wind	0	0	1	10	20	38	57	n.s.	24.8%	29.3%	6.8%	6.5%	4.2%
Solar	0	0	0	0	6	21	37	n.s.	n.s.	21.4%	29.1%	13.9%	5.8%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	29.1%	18.4%	13.7%
Generation Capacity (GW_e)	4	7	10	17	26	45	63	6.8%	3.5%	5.2%	4.6%	5.5%	3.5%
Coal	0	1	2	3	4	5	6	12.1%	2.1%	4.5%	3.6%	2.5%	2.4%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	20.2%
Oil	2	2	2	2	3	3	4	3.4%	-0.6%	1.1%	1.8%	2.2%	1.7%
Gas	1	2	4	5	6	8	10	10.7%	7.7%	2.6%	2.0%	2.6%	1.7%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	2	2	2	3	3	3	4.3%	1.4%	1.8%	1.5%	0.5%	0.4%
Wind	0	0	0	4	7	13	18	n.s.	18.7%	27.9%	6.3%	5.9%	3.6%
Solar	0	0	0	0	3	12	22	n.s.	n.s.	21.6%	29.3%	14.0%	5.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.8%	13.2%
Total Final Consumption² (Mtoe)	9	14	20	26	35	43	51	4.2%	3.6%	2.6%	2.9%	2.1%	1.8%
Coal	0	1	0	0	1	1	2	2.8%	-30.6%	37.3%	11.2%	3.1%	2.8%
Oil	6	9	14	17	18	19	20	4.3%	4.1%	2.1%	0.6%	0.5%	0.6%
Gas	0	1	1	3	6	9	11	6.1%	6.1%	8.2%	9.4%	3.7%	2.4%
Electricity	1	2	3	5	7	11	15	5.2%	5.5%	3.7%	4.5%	4.2%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	-4.0%	2.7%	12.6%
Biomass & Other	1	2	2	2	2	3	3	2.7%	1.2%	-2.4%	2.8%	1.0%	1.3%
Share of Renewables ³ (%)	16%	14%	13%	11%	13%	18%	22%	-1.6%	-1.0%	-1.7%	2.2%	3.3%	2.0%
Industry (incl. non-energy use)	3	4	6	8	10	11	13	1.7%	3.2%	3.3%	2.5%	1.2%	1.2%
Coal	0	1	0	0	1	1	2	2.8%	-30.6%	37.3%	11.2%	3.1%	2.8%
Oil	2	2	3	4	4	3	3	-0.3%	5.5%	2.0%	-1.0%	-2.0%	-1.0%
Gas	0	0	1	1	2	2	2	5.1%	5.7%	2.1%	5.7%	2.3%	0.8%
Electricity	1	1	1	2	3	4	5	4.3%	3.1%	5.4%	4.3%	3.3%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	1.5%	3.6%	3.8%	-3.3%	-4.9%
Buildings	3	4	6	7	10	13	16	4.3%	3.4%	1.2%	3.9%	2.4%	2.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	2	2	5.5%	2.6%	-1.3%	-0.4%	-0.3%	0.6%
Gas	0	0	0	1	4	6	7	10.1%	6.9%	16.7%	10.8%	3.7%	2.5%
Electricity	0	1	2	2	3	4	6	6.4%	7.6%	2.3%	3.3%	3.7%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	-4.0%	2.7%	12.6%
Biomass & Other	1	2	2	2	1	1	1	2.3%	1.2%	-3.1%	-1.1%	-2.8%	-2.3%
Agriculture	1	1	2	2	3	3	4	6.5%	4.9%	2.3%	1.8%	1.7%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	1	1	6.6%	4.7%	2.1%	-0.5%	-2.4%	-2.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	13.9%	0.0%	-1.4%	-1.6%
Electricity	0	0	0	0	1	1	2	6.1%	6.9%	3.7%	7.9%	7.0%	4.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	9.8%	3.6%
Transport	2	5	7	9	12	15	18	6.3%	3.8%	3.3%	2.7%	2.5%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	5	7	9	11	13	14	6.4%	3.8%	3.1%	1.7%	1.8%	1.2%
Gas	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	21.4%	8.0%	4.6%
Electricity	0	0	0	0	0	1	2	2.8%	-1.8%	7.5%	20.5%	9.5%	4.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	20.7%	4.3%	3.9%
Other Energy Transformation & Losses⁴	0	0	2	2	4	4	5	4.3%	13.5%	3.6%	4.4%	1.8%	1.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

South Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	37	45	52	57	60	63	66	2.0%	1.4%	0.9%	0.6%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	8	7	9	10	13	18	21	-0.2%	2.1%	0.9%	2.6%	3.0%	1.8%
GDP per capita (mer, k\$'05)	5	5	6	6	8	11	13	-0.2%	2.0%	0.8%	2.6%	3.0%	1.8%
Share Value Added - Agriculture (%)	5	3	3	2	2	2	2	-3.4%	-2.2%	-1.2%	-0.7%	-0.6%	-0.3%
Share Value Added - Industry (%)	40	32	30	29	26	23	21	-2.3%	-0.5%	-0.5%	-0.8%	-1.2%	-1.0%
Share Value Added - Services (%)	55	65	67	69	71	75	77	1.6%	0.4%	0.3%	0.3%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	16	19	21	-3.4%	3.6%	-3.2%	2.1%	1.8%	1.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	351	403	511	560	523	547	542	1.4%	2.4%	0.9%	-0.7%	0.4%	-0.1%
Total GHG (excl. sinks)	351	405	511	560	524	548	544	1.5%	2.3%	0.9%	-0.7%	0.4%	-0.1%
Total GHG (energy, industry, agriculture)	347	402	510	547	520	518	512	1.5%	2.4%	0.7%	-0.5%	0.0%	-0.1%
CO ₂	275	324	426	458	450	447	443	1.7%	2.8%	0.7%	-0.2%	-0.1%	-0.1%
CH ₄	51	57	63	67	49	50	48	1.2%	1.0%	0.6%	-3.0%	0.1%	-0.4%
N ₂ O	20	19	18	19	19	20	20	-0.4%	-0.4%	0.7%	0.0%	0.3%	0.1%
F gases	1	2	3	3	2	1	1	0.6%	5.2%	0.2%	-4.4%	-2.0%	-4.7%
Total GHG from Energy and Industry	315	370	476	511	485	483	476	1.6%	2.5%	0.7%	-0.5%	-0.1%	-0.1%
CO₂ Emissions from Fuel Comb.	254	304	405	426	411	398	390	1.8%	2.9%	0.5%	-0.4%	-0.3%	-0.2%
Power generation/District heating	142	188	242	201	196	189	179	2.8%	2.6%	-1.8%	-0.2%	-0.4%	-0.6%
Industry	32	28	42	35	30	27	24	-1.3%	4.2%	-1.7%	-1.5%	-1.3%	-0.9%
Buildings	12	9	17	27	20	15	12	-2.2%	6.3%	4.8%	-2.8%	-2.9%	-2.1%
Agriculture	3	4	3	6	6	6	5	2.0%	-1.1%	6.4%	0.0%	-0.5%	-0.8%
Transport	29	36	42	55	60	68	73	2.0%	1.5%	2.8%	0.9%	1.3%	0.6%
Other	36	40	60	102	98	94	96	1.1%	4.1%	5.4%	-0.4%	-0.4%	0.3%
CO₂ captured (CCS)	0	0	0	0	0	3	11	n.s.	n.s.	n.s.	n.s.	24.3%	15.2%
Coal	0	0	0	0	0	3	11	n.s.	n.s.	n.s.	n.s.	26.4%	15.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.6%	9.2%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	1.2%	11.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	108	153	166	168	227	244	248	3.6%	0.8%	0.1%	3.1%	0.7%	0.2%
Coal	91	128	145	145	194	199	197	3.5%	1.3%	0.0%	2.9%	0.3%	-0.1%
Oil	5	10	5	7	8	6	3	7.2%	-8.0%	4.2%	1.3%	-2.7%	-7.5%
Natural gas	2	1	1	1	2	2	3	-0.8%	-1.0%	-5.8%	11.8%	0.9%	1.3%
Biomass	8	9	11	9	12	15	15	1.9%	1.4%	-1.5%	2.9%	1.7%	0.6%
Nuclear ¹	2	3	3	3	5	13	16	4.4%	-0.7%	0.2%	5.3%	8.7%	2.6%
Hydro	0	0	0	0	1	1	1	3.3%	2.6%	-0.9%	2.8%	1.6%	1.5%
Other renewables	0	0	0	2	5	9	13	n.s.	n.s.	37.5%	11.6%	5.1%	4.3%
Net Imports	-21	-47	-27	-31	-85	-89	-84						
Coal	-23	-46	-45	-50	-106	-119	-118						
Oil	3	-2	15	13	12	17	20						
Natural gas	-1	0	3	4	6	12	13						
Biomass	0	0	0	2	2	2	2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	1	0	0	0	0	0						
Primary Energy Demand²	87	106	138	137	142	155	164	2.0%	2.7%	-0.1%	0.4%	0.9%	0.6%
Coal	68	82	100	96	88	80	78	1.9%	2.1%	-0.5%	-0.8%	-1.0%	-0.2%
Oil	9	9	20	20	20	22	22	0.2%	8.5%	0.0%	0.3%	1.0%	0.0%
Natural gas	0	1	4	5	8	14	15	10.9%	10.7%	1.5%	5.9%	6.2%	0.6%
Biomass	8	9	11	12	15	17	17	1.9%	1.4%	0.8%	2.2%	1.3%	0.5%
Nuclear ¹	2	3	3	3	5	13	16	4.4%	-0.7%	0.2%	5.3%	8.7%	2.6%
Hydro	0	0	0	0	1	1	1	3.3%	2.6%	-0.9%	2.8%	1.6%	1.5%
Other renewables	0	0	0	2	5	9	13	n.s.	n.s.	37.5%	11.6%	5.1%	4.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	87	106	138	137	142	155	164	2.0%	2.7%	-0.1%	0.4%	0.9%	0.6%
Energy for Power Generation	38	51	64	56	62	74	83	3.0%	2.4%	-1.3%	1.0%	1.8%	1.2%
Other Energy Transformation & Losses	8	13	21	22	23	24	26	4.8%	4.8%	0.5%	0.2%	0.4%	0.8%
Final consumption	52	57	70	75	79	85	90	0.8%	2.1%	0.7%	0.5%	0.8%	0.5%
Steel, Non-Met. Minerals and Chem.	10	7	10	10	9	9	8	-3.5%	3.4%	-0.2%	-0.6%	-0.7%	-0.5%
Other Industry	13	14	18	16	16	16	17	0.9%	2.7%	-1.4%	0.3%	0.3%	0.4%
Non-Energy Use	4	6	4	3	3	3	3	2.8%	-2.6%	-4.7%	0.3%	0.4%	0.0%
Residential	10	12	15	16	16	15	14	1.5%	2.2%	0.9%	-0.3%	-0.4%	-0.6%
Services	3	4	5	6	6	8	9	2.5%	1.8%	2.4%	0.6%	1.6%	1.5%
Agriculture	1	2	2	2	3	3	4	1.7%	0.3%	4.5%	1.5%	1.5%	1.1%
Road	9	11	15	20	23	28	31	1.8%	3.0%	2.8%	1.5%	1.9%	1.1%
Rail	0	1	0	0	1	1	1	5.2%	-6.5%	2.9%	1.6%	1.8%	1.0%
Aviation	0	1	1	1	2	3	3	5.7%	5.0%	2.9%	3.3%	3.7%	2.2%
Other Transport	0	0	0	0	0	0	0	n.s.	4.5%	32.7%	1.9%	1.9%	0.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

South Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	36	47	61	51	51	53	53	2.9%	2.6%	-1.8%	0.0%	0.3%	0.1%
Coal	36	47	61	50	48	43	42	2.8%	2.6%	-1.9%	-0.5%	-1.0%	-0.2%
Oil	0	0	0	0	1	1	1	n.s.	n.s.	19.4%	7.4%	5.0%	1.8%
Gas	0	0	0	0	2	6	6	n.s.	n.s.	n.s.	37.1%	14.7%	-0.3%
Biomass & Waste	0	0	0	0	1	2	4	n.s.	-0.7%	11.6%	10.4%	10.1%	5.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	167	211	260	241	298	383	460	2.3%	2.1%	-0.7%	2.1%	2.6%	1.8%
Coal	156	193	242	204	201	191	193	2.2%	2.3%	-1.7%	-0.1%	-0.5%	0.1%
of which CCS	0	0	0	0	0	2	11	n.s.	n.s.	n.s.	n.s.	n.s.	22.1%
Oil	0	0	0	1	2	4	5	n.s.	n.s.	19.0%	7.9%	5.6%	2.2%
Gas	0	0	0	0	7	29	31	n.s.	n.s.	n.s.	35.2%	14.7%	0.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.3%
Biomass & Waste	0	0	0	1	3	10	19	n.s.	-0.7%	11.6%	14.3%	11.8%	6.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	8	13	12	12	21	51	67	4.4%	-0.7%	0.2%	5.6%	9.1%	2.8%
Hydro	3	4	5	5	6	7	8	3.3%	2.6%	-0.9%	2.8%	1.6%	1.5%
Wind	0	0	0	8	38	71	109	n.s.	n.s.	n.s.	16.4%	6.5%	4.5%
Solar	0	0	0	10	18	21	28	n.s.	n.s.	n.s.	6.6%	1.2%	3.0%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	28.8%	17.3%	12.6%
Generation Capacity (GW_e)	35	41	44	54	76	96	124	1.7%	0.7%	2.1%	3.4%	2.4%	2.5%
Coal	31	37	38	35	34	32	35	1.8%	0.2%	-0.7%	-0.5%	-0.6%	0.9%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	22.0%
Oil	0	0	0	0	0	1	1	29.8%	0.0%	-1.2%	2.2%	6.1%	4.9%
Gas	0	0	2	3	4	6	7	n.s.	n.s.	2.7%	3.4%	4.0%	1.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.4%
Biomass & Waste	0	0	0	0	0	1	3	n.s.	0.0%	11.8%	9.3%	11.7%	6.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	2	2	2	2	3	7	9	0.0%	0.0%	0.2%	5.4%	8.9%	2.5%
Hydro	2	2	2	2	3	3	4	0.3%	0.1%	0.8%	2.8%	1.6%	1.5%
Wind	0	0	0	4	16	29	43	n.s.	n.s.	n.s.	15.4%	5.9%	3.8%
Solar	0	0	0	8	15	17	23	n.s.	n.s.	n.s.	6.9%	1.3%	3.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.7%	12.1%
Total Final Consumption² (Mtoe)	52	57	70	75	79	85	90	0.8%	2.1%	0.7%	0.5%	0.8%	0.5%
Coal	17	16	16	15	12	8	7	-0.9%	-0.1%	0.0%	-2.8%	-3.2%	-2.4%
Oil	15	16	23	28	28	30	30	0.7%	3.6%	2.1%	0.1%	0.6%	0.1%
Gas	0	1	4	4	6	7	9	5.6%	15.2%	0.5%	4.3%	2.9%	1.3%
Electricity	12	15	17	16	20	26	31	2.3%	1.5%	-0.6%	2.2%	2.5%	1.8%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	11.6%	6.0%	6.7%	5.9%
Biomass & Other	8	9	11	11	13	13	12	1.8%	1.5%	0.3%	1.3%	0.3%	-0.5%
Share of Renewables ³ (%)	16%	17%	16%	17%	23%	27%	32%	0.8%	-0.8%	0.8%	3.1%	1.6%	1.7%
Industry (incl. non-energy use)	27	27	32	28	28	28	28	-0.2%	2.0%	-1.4%	0.0%	0.0%	0.1%
Coal	15	14	12	9	7	6	5	-0.4%	-1.5%	-2.5%	-2.3%	-2.1%	-1.4%
Oil	4	2	4	4	4	3	3	-6.6%	9.4%	-0.6%	-1.1%	-1.0%	-1.2%
Gas	0	1	4	3	3	3	3	5.5%	15.6%	-0.7%	0.5%	-0.1%	-1.0%
Electricity	7	8	10	10	11	13	14	1.6%	2.2%	-0.8%	1.3%	1.4%	1.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	2	2	3	3	1.3%	1.6%	-1.1%	3.9%	0.7%	0.1%
Buildings	14	16	20	22	22	23	23	1.7%	2.1%	1.3%	-0.1%	0.2%	0.2%
Coal	2	1	3	6	4	2	1	-4.6%	8.3%	5.7%	-3.8%	-5.8%	-6.0%
Oil	1	1	1	1	1	1	1	5.0%	1.6%	-0.6%	-3.1%	-0.6%	-0.1%
Gas	0	0	0	0	1	2	2	8.2%	-4.5%	26.0%	14.0%	6.9%	2.7%
Electricity	4	6	6	6	7	10	12	3.4%	0.7%	-0.6%	2.0%	2.9%	2.0%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	11.6%	6.0%	6.7%	5.9%
Biomass & Other	6	8	9	9	9	8	6	1.9%	1.4%	0.4%	-0.2%	-1.4%	-2.5%
Agriculture	1	2	2	2	3	3	4	1.7%	0.3%	4.5%	1.5%	1.5%	1.1%
Coal	0	0	0	0	0	0	0	3.3%	-0.3%	22.6%	-1.7%	-2.6%	-2.6%
Oil	1	1	1	2	2	2	2	2.0%	-1.2%	4.5%	0.4%	-0.1%	-0.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	1	1	1	1	1	0.8%	4.1%	0.2%	3.1%	3.3%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	9.3%	4.4%
Transport	10	12	16	22	26	31	35	2.1%	2.8%	2.9%	1.6%	2.0%	1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	10	12	16	21	22	24	25	2.1%	3.0%	2.7%	0.4%	0.9%	0.4%
Gas	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	20.3%	6.0%	3.2%
Electricity	0	0	0	0	1	3	4	2.9%	-4.1%	1.8%	15.3%	7.3%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	17.6%	7.9%	3.6%
Other Energy Transformation & Losses⁴	8	13	21	22	23	24	26	4.8%	4.8%	0.5%	0.2%	0.4%	0.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Sub-Saharan Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	475	625	825	1 084	1 393	1 749	2 138	2.8%	2.8%	2.8%	2.5%	2.3%	2.0%
GDP per capita (ppp, k\$'05)	1	1	1	2	3	4	6	-0.3%	3.6%	3.0%	3.9%	4.0%	4.0%
GDP per capita (mer, k\$'05)	1	0	1	1	1	2	3	-0.5%	3.5%	2.9%	3.9%	4.0%	4.0%
Share Value Added - Agriculture (%)	32	27	23	17	11	8	6	-1.7%	-1.6%	-2.8%	-4.4%	-3.1%	-2.1%
Share Value Added - Industry (%)	29	33	29	27	29	30	29	1.3%	-1.2%	-0.7%	0.6%	0.2%	-0.2%
Share Value Added - Services (%)	39	40	47	55	60	62	64	0.2%	1.8%	1.5%	0.8%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	16	19	21	-3.4%	3.6%	-3.2%	2.1%	1.8%	1.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 701	1 841	1 878	2 480	2 708	2 899	3 240	0.8%	0.2%	2.8%	0.9%	0.7%	1.1%
Total GHG (excl. sinks)	1 701	1 841	1 878	2 480	2 708	3 131	3 936	0.8%	0.2%	2.8%	0.9%	1.5%	2.3%
Total GHG (energy, industry, agriculture)	629	759	884	1 248	1 558	2 086	2 641	1.9%	1.5%	3.5%	2.2%	3.0%	2.4%
CO ₂	160	208	241	452	751	1 180	1 666	2.7%	1.5%	6.5%	5.2%	4.6%	3.5%
CH ₄	310	394	454	591	596	695	765	2.4%	1.4%	2.7%	0.1%	1.5%	1.0%
N ₂ O	157	155	186	201	206	207	207	-0.2%	1.9%	0.8%	0.3%	0.0%	0.0%
F gases	2	2	2	4	4	4	3	-0.2%	3.7%	5.9%	0.1%	-0.4%	-3.8%
Total GHG from Energy and Industry	329	399	459	800	1 118	1 677	2 264	1.9%	1.4%	5.7%	3.4%	4.1%	3.0%
CO₂ Emissions from Fuel Comb.	99	130	192	365	573	875	1 221	2.8%	4.0%	6.6%	4.6%	4.3%	3.4%
Power generation/District heating	20	27	40	107	175	276	372	3.0%	4.0%	10.2%	5.1%	4.7%	3.0%
Industry	21	19	28	51	86	126	164	-1.2%	4.1%	6.2%	5.3%	3.9%	2.6%
Buildings	12	17	24	39	54	73	97	3.6%	3.4%	4.8%	3.3%	3.1%	2.9%
Agriculture	2	4	4	6	7	8	8	6.2%	0.4%	3.8%	1.4%	1.1%	0.4%
Transport	38	52	83	140	210	322	477	3.2%	4.7%	5.4%	4.2%	4.4%	4.0%
Other	5	10	13	22	41	70	103	8.3%	2.2%	5.8%	6.2%	5.6%	3.9%
CO₂ captured (CCS)	0	0	0	0	0	5	38	n.s.	n.s.	n.s.	n.s.	29.0%	22.4%
Coal	0	0	0	0	0	5	37	n.s.	n.s.	n.s.	n.s.	30.4%	22.4%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	17.8%	23.3%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	2.2%	23.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	309	438	611	529	643	762	899	3.6%	3.4%	-1.4%	2.0%	1.7%	1.7%
Coal	4	4	3	42	12	18	27	-0.5%	-4.0%	31.5%	-11.6%	4.0%	4.2%
Oil	151	227	310	213	222	211	216	4.1%	3.2%	-3.7%	0.4%	-0.5%	0.2%
Natural gas	5	15	46	60	106	152	188	12.2%	11.6%	2.7%	5.8%	3.7%	2.2%
Biomass	144	186	243	197	273	334	388	2.6%	2.7%	-2.1%	3.3%	2.0%	1.5%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	22.5%	19.0%
Hydro	4	5	8	9	10	12	14	3.1%	4.4%	1.4%	1.7%	1.5%	1.6%
Other renewables	0	0	1	9	20	34	65	2.9%	13.0%	21.2%	8.4%	5.7%	6.7%
Net Imports	- 127	- 200	- 287	- 105	- 100	- 73	- 24						
Coal	1	0	1	-30	19	38	55						
Oil	- 127	- 192	- 256	- 117	- 96	- 39	24						
Natural gas	- 1	- 8	- 32	- 35	- 56	- 59	- 49						
Biomass	0	0	0	78	40	- 7	- 52						
Biofuels	0	0	0	- 2	- 7	- 6	- 3						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	181	237	323	424	544	688	875	2.7%	3.1%	2.7%	2.5%	2.4%	2.4%
Coal	5	4	3	11	31	56	82	-1.9%	-1.3%	12.4%	10.7%	6.2%	3.9%
Oil	25	34	54	96	126	172	241	3.3%	4.7%	5.9%	2.7%	3.1%	3.4%
Natural gas	4	8	14	25	50	93	140	7.2%	6.1%	6.1%	7.3%	6.3%	4.2%
Biomass	144	186	243	275	313	327	335	2.6%	2.7%	1.3%	1.3%	0.4%	0.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	22.5%	19.0%
Hydro	4	5	8	9	10	12	14	3.1%	4.4%	1.4%	1.7%	1.5%	1.6%
Other renewables	0	0	1	9	20	34	65	2.9%	13.0%	21.2%	8.4%	5.7%	6.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	181	237	323	424	544	688	875	2.7%	3.1%	2.7%	2.5%	2.4%	2.4%
Energy for Power Generation	11	15	24	54	88	140	222	3.5%	4.8%	8.5%	5.0%	4.7%	4.7%
Other Energy Transformation & Losses	2	4	6	11	27	45	68	8.1%	4.3%	6.3%	9.7%	5.2%	4.3%
Final consumption	174	225	304	379	466	571	704	2.6%	3.1%	2.2%	2.1%	2.1%	2.1%
Steel, Non-Met. Minerals and Chem.	2	1	1	2	4	6	8	-3.9%	0.1%	7.8%	4.4%	4.0%	3.8%
Other Industry	14	17	28	40	57	79	105	2.4%	5.1%	3.6%	3.6%	3.2%	2.9%
Non-Energy Use	1	1	2	4	7	13	23	0.8%	3.8%	8.8%	6.7%	6.0%	5.4%
Residential	137	175	228	257	281	292	294	2.5%	2.7%	1.2%	0.9%	0.4%	0.0%
Services	6	9	10	17	27	41	61	3.8%	1.6%	5.3%	4.5%	4.3%	4.1%
Agriculture	1	2	2	3	4	4	5	4.7%	1.1%	2.9%	1.3%	1.5%	1.6%
Road	12	18	31	52	82	128	194	4.0%	5.4%	5.5%	4.6%	4.6%	4.3%
Rail	0	0	0	0	0	0	1	-5.6%	-0.8%	4.1%	1.8%	2.3%	2.7%
Aviation	0	0	1	2	3	6	11	4.3%	8.2%	6.8%	7.1%	7.1%	6.7%
Other Transport	0	0	0	0	1	1	2	-1.2%	2.2%	6.2%	5.4%	4.9%	4.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Sub-Saharan Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	9	15	36	58	94	142	3.7%	4.6%	9.4%	4.8%	4.9%	4.2%
Coal	2	2	1	6	21	39	57	-1.2%	-3.0%	16.0%	12.8%	6.4%	3.9%
Oil	2	3	6	18	17	16	21	4.2%	5.6%	11.8%	-0.7%	-0.4%	2.7%
Gas	2	4	7	10	16	30	43	7.1%	6.1%	4.4%	4.6%	6.2%	3.7%
Biomass & Waste	0	0	1	1	3	8	19	4.1%	6.2%	4.6%	13.2%	10.2%	9.6%
Other	0	0	0	1	1	1	1	2.9%	13.0%	20.1%	4.8%	0.0%	1.3%
Gross Elec. Generation (TWh_e)	66	90	147	277	483	861	1 462	3.1%	5.1%	6.5%	5.7%	5.9%	5.4%
Coal	6	5	5	27	100	196	296	-1.1%	-1.7%	19.2%	14.1%	7.0%	4.2%
of which CCS	0	0	0	0	0	1	35	n.s.	n.s.	n.s.	n.s.	n.s.	49.3%
Oil	8	12	20	79	75	74	97	3.7%	5.5%	14.5%	-0.6%	-0.1%	2.8%
Gas	7	12	29	47	82	157	234	5.3%	8.9%	4.8%	5.7%	6.8%	4.0%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	30.8%
Biomass & Waste	0	1	1	2	12	35	94	3.8%	5.1%	7.2%	17.9%	11.4%	10.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	44	59	90	103	122	142	167	3.1%	4.4%	1.4%	1.7%	1.5%	1.6%
Wind	0	0	0	6	43	127	313	21.8%	11.3%	n.s.	20.8%	11.6%	9.4%
Solar	0	0	0	3	36	114	241	n.s.	39.0%	42.1%	27.3%	12.1%	7.8%
Other	0	0	1	9	15	16	21	2.9%	13.0%	20.1%	4.9%	0.5%	2.9%
Generation Capacity (GW_e)	23	27	41	71	134	252	444	1.6%	4.2%	5.6%	6.5%	6.5%	5.8%
Coal	2	2	2	4	15	28	45	-0.5%	1.4%	7.6%	13.8%	6.3%	4.7%
of which CCS	0	0	0	0	0	0	5	n.s.	n.s.	n.s.	n.s.	n.s.	49.6%
Oil	4	5	8	20	29	36	43	1.2%	5.0%	9.6%	3.9%	2.3%	1.6%
Gas	3	6	11	18	20	32	49	8.2%	6.6%	5.3%	1.2%	4.8%	4.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	31.4%
Biomass & Waste	0	0	0	0	2	5	14	1.0%	7.6%	1.4%	15.4%	10.9%	11.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	15	15	20	23	27	31	37	0.3%	3.0%	1.3%	1.7%	1.5%	1.6%
Wind	0	0	0	3	18	50	113	n.s.	13.2%	n.s.	19.7%	10.8%	8.6%
Solar	0	0	0	2	21	67	140	n.s.	39.0%	42.4%	27.6%	12.2%	7.7%
Other	0	0	0	1	2	2	3	4.1%	12.0%	18.5%	4.9%	1.9%	2.6%
Total Final Consumption² (Mtoe)	174	225	304	379	466	571	704	2.6%	3.1%	2.2%	2.1%	2.1%	2.1%
Coal	3	2	2	5	9	14	19	-2.6%	0.2%	9.0%	6.6%	4.6%	2.9%
Oil	21	29	46	75	106	152	214	3.1%	4.8%	5.0%	3.5%	3.7%	3.5%
Gas	1	2	4	9	22	41	63	5.3%	6.1%	9.7%	9.5%	6.3%	4.5%
Electricity	4	6	10	19	34	61	103	3.3%	5.6%	6.4%	5.8%	6.0%	5.4%
Heat	0	0	0	0	0	1	3	n.s.	n.s.	4.0%	42.2%	21.6%	16.4%
Biomass & Other	144	186	242	271	295	303	303	2.6%	2.7%	1.1%	0.8%	0.3%	0.0%
Share of Renewables ³ (%)	84%	84%	81%	73%	66%	58%	53%	0.0%	-0.3%	-1.1%	-1.0%	-1.2%	-0.9%
Industry (incl. non-energy use)	16	20	31	46	69	98	136	1.7%	4.8%	4.1%	4.0%	3.6%	3.4%
Coal	2	1	1	4	8	13	18	-3.6%	-1.5%	12.5%	8.0%	5.2%	3.2%
Oil	5	4	6	10	14	18	24	-0.4%	3.9%	4.4%	3.5%	2.7%	2.7%
Gas	1	1	4	7	13	21	31	2.3%	9.2%	7.1%	6.4%	5.1%	3.7%
Electricity	2	3	4	8	15	25	41	1.9%	4.2%	7.0%	5.8%	5.6%	5.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	7	10	16	18	19	20	23	3.9%	5.1%	1.1%	0.8%	0.4%	1.3%
Buildings	143	184	239	275	308	333	355	2.6%	2.6%	1.4%	1.1%	0.8%	0.6%
Coal	0	0	0	0	0	0	0	-2.8%	6.2%	1.2%	-1.1%	-2.6%	-5.1%
Oil	3	5	7	10	11	12	14	3.3%	4.0%	3.8%	0.8%	0.9%	1.5%
Gas	0	0	0	2	7	14	22	n.s.	n.s.	n.s.	15.4%	7.1%	4.6%
Electricity	2	3	6	11	18	31	51	4.9%	7.0%	5.9%	5.2%	5.6%	5.3%
Heat	0	0	0	0	0	1	3	n.s.	n.s.	4.0%	42.2%	21.6%	16.4%
Biomass & Other	137	175	225	251	271	276	265	2.5%	2.5%	1.1%	0.8%	0.2%	-0.4%
Agriculture	1	2	2	3	4	4	5	4.7%	1.1%	2.9%	1.3%	1.5%	1.6%
Coal	0	0	0	1	1	0	0	6.1%	1.0%	2.5%	-0.4%	-1.0%	-2.1%
Oil	0	1	1	1	2	2	2	6.4%	0.0%	4.8%	2.3%	1.9%	1.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	3.2%	-0.6%	4.7%	3.7%	4.2%	4.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	1	1	1	1	2	3.2%	2.3%	1.2%	0.4%	1.0%	1.9%
Transport	13	19	32	55	86	136	208	3.8%	5.3%	5.5%	4.6%	4.7%	4.4%
Coal	0	0	0	0	0	0	0	-21.2%	1.4%	2.7%	0.0%	0.0%	0.0%
Oil	13	19	32	54	79	120	174	3.9%	5.3%	5.4%	3.9%	4.2%	3.8%
Gas	0	0	0	0	2	5	10	n.s.	n.s.	n.s.	26.5%	10.5%	7.3%
Electricity	0	0	0	0	1	5	10	n.s.	4.7%	32.7%	41.8%	13.5%	8.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	6	14	n.s.	n.s.	n.s.	22.4%	6.7%	8.2%
Other Energy Transformation & Losses⁴	2	4	6	11	27	45	68	8.1%	4.3%	6.3%	9.7%	5.2%	4.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Iran	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	56	66	74	83	89	91	92	1.6%	1.2%	1.2%	0.6%	0.3%	0.1%
GDP per capita (ppp, k\$'05)	6	7	11	12	17	24	32	2.1%	4.0%	0.6%	3.8%	3.7%	2.7%
GDP per capita (mer, k\$'05)	2	2	3	3	5	7	9	2.1%	3.8%	0.6%	3.8%	3.7%	2.7%
Share Value Added - Agriculture (%)	13	9	7	9	8	7	7	-3.3%	-2.8%	2.4%	-1.3%	-0.9%	-0.5%
Share Value Added - Industry (%)	34	41	41	38	36	33	31	1.9%	0.2%	-0.9%	-0.5%	-0.7%	-0.7%
Share Value Added - Services (%)	54	50	52	54	56	60	62	-0.7%	0.3%	0.3%	0.5%	0.5%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.5%	1.0%	1.0%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	292	456	678	864	1 122	1 118	1 088	4.5%	4.0%	2.5%	2.6%	0.0%	-0.3%
Total GHG (excl. sinks)	293	456	681	866	1 126	1 122	1 097	4.5%	4.1%	2.4%	2.7%	0.0%	-0.2%
Total GHG (energy, industry, agriculture)	293	456	681	866	1 126	1 122	1 097	4.5%	4.1%	2.4%	2.7%	0.0%	-0.2%
CO ₂	214	352	541	710	950	985	955	5.1%	4.4%	2.8%	3.0%	0.4%	-0.3%
CH ₄	57	80	115	124	139	100	104	3.5%	3.8%	0.8%	1.1%	-3.2%	0.4%
N ₂ O	19	23	23	29	34	35	37	1.6%	0.2%	2.3%	1.6%	0.3%	0.5%
F gases	3	2	2	2	3	2	1	-1.5%	-1.6%	2.5%	3.3%	-7.3%	-1.7%
Total GHG from Energy and Industry	260	418	641	814	1 069	1 063	1 036	4.8%	4.4%	2.4%	2.8%	-0.1%	-0.3%
CO₂ Emissions from Fuel Comb.	184	316	485	644	864	891	856	5.6%	4.4%	2.9%	3.0%	0.3%	-0.4%
Power generation/District heating	36	69	131	195	305	349	333	6.8%	6.6%	4.0%	4.6%	1.4%	-0.5%
Industry	38	43	84	132	201	211	217	1.4%	6.9%	4.6%	4.3%	0.5%	0.3%
Buildings	43	92	122	133	142	106	87	8.0%	2.8%	0.9%	0.6%	-2.8%	-2.0%
Agriculture	12	11	14	11	13	14	13	-0.8%	1.8%	-2.0%	1.5%	0.8%	-0.3%
Transport	39	75	101	115	126	130	129	6.6%	3.1%	1.3%	0.9%	0.3%	-0.1%
Other	16	26	34	58	78	81	78	4.9%	2.5%	5.5%	3.1%	0.3%	-0.4%
CO₂ captured (CCS)	0	0	0	0	0	3	44	n.s.	n.s.	n.s.	n.s.	n.s.	32.3%
Coal	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	33.0%
Gas	0	0	0	0	0	2	41	n.s.	n.s.	n.s.	n.s.	n.s.	32.4%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	10.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	187	251	349	435	681	799	871	3.0%	3.4%	2.2%	4.6%	1.6%	0.9%
Coal	0	1	1	1	1	0	0	8.0%	-0.4%	0.2%	-0.9%	-2.0%	-2.2%
Oil	164	200	221	223	263	282	344	2.0%	1.0%	0.1%	1.7%	0.7%	2.0%
Natural gas	22	49	126	207	410	504	505	8.5%	9.9%	5.1%	7.1%	2.1%	0.0%
Biomass	0	0	1	2	3	3	4	-1.8%	16.4%	12.2%	3.9%	2.0%	0.2%
Nuclear ¹	0	0	0	1	2	5	10	n.s.	n.s.	n.s.	3.5%	9.9%	6.2%
Hydro	1	0	1	1	1	2	2	-5.0%	10.1%	5.4%	0.6%	0.8%	0.7%
Other renewables	0	0	0	0	0	2	6	n.s.	17.6%	22.1%	14.1%	16.4%	12.0%
Net Imports	- 117	- 128	- 141	- 148	- 287	- 376	- 432						
Coal	0	1	1	1	2	4	7						
Oil	- 113	- 132	- 138	- 120	- 134	- 161	- 224						
Natural gas	- 4	3	- 4	- 28	- 154	- 220	- 218						
Biomass	0	0	0	- 1	0	2	4						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	- 1	- 1	- 1	- 1						
Primary Energy Demand²	70	123	208	287	394	422	440	5.8%	5.4%	3.3%	3.2%	0.7%	0.4%
Coal	1	1	1	1	2	5	7	10.8%	0.2%	-1.8%	5.8%	7.8%	4.5%
Oil	51	69	83	103	129	121	120	2.9%	1.9%	2.2%	2.3%	-0.7%	0.0%
Natural gas	17	53	122	179	256	283	287	11.7%	8.8%	3.9%	3.7%	1.0%	0.1%
Biomass	0	0	1	1	3	5	8	-1.8%	16.4%	8.6%	6.8%	6.4%	4.4%
Nuclear ¹	0	0	0	1	2	5	10	n.s.	n.s.	n.s.	3.5%	9.9%	6.2%
Hydro	1	0	1	1	1	2	2	-5.0%	10.1%	5.4%	0.6%	0.8%	0.7%
Other renewables	0	0	0	0	0	2	6	n.s.	17.6%	22.1%	14.1%	16.4%	12.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	70	123	208	287	394	422	440	5.8%	5.4%	3.3%	3.2%	0.7%	0.4%
Energy for Power Generation	14	27	52	78	123	152	169	7.2%	6.8%	4.1%	4.6%	2.2%	1.1%
Other Energy Transformation & Losses	6	9	15	23	33	36	40	5.1%	4.5%	4.7%	3.5%	1.1%	0.9%
Final consumption	55	95	157	213	285	299	308	5.6%	5.2%	3.1%	2.9%	0.5%	0.3%
Steel, Non-Met. Minerals and Chem.	1	3	9	14	25	24	23	17.6%	12.1%	4.7%	5.5%	-0.5%	-0.2%
Other Industry	14	16	30	48	70	78	84	1.7%	6.4%	4.9%	3.7%	1.1%	0.7%
Non-Energy Use	6	8	14	26	42	48	53	1.9%	6.0%	6.5%	5.2%	1.3%	0.9%
Residential	13	30	47	59	66	57	49	8.9%	4.6%	2.3%	1.3%	-1.6%	-1.4%
Services	4	9	11	13	19	21	23	7.4%	2.3%	1.5%	3.5%	1.4%	0.7%
Agriculture	4	4	6	7	9	11	13	0.4%	4.0%	1.3%	2.0%	1.9%	1.6%
Road	13	24	40	45	54	60	63	6.3%	5.0%	1.3%	1.7%	1.1%	0.5%
Rail	0	0	0	0	0	0	0	n.s.	36.8%	5.6%	3.1%	2.8%	1.9%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	0	1	0	0	0	0	0	n.s.	-30.1%	4.7%	3.6%	-0.2%	0.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Iran	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	13	27	51	75	119	143	152	7.5%	6.7%	3.9%	4.7%	1.9%	0.6%
Coal	0	0	0	0	1	2	4	22.3%	-3.1%	-6.6%	28.3%	13.4%	6.5%
Oil	6	7	13	23	32	17	15	1.5%	6.1%	5.7%	3.5%	-6.1%	-1.4%
Gas	7	19	38	52	85	123	129	11.2%	7.0%	3.2%	5.0%	3.7%	0.5%
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	9.7%	35.6%	21.9%	10.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	59	121	233	375	627	868	987	7.5%	6.7%	4.9%	5.3%	3.3%	1.3%
Coal	0	0	0	0	3	12	23	22.2%	-3.1%	-2.5%	28.7%	13.7%	6.6%
of which CCS	0	0	0	0	0	0	4	n.s.	n.s.	n.s.	n.s.	n.s.	38.6%
Oil	22	25	46	94	133	73	66	1.5%	6.1%	7.3%	3.6%	-5.8%	-1.1%
Gas	31	92	177	258	460	714	768	11.5%	6.8%	3.8%	6.0%	4.5%	0.7%
of which CCS	0	0	0	0	0	4	98	n.s.	n.s.	n.s.	n.s.	n.s.	39.1%
Biomass & Waste	0	0	0	0	1	5	15	n.s.	n.s.	11.3%	37.9%	22.4%	10.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	6	8	22	40	n.s.	n.s.	n.s.	3.7%	10.2%	6.3%
Hydro	6	4	10	16	17	19	20	-5.0%	10.1%	5.4%	0.6%	0.8%	0.7%
Wind	0	0	0	1	5	20	46	n.s.	16.0%	23.6%	13.8%	15.2%	8.6%
Solar	0	0	0	0	0	2	9	n.s.	n.s.	2.9%	23.0%	24.3%	14.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	21.2%	16.7%
Generation Capacity (GW_e)	18	34	61	85	121	165	192	6.5%	6.2%	3.4%	3.5%	3.2%	1.5%
Coal	0	0	0	0	0	2	3	22.2%	n.s.	n.s.	28.8%	13.7%	6.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	38.5%
Oil	6	8	13	18	24	33	29	3.5%	4.1%	3.8%	2.6%	3.2%	-1.2%
Gas	10	23	40	54	80	104	115	8.6%	5.8%	3.0%	4.1%	2.7%	1.0%
of which CCS	0	0	0	0	0	0	12	n.s.	n.s.	n.s.	n.s.	n.s.	39.2%
Biomass & Waste	0	0	0	0	0	1	2	n.s.	n.s.	-2.6%	38.1%	22.3%	10.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	1	3	6	n.s.	n.s.	n.s.	3.5%	10.0%	6.1%
Hydro	2	2	8	12	12	13	15	0.2%	15.6%	3.2%	0.6%	0.8%	0.7%
Wind	0	0	0	1	2	8	17	n.s.	n.s.	20.8%	12.9%	14.1%	7.9%
Solar	0	0	0	0	0	1	5	n.s.	n.s.	3.0%	22.9%	24.3%	14.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	16.1%
Total Final Consumption² (Mtoe)	55	95	157	213	285	299	308	5.6%	5.2%	3.1%	2.9%	0.5%	0.3%
Coal	0	1	1	1	1	2	2	7.4%	-0.8%	0.5%	3.8%	5.1%	1.5%
Oil	41	56	64	73	89	96	98	3.3%	1.3%	1.2%	2.0%	0.8%	0.2%
Gas	9	29	75	109	145	131	126	12.0%	10.0%	3.8%	2.9%	-1.0%	-0.4%
Electricity	4	8	16	27	45	63	71	6.7%	7.0%	5.3%	5.4%	3.3%	1.3%
Heat	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	31.7%
Biomass & Other	0	0	1	4	5	7	8	-1.8%	16.3%	19.6%	3.4%	2.7%	2.3%
Share of Renewables ³ (%)	1%	1%	1%	1%	2%	3%	6%	-9.6%	6.9%	3.8%	1.8%	6.3%	6.3%
Industry (incl. non-energy use)	21	27	53	88	137	150	160	2.7%	7.0%	5.3%	4.5%	0.9%	0.6%
Coal	0	1	1	1	1	2	2	7.2%	-0.7%	0.5%	3.8%	5.2%	1.5%
Oil	12	12	16	19	33	42	47	0.3%	2.6%	1.9%	5.6%	2.3%	1.2%
Gas	7	11	31	59	88	86	86	4.6%	11.2%	6.8%	4.0%	-0.2%	0.0%
Electricity	1	3	5	9	14	19	23	8.6%	6.7%	5.0%	4.8%	3.1%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	4.7%	5.9%	2.7%
Buildings	17	39	58	72	85	78	72	8.6%	4.1%	2.2%	1.7%	-0.9%	-0.8%
Coal	0	0	0	0	0	0	0	n.s.	-7.3%	-1.0%	-2.3%	-4.4%	-7.0%
Oil	12	15	9	7	7	7	6	3.0%	-5.0%	-2.0%	-0.1%	-1.1%	-0.8%
Gas	3	19	40	47	51	37	29	21.7%	7.9%	1.7%	0.8%	-3.2%	-2.4%
Electricity	3	5	8	14	23	31	32	5.3%	6.5%	5.1%	5.2%	3.1%	0.3%
Heat	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	31.7%
Biomass & Other	0	0	1	3	4	3	3	-1.8%	16.3%	18.4%	1.0%	-1.1%	-0.8%
Agriculture	4	4	6	7	9	11	13	0.4%	4.0%	1.3%	2.0%	1.9%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	4	3	3	4	4	-0.8%	1.1%	-3.0%	1.5%	0.8%	-0.4%
Gas	0	0	0	1	1	1	1	n.s.	n.s.	6.6%	1.5%	1.0%	0.0%
Electricity	0	1	2	4	5	6	8	9.4%	10.2%	5.9%	2.5%	2.8%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Transport	13	25	40	45	54	60	63	6.6%	4.7%	1.4%	1.7%	1.1%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	25	35	43	44	44	41	6.6%	3.4%	2.0%	0.4%	-0.1%	-0.6%
Gas	0	0	5	2	5	7	10	n.s.	n.s.	-7.0%	8.5%	3.6%	2.8%
Electricity	0	0	0	0	3	6	8	n.s.	36.8%	28.6%	25.8%	6.6%	2.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	34.0%	9.6%	4.7%
Other Energy Transformation & Losses⁴	6	9	15	23	33	36	40	5.1%	4.5%	4.7%	3.5%	1.1%	0.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Saudi Arabia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	16	21	28	34	39	43	46	2.7%	2.8%	2.0%	1.3%	1.0%	0.7%
GDP per capita (ppp, k\$'05)	19	19	24	27	31	37	41	0.0%	2.5%	1.1%	1.5%	1.7%	1.1%
GDP per capita (mer, k\$'05)	12	12	15	17	20	23	26	0.0%	2.3%	1.3%	1.5%	1.7%	1.1%
Share Value Added - Agriculture (%)	6	5	2	2	2	2	2	-1.5%	-7.1%	-0.5%	-0.2%	-0.2%	-0.1%
Share Value Added - Industry (%)	49	54	58	46	44	42	40	1.0%	0.8%	-2.4%	-0.4%	-0.5%	-0.4%
Share Value Added - Services (%)	45	41	39	52	54	56	58	-1.0%	-0.5%	2.8%	0.4%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.5%	1.0%	1.0%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	211	316	545	739	798	665	546	4.1%	5.6%	3.1%	0.8%	-1.8%	-2.0%
Total GHG (excl. sinks)	211	316	545	739	799	666	548	4.1%	5.6%	3.1%	0.8%	-1.8%	-1.9%
Total GHG (energy, industry, agriculture)	211	316	545	739	799	666	548	4.1%	5.6%	3.1%	0.8%	-1.8%	-1.9%
CO ₂	171	266	477	641	703	604	490	4.5%	6.0%	3.0%	0.9%	-1.5%	-2.1%
CH ₄	31	43	60	88	85	55	51	3.5%	3.4%	3.8%	-0.3%	-4.3%	-0.7%
N ₂ O	6	6	8	10	10	7	7	0.2%	1.7%	2.4%	0.5%	-4.0%	-0.4%
F gases	2	0	0	1	1	0	0	-26.3%	11.7%	3.9%	1.2%	-3.0%	-21.8%
Total GHG from Energy and Industry	206	311	541	734	793	660	542	4.2%	5.7%	3.1%	0.8%	-1.8%	-2.0%
CO₂ Emissions from Fuel Comb.	156	240	429	570	617	515	399	4.4%	6.0%	2.9%	0.8%	-1.8%	-2.5%
Power generation/District heating	59	104	181	251	254	195	94	5.9%	5.7%	3.4%	0.1%	-2.6%	-7.1%
Industry	28	53	112	146	167	150	144	6.5%	7.8%	2.7%	1.4%	-1.1%	-0.4%
Buildings	3	4	5	8	13	12	11	3.0%	2.8%	4.0%	5.3%	-0.7%	-1.1%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	49	61	106	142	156	133	126	2.1%	5.8%	2.9%	0.9%	-1.6%	-0.5%
Other	17	19	25	24	27	25	25	1.2%	2.6%	-0.5%	1.3%	-0.5%	-0.2%
CO₂ captured (CCS)	0	0	0	0	0	13	78	n.s.	n.s.	n.s.	n.s.	n.s.	19.3%
Coal	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	14.7%
Gas	0	0	0	0	0	11	33	n.s.	n.s.	n.s.	n.s.	n.s.	11.9%
Biomass	0	0	0	0	0	2	41	n.s.	n.s.	n.s.	n.s.	n.s.	37.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	380	491	559	787	891	1 005	1 081	2.6%	1.3%	3.5%	1.2%	1.2%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	352	450	486	688	709	752	807	2.5%	0.8%	3.5%	0.3%	0.6%	0.7%
Natural gas	28	41	72	98	180	246	263	3.9%	5.8%	3.1%	6.3%	3.2%	0.7%
Biomass	0	0	0	1	1	2	3	-9.3%	2.9%	n.s.	3.0%	6.2%	3.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.5%
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	1	2	5	8	n.s.	n.s.	n.s.	13.8%	8.8%	5.4%
Net Imports	- 318	- 393	- 373	- 553	- 628	- 765	- 844						
Coal	0	0	0	0	1	4	5						
Oil	- 309	- 383	- 361	- 544	- 570	- 651	- 716						
Natural gas	- 8	- 10	- 13	- 9	- 60	- 121	- 148						
Biomass	0	0	0	0	0	3	15						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	62	98	186	234	263	240	237	4.6%	6.6%	2.4%	1.2%	-0.9%	-0.1%
Coal	0	0	0	0	1	4	5	n.s.	n.s.	n.s.	15.9%	10.6%	2.2%
Oil	43	67	126	144	139	101	90	4.6%	6.5%	1.4%	-0.4%	-3.1%	-1.1%
Natural gas	19	31	60	88	120	125	115	4.7%	6.9%	4.0%	3.1%	0.4%	-0.8%
Biomass	0	0	0	1	1	5	18	-9.5%	2.9%	n.s.	5.8%	15.4%	14.1%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.5%
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	1	2	5	8	n.s.	n.s.	n.s.	13.8%	8.8%	5.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	62	98	186	234	263	240	237	4.6%	6.6%	2.4%	1.2%	-0.9%	-0.1%
Energy for Power Generation	22	37	65	92	98	90	89	5.6%	5.7%	3.6%	0.6%	-0.8%	-0.1%
Other Energy Transformation & Losses	6	5	17	4	6	6	8	-0.4%	12.3%	-13.7%	3.3%	1.3%	1.9%
Final consumption	39	64	121	164	191	178	179	4.9%	6.6%	3.1%	1.6%	-0.7%	0.0%
Steel, Non-Met. Minerals and Chem.	0	0	1	2	3	3	3	n.s.	n.s.	5.6%	2.0%	0.7%	0.1%
Other Industry	11	20	42	56	66	60	60	6.3%	7.7%	2.9%	1.6%	-0.9%	0.0%
Non-Energy Use	7	14	25	34	40	37	37	7.1%	5.7%	3.0%	1.6%	-0.6%	-0.1%
Residential	3	6	11	15	18	17	18	5.9%	6.1%	3.5%	1.4%	-0.2%	0.2%
Services	1	2	5	8	10	11	11	5.3%	8.2%	4.2%	2.4%	0.4%	0.5%
Agriculture	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Road	16	20	35	46	53	48	48	2.2%	5.8%	3.0%	1.3%	-1.0%	0.0%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	1	1	1	1	1	1	1	2.0%	0.5%	2.9%	0.0%	-4.6%	-0.9%
Other Transport	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Saudi Arabia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	22	37	65	92	96	85	81	5.6%	5.7%	3.5%	0.4%	-1.2%	-0.5%
Coal	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	23.4%	10.5%	2.4%
Oil	9	19	35	44	37	16	14	7.7%	6.0%	2.4%	-1.8%	-8.3%	-0.7%
Gas	12	18	30	47	58	64	48	3.7%	5.3%	4.6%	2.0%	1.0%	-2.8%
Biomass & Waste	0	0	0	0	0	0	3	16	n.s.	n.s.	n.s.	9.8%	28.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	69	126	240	364	427	449	474	6.2%	6.6%	4.2%	1.6%	0.5%	0.5%
Coal	0	0	0	0	4	11	13	n.s.	n.s.	n.s.	23.7%	10.8%	2.3%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	14.4%
Oil	34	68	129	180	151	69	64	7.2%	6.6%	3.3%	-1.7%	-7.5%	-0.7%
Gas	35	58	111	176	245	306	240	5.1%	6.7%	4.8%	3.4%	2.2%	-2.4%
of which CCS	0	0	0	0	0	28	85	n.s.	n.s.	n.s.	n.s.	n.s.	11.8%
Biomass & Waste	0	0	0	0	1	17	80	n.s.	n.s.	n.s.	10.8%	29.8%	17.0%
of which CCS	0	0	0	0	0	3	63	n.s.	n.s.	n.s.	n.s.	n.s.	37.5%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	7	23	29	33	n.s.	n.s.	n.s.	13.2%	2.5%	1.2%
Solar	0	0	0	0	2	18	44	n.s.	n.s.	n.s.	23.3%	23.1%	9.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	29.5%	16.2%
Generation Capacity (GW_e)	24	31	60	93	94	106	117	2.6%	6.8%	4.5%	0.1%	1.3%	0.9%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	23.8%	10.9%	2.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Oil	13	18	33	50	41	34	32	3.2%	6.4%	4.4%	-2.1%	-1.9%	-0.6%
Gas	11	13	27	40	41	46	33	1.9%	7.2%	3.9%	0.4%	1.2%	-3.2%
of which CCS	0	0	0	0	0	4	11	n.s.	n.s.	n.s.	n.s.	n.s.	11.7%
Biomass & Waste	0	0	0	0	0	2	11	n.s.	n.s.	n.s.	10.8%	29.9%	16.6%
of which CCS	0	0	0	0	0	0	8	n.s.	n.s.	n.s.	n.s.	n.s.	37.3%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	3	10	12	13	n.s.	n.s.	n.s.	12.8%	2.2%	0.9%
Solar	0	0	0	0	1	11	26	n.s.	n.s.	n.s.	23.5%	23.2%	9.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	15.7%
Total Final Consumption² (Mtoe)	39	64	121	164	191	178	179	4.9%	6.6%	3.1%	1.6%	-0.7%	0.0%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	10.4%	9.2%	1.3%
Oil	29	43	76	99	101	86	77	4.3%	5.7%	2.7%	0.2%	-1.6%	-1.1%
Gas	6	12	27	38	58	55	61	6.4%	9.0%	3.3%	4.3%	-0.4%	0.9%
Electricity	5	9	17	26	30	32	34	6.1%	7.4%	4.0%	1.6%	0.6%	0.6%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	7.1%
Biomass & Other	0	0	0	0	1	2	3	-9.6%	2.9%	55.4%	6.5%	6.1%	6.0%
Share of Renewables ³ (%)	0%	0%	0%	1%	2%	6%	14%	n.s.	n.s.	n.s.	9.2%	11.6%	9.2%
Industry (incl. non-energy use)	18	34	69	93	109	101	100	6.6%	7.2%	3.0%	1.6%	-0.8%	0.0%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	10.4%	9.2%	1.3%
Oil	11	22	39	51	50	44	38	6.9%	6.0%	2.6%	-0.1%	-1.3%	-1.4%
Gas	6	12	27	37	52	49	53	6.4%	9.0%	3.0%	3.5%	-0.6%	0.8%
Electricity	1	1	2	5	6	7	7	4.2%	8.7%	6.7%	2.5%	0.9%	0.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	0.1%	1.1%	6.9%
Buildings	5	8	16	23	28	28	29	5.7%	6.8%	3.7%	1.7%	0.0%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	1	1	3.0%	2.8%	1.5%	-1.2%	-1.8%	-2.4%
Gas	0	0	0	1	3	3	3	n.s.	n.s.	n.s.	16.2%	0.1%	-0.4%
Electricity	4	7	15	21	23	22	22	6.3%	7.3%	3.5%	0.9%	-0.3%	0.2%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	7.1%
Biomass & Other	0	0	0	0	0	0	0	-9.6%	2.9%	33.9%	9.8%	1.6%	1.7%
Agriculture	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	16	20	35	47	54	48	49	2.2%	5.6%	3.0%	1.3%	-1.0%	0.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	16	20	35	47	50	41	38	2.2%	5.6%	2.9%	0.6%	-1.9%	-0.8%
Gas	0	0	0	0	3	3	5	n.s.	n.s.	n.s.	24.6%	3.2%	3.0%
Electricity	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	31.8%	8.8%	3.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	41.4%	13.3%	6.9%
Other Energy Transformation & Losses⁴	6	5	17	4	6	6	8	-0.4%	12.3%	-13.7%	3.3%	1.3%	1.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Turkey	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	54	63	72	82	88	93	96	1.6%	1.3%	1.3%	0.6%	0.6%	0.3%
GDP per capita (ppp, k\$'05)	8	10	13	16	21	26	31	2.0%	2.5%	2.4%	2.8%	2.2%	1.6%
GDP per capita (mer, k\$'05)	5	6	8	10	13	16	19	2.0%	2.5%	2.5%	2.8%	2.2%	1.6%
Share Value Added - Agriculture (%)	18	11	9	8	8	7	7	-4.6%	-1.8%	-1.3%	-0.7%	-0.5%	-0.3%
Share Value Added - Industry (%)	32	31	26	26	25	24	23	-0.3%	-1.7%	-0.1%	-0.5%	-0.5%	-0.4%
Share Value Added - Services (%)	50	57	64	66	68	69	70	1.4%	1.1%	0.2%	0.3%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	18	-3.4%	3.6%	-2.8%	0.9%	1.0%	1.1%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	18	21	30	46	51	60	73	1.4%	3.8%	4.4%	1.0%	1.6%	2.0%
GHG emissions (Mt CO₂ eq.)													
Total GHG	137	238	309	421	532	522	407	5.6%	2.6%	3.1%	2.4%	-0.2%	-2.5%
Total GHG (excl. sinks)	181	288	367	464	571	593	504	4.7%	2.4%	2.4%	2.1%	0.4%	-1.6%
Total GHG (energy, industry, agriculture)	181	288	367	464	567	593	504	4.7%	2.4%	2.4%	2.0%	0.4%	-1.6%
CO ₂	135	216	291	375	472	519	445	4.8%	3.0%	2.6%	2.3%	1.0%	-1.5%
CH ₄	34	53	57	65	68	52	40	4.7%	0.7%	1.3%	0.5%	-2.7%	-2.5%
N ₂ O	12	17	14	17	19	18	17	3.4%	-1.9%	1.6%	1.3%	-0.7%	-0.2%
F gases	1	2	5	7	8	4	1	10.6%	11.4%	4.3%	0.6%	-5.7%	-10.9%
Total GHG from Energy and Industry	151	260	340	429	528	557	469	5.6%	2.7%	2.3%	2.1%	0.5%	-1.7%
CO₂ Emissions from Fuel Comb.	118	195	254	328	415	456	379	5.1%	2.7%	2.6%	2.4%	0.9%	-1.8%
Power generation/District heating	31	68	96	116	179	207	164	8.1%	3.6%	1.9%	4.5%	1.4%	-2.3%
Industry	28	52	44	41	45	52	46	6.5%	-1.7%	-0.7%	0.9%	1.5%	-1.3%
Buildings	23	27	49	48	45	42	30	1.6%	6.2%	-0.1%	-0.6%	-0.7%	-3.5%
Agriculture	6	8	14	14	16	17	14	3.4%	5.4%	-0.2%	1.4%	0.4%	-2.0%
Transport	26	34	43	79	88	90	86	2.6%	2.3%	6.3%	1.0%	0.3%	-0.4%
Other	4	6	8	30	42	48	39	3.2%	3.3%	13.9%	3.6%	1.2%	-1.9%
CO₂ captured (CCS)	0	0	0	0	0	2	20	n.s.	n.s.	n.s.	n.s.	n.s.	24.2%
Coal	0	0	0	0	0	2	15	n.s.	n.s.	n.s.	n.s.	n.s.	22.0%
Gas	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	35.4%
Biomass	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	41.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	23	26	31	51	73	93	111	1.0%	2.0%	4.9%	3.6%	2.5%	1.9%
Coal	10	13	18	15	18	17	14	2.4%	3.3%	-1.8%	1.7%	-0.4%	-2.1%
Oil	4	3	2	3	5	6	7	-2.9%	-1.0%	1.6%	4.6%	3.0%	2.0%
Natural gas	0	1	1	1	2	4	6	11.6%	0.7%	3.3%	8.0%	7.8%	5.1%
Biomass	7	7	5	15	20	25	29	-1.0%	-3.5%	12.9%	2.7%	2.0%	1.8%
Nuclear ¹	0	0	0	0	0	3	8	n.s.	n.s.	n.s.	27.8%	19.6%	11.0%
Hydro	2	3	4	7	8	9	10	2.9%	5.3%	4.2%	1.9%	1.1%	0.7%
Other renewables	0	0	1	10	20	30	38	13.1%	14.3%	22.9%	7.2%	4.1%	2.5%
Net Imports	26	50	73	85	104	117	103						
Coal	4	10	14	21	38	44	34						
Oil	19	28	28	35	36	35	30						
Natural gas	3	12	31	36	37	43	43						
Biomass	0	0	0	-8	-7	-7	-5						
Biofuels	0	0	0	0	0	1	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	50	76	104	135	176	210	214	4.4%	3.2%	2.7%	2.7%	1.7%	0.2%
Coal	15	23	32	36	55	61	48	4.6%	3.5%	1.2%	4.3%	1.0%	-2.4%
Oil	23	31	30	38	41	42	37	3.0%	-0.3%	2.3%	0.7%	0.2%	-1.1%
Natural gas	3	13	31	37	39	47	49	16.0%	9.5%	1.5%	0.6%	1.9%	0.4%
Biomass	7	7	5	7	13	18	25	-1.0%	-3.5%	5.0%	5.5%	3.5%	3.2%
Nuclear ¹	0	0	0	0	0	3	8	n.s.	n.s.	n.s.	27.8%	19.6%	11.0%
Hydro	2	3	4	7	8	9	10	2.9%	5.3%	4.2%	1.9%	1.1%	0.7%
Other renewables	0	0	1	10	20	30	38	13.1%	14.3%	22.9%	7.2%	4.1%	2.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	50	76	104	135	176	210	214	4.4%	3.2%	2.7%	2.7%	1.7%	0.2%
Energy for Power Generation	11	24	37	54	85	108	118	7.9%	4.6%	3.8%	4.6%	2.5%	0.9%
Other Energy Transformation & Losses	2	3	4	8	12	15	15	5.4%	3.5%	6.4%	4.0%	2.6%	0.1%
Final consumption	41	59	80	99	117	138	143	3.7%	3.1%	2.2%	1.7%	1.6%	0.4%
Steel, Non-Met. Minerals and Chem.	5	6	9	14	17	22	23	2.1%	4.6%	3.8%	2.1%	3.0%	0.5%
Other Industry	7	15	15	15	18	22	23	8.1%	0.3%	-0.1%	1.9%	1.8%	0.6%
Non-Energy Use	3	4	7	8	10	11	12	2.3%	7.3%	1.2%	1.7%	1.6%	0.3%
Residential	15	18	23	22	23	26	25	1.8%	2.7%	-0.4%	0.6%	1.0%	-0.3%
Services	1	2	6	12	15	17	18	13.4%	9.7%	7.4%	2.1%	1.6%	0.4%
Agriculture	2	3	5	5	6	6	7	4.1%	5.5%	-0.1%	1.4%	1.2%	0.8%
Road	8	11	13	22	27	31	32	2.3%	2.4%	5.2%	2.0%	1.2%	0.4%
Rail	0	0	0	0	0	0	0	0.4%	-3.6%	2.5%	1.2%	0.9%	0.5%
Aviation	0	1	0	1	1	1	1	9.5%	-5.7%	3.7%	4.4%	2.9%	1.7%
Other Transport	0	0	1	1	1	1	1	-2.6%	11.9%	2.9%	2.9%	1.3%	-0.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Turkey	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	21	32	37	56	66	63	8.7%	4.3%	1.7%	4.2%	1.7%	-0.5%
Coal	6	11	14	19	34	37	29	6.4%	2.6%	3.3%	5.9%	1.0%	-2.6%
Oil	1	3	1	1	1	2	2	8.9%	-14.3%	0.5%	4.4%	7.9%	-1.1%
Gas	2	7	17	16	18	23	25	13.3%	8.7%	-0.4%	1.1%	2.3%	0.9%
Biomass & Waste	0	0	0	1	2	3	6	n.s.	7.3%	21.3%	10.6%	3.7%	7.0%
Other	0	0	0	0	1	1	1	-0.5%	24.3%	23.8%	8.9%	1.0%	-0.6%
Gross Elec. Generation (TWh_e)	58	125	211	301	438	602	719	8.1%	5.4%	3.6%	3.8%	3.2%	1.8%
Coal	20	38	55	76	138	159	126	6.6%	3.7%	3.3%	6.1%	1.4%	-2.3%
of which CCS	0	0	0	0	0	1	13	n.s.	n.s.	n.s.	n.s.	n.s.	33.2%
Oil	4	9	2	3	4	9	8	9.0%	-13.5%	1.9%	4.5%	8.0%	-0.9%
Gas	10	46	98	99	107	131	146	16.3%	7.8%	0.1%	0.8%	2.0%	1.1%
of which CCS	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	n.s.	42.0%
Biomass & Waste	0	0	0	3	9	15	31	n.s.	7.6%	21.8%	10.8%	4.8%	7.7%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	2	11	31	n.s.	n.s.	n.s.	29.4%	19.6%	11.1%
Hydro	23	31	52	78	94	104	112	2.9%	5.3%	4.2%	1.9%	1.1%	0.7%
Wind	0	0	3	32	51	111	167	n.s.	56.5%	27.1%	4.8%	8.0%	4.2%
Solar	0	0	0	4	19	48	83	n.s.	n.s.	n.s.	16.5%	9.7%	5.6%
Other	0	0	1	6	13	15	16	-0.5%	24.3%	23.7%	8.9%	1.3%	0.3%
Generation Capacity (GW_e)	17	27	49	102	140	206	256	5.0%	6.1%	7.6%	3.2%	3.9%	2.2%
Coal	6	7	12	17	24	28	27	2.9%	5.1%	3.5%	3.4%	1.8%	-0.4%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	33.1%
Oil	2	2	2	1	2	2	3	-2.7%	-0.4%	-2.0%	1.9%	4.5%	1.0%
Gas	2	7	18	31	37	49	50	12.3%	10.0%	5.6%	1.7%	2.8%	0.1%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	43.0%
Biomass & Waste	0	0	0	1	1	2	4	n.s.	11.5%	21.7%	5.5%	4.3%	7.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	29.1%	19.4%	10.8%
Hydro	7	11	16	34	40	44	47	5.1%	3.5%	7.9%	1.6%	1.0%	0.7%
Wind	0	0	1	14	23	45	64	n.s.	53.0%	26.9%	4.6%	7.1%	3.4%
Solar	0	0	0	3	12	31	54	n.s.	n.s.	n.s.	16.8%	9.9%	5.7%
Other	0	0	0	1	2	2	2	0.0%	20.2%	22.2%	8.9%	2.7%	0.8%
Total Final Consumption² (Mtoe)	41	59	80	99	117	138	143	3.7%	3.1%	2.2%	1.7%	1.6%	0.4%
Coal	8	12	17	12	13	14	10	3.5%	3.3%	-3.5%	1.1%	0.6%	-3.2%
Oil	20	26	28	37	39	39	35	2.5%	0.8%	2.7%	0.6%	0.0%	-1.0%
Gas	1	5	13	19	19	22	21	21.0%	10.3%	3.8%	0.2%	1.5%	-0.3%
Electricity	4	8	15	21	31	43	51	7.9%	5.9%	3.7%	3.9%	3.3%	1.8%
Heat	0	1	3	4	5	6	7	12.4%	9.2%	3.6%	1.2%	1.7%	1.8%
Biomass & Other	7	6	4	6	10	15	18	-1.1%	-3.7%	3.8%	4.6%	3.6%	2.4%
Share of Renewables ³ (%)	24%	16%	13%	19%	26%	34%	44%	-3.7%	-2.4%	4.3%	3.0%	2.6%	2.7%
Industry (incl. non-energy use)	15	24	32	37	45	55	58	5.3%	2.7%	1.4%	2.0%	2.2%	0.5%
Coal	5	10	9	6	8	10	9	6.5%	-0.8%	-3.6%	2.5%	2.5%	-1.7%
Oil	6	8	8	9	9	8	7	2.9%	-0.2%	0.8%	0.1%	-0.4%	-1.3%
Gas	1	2	7	8	8	9	8	10.1%	14.0%	2.7%	-0.6%	0.7%	-0.3%
Electricity	2	4	7	10	15	21	25	5.4%	5.3%	4.2%	3.9%	3.7%	1.9%
Heat	0	0	1	2	2	2	2	50.7%	10.9%	4.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	1	3	5	6	n.s.	n.s.	n.s.	11.0%	5.4%	2.7%
Buildings	15	20	29	34	38	43	43	2.6%	3.7%	1.7%	1.1%	1.3%	0.0%
Coal	3	2	7	5	5	3	1	-4.5%	13.9%	-3.3%	-0.8%	-3.5%	-9.8%
Oil	3	4	1	1	1	1	1	1.4%	-8.7%	-1.7%	0.8%	0.8%	-0.6%
Gas	0	3	6	10	9	10	9	50.4%	7.5%	4.5%	-0.6%	1.0%	-1.6%
Electricity	1	4	7	10	14	17	20	10.7%	6.5%	3.3%	2.9%	2.4%	1.4%
Heat	0	1	2	2	3	4	5	7.4%	8.0%	3.0%	2.2%	2.9%	2.7%
Biomass & Other	7	6	4	5	6	7	7	-1.1%	-3.7%	1.1%	1.7%	1.1%	0.2%
Agriculture	2	3	5	5	6	6	7	4.1%	5.5%	-0.1%	1.4%	1.2%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	28.0%	0.0%	-1.2%	-4.3%
Oil	2	3	4	4	5	5	4	3.4%	5.3%	-0.3%	1.4%	0.4%	-2.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	13.0%	1.2%	0.4%	-1.3%
Electricity	0	0	0	0	1	1	1	18.2%	6.2%	0.3%	1.7%	2.9%	4.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	15.9%
Transport	9	12	14	24	29	33	35	2.4%	2.1%	5.1%	2.1%	1.3%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	12	14	23	24	24	22	2.4%	2.1%	4.7%	0.7%	-0.1%	-0.8%
Gas	0	0	0	0	2	3	4	n.s.	36.7%	16.8%	19.2%	6.4%	3.3%
Electricity	0	0	0	0	2	3	4	8.3%	-6.5%	22.3%	22.3%	5.9%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	1	3	4	n.s.	n.s.	54.5%	10.7%	6.7%	3.6%
Other Energy Transformation & Losses⁴	2	3	4	8	12	15	15	5.4%	3.5%	6.4%	4.0%	2.6%	0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Mediterranean Middle East	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	27	36	46	54	65	73	80	2.9%	2.5%	1.6%	1.9%	1.2%	1.0%
GDP per capita (ppp, k\$'05)	5	7	8	10	12	15	20	2.7%	1.5%	1.8%	2.0%	2.5%	2.4%
GDP per capita (mer, k\$'05)	3	5	5	6	7	9	12	4.0%	-0.1%	1.8%	2.0%	2.5%	2.4%
Share Value Added - Agriculture (%)	6	4	1	1	1	1	1	-4.3%	-11.8%	1.3%	-0.9%	-0.9%	-0.7%
Share Value Added - Industry (%)	6	8	5	6	6	6	5	3.1%	-4.2%	1.5%	-0.2%	-0.3%	-0.4%
Share Value Added - Services (%)	89	88	94	93	93	93	94	0.0%	0.6%	-0.1%	0.0%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.5%	1.0%	1.0%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	110	166	197	195	220	250	277	4.2%	1.7%	-0.1%	1.2%	1.3%	1.0%
Total GHG (excl. sinks)	110	167	198	196	222	252	279	4.3%	1.7%	-0.1%	1.2%	1.3%	1.0%
Total GHG (energy, industry, agriculture)	110	167	198	196	222	252	279	4.3%	1.7%	-0.1%	1.2%	1.3%	1.0%
CO ₂	90	140	168	176	201	227	251	4.6%	1.8%	0.5%	1.3%	1.2%	1.0%
CH ₄	12	17	19	12	14	19	23	4.0%	0.8%	-4.3%	1.2%	3.0%	2.0%
N ₂ O	7	7	8	4	3	4	4	0.6%	1.2%	-7.7%	-0.7%	0.7%	0.4%
F gases	1	1	3	4	4	2	1	3.4%	6.6%	4.5%	-1.3%	-4.2%	-8.6%
Total GHG from Energy and Industry	101	157	187	194	219	249	275	4.5%	1.7%	0.4%	1.2%	1.3%	1.0%
CO₂ Emissions from Fuel Comb.	81	127	158	164	185	207	228	4.6%	2.2%	0.3%	1.2%	1.1%	1.0%
Power generation/District heating	29	59	88	95	108	119	127	7.3%	4.1%	0.7%	1.3%	1.0%	0.7%
Industry	8	10	13	14	17	20	25	2.4%	2.3%	0.6%	2.1%	1.8%	2.2%
Buildings	14	17	18	14	13	13	14	2.1%	0.9%	-3.0%	-0.5%	0.4%	0.8%
Agriculture	1	1	2	1	1	1	1	4.0%	2.5%	-3.2%	0.7%	-0.1%	-0.2%
Transport	21	31	31	34	38	43	48	4.0%	0.1%	1.0%	1.0%	1.3%	0.9%
Other	9	8	6	6	9	11	13	-0.2%	-3.9%	1.2%	2.9%	2.4%	1.6%
CO₂ captured (CCS)	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	22.3%	13.0%
Coal	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	n.s.	23.4%	12.8%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	27.9%	14.9%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	0.9%	10.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	22	33	31	11	20	31	48	4.0%	-0.6%	-9.7%	5.8%	4.5%	4.7%
Coal	0	0	0	0	0	0	0	5.4%	0.1%	n.s.	n.s.	n.s.	n.s.
Oil	20	27	20	0	0	1	5	3.1%	-3.1%	-50.6%	19.3%	28.3%	15.9%
Natural gas	1	4	9	9	14	19	25	12.2%	7.8%	-0.6%	4.4%	3.3%	2.6%
Biomass	0	0	0	0	1	1	1	3.0%	1.3%	8.8%	6.2%	0.9%	0.6%
Nuclear ¹	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	31.3%	15.4%	10.1%
Hydro	0	0	0	0	0	0	0	1.5%	-0.6%	0.2%	0.9%	0.5%	0.2%
Other renewables	0	1	1	2	4	8	12	4.8%	6.7%	2.4%	10.6%	5.4%	5.1%
Net Imports	5	10	27	47	52	59	63						
Coal	2	7	8	11	14	19	23						
Oil	2	3	15	35	32	25	21						
Natural gas	0	0	5	1	5	12	11						
Biomass	0	0	0	0	1	3	7						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	27	43	58	58	72	89	111	4.8%	3.0%	0.0%	2.1%	2.2%	2.2%
Coal	2	7	8	11	14	19	23	11.2%	1.4%	4.3%	2.0%	3.0%	1.9%
Oil	23	31	35	35	32	26	26	3.2%	1.1%	0.1%	-0.8%	-2.2%	0.2%
Natural gas	1	5	15	10	19	31	36	12.4%	11.8%	-4.0%	6.9%	5.0%	1.5%
Biomass	0	0	0	0	1	4	8	2.9%	1.3%	12.4%	11.6%	9.5%	8.4%
Nuclear ¹	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	31.3%	15.4%	10.1%
Hydro	0	0	0	0	0	0	0	1.5%	-0.6%	0.2%	0.9%	0.5%	0.2%
Other renewables	0	1	1	2	4	8	12	4.8%	6.7%	2.4%	10.6%	5.4%	5.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	27	43	58	58	72	89	111	4.8%	3.0%	0.0%	2.1%	2.2%	2.2%
Energy for Power Generation	9	19	31	31	39	49	63	7.0%	5.2%	0.0%	2.5%	2.3%	2.5%
Other Energy Transformation & Losses	3	2	1	2	3	5	8	-1.6%	-5.0%	3.9%	5.5%	4.7%	3.4%
Final consumption	18	29	37	37	46	58	73	4.9%	2.4%	0.0%	2.2%	2.3%	2.3%
Steel, Non-Met. Minerals and Chem.	0	1	2	1	2	2	2	17.8%	2.5%	-1.8%	1.7%	1.5%	2.3%
Other Industry	3	4	5	5	7	9	13	2.1%	2.7%	0.6%	2.8%	2.9%	3.2%
Non-Energy Use	1	4	3	3	4	4	5	11.9%	-1.9%	-1.6%	2.2%	2.0%	2.1%
Residential	3	6	8	7	9	10	13	6.2%	3.3%	-1.0%	1.6%	1.9%	2.0%
Services	3	4	6	5	7	9	12	1.7%	3.3%	-0.3%	2.7%	2.7%	2.8%
Agriculture	0	1	1	1	1	1	1	4.6%	2.7%	-0.9%	2.0%	1.9%	1.8%
Road	6	9	12	14	17	21	25	3.7%	3.1%	1.2%	2.1%	2.3%	1.9%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	32.7%	-12.2%	-2.4%	4.0%	3.9%	3.2%
Other Transport	0	0	0	0	0	0	0	n.s.	5.8%	-2.2%	2.6%	2.1%	1.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Mediterranean Middle East	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	18	29	29	34	40	46	7.3%	5.2%	-0.2%	1.7%	1.5%	1.5%
Coal	2	6	7	11	13	17	19	10.6%	1.7%	3.7%	1.8%	2.7%	1.5%
Oil	6	9	9	12	10	4	4	4.5%	0.3%	2.4%	-1.5%	-8.8%	0.7%
Gas	1	2	13	6	11	17	17	13.8%	18.1%	-6.7%	5.4%	4.9%	0.2%
Biomass & Waste	0	0	0	0	0	2	5	n.s.	n.s.	9.6%	25.3%	13.8%	10.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	38	85	136	137	183	256	359	8.5%	4.8%	0.1%	3.0%	3.4%	3.5%
Coal	10	29	34	49	59	78	93	10.9%	1.6%	3.6%	1.9%	2.9%	1.8%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	24.9%
Oil	21	42	39	50	43	18	19	7.0%	-0.8%	2.7%	-1.5%	-8.5%	0.8%
Gas	3	10	59	30	53	92	101	13.6%	19.3%	-6.5%	5.8%	5.6%	1.0%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	17.5%
Biomass & Waste	0	0	0	0	2	8	24	n.s.	n.s.	11.5%	26.5%	14.5%	11.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	2	8	20	n.s.	n.s.	n.s.	31.5%	15.5%	10.2%
Hydro	3	4	4	4	4	4	4	1.5%	-0.6%	0.2%	0.9%	0.5%	0.2%
Wind	0	0	0	0	6	22	53	11.6%	13.9%	44.1%	29.2%	14.8%	9.1%
Solar	0	0	0	3	15	26	45	n.s.	n.s.	37.7%	17.2%	6.1%	5.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	30.1%	16.1%	12.5%
Generation Capacity (GW_e)	11	20	27	38	49	62	91	6.4%	2.8%	3.3%	2.7%	2.4%	3.9%
Coal	2	4	5	7	10	12	14	7.8%	1.2%	4.1%	3.7%	1.7%	1.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	24.9%
Oil	7	9	6	7	6	5	5	2.9%	-4.3%	1.5%	-0.9%	-2.1%	0.7%
Gas	1	5	15	19	18	16	17	19.5%	11.5%	2.9%	-0.8%	-1.2%	0.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	17.8%
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	7.5%	26.5%	14.4%	11.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	31.2%	15.3%	10.0%
Hydro	1	2	2	2	2	2	2	4.6%	-2.0%	-0.4%	0.9%	0.5%	0.2%
Wind	0	0	0	0	2	9	19	n.s.	18.1%	38.8%	28.0%	14.0%	8.5%
Solar	0	0	0	2	10	16	27	n.s.	n.s.	40.9%	16.2%	5.3%	4.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.6%	12.0%
Total Final Consumption² (Mtoe)	18	29	37	37	46	58	73	4.9%	2.4%	0.0%	2.2%	2.3%	2.3%
Coal	0	0	0	1	1	2	2	30.2%	-0.1%	17.7%	4.0%	3.8%	4.1%
Oil	14	20	24	22	21	21	21	3.5%	1.9%	-0.9%	-0.4%	-0.1%	0.1%
Gas	1	2	2	3	7	11	15	11.5%	-2.5%	3.8%	9.7%	5.2%	3.2%
Electricity	3	6	9	10	13	19	26	8.4%	4.8%	0.3%	3.1%	3.5%	3.5%
Heat	0	1	1	1	3	3	4	4.8%	6.6%	0.5%	7.3%	2.2%	1.6%
Biomass & Other	0	0	0	0	1	2	4	2.9%	-0.1%	11.4%	9.7%	8.2%	5.8%
Share of Renewables ³ (%)	4%	4%	5%	6%	13%	20%	29%	-0.7%	1.4%	3.0%	7.9%	4.3%	3.6%
Industry (incl. non-energy use)	5	9	10	10	12	16	21	6.9%	0.9%	-0.5%	2.5%	2.5%	2.8%
Coal	0	0	0	1	1	2	2	30.2%	-0.1%	17.7%	4.0%	3.8%	4.1%
Oil	4	5	6	5	5	5	5	2.7%	1.1%	-1.6%	0.5%	0.2%	0.6%
Gas	0	2	2	2	3	4	6	55.4%	-2.5%	-0.6%	5.6%	3.7%	3.1%
Electricity	1	2	3	2	3	5	7	7.3%	3.7%	-0.7%	2.8%	3.5%	4.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	16.2%	10.0%	7.1%
Buildings	7	10	14	13	16	20	25	4.1%	3.3%	-0.7%	2.1%	2.3%	2.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	5	6	4	3	2	2	3.5%	0.9%	-4.1%	-3.2%	-2.7%	-1.5%
Gas	1	0	0	1	2	3	4	n.s.	n.s.	n.s.	11.2%	5.1%	2.7%
Electricity	2	4	7	7	8	11	14	9.1%	5.4%	0.4%	1.9%	2.7%	3.0%
Heat	0	1	1	1	3	3	4	4.8%	6.6%	0.5%	7.3%	2.2%	1.6%
Biomass & Other	0	0	0	0	0	1	1	2.9%	-0.1%	7.3%	4.1%	6.7%	4.6%
Agriculture	0	1	1	1	1	1	1	4.6%	2.7%	-0.9%	2.0%	1.9%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	0	0	0	0	4.0%	2.5%	-3.2%	0.7%	-0.1%	-0.2%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	1	1	1	5.8%	3.0%	2.5%	2.7%	2.8%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.7%	5.1%
Transport	6	9	12	14	17	21	25	4.0%	2.8%	1.2%	2.1%	2.3%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	9	12	13	13	13	14	4.0%	2.8%	0.8%	0.0%	0.3%	0.1%
Gas	0	0	0	0	2	4	5	n.s.	n.s.	n.s.	19.8%	7.2%	3.8%
Electricity	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	27.4%	7.6%	4.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	16.6%	8.8%	6.2%
Other Energy Transformation & Losses⁴	3	2	1	2	3	5	8	-1.6%	-5.0%	3.9%	5.5%	4.7%	3.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Persian Gulf	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	34	48	69	90	111	133	155	3.3%	3.8%	2.7%	2.1%	1.8%	1.5%
GDP per capita (ppp, k\$'05)	6	11	12	11	13	14	15	7.2%	0.5%	-0.7%	1.6%	0.9%	0.4%
GDP per capita (mer, k\$'05)	5	7	8	10	12	13	13	4.2%	1.3%	2.3%	1.6%	0.9%	0.4%
Share Value Added - Agriculture (%)	1	1	1	0	0	0	0	4.8%	-4.8%	-11.9%	-0.7%	-0.3%	-0.1%
Share Value Added - Industry (%)	4	17	29	24	24	23	23	16.5%	5.6%	-1.9%	-0.2%	-0.1%	-0.1%
Share Value Added - Services (%)	96	82	70	76	76	76	77	-1.5%	-1.6%	0.8%	0.1%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.5%	1.0%	1.0%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	284	413	685	930	1 130	1 058	1 021	3.8%	5.2%	3.1%	2.0%	-0.7%	-0.4%
Total GHG (excl. sinks)	284	415	686	931	1 131	1 059	1 023	3.8%	5.2%	3.1%	2.0%	-0.7%	-0.3%
Total GHG (energy, industry, agriculture)	284	415	686	931	1 131	1 059	1 023	3.8%	5.2%	3.1%	2.0%	-0.7%	-0.3%
CO ₂	214	319	540	731	918	910	873	4.1%	5.4%	3.1%	2.3%	-0.1%	-0.4%
CH ₄	57	85	131	187	198	137	140	4.2%	4.4%	3.7%	0.5%	-3.6%	0.2%
N ₂ O	10	9	12	8	9	9	8	-1.3%	2.8%	-3.9%	1.0%	-0.2%	-0.1%
F gases	4	2	4	5	6	3	2	-5.5%	6.0%	1.6%	2.6%	-5.6%	-7.6%
Total GHG from Energy and Industry	273	402	670	924	1 123	1 051	1 015	3.9%	5.3%	3.3%	2.0%	-0.7%	-0.4%
CO₂ Emissions from Fuel Comb.	174	277	479	655	817	809	771	4.8%	5.6%	3.2%	2.2%	-0.1%	-0.5%
Power generation/District heating	60	105	207	257	318	320	294	5.7%	7.1%	2.2%	2.1%	0.1%	-0.9%
Industry	44	67	112	181	241	225	219	4.3%	5.3%	4.9%	2.9%	-0.7%	-0.3%
Buildings	9	15	19	22	28	30	28	4.8%	2.6%	1.4%	2.6%	0.7%	-0.7%
Agriculture	0	1	1	1	1	1	1	11.0%	-5.2%	0.8%	1.4%	0.4%	-0.7%
Transport	42	55	83	106	113	113	113	2.8%	4.2%	2.5%	0.6%	0.0%	0.0%
Other	19	35	58	88	116	120	115	6.1%	5.2%	4.2%	2.8%	0.3%	-0.4%
CO₂ captured (CCS)	0	0	0	0	0	2	45	n.s.	n.s.	n.s.	n.s.	n.s.	34.4%
Coal	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	32.0%
Gas	0	0	0	0	0	2	43	n.s.	n.s.	n.s.	n.s.	n.s.	34.7%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	10.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	351	539	719	1 109	1 333	1 381	1 413	4.4%	2.9%	4.4%	1.9%	0.4%	0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	314	460	517	762	814	882	950	3.9%	1.2%	3.9%	0.7%	0.8%	0.7%
Natural gas	36	79	202	346	516	493	452	8.1%	9.8%	5.5%	4.1%	-0.5%	-0.9%
Biomass	0	0	0	1	1	1	1	2.4%	6.3%	17.9%	5.7%	1.7%	-1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	3.2%
Hydro	0	0	0	1	1	1	1	-13.5%	22.8%	2.0%	0.6%	0.9%	0.8%
Other renewables	0	0	0	0	1	4	9	n.s.	n.s.	n.s.	13.4%	16.1%	9.2%
Net Imports	- 282	- 429	- 518	- 816	- 960	- 1 000	- 1 023						
Coal	0	0	1	2	4	6	8						
Oil	- 279	- 409	- 433	- 671	- 724	- 799	- 866						
Natural gas	- 3	- 19	- 86	- 149	- 240	- 209	- 169						
Biomass	0	0	0	0	0	1	4						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	1	1	1	1	1						
Primary Energy Demand²	69	111	202	293	373	381	390	4.8%	6.2%	3.8%	2.4%	0.2%	0.2%
Coal	0	0	1	2	4	6	8	n.s.	n.s.	11.1%	4.2%	5.2%	2.9%
Oil	35	51	84	91	90	83	84	3.7%	5.1%	0.9%	-0.1%	-0.9%	0.1%
Natural gas	33	60	116	197	276	284	283	6.0%	6.9%	5.5%	3.4%	0.3%	0.0%
Biomass	0	0	0	1	1	3	5	2.5%	6.3%	18.4%	7.6%	6.1%	5.8%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	3.2%
Hydro	0	0	0	1	1	1	1	-13.5%	22.8%	2.0%	0.6%	0.9%	0.8%
Other renewables	0	0	0	0	1	4	9	n.s.	n.s.	n.s.	13.4%	16.1%	9.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	69	111	202	293	373	381	390	4.8%	6.2%	3.8%	2.4%	0.2%	0.2%
Energy for Power Generation	23	40	79	102	130	140	148	5.7%	7.2%	2.6%	2.4%	0.7%	0.5%
Other Energy Transformation & Losses	7	13	26	49	63	66	69	6.0%	6.9%	6.7%	2.6%	0.4%	0.4%
Final consumption	44	68	116	173	224	230	237	4.3%	5.5%	4.1%	2.6%	0.2%	0.3%
Steel, Non-Met. Minerals and Chem.	2	3	6	13	19	19	20	5.6%	5.2%	8.3%	4.1%	0.0%	0.2%
Other Industry	17	26	43	67	88	79	78	4.6%	5.2%	4.6%	2.7%	-1.0%	-0.2%
Non-Energy Use	5	6	13	20	28	31	33	3.5%	7.1%	4.5%	3.5%	1.1%	0.6%
Residential	6	9	14	18	23	27	29	4.4%	4.2%	2.8%	2.4%	1.5%	0.7%
Services	1	3	8	13	19	23	26	11.3%	10.6%	5.0%	3.7%	2.0%	1.0%
Agriculture	0	0	0	0	0	0	0	8.0%	-4.4%	1.3%	1.5%	1.2%	1.0%
Road	14	19	32	41	46	49	51	3.3%	5.1%	2.6%	1.1%	0.5%	0.5%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	1.8%	0.5%	-0.2%	0.6%
Other Transport	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Persian Gulf	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	23	40	79	102	129	136	138	5.8%	7.1%	2.5%	2.4%	0.5%	0.2%
Coal	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	25.5%	10.9%	6.1%
Oil	9	14	26	24	19	5	5	5.0%	6.6%	-0.9%	-2.3%	-12.2%	0.3%
Gas	14	26	53	77	109	128	127	6.3%	7.4%	3.9%	3.5%	1.6%	-0.1%
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	17.9%	11.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	79	140	284	454	637	757	839	5.9%	7.4%	4.8%	3.5%	1.7%	1.0%
Coal	0	0	0	0	3	9	16	n.s.	n.s.	n.s.	25.8%	11.2%	6.2%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	39.5%
Oil	31	53	62	102	80	23	24	5.6%	1.6%	5.1%	-2.3%	-11.8%	0.4%
Gas	45	86	218	343	537	681	706	6.7%	9.7%	4.7%	4.6%	2.4%	0.4%
of which CCS	0	0	0	0	0	3	93	n.s.	n.s.	n.s.	n.s.	n.s.	39.8%
Biomass & Waste	0	0	0	0	1	5	15	n.s.	n.s.	n.s.	n.s.	18.5%	12.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	1	5	6	6	7	7	-13.5%	22.8%	2.0%	0.6%	0.9%	0.8%
Wind	0	0	0	0	1	4	14	n.s.	n.s.	n.s.	30.1%	20.9%	13.5%
Solar	0	0	0	3	9	28	56	n.s.	n.s.	n.s.	12.8%	12.1%	7.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	29.2%	17.9%
Generation Capacity (GW_e)	26	35	68	116	132	159	179	2.9%	6.9%	5.5%	1.3%	1.9%	1.2%
Coal	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	25.8%	11.3%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	39.7%
Oil	14	14	16	25	18	16	16	-0.1%	1.2%	4.9%	-3.4%	-1.2%	0.2%
Gas	10	18	50	86	105	121	118	5.7%	10.5%	5.6%	2.1%	1.4%	-0.2%
of which CCS	0	0	0	0	0	0	12	n.s.	n.s.	n.s.	n.s.	n.s.	40.0%
Biomass & Waste	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	18.6%	12.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	2	3	3	3	3	4	4	4.7%	-0.4%	2.3%	0.6%	0.9%	0.8%
Wind	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	29.0%	20.1%	12.7%
Solar	0	0	0	1	5	16	31	n.s.	n.s.	n.s.	12.9%	12.2%	7.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	17.4%
Total Final Consumption² (Mtoe)	44	68	116	173	224	230	237	4.3%	5.5%	4.1%	2.6%	0.2%	0.3%
Coal	0	0	1	2	3	4	4	n.s.	n.s.	10.8%	2.3%	2.9%	0.3%
Oil	24	33	53	67	74	81	80	3.3%	4.7%	2.5%	1.0%	0.8%	-0.1%
Gas	15	25	43	72	102	90	89	5.2%	5.7%	5.3%	3.6%	-1.3%	-0.1%
Electricity	6	10	19	31	44	52	58	6.2%	6.8%	4.9%	3.4%	1.7%	1.0%
Heat	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	12.1%
Biomass & Other	0	0	0	1	1	3	4	2.5%	6.3%	17.5%	8.1%	6.1%	3.7%
Share of Renewables ³ (%)	1%	0%	0%	1%	1%	3%	6%	-11.7%	9.8%	5.1%	3.5%	10.2%	7.5%
Industry (incl. non-energy use)	23	36	61	100	135	130	130	4.5%	5.6%	5.0%	3.1%	-0.4%	0.0%
Coal	0	0	1	2	3	4	4	n.s.	n.s.	10.8%	2.3%	2.9%	0.3%
Oil	7	9	14	20	27	35	36	2.4%	5.0%	3.5%	3.0%	2.6%	0.3%
Gas	15	24	43	70	94	79	77	5.1%	5.8%	5.0%	3.1%	-1.8%	-0.3%
Electricity	1	3	4	7	11	12	13	6.3%	3.1%	7.5%	4.0%	0.8%	1.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-1.7%	1.3%	2.1%
Buildings	7	12	22	32	43	51	55	5.7%	6.1%	3.7%	3.0%	1.8%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	6	6	4	4	3	4.6%	2.7%	-0.5%	-2.1%	-1.8%	-2.3%
Gas	0	0	0	2	6	8	8	12.0%	-2.7%	26.4%	13.1%	2.9%	0.3%
Electricity	4	7	16	24	32	37	41	6.2%	7.9%	4.2%	2.8%	1.7%	0.8%
Heat	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	12.1%
Biomass & Other	0	0	0	0	0	1	1	2.5%	6.3%	10.0%	3.7%	2.9%	0.8%
Agriculture	0	0	0	0	0	0	0	8.0%	-4.4%	1.3%	1.5%	1.2%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	11.0%	-5.2%	0.8%	1.4%	0.4%	-0.7%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-24.9%	22.5%	5.8%	2.4%	4.7%	5.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.6%
Transport	14	19	32	41	46	49	51	3.3%	5.2%	2.6%	1.1%	0.5%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	19	32	41	42	41	41	3.3%	5.2%	2.5%	0.3%	-0.2%	-0.2%
Gas	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	25.0%	5.5%	3.5%
Electricity	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	31.3%	6.8%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	29.7%	8.8%	4.8%
Other Energy Transformation & Losses⁴	7	13	26	49	63	66	69	6.0%	6.9%	6.7%	2.6%	0.4%	0.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

China	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	1 155	1 270	1 342	1 403	1 416	1 395	1 349	1.0%	0.5%	0.5%	0.1%	-0.1%	-0.3%
GDP per capita (ppp, k\$'05)	1	3	7	13	21	30	38	8.9%	9.6%	6.5%	4.9%	3.6%	2.3%
GDP per capita (mer, k\$'05)	1	1	3	6	9	13	16	8.6%	9.4%	6.4%	4.9%	3.6%	2.3%
Share Value Added - Agriculture (%)	22	13	9	8	7	7	7	-5.2%	-3.3%	-1.3%	-0.9%	-0.4%	-0.2%
Share Value Added - Industry (%)	34	41	45	38	33	28	24	2.1%	0.8%	-1.6%	-1.3%	-1.6%	-1.5%
Share Value Added - Services (%)	44	46	46	54	59	65	69	0.3%	0.1%	1.6%	1.0%	0.9%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	26	10	23	20	21	23	24	-9.4%	8.8%	-1.3%	0.7%	0.5%	0.5%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	3 707	4 773	10 942	13 855	13 817	11 954	9 544	2.6%	8.7%	2.4%	0.0%	-1.4%	-2.2%
Total GHG (excl. sinks)	3 811	5 105	11 235	14 218	14 268	12 374	10 066	3.0%	8.2%	2.4%	0.0%	-1.4%	-2.0%
Total GHG (energy, industry, agriculture)	3 811	5 105	11 235	14 218	14 268	12 374	10 066	3.0%	8.2%	2.4%	0.0%	-1.4%	-2.0%
CO ₂	2 445	3 632	8 884	11 392	12 177	10 490	8 477	4.0%	9.4%	2.5%	0.7%	-1.5%	-2.1%
CH ₄	1 016	1 045	1 644	1 843	1 162	1 103	1 008	0.3%	4.6%	1.1%	-4.5%	-0.5%	-0.9%
N ₂ O	338	378	529	644	597	583	542	1.1%	3.4%	2.0%	-0.8%	-0.2%	-0.7%
F gases	13	51	177	339	332	198	39	14.8%	13.3%	6.7%	-0.2%	-5.0%	-15.0%
Total GHG from Energy and Industry	3 035	4 316	10 231	13 047	13 290	11 385	9 116	3.6%	9.0%	2.5%	0.2%	-1.5%	-2.2%
CO₂ Emissions from Fuel Comb.	2 206	3 196	7 737	9 751	10 326	8 601	6 719	3.8%	9.2%	2.3%	0.6%	-1.8%	-2.4%
Power generation/District heating	594	1 253	3 175	4 455	4 955	3 636	2 259	7.8%	9.7%	3.4%	1.1%	-3.0%	-4.7%
Industry	801	935	2 711	2 630	2 429	1 906	1 451	1.6%	11.2%	-0.3%	-0.8%	-2.4%	-2.7%
Buildings	417	319	502	619	566	457	438	-2.6%	4.6%	2.1%	-0.9%	-2.1%	-0.4%
Agriculture	89	49	89	112	105	80	57	-5.9%	6.3%	2.3%	-0.7%	-2.7%	-3.4%
Transport	115	249	524	989	1 231	1 401	1 445	8.0%	7.7%	6.5%	2.2%	1.3%	0.3%
Other	190	392	736	945	1 039	1 121	1 070	7.5%	6.5%	2.5%	1.0%	0.8%	-0.5%
CO₂ captured (CCS)	0	0	0	0	3	48	265	n.s.	n.s.	n.s.	n.s.	34.1%	18.7%
Coal	0	0	0	0	1	32	166	n.s.	n.s.	n.s.	n.s.	44.5%	17.9%
Gas	0	0	0	0	2	16	64	n.s.	n.s.	n.s.	n.s.	24.8%	15.2%
Biomass	0	0	0	0	0	0	35	n.s.	n.s.	n.s.	n.s.	21.8%	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	898	1 145	2 251	2 569	2 892	3 164	3 309	2.5%	7.0%	1.3%	1.2%	0.9%	0.4%
Coal	537	733	1 660	1 689	1 507	1 064	797	3.2%	8.5%	0.2%	-1.1%	-3.4%	-2.8%
Oil	137	161	202	236	224	166	99	1.7%	2.3%	1.6%	-0.5%	-2.9%	-5.1%
Natural gas	13	23	82	112	297	583	715	5.8%	13.4%	3.2%	10.2%	7.0%	2.1%
Biomass	201	203	214	252	297	345	378	0.1%	0.5%	1.7%	1.7%	1.5%	0.9%
Nuclear ¹	0	4	19	85	258	545	709	n.s.	15.9%	16.0%	11.7%	7.8%	2.7%
Hydro	11	19	62	121	149	154	154	5.8%	12.5%	6.9%	2.1%	0.3%	0.0%
Other renewables	0	1	12	73	161	307	458	29.4%	27.6%	19.4%	8.2%	6.7%	4.1%
Net Imports	- 66	1	377	981	1 342	1 258	1 042						
Coal	- 48	- 65	135	341	380	196	50						
Oil	- 20	65	230	507	636	753	777						
Natural gas	1	0	11	114	270	220	96						
Biomass	0	0	1	18	56	85	113						
Biofuels	0	0	0	0	1	4	6						
Electricity	0	0	0	- 1	- 1	- 1	- 1						
Primary Energy Demand²	832	1 146	2 628	3 550	4 234	4 422	4 351	3.3%	8.6%	3.1%	1.8%	0.4%	-0.2%
Coal	489	668	1 795	2 030	1 886	1 260	847	3.2%	10.4%	1.2%	-0.7%	-4.0%	-3.9%
Oil	117	227	432	743	860	919	875	6.8%	6.7%	5.6%	1.5%	0.7%	-0.5%
Natural gas	15	23	93	226	567	803	811	4.7%	14.8%	9.3%	9.6%	3.6%	0.1%
Biomass	201	204	215	270	353	430	491	0.1%	0.5%	2.3%	2.7%	2.0%	1.3%
Nuclear ¹	0	4	19	85	258	545	709	n.s.	15.9%	16.0%	11.7%	7.8%	2.7%
Hydro	11	19	62	121	149	154	154	5.8%	12.5%	6.9%	2.1%	0.3%	0.0%
Other renewables	0	1	12	73	161	307	458	29.4%	27.6%	19.4%	8.2%	6.7%	4.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	832	1 146	2 628	3 550	4 234	4 422	4 351	3.3%	8.6%	3.1%	1.8%	0.4%	-0.2%
Energy for Power Generation	163	344	911	1 442	1 952	2 165	2 210	7.8%	10.2%	4.7%	3.1%	1.0%	0.2%
Other Energy Transformation & Losses	50	101	315	389	483	561	590	7.4%	12.1%	2.1%	2.2%	1.5%	0.5%
Final consumption	676	821	1 777	2 374	2 703	2 783	2 760	2.0%	8.0%	2.9%	1.3%	0.3%	-0.1%
Steel, Non-Met. Minerals and Chem.	143	209	664	736	784	693	591	3.9%	12.3%	1.0%	0.6%	-1.2%	-1.6%
Other Industry	107	117	298	394	495	556	575	0.9%	9.8%	2.9%	2.3%	1.2%	0.3%
Non-Energy Use	43	61	121	192	189	184	166	3.6%	7.1%	4.7%	-0.2%	-0.2%	-1.1%
Residential	294	284	361	454	472	447	433	-0.3%	2.4%	2.3%	0.4%	-0.5%	-0.3%
Services	26	41	98	167	231	287	346	4.8%	9.2%	5.5%	3.3%	2.2%	1.9%
Agriculture	29	18	34	42	45	47	48	-4.5%	6.2%	2.2%	0.7%	0.4%	0.1%
Road	22	66	161	318	388	447	472	11.7%	9.2%	7.0%	2.0%	1.4%	0.5%
Rail	10	9	12	13	16	18	19	-1.3%	2.9%	0.8%	1.9%	1.3%	0.7%
Aviation	1	4	11	27	39	52	61	22.1%	10.3%	8.9%	4.0%	2.9%	1.5%
Other Transport	3	12	17	32	44	51	50	16.7%	3.8%	6.5%	3.2%	1.4%	-0.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

China	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	152	320	817	1 162	1 384	1 159	889	7.7%	9.8%	3.6%	1.8%	-1.8%	-2.6%
Coal	139	302	783	1 073	1 083	671	385	8.1%	10.0%	3.2%	0.1%	-4.7%	-5.4%
Oil	13	13	4	24	50	70	56	0.6%	-10.6%	18.5%	7.7%	3.3%	-2.1%
Gas	1	4	18	46	207	332	330	19.5%	17.1%	9.7%	16.3%	4.8%	0.0%
Biomass & Waste	0	1	12	19	44	86	117	n.s.	30.2%	5.1%	8.6%	6.9%	3.2%
Other	0	0	0	0	0	0	0	6.7%	1.4%	0.8%	-16.9%	n.s.	n.s.
Gross Elec. Generation (TWh_e)	651	1 389	4 247	7 363	10 451	12 379	13 632	7.9%	11.8%	5.7%	3.6%	1.7%	1.0%
Coal	470	1 080	3 274	4 799	4 852	3 020	1 766	8.7%	11.7%	3.9%	0.1%	-4.6%	-5.2%
of which CCS	0	0	0	0	0	33	194	n.s.	n.s.	n.s.	n.s.	n.s.	19.4%
Oil	52	49	14	107	225	312	255	-0.5%	-11.5%	22.2%	7.7%	3.3%	-2.0%
Gas	3	18	83	231	1 070	1 762	1 825	20.6%	16.6%	10.7%	16.6%	5.1%	0.4%
of which CCS	0	0	0	0	0	24	157	n.s.	n.s.	n.s.	n.s.	n.s.	20.7%
Biomass & Waste	0	2	34	52	165	375	551	n.s.	30.2%	4.4%	12.2%	8.5%	3.9%
of which CCS	0	0	0	0	0	0	52	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	17	74	335	1 041	2 222	2 902	n.s.	16.0%	16.3%	12.0%	7.9%	2.7%
Hydro	127	222	722	1 410	1 729	1 788	1 789	5.8%	12.5%	6.9%	2.1%	0.3%	0.0%
Wind	0	1	45	326	1 047	2 076	3 189	n.s.	53.5%	22.0%	12.4%	7.1%	4.4%
Solar	0	0	1	101	320	818	1 334	26.7%	22.7%	n.s.	12.2%	9.8%	5.0%
Other	0	0	0	0	1	7	22	6.7%	3.1%	5.8%	18.9%	16.9%	12.3%
Generation Capacity (GW_e)	158	346	1 013	1 880	2 827	3 847	4 601	8.2%	11.3%	6.4%	4.2%	3.1%	1.8%
Coal	98	232	701	1 063	1 162	1 087	940	9.0%	11.7%	4.3%	0.9%	-0.7%	-1.4%
of which CCS	0	0	0	0	0	4	26	n.s.	n.s.	n.s.	n.s.	n.s.	19.5%
Oil	21	21	15	24	43	54	62	0.2%	-3.1%	4.4%	6.1%	2.3%	1.5%
Gas	3	11	31	55	170	273	327	14.9%	11.2%	5.8%	11.9%	4.8%	1.8%
of which CCS	0	0	0	0	0	3	20	n.s.	n.s.	n.s.	n.s.	n.s.	21.0%
Biomass & Waste	0	0	7	9	23	52	79	n.s.	30.4%	3.1%	9.7%	8.5%	4.3%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	10	51	154	323	413	n.s.	16.6%	17.5%	11.8%	7.7%	2.5%
Hydro	36	79	216	393	468	482	482	8.2%	10.5%	6.2%	1.8%	0.3%	0.0%
Wind	0	0	31	194	555	999	1 422	n.s.	57.2%	20.0%	11.1%	6.1%	3.6%
Solar	0	0	1	92	252	577	872	26.7%	31.7%	n.s.	10.6%	8.7%	4.2%
Other	0	0	0	0	0	1	3	0.0%	0.4%	3.2%	18.6%	16.4%	11.8%
Total Final Consumption² (Mtoe)	676	821	1 777	2 374	2 703	2 783	2 760	2.0%	8.0%	2.9%	1.3%	0.3%	-0.1%
Coal	322	297	767	719	596	410	295	-0.8%	10.0%	-0.6%	-1.9%	-3.7%	-3.2%
Oil	87	185	373	641	720	754	728	7.8%	7.2%	5.6%	1.2%	0.5%	-0.4%
Gas	10	16	62	140	240	296	303	5.0%	14.3%	8.5%	5.6%	2.1%	0.3%
Electricity	43	92	301	528	752	895	988	7.8%	12.5%	5.8%	3.6%	1.8%	1.0%
Heat	13	28	73	118	143	173	191	7.7%	10.2%	4.9%	1.9%	2.0%	1.0%
Biomass & Other	201	202	201	228	252	255	255	0.1%	-0.1%	1.3%	1.0%	0.1%	0.0%
Share of Renewables ³ (%)	33%	28%	16%	19%	22%	27%	33%	-1.4%	-5.4%	1.3%	1.5%	2.3%	2.1%
Industry (incl. non-energy use)	292	387	1 082	1 322	1 467	1 434	1 332	2.8%	10.8%	2.0%	1.1%	-0.2%	-0.7%
Coal	204	226	670	627	537	383	285	1.0%	11.5%	-0.7%	-1.5%	-3.3%	-2.9%
Oil	40	72	138	204	192	171	136	6.1%	6.7%	4.0%	-0.6%	-1.1%	-2.3%
Gas	8	10	28	75	147	193	183	2.4%	11.2%	10.4%	7.0%	2.7%	-0.5%
Electricity	30	60	204	345	487	554	582	7.1%	13.0%	5.4%	3.5%	1.3%	0.5%
Heat	11	19	43	58	71	82	87	5.9%	8.4%	3.2%	2.0%	1.4%	0.7%
Biomass & Other	0	0	0	12	33	50	58	n.s.	n.s.	n.s.	10.9%	4.2%	1.4%
Buildings	319	324	459	621	703	734	779	0.2%	3.5%	3.1%	1.2%	0.4%	0.6%
Coal	97	61	82	77	47	19	6	-4.6%	3.1%	-0.7%	-4.8%	-8.9%	-10.5%
Oil	8	19	34	63	62	58	59	9.8%	6.0%	6.2%	-0.1%	-0.8%	0.3%
Gas	2	7	27	48	77	86	97	10.8%	15.4%	5.9%	4.8%	1.0%	1.3%
Electricity	9	27	85	166	238	303	360	11.4%	12.3%	6.9%	3.7%	2.5%	1.7%
Heat	3	9	31	60	72	92	104	13.4%	13.2%	6.9%	1.8%	2.5%	1.2%
Biomass & Other	201	202	199	207	207	177	153	0.1%	-0.2%	0.4%	0.0%	-1.5%	-1.5%
Agriculture	29	18	34	42	45	47	48	-4.5%	6.2%	2.2%	0.7%	0.4%	0.1%
Coal	11	6	11	12	10	6	3	-5.8%	6.8%	0.9%	-2.4%	-4.7%	-5.4%
Oil	15	8	14	20	21	18	13	-5.9%	5.8%	3.6%	0.4%	-1.7%	-2.7%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	1.2%	-0.4%	-1.3%
Electricity	4	5	8	10	12	15	17	2.2%	6.2%	1.5%	2.1%	2.0%	1.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	9	14	n.s.	n.s.	n.s.	n.s.	12.5%	4.8%
Transport	35	92	201	389	487	568	602	10.0%	8.2%	6.8%	2.3%	1.5%	0.6%
Coal	10	4	3	2	2	2	1	-8.0%	-2.8%	-2.9%	-2.0%	-2.0%	-2.0%
Oil	25	86	186	354	445	508	519	13.1%	8.0%	6.6%	2.3%	1.3%	0.2%
Gas	0	0	7	16	16	17	23	n.s.	46.2%	9.3%	-0.4%	0.7%	2.9%
Electricity	1	1	3	7	15	23	29	9.6%	10.3%	7.3%	8.1%	4.3%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	2	10	9	19	30	n.s.	n.s.	19.3%	-0.3%	7.4%	4.6%
Other Energy Transformation & Losses⁴	50	101	315	389	483	561	590	7.4%	12.1%	2.1%	2.2%	1.5%	0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

India	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	871	1 053	1 231	1 389	1 528	1 634	1 705	1.9%	1.6%	1.2%	1.0%	0.7%	0.4%
GDP per capita (ppp, k\$'05)	1	2	3	5	9	14	20	3.6%	5.9%	5.5%	6.0%	4.4%	3.5%
GDP per capita (mer, k\$'05)	0	1	1	2	3	5	7	3.6%	5.9%	5.8%	6.0%	4.4%	3.5%
Share Value Added - Agriculture (%)	29	23	18	16	14	13	13	-2.3%	-2.3%	-1.5%	-1.3%	-0.6%	-0.3%
Share Value Added - Industry (%)	26	26	27	30	27	23	18	-0.2%	0.5%	0.9%	-1.0%	-1.7%	-2.2%
Share Value Added - Services (%)	44	51	55	54	59	64	69	1.4%	0.7%	0.0%	0.9%	0.8%	0.7%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	23	25	26	27	-7.8%	10.3%	1.4%	0.8%	0.5%	0.5%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 200	1 633	2 334	3 619	5 074	5 645	5 688	3.1%	3.6%	4.5%	3.4%	1.1%	0.1%
Total GHG (excl. sinks)	1 229	1 682	2 463	3 717	5 150	5 744	5 802	3.2%	3.9%	4.2%	3.3%	1.1%	0.1%
Total GHG (energy, industry, agriculture)	1 229	1 682	2 462	3 717	5 146	5 744	5 802	3.2%	3.9%	4.2%	3.3%	1.1%	0.1%
CO ₂	546	929	1 610	2 693	3 962	4 665	4 760	5.5%	5.7%	5.3%	3.9%	1.6%	0.2%
CH ₄	507	555	615	718	813	728	726	0.9%	1.0%	1.6%	1.3%	-1.1%	0.0%
N ₂ O	166	188	220	266	309	304	312	1.3%	1.5%	2.0%	1.5%	-0.2%	0.3%
F gases	10	10	18	39	62	47	4	0.6%	5.8%	8.2%	4.7%	-2.7%	-21.4%
Total GHG from Energy and Industry	748	1 165	1 922	3 116	4 489	5 119	5 172	4.5%	5.1%	5.0%	3.7%	1.3%	0.1%
CO₂ Emissions from Fuel Comb.	502	866	1 442	2 409	3 472	4 071	4 141	5.6%	5.2%	5.3%	3.7%	1.6%	0.2%
Power generation/District heating	215	490	792	1 283	1 906	2 276	2 279	8.6%	4.9%	4.9%	4.0%	1.8%	0.0%
Industry	107	125	260	492	662	708	687	1.5%	7.6%	6.6%	3.0%	0.7%	-0.3%
Buildings	76	97	157	225	330	357	335	2.5%	5.0%	3.7%	3.9%	0.8%	-0.6%
Agriculture	14	26	27	37	46	51	49	6.6%	0.5%	3.4%	2.2%	0.9%	-0.3%
Transport	74	96	164	281	383	474	543	2.5%	5.5%	5.5%	3.1%	2.2%	1.4%
Other	16	33	42	90	145	206	248	7.6%	2.6%	7.9%	4.9%	3.6%	1.8%
CO₂ captured (CCS)	0	0	0	0	0	4	76	n.s.	n.s.	n.s.	n.s.	n.s.	34.1%
Coal	0	0	0	0	0	2	40	n.s.	n.s.	n.s.	n.s.	n.s.	38.6%
Gas	0	0	0	0	0	2	36	n.s.	n.s.	n.s.	n.s.	n.s.	30.7%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	268	350	493	640	714	757	850	2.7%	3.5%	2.6%	1.1%	0.6%	1.2%
Coal	85	134	216	317	353	299	259	4.7%	4.9%	3.9%	1.1%	-1.7%	-1.4%
Oil	35	38	44	41	39	36	32	0.8%	1.5%	-0.8%	-0.6%	-0.6%	-1.3%
Natural gas	10	22	41	51	43	38	33	8.0%	6.5%	2.3%	-1.6%	-1.3%	-1.5%
Biomass	130	145	173	185	188	193	196	1.1%	1.8%	0.7%	0.2%	0.3%	0.1%
Nuclear ¹	2	4	7	14	28	77	150	10.7%	4.4%	7.6%	7.1%	10.4%	6.9%
Hydro	6	6	11	14	17	18	18	0.4%	5.2%	3.1%	1.5%	0.6%	0.3%
Other renewables	0	0	2	17	46	96	163	32.5%	27.1%	23.8%	10.5%	7.7%	5.5%
Net Imports	32	87	195	421	747	1 045	1 193						
Coal	7	12	64	136	206	246	207						
Oil	24	74	118	226	297	349	369						
Natural gas	1	1	14	58	242	452	621						
Biomass	0	0	0	1	0	-5	-10						
Biofuels	0	0	0	0	1	3	5						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	300	438	689	1 061	1 461	1 801	2 043	3.8%	4.6%	4.4%	3.3%	2.1%	1.3%
Coal	92	146	280	452	559	544	466	4.7%	6.7%	4.9%	2.1%	-0.3%	-1.6%
Oil	59	112	162	267	336	385	401	6.6%	3.7%	5.1%	2.3%	1.4%	0.4%
Natural gas	11	23	54	109	285	490	654	7.9%	9.0%	7.2%	10.1%	5.6%	2.9%
Biomass	130	145	173	186	189	188	186	1.1%	1.8%	0.7%	0.1%	0.0%	-0.1%
Nuclear ¹	2	4	7	14	28	77	150	10.7%	4.4%	7.6%	7.1%	10.4%	6.9%
Hydro	6	6	11	14	17	18	18	0.4%	5.2%	3.1%	1.5%	0.6%	0.3%
Other renewables	0	0	2	17	46	96	163	32.5%	27.1%	23.8%	10.5%	7.7%	5.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	300	438	689	1 061	1 461	1 801	2 043	3.8%	4.6%	4.4%	3.3%	2.1%	1.3%
Energy for Power Generation	64	140	239	398	642	901	1 122	8.1%	5.5%	5.2%	4.9%	3.5%	2.2%
Other Energy Transformation & Losses	7	8	29	45	72	105	138	2.0%	13.5%	4.3%	4.9%	3.9%	2.8%
Final consumption	247	321	483	740	961	1 124	1 231	2.6%	4.2%	4.4%	2.7%	1.6%	0.9%
Steel, Non-Met. Minerals and Chem.	24	38	72	144	148	138	126	4.7%	6.6%	7.2%	0.3%	-0.7%	-0.9%
Other Industry	46	49	86	136	209	251	259	0.6%	5.8%	4.7%	4.4%	1.9%	0.3%
Non-Energy Use	14	30	37	61	84	94	94	7.7%	2.3%	5.2%	3.2%	1.1%	0.0%
Residential	120	141	172	208	229	242	251	1.7%	2.0%	1.9%	1.0%	0.5%	0.4%
Services	14	16	33	50	93	145	197	1.6%	7.1%	4.3%	6.6%	4.5%	3.1%
Agriculture	9	15	19	30	38	45	51	6.0%	2.3%	4.5%	2.4%	1.7%	1.3%
Road	16	28	58	102	143	184	218	6.2%	7.4%	5.7%	3.5%	2.5%	1.7%
Rail	4	2	4	5	8	12	16	-6.2%	5.0%	4.3%	4.3%	3.6%	3.0%
Aviation	1	1	2	3	6	11	16	3.0%	8.5%	6.3%	7.8%	5.3%	4.1%
Other Transport	1	1	1	1	2	3	4	-0.5%	4.4%	2.2%	6.7%	4.0%	2.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

India	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	57	129	220	353	551	711	791	8.6%	5.4%	4.9%	4.6%	2.6%	1.1%
Coal	48	110	177	288	409	421	368	8.7%	4.9%	5.0%	3.6%	0.3%	-1.3%
Oil	5	9	7	12	15	26	28	6.0%	-1.9%	4.7%	2.4%	5.6%	0.8%
Gas	3	9	27	42	98	223	338	10.3%	11.1%	4.6%	9.0%	8.5%	4.3%
Biomass & Waste	0	1	8	11	29	42	57	n.s.	27.3%	2.8%	10.4%	3.7%	3.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	293	570	979	1 874	3 179	4 631	5 989	6.9%	5.6%	6.7%	5.4%	3.8%	2.6%
Coal	192	390	658	1 180	1 735	1 827	1 624	7.4%	5.4%	6.0%	3.9%	0.5%	-1.2%
of which CCS	0	0	0	0	0	2	56	n.s.	n.s.	n.s.	n.s.	n.s.	39.9%
Oil	13	29	24	52	67	116	127	8.2%	-1.8%	7.9%	2.5%	5.6%	1.0%
Gas	10	56	113	195	461	1 070	1 675	18.8%	7.3%	5.6%	9.0%	8.8%	4.6%
of which CCS	0	0	0	0	0	2	77	n.s.	n.s.	n.s.	n.s.	n.s.	42.5%
Biomass & Waste	0	1	15	33	96	161	257	n.s.	27.6%	8.6%	11.1%	5.3%	4.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	6	17	26	56	113	313	618	10.7%	4.5%	7.8%	7.4%	10.7%	7.1%
Hydro	72	74	123	167	194	205	211	0.4%	5.2%	3.1%	1.5%	0.6%	0.3%
Wind	0	2	20	110	224	580	981	48.6%	27.9%	18.8%	7.3%	10.0%	5.4%
Solar	0	0	0	81	289	358	490	8.8%	11.8%	n.s.	13.6%	2.2%	3.2%
Other	0	0	0	0	0	1	5	n.s.	n.s.	19.4%	31.4%	18.2%	12.7%
Generation Capacity (GW_e)	78	123	202	470	804	1 181	1 584	4.6%	5.1%	8.8%	5.5%	3.9%	3.0%
Coal	52	79	118	241	324	375	377	4.3%	4.1%	7.4%	3.0%	1.5%	0.0%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	39.9%
Oil	3	5	5	9	13	20	26	5.9%	-1.2%	6.6%	3.8%	4.2%	2.7%
Gas	3	10	21	32	69	157	262	11.4%	7.5%	4.3%	8.0%	8.5%	5.2%
of which CCS	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	n.s.	42.7%
Biomass & Waste	0	1	3	13	16	22	36	n.s.	14.6%	14.6%	2.0%	3.3%	4.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	1	3	4	8	16	42	82	8.2%	4.9%	6.5%	7.1%	10.5%	6.8%
Hydro	19	24	37	53	62	65	67	2.3%	4.7%	3.5%	1.5%	0.6%	0.3%
Wind	0	1	13	61	114	264	412	44.9%	27.1%	16.4%	6.4%	8.7%	4.6%
Solar	0	0	0	53	190	235	321	8.8%	11.8%	n.s.	13.6%	2.2%	3.2%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	30.6%	17.6%	12.2%
Total Final Consumption² (Mtoe)	247	321	483	740	961	1 124	1 231	2.6%	4.2%	4.4%	2.7%	1.6%	0.9%
Coal	43	41	99	157	144	120	94	-0.5%	9.4%	4.7%	-0.8%	-1.8%	-2.4%
Oil	50	94	134	228	288	322	334	6.5%	3.6%	5.5%	2.3%	1.1%	0.4%
Gas	6	10	22	57	160	220	249	5.1%	8.6%	10.0%	10.8%	3.2%	1.3%
Electricity	18	32	62	121	208	302	390	5.8%	6.8%	6.9%	5.6%	3.8%	2.6%
Heat	0	0	0	0	1	15	37	16.5%	23.5%	3.8%	12.9%	26.7%	9.2%
Biomass & Other	130	144	165	176	159	146	127	1.0%	1.3%	0.6%	-1.0%	-0.9%	-1.4%
Share of Renewables ³ (%)	57%	49%	38%	29%	24%	24%	26%	-1.5%	-2.5%	-2.7%	-1.8%	0.0%	0.9%
Industry (incl. non-energy use)	84	116	194	341	441	483	480	3.3%	5.3%	5.8%	2.6%	0.9%	-0.1%
Coal	30	32	84	139	123	99	81	0.5%	10.1%	5.2%	-1.2%	-2.1%	-2.0%
Oil	17	36	37	70	85	86	79	8.1%	0.2%	6.7%	1.9%	0.1%	-0.8%
Gas	6	9	17	44	113	156	174	4.8%	6.6%	9.8%	9.9%	3.2%	1.1%
Electricity	9	14	28	52	81	104	115	4.1%	7.3%	6.5%	4.6%	2.5%	1.1%
Heat	0	0	0	0	0	0	0	n.s.	23.5%	3.4%	-0.2%	-0.3%	-0.2%
Biomass & Other	23	26	29	36	40	39	30	1.3%	1.3%	2.2%	1.0%	-0.3%	-2.4%
Buildings	134	158	205	258	322	387	447	1.7%	2.6%	2.3%	2.3%	1.8%	1.5%
Coal	10	9	16	18	21	20	13	-1.4%	5.9%	1.5%	1.7%	-0.5%	-4.2%
Oil	11	19	27	40	45	44	41	5.6%	3.6%	3.7%	1.4%	-0.2%	-0.7%
Gas	0	0	3	12	43	58	65	21.0%	27.7%	13.8%	13.9%	3.0%	1.2%
Electricity	5	11	23	49	97	155	219	8.5%	7.8%	7.9%	7.1%	4.8%	3.5%
Heat	0	0	0	0	1	15	37	16.5%	23.5%	3.8%	13.4%	26.9%	9.2%
Biomass & Other	108	119	136	139	114	94	72	1.0%	1.3%	0.2%	-1.9%	-1.9%	-2.6%
Agriculture	9	15	19	30	38	45	51	6.0%	2.3%	4.5%	2.4%	1.7%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	8	8	12	14	16	15	6.6%	0.4%	3.4%	2.2%	0.9%	-0.3%
Gas	0	0	0	0	0	0	0	5.4%	2.7%	1.8%	2.0%	0.8%	-0.1%
Electricity	4	7	11	18	23	28	33	5.3%	4.1%	5.3%	2.5%	1.9%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	13.0%
Transport	21	32	64	111	160	209	254	4.4%	7.2%	5.6%	3.7%	2.7%	1.9%
Coal	2	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	18	31	62	107	144	176	198	5.5%	7.1%	5.6%	3.0%	2.0%	1.2%
Gas	0	0	1	1	4	7	10	n.s.	33.6%	0.3%	10.6%	5.5%	4.6%
Electricity	0	1	1	3	7	15	23	7.2%	5.0%	8.3%	11.3%	7.1%	4.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	5	12	22	n.s.	-0.7%	19.9%	28.2%	9.6%	6.0%
Other Energy Transformation & Losses⁴	7	8	29	45	72	105	138	2.0%	13.5%	4.3%	4.9%	3.9%	2.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Indonesia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	181	212	242	272	295	312	322	1.5%	1.3%	1.2%	0.8%	0.6%	0.3%
GDP per capita (ppp, k\$'05)	2	3	4	6	9	13	18	2.6%	3.8%	4.4%	4.4%	3.5%	3.2%
GDP per capita (mer, k\$'05)	1	1	2	2	4	5	7	2.6%	3.8%	4.3%	4.4%	3.5%	3.2%
Share Value Added - Agriculture (%)	19	16	14	12	11	10	10	-2.2%	-1.1%	-1.1%	-1.2%	-0.6%	-0.4%
Share Value Added - Industry (%)	39	46	43	40	39	37	34	1.6%	-0.7%	-0.6%	-0.2%	-0.5%	-0.8%
Share Value Added - Services (%)	41	38	43	47	50	52	56	-0.7%	1.2%	0.9%	0.5%	0.5%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	29	31	-7.8%	10.3%	1.0%	1.6%	1.3%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	996	1 325	1 920	1 923	1 711	1 687	1 705	2.9%	3.8%	0.0%	-1.2%	-0.1%	0.1%
Total GHG (excl. sinks)	1 333	1 572	1 920	1 923	1 711	1 687	1 705	1.7%	2.0%	0.0%	-1.2%	-0.1%	0.1%
Total GHG (energy, industry, agriculture)	377	511	701	903	1 100	1 204	1 263	3.1%	3.2%	2.6%	2.0%	0.9%	0.5%
CO ₂	158	291	414	553	717	865	935	6.3%	3.6%	2.9%	2.6%	1.9%	0.8%
CH ₄	141	158	214	259	277	236	223	1.1%	3.1%	1.9%	0.7%	-1.6%	-0.6%
N ₂ O	76	62	73	89	104	99	101	-2.0%	1.5%	2.1%	1.5%	-0.4%	0.1%
F gases	2	0	1	1	3	4	4	-12.9%	3.7%	7.6%	8.4%	2.6%	-0.1%
Total GHG from Energy and Industry	248	384	548	727	903	1 026	1 092	4.5%	3.6%	2.9%	2.2%	1.3%	0.6%
CO₂ Emissions from Fuel Comb.	137	265	383	510	655	791	854	6.8%	3.8%	2.9%	2.5%	1.9%	0.8%
Power generation/District heating	22	62	122	167	186	235	235	10.7%	7.1%	3.2%	1.1%	2.3%	0.0%
Industry	31	60	93	104	150	174	180	6.9%	4.5%	1.1%	3.7%	1.5%	0.3%
Buildings	21	38	25	31	43	51	52	5.9%	-4.3%	2.4%	3.2%	1.8%	0.2%
Agriculture	3	8	9	7	9	10	10	9.4%	2.0%	-3.0%	2.2%	1.1%	0.0%
Transport	32	64	94	125	147	169	191	7.0%	4.0%	2.9%	1.6%	1.4%	1.3%
Other	27	34	39	75	121	154	186	2.0%	1.6%	6.7%	5.0%	2.4%	1.9%
CO₂ captured (CCS)	0	0	0	0	0	1	11	n.s.	n.s.	n.s.	n.s.	n.s.	35.0%
Coal	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	33.6%
Gas	0	0	0	0	0	0	9	n.s.	n.s.	n.s.	n.s.	n.s.	36.4%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	161	229	371	500	371	332	302	3.6%	4.9%	3.0%	-2.9%	-1.1%	-0.9%
Coal	6	46	189	279	89	16	0	22.7%	15.2%	4.0%	-10.8%	-15.6%	n.s.
Oil	75	72	49	54	71	72	64	-0.5%	-3.7%	1.0%	2.7%	0.2%	-1.1%
Natural gas	37	57	71	87	119	127	102	4.6%	2.1%	2.1%	3.1%	0.6%	-2.1%
Biomass	42	49	52	65	68	78	85	1.6%	0.6%	2.2%	0.4%	1.4%	0.8%
Nuclear ¹	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	12.3%	n.s.	12.6%
Hydro	0	1	2	1	2	2	3	5.8%	5.7%	-0.6%	1.4%	3.2%	2.3%
Other renewables	1	4	8	13	23	36	44	15.8%	6.9%	4.7%	6.1%	4.3%	2.2%
Net Imports	- 65	- 78	- 169	- 247	- 44	64	144						
Coal	- 1	- 34	- 159	- 252	- 59	27	38						
Oil	- 41	- 14	22	38	24	25	38						
Natural gas	- 22	- 31	- 32	- 28	- 1	27	87						
Biomass	0	0	0	- 4	- 8	- 16	- 20						
Biofuels	0	0	0	- 1	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	96	151	202	253	327	396	447	4.6%	2.9%	2.3%	2.6%	1.9%	1.2%
Coal	5	12	30	27	30	44	38	10.2%	9.8%	-1.3%	1.2%	3.8%	-1.3%
Oil	34	58	71	92	94	97	103	5.6%	2.0%	2.6%	0.3%	0.2%	0.6%
Natural gas	15	27	39	59	117	154	189	6.1%	3.9%	4.3%	7.1%	2.8%	2.0%
Biomass	42	49	52	62	60	62	65	1.6%	0.6%	1.7%	-0.3%	0.4%	0.5%
Nuclear ¹	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	12.3%	n.s.	12.6%
Hydro	0	1	2	1	2	2	3	5.8%	5.7%	-0.6%	1.4%	3.2%	2.3%
Other renewables	1	4	8	13	23	36	44	15.8%	6.9%	4.7%	6.1%	4.3%	2.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	96	151	202	253	327	396	447	4.6%	2.9%	2.3%	2.6%	1.9%	1.2%
Energy for Power Generation	8	24	46	68	87	117	138	11.7%	6.7%	3.8%	2.6%	3.0%	1.7%
Other Energy Transformation & Losses	11	12	18	21	40	57	76	1.1%	4.2%	1.3%	6.7%	3.5%	3.0%
Final consumption	80	121	150	188	230	265	291	4.3%	2.1%	2.3%	2.1%	1.4%	0.9%
Steel, Non-Met. Minerals and Chem.	3	5	10	13	19	20	20	6.3%	6.1%	3.4%	3.6%	0.6%	0.0%
Other Industry	15	25	32	36	49	60	64	5.2%	2.2%	1.2%	3.3%	1.9%	0.7%
Non-Energy Use	7	10	9	13	17	19	19	2.9%	-1.4%	4.0%	2.8%	1.1%	0.2%
Residential	42	53	56	67	73	77	78	2.4%	0.6%	1.8%	0.9%	0.6%	0.2%
Services	1	4	5	7	11	17	25	13.2%	3.2%	4.0%	4.5%	4.4%	3.5%
Agriculture	1	2	3	2	3	4	4	9.4%	2.4%	-2.7%	2.3%	1.8%	1.5%
Road	10	20	32	42	47	55	64	7.4%	4.9%	3.0%	1.1%	1.6%	1.5%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	1	2	4	6	8	10	7.4%	14.1%	6.3%	3.7%	2.8%	2.4%
Other Transport	1	2	2	3	4	5	6	7.9%	2.0%	4.1%	3.9%	2.0%	1.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Indonesia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	19	37	53	62	78	87	11.3%	6.7%	3.8%	1.6%	2.3%	1.1%
Coal	2	8	19	22	23	35	29	13.7%	8.4%	1.3%	0.7%	4.3%	-1.8%
Oil	4	5	8	13	10	5	5	1.5%	6.3%	4.5%	-2.6%	-7.5%	-0.2%
Gas	0	6	9	17	27	34	48	39.3%	4.1%	7.0%	4.5%	2.6%	3.4%
Biomass & Waste	0	0	0	0	1	1	2	n.s.	31.5%	26.5%	3.0%	6.8%	7.1%
Other	0	0	1	1	2	3	3	15.8%	6.8%	2.1%	6.0%	4.6%	0.7%
Gross Elec. Generation (TWh_e)	33	93	170	276	363	484	618	11.1%	6.2%	5.0%	2.8%	2.9%	2.5%
Coal	10	34	68	85	92	145	125	13.3%	7.2%	2.1%	0.9%	4.6%	-1.5%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	41.0%
Oil	15	18	34	55	42	20	20	1.8%	6.4%	4.9%	-2.7%	-7.2%	0.0%
Gas	1	26	40	75	127	181	266	42.9%	4.4%	6.4%	5.4%	3.6%	4.0%
of which CCS	0	0	0	0	0	0	17	n.s.	n.s.	n.s.	n.s.	n.s.	42.7%
Biomass & Waste	0	0	0	2	2	5	11	n.s.	31.5%	32.9%	3.3%	8.2%	8.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	5	17	n.s.	n.s.	n.s.	n.s.	n.s.	12.6%
Hydro	6	10	17	16	19	26	33	5.8%	5.7%	-0.6%	1.4%	3.2%	2.3%
Wind	0	0	0	16	29	34	59	n.s.	n.s.	n.s.	5.9%	1.6%	5.6%
Solar	0	0	0	16	31	36	52	n.s.	n.s.	n.s.	7.1%	1.4%	3.9%
Other	1	5	9	12	21	33	35	15.8%	6.8%	2.1%	6.0%	4.6%	0.8%
Generation Capacity (GW_e)	13	25	34	77	101	123	164	6.9%	3.0%	8.4%	2.8%	2.0%	2.9%
Coal	2	8	13	30	31	34	30	16.1%	5.4%	8.6%	0.4%	0.9%	-1.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	40.8%
Oil	7	5	6	9	8	5	5	-4.6%	2.2%	4.2%	-1.2%	-5.2%	1.1%
Gas	1	8	10	14	19	26	40	32.6%	2.1%	3.0%	3.3%	3.2%	4.2%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	42.7%
Biomass & Waste	0	0	0	0	0	1	1	n.s.	31.2%	13.9%	3.1%	8.1%	8.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	12.4%
Hydro	3	4	4	6	8	15	22	2.9%	-1.2%	4.3%	3.3%	6.6%	3.9%
Wind	0	0	0	7	13	15	23	n.s.	n.s.	n.s.	5.7%	1.3%	4.7%
Solar	0	0	0	9	20	23	36	n.s.	n.s.	n.s.	7.5%	1.8%	4.3%
Other	0	0	1	1	3	4	5	9.9%	12.7%	2.1%	5.6%	4.7%	1.4%
Total Final Consumption² (Mtoe)	80	121	150	188	230	265	291	4.3%	2.1%	2.3%	2.1%	1.4%	0.9%
Coal	2	5	8	8	10	11	11	7.7%	5.9%	-0.4%	2.0%	1.3%	0.0%
Oil	27	49	61	73	80	88	93	6.0%	2.3%	1.8%	0.9%	0.9%	0.6%
Gas	6	12	16	27	55	70	78	6.7%	3.2%	5.6%	7.2%	2.5%	1.0%
Electricity	2	7	13	21	28	37	47	10.8%	6.5%	5.1%	2.8%	2.9%	2.5%
Heat	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	7.8%	15.3%	10.7%
Biomass & Other	42	49	51	58	57	58	57	1.6%	0.4%	1.2%	-0.1%	0.1%	-0.1%
Share of Renewables ³ (%)	58%	45%	37%	35%	30%	29%	30%	-2.6%	-1.8%	-0.6%	-1.5%	-0.6%	0.3%
Industry (incl. non-energy use)	26	40	50	62	85	98	103	4.7%	2.1%	2.2%	3.3%	1.5%	0.5%
Coal	2	5	8	8	10	11	11	7.7%	5.9%	-0.4%	2.0%	1.3%	0.0%
Oil	9	13	15	16	16	17	15	3.8%	1.7%	0.4%	0.3%	0.3%	-0.8%
Gas	6	11	16	25	45	55	60	6.7%	3.2%	4.8%	6.1%	2.0%	0.9%
Electricity	1	3	4	7	8	10	12	8.9%	4.2%	4.1%	2.5%	1.9%	1.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	7	9	6	6	5	5	5	1.8%	-3.0%	0.0%	-1.5%	-0.2%	-0.3%
Buildings	43	57	61	74	84	94	103	2.9%	0.7%	2.0%	1.3%	1.2%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.3%	-2.5%	-5.1%
Oil	7	12	8	8	7	6	5	5.9%	-4.4%	0.8%	-1.7%	-1.7%	-1.8%
Gas	0	0	0	2	9	14	16	8.1%	14.4%	30.0%	15.4%	4.6%	1.2%
Electricity	1	4	8	14	19	25	33	12.6%	7.8%	5.7%	2.7%	3.0%	2.7%
Heat	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	7.8%	15.3%	10.7%
Biomass & Other	35	41	45	49	49	48	45	1.6%	1.0%	0.9%	0.0%	-0.3%	-0.7%
Agriculture	1	2	3	2	3	4	4	9.4%	2.4%	-2.7%	2.3%	1.8%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	2	3	3	3	9.4%	2.0%	-3.0%	2.2%	1.1%	0.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	1	n.s.	n.s.	3.7%	3.2%	4.0%	4.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.1%
Transport	11	22	36	50	58	69	81	7.4%	5.1%	3.3%	1.6%	1.7%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	11	22	36	47	55	62	70	7.4%	5.1%	2.8%	1.4%	1.3%	1.1%
Gas	0	0	0	0	1	1	2	n.s.	-6.6%	29.3%	18.7%	5.0%	5.2%
Electricity	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	51.4%	10.6%	5.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	2	2	4	7	n.s.	n.s.	29.3%	0.3%	6.1%	5.0%
Other Energy Transformation & Losses⁴	11	12	18	21	40	57	76	1.1%	4.2%	1.3%	6.7%	3.5%	3.0%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Malaysia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	18	23	28	32	36	39	41	2.5%	1.8%	1.4%	1.1%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	7	11	14	20	27	36	46	4.4%	2.7%	3.5%	3.3%	2.8%	2.5%
GDP per capita (mer, k\$'05)	3	5	6	9	12	17	21	4.4%	2.7%	3.5%	3.3%	2.8%	2.5%
Share Value Added - Agriculture (%)	15	9	10	8	8	8	8	-5.5%	1.6%	-2.0%	-0.3%	-0.2%	-0.1%
Share Value Added - Industry (%)	42	48	41	37	32	27	22	1.4%	-1.7%	-0.9%	-1.4%	-1.7%	-2.0%
Share Value Added - Services (%)	43	43	49	55	60	65	70	0.1%	1.4%	1.0%	0.9%	0.8%	0.7%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	29	31	-7.8%	10.3%	1.0%	1.6%	1.3%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	- 153	- 57	404	491	534	490	435	n.s.	n.s.	2.0%	0.9%	-0.9%	-1.2%
Total GHG (excl. sinks)	126	211	404	491	534	490	439	5.3%	6.7%	2.0%	0.9%	-0.9%	-1.1%
Total GHG (energy, industry, agriculture)	91	165	257	344	390	380	340	6.1%	4.6%	2.9%	1.3%	-0.3%	-1.1%
CO ₂	63	127	211	286	331	338	304	7.3%	5.2%	3.1%	1.5%	0.2%	-1.0%
CH ₄	18	28	33	40	39	24	19	4.4%	1.7%	2.0%	-0.3%	-4.8%	-2.4%
N ₂ O	9	9	13	16	18	16	16	0.1%	3.3%	2.4%	1.4%	-1.1%	-0.4%
F gases	1	1	1	2	3	2	1	0.7%	7.1%	4.2%	2.8%	-3.8%	-4.0%
Total GHG from Energy and Industry	78	152	242	325	369	361	322	6.9%	4.8%	3.0%	1.3%	-0.2%	-1.1%
CO₂ Emissions from Fuel Comb.	58	116	192	261	300	306	274	7.2%	5.1%	3.1%	1.4%	0.2%	-1.1%
Power generation/District heating	16	37	96	127	147	137	104	8.9%	9.9%	2.8%	1.5%	-0.7%	-2.7%
Industry	14	26	31	38	41	40	33	6.4%	1.6%	2.3%	0.7%	-0.2%	-1.8%
Buildings	2	4	6	7	10	14	15	7.0%	3.5%	0.4%	4.4%	3.1%	1.3%
Agriculture	0	0	3	3	4	4	4	n.s.	25.9%	0.5%	1.8%	0.6%	-1.7%
Transport	15	31	40	62	68	76	83	7.9%	2.6%	4.4%	0.9%	1.2%	0.9%
Other	11	17	15	23	30	34	34	4.2%	-1.0%	4.3%	2.4%	1.5%	-0.1%
CO₂ captured (CCS)	0	0	0	0	0	1	13	n.s.	n.s.	n.s.	n.s.	n.s.	36.0%
Coal	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	31.3%
Gas	0	0	0	0	0	0	9	n.s.	n.s.	n.s.	n.s.	n.s.	39.1%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	28.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	47	74	91	126	136	106	88	4.6%	2.1%	3.4%	0.8%	-2.4%	-1.9%
Coal	0	0	2	2	3	3	2	14.5%	20.3%	3.9%	2.7%	-0.3%	-2.9%
Oil	31	33	36	42	32	17	9	0.6%	0.9%	1.6%	-2.8%	-6.1%	-6.5%
Natural gas	14	38	50	74	87	64	47	10.4%	2.7%	4.0%	1.6%	-3.1%	-3.1%
Biomass	1	2	2	6	12	18	20	1.8%	2.2%	10.5%	7.6%	3.9%	0.9%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	18.8%	12.5%
Hydro	0	1	1	1	1	1	2	5.7%	-0.7%	8.0%	0.2%	1.2%	1.0%
Other renewables	0	0	0	0	1	2	6	n.s.	n.s.	n.s.	17.9%	15.8%	9.9%
Net Imports	- 25	- 25	- 16	- 20	- 11	31	52						
Coal	1	2	13	21	24	20	14						
Oil	- 19	- 14	- 10	- 2	8	24	33						
Natural gas	- 7	- 14	- 19	- 36	- 37	- 5	12						
Biomass	0	0	0	- 2	- 6	- 8	- 7						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	22	49	74	106	125	137	140	8.1%	4.3%	3.7%	1.6%	1.0%	0.2%
Coal	1	2	15	24	27	23	17	5.7%	20.3%	5.0%	1.4%	-1.9%	-3.1%
Oil	12	19	26	40	39	41	41	4.6%	2.9%	4.4%	-0.1%	0.4%	0.1%
Natural gas	7	25	31	38	50	59	59	13.6%	2.4%	2.0%	2.9%	1.6%	-0.1%
Biomass	1	2	2	4	6	10	13	1.8%	2.2%	5.3%	5.1%	5.3%	2.2%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	18.8%	12.5%
Hydro	0	1	1	1	1	1	2	5.7%	-0.7%	8.0%	0.2%	1.2%	1.0%
Other renewables	0	0	0	0	1	2	6	n.s.	n.s.	n.s.	17.9%	15.8%	9.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	22	49	74	106	125	137	140	8.1%	4.3%	3.7%	1.6%	1.0%	0.2%
Energy for Power Generation	6	15	33	41	50	55	56	10.7%	8.0%	2.3%	2.0%	0.9%	0.2%
Other Energy Transformation & Losses	5	9	8	14	17	20	22	6.5%	-0.7%	5.1%	2.2%	1.7%	0.9%
Final consumption	14	30	43	66	76	86	91	8.0%	3.7%	4.4%	1.5%	1.2%	0.5%
Steel, Non-Met. Minerals and Chem.	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Industry	6	12	15	19	23	23	21	7.9%	2.4%	2.7%	1.6%	0.3%	-1.2%
Non-Energy Use	1	2	4	11	12	11	9	10.4%	5.1%	11.8%	0.4%	-0.7%	-1.6%
Residential	2	3	4	6	6	7	8	4.2%	3.5%	2.4%	1.6%	1.4%	0.8%
Services	1	2	4	6	9	14	18	10.9%	6.9%	3.0%	4.6%	4.1%	2.9%
Agriculture	0	0	1	1	1	2	2	n.s.	26.2%	0.6%	1.8%	1.5%	1.2%
Road	5	10	15	22	25	29	32	8.5%	3.3%	4.5%	1.1%	1.5%	1.2%
Rail	0	0	0	0	0	0	0	n.s.	15.1%	3.8%	3.2%	2.5%	2.0%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	0	0	0	0	0	0	0	-20.8%	11.6%	19.4%	3.1%	1.4%	0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Malaysia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	5	15	32	39	48	50	45	10.9%	8.2%	2.1%	1.9%	0.4%	-1.1%
Coal	1	1	13	21	24	20	14	6.3%	24.1%	4.9%	1.6%	-2.2%	-3.5%
Oil	3	1	1	2	1	0	1	-10.7%	-2.6%	10.9%	-11.3%	-7.3%	7.7%
Gas	1	12	18	16	20	25	25	24.4%	4.1%	-1.3%	2.6%	2.1%	0.0%
Biomass & Waste	0	0	0	1	2	5	5	n.s.	n.s.	7.3%	12.5%	7.8%	0.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	23	69	125	172	225	279	322	11.6%	6.1%	3.2%	2.8%	2.2%	1.4%
Coal	3	8	43	83	96	79	57	10.1%	18.7%	6.8%	1.5%	-2.0%	-3.1%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	33.8%
Oil	11	4	4	9	3	1	3	-10.2%	0.2%	9.0%	-11.3%	-6.8%	8.2%
Gas	6	51	71	63	98	133	138	24.9%	3.3%	-1.2%	4.5%	3.1%	0.4%
of which CCS	0	0	0	0	0	1	25	n.s.	n.s.	n.s.	n.s.	n.s.	40.6%
Biomass & Waste	0	0	1	2	8	19	21	n.s.	n.s.	8.5%	12.9%	9.3%	1.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	1	4	14	n.s.	n.s.	n.s.	n.s.	18.9%	12.6%
Hydro	4	7	6	14	14	16	18	5.7%	-0.7%	8.0%	0.2%	1.2%	1.0%
Wind	0	0	0	0	2	14	41	n.s.	n.s.	n.s.	29.5%	19.6%	11.4%
Solar	0	0	0	1	4	14	30	n.s.	n.s.	n.s.	14.5%	13.0%	8.1%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.1%	17.7%	12.8%
Generation Capacity (GW_e)	5	14	27	40	44	62	85	11.4%	7.0%	3.9%	1.1%	3.4%	3.3%
Coal	1	1	8	13	15	13	12	0.8%	19.4%	5.7%	0.9%	-0.8%	-1.4%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	34.2%
Oil	1	2	2	3	2	2	2	4.7%	-3.6%	5.6%	-3.7%	0.0%	1.7%
Gas	1	8	15	16	16	21	23	24.4%	6.6%	0.3%	0.5%	2.6%	0.8%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	41.1%
Biomass & Waste	0	0	1	1	2	3	3	n.s.	20.9%	8.1%	1.1%	6.2%	0.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	18.7%	12.4%
Hydro	1	2	2	6	6	7	8	6.6%	0.1%	10.9%	0.1%	1.2%	1.0%
Wind	0	0	0	0	1	5	15	n.s.	n.s.	52.5%	28.7%	18.6%	10.7%
Solar	0	0	0	1	3	9	21	n.s.	n.s.	n.s.	14.7%	13.2%	8.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.2%	12.3%
Total Final Consumption² (Mtoe)	14	30	43	66	76	86	91	8.0%	3.7%	4.4%	1.5%	1.2%	0.5%
Coal	1	1	2	3	3	3	2	6.8%	6.3%	3.2%	0.3%	0.6%	-1.2%
Oil	9	18	23	34	35	37	37	7.1%	2.7%	3.9%	0.3%	0.5%	0.1%
Gas	1	4	6	13	18	20	19	13.5%	4.9%	7.4%	3.3%	1.1%	-0.3%
Electricity	2	5	10	14	18	22	26	11.9%	6.1%	3.6%	2.8%	2.2%	1.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	27.5%
Biomass & Other	1	2	2	2	3	4	6	1.8%	-0.3%	3.8%	2.2%	3.5%	3.5%
Share of Renewables ³ (%)	13%	8%	6%	7%	8%	13%	20%	-5.0%	-3.5%	2.1%	2.0%	4.7%	4.5%
Industry (incl. non-energy use)	6	14	19	31	34	34	30	8.2%	2.9%	5.1%	1.2%	0.0%	-1.3%
Coal	1	1	2	3	3	3	2	6.8%	6.3%	3.2%	0.3%	0.6%	-1.2%
Oil	4	6	6	9	8	7	6	5.1%	0.3%	4.3%	-1.1%	-1.2%	-2.2%
Gas	1	4	6	12	15	15	13	13.5%	4.5%	7.3%	2.2%	0.0%	-1.4%
Electricity	1	3	5	6	8	8	7	12.9%	4.9%	3.4%	2.2%	0.4%	-1.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	2.5%	n.s.	n.s.	9.1%	7.4%	3.9%
Buildings	3	5	9	11	16	21	26	6.5%	5.0%	2.7%	3.3%	3.1%	2.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	1	1	1	7.0%	3.4%	-1.4%	-1.9%	-2.1%	-1.7%
Gas	0	0	0	0	2	4	5	7.4%	8.2%	29.7%	17.2%	6.0%	2.2%
Electricity	1	2	5	7	10	13	17	10.7%	7.3%	3.7%	3.1%	3.3%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	27.5%
Biomass & Other	1	1	2	2	2	2	3	1.6%	1.8%	1.5%	0.5%	0.9%	1.2%
Agriculture	0	0	1	1	1	2	2	n.s.	26.2%	0.6%	1.8%	1.5%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	1	1	1	1	n.s.	25.9%	0.5%	1.8%	0.6%	-1.7%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	5.2%	2.8%	7.1%	9.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	16.4%
Transport	5	10	15	23	25	29	33	8.4%	3.3%	4.5%	1.1%	1.5%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	10	14	22	24	27	29	8.4%	3.1%	4.4%	0.9%	1.2%	0.8%
Gas	0	0	0	0	0	0	1	n.s.	42.2%	-1.9%	2.7%	3.9%	6.1%
Electricity	0	0	0	0	0	0	1	n.s.	15.1%	4.3%	18.0%	10.5%	5.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	54.6%	6.1%	6.9%	5.7%
Other Energy Transformation & Losses⁴	5	9	8	14	17	20	22	6.5%	-0.7%	5.1%	2.2%	1.7%	0.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Thailand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	57	63	67	69	68	66	62	1.0%	0.6%	0.3%	0.0%	-0.3%	-0.6%
GDP per capita (ppp, k\$'05)	4	6	8	10	15	21	28	3.4%	3.7%	2.6%	3.6%	3.7%	3.0%
GDP per capita (mer, k\$'05)	2	2	3	4	6	8	11	3.4%	3.7%	2.6%	3.6%	3.7%	3.0%
Share Value Added - Agriculture (%)	12	9	11	10	10	9	9	-3.8%	2.2%	-0.3%	-0.6%	-0.4%	-0.2%
Share Value Added - Industry (%)	37	37	40	36	34	30	26	-0.1%	0.8%	-1.0%	-0.7%	-1.1%	-1.3%
Share Value Added - Services (%)	50	55	49	54	57	61	65	0.8%	-1.0%	0.8%	0.5%	0.7%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	29	31	-7.8%	10.3%	1.0%	1.6%	1.3%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	210	278	365	446	404	451	496	2.9%	2.8%	2.0%	-1.0%	1.1%	1.0%
Total GHG (excl. sinks)	210	284	383	452	431	478	529	3.1%	3.0%	1.7%	-0.5%	1.1%	1.0%
Total GHG (energy, industry, agriculture)	191	268	367	447	431	478	521	3.4%	3.2%	2.0%	-0.4%	1.0%	0.9%
CO ₂	93	169	249	316	326	369	412	6.2%	4.0%	2.4%	0.3%	1.3%	1.1%
CH ₄	82	81	97	106	83	84	83	0.0%	1.8%	0.9%	-2.5%	0.2%	-0.1%
N ₂ O	16	16	20	24	22	24	26	0.2%	2.4%	1.7%	-0.8%	0.9%	0.7%
F gases	1	1	0	1	0	0	0	-2.4%	-8.4%	1.2%	-8.5%	1.0%	0.5%
Total GHG from Energy and Industry	121	203	293	366	363	407	450	5.3%	3.7%	2.3%	-0.1%	1.2%	1.0%
CO₂ Emissions from Fuel Comb.	82	154	231	297	305	346	388	6.5%	4.1%	2.6%	0.2%	1.3%	1.2%
Power generation/District heating	27	54	81	86	76	96	117	7.1%	4.2%	0.5%	-1.2%	2.3%	2.1%
Industry	14	31	50	75	73	71	72	8.2%	4.8%	4.1%	-0.2%	-0.4%	0.2%
Buildings	3	5	9	8	11	14	18	6.0%	5.8%	-1.1%	2.6%	3.1%	2.2%
Agriculture	6	9	11	14	15	14	13	4.5%	2.1%	2.4%	0.5%	-0.5%	-0.9%
Transport	27	44	61	82	89	101	109	4.9%	3.3%	3.0%	0.8%	1.4%	0.8%
Other	5	11	19	33	41	50	59	8.8%	5.9%	5.8%	2.2%	1.9%	1.6%
CO₂ captured (CCS)	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	37.9%	17.4%
Coal	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	33.8%	19.5%
Gas	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	52.4%	16.5%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	4.1%	8.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	21	41	72	70	64	55	49	6.8%	5.8%	-0.4%	-0.8%	-1.4%	-1.2%
Coal	3	5	5	5	5	6	8	4.9%	0.4%	-0.2%	0.0%	1.7%	2.8%
Oil	3	9	19	18	11	5	2	11.0%	7.9%	-0.9%	-4.9%	-8.2%	-10.2%
Natural gas	5	17	30	28	21	15	8	11.9%	6.0%	-0.8%	-2.7%	-3.5%	-6.3%
Biomass	9	10	17	16	21	21	20	0.7%	5.8%	-0.9%	3.0%	0.0%	-0.4%
Nuclear ¹	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	n.s.	17.1%	8.2%
Hydro	0	1	0	1	1	1	1	1.9%	-0.8%	2.3%	0.9%	0.6%	0.4%
Other renewables	0	0	0	3	5	6	6	n.s.	6.4%	n.s.	6.3%	2.1%	0.1%
Net Imports	15	26	40	80	99	127	152						
Coal	1	2	11	15	10	10	11						
Oil	15	23	26	45	51	59	61						
Natural gas	0	1	3	15	35	55	77						
Biomass	0	0	0	3	2	2	1						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	37	68	113	149	163	183	201	6.3%	5.2%	2.9%	0.9%	1.1%	0.9%
Coal	4	8	16	20	16	16	19	7.1%	7.9%	2.3%	-2.6%	0.2%	1.9%
Oil	18	32	45	63	61	63	63	5.8%	3.5%	3.4%	-0.2%	0.3%	-0.1%
Natural gas	5	17	33	42	56	70	84	13.3%	6.6%	2.6%	2.8%	2.2%	1.9%
Biomass	9	10	17	19	23	23	21	0.7%	5.8%	0.9%	1.9%	0.1%	-1.0%
Nuclear ¹	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	n.s.	17.1%	8.2%
Hydro	0	1	0	1	1	1	1	1.9%	-0.8%	2.3%	0.9%	0.6%	0.4%
Other renewables	0	0	0	3	5	6	6	n.s.	6.4%	n.s.	6.3%	2.1%	0.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	37	68	113	149	163	183	201	6.3%	5.2%	2.9%	0.9%	1.1%	0.9%
Energy for Power Generation	9	20	33	36	39	50	60	8.0%	4.9%	1.1%	0.8%	2.4%	1.9%
Other Energy Transformation & Losses	2	4	8	18	23	27	33	7.9%	8.1%	7.9%	2.3%	1.9%	1.8%
Final consumption	29	51	85	112	122	132	140	5.8%	5.2%	2.8%	0.8%	0.8%	0.6%
Steel, Non-Met. Minerals and Chem.	2	6	12	16	15	14	15	8.4%	7.8%	2.9%	-0.5%	-0.5%	0.5%
Other Industry	6	12	15	20	23	24	24	6.5%	2.4%	3.1%	1.5%	0.5%	0.1%
Non-Energy Use	0	6	18	26	27	27	26	29.3%	12.4%	3.8%	0.5%	-0.2%	-0.5%
Residential	8	8	11	12	13	13	13	0.2%	3.9%	0.9%	0.4%	0.4%	0.1%
Services	1	3	6	7	9	13	17	8.2%	6.1%	1.6%	2.9%	3.9%	2.9%
Agriculture	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.5%	1.3%	0.9%
Road	9	14	19	26	29	33	37	5.3%	3.0%	3.1%	0.9%	1.5%	1.0%
Rail	0	0	0	0	0	0	0	-0.6%	-1.1%	1.4%	1.1%	1.2%	0.9%
Aviation	0	0	0	1	1	1	1	n.s.	n.s.	4.3%	0.1%	0.6%	0.4%
Other Transport	0	0	0	0	0	0	0	-16.2%	2.7%	8.8%	1.7%	1.2%	0.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Thailand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	20	32	33	33	41	49	8.2%	5.0%	0.3%	0.1%	2.1%	1.7%
Coal	3	4	7	8	6	8	10	5.0%	5.2%	2.0%	-3.0%	2.0%	3.3%
Oil	3	2	0	1	0	2	4	-0.8%	-19.6%	13.4%	-12.7%	26.2%	5.0%
Gas	4	13	23	21	22	26	32	12.8%	5.9%	-0.8%	0.3%	1.7%	2.1%
Biomass & Waste	0	0	2	3	5	5	3	n.s.	17.5%	1.6%	7.2%	0.2%	-7.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	44	96	160	196	228	293	356	8.1%	5.2%	2.1%	1.5%	2.6%	2.0%
Coal	11	18	30	30	24	32	47	4.9%	5.4%	0.1%	-2.4%	3.0%	3.8%
of which CCS	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	20.4%
Oil	10	10	1	4	1	11	18	-0.3%	-19.3%	13.4%	-12.6%	26.1%	5.1%
Gas	18	62	119	116	120	146	184	13.2%	6.8%	-0.3%	0.3%	2.0%	2.4%
of which CCS	0	0	0	0	0	4	20	n.s.	n.s.	n.s.	n.s.	n.s.	17.2%
Biomass & Waste	0	1	3	9	18	19	10	n.s.	20.9%	10.3%	7.3%	0.5%	-6.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	2	9	20	n.s.	n.s.	n.s.	n.s.	17.2%	8.3%
Hydro	5	6	6	7	8	8	8	1.9%	-0.8%	2.3%	0.9%	0.6%	0.4%
Wind	0	0	0	20	27	33	33	n.s.	n.s.	n.s.	3.1%	2.0%	0.1%
Solar	0	0	0	10	29	36	36	n.s.	n.s.	n.s.	10.8%	2.2%	0.0%
Other	0	0	0	0	0	0	0	7.2%	2.4%	1.7%	26.7%	15.8%	11.4%
Generation Capacity (GW_e)	10	27	41	68	86	94	96	10.9%	4.2%	5.2%	2.3%	0.9%	0.2%
Coal	1	3	4	5	5	5	7	5.7%	4.3%	1.9%	0.5%	-0.6%	3.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	20.6%
Oil	3	6	10	8	7	5	5	7.0%	5.6%	-2.1%	-1.3%	-4.2%	1.5%
Gas	3	15	21	25	26	28	30	17.7%	3.4%	1.7%	0.2%	0.8%	0.8%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	17.6%
Biomass & Waste	0	0	1	3	3	3	1	n.s.	9.8%	12.1%	0.4%	-1.6%	-6.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	16.9%	8.0%
Hydro	2	3	5	6	7	7	8	3.5%	3.9%	2.9%	0.9%	0.6%	0.4%
Wind	0	0	0	13	18	21	17	n.s.	n.s.	n.s.	2.9%	1.6%	-1.9%
Solar	0	0	0	7	20	25	25	n.s.	n.s.	n.s.	10.5%	2.1%	0.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.2%	10.9%
Total Final Consumption² (Mtoe)	29	51	85	112	122	132	140	5.8%	5.2%	2.8%	0.8%	0.8%	0.6%
Coal	1	4	9	12	9	8	9	10.3%	10.0%	2.6%	-2.3%	-1.1%	0.5%
Oil	15	29	44	58	57	57	55	6.9%	4.2%	2.9%	-0.1%	-0.1%	-0.3%
Gas	0	2	5	11	20	27	31	27.0%	11.8%	8.8%	6.6%	2.8%	1.6%
Electricity	3	8	13	16	19	24	29	8.7%	5.4%	2.4%	1.4%	2.5%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.4%
Biomass & Other	9	9	14	15	16	16	16	0.2%	4.4%	0.5%	0.4%	0.0%	0.2%
Share of Renewables ³ (%)	31%	20%	21%	21%	23%	23%	22%	-4.2%	0.5%	-0.2%	1.1%	-0.2%	-0.6%
Industry (incl. non-energy use)	9	23	45	62	65	65	65	9.6%	6.9%	3.3%	0.6%	0.0%	-0.1%
Coal	1	4	9	12	9	8	9	10.3%	10.0%	2.6%	-2.3%	-1.1%	0.5%
Oil	3	10	20	28	25	21	17	12.1%	7.1%	3.5%	-1.2%	-1.7%	-1.9%
Gas	0	2	3	8	17	21	24	27.0%	7.6%	10.0%	7.5%	2.4%	1.1%
Electricity	2	3	5	7	7	8	9	8.4%	4.7%	2.2%	0.8%	1.1%	0.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	4	7	7	7	7	6	4.0%	5.0%	0.0%	0.0%	-0.6%	-0.2%
Buildings	9	11	17	19	22	26	31	1.9%	4.6%	1.1%	1.3%	2.0%	1.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	2	1	1	1	6.0%	5.8%	-2.9%	-3.5%	-2.4%	-1.6%
Gas	0	0	0	1	2	5	6	n.s.	n.s.	n.s.	15.3%	6.1%	3.3%
Electricity	2	4	7	9	11	15	18	8.9%	6.0%	2.5%	1.6%	2.9%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	5.4%
Biomass & Other	6	5	7	7	7	6	5	-2.1%	2.9%	0.2%	-0.4%	-1.2%	-1.4%
Agriculture	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.5%	1.3%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	3	4	5	4	4	4.5%	2.1%	2.4%	0.5%	-0.5%	-0.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	1	4.8%	8.1%	4.9%	14.4%	10.1%	5.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	10.8%	4.8%
Transport	9	15	20	27	30	34	38	4.9%	3.1%	3.1%	0.9%	1.5%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	15	18	24	27	31	33	4.9%	2.0%	3.0%	1.1%	1.4%	0.7%
Gas	0	0	1	2	1	1	1	n.s.	n.s.	2.8%	-5.9%	-1.9%	3.0%
Electricity	0	0	0	0	0	0	1	n.s.	6.6%	13.4%	22.8%	11.0%	6.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	1	2	2	3	n.s.	n.s.	6.5%	3.7%	2.8%	2.8%
Other Energy Transformation & Losses⁴	2	4	8	18	23	27	33	7.9%	8.1%	7.9%	2.3%	1.9%	1.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Vietnam	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	68	80	88	98	105	110	113	1.6%	1.0%	1.1%	0.7%	0.4%	0.3%
GDP per capita (ppp, k\$'05)	1	2	3	5	8	12	16	5.8%	5.6%	4.9%	4.9%	4.1%	3.3%
GDP per capita (mer, k\$'05)	0	1	1	1	2	3	5	5.8%	5.6%	4.9%	4.9%	4.1%	3.3%
Share Value Added - Agriculture (%)	39	23	18	15	13	12	11	-5.2%	-2.1%	-1.9%	-1.6%	-0.8%	-0.5%
Share Value Added - Industry (%)	23	34	32	34	34	32	30	4.2%	-0.6%	0.5%	-0.1%	-0.5%	-0.7%
Share Value Added - Services (%)	39	43	50	51	53	56	59	1.1%	1.4%	0.3%	0.5%	0.5%	0.5%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	29	31	-7.8%	10.3%	1.0%	1.6%	1.3%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	112	100	273	404	514	558	597	-1.1%	10.5%	4.0%	2.4%	0.8%	0.7%
Total GHG (excl. sinks)	112	144	288	416	530	591	638	2.6%	7.2%	3.7%	2.5%	1.1%	0.8%
Total GHG (energy, industry, agriculture)	89	144	287	416	527	588	630	4.9%	7.2%	3.8%	2.4%	1.1%	0.7%
CO ₂	20	52	147	252	352	431	475	10.0%	11.0%	5.5%	3.4%	2.0%	1.0%
CH ₄	59	74	109	118	121	106	102	2.3%	4.0%	0.8%	0.2%	-1.3%	-0.4%
N ₂ O	10	18	31	46	54	52	53	5.7%	5.4%	4.0%	1.6%	-0.4%	0.2%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	36	78	204	303	402	477	524	8.2%	10.0%	4.1%	2.8%	1.7%	0.9%
CO₂ Emissions from Fuel Comb.	17	44	124	213	296	360	396	9.9%	10.9%	5.6%	3.3%	2.0%	0.9%
Power generation/District heating	5	11	41	87	136	173	187	9.0%	13.7%	7.9%	4.6%	2.4%	0.7%
Industry	6	14	41	65	81	85	86	9.9%	11.1%	4.8%	2.2%	0.5%	0.2%
Buildings	2	7	11	13	19	26	32	12.9%	5.4%	1.4%	4.1%	2.9%	2.0%
Agriculture	1	1	2	2	3	3	3	5.0%	3.8%	1.7%	2.3%	1.2%	0.0%
Transport	4	11	28	42	51	66	80	9.8%	10.4%	4.0%	2.1%	2.6%	1.9%
Other	0	0	1	4	5	7	8	8.4%	45.6%	14.3%	1.6%	2.8%	1.7%
CO₂ captured (CCS)	0	0	0	0	0	0	5	n.s.	n.s.	n.s.	n.s.	n.s.	32.8%
Coal	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	34.0%
Gas	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	34.7%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	6.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	17	39	65	62	53	59	66	8.4%	5.3%	-0.4%	-1.6%	1.1%	1.1%
Coal	2	7	25	13	1	0	0	10.3%	14.5%	-6.6%	-26.5%	n.s.	n.s.
Oil	3	16	16	19	18	17	15	20.0%	-0.5%	1.8%	-0.4%	-0.5%	-1.2%
Natural gas	0	1	8	9	11	16	19	44.5%	19.4%	1.7%	2.2%	3.1%	2.0%
Biomass	12	13	14	15	15	17	18	1.2%	0.3%	0.8%	0.3%	0.9%	0.7%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	13.5%
Hydro	0	1	2	5	5	5	5	10.5%	6.6%	7.8%	0.0%	0.6%	0.3%
Other renewables	0	0	0	1	2	3	5	n.s.	n.s.	n.s.	4.4%	4.0%	4.8%
Net Imports	0	-11	-7	25	64	85	99						
Coal	0	-2	-11	15	38	41	43						
Oil	0	-9	3	5	11	18	25						
Natural gas	0	0	0	4	16	27	31						
Biomass	0	0	0	0	0	-1	-1						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	17	28	58	87	117	144	165	4.9%	7.6%	4.2%	2.9%	2.1%	1.3%
Coal	2	4	15	28	38	41	43	7.0%	12.9%	6.8%	3.1%	0.6%	0.4%
Oil	3	8	19	24	29	35	40	11.2%	9.1%	2.7%	1.6%	2.1%	1.3%
Natural gas	0	1	8	13	27	42	50	n.s.	21.9%	4.9%	7.5%	4.5%	1.8%
Biomass	12	13	14	15	16	16	17	1.2%	0.3%	0.9%	0.3%	0.5%	0.6%
Nuclear ¹	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	13.5%
Hydro	0	1	2	5	5	5	5	10.5%	6.6%	7.8%	0.0%	0.6%	0.3%
Other renewables	0	0	0	1	2	3	5	n.s.	n.s.	n.s.	4.4%	4.0%	4.8%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	17	28	58	87	117	144	165	4.9%	7.6%	4.2%	2.9%	2.1%	1.3%
Energy for Power Generation	2	5	16	32	47	63	73	10.7%	12.8%	7.3%	3.9%	2.8%	1.6%
Other Energy Transformation & Losses	0	0	1	-1	0	2	4	n.s.	n.s.	n.s.	n.s.	19.8%	7.8%
Final consumption	16	25	48	70	90	108	121	4.6%	6.8%	3.8%	2.5%	1.8%	1.2%
Steel, Non-Met. Minerals and Chem.	0	0	6	13	16	20	21	n.s.	n.s.	7.8%	2.6%	1.8%	0.8%
Other Industry	5	8	11	17	24	29	31	5.7%	3.8%	4.3%	3.4%	1.5%	0.8%
Non-Energy Use	0	0	2	3	4	4	4	16.9%	32.8%	1.9%	3.0%	0.8%	0.5%
Residential	10	12	16	19	20	21	22	2.4%	2.9%	1.5%	0.7%	0.6%	0.2%
Services	0	1	2	3	5	8	10	12.6%	4.8%	4.9%	5.7%	4.5%	3.1%
Agriculture	0	0	1	1	1	1	2	5.4%	3.8%	3.0%	2.6%	2.1%	1.7%
Road	1	3	10	15	19	25	31	10.3%	11.4%	4.1%	2.4%	2.9%	2.3%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	1.4%	3.9%	2.9%	1.1%	0.7%	0.6%
Other Transport	0	0	0	0	0	0	0	17.8%	8.3%	-3.1%	4.2%	2.5%	1.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Vietnam	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	1	4	14	26	40	53	59	10.8%	14.4%	6.6%	4.5%	2.8%	1.1%
Coal	1	1	5	16	25	30	33	2.6%	15.5%	12.4%	5.0%	1.5%	1.0%
Oil	0	1	1	2	1	3	3	13.1%	-1.2%	2.8%	-0.3%	7.3%	1.2%
Gas	0	1	8	9	13	20	22	n.s.	21.4%	1.3%	4.1%	4.3%	0.9%
Biomass & Waste	0	0	0	0	0	1	2	n.s.	n.s.	5.7%	18.1%	16.5%	9.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.5%	0.8%	0.7%
Gross Elec. Generation (TWh_e)	9	27	95	188	260	347	413	11.8%	13.6%	7.1%	3.3%	2.9%	1.7%
Coal	2	3	20	67	111	131	145	4.6%	20.2%	13.0%	5.2%	1.6%	1.1%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	39.3%
Oil	1	5	3	7	7	14	15	13.2%	-2.8%	7.3%	-0.3%	7.3%	1.2%
Gas	0	4	44	49	74	114	125	n.s.	26.1%	1.1%	4.1%	4.4%	1.0%
of which CCS	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	39.2%
Biomass & Waste	0	0	0	0	1	3	8	n.s.	n.s.	6.0%	20.4%	17.4%	10.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	3	12	n.s.	n.s.	n.s.	n.s.	n.s.	13.6%
Hydro	5	15	28	58	58	61	63	10.5%	6.6%	7.8%	0.0%	0.6%	0.3%
Wind	0	0	0	5	6	13	23	n.s.	n.s.	58.1%	2.2%	7.7%	6.1%
Solar	0	0	0	1	2	6	18	n.s.	n.s.	n.s.	13.2%	11.2%	10.7%
Other	0	0	0	1	2	2	2	n.s.	n.s.	n.s.	4.6%	1.2%	1.8%
Generation Capacity (GW_e)	2	6	20	49	62	83	101	11.7%	11.7%	9.6%	2.4%	3.0%	2.0%
Coal	1	1	3	17	25	31	33	-1.0%	17.4%	18.5%	3.7%	2.3%	0.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	39.5%
Oil	1	2	2	4	4	3	3	8.2%	2.2%	6.5%	0.5%	-1.0%	-0.5%
Gas	0	1	6	8	11	17	19	n.s.	19.4%	1.6%	3.6%	4.9%	1.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	39.3%
Biomass & Waste	0	0	0	0	0	0	1	n.s.	n.s.	0.8%	20.2%	17.4%	10.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	13.4%
Hydro	1	3	8	15	15	16	16	16.6%	9.7%	6.6%	0.0%	0.6%	0.3%
Wind	0	0	0	5	6	10	14	n.s.	n.s.	n.s.	1.5%	5.8%	3.5%
Solar	0	0	0	0	2	5	13	n.s.	n.s.	n.s.	13.6%	11.4%	11.0%
Other	0	0	0	0	0	0	0	3.4%	0.0%	8.5%	4.5%	1.1%	1.1%
Total Final Consumption² (Mtoe)	16	25	48	70	90	108	121	4.6%	6.8%	3.8%	2.5%	1.8%	1.2%
Coal	1	3	10	13	13	11	10	9.2%	11.8%	2.6%	0.2%	-1.3%	-1.2%
Oil	2	7	17	24	28	32	36	10.8%	9.8%	3.5%	1.6%	1.6%	1.2%
Gas	0	0	0	5	14	22	28	n.s.	39.2%	25.1%	11.9%	4.6%	2.5%
Electricity	1	2	7	14	20	27	32	13.7%	14.5%	6.8%	3.3%	2.9%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	17.8%
Biomass & Other	12	13	14	15	15	15	15	1.2%	0.3%	0.8%	-0.1%	0.0%	-0.1%
Share of Renewables ³ (%)	76%	58%	34%	29%	23%	21%	21%	-2.7%	-5.2%	-1.5%	-2.2%	-1.0%	0.1%
Industry (incl. non-energy use)	5	8	20	33	45	52	56	5.7%	9.4%	5.3%	3.1%	1.6%	0.8%
Coal	1	2	8	11	12	10	9	8.5%	13.4%	3.3%	0.2%	-1.2%	-0.9%
Oil	0	2	4	6	7	6	6	13.2%	10.3%	3.3%	1.2%	-0.7%	-1.0%
Gas	0	0	0	4	10	15	17	n.s.	39.2%	23.0%	10.2%	3.7%	1.7%
Electricity	0	1	4	9	13	17	20	12.3%	17.7%	7.9%	3.9%	3.1%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	3	3	3	4	4	1.3%	-2.1%	1.8%	0.7%	1.0%	0.2%
Buildings	10	13	18	22	25	29	32	2.9%	3.1%	1.9%	1.5%	1.5%	1.0%
Coal	0	1	2	1	1	1	1	14.3%	6.2%	-1.3%	-0.3%	-2.5%	-5.1%
Oil	0	1	2	2	2	2	2	11.7%	4.6%	1.6%	-1.0%	-0.8%	-0.3%
Gas	0	0	0	1	4	7	10	n.s.	n.s.	n.s.	18.1%	6.8%	3.7%
Electricity	0	1	3	6	7	9	11	15.9%	12.1%	5.4%	2.2%	2.3%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	17.8%
Biomass & Other	9	10	11	12	11	10	9	1.2%	1.0%	0.5%	-0.7%	-0.9%	-1.4%
Agriculture	0	0	1	1	1	1	2	5.4%	3.8%	3.0%	2.6%	2.1%	1.7%
Coal	0	0	0	0	0	0	0	-9.4%	-2.0%	-0.7%	0.0%	-0.9%	-2.1%
Oil	0	0	1	1	1	1	1	8.8%	4.2%	1.8%	2.4%	1.3%	0.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	1	4.0%	3.5%	8.8%	3.4%	3.5%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.4%
Transport	1	3	10	15	19	25	31	9.7%	11.2%	4.0%	2.3%	2.9%	2.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	3	10	15	18	24	28	9.9%	11.2%	4.0%	2.0%	2.6%	1.8%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.3%	7.7%	7.9%
Electricity	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	14.8%	8.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	21.8%	7.9%	6.3%
Other Energy Transformation & Losses⁴	0	0	1	-1	0	2	4	n.s.	n.s.	n.s.	n.s.	19.8%	7.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest South Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	262	333	398	468	531	585	626	2.4%	1.8%	1.6%	1.3%	1.0%	0.7%
GDP per capita (ppp, k\$'05)	1	1	2	3	5	8	12	1.9%	3.4%	3.8%	5.4%	5.2%	4.4%
GDP per capita (mer, k\$'05)	0	1	1	1	2	3	4	1.9%	3.4%	3.8%	5.4%	5.2%	4.4%
Share Value Added - Agriculture (%)	30	25	21	17	13	11	10	-1.7%	-1.9%	-2.0%	-2.8%	-1.6%	-0.9%
Share Value Added - Industry (%)	23	24	23	25	27	26	24	0.2%	-0.1%	0.7%	0.7%	-0.2%	-0.9%
Share Value Added - Services (%)	47	51	56	58	60	63	66	0.9%	0.9%	0.4%	0.4%	0.4%	0.5%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	25	26	-7.8%	10.3%	1.1%	0.9%	0.4%	0.4%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	439	537	662	865	1 226	1 478	1 656	2.0%	2.1%	2.7%	3.5%	1.9%	1.1%
Total GHG (excl. sinks)	439	537	662	865	1 226	1 478	1 656	2.0%	2.1%	2.7%	3.5%	1.9%	1.1%
Total GHG (energy, industry, agriculture)	341	444	606	812	1 183	1 432	1 617	2.7%	3.2%	3.0%	3.8%	1.9%	1.2%
CO ₂	82	146	234	398	681	926	1 079	6.0%	4.8%	5.5%	5.5%	3.1%	1.5%
CH ₄	216	245	307	340	419	416	440	1.3%	2.3%	1.0%	2.1%	-0.1%	0.6%
N ₂ O	42	52	64	72	82	88	97	2.1%	2.2%	1.1%	1.3%	0.8%	0.9%
F gases	1	1	1	1	2	1	1	-2.1%	3.0%	2.4%	2.4%	-4.5%	0.8%
Total GHG from Energy and Industry	144	231	353	556	922	1 169	1 346	4.8%	4.3%	4.6%	5.2%	2.4%	1.4%
CO₂ Emissions from Fuel Comb.	75	135	213	368	631	859	996	6.0%	4.7%	5.6%	5.6%	3.1%	1.5%
Power generation/District heating	20	45	67	122	166	234	264	8.4%	4.2%	6.1%	3.1%	3.5%	1.2%
Industry	20	28	50	61	131	172	196	3.6%	5.8%	2.2%	7.8%	2.7%	1.3%
Buildings	12	18	26	47	115	151	155	3.5%	4.1%	6.0%	9.4%	2.8%	0.2%
Agriculture	2	3	3	5	6	8	9	3.2%	2.8%	3.5%	3.1%	2.2%	0.9%
Transport	19	37	60	122	194	264	335	6.8%	4.8%	7.4%	4.7%	3.2%	2.4%
Other	2	5	7	11	20	30	38	10.4%	3.0%	5.3%	6.3%	4.1%	2.2%
CO₂ captured (CCS)	0	0	0	0	0	2	29	n.s.	n.s.	n.s.	n.s.	n.s.	29.6%
Coal	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	n.s.	36.8%
Gas	0	0	0	0	0	2	18	n.s.	n.s.	n.s.	n.s.	n.s.	27.0%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	6.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	56	76	114	117	121	139	157	3.2%	4.1%	0.2%	0.4%	1.3%	1.3%
Coal	1	1	2	2	4	6	8	2.3%	5.1%	1.1%	5.6%	4.1%	2.2%
Oil	3	3	4	5	7	11	16	1.0%	2.2%	2.8%	3.6%	4.0%	3.5%
Natural gas	14	26	51	62	58	57	53	6.0%	7.2%	1.9%	-0.7%	-0.2%	-0.8%
Biomass	36	43	52	41	43	46	46	2.0%	1.7%	-2.3%	0.4%	0.7%	0.2%
Nuclear ¹	0	1	1	1	2	6	12	21.2%	5.5%	5.1%	5.0%	9.4%	7.3%
Hydro	2	2	4	4	5	5	6	0.4%	7.0%	0.1%	1.0%	1.1%	1.0%
Other renewables	0	0	0	1	2	7	17	n.s.	n.s.	45.0%	13.5%	14.0%	8.4%
Net Imports	12	23	24	67	170	253	311						
Coal	1	1	4	9	16	24	31						
Oil	11	24	28	58	76	95	110						
Natural gas	-1	-2	-7	-2	77	133	167						
Biomass	0	0	0	2	1	0	0						
Biofuels	0	0	0	0	0	1	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	68	100	139	183	291	391	467	4.0%	3.3%	2.8%	4.7%	3.0%	1.8%
Coal	2	3	6	11	20	30	39	1.3%	8.6%	6.7%	6.0%	4.4%	2.6%
Oil	14	27	32	64	84	106	126	6.7%	1.6%	7.1%	2.8%	2.4%	1.7%
Natural gas	14	24	44	60	135	190	220	5.8%	6.3%	3.0%	8.5%	3.4%	1.5%
Biomass	36	43	52	43	43	46	46	2.0%	1.7%	-1.8%	0.1%	0.6%	0.1%
Nuclear ¹	0	1	1	1	2	6	12	21.2%	5.5%	5.1%	5.0%	9.4%	7.3%
Hydro	2	2	4	4	5	5	6	0.4%	7.0%	0.1%	1.0%	1.1%	1.0%
Other renewables	0	0	0	1	2	7	17	n.s.	n.s.	45.0%	13.5%	14.0%	8.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	68	100	139	183	291	391	467	4.0%	3.3%	2.8%	4.7%	3.0%	1.8%
Energy for Power Generation	10	19	30	49	70	106	138	6.8%	4.9%	5.0%	3.6%	4.2%	2.7%
Other Energy Transformation & Losses	1	3	3	4	10	19	32	15.2%	0.1%	3.2%	10.0%	6.8%	5.3%
Final consumption	60	84	116	148	241	318	372	3.4%	3.3%	2.4%	5.0%	2.8%	1.6%
Steel, Non-Met. Minerals and Chem.	3	4	7	8	13	17	19	2.7%	5.0%	1.9%	4.9%	2.3%	1.4%
Other Industry	7	11	19	24	56	75	84	4.9%	5.3%	2.3%	8.9%	3.0%	1.1%
Non-Energy Use	4	5	5	6	10	13	15	4.2%	-0.4%	1.4%	5.7%	2.3%	1.1%
Residential	38	48	60	62	79	90	89	2.4%	2.3%	0.3%	2.5%	1.3%	-0.2%
Services	1	2	3	5	10	16	22	5.0%	5.1%	3.7%	6.9%	5.3%	3.0%
Agriculture	1	1	2	3	4	5	7	2.0%	4.1%	3.3%	3.5%	3.2%	2.7%
Road	6	11	18	38	64	94	125	6.2%	5.5%	7.6%	5.5%	3.8%	2.9%
Rail	0	0	0	1	1	1	1	1.5%	0.4%	3.6%	1.9%	2.2%	2.1%
Aviation	0	1	1	1	3	5	8	16.1%	0.1%	3.3%	7.6%	6.7%	5.4%
Other Transport	0	0	1	1	1	2	3	5.2%	10.5%	2.9%	5.8%	4.6%	3.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	8	16	25	43	61	87	104	7.8%	4.5%	5.5%	3.5%	3.6%	1.8%
Coal	0	0	0	4	7	15	21	17.8%	12.7%	28.4%	7.2%	6.9%	3.9%
Oil	2	8	9	18	13	9	7	12.5%	2.0%	6.7%	-3.0%	-3.5%	-2.9%
Gas	5	8	16	21	40	63	75	4.8%	6.3%	3.2%	6.6%	4.6%	1.8%
Biomass & Waste	0	0	0	0	0	0	0	1	n.s.	n.s.	8.6%	3.7%	15.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	52	95	157	249	387	640	880	6.2%	5.2%	4.7%	4.5%	5.2%	3.2%
Coal	0	0	1	13	32	70	106	20.3%	13.6%	31.7%	9.1%	8.0%	4.3%
of which CCS	0	0	0	0	0	0	0	13	n.s.	n.s.	n.s.	n.s.	40.1%
Oil	8	32	40	79	59	42	32	14.2%	2.3%	7.1%	-2.9%	-3.3%	-2.8%
Gas	19	36	64	94	208	356	428	6.4%	5.9%	4.0%	8.3%	5.5%	1.9%
of which CCS	0	0	0	0	0	1	25	n.s.	n.s.	n.s.	n.s.	n.s.	38.0%
Biomass & Waste	0	0	0	0	0	1	3	n.s.	n.s.	10.7%	6.3%	22.9%	9.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	3	6	10	24	50	21.2%	5.5%	5.3%	5.3%	9.7%	7.4%
Hydro	24	25	49	50	55	61	68	0.4%	7.0%	0.1%	1.0%	1.1%	1.0%
Wind	0	0	0	6	21	73	146	n.s.	33.3%	n.s.	12.6%	13.3%	7.2%
Solar	0	0	0	0	2	13	46	n.s.	n.s.	2.8%	32.5%	18.8%	13.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	22.2%	16.1%	12.0%
Generation Capacity (GW_e)	13	24	34	53	78	129	202	6.5%	3.7%	4.4%	4.0%	5.1%	4.6%
Coal	0	0	0	2	5	10	15	0.0%	10.7%	17.7%	8.0%	7.6%	4.6%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	40.0%
Oil	3	5	7	14	14	13	14	4.7%	3.5%	7.2%	0.3%	-1.1%	0.9%
Gas	4	11	16	21	35	55	74	9.9%	3.6%	3.2%	5.1%	4.5%	3.1%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	38.4%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	5.8%	1.5%	22.0%	9.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	2	4	8	13.7%	0.0%	7.2%	5.1%	9.5%	7.2%
Hydro	5	7	11	12	13	14	16	3.7%	4.0%	0.8%	1.0%	1.1%	1.0%
Wind	0	0	0	3	8	25	48	n.s.	29.9%	51.2%	11.9%	12.3%	6.6%
Solar	0	0	0	0	2	8	27	n.s.	n.s.	9.5%	28.2%	16.4%	12.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.6%	11.5%
Total Final Consumption² (Mtoe)	60	84	116	148	241	318	372	3.4%	3.3%	2.4%	5.0%	2.8%	1.6%
Coal	2	2	5	7	12	16	17	0.3%	9.0%	2.9%	5.5%	2.5%	1.2%
Oil	11	19	22	44	69	94	116	5.0%	1.6%	7.4%	4.5%	3.2%	2.1%
Gas	8	14	27	36	89	117	129	5.7%	6.7%	3.0%	9.6%	2.7%	1.0%
Electricity	3	6	11	17	27	45	62	6.1%	6.5%	4.7%	4.5%	5.2%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	36	43	52	43	44	46	47	2.0%	1.7%	-1.7%	0.1%	0.6%	0.2%
Share of Renewables ³ (%)	64%	56%	49%	32%	21%	19%	20%	-1.4%	-1.4%	-4.1%	-4.2%	-0.8%	0.6%
Industry (incl. non-energy use)	14	21	31	38	80	105	118	4.2%	4.0%	2.1%	7.6%	2.8%	1.1%
Coal	2	2	5	7	12	15	17	0.5%	8.5%	3.1%	5.7%	2.6%	1.2%
Oil	2	3	2	3	6	9	10	6.0%	-4.1%	3.8%	6.0%	4.1%	1.8%
Gas	6	9	15	17	39	50	57	4.7%	4.7%	1.0%	8.9%	2.5%	1.3%
Electricity	1	2	4	7	10	15	18	4.6%	7.4%	4.8%	4.8%	3.5%	2.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	4	5	5	12	16	15	4.2%	1.9%	0.3%	9.7%	2.6%	-0.9%
Buildings	39	50	63	67	89	107	111	2.5%	2.5%	0.5%	2.9%	1.8%	0.4%
Coal	0	0	0	0	0	0	0	-11.7%	31.8%	-0.3%	-0.8%	-2.9%	-5.6%
Oil	2	2	2	3	4	6	6	-0.1%	-2.1%	3.5%	3.9%	3.9%	0.6%
Gas	2	4	8	16	43	57	58	7.8%	6.4%	7.0%	10.6%	2.7%	0.2%
Electricity	2	3	6	10	12	20	27	8.4%	6.0%	4.8%	2.5%	5.0%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	33	40	47	38	29	24	19	1.9%	1.7%	-2.0%	-2.7%	-2.0%	-1.9%
Agriculture	1	1	2	3	4	5	7	2.0%	4.1%	3.3%	3.5%	3.2%	2.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	2	3	3	3.1%	2.8%	3.6%	3.1%	2.2%	0.9%
Gas	0	0	0	0	0	0	0	n.s.	2.9%	0.9%	2.9%	2.2%	1.1%
Electricity	0	0	1	1	2	2	3	0.1%	6.0%	3.0%	4.0%	3.9%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.8%
Transport	7	12	20	40	69	102	138	6.4%	5.1%	7.3%	5.5%	4.0%	3.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	12	17	37	57	78	97	6.3%	3.2%	8.3%	4.5%	3.1%	2.3%
Gas	0	0	3	3	7	10	14	n.s.	42.7%	-0.7%	7.6%	3.9%	3.7%
Electricity	0	0	0	0	3	8	13	-7.2%	n.s.	n.s.	39.6%	11.1%	5.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	7	13	n.s.	n.s.	n.s.	23.3%	10.5%	6.9%
Other Energy Transformation & Losses⁴	1	3	3	4	10	19	32	15.2%	0.1%	3.2%	10.0%	6.8%	5.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest South East Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	170	202	229	257	281	300	314	1.8%	1.3%	1.1%	0.9%	0.7%	0.4%
GDP per capita (ppp, k\$'05)	2	2	3	4	5	6	8	2.8%	4.1%	3.3%	1.9%	1.9%	2.1%
GDP per capita (mer, k\$'05)	1	1	2	2	3	3	4	3.1%	4.2%	3.4%	1.9%	1.9%	2.1%
Share Value Added - Agriculture (%)	12	7	6	5	5	4	4	-4.9%	-1.1%	-2.5%	-0.8%	-0.7%	-0.6%
Share Value Added - Industry (%)	34	34	29	26	26	26	26	0.3%	-1.6%	-1.4%	0.1%	0.0%	-0.1%
Share Value Added - Services (%)	55	58	64	69	70	70	70	0.7%	0.9%	0.8%	0.0%	0.0%	0.1%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	26	29	31	-7.8%	10.3%	1.0%	1.6%	1.3%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	740	857	949	1 148	1 281	1 059	987	1.5%	1.0%	1.9%	1.1%	-1.9%	-0.7%
Total GHG (excl. sinks)	740	857	949	1 148	1 281	1 164	1 140	1.5%	1.0%	1.9%	1.1%	-0.9%	-0.2%
Total GHG (energy, industry, agriculture)	525	671	782	972	1 115	1 015	982	2.5%	1.5%	2.2%	1.4%	-0.9%	-0.3%
CO ₂	338	454	524	626	696	686	673	3.0%	1.4%	1.8%	1.1%	-0.1%	-0.2%
CH ₄	141	161	196	268	330	251	236	1.4%	2.0%	3.2%	2.1%	-2.7%	-0.6%
N ₂ O	44	43	42	52	60	55	55	-0.1%	-0.3%	2.3%	1.3%	-0.7%	0.0%
F gases	3	12	20	25	30	23	19	15.7%	5.3%	2.5%	1.6%	-2.3%	-2.2%
Total GHG from Energy and Industry	404	538	626	792	916	841	820	2.9%	1.5%	2.4%	1.5%	-0.9%	-0.3%
CO₂ Emissions from Fuel Comb.	310	430	496	592	647	629	609	3.3%	1.4%	1.8%	0.9%	-0.3%	-0.3%
Power generation/District heating	88	180	228	280	308	288	265	7.4%	2.4%	2.1%	1.0%	-0.7%	-0.8%
Industry	127	110	121	130	142	138	134	-1.4%	1.0%	0.7%	0.9%	-0.3%	-0.2%
Buildings	30	31	32	36	43	44	41	0.4%	0.3%	1.2%	1.8%	0.1%	-0.6%
Agriculture	4	4	2	3	3	3	3	-0.6%	-5.7%	3.2%	1.2%	0.5%	-0.4%
Transport	42	73	82	101	106	111	121	5.8%	1.2%	2.1%	0.5%	0.5%	0.8%
Other	19	31	30	42	44	45	45	5.1%	-0.5%	3.4%	0.7%	0.1%	0.1%
CO₂ captured (CCS)	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	28.4%
Coal	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	34.8%
Gas	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	24.8%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	10.3%
Energy Balance, by fuel (Mtoe)													
Primary Production	84	88	121	354	483	366	276	0.6%	3.2%	11.4%	3.1%	-2.7%	-2.8%
Coal	27	20	40	244	306	154	54	-2.8%	7.0%	19.7%	2.3%	-6.6%	-10.0%
Oil	9	11	11	7	8	10	18	2.1%	-0.3%	-3.4%	1.0%	1.9%	6.0%
Natural gas	9	13	24	24	62	62	41	3.3%	6.4%	0.2%	9.9%	0.0%	-4.1%
Biomass	22	21	23	52	60	70	72	-0.4%	0.9%	8.4%	1.3%	1.5%	0.4%
Nuclear ¹	9	10	11	11	12	22	29	1.6%	0.8%	-0.1%	0.7%	6.6%	2.7%
Hydro	3	3	3	3	4	4	4	0.2%	1.3%	0.8%	0.4%	0.9%	0.6%
Other renewables	5	10	9	12	31	44	58	7.9%	-1.4%	3.1%	10.0%	3.7%	2.7%
Net Imports	54	96	102	- 80	- 158	- 11	102						
Coal	15	34	28	- 172	- 232	- 87	6						
Oil	44	66	70	95	86	79	70						
Natural gas	- 5	- 3	4	22	15	28	59						
Biomass	0	0	0	- 25	- 26	- 29	- 32						
Biofuels	0	0	0	0	- 1	- 2	- 1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	137	185	223	274	324	355	378	3.0%	1.9%	2.1%	1.7%	0.9%	0.6%
Coal	43	54	69	72	75	67	59	2.5%	2.4%	0.4%	0.4%	-1.1%	-1.2%
Oil	53	77	81	102	94	89	88	3.8%	0.5%	2.4%	-0.8%	-0.6%	-0.2%
Natural gas	4	10	28	47	77	90	100	10.0%	11.0%	5.4%	5.2%	1.6%	1.0%
Biomass	22	21	23	28	34	40	41	-0.4%	0.9%	1.7%	2.0%	1.8%	0.2%
Nuclear ¹	9	10	11	11	12	22	29	1.6%	0.8%	-0.1%	0.7%	6.6%	2.7%
Hydro	3	3	3	3	4	4	4	0.2%	1.3%	0.8%	0.4%	0.9%	0.6%
Other renewables	5	10	9	12	31	44	58	7.9%	-1.4%	3.1%	10.0%	3.7%	2.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	137	185	223	274	324	355	378	3.0%	1.9%	2.1%	1.7%	0.9%	0.6%
Energy for Power Generation	42	76	93	115	146	168	185	6.1%	2.1%	2.1%	2.4%	1.4%	1.0%
Other Energy Transformation & Losses	7	12	12	12	16	20	20	5.1%	-0.5%	0.6%	2.8%	2.0%	0.1%
Final consumption	101	119	150	187	211	226	242	1.6%	2.4%	2.2%	1.2%	0.7%	0.7%
Steel, Non-Met. Minerals and Chem.	14	18	23	27	31	31	31	2.4%	2.4%	1.6%	1.5%	0.1%	0.0%
Other Industry	27	25	28	34	41	44	48	-0.9%	1.3%	1.7%	1.9%	0.8%	0.8%
Non-Energy Use	6	11	28	42	45	47	49	5.7%	9.8%	4.1%	0.8%	0.4%	0.5%
Residential	26	28	29	33	35	37	37	0.5%	0.6%	1.2%	0.6%	0.4%	0.2%
Services	9	11	14	18	21	25	30	2.0%	2.4%	2.3%	1.9%	1.7%	1.6%
Agriculture	1	1	1	1	2	2	2	-0.1%	-3.2%	3.3%	1.6%	1.5%	1.4%
Road	14	22	24	30	32	36	40	4.4%	0.8%	2.1%	0.9%	1.1%	1.1%
Rail	0	0	1	1	1	1	1	0.1%	11.0%	4.4%	0.9%	0.9%	0.9%
Aviation	1	1	1	1	1	1	1	5.4%	-4.5%	6.1%	1.9%	1.1%	0.5%
Other Transport	1	1	1	1	2	2	2	5.6%	-0.8%	1.1%	1.5%	0.6%	0.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South East Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	26	53	70	89	100	98	95	7.4%	2.9%	2.4%	1.2%	-0.3%	-0.3%
Coal	12	29	40	43	49	44	39	9.6%	3.1%	0.9%	1.1%	-1.0%	-1.2%
Oil	12	16	7	10	6	6	6	2.4%	-7.6%	3.5%	-4.9%	-0.4%	0.1%
Gas	1	6	21	32	41	40	40	18.2%	12.9%	4.5%	2.3%	-0.1%	0.0%
Biomass & Waste	0	1	2	2	2	4	5	11.5%	9.0%	-0.4%	1.2%	6.4%	3.3%
Other	0	1	1	1	3	4	4	7.8%	-1.6%	2.7%	9.9%	2.7%	1.3%
Gross Elec. Generation (TWh_e)	168	296	402	512	610	708	817	5.8%	3.1%	2.5%	1.8%	1.5%	1.4%
Coal	41	116	161	180	204	187	169	11.1%	3.3%	1.1%	1.2%	-0.8%	-1.0%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	39.2%
Oil	53	67	29	44	27	26	26	2.3%	-8.0%	4.3%	-4.9%	-0.4%	0.2%
Gas	3	28	117	181	233	237	234	23.7%	15.2%	4.4%	2.5%	0.2%	-0.1%
of which CCS	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	29.4%
Biomass & Waste	1	2	5	5	6	15	24	13.8%	8.4%	0.0%	2.0%	9.5%	4.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	33	39	42	41	45	88	117	1.6%	0.8%	-0.1%	0.8%	7.0%	2.9%
Hydro	32	32	37	40	42	46	48	0.2%	1.3%	0.8%	0.4%	0.9%	0.6%
Wind	0	0	1	3	9	28	65	n.s.	n.s.	11.7%	10.5%	12.7%	8.7%
Solar	0	0	0	4	13	38	82	n.s.	n.s.	n.s.	11.8%	11.5%	7.9%
Other	5	12	10	13	33	44	51	7.8%	-1.6%	2.7%	9.9%	2.8%	1.5%
Generation Capacity (GW_e)	41	69	103	116	135	173	203	5.2%	4.2%	1.2%	1.5%	2.5%	1.6%
Coal	11	22	35	38	40	40	28	7.3%	4.4%	0.9%	0.6%	-0.1%	-3.6%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	39.1%
Oil	13	19	12	12	10	6	5	4.1%	-4.5%	0.1%	-1.5%	-5.4%	-1.7%
Gas	2	7	30	35	39	46	39	16.5%	15.6%	1.4%	1.1%	1.7%	-1.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	29.6%
Biomass & Waste	0	1	1	1	1	2	3	23.2%	4.2%	-0.9%	-0.9%	9.0%	4.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	5	5	5	5	5	11	14	0.0%	0.2%	0.2%	0.8%	7.0%	2.9%
Hydro	10	13	18	18	19	20	22	2.3%	3.4%	0.1%	0.4%	0.9%	0.6%
Wind	0	0	1	2	5	15	32	n.s.	n.s.	13.9%	10.5%	11.6%	7.7%
Solar	0	0	0	4	11	28	53	n.s.	n.s.	35.7%	9.6%	9.8%	6.8%
Other	1	2	2	2	5	6	7	8.1%	0.2%	-0.2%	9.8%	1.9%	1.8%
Total Final Consumption² (Mtoe)	101	119	150	187	211	226	242	1.6%	2.4%	2.2%	1.2%	0.7%	0.7%
Coal	30	23	27	25	23	20	17	-2.7%	1.7%	-1.0%	-0.8%	-1.5%	-1.3%
Oil	34	51	66	86	83	78	77	4.0%	2.5%	2.8%	-0.4%	-0.5%	-0.2%
Gas	1	2	4	12	32	45	54	5.5%	8.3%	10.6%	10.4%	3.3%	1.8%
Electricity	12	21	30	38	46	53	62	5.8%	3.5%	2.5%	1.8%	1.5%	1.5%
Heat	1	1	1	1	1	2	3	-2.9%	4.0%	1.4%	0.7%	6.1%	5.6%
Biomass & Other	22	21	22	25	26	28	29	-0.7%	0.5%	1.3%	0.6%	0.7%	0.2%
Share of Renewables ³ (%)	25%	21%	20%	19%	20%	23%	27%	-1.9%	-0.7%	-0.3%	0.4%	1.7%	1.6%
Industry (incl. non-energy use)	48	54	79	102	116	122	128	1.2%	3.9%	2.6%	1.4%	0.5%	0.5%
Coal	26	19	23	22	20	17	16	-2.8%	2.0%	-0.8%	-0.9%	-1.4%	-0.8%
Oil	14	21	35	48	44	39	36	4.2%	5.2%	3.3%	-0.8%	-1.3%	-0.9%
Gas	1	1	3	9	25	35	41	6.6%	10.6%	12.1%	10.5%	3.4%	1.8%
Electricity	6	10	15	20	24	27	30	5.0%	3.6%	2.9%	2.2%	1.1%	1.0%
Heat	0	0	0	0	0	0	0	-3.6%	0.7%	0.5%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	2	2	3	3	4	5	7.7%	2.8%	1.7%	0.2%	2.2%	2.3%
Buildings	36	39	43	51	57	62	67	0.9%	1.2%	1.6%	1.1%	0.9%	0.8%
Coal	5	4	4	3	3	2	1	-1.6%	0.4%	-2.0%	-0.3%	-2.5%	-5.1%
Oil	3	4	4	5	4	4	3	2.6%	-0.4%	2.4%	-1.9%	-1.5%	-0.9%
Gas	1	1	1	3	7	9	10	4.3%	3.4%	7.8%	10.3%	2.7%	1.1%
Electricity	5	11	14	18	20	24	29	6.9%	3.2%	2.1%	1.1%	1.8%	1.8%
Heat	1	0	1	1	1	2	3	-2.5%	5.3%	1.6%	1.0%	7.3%	6.1%
Biomass & Other	21	19	19	21	21	21	20	-1.2%	0.1%	1.0%	0.1%	-0.2%	-0.4%
Agriculture	1	1	1	1	2	2	2	-0.1%	-3.2%	3.3%	1.6%	1.5%	1.4%
Coal	0	0	0	0	0	0	0	-32.8%	12.8%	4.7%	0.0%	-0.9%	-2.1%
Oil	1	1	1	1	1	1	1	0.0%	-5.7%	3.2%	1.2%	0.5%	-0.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	1	1	1	1	1.5%	4.7%	3.5%	2.2%	2.4%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	4.3%	7.0%	-1.5%	0.0%	17.8%	11.2%
Transport	16	25	26	33	36	40	45	4.4%	0.8%	2.3%	1.0%	1.0%	1.0%
Coal	0	0	0	0	0	0	0	-4.4%	n.s.	n.s.	0.0%	0.0%	0.0%
Oil	16	24	26	32	33	34	37	4.4%	0.5%	2.1%	0.4%	0.4%	0.7%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	0.6%	11.3%	5.3%	5.5%
Electricity	0	0	0	0	1	1	2	4.5%	15.0%	3.9%	6.4%	5.5%	3.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	2	4	4	n.s.	n.s.	14.1%	11.0%	5.6%	1.3%
Other Energy Transformation & Losses⁴	7	12	12	12	16	20	20	5.1%	-0.5%	0.6%	2.8%	2.0%	0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Australia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	17	19	22	26	28	31	33	1.1%	1.5%	1.5%	1.1%	0.9%	0.8%
GDP per capita (ppp, k\$'05)	24	30	34	39	46	53	61	2.2%	1.5%	1.3%	1.6%	1.5%	1.3%
GDP per capita (mer, k\$'05)	25	31	36	41	48	56	64	2.2%	1.5%	1.3%	1.6%	1.5%	1.3%
Share Value Added - Agriculture (%)	5	3	2	2	2	2	2	-3.0%	-3.5%	-0.3%	-0.6%	-0.4%	-0.3%
Share Value Added - Industry (%)	31	27	27	26	25	23	21	-1.5%	0.1%	-0.3%	-0.7%	-0.7%	-0.7%
Share Value Added - Services (%)	64	70	71	71	73	75	77	0.9%	0.1%	0.1%	0.3%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	27	28	-7.8%	10.3%	1.2%	1.0%	0.7%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	502	534	558	507	418	249	167	0.6%	0.4%	-1.0%	-1.9%	-5.1%	-3.9%
Total GHG (excl. sinks)	540	549	581	514	479	453	422	0.2%	0.6%	-1.2%	-0.7%	-0.5%	-0.7%
Total GHG (energy, industry, agriculture)	408	482	536	499	462	427	366	1.7%	1.1%	-0.7%	-0.8%	-0.8%	-1.5%
CO ₂	265	342	394	374	355	327	278	2.6%	1.4%	-0.5%	-0.5%	-0.8%	-1.6%
CH ₄	110	107	102	87	78	74	65	-0.3%	-0.4%	-1.5%	-1.1%	-0.6%	-1.3%
N ₂ O	28	31	33	30	27	25	23	1.1%	0.5%	-0.8%	-1.2%	-0.7%	-0.9%
F gases	5	3	7	7	2	1	0	-6.6%	10.6%	-0.5%	-10.0%	-9.7%	-10.2%
Total GHG from Energy and Industry	328	402	464	429	394	361	306	2.0%	1.5%	-0.8%	-0.9%	-0.9%	-1.6%
CO₂ Emissions from Fuel Comb.	250	325	375	356	334	308	259	2.6%	1.4%	-0.5%	-0.6%	-0.8%	-1.7%
Power generation/District heating	132	182	206	160	133	111	77	3.3%	1.2%	-2.5%	-1.9%	-1.8%	-3.6%
Industry	35	41	39	49	50	48	44	1.4%	-0.5%	2.5%	0.0%	-0.3%	-0.8%
Buildings	9	11	13	12	15	15	13	2.1%	1.8%	-0.5%	1.8%	0.1%	-1.2%
Agriculture	3	4	6	7	7	5	4	2.2%	3.9%	1.0%	-0.5%	-2.3%	-3.8%
Transport	58	70	83	90	86	79	73	1.9%	1.7%	0.8%	-0.5%	-0.7%	-0.8%
Other	12	17	28	37	45	49	48	2.9%	5.3%	2.9%	2.0%	0.8%	-0.3%
CO₂ captured (CCS)	0	0	0	0	0	6	35	n.s.	n.s.	n.s.	17.7%	29.6%	19.4%
Coal	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	2.0%	32.1%	17.0%
Gas	0	0	0	0	0	5	16	n.s.	n.s.	n.s.	43.4%	29.9%	12.7%
Biomass	0	0	0	0	0	0	15	n.s.	n.s.	n.s.	3.4%	20.7%	49.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	176	235	313	337	440	444	451	2.9%	2.9%	0.8%	2.7%	0.1%	0.2%
Coal	126	166	240	224	250	200	155	2.8%	3.7%	-0.7%	1.1%	-2.2%	-2.5%
Oil	28	35	23	22	34	36	34	2.2%	-4.0%	-0.4%	4.2%	0.7%	-0.6%
Natural gas	16	26	43	72	122	167	209	4.9%	5.1%	5.2%	5.4%	3.2%	2.3%
Biomass	4	5	4	14	23	26	32	2.4%	-1.7%	12.6%	5.4%	1.0%	2.4%
Nuclear ¹	0	0	0	0	0	2	4	n.s.	n.s.	n.s.	29.7%	20.4%	8.6%
Hydro	1	1	1	1	2	2	2	1.2%	-2.1%	2.4%	0.3%	0.3%	0.2%
Other renewables	0	0	1	4	8	12	15	0.9%	23.0%	19.1%	7.6%	4.0%	2.0%
Net Imports	- 87	- 126	- 188	- 207	- 301	- 299	- 298						
Coal	-90	-118	-190	-188	-227	-185	-143						
Oil	4	-1	17	25	8	0	-3						
Natural gas	-2	-7	-15	-37	-70	-104	-143						
Biomass	0	0	0	-6	-12	-10	-8						
Biofuels	0	0	0	0	-1	-1	-1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	89	108	124	130	138	145	153	2.0%	1.4%	0.5%	0.6%	0.5%	0.5%
Coal	36	48	50	36	23	15	12	2.9%	0.3%	-3.3%	-4.2%	-4.2%	-2.3%
Oil	33	34	40	47	41	36	31	0.5%	1.6%	1.7%	-1.4%	-1.4%	-1.5%
Natural gas	14	19	28	34	52	63	66	3.0%	4.0%	1.9%	4.3%	1.8%	0.5%
Biomass	4	5	4	8	12	16	24	2.4%	-1.7%	6.2%	4.4%	3.2%	4.1%
Nuclear ¹	0	0	0	0	0	2	4	n.s.	n.s.	n.s.	29.7%	20.4%	8.6%
Hydro	1	1	1	1	2	2	2	1.2%	-2.1%	2.4%	0.3%	0.3%	0.2%
Other renewables	0	0	1	4	8	12	15	0.9%	23.0%	19.1%	7.6%	4.0%	2.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	89	108	124	130	138	145	153	2.0%	1.4%	0.5%	0.6%	0.5%	0.5%
Energy for Power Generation	37	50	58	53	54	59	67	3.0%	1.6%	-1.0%	0.3%	0.9%	1.3%
Other Energy Transformation & Losses	5	3	7	10	15	19	21	-5.6%	9.8%	3.0%	4.4%	2.3%	1.1%
Final consumption	58	71	77	87	92	96	100	2.0%	0.9%	1.2%	0.6%	0.4%	0.4%
Steel, Non-Met. Minerals and Chem.	7	8	8	8	8	7	6	0.4%	0.5%	0.1%	-0.4%	-1.2%	-1.0%
Other Industry	13	17	16	21	24	25	27	2.8%	-1.0%	3.1%	1.0%	0.6%	0.6%
Non-Energy Use	4	4	5	5	5	5	5	1.2%	0.7%	1.1%	-0.3%	-0.1%	0.0%
Residential	7	9	10	10	11	12	13	1.9%	1.3%	-0.1%	1.0%	0.9%	0.5%
Services	3	5	7	7	9	11	13	3.8%	3.4%	0.4%	2.3%	1.9%	1.5%
Agriculture	1	2	2	2	3	3	3	2.1%	3.2%	1.1%	1.0%	0.8%	0.7%
Road	19	22	25	27	27	27	27	1.8%	1.0%	0.8%	0.0%	0.1%	0.2%
Rail	1	1	1	1	1	1	1	0.9%	4.2%	1.2%	0.2%	0.1%	0.0%
Aviation	1	2	2	4	4	4	4	5.9%	2.8%	3.7%	1.6%	0.3%	0.1%
Other Transport	1	0	1	0	0	0	0	-3.9%	6.7%	-10.5%	1.4%	0.1%	-0.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Australia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	35	48	56	47	44	43	46	3.1%	1.6%	-1.8%	-0.7%	-0.2%	0.6%
Coal	30	43	46	30	20	12	10	3.5%	0.6%	-3.9%	-4.2%	-4.6%	-2.5%
Oil	1	1	1	2	1	1	1	-5.7%	4.5%	7.8%	-5.0%	-1.2%	2.8%
Gas	3	4	9	14	21	27	27	1.6%	8.6%	4.3%	4.3%	2.2%	0.2%
Biomass & Waste	1	1	1	1	2	3	8	-0.2%	0.5%	1.6%	6.7%	6.7%	9.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	155	210	252	256	305	367	431	3.1%	1.8%	0.2%	1.8%	1.9%	1.6%
Coal	121	174	181	119	77	49	40	3.7%	0.4%	-4.1%	-4.3%	-4.3%	-2.1%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	19.0%
Oil	4	2	4	7	4	4	5	-6.7%	9.3%	4.7%	-4.9%	-0.7%	3.0%
Gas	14	16	45	68	106	139	149	1.2%	10.8%	4.1%	4.6%	2.7%	0.7%
of which CCS	0	0	0	0	0	9	37	n.s.	n.s.	n.s.	n.s.	n.s.	14.5%
Biomass & Waste	1	1	3	3	6	14	38	4.2%	9.4%	0.9%	7.9%	7.9%	10.7%
of which CCS	0	0	0	0	0	0	19	n.s.	n.s.	n.s.	n.s.	n.s.	58.0%
Nuclear	0	0	0	0	1	8	17	n.s.	n.s.	n.s.	30.7%	20.6%	8.6%
Hydro	15	17	14	17	18	18	19	1.2%	-2.1%	2.4%	0.3%	0.3%	0.2%
Wind	0	0	5	31	73	109	126	n.s.	56.3%	19.8%	9.0%	4.1%	1.4%
Solar	0	0	0	12	20	26	35	13.6%	22.3%	44.6%	5.4%	2.7%	3.2%
Other	0	0	0	0	0	0	1	n.s.	n.s.	14.3%	29.4%	16.4%	12.5%
Generation Capacity (GW_e)	38	46	60	74	87	102	114	1.9%	2.6%	2.1%	1.7%	1.6%	1.1%
Coal	24	27	30	24	15	11	8	0.9%	1.2%	-2.1%	-4.6%	-3.1%	-3.8%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	18.9%
Oil	2	4	2	2	2	2	2	9.3%	-5.9%	0.5%	0.0%	-3.3%	-0.4%
Gas	4	6	16	18	22	27	27	4.6%	10.5%	0.9%	2.2%	1.8%	0.3%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	14.7%
Biomass & Waste	0	0	1	0	1	2	5	4.5%	4.0%	-1.0%	7.0%	7.6%	10.2%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	57.9%
Nuclear	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	30.5%	20.4%	8.4%
Hydro	8	9	9	9	9	9	10	1.0%	-0.5%	0.1%	0.3%	0.3%	0.2%
Wind	0	0	2	10	22	31	35	n.s.	49.7%	18.3%	8.0%	3.8%	1.2%
Solar	0	0	0	10	16	19	25	13.6%	22.3%	48.7%	4.9%	1.9%	2.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.9%	12.0%
Total Final Consumption² (Mtoe)	58	71	77	87	92	96	100	2.0%	0.9%	1.2%	0.6%	0.4%	0.4%
Coal	6	5	4	5	3	3	2	-0.4%	-2.1%	1.9%	-3.8%	-2.0%	-1.7%
Oil	29	35	39	44	39	34	29	1.8%	1.1%	1.1%	-1.2%	-1.3%	-1.5%
Gas	9	11	12	13	20	22	23	2.5%	1.0%	0.8%	3.8%	1.1%	0.6%
Electricity	11	15	18	18	22	26	31	2.9%	1.9%	0.2%	1.9%	1.9%	1.6%
Heat	0	0	0	0	0	1	1	0.0%	11.9%	5.2%	1.0%	5.9%	4.4%
Biomass & Other	3	4	3	6	8	10	13	2.9%	-2.6%	6.0%	3.2%	2.4%	2.5%
Share of Renewables ³ (%)	8%	8%	7%	13%	21%	29%	37%	0.2%	-1.8%	6.8%	4.7%	3.1%	2.5%
Industry (incl. non-energy use)	24	29	29	35	37	37	38	1.9%	-0.3%	2.0%	0.5%	0.2%	0.2%
Coal	5	5	4	5	3	3	2	-0.2%	-2.1%	1.9%	-3.8%	-2.0%	-1.7%
Oil	6	8	7	10	8	6	5	1.8%	-0.3%	2.5%	-2.2%	-1.7%	-1.6%
Gas	6	8	8	9	13	14	14	2.1%	0.9%	1.4%	3.3%	0.8%	0.2%
Electricity	5	7	7	7	8	10	11	2.7%	0.4%	0.3%	1.7%	1.4%	1.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	4	4	4	5	5.2%	-3.3%	7.5%	1.1%	0.1%	1.9%
Buildings	11	14	17	18	21	24	26	2.5%	2.1%	0.1%	1.6%	1.3%	1.0%
Coal	0	0	0	0	0	0	0	-10.4%	-3.9%	-3.4%	-7.0%	-12.2%	n.s.
Oil	1	1	1	1	1	1	1	0.4%	4.1%	1.5%	1.0%	0.9%	-0.8%
Gas	3	4	4	4	5	4	4	3.1%	1.3%	-1.2%	2.2%	-0.2%	-1.3%
Electricity	6	8	11	11	12	13	16	3.2%	3.1%	-0.1%	1.1%	1.4%	1.5%
Heat	0	0	0	0	0	1	1	0.0%	11.9%	5.2%	1.0%	5.9%	4.4%
Biomass & Other	2	2	1	2	3	3	4	0.6%	-2.9%	3.0%	3.5%	2.5%	1.3%
Agriculture	1	2	2	2	3	3	3	2.1%	3.2%	1.1%	1.0%	0.8%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	2	1	2.2%	3.9%	0.9%	-0.5%	-2.3%	-3.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	21.5%	-0.2%	-1.5%	-2.6%
Electricity	0	0	0	0	0	0	1	2.0%	-2.0%	0.7%	3.7%	4.4%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.4%	9.6%	5.0%
Transport	21	25	29	32	33	33	33	1.9%	1.4%	0.9%	0.2%	0.1%	0.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	21	25	28	31	28	25	21	1.8%	1.3%	0.7%	-1.0%	-1.2%	-1.4%
Gas	0	0	0	0	2	3	5	24.9%	-1.0%	14.9%	19.3%	5.1%	4.1%
Electricity	0	0	0	0	2	3	4	2.6%	5.4%	3.4%	13.1%	6.0%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	8.5%	10.1%	5.7%	4.0%
Other Energy Transformation & Losses⁴	5	3	7	10	15	19	21	-5.6%	9.8%	3.0%	4.4%	2.3%	1.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Japan	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	122	126	127	125	120	114	107	0.3%	0.1%	-0.2%	-0.4%	-0.5%	-0.6%
GDP per capita (ppp, k\$'05)	27	29	31	34	38	44	51	0.8%	0.6%	0.8%	1.2%	1.5%	1.5%
GDP per capita (mer, k\$'05)	32	34	37	40	45	52	60	0.8%	0.6%	0.8%	1.2%	1.5%	1.5%
Share Value Added - Agriculture (%)	2	2	1	1	1	1	1	-2.8%	-2.9%	-0.3%	-0.6%	-0.6%	-0.5%
Share Value Added - Industry (%)	38	31	28	27	27	27	27	-2.0%	-1.2%	-0.2%	0.0%	0.0%	0.0%
Share Value Added - Services (%)	60	67	71	72	72	72	72	1.2%	0.6%	0.1%	0.0%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	25	26	-7.8%	10.3%	1.3%	0.6%	0.4%	0.5%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 058	1 139	1 067	945	907	661	487	0.7%	-0.6%	-1.2%	-0.4%	-3.1%	-3.0%
Total GHG (excl. sinks)	1 133	1 228	1 142	987	908	667	496	0.8%	-0.7%	-1.4%	-0.8%	-3.0%	-2.9%
Total GHG (energy, industry, agriculture)	1 125	1 224	1 140	986	905	643	479	0.9%	-0.7%	-1.4%	-0.9%	-3.4%	-2.9%
CO ₂	1 037	1 146	1 089	938	865	615	455	1.0%	-0.5%	-1.5%	-0.8%	-3.4%	-3.0%
CH ₄	32	26	21	20	19	15	13	-2.2%	-2.3%	-0.3%	-0.6%	-2.3%	-1.6%
N ₂ O	30	28	21	19	17	11	10	-0.8%	-2.8%	-0.8%	-1.0%	-4.1%	-1.3%
F gases	26	25	9	9	4	1	1	-0.2%	-10.2%	-0.1%	-8.4%	-9.3%	-5.7%
Total GHG from Energy and Industry	1 096	1 199	1 115	961	880	623	461	0.9%	-0.7%	-1.5%	-0.9%	-3.4%	-3.0%
CO₂ Emissions from Fuel Comb.	950	1 061	1 022	872	804	564	409	1.1%	-0.4%	-1.6%	-0.8%	-3.5%	-3.2%
Power generation/District heating	333	383	431	359	356	224	143	1.4%	1.2%	-1.8%	-0.1%	-4.6%	-4.4%
Industry	200	185	157	143	129	95	78	-0.8%	-1.6%	-0.9%	-1.0%	-3.0%	-2.0%
Buildings	143	177	156	121	102	76	59	2.1%	-1.3%	-2.5%	-1.7%	-3.0%	-2.4%
Agriculture	21	16	10	10	10	7	5	-2.6%	-4.3%	-0.4%	0.2%	-3.4%	-4.5%
Transport	213	260	229	199	169	132	99	2.0%	-1.2%	-1.4%	-1.6%	-2.4%	-2.8%
Other	40	40	39	40	37	30	25	0.1%	-0.3%	0.4%	0.4%	-2.1%	-1.8%
CO₂ captured (CCS)	0	0	0	0	0	10	44	n.s.	n.s.	n.s.	n.s.	n.s.	16.1%
Coal	0	0	0	0	0	7	25	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%
Gas	0	0	0	0	0	3	9	n.s.	n.s.	n.s.	n.s.	n.s.	12.9%
Biomass	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	25.3%	50.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	76	107	101	90	106	129	144	3.5%	-0.7%	-1.1%	1.7%	2.0%	1.1%
Coal	4	2	0	0	0	0	0	-9.0%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	0	0	0	0	1.3%	-0.7%	-3.9%	0.0%	-0.6%	-1.7%
Natural gas	2	2	3	2	1	0	0	1.5%	3.0%	-5.2%	-8.9%	-7.3%	-5.4%
Biomass	5	6	10	10	16	20	24	1.6%	5.5%	-0.1%	5.1%	2.4%	1.8%
Nuclear ¹	54	85	76	58	57	55	51	4.8%	-1.1%	-2.8%	0.0%	-0.5%	-0.7%
Hydro	8	8	8	8	9	9	9	0.1%	-0.7%	0.4%	0.7%	0.3%	0.0%
Other renewables	3	4	3	12	23	44	59	3.4%	-1.1%	13.8%	6.4%	6.9%	3.0%
Net Imports	363	413	400	352	330	261	227						
Coal	73	96	115	106	107	67	52						
Oil	243	254	202	161	126	96	72						
Natural gas	47	63	83	82	89	78	76						
Biomass	0	0	0	3	8	19	25						
Biofuels	0	0	0	0	1	1	2						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	439	521	500	441	436	390	371	1.7%	-0.4%	-1.3%	-0.1%	-1.1%	-0.5%
Coal	77	97	115	106	107	67	52	2.4%	1.7%	-0.9%	0.2%	-4.6%	-2.6%
Oil	243	255	202	161	127	97	73	0.5%	-2.3%	-2.2%	-2.4%	-1.7%	-2.8%
Natural gas	49	66	86	83	89	78	77	2.9%	2.7%	-0.3%	0.7%	-2.0%	-0.2%
Biomass	5	6	10	13	23	39	49	1.6%	5.5%	2.8%	6.2%	5.2%	2.3%
Nuclear ¹	54	85	76	58	57	55	51	4.8%	-1.1%	-2.8%	0.0%	-0.5%	-0.7%
Hydro	8	8	8	8	9	9	9	0.1%	-0.7%	0.4%	0.7%	0.3%	0.0%
Other renewables	3	4	3	12	23	44	59	3.4%	-1.1%	13.8%	6.4%	6.9%	3.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	439	521	500	441	436	390	371	1.7%	-0.4%	-1.3%	-0.1%	-1.1%	-0.5%
Energy for Power Generation	174	222	230	199	210	197	200	2.4%	0.4%	-1.4%	0.6%	-0.6%	0.1%
Other Energy Transformation & Losses	15	20	16	12	12	12	12	3.2%	-2.1%	-2.5%	-0.4%	0.0%	0.3%
Final consumption	316	362	342	310	302	276	263	1.4%	-0.6%	-1.0%	-0.3%	-0.9%	-0.5%
Steel, Non-Met. Minerals and Chem.	62	62	60	60	57	43	35	0.0%	-0.3%	0.1%	-0.5%	-2.7%	-2.0%
Other Industry	52	51	42	35	36	36	38	-0.2%	-1.8%	-1.8%	0.3%	-0.1%	0.6%
Non-Energy Use	39	46	45	41	41	40	41	1.5%	-0.3%	-0.8%	-0.2%	-0.2%	0.3%
Residential	38	49	50	40	39	37	36	2.5%	0.2%	-2.1%	-0.4%	-0.4%	-0.2%
Services	45	62	64	61	64	64	65	3.1%	0.3%	-0.4%	0.5%	-0.1%	0.2%
Agriculture	7	5	3	3	3	3	4	-2.6%	-4.4%	-0.4%	0.3%	0.3%	0.3%
Road	63	78	69	60	53	44	35	2.1%	-1.2%	-1.3%	-1.3%	-1.8%	-2.2%
Rail	2	2	2	2	2	2	2	0.4%	-0.1%	-0.6%	0.6%	0.6%	0.6%
Aviation	3	4	4	4	4	4	4	2.1%	1.1%	-1.4%	0.6%	0.1%	0.6%
Other Transport	4	5	3	3	3	3	2	0.9%	-3.3%	-0.8%	-0.1%	-1.4%	-1.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Japan	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	110	124	142	121	121	89	80	1.2%	1.4%	-1.6%	0.0%	-3.0%	-1.1%
Coal	25	47	61	51	57	33	23	6.6%	2.6%	-1.8%	1.1%	-5.2%	-3.6%
Oil	49	27	18	10	4	4	2	-5.9%	-4.1%	-5.5%	-9.5%	-0.2%	-4.3%
Gas	33	47	56	53	51	37	35	3.5%	1.9%	-0.6%	-0.4%	-3.2%	-0.7%
Biomass & Waste	2	3	7	6	9	15	19	2.9%	8.6%	-1.1%	3.6%	5.1%	2.9%
Other	0	0	0	1	1	1	1	6.8%	-2.4%	9.4%	5.4%	0.3%	2.1%
Gross Elec. Generation (TWh_e)	842	1 059	1 117	1 017	1 104	1 162	1 242	2.3%	0.5%	-0.9%	0.8%	0.5%	0.7%
Coal	116	229	299	246	272	161	112	7.0%	2.7%	-1.9%	1.0%	-5.1%	-3.5%
of which CCS	0	0	0	0	0	5	25	n.s.	n.s.	n.s.	n.s.	n.s.	18.2%
Oil	237	135	92	44	16	16	10	-5.4%	-3.8%	-7.1%	-9.4%	-0.2%	-4.3%
Gas	179	256	301	295	283	205	193	3.7%	1.6%	-0.2%	-0.4%	-3.2%	-0.6%
of which CCS	0	0	0	0	0	7	24	n.s.	n.s.	n.s.	n.s.	n.s.	13.6%
Biomass & Waste	11	16	36	31	44	69	94	3.7%	8.8%	-1.4%	3.3%	4.7%	3.1%
of which CCS	0	0	0	0	0	0	14	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	202	322	288	230	229	218	203	4.8%	-1.1%	-2.2%	0.0%	-0.5%	-0.7%
Hydro	96	97	91	94	101	104	104	0.1%	-0.7%	0.4%	0.7%	0.3%	0.0%
Wind	0	0	4	26	81	256	366	n.s.	43.4%	20.8%	12.0%	12.1%	3.7%
Solar	0	0	4	45	66	121	140	39.2%	27.0%	28.0%	4.0%	6.2%	1.5%
Other	2	3	3	7	11	13	19	6.8%	-2.4%	9.5%	5.7%	1.5%	3.9%
Generation Capacity (GW_e)	225	258	283	328	365	449	466	1.4%	0.9%	1.5%	1.1%	2.1%	0.4%
Coal	31	63	63	76	84	71	45	7.4%	0.1%	1.9%	1.0%	-1.7%	-4.4%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	18.4%
Oil	78	66	56	50	40	36	35	-1.6%	-1.6%	-1.1%	-2.2%	-1.1%	-0.3%
Gas	47	37	55	53	51	47	43	-2.3%	4.1%	-0.4%	-0.5%	-0.7%	-0.8%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Biomass & Waste	3	3	8	6	8	11	14	1.8%	9.6%	-1.7%	1.8%	3.8%	2.7%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	29	42	46	37	36	34	31	4.0%	0.9%	-2.2%	-0.2%	-0.7%	-0.9%
Hydro	38	46	48	51	55	57	57	2.0%	0.4%	0.7%	0.7%	0.3%	0.0%
Wind	0	0	2	11	31	90	123	n.s.	32.7%	17.4%	10.6%	11.1%	3.2%
Solar	0	0	4	41	58	101	114	43.4%	27.1%	27.4%	3.6%	5.8%	1.2%
Other	0	1	1	1	2	2	3	7.0%	0.1%	5.8%	5.9%	1.7%	3.5%
Total Final Consumption² (Mtoe)	316	362	342	310	302	276	263	1.4%	-0.6%	-1.0%	-0.3%	-0.9%	-0.5%
Coal	50	46	48	49	45	28	23	-0.8%	0.3%	0.4%	-0.8%	-4.6%	-2.2%
Oil	182	208	170	143	116	88	66	1.3%	-2.0%	-1.7%	-2.0%	-2.8%	-2.8%
Gas	15	23	35	31	39	42	43	4.2%	4.1%	-1.0%	2.2%	0.8%	0.3%
Electricity	64	81	86	79	86	90	97	2.3%	0.6%	-0.9%	0.8%	0.5%	0.7%
Heat	1	1	1	1	1	3	5	0.4%	-2.9%	-0.8%	2.0%	8.9%	4.7%
Biomass & Other	3	3	3	7	15	25	30	0.2%	0.3%	9.7%	7.9%	5.4%	1.8%
Share of Renewables ³ (%)	5%	4%	5%	9%	15%	31%	42%	-1.2%	1.7%	6.0%	6.0%	7.4%	3.0%
Industry (incl. non-energy use)	153	158	147	137	134	119	114	0.3%	-0.7%	-0.7%	-0.2%	-1.2%	-0.4%
Coal	49	45	47	49	45	28	23	-0.7%	0.4%	0.4%	-0.8%	-4.5%	-2.1%
Oil	69	74	61	52	42	32	27	0.7%	-1.9%	-1.6%	-2.2%	-2.5%	-1.8%
Gas	4	5	8	9	16	22	25	2.9%	4.5%	1.2%	5.8%	3.2%	1.1%
Electricity	29	31	28	24	27	28	30	0.7%	-1.0%	-1.7%	1.2%	0.4%	0.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	3	3	5	8	10	0.4%	0.4%	1.7%	3.5%	6.4%	1.8%
Buildings	83	110	113	101	103	101	101	2.8%	0.3%	-1.1%	0.1%	-0.2%	0.0%
Coal	1	1	1	0	0	0	0	-4.4%	-1.6%	-1.4%	-2.6%	-13.6%	-17.1%
Oil	36	42	29	22	17	12	9	1.6%	-3.6%	-2.9%	-2.4%	-3.2%	-2.8%
Gas	11	18	26	22	20	16	13	4.7%	4.0%	-1.9%	-0.8%	-2.5%	-1.9%
Electricity	34	48	56	53	56	57	60	3.6%	1.5%	-0.5%	0.4%	0.3%	0.5%
Heat	1	1	1	1	1	3	5	0.4%	-2.9%	-0.8%	2.0%	8.9%	4.7%
Biomass & Other	0	0	0	3	9	13	14	-10.8%	-20.8%	n.s.	10.4%	3.9%	1.2%
Agriculture	7	5	3	3	3	3	4	-2.6%	-4.4%	-0.4%	0.3%	0.3%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	5	3	3	3	2	1	-2.6%	-4.3%	-0.4%	0.2%	-3.4%	-4.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	1	-0.3%	-5.7%	0.3%	1.5%	13.4%	5.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	40.9%	6.3%
Transport	72	88	78	69	62	53	44	2.0%	-1.2%	-1.3%	-1.0%	-1.6%	-1.8%
Coal	0	0	0	0	0	0	0	n.s.	-0.4%	0.1%	0.0%	0.0%	0.0%
Oil	71	87	77	66	55	41	29	2.0%	-1.2%	-1.4%	-1.9%	-2.9%	-3.5%
Gas	0	0	0	0	3	4	6	n.s.	15.1%	16.4%	19.5%	4.8%	2.8%
Electricity	1	2	2	2	3	5	6	1.0%	0.2%	0.3%	7.1%	3.9%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	12.7%	7.0%	3.2%
Other Energy Transformation & Losses⁴	15	20	16	12	12	12	12	3.2%	-2.1%	-2.5%	-0.4%	0.0%	0.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

South Korea	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	43	46	49	51	53	52	51	0.7%	0.6%	0.4%	0.2%	0.0%	-0.3%
GDP per capita (ppp, k\$'05)	11	19	27	34	44	51	57	5.3%	3.5%	2.5%	2.4%	1.5%	1.1%
GDP per capita (mer, k\$'05)	9	15	22	29	36	42	47	5.8%	3.8%	2.5%	2.4%	1.5%	1.1%
Share Value Added - Agriculture (%)	8	4	2	2	2	2	2	-6.1%	-5.6%	-0.9%	-0.3%	-0.2%	-0.1%
Share Value Added - Industry (%)	38	38	38	37	34	32	30	0.0%	0.1%	-0.4%	-0.8%	-0.7%	-0.5%
Share Value Added - Services (%)	54	58	59	61	64	66	68	0.7%	0.3%	0.3%	0.5%	0.3%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	25	27	-7.8%	10.3%	1.2%	0.6%	0.5%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	274	489	598	622	503	389	347	5.9%	2.0%	0.4%	-2.1%	-2.5%	-1.1%
Total GHG (excl. sinks)	302	516	632	657	536	413	370	5.5%	2.1%	0.4%	-2.0%	-2.6%	-1.1%
Total GHG (energy, industry, agriculture)	301	515	630	648	522	409	369	5.5%	2.0%	0.3%	-2.1%	-2.4%	-1.0%
CO ₂	253	455	577	596	479	367	329	6.0%	2.4%	0.3%	-2.2%	-2.6%	-1.1%
CH ₄	31	31	32	31	27	27	25	-0.1%	0.3%	-0.2%	-1.4%	-0.1%	-0.8%
N ₂ O	11	16	13	14	12	12	11	4.3%	-2.0%	0.7%	-1.6%	-0.4%	-0.2%
F gases	6	13	8	7	4	4	3	7.5%	-4.7%	-1.4%	-4.5%	-1.2%	-2.4%
Total GHG from Energy and Industry	281	498	610	625	500	386	345	5.9%	2.1%	0.2%	-2.2%	-2.6%	-1.1%
CO₂ Emissions from Fuel Comb.	230	413	540	556	443	332	297	6.1%	2.7%	0.3%	-2.2%	-2.8%	-1.1%
Power generation/District heating	42	133	264	252	172	90	79	12.1%	7.1%	-0.5%	-3.8%	-6.2%	-1.4%
Industry	60	97	98	109	92	84	77	4.9%	0.2%	1.0%	-1.7%	-0.8%	-0.9%
Buildings	69	65	55	51	46	39	35	-0.6%	-1.7%	-0.6%	-1.2%	-1.6%	-1.1%
Agriculture	5	10	7	7	5	3	2	7.5%	-3.7%	0.4%	-3.8%	-4.3%	-4.5%
Transport	44	80	91	108	104	94	86	6.2%	1.2%	1.8%	-0.4%	-1.1%	-0.9%
Other	9	28	26	28	25	22	19	11.5%	-1.0%	1.1%	-1.4%	-1.2%	-1.4%
CO₂ captured (CCS)	0	0	0	0	2	10	30	n.s.	n.s.	n.s.	35.5%	20.4%	11.3%
Coal	0	0	0	0	1	4	14	n.s.	n.s.	n.s.	35.3%	15.1%	13.0%
Gas	0	0	0	0	1	5	13	n.s.	n.s.	n.s.	43.9%	26.8%	9.2%
Biomass	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	13.8%	26.9%	16.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	24	37	49	67	117	161	173	4.2%	2.8%	3.3%	5.6%	3.3%	0.7%
Coal	7	4	1	1	0	0	0	-6.1%	-12.2%	-4.2%	-6.3%	-5.1%	0.6%
Oil	0	1	1	0	0	0	0	3.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Natural gas	0	0	0	0	0	0	0	n.s.	n.s.	-16.9%	12.2%	1.2%	1.8%
Biomass	3	3	7	10	10	10	10	2.2%	7.5%	3.8%	0.2%	-0.3%	0.2%
Nuclear ¹	14	29	39	53	98	136	145	7.5%	3.1%	3.0%	6.4%	3.3%	0.6%
Hydro	1	0	1	1	1	1	1	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Other renewables	0	0	0	4	7	14	17	15.9%	14.3%	36.2%	6.8%	7.3%	1.9%
Net Imports	69	154	206	229	201	171	164						
Coal	16	38	72	70	39	24	26						
Oil	50	98	94	107	92	77	65						
Natural gas	3	17	38	50	69	67	69						
Biomass	0	0	1	1	0	0	0						
Biofuels	0	0	0	0	1	3	4						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	93	191	254	296	318	333	337	7.4%	2.9%	1.5%	0.7%	0.5%	0.1%
Coal	23	42	73	71	39	24	26	6.2%	5.8%	-0.4%	-5.7%	-4.7%	0.7%
Oil	50	99	95	107	92	77	65	7.0%	-0.4%	1.2%	-1.5%	-1.8%	-1.7%
Natural gas	3	17	39	50	69	67	70	20.1%	8.5%	2.7%	3.1%	-0.3%	0.4%
Biomass	3	3	7	11	10	10	10	2.5%	7.9%	4.2%	-0.4%	-0.4%	0.2%
Nuclear ¹	14	29	39	53	98	136	145	7.5%	3.1%	3.0%	6.4%	3.3%	0.6%
Hydro	1	0	1	1	1	1	1	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Other renewables	0	0	0	4	7	14	17	15.9%	14.3%	36.2%	6.8%	7.3%	1.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	93	191	254	296	318	333	337	7.4%	2.9%	1.5%	0.7%	0.5%	0.1%
Energy for Power Generation	27	67	115	132	164	188	203	9.5%	5.6%	1.4%	2.2%	1.4%	0.7%
Other Energy Transformation & Losses	4	15	13	13	13	15	16	15.4%	-1.3%	-0.2%	0.2%	1.5%	0.1%
Final consumption	71	135	169	204	207	209	207	6.7%	2.3%	1.9%	0.1%	0.1%	-0.1%
Steel, Non-Met. Minerals and Chem.	13	25	32	37	31	29	27	6.5%	2.7%	1.2%	-1.6%	-0.7%	-0.7%
Other Industry	11	21	24	30	34	36	38	7.2%	1.1%	2.4%	1.3%	0.7%	0.3%
Non-Energy Use	7	25	38	51	48	45	43	14.0%	4.4%	2.9%	-0.7%	-0.5%	-0.6%
Residential	14	15	20	21	20	19	18	0.7%	2.9%	0.4%	-0.4%	-0.6%	-0.4%
Services	10	18	21	25	32	36	39	6.4%	1.6%	1.7%	2.5%	1.2%	0.7%
Agriculture	2	4	3	4	4	5	5	8.1%	-1.8%	2.0%	1.5%	1.1%	0.9%
Road	11	22	28	34	35	36	36	7.7%	2.5%	1.9%	0.3%	0.2%	-0.1%
Rail	0	0	0	0	0	0	0	2.9%	-2.7%	0.1%	1.4%	0.8%	0.3%
Aviation	2	3	1	2	2	2	2	3.9%	-11.6%	6.2%	0.6%	0.9%	0.4%
Other Transport	2	1	1	0	0	0	0	-1.4%	-6.1%	-11.1%	-0.3%	-1.5%	-2.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

South Korea	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	12	37	75	75	58	37	40	11.7%	7.2%	0.0%	-2.6%	-4.3%	0.8%
Coal	6	24	52	45	23	8	8	15.2%	8.1%	-1.5%	-6.2%	-10.1%	0.3%
Oil	5	8	5	5	4	3	3	5.4%	-4.7%	0.3%	-2.5%	-2.2%	-0.7%
Gas	2	6	18	25	28	24	26	10.9%	12.0%	3.5%	1.2%	-1.8%	0.9%
Biomass & Waste	0	0	0	1	2	2	3	n.s.	34.9%	2.5%	13.4%	0.7%	2.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	105	290	499	622	770	904	987	10.7%	5.6%	2.2%	2.2%	1.6%	0.9%
Coal	18	111	219	189	100	37	39	20.2%	7.0%	-1.5%	-6.1%	-9.6%	0.6%
of which CCS	0	0	0	0	0	3	15	n.s.	n.s.	n.s.	n.s.	n.s.	18.8%
Oil	19	35	19	22	17	13	13	6.3%	-5.8%	1.3%	-2.5%	-2.2%	-0.6%
Gas	10	29	103	157	174	141	156	11.9%	13.4%	4.3%	1.0%	-2.0%	1.0%
of which CCS	0	0	0	0	0	14	36	n.s.	n.s.	n.s.	n.s.	n.s.	10.0%
Biomass & Waste	0	0	1	2	6	8	11	n.s.	28.1%	4.2%	13.5%	2.6%	3.7%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	20.1%
Nuclear	53	109	149	202	388	544	581	7.5%	3.2%	3.1%	6.7%	3.4%	0.7%
Hydro	6	6	6	9	9	9	9	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Wind	0	0	1	30	51	107	112	n.s.	47.3%	43.2%	5.7%	7.6%	0.5%
Solar	0	0	1	12	25	45	65	n.s.	n.s.	31.5%	7.5%	6.1%	3.8%
Other	0	0	0	0	0	1	1	n.s.	n.s.	24.1%	28.6%	12.7%	9.6%
Generation Capacity (GW_e)	20	49	77	134	188	240	230	9.4%	4.6%	5.7%	3.4%	2.5%	-0.4%
Coal	4	14	28	30	27	24	8	14.3%	7.1%	0.7%	-1.0%	-1.4%	-10.4%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	18.5%
Oil	4	4	4	4	4	4	5	2.1%	0.0%	0.0%	-1.1%	0.1%	1.3%
Gas	3	13	20	39	53	53	42	17.5%	4.6%	6.8%	3.3%	0.0%	-2.2%
of which CCS	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	n.s.	n.s.	10.5%
Biomass & Waste	0	1	0	1	1	1	2	n.s.	-12.0%	23.1%	-1.6%	1.9%	2.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.7%
Nuclear	8	14	18	25	48	68	72	6.1%	2.6%	3.6%	6.6%	3.6%	0.6%
Hydro	2	3	6	7	7	7	8	3.0%	5.8%	2.3%	0.5%	0.2%	0.1%
Wind	0	0	0	14	24	47	45	n.s.	40.3%	43.7%	5.3%	6.8%	-0.3%
Solar	0	0	1	13	23	36	49	n.s.	n.s.	34.5%	6.1%	4.7%	3.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	27.8%	12.1%	9.1%
Total Final Consumption² (Mtoe)	71	135	169	204	207	209	207	6.7%	2.3%	1.9%	0.1%	0.1%	-0.1%
Coal	16	15	18	21	11	11	12	-0.5%	1.9%	1.5%	-6.2%	0.1%	1.0%
Oil	44	80	82	96	83	70	59	6.2%	0.2%	1.6%	-1.4%	-1.7%	-1.7%
Gas	1	11	21	25	39	42	43	32.1%	6.5%	1.9%	4.7%	0.7%	0.1%
Electricity	8	23	39	48	60	71	77	10.8%	5.5%	2.3%	2.2%	1.6%	0.9%
Heat	0	3	4	4	4	5	5	n.s.	2.8%	-1.1%	0.5%	1.3%	1.1%
Biomass & Other	3	3	6	10	9	11	11	2.1%	6.4%	5.6%	-1.0%	1.5%	0.5%
Share of Renewables ³ (%)	5%	3%	5%	9%	11%	17%	20%	-3.2%	3.9%	5.9%	2.0%	4.7%	1.4%
Industry (incl. non-energy use)	31	71	94	118	113	111	107	8.8%	2.9%	2.2%	-0.4%	-0.2%	-0.3%
Coal	7	14	17	20	11	11	12	8.1%	1.7%	1.8%	-6.0%	0.2%	1.1%
Oil	18	36	44	53	44	36	29	7.4%	2.0%	1.8%	-1.8%	-2.0%	-2.0%
Gas	0	3	7	11	24	28	29	44.4%	9.4%	4.4%	8.4%	1.5%	0.1%
Electricity	5	13	20	25	27	31	33	10.0%	4.3%	2.3%	0.9%	1.4%	0.7%
Heat	0	2	2	2	2	2	2	n.s.	1.0%	-2.0%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	3	5	7	5	3	2	8.2%	5.1%	4.7%	-4.6%	-5.0%	-3.4%
Buildings	24	33	41	46	52	55	57	3.3%	2.2%	1.1%	1.3%	0.6%	0.3%
Coal	9	1	1	1	0	0	0	-24.1%	4.5%	-3.9%	-15.4%	-16.0%	-16.2%
Oil	10	14	7	6	5	4	3	3.3%	-6.7%	-1.4%	-2.7%	-2.1%	-1.5%
Gas	1	8	12	13	13	12	11	29.6%	4.5%	0.2%	0.3%	-1.3%	-0.9%
Electricity	3	9	18	22	30	35	37	11.9%	7.1%	2.1%	3.0%	1.5%	0.8%
Heat	0	1	2	2	2	3	3	n.s.	5.5%	-0.1%	1.1%	2.5%	1.9%
Biomass & Other	1	0	1	2	2	2	2	-11.3%	10.2%	9.1%	-0.2%	0.2%	-0.1%
Agriculture	2	4	3	4	4	5	5	8.1%	-1.8%	2.0%	1.5%	1.1%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	2	2	2	1	1	7.5%	-3.7%	0.4%	-3.8%	-4.3%	-4.5%
Gas	0	0	0	0	0	0	0	n.s.	-9.6%	-1.5%	-2.5%	-2.9%	-3.2%
Electricity	0	0	1	1	2	3	4	13.8%	6.6%	4.6%	5.2%	3.0%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	18.6%	4.4%	2.0%
Transport	15	27	30	36	38	38	38	6.3%	1.2%	1.8%	0.3%	0.2%	-0.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	27	29	35	33	29	25	6.3%	0.7%	1.8%	-0.6%	-1.3%	-1.3%
Gas	0	0	1	1	2	3	4	n.s.	n.s.	1.1%	4.9%	3.3%	3.6%
Electricity	0	0	0	0	1	2	3	7.2%	0.7%	4.4%	16.4%	5.8%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	5	6	n.s.	n.s.	2.5%	16.9%	10.2%	2.2%
Other Energy Transformation & Losses⁴	4	15	13	13	13	15	16	15.4%	-1.3%	-0.2%	0.2%	1.5%	0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

New Zealand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	3	4	4	5	5	5	6	1.3%	1.3%	0.8%	0.8%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	19	23	25	30	35	40	47	1.7%	1.1%	1.8%	1.6%	1.4%	1.5%
GDP per capita (mer, k\$'05)	21	24	28	33	39	44	52	1.7%	1.3%	1.8%	1.6%	1.4%	1.5%
Share Value Added - Agriculture (%)	6	8	7	6	5	5	5	2.6%	-1.5%	-2.0%	-0.7%	-0.5%	-0.5%
Share Value Added - Industry (%)	29	25	23	22	21	20	19	-1.2%	-0.9%	-0.2%	-0.5%	-0.5%	-0.6%
Share Value Added - Services (%)	65	66	70	72	73	75	76	0.2%	0.5%	0.3%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	27	28	-7.8%	10.3%	1.2%	1.0%	0.7%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	23	38	42	44	24	20	20	5.4%	0.9%	0.6%	-6.1%	-1.5%	-0.1%
Total GHG (excl. sinks)	60	71	73	71	58	56	56	1.7%	0.4%	-0.4%	-2.0%	-0.3%	0.0%
Total GHG (energy, industry, agriculture)	60	71	73	71	58	56	56	1.7%	0.4%	-0.4%	-2.0%	-0.3%	0.0%
CO ₂	24	31	33	34	28	26	26	2.5%	0.7%	0.1%	-2.0%	-0.4%	0.0%
CH ₄	27	29	28	25	21	21	21	1.0%	-0.3%	-1.2%	-1.9%	-0.1%	0.1%
N ₂ O	8	10	10	10	9	9	9	1.7%	0.6%	-0.1%	-1.3%	-0.5%	-0.1%
F gases	1	0	1	1	0	0	0	-6.7%	13.5%	1.2%	-10.1%	-9.8%	-10.5%
Total GHG from Energy and Industry	30	37	40	38	30	29	29	2.2%	0.8%	-0.4%	-2.4%	-0.4%	-0.1%
CO₂ Emissions from Fuel Comb.	23	29	31	30	25	24	23	2.5%	0.4%	-0.1%	-2.0%	-0.4%	0.0%
Power generation/District heating	4	6	6	2	1	2	2	5.1%	0.2%	-10.6%	-4.3%	2.6%	2.7%
Industry	7	7	6	9	7	7	8	-0.1%	-0.7%	3.6%	-2.1%	0.0%	0.7%
Buildings	1	1	1	1	1	1	1	0.7%	-0.2%	-1.4%	0.8%	0.3%	0.0%
Agriculture	1	2	1	2	1	1	0	2.2%	-0.6%	1.6%	-4.0%	-4.3%	-4.2%
Transport	9	12	14	14	12	11	10	3.4%	1.3%	0.5%	-1.7%	-0.8%	-0.7%
Other	1	2	2	2	1	1	1	2.9%	1.0%	1.5%	-3.1%	-0.8%	-0.8%
CO₂ captured (CCS)	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	21.4%	14.4%	12.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	6.6%	5.1%	10.3%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	18.1%	10.1%
Biomass	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	37.8%	11.2%	19.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	13	15	18	24	25	26	27	1.8%	1.8%	2.8%	0.6%	0.5%	0.4%
Coal	1	2	3	2	2	2	2	4.9%	2.8%	-1.6%	-0.8%	-0.1%	-0.1%
Oil	3	2	3	2	3	4	4	-2.7%	3.2%	-0.8%	3.1%	2.1%	0.5%
Natural gas	4	5	4	4	3	3	2	2.5%	-2.6%	-0.1%	-2.1%	-1.1%	-1.5%
Biomass	1	1	1	1	2	2	3	4.0%	0.7%	2.0%	2.4%	1.8%	1.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.6%	1.5%
Hydro	2	2	2	2	2	2	2	0.5%	0.1%	-0.8%	0.2%	0.0%	0.2%
Other renewables	2	3	5	11	13	13	14	3.2%	7.5%	8.2%	0.9%	0.3%	0.6%
Net Imports	1	3	2	3	1	1	2						
Coal	0	-1	-1	-1	-2	-2	-2						
Oil	2	4	4	4	2	1	0						
Natural gas	-1	0	0	0	1	2	4						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	13	18	20	27	26	27	29	2.9%	1.2%	3.0%	-0.1%	0.3%	0.7%
Coal	1	1	1	1	1	0	0	-0.3%	1.7%	-1.0%	-8.0%	-1.9%	1.5%
Oil	4	6	6	7	5	5	5	2.7%	0.8%	0.7%	-2.1%	-1.0%	-0.7%
Natural gas	3	5	4	4	4	5	6	5.0%	-3.0%	1.1%	0.5%	1.2%	2.0%
Biomass	1	1	1	1	2	2	2	4.0%	0.7%	0.4%	2.9%	1.9%	1.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.6%	1.5%
Hydro	2	2	2	2	2	2	2	0.5%	0.1%	-0.8%	0.2%	0.0%	0.2%
Other renewables	2	3	5	11	13	13	14	3.2%	7.5%	8.2%	0.9%	0.3%	0.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	13	18	20	27	26	27	29	2.9%	1.2%	3.0%	-0.1%	0.3%	0.7%
Energy for Power Generation	6	7	10	15	16	17	19	2.8%	3.4%	4.1%	0.6%	0.5%	1.0%
Other Energy Transformation & Losses	0	1.2%	n.s.	n.s.	n.s.	n.s.	n.s.						
Final consumption	10	13	13	15	15	15	16	2.8%	0.0%	1.6%	-0.3%	0.3%	0.5%
Steel, Non-Met. Minerals and Chem.	1	1	1	2	1	1	1	0.4%	-2.5%	4.4%	-2.3%	-1.0%	-0.3%
Other Industry	3	3	3	4	4	4	5	2.1%	0.5%	1.7%	0.3%	0.8%	0.9%
Non-Energy Use	1	2	1	2	2	1	2	10.3%	-5.2%	5.9%	-1.3%	-0.4%	0.4%
Residential	1	1	1	1	1	2	2	1.1%	0.7%	-0.5%	0.4%	0.8%	0.7%
Services	1	1	1	1	1	2	2	1.7%	1.8%	0.1%	1.2%	1.2%	1.3%
Agriculture	0	1	1	1	1	1	1	2.8%	0.5%	2.6%	0.9%	0.7%	0.7%
Road	3	3	4	4	4	4	4	3.0%	1.7%	0.7%	-1.0%	-0.1%	-0.1%
Rail	0	0	0	0	0	0	0	10.4%	-4.8%	0.6%	0.1%	0.0%	0.1%
Aviation	0	0	0	0	0	0	0	2.4%	-1.6%	-1.7%	0.8%	1.8%	1.9%
Other Transport	0	0	0	0	0	0	0	4.7%	-3.9%	4.4%	-0.4%	-0.8%	-0.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

New Zealand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2	3	3	2	2	2	3	4.4%	0.9%	-4.3%	-1.0%	1.9%	3.8%
Coal	0	0	0	0	0	0	0	8.2%	2.7%	-11.3%	-7.9%	3.0%	5.1%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	7.6%	5.2%	10.0%
Gas	1	2	2	1	0	1	1	4.3%	-0.7%	-10.3%	-3.2%	5.3%	6.2%
Biomass & Waste	0	0	0	0	0	0	0	1.3%	0.2%	-11.5%	4.1%	5.4%	10.6%
Other	0	0	1	1	1	1	1	3.2%	7.2%	8.0%	0.4%	-0.1%	0.5%
Gross Elec. Generation (TWh_e)	32	39	45	46	53	61	69	2.0%	1.4%	0.2%	1.4%	1.5%	1.2%
Coal	1	2	2	1	0	0	1	8.8%	2.9%	-11.4%	-7.6%	3.2%	5.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	17.9%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	16.7%	7.7%	5.2%	10.0%
Gas	6	10	10	3	2	4	8	5.3%	0.4%	-10.3%	-3.1%	5.5%	6.4%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	12.5%
Biomass & Waste	1	1	1	0	0	1	2	1.6%	0.2%	-11.1%	4.4%	6.8%	10.9%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	23.2%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	23	24	25	23	23	23	24	0.5%	0.1%	-0.8%	0.2%	0.0%	0.2%
Wind	0	0	2	6	12	17	18	n.s.	29.8%	13.5%	7.6%	3.8%	0.5%
Solar	0	0	0	0	1	2	2	n.s.	n.s.	42.5%	17.7%	5.3%	4.6%
Other	2	3	6	13	13	13	14	3.2%	7.2%	8.0%	0.4%	-0.1%	0.6%
Generation Capacity (GW_e)	7	8	11	13	16	19	20	1.1%	2.9%	1.5%	2.2%	1.8%	0.5%
Coal	1	1	1	0	0	0	0	-1.0%	-4.8%	-4.7%	-10.1%	-1.4%	2.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	18.1%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	1.2%	1.4%	0.6%	0.3%
Gas	1	1	2	2	3	3	3	2.7%	4.4%	-0.3%	2.1%	0.2%	-0.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.0%
Biomass & Waste	0	0	0	0	0	0	1	0.9%	8.9%	0.6%	5.0%	-0.9%	2.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	23.2%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	5	5	5	5	5	5	5	0.9%	0.1%	-0.3%	0.2%	0.0%	0.2%
Wind	0	0	1	2	3	5	5	n.s.	30.8%	12.4%	7.3%	3.5%	0.3%
Solar	0	0	0	0	1	2	4	n.s.	n.s.	43.1%	18.3%	6.2%	5.6%
Other	0	1	2	3	3	4	3	7.1%	11.6%	3.4%	-0.6%	2.4%	-2.2%
Total Final Consumption² (Mtoe)	10	13	13	15	15	15	16	2.8%	0.0%	1.6%	-0.3%	0.3%	0.5%
Coal	1	1	1	1	0	0	0	-2.3%	1.9%	0.3%	-7.1%	-2.3%	0.2%
Oil	4	5	6	6	5	5	4	2.8%	1.1%	0.7%	-2.1%	-1.0%	-0.8%
Gas	2	3	2	3	4	4	4	5.3%	-5.4%	6.8%	0.9%	0.6%	0.9%
Electricity	2	3	3	3	4	5	5	2.0%	1.3%	0.3%	1.5%	1.5%	1.3%
Heat	0	0	0	0	0	0	0	1.4%	1.6%	2.1%	-0.3%	-0.2%	0.5%
Biomass & Other	1	1	1	1	2	2	2	4.5%	0.7%	1.2%	2.6%	1.6%	1.0%
Share of Renewables ³ (%)	29%	28%	30%	32%	43%	49%	52%	-0.4%	0.7%	0.9%	2.9%	1.3%	0.5%
Industry (incl. non-energy use)	4	6	5	7	7	7	7	3.2%	-1.4%	3.1%	-0.6%	0.2%	0.6%
Coal	1	1	1	1	0	0	0	-2.0%	2.1%	0.6%	-6.9%	-2.0%	0.4%
Oil	1	1	1	1	1	1	1	1.0%	1.8%	2.0%	-1.4%	0.3%	0.7%
Gas	2	3	1	3	3	3	3	5.8%	-6.1%	7.7%	-0.1%	0.2%	0.8%
Electricity	1	1	1	1	2	2	2	2.3%	0.5%	0.3%	1.6%	1.4%	0.9%
Heat	0	0	0	0	0	0	0	2.1%	0.7%	2.4%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	1	1	1	1	1	1	5.6%	0.9%	0.4%	-0.5%	-0.9%	-0.6%
Buildings	2	2	3	3	3	3	3	1.4%	1.2%	-0.2%	0.8%	1.0%	1.0%
Coal	0	0	0	0	0	0	0	-5.8%	-4.0%	-5.2%	-15.9%	n.s.	n.s.
Oil	0	0	0	0	0	0	0	0.6%	1.7%	-0.2%	-1.5%	-0.5%	-0.5%
Gas	0	0	0	0	0	0	0	5.6%	-0.5%	-1.8%	4.3%	1.0%	0.3%
Electricity	1	2	2	2	2	2	2	1.5%	1.7%	-0.2%	0.2%	0.9%	1.2%
Heat	0	0	0	0	0	0	0	-0.4%	3.8%	1.4%	-0.7%	0.1%	2.0%
Biomass & Other	0	0	0	0	0	0	0	0.1%	-0.5%	2.5%	4.7%	2.5%	0.9%
Agriculture	0	1	1	1	1	1	1	2.8%	0.5%	2.6%	0.9%	0.7%	0.7%
Coal	0	0	0	0	0	0	0	4.6%	12.4%	1.0%	-7.0%	-7.5%	-7.5%
Oil	0	0	0	0	0	0	0	2.3%	-1.4%	1.1%	-3.8%	-4.2%	-4.2%
Gas	0	0	0	0	0	0	0	0.5%	-3.5%	8.1%	-2.6%	-2.9%	-2.9%
Electricity	0	0	0	0	0	0	1	6.6%	5.1%	3.9%	2.9%	2.1%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	26.2%	4.9%	2.2%
Transport	3	4	5	5	4	4	4	3.1%	1.2%	0.7%	-0.8%	0.0%	0.0%
Coal	0	0	0	0	0	0	0	0.0%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	5	5	4	3	3	3.3%	1.2%	0.4%	-2.1%	-1.1%	-1.0%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	18.2%	3.4%	2.4%
Electricity	0	0	0	0	0	0	0	1.8%	-0.8%	15.7%	24.1%	5.7%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	27.2%	14.6%	6.5%	3.6%
Other Energy Transformation & Losses⁴	0	1.2%	n.s.	n.s.	n.s.	n.s.	n.s.						

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Pacific	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	6	8	9	11	13	15	17	2.3%	2.0%	1.8%	1.6%	1.4%	1.1%
GDP per capita (ppp, k\$'05)	2	2	2	3	4	6	9	1.2%	1.1%	3.1%	2.7%	3.9%	4.3%
GDP per capita (mer, k\$'05)	1	1	1	2	2	3	5	1.0%	1.0%	3.1%	2.7%	3.9%	4.3%
Share Value Added - Agriculture (%)	27	28	29	9	3	1	0	0.5%	0.4%	-11.6%	-10.1%	-10.6%	-7.9%
Share Value Added - Industry (%)	27	31	30	11	11	11	11	1.3%	-0.2%	-9.5%	0.0%	-0.1%	-0.3%
Share Value Added - Services (%)	46	41	40	80	86	88	89	-1.2%	-0.1%	7.1%	0.7%	0.2%	0.1%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	27	28	-7.8%	10.3%	1.2%	1.0%	0.7%	0.6%
Oil	33	32	72	77	84	99	119	-0.2%	8.4%	0.6%	0.9%	1.6%	1.9%
Gas	28	24	47	58	46	57	74	-1.2%	6.8%	2.1%	-2.2%	2.2%	2.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	101	96	102	113	127	134	137	-0.6%	0.6%	1.1%	1.2%	0.5%	0.2%
Total GHG (excl. sinks)	101	96	102	113	127	134	137	-0.6%	0.6%	1.1%	1.2%	0.5%	0.2%
Total GHG (energy, industry, agriculture)	13	12	16	20	30	46	68	-0.2%	2.7%	2.1%	4.2%	4.2%	4.0%
CO ₂	3	5	8	10	20	37	59	3.5%	5.5%	3.0%	6.9%	6.2%	4.8%
CH ₄	5	4	5	5	5	4	4	-0.7%	0.6%	1.3%	0.4%	-1.8%	-0.1%
N ₂ O	5	4	4	5	5	4	5	-3.0%	0.7%	1.4%	0.3%	-0.6%	0.3%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	-4.9%	0.3%	-5.3%	-16.7%
Total GHG from Energy and Industry	5	6	10	13	23	39	61	2.5%	4.6%	2.4%	5.9%	5.5%	4.6%
CO₂ Emissions from Fuel Comb.	3	4	7	10	19	35	56	2.9%	5.0%	3.7%	6.7%	6.4%	4.9%
Power generation/District heating	1	1	2	3	5	8	13	6.4%	2.6%	7.0%	4.4%	5.0%	5.1%
Industry	1	1	2	2	3	4	6	6.7%	9.2%	-3.4%	4.1%	4.1%	4.0%
Buildings	0	0	0	0	1	1	1	-4.1%	-0.3%	5.6%	5.1%	1.6%	1.2%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	1	2	2	3	3	4	5	2.1%	2.5%	3.0%	1.5%	2.5%	2.7%
Other	0	0	0	2	7	18	31	1.4%	36.1%	15.0%	16.3%	9.5%	5.6%
CO₂ captured (CCS)	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	25.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	44.0%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	16.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	6	6	3	6	7	8	9	-1.2%	-7.3%	8.1%	1.5%	1.9%	1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	0	1	1	2	2	-2.1%	-21.0%	9.9%	3.5%	3.0%	2.2%
Natural gas	0	0	0	0	0	0	0	6.2%	0.0%	-4.7%	-3.1%	4.7%	-0.1%
Biomass	2	2	2	4	4	5	5	0.2%	-0.1%	9.4%	0.2%	0.4%	0.5%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	0	1	2	2	n.s.	n.s.	3.8%	8.4%	6.2%	1.6%
Net Imports	-3	-2	2	-1	1	6	12						
Coal	0	0	0	0	2	5	8						
Oil	-3	-2	2	1	1	1	1						
Natural gas	0	0	0	0	1	3	6						
Biomass	0	0	0	-3	-3	-3	-2						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	3	3	5	5	8	14	21	1.5%	2.9%	0.7%	5.4%	5.5%	4.4%
Coal	0	0	0	0	2	5	8	n.s.	n.s.	47.8%	20.3%	10.0%	5.8%
Oil	1	1	2	2	2	3	3	3.0%	3.1%	2.0%	0.3%	0.9%	1.4%
Natural gas	0	0	0	0	1	3	6	30.1%	16.9%	-10.3%	24.2%	8.7%	6.9%
Biomass	2	2	2	2	2	2	2	0.2%	-0.1%	-0.6%	0.7%	1.2%	2.1%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	0	1	2	2	n.s.	n.s.	3.8%	8.4%	6.2%	1.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	3	3	5	5	8	14	21	1.5%	2.9%	0.7%	5.4%	5.5%	4.4%
Energy for Power Generation	0	1	1	2	3	5	8	4.7%	6.1%	4.8%	6.0%	5.8%	4.5%
Other Energy Transformation & Losses	0	0	0	0	2	4	8	n.s.	7.7%	-13.9%	44.9%	10.9%	6.1%
Final consumption	3	3	4	4	5	6	8	0.9%	2.1%	-0.1%	2.3%	2.9%	3.2%
Steel, Non-Met. Minerals and Chem.	0	0	0	0	0	0	1	n.s.	n.s.	-5.1%	6.0%	2.8%	3.2%
Other Industry	1	1	1	1	1	1	2	3.2%	2.2%	-5.0%	3.6%	4.9%	4.6%
Non-Energy Use	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Residential	1	1	2	2	2	2	2	-0.1%	0.2%	0.7%	0.5%	0.6%	0.6%
Services	0	0	0	0	1	1	1	2.8%	3.5%	9.8%	5.1%	5.3%	5.1%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Road	0	1	1	1	1	1	1	2.2%	0.9%	3.1%	1.5%	2.2%	2.6%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	1	1.4%	2.9%	4.1%	4.9%	5.5%	4.6%
Other Transport	0	0	0	0	0	0	0	0.0%	0.0%	1.5%	3.5%	3.7%	3.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Pacific	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	0	0	1	1	2	3	6	6.3%	3.0%	7.3%	5.0%	5.6%	5.7%
Coal	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	29.2%	10.4%	6.0%
Oil	0	0	1	1	1	1	1	6.4%	2.6%	5.8%	-0.2%	-0.7%	-0.3%
Gas	0	0	0	0	1	2	4	6.2%	0.0%	31.4%	17.1%	9.6%	7.7%
Biomass & Waste	0	0	0	0	0	0	0	5.4%	-0.1%	11.7%	1.1%	7.6%	9.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	2.4%	8.1%	5.5%	-0.1%
Gross Elec. Generation (TWh_e)	2	3	4	6	9	15	25	3.8%	3.2%	2.3%	5.1%	5.4%	5.1%
Coal	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	29.5%	10.7%	6.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	43.8%
Oil	1	2	2	4	4	4	4	6.0%	4.3%	5.6%	-0.2%	-0.6%	-0.2%
Gas	0	0	0	1	3	6	12	41.5%	-1.1%	13.1%	14.6%	8.0%	6.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	45.7%
Biomass & Waste	0	0	0	0	0	1	1	1.7%	1.3%	9.6%	3.6%	11.7%	10.7%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	1	1	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	16.6%	14.8%	10.1%
Solar	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	9.8%	3.7%	4.0%
Other	0	0	0	0	1	2	2	n.s.	n.s.	2.4%	8.2%	5.6%	0.3%
Generation Capacity (GW_e)	0	0	1	1	2	3	5	0.7%	4.9%	2.4%	5.6%	5.9%	5.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	29.6%	10.8%	6.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	41.1%
Oil	0	0	1	1	1	1	1	-0.3%	4.5%	1.0%	-0.5%	-0.5%	1.2%
Gas	0	0	0	0	0	1	2	7.4%	0.0%	3.5%	14.8%	8.1%	6.6%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	45.8%
Biomass & Waste	0	0	0	0	0	0	0	0.0%	9.4%	0.0%	1.1%	11.4%	10.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	0	0	1	1	n.s.	n.s.	10.1%	15.5%	14.2%	9.4%
Solar	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	10.7%	4.5%	4.6%
Other	0	0	0	0	0	0	0	0.0%	28.4%	0.0%	7.7%	5.1%	0.0%
Total Final Consumption² (Mtoe)	3	3	4	4	5	6	8	0.9%	2.1%	-0.1%	2.3%	2.9%	3.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	10.8%	10.5%	8.4%	6.2%
Oil	1	1	1	1	1	2	2	1.9%	2.4%	0.6%	0.6%	1.8%	2.2%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	-1.6%	10.6%	5.1%	4.4%
Electricity	0	0	0	0	1	1	2	3.8%	3.1%	1.8%	5.2%	5.4%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	8.7%	8.2%	3.9%
Biomass & Other	2	2	2	2	2	2	2	0.2%	-0.1%	-1.1%	-0.1%	0.4%	1.0%
Share of Renewables ³ (%)	65%	60%	49%	44%	38%	35%	33%	-0.7%	-2.0%	-1.1%	-1.4%	-0.7%	-0.6%
Industry (incl. non-energy use)	1	1	1	1	1	2	3	3.2%	5.1%	-5.0%	4.2%	4.3%	4.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	10.8%	10.5%	8.4%	6.2%
Oil	0	0	1	0	0	0	0	8.1%	4.8%	-4.0%	-0.7%	0.7%	1.1%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	-3.0%	9.2%	5.4%	4.8%
Electricity	0	0	0	0	0	0	0	3.7%	2.4%	-7.4%	4.3%	5.6%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	0.6%	-0.8%	-8.4%	1.7%	3.7%	4.2%
Buildings	2	2	2	2	2	3	3	0.0%	0.4%	1.7%	1.4%	1.9%	2.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	-4.0%	-0.3%	3.3%	0.2%	-0.2%	0.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	15.4%	3.1%	1.9%
Electricity	0	0	0	0	1	1	1	4.0%	4.4%	8.6%	4.9%	5.2%	5.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	8.7%	8.2%	3.9%
Biomass & Other	1	1	1	1	1	1	1	0.1%	0.1%	0.1%	-0.5%	-0.5%	-0.3%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	0	1	1	1	1	2	2	2.1%	1.2%	3.2%	2.2%	3.0%	3.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	1	1	1	1	1	2	2.1%	1.2%	2.9%	1.1%	2.3%	2.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	20.9%	6.3%	4.9%
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	29.6%	8.2%	5.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	13.7%	7.6%	6.1%
Other Energy Transformation & Losses⁴	0	0	0	0	2	4	8	n.s.	7.7%	-13.9%	44.9%	10.9%	6.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

9 GECO2017_B2°C scenario

World	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	5 308	6 126	6 930	7 762	8 509	9 174	9 750	1.4%	1.2%	1.1%	0.9%	0.8%	0.6%
GDP per capita (ppp, k\$'05)	7	8	10	12	15	20	24	1.5%	2.2%	2.1%	2.6%	2.4%	1.9%
GDP per capita (mer, k\$'05)	6	7	8	9	10	12	14	1.3%	1.3%	1.4%	1.8%	1.8%	1.6%
Share Value Added - Agriculture (%)	8	5	5	6	6	6	6	-3.2%	-0.1%	0.6%	0.1%	0.1%	0.1%
Share Value Added - Industry (%)	32	30	30	29	28	25	23	-0.7%	0.1%	-0.4%	-0.4%	-0.8%	-1.0%
Share Value Added - Services (%)	60	65	64	65	67	69	71	0.7%	-0.1%	0.1%	0.2%	0.3%	0.3%
Prices													
International (\$'05/boe)													
Coal	17	9	20	20	21	21	22	-5.9%	7.9%	-0.1%	0.6%	-0.1%	0.6%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	19	23	33	44	44	38	34	2.3%	3.4%	3.0%	0.0%	-1.3%	-1.2%
GHG emissions (MtCO₂ eq.)													
Total GHG	33 102	35 509	44 517	49 148	41 264	29 134	17 234	0.7%	2.3%	1.0%	-1.7%	-3.4%	-5.1%
Total GHG (excl. sinks)	35 498	38 554	47 398	51 548	45 015	34 049	22 949	0.8%	2.1%	0.8%	-1.3%	-2.8%	-3.9%
Total GHG (energy, industry, agriculture)	31 128	33 812	43 478	48 078	43 416	32 008	20 005	0.8%	2.5%	1.0%	-1.0%	-3.0%	-4.6%
CO ₂	22 096	24 818	32 862	37 365	34 845	24 974	14 550	1.2%	2.8%	1.3%	-0.7%	-3.3%	-5.3%
CH ₄	5 981	6 044	7 182	6 933	5 297	4 306	3 326	0.1%	1.7%	-0.4%	-2.7%	-2.0%	-2.5%
N ₂ O	2 747	2 564	2 868	3 071	2 718	2 386	2 035	-0.7%	1.1%	0.7%	-1.2%	-1.3%	-1.6%
F gases	304	386	566	710	557	341	94	2.4%	3.9%	2.3%	-2.4%	-4.8%	-12.1%
Total GHG from Energy and Industry	26 182	29 010	38 131	42 387	38 640	27 844	16 475	1.0%	2.8%	1.1%	-0.9%	-3.2%	-5.1%
CO₂ Emissions from Fuel Comb.	20 665	23 112	30 232	33 937	30 946	21 198	11 434	1.1%	2.7%	1.2%	-0.9%	-3.7%	-6.0%
Power generation/District heating	6 774	8 433	11 587	12 756	10 813	4 505	-1 121	2.2%	3.2%	1.0%	-1.6%	-8.4%	n.s.
Industry	3 768	3 706	5 664	6 091	5 499	3 978	2 718	-0.2%	4.3%	0.7%	-1.0%	-3.2%	-3.7%
Buildings	2 942	2 753	2 984	2 968	2 552	1 745	1 042	-0.7%	0.8%	-0.1%	-1.5%	-3.7%	-5.0%
Agriculture	424	363	424	471	408	266	171	-1.5%	1.6%	1.0%	-1.4%	-4.2%	-4.3%
Transport	4 663	5 774	6 947	8 445	8 603	8 325	7 251	2.2%	1.9%	2.0%	0.2%	-0.3%	-1.4%
Other	2 093	2 083	2 626	3 207	3 071	2 379	1 373	0.0%	2.3%	2.0%	-0.4%	-2.5%	-5.3%
CO₂ captured (CCS)	0	0	0	4	66	1 372	6 436	n.s.	n.s.	n.s.	31.2%	35.4%	16.7%
Coal	0	0	0	3	39	343	1 095	n.s.	n.s.	n.s.	27.8%	24.4%	12.3%
Gas	0	0	0	0	25	465	1 670	n.s.	n.s.	n.s.	54.8%	33.8%	13.6%
Biomass	0	0	0	1	2	564	3 670	n.s.	n.s.	n.s.	11.9%	n.s.	20.6%
Energy Balance, by fuel (Mtoe)													
Primary Production													
Coal	2 133	2 314	3 649	3 802	2 809	1 161	764	0.8%	4.7%	0.4%	-3.0%	-8.5%	-4.1%
Oil	3 280	3 706	4 189	4 919	4 794	4 260	3 564	1.2%	1.2%	1.6%	-0.3%	-1.2%	-1.8%
Natural gas	1 687	2 068	2 737	3 293	3 837	3 597	3 031	2.1%	2.8%	1.9%	1.5%	-0.6%	-1.7%
Biomass	862	958	1 235	1 454	1 919	2 388	3 213	1.1%	2.6%	1.7%	2.8%	2.2%	3.0%
Nuclear ¹	533	686	728	786	1 338	2 446	2 650	2.6%	0.6%	0.8%	5.8%	6.2%	0.8%
Hydro	188	232	303	384	439	456	462	2.1%	2.7%	2.4%	1.3%	0.4%	0.1%
Other renewables	34	52	106	357	870	1 488	1 932	4.6%	7.3%	12.9%	9.3%	5.5%	2.6%
International Bunkers													
Maritime Bunkers	154	206	273	377	401	380	347	2.9%	2.9%	3.3%	0.6%	-0.5%	-0.9%
Oil	151	202	266	363	379	357	327	2.9%	2.8%	3.2%	0.4%	-0.6%	-0.9%
Aviation Bunkers	86	117	152	195	229	257	267	3.2%	2.6%	2.5%	1.6%	1.2%	0.4%
Oil	86	117	152	194	225	247	246	3.2%	2.6%	2.5%	1.5%	0.9%	0.0%
Regional Energy Demand (excl. bunkers)													
Coal	2 133	2 314	3 649	3 802	2 809	1 161	764	0.8%	4.7%	0.4%	-3.0%	-8.5%	-4.1%
Oil	3 043	3 386	3 771	4 362	4 190	3 655	2 991	1.1%	1.1%	1.5%	-0.4%	-1.4%	-2.0%
Natural gas	1 687	2 068	2 737	3 293	3 837	3 597	3 031	2.1%	2.8%	1.9%	1.5%	-0.6%	-1.7%
Biomass	862	958	1 235	1 454	1 916	2 379	3 192	1.1%	2.6%	1.6%	2.8%	2.2%	3.0%
Nuclear ¹	533	686	728	786	1 338	2 446	2 650	2.6%	0.6%	0.8%	5.5%	6.2%	0.8%
Hydro	188	232	303	384	439	456	462	2.1%	2.7%	2.4%	1.3%	0.4%	0.1%
Other renewables	34	52	106	357	870	1 488	1 932	4.6%	7.3%	12.9%	9.3%	5.5%	2.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand													
Energy for Power Generation	2 775	3 466	4 640	5 454	6 325	6 991	8 029	2.2%	3.0%	1.6%	1.5%	-1.0%	1.4%
Other Energy Transformation & Losses	763	763	1 162	1 379	1 520	1 459	1 371	0.0%	4.3%	1.7%	1.0%	-0.4%	-0.6%
Final consumption (incl. bunkers)	6 356	7 139	9 027	10 535	11 165	10 987	10 554	1.2%	2.4%	1.6%	0.6%	-0.2%	-0.4%
Steel, Non-Met. Minerals and Chem.	810	888	1 385	1 555	1 482	1 219	1 022	0.9%	4.5%	1.2%	-0.5%	-1.9%	-1.7%
Other Industry	1 109	1 086	1 358	1 671	1 917	1 961	1 986	-0.2%	2.3%	2.1%	1.4%	0.2%	0.1%
Non-Energy Use	486	627	786	952	995	959	870	2.6%	2.3%	1.9%	0.4%	-0.4%	-1.0%
Residential	1 626	1 796	2 053	2 176	2 173	2 012	1 846	1.0%	1.3%	0.6%	0.0%	-0.8%	-0.9%
Services	593	634	830	973	1 139	1 259	1 388	0.7%	2.7%	1.6%	1.6%	1.0%	1.0%
Agriculture	168	148	179	210	237	262	284	-1.3%	1.9%	1.6%	1.2%	1.0%	0.8%
Road	1 134	1 443	1 818	2 179	2 308	2 377	2 250	2.4%	2.3%	1.8%	0.6%	0.3%	-0.5%
Rail	59	47	52	61	69	76	80	-2.2%	0.9%	1.6%	1.3%	0.9%	0.6%
Aviation	182	226	252	328	385	428	442	2.2%	1.1%	2.7%	1.6%	1.1%	0.3%
Other Transport								n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

World	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2 024	2 500	3 508	3 937	3 698	2 622	3 009	2.1%	3.4%	1.2%	-0.6%	-3.4%	1.4%
Coal	1 155	1 508	2 114	2 234	1 638	489	330	2.7%	3.4%	0.6%	-3.1%	-11.4%	-3.8%
Oil	334	290	247	319	308	184	145	-1.4%	-1.6%	2.6%	-0.4%	-5.0%	-2.4%
Gas	479	646	1 022	1 219	1 419	1 304	1 156	3.0%	4.7%	1.8%	1.5%	-0.8%	-1.2%
Biomass & Waste	53	52	120	155	313	623	1 353	-0.3%	8.7%	2.6%	7.3%	7.1%	8.1%
Other	3	4	6	10	20	22	24	3.6%	2.8%	5.4%	7.2%	1.0%	1.0%
Gross Elec. Generation (TWh_e)	11 844	15 472	21 504	27 433	34 227	40 534	48 220	2.7%	3.3%	2.5%	2.2%	1.7%	1.8%
Coal	4 423	5 999	8 661	9 574	7 142	2 205	1 612	3.1%	3.7%	1.0%	-2.9%	-11.1%	-3.1%
of which CCS	0	0	0	0	0	0	265	n.s.	n.s.	n.s.	n.s.	n.s.	16.5%
Oil	1 292	1 178	931	1 368	1 330	821	637	-0.9%	-2.3%	3.9%	-0.3%	-4.7%	-2.5%
Gas	1 761	2 753	4 806	5 999	7 342	7 019	6 763	4.6%	5.7%	2.2%	2.0%	-0.4%	-0.4%
of which CCS	0	0	0	0	0	1 000	4 033	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Biomass & Waste	123	169	380	527	1 206	2 721	6 508	3.2%	8.4%	3.3%	8.6%	8.5%	9.1%
of which CCS	0	0	0	0	0	649	4 000	n.s.	n.s.	n.s.	n.s.	n.s.	19.9%
Nuclear	2 013	2 591	2 756	3 007	5 267	9 865	10 750	2.6%	0.6%	0.9%	5.8%	6.5%	0.9%
Hydro	2 191	2 698	3 528	4 468	5 101	5 308	5 374	2.1%	2.7%	2.4%	1.3%	0.4%	0.1%
Wind	4	31	341	1 735	4 677	7 919	9 920	23.2%	27.0%	17.7%	10.4%	5.4%	2.3%
Solar	0	1	33	591	1 836	4 265	6 087	25.1%	42.3%	33.3%	12.0%	8.8%	3.6%
Other	36	52	69	163	326	411	569	3.6%	2.8%	9.1%	7.1%	2.3%	3.3%
Generation Capacity (GW_e)	2 730	3 553	5 142	7 285	10 135	13 577	14 516	2.7%	3.8%	3.5%	3.4%	3.0%	0.7%
Coal	890	1 140	1 687	2 091	1 996	1 741	645	2.5%	4.0%	2.2%	-0.5%	-1.4%	-9.4%
of which CCS	0	0	0	0	0	39	173	n.s.	n.s.	n.s.	n.s.	n.s.	15.9%
Oil	448	496	412	456	451	415	391	1.0%	-1.8%	1.0%	-0.1%	-0.8%	-0.6%
Gas	503	712	1 313	1 586	1 899	1 935	1 550	3.5%	6.3%	1.9%	1.8%	0.2%	-2.2%
of which CCS	0	0	0	0	0	130	579	n.s.	n.s.	n.s.	n.s.	n.s.	16.1%
Biomass & Waste	27	45	99	150	248	501	1 075	5.3%	8.2%	4.2%	5.2%	7.3%	7.9%
of which CCS	0	0	0	0	0	90	569	n.s.	n.s.	n.s.	n.s.	n.s.	20.2%
Nuclear	290	352	375	412	721	1 350	1 453	2.0%	0.6%	1.0%	5.8%	6.5%	0.7%
Hydro	564	782	1 020	1 313	1 478	1 541	1 566	3.3%	2.7%	2.6%	1.2%	0.4%	0.2%
Wind	2	17	184	779	1 963	3 165	3 806	23.8%	27.0%	15.5%	9.7%	4.9%	1.9%
Solar	0	1	40	462	1 309	2 843	3 916	10.0%	41.8%	27.8%	11.0%	8.1%	3.3%
Other	6	9	12	34	70	87	113	3.9%	3.1%	11.4%	7.4%	2.2%	2.6%
Total Final Consumption (Mtoe)	6 356	7 139	9 027	10 535	11 165	10 987	10 554	1.2%	2.4%	1.6%	0.6%	-0.2%	-0.4%
Coal	850	660	1 205	1 215	879	461	271	-2.5%	6.2%	0.1%	-3.2%	-6.3%	-5.2%
Oil	2 639	3 169	3 660	4 304	4 205	3 836	3 238	1.8%	1.5%	1.6%	-0.2%	-0.9%	-1.7%
Gas	895	1 073	1 275	1 515	1 784	1 697	1 348	1.8%	1.7%	1.7%	1.7%	-0.5%	-2.3%
Electricity	831	1 086	1 531	1 952	2 439	2 895	3 438	2.7%	3.5%	2.5%	2.3%	1.7%	1.7%
Heat	339	256	294	321	396	506	581	-2.8%	1.4%	0.9%	2.1%	2.5%	1.4%
Biomass & Other	802	896	1 063	1 228	1 461	1 591	1 679	1.1%	1.7%	1.4%	1.8%	0.9%	0.5%
Share of Renewables ² (%)	17%	18%	18%	20%	26%	34%	43%	0.3%	-0.1%	1.2%	2.7%	2.8%	2.2%
Industry (incl. non-energy use)	2 405	2 601	3 530	4 177	4 394	4 139	3 878	0.8%	3.1%	1.7%	0.5%	-0.6%	-0.6%
Coal	590	540	1 048	1 071	809	444	266	-0.9%	6.9%	0.2%	-2.8%	-5.8%	-5.0%
Oil	687	800	912	1 041	994	859	734	1.5%	1.3%	1.3%	-0.5%	-1.5%	-1.6%
Gas	452	532	621	840	1 037	1 060	872	1.7%	1.6%	3.1%	2.1%	0.2%	-1.9%
Electricity	381	460	637	851	1 048	1 164	1 295	1.9%	3.3%	2.9%	2.1%	1.1%	1.1%
Heat	163	105	126	133	151	159	162	-4.3%	1.8%	0.6%	1.3%	0.5%	0.2%
Biomass & Other	132	163	185	241	355	454	549	2.1%	1.3%	2.7%	3.9%	2.5%	1.9%
Buildings	2 218	2 430	2 883	3 148	3 312	3 271	3 234	0.9%	1.7%	0.9%	0.5%	-0.1%	-0.1%
Coal	233	108	140	128	59	11	2	-7.4%	2.7%	-0.9%	-7.4%	-15.5%	-16.0%
Oil	316	342	310	319	263	183	114	0.8%	-1.0%	0.3%	-1.9%	-3.6%	-4.6%
Gas	434	531	618	620	634	481	288	2.1%	1.5%	0.0%	0.2%	-2.7%	-5.0%
Electricity	403	581	834	1 014	1 205	1 424	1 700	3.7%	3.7%	2.0%	1.7%	1.7%	1.8%
Heat	176	151	168	188	245	348	419	-1.5%	1.1%	1.2%	2.7%	3.5%	1.9%
Biomass & Other	657	717	813	879	904	825	711	0.9%	1.3%	0.8%	0.3%	-0.9%	-1.5%
Agriculture	168	148	179	210	237	262	284	-1.3%	1.9%	1.6%	1.2%	1.0%	0.8%
Coal	14	8	13	14	9	4	2	-6.1%	5.5%	0.8%	-4.4%	-8.5%	-8.4%
Oil	110	101	112	124	112	75	49	-0.9%	1.1%	1.1%	-1.1%	-3.9%	-4.2%
Gas	7	6	7	8	8	6	4	-2.6%	2.9%	1.1%	-0.9%	-2.8%	-3.0%
Electricity	30	29	39	54	75	104	130	-0.4%	3.2%	3.2%	3.4%	3.2%	2.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	5	7	8	33	74	100	-1.7%	3.9%	1.8%	14.6%	8.3%	3.0%
Transport (incl. bunkers)	1 565	1 960	2 436	2 999	3 222	3 314	3 158	2.3%	2.2%	2.1%	0.7%	0.3%	-0.5%
Coal	13	4	3	2	2	2	1	-10.1%	-2.7%	-2.8%	-2.0%	-1.9%	-1.9%
Oil	1 526	1 926	2 326	2 819	2 836	2 720	2 340	2.4%	1.9%	1.9%	0.1%	-0.4%	-1.5%
Gas	2	3	28	47	105	151	184	5.3%	24.2%	5.3%	8.4%	3.7%	2.0%
Electricity	17	16	21	32	110	203	313	-0.7%	2.5%	4.5%	13.2%	6.3%	4.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	8	11	58	99	169	239	320	3.7%	18.1%	5.5%	5.5%	3.5%	3.0%
Other Energy Transformation & Losses³	763	763	1 162	1 379	1 520	1 459	1 371	0.0%	4.3%	1.7%	1.0%	-0.4%	-0.6%

² ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants³ includes statistical differences

EU28	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	476	487	503	513	519	524	525	0.2%	0.3%	0.2%	0.1%	0.1%	0.0%
GDP per capita (ppp, k\$'05)	20	25	28	30	34	39	45	1.9%	1.2%	0.8%	1.4%	1.4%	1.4%
GDP per capita (mer, k\$'05)	22	27	30	32	37	42	49	2.0%	1.1%	0.7%	1.3%	1.4%	1.5%
Share Value Added - Agriculture (%)	4	2	2	2	2	1	1	-3.8%	-3.6%	-0.4%	-0.5%	-0.5%	-0.5%
Share Value Added - Industry ¹ (%)	32	28	25	24	23	22	21	-1.3%	-1.1%	-0.4%	-0.4%	-0.5%	-0.6%
Share Value Added - Services (%)	64	69	73	74	75	76	78	0.8%	0.5%	0.1%	0.1%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	23	14	19	16	17	19	22	-5.3%	3.6%	-1.9%	0.8%	0.8%	1.6%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (MtCO₂ eq.)													
Total GHG	5 196	4 697	4 328	3 500	2 884	2 085	982	-1.0%	-0.8%	-2.1%	-1.9%	-3.2%	-7.3%
Total GHG (excl. sinks)	5 495	5 028	4 664	3 764	3 181	2 367	1 245	-0.9%	-0.7%	-2.1%	-1.7%	-2.9%	-6.2%
Total GHG (energy, industry, agriculture)	5 466	5 012	4 651	3 749	3 169	2 279	1 127	-0.9%	-0.7%	-2.1%	-1.7%	-2.9%	-6.8%
CO ₂	4 252	3 997	3 780	3 044	2 663	1 873	793	-0.6%	-0.6%	-2.1%	-1.3%	-3.5%	-8.2%
CH ₄	601	495	409	332	239	184	136	-1.9%	-1.9%	-2.1%	-3.2%	-2.6%	-3.0%
N ₂ O	557	455	373	305	246	203	178	-2.0%	-2.0%	-2.0%	-2.1%	-1.9%	-1.3%
F gases	56	65	90	68	20	19	21	1.5%	3.3%	-2.7%	-11.5%	-0.4%	0.6%
Total GHG from Energy and Industry	4 849	4 491	4 176	3 305	2 807	1 980	853	-0.8%	-0.7%	-2.3%	-1.6%	-3.4%	-8.1%
CO₂ Emissions from Fuel Comb.	4 006	3 759	3 572	2 852	2 484	1 742	759	-0.6%	-0.5%	-2.2%	-1.4%	-3.5%	-8.0%
Power generation/District heating	1 427	1 283	1 235	861	697	394	107	-1.1%	-0.4%	-3.5%	-2.1%	-5.5%	-12.2%
Industry	745	602	453	363	296	203	102	-2.1%	-2.8%	-2.2%	-2.0%	-3.7%	-6.6%
Buildings	724	652	660	497	451	297	122	-1.1%	0.1%	-2.8%	-1.0%	-4.1%	-8.5%
Agriculture	84	72	59	58	48	31	20	-1.5%	-2.0%	-0.2%	-1.8%	-4.3%	-4.3%
Transport	764	900	925	855	793	680	355	1.7%	0.3%	-0.8%	-0.8%	-1.5%	-6.3%
Other	262	251	241	219	198	137	52	-0.4%	-0.4%	-0.9%	-0.9%	-1.5%	-9.2%
CO₂ captured (CCS)	0	0	0	3	13	153	480	n.s.	n.s.	n.s.	14.8%	28.4%	12.1%
Coal	0	0	0	3	10	84	209	n.s.	n.s.	n.s.	14.6%	23.1%	9.6%
Gas	0	0	0	0	1	51	181	n.s.	n.s.	n.s.	28.0%	42.8%	13.5%
Biomass	0	0	0	0	1	18	90	n.s.	n.s.	n.s.	7.1%	38.4%	17.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	885	939	843	802	861	831	828	0.6%	-1.1%	-0.5%	0.7%	-0.4%	0.0%
Coal	313	219	168	116	86	36	29	-3.5%	-2.6%	-3.6%	-2.9%	-8.3%	-2.2%
Oil	134	174	100	93	78	58	41	2.7%	-5.4%	-0.7%	-1.7%	-2.9%	-3.6%
Natural gas	154	192	146	104	117	105	93	2.2%	-2.7%	-3.3%	1.2%	-1.1%	-1.2%
Biomass	44	63	130	165	213	225	233	3.7%	7.5%	2.4%	2.6%	0.5%	0.3%
Nuclear ¹	210	250	242	223	226	229	217	1.7%	-0.3%	-0.8%	0.1%	0.1%	-0.5%
Hydro	27	33	35	33	33	33	33	2.3%	0.5%	-0.5%	0.0%	-0.2%	0.0%
Other renewables	3	6	21	68	108	146	183	8.0%	12.6%	12.4%	4.7%	3.1%	2.3%
Net Imports	760	762	893	756	705	594	389						
Coal	135	104	114	102	66	44	46						
Oil	480	451	472	398	372	318	181						
Natural gas	141	204	302	237	250	213	134						
Biomass	0	0	2	18	16	15	29						
Biofuels	0	0	2	1	3	4	0						
Electricity	4	2	1	0	-1	-1	-1						
Primary Energy Demand²	1 645	1 701	1 736	1 558	1 566	1 425	1 216	0.3%	0.2%	-1.1%	0.1%	-0.9%	-1.6%
Coal	447	324	282	218	152	80	75	-3.2%	-1.4%	-2.6%	-3.5%	-6.2%	-0.6%
Oil	614	626	572	491	450	377	221	0.2%	-0.9%	-1.5%	-0.9%	-1.8%	-5.2%
Natural gas	295	396	447	341	367	318	227	3.0%	1.2%	-2.7%	0.7%	-1.4%	-3.3%
Biomass	44	63	133	183	229	240	261	3.7%	7.7%	3.3%	2.2%	0.5%	0.9%
Nuclear ¹	210	250	242	223	226	229	217	1.7%	-0.3%	-0.8%	0.1%	0.1%	-0.5%
Hydro	27	33	35	33	33	33	33	2.3%	0.5%	-0.5%	0.0%	-0.2%	0.0%
Other renewables	3	6	21	68	108	146	183	8.0%	12.6%	12.4%	4.7%	3.1%	2.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	1 645	1 701	1 736	1 558	1 566	1 425	1 216	0.3%	0.2%	-1.1%	0.1%	-0.9%	-1.6%
Energy for Power Generation	636	674	721	648	679	686	737	0.6%	0.7%	-1.1%	0.5%	0.1%	0.7%
Other Energy Transformation & Losses	99	94	110	103	106	93	65	-0.5%	1.6%	-0.6%	0.3%	-1.4%	-3.5%
Final consumption	1 152	1 197	1 217	1 116	1 135	1 026	826	0.4%	0.2%	-0.9%	0.2%	-1.0%	-2.1%
Steel, Non-Met. Minerals and Chem.	190	165	139	125	119	101	82	-1.4%	-1.7%	-1.0%	-0.5%	-1.7%	-2.0%
Other Industry	175	163	145	139	142	132	120	-0.8%	-1.1%	-0.5%	0.2%	-0.7%	-1.0%
Non-Energy Use	100	113	108	106	118	112	94	1.2%	-0.4%	-0.2%	1.1%	-0.5%	-1.7%
Residential	276	289	312	264	269	229	184	0.5%	0.8%	-1.6%	0.2%	-1.6%	-2.2%
Services	118	133	166	152	170	166	159	1.3%	2.2%	-0.9%	1.1%	-0.2%	-0.4%
Agriculture	33	29	26	25	27	28	30	-1.4%	-1.1%	-0.1%	0.5%	0.5%	0.5%
Road	237	281	299	284	270	239	141	1.7%	0.6%	-0.5%	-0.5%	-1.2%	-5.2%
Rail	10	10	8	8	9	9	9	0.1%	-1.7%	-0.2%	0.8%	0.1%	0.1%
Aviation	6	7	7	7	7	6	5	2.3%	-0.4%	-0.4%	0.2%	-0.8%	-3.3%
Other Transport	7	6	6	5	5	4	3	-1.0%	-0.8%	-1.1%	0.3%	-2.6%	-3.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

EU28	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	396	385	423	324	314	280	306	-0.3%	0.9%	-2.6%	-0.3%	-1.1%	0.9%
Coal	285	234	209	156	105	55	60	-2.0%	-1.1%	-2.8%	-3.9%	-6.3%	0.9%
Oil	55	41	23	11	8	5	2	-2.9%	-5.5%	-6.9%	-3.4%	-4.7%	-7.2%
Gas	50	94	141	86	108	122	124	6.6%	4.1%	-4.8%	2.3%	1.2%	0.2%
Biomass & Waste	6	15	49	68	91	97	117	9.8%	12.9%	3.4%	2.9%	0.6%	1.9%
Other	0	0	0	1	1	2	2	4.0%	1.6%	6.9%	4.2%	0.7%	2.3%
Gross Elec. Generation (TWh_e)	2 594	3 031	3 356	3 297	3 619	3 809	4 206	1.6%	1.0%	-0.2%	0.9%	0.5%	1.0%
Coal	1 050	966	862	664	478	268	295	-0.8%	-1.1%	-2.6%	-3.2%	-5.6%	1.0%
of which CCS	0	0	0	0	0	83	250	n.s.	n.s.	n.s.	n.s.	n.s.	11.7%
Oil	224	181	87	49	35	22	10	-2.1%	-7.1%	-5.5%	-3.5%	-4.6%	-7.0%
Gas	193	480	763	475	600	693	754	9.5%	4.8%	-4.6%	2.4%	1.5%	0.8%
of which CCS	0	0	0	0	0	130	499	n.s.	n.s.	n.s.	n.s.	n.s.	14.4%
Biomass & Waste	20	46	143	235	326	355	451	8.9%	12.0%	5.1%	3.3%	0.9%	2.4%
of which CCS	0	0	0	0	0	14	70	n.s.	n.s.	n.s.	n.s.	n.s.	17.5%
Nuclear	795	945	917	847	863	888	864	1.7%	-0.3%	-0.8%	0.2%	0.3%	-0.3%
Hydro	309	386	407	387	386	379	380	2.3%	0.5%	-0.5%	0.0%	-0.2%	0.0%
Wind	1	22	149	409	557	721	889	39.8%	21.0%	10.6%	3.1%	2.6%	2.1%
Solar	0	0	23	173	268	336	339	33.0%	n.s.	22.5%	4.5%	2.3%	0.1%
Other	3	5	6	59	107	148	223	4.0%	1.6%	26.4%	6.2%	3.3%	4.2%
Generation Capacity (GW_e)	635	719	919	1 150	1 354	1 426	1 362	1.3%	2.5%	2.3%	1.6%	0.5%	-0.5%
Coal	223	201	192	166	127	94	74	-1.0%	-0.4%	-1.4%	-2.7%	-2.9%	-2.4%
of which CCS	0	0	0	0	0	15	36	n.s.	n.s.	n.s.	n.s.	n.s.	9.2%
Oil	95	81	65	39	30	23	21	-1.5%	-2.2%	-5.1%	-2.5%	-2.6%	-1.1%
Gas	65	129	218	243	301	285	201	7.1%	5.4%	1.1%	2.1%	-0.5%	-3.4%
of which CCS	0	0	0	0	0	19	71	n.s.	n.s.	n.s.	n.s.	n.s.	14.3%
Biomass & Waste	10	17	48	68	88	96	90	5.9%	10.9%	3.6%	2.6%	0.8%	-0.6%
of which CCS	0	0	0	0	0	3	12	n.s.	n.s.	n.s.	n.s.	n.s.	14.2%
Nuclear	126	137	131	120	120	121	114	0.9%	-0.4%	-0.9%	0.0%	0.1%	-0.6%
Hydro	116	140	148	155	156	155	157	1.9%	0.5%	0.5%	0.1%	-0.1%	0.1%
Wind	0	12	85	193	262	312	355	40.0%	21.4%	8.5%	3.1%	1.8%	1.3%
Solar	0	0	31	148	231	292	287	36.9%	n.s.	17.1%	4.6%	2.4%	-0.2%
Other	0	1	1	18	39	48	62	2.0%	2.4%	37.3%	8.1%	1.9%	2.7%
Total Final Consumption² (Mtoe)	1 152	1 197	1 217	1 116	1 135	1 026	826	0.4%	0.2%	-0.9%	0.2%	-1.0%	-2.1%
Coal	141	73	57	46	31	13	6	-6.3%	-2.5%	-2.1%	-3.8%	-8.2%	-7.2%
Oil	503	540	505	447	413	350	210	0.7%	-0.7%	-1.2%	-0.8%	-1.7%	-5.0%
Gas	229	273	279	230	235	178	92	1.8%	0.2%	-1.9%	0.2%	-2.7%	-6.4%
Electricity	186	218	244	239	262	275	302	1.6%	1.2%	-0.2%	0.9%	0.5%	0.9%
Heat	55	45	55	50	69	80	90	-1.9%	1.9%	-0.9%	3.3%	1.4%	1.3%
Biomass & Other	38	48	78	103	125	130	126	2.3%	4.9%	2.9%	1.9%	0.4%	-0.3%
Share of Renewables ³ (%)	6%	8%	12%	21%	27%	35%	49%	2.5%	4.7%	5.4%	2.6%	2.6%	3.5%
Industry (incl. non-energy use)	466	441	393	370	379	345	297	-0.5%	-1.1%	-0.6%	0.2%	-0.9%	-1.5%
Coal	93	60	44	37	28	13	6	-4.2%	-3.1%	-1.6%	-2.7%	-7.6%	-7.0%
Oil	139	144	127	113	119	110	91	0.3%	-1.3%	-1.2%	0.5%	-0.7%	-1.9%
Gas	114	118	97	84	77	64	37	0.4%	-1.9%	-1.4%	-1.0%	-1.7%	-5.4%
Electricity	85	91	89	87	90	91	90	0.7%	-0.3%	-0.2%	0.3%	0.2%	-0.1%
Heat	21	11	15	16	23	22	21	-6.5%	3.6%	0.3%	3.7%	-0.2%	-0.3%
Biomass & Other	14	17	22	33	43	44	51	1.9%	2.6%	4.3%	2.7%	0.3%	1.5%
Buildings	394	423	478	416	439	395	343	0.7%	1.2%	-1.4%	0.5%	-1.0%	-1.4%
Coal	46	12	12	8	3	0	0	-12.8%	0.0%	-3.7%	-10.8%	-17.6%	-17.6%
Oil	89	80	63	44	29	18	9	-1.1%	-2.4%	-3.5%	-4.1%	-4.8%	-6.8%
Gas	110	150	177	139	149	102	40	3.2%	1.6%	-2.4%	0.7%	-3.7%	-8.9%
Electricity	90	116	146	141	157	164	181	2.5%	2.3%	-0.3%	1.1%	0.5%	1.0%
Heat	34	35	40	34	47	58	69	0.2%	1.3%	-1.4%	3.1%	2.1%	1.8%
Biomass & Other	24	30	41	49	54	52	44	2.3%	3.2%	2.0%	0.9%	-0.3%	-1.7%
Agriculture	33	29	26	25	27	28	30	-1.4%	-1.1%	-0.1%	0.5%	0.5%	0.5%
Coal	2	1	1	1	0	0	0	-4.9%	0.8%	-2.4%	-7.7%	-10.6%	-10.6%
Oil	21	18	14	14	12	8	5	-1.2%	-2.3%	-0.1%	-1.6%	-4.4%	-4.4%
Gas	5	4	4	4	3	2	2	-1.6%	-1.0%	0.3%	-1.1%	-3.1%	-3.1%
Electricity	5	4	5	5	6	9	11	-1.7%	1.3%	0.2%	2.9%	3.6%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	2	2	5	9	12	2.4%	4.4%	0.1%	9.3%	7.0%	2.8%
Transport	259	305	320	303	290	258	157	1.6%	0.5%	-0.5%	-0.4%	-1.2%	-4.9%
Coal	0	0	0	0	0	0	0	-26.4%	1.7%	-3.5%	0.0%	0.0%	0.0%
Oil	254	297	300	276	253	214	105	1.6%	0.1%	-0.8%	-0.8%	-1.7%	-6.8%
Gas	0	0	1	2	5	9	13	5.3%	12.9%	7.4%	7.8%	5.6%	3.8%
Electricity	5	6	5	6	9	11	20	1.3%	-1.4%	1.8%	3.0%	2.5%	6.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	1	14	19	23	25	19	n.s.	34.1%	3.3%	2.2%	0.6%	-2.6%
Other Energy Transformation & Losses⁴	99	94	110	103	106	93	65	-0.5%	1.6%	-0.6%	0.3%	-1.4%	-3.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

EFTA	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	11	12	13	15	16	17	18	0.7%	0.9%	1.2%	0.9%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	34	39	42	44	48	53	58	1.5%	0.7%	0.5%	0.9%	0.9%	1.0%
GDP per capita (mer, k\$'05)	48	56	61	64	70	77	85	1.5%	0.9%	0.4%	0.9%	0.9%	1.0%
Share Value Added - Agriculture (%)	3	2	1	1	1	1	1	-4.8%	-2.7%	0.1%	0.0%	0.0%	0.0%
Share Value Added - Industry ¹ (%)	32	33	32	29	27	25	22	0.3%	-0.4%	-0.8%	-0.8%	-0.8%	-1.0%
Share Value Added - Services (%)	65	65	67	70	72	74	76	0.0%	0.2%	0.4%	0.3%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	15	17	-3.4%	3.6%	-2.8%	1.0%	0.6%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (MtCO₂ eq.)													
Total GHG	90	79	77	89	72	52	26	-1.4%	-0.2%	1.5%	-2.1%	-3.2%	-6.6%
Total GHG (excl. sinks)	103	104	106	116	101	82	54	0.1%	0.2%	0.9%	-1.4%	-2.0%	-4.1%
Total GHG (energy, industry, agriculture)	101	102	104	114	100	82	53	0.0%	0.2%	1.0%	-1.3%	-2.0%	-4.1%
CO ₂	75	79	84	96	85	68	40	0.5%	0.7%	1.4%	-1.2%	-2.3%	-5.0%
CH ₄	10	9	9	7	7	6	6	-0.5%	-0.8%	-1.6%	-1.1%	-0.5%	-0.6%
N ₂ O	11	10	8	8	8	7	6	-0.4%	-2.1%	0.2%	-1.0%	-0.9%	-0.8%
F gases	6	3	3	2	1	1	1	-5.7%	-2.2%	-1.9%	-9.9%	-0.8%	-0.8%
Total GHG from Energy and Industry	89	90	93	104	89	71	43	0.1%	0.3%	1.1%	-1.5%	-2.3%	-4.9%
CO₂ Emissions from Fuel Comb.	67	70	77	89	77	60	34	0.5%	0.9%	1.4%	-1.4%	-2.4%	-5.4%
Power generation/District heating	1	1	3	7	8	1	-10	-2.5%	13.3%	11.4%	0.2%	-17.6%	n.s.
Industry	10	10	10	9	9	7	5	-0.4%	0.0%	-1.2%	-0.2%	-2.1%	-3.4%
Buildings	20	18	18	11	8	6	4	-1.1%	0.2%	-4.5%	-3.0%	-4.1%	-4.4%
Agriculture	2	3	3	2	2	1	1	2.1%	-0.7%	-2.5%	-1.7%	-4.0%	-4.1%
Transport	25	28	31	33	28	23	17	1.1%	1.0%	0.5%	-1.5%	-2.0%	-2.7%
Other	8	11	13	26	23	23	18	3.0%	1.5%	7.3%	-1.6%	0.0%	-2.4%
CO₂ captured (CCS)	0	0	0	0	0	7	21	n.s.	n.s.	n.s.	20.0%	31.3%	12.0%
Coal	0	0	0	0	0	3	6	n.s.	n.s.	n.s.	19.2%	22.9%	9.0%
Gas	0	0	0	0	0	2	2	n.s.	n.s.	n.s.	n.s.	44.9%	1.1%
Biomass	0	0	0	0	0	3	13	n.s.	n.s.	n.s.	17.5%	42.1%	17.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	127	230	221	193	159	114	87	6.2%	-0.4%	-1.4%	-1.9%	-3.2%	-2.7%
Coal	0	0	1	1	2	1	1	9.0%	12.1%	1.1%	2.4%	-3.7%	1.0%
Oil	83	162	102	85	55	25	11	6.9%	-4.5%	-1.8%	-4.3%	-7.4%	-8.0%
Natural gas	21	41	89	74	60	41	30	6.8%	8.0%	-1.8%	-2.0%	-3.6%	-3.3%
Biomass	2	3	4	3	7	7	9	2.4%	1.9%	-0.8%	6.7%	1.2%	1.5%
Nuclear ¹	6	7	7	7	11	13	11	1.1%	0.0%	0.1%	4.3%	1.8%	-1.8%
Hydro	13	16	14	16	16	16	15	1.8%	-1.1%	1.2%	0.1%	-0.2%	-0.5%
Other renewables	0	1	4	6	8	10	11	16.1%	13.1%	3.4%	4.2%	1.7%	0.7%
Net Imports	-80	-177	-156	-123	-86	-41	-18						
Coal	1	1	0	0	1	1	1						
Oil	-62	-141	-79	-62	-35	-10	1						
Natural gas	-18	-34	-78	-59	-47	-28	-17						
Biomass	0	0	0	-1	-2	-2	-1						
Biofuels	0	0	0	0	0	0	0						
Electricity	-2	-2	1	-2	-2	-2	-2						
Primary Energy Demand²	46	54	66	69	73	74	69	1.5%	2.0%	0.6%	0.5%	0.1%	-0.6%
Coal	1	1	1	1	2	2	2	0.0%	-2.5%	4.2%	5.0%	-2.5%	0.9%
Oil	21	21	24	23	20	16	12	0.0%	1.5%	-0.3%	-1.8%	-2.2%	-2.3%
Natural gas	4	7	11	15	13	14	12	6.2%	5.0%	3.2%	-1.5%	0.7%	-1.2%
Biomass	2	3	4	3	4	5	8	2.4%	1.9%	-3.2%	4.7%	2.5%	3.5%
Nuclear ¹	6	7	7	7	11	13	11	1.1%	0.0%	0.1%	4.3%	1.8%	-1.8%
Hydro	13	16	14	16	16	16	15	1.8%	-1.1%	1.2%	0.1%	-0.2%	-0.5%
Other renewables	0	1	4	6	8	10	11	16.1%	13.1%	3.4%	4.2%	1.7%	0.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	46	54	66	69	73	74	69	1.5%	2.0%	0.6%	0.5%	0.1%	-0.6%
Energy for Power Generation	21	25	28	32	39	43	43	2.0%	0.9%	1.4%	2.0%	0.9%	0.0%
Other Energy Transformation & Losses	2	3	11	14	13	14	12	4.6%	15.0%	1.9%	-0.8%	0.8%	-0.9%
Final consumption	37	41	45	43	43	42	41	1.0%	0.9%	-0.4%	0.1%	-0.2%	-0.4%
Steel, Non-Met. Minerals and Chem.	4	4	4	4	4	3	3	1.6%	-0.6%	-0.3%	-0.2%	-1.1%	-1.3%
Other Industry	6	7	7	8	8	8	8	1.2%	0.3%	0.6%	0.8%	0.1%	-0.3%
Non-Energy Use	2	3	3	3	3	3	2	1.3%	0.2%	0.8%	-0.3%	-0.7%	-1.2%
Residential	10	10	11	9	9	9	10	-0.1%	1.4%	-1.8%	0.1%	0.1%	0.1%
Services	5	6	7	6	6	7	7	1.0%	1.9%	-1.5%	0.6%	0.6%	0.6%
Agriculture	1	1	1	1	1	1	1	3.4%	-0.6%	-1.3%	1.0%	0.8%	0.7%
Road	8	9	10	10	9	8	7	1.4%	0.9%	0.4%	-0.7%	-1.0%	-1.5%
Rail	0	0	0	0	0	0	0	-0.3%	1.4%	0.2%	1.1%	0.9%	0.8%
Aviation	0	0	0	1	1	1	1	5.3%	1.4%	2.6%	1.6%	0.8%	0.4%
Other Transport	1	1	1	1	1	1	0	0.9%	1.3%	-1.6%	0.3%	-1.7%	-2.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

EFTA	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	1	1	3	4	4	4	6	2.8%	7.6%	2.8%	1.1%	0.2%	4.3%
Coal	0	0	0	0	1	1	1	-5.0%	1.6%	32.3%	10.2%	-3.5%	5.0%
Oil	0	0	0	0	0	0	0	-9.4%	-7.2%	31.7%	-4.4%	-10.0%	-24.5%
Gas	0	0	1	2	1	1	1	2.2%	16.9%	7.1%	-5.7%	1.1%	-2.3%
Biomass & Waste	1	1	1	0	1	1	1	3.8%	3.4%	-10.9%	9.3%	3.8%	9.7%
Other	0	0	0	0	1	1	0	16.0%	12.9%	1.0%	3.4%	-0.4%	-3.6%
Gross Elec. Generation (TWh_e)	182	218	208	248	279	301	318	1.8%	-0.5%	1.8%	1.2%	0.8%	0.5%
Coal	0	0	0	2	5	4	6	-5.1%	3.8%	33.8%	10.9%	-3.5%	4.9%
of which CCS	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	n.s.	n.s.	11.8%
Oil	0	0	0	2	1	0	0	-4.9%	-8.2%	31.5%	-4.3%	-9.9%	-24.4%
Gas	0	1	6	9	5	7	6	12.5%	18.6%	4.4%	-5.1%	3.1%	-2.0%
of which CCS	0	0	0	0	0	3	2	n.s.	n.s.	n.s.	n.s.	n.s.	-5.9%
Biomass & Waste	1	2	3	1	4	7	18	6.9%	3.5%	-6.8%	10.9%	5.4%	10.4%
of which CCS	0	0	0	0	0	3	15	n.s.	n.s.	n.s.	n.s.	n.s.	17.3%
Nuclear	24	26	26	27	42	51	43	1.1%	0.0%	0.2%	4.6%	2.0%	-1.8%
Hydro	157	187	168	189	191	188	179	1.8%	-1.1%	1.2%	0.1%	-0.2%	-0.5%
Wind	0	0	1	11	18	29	48	n.s.	39.0%	28.3%	4.8%	4.9%	5.4%
Solar	0	0	0	3	5	8	13	25.5%	20.1%	33.8%	6.2%	5.1%	4.3%
Other	0	1	4	5	7	7	6	16.0%	12.9%	1.0%	3.5%	-0.1%	-2.0%
Generation Capacity (GW_e)	45	49	55	74	93	108	107	1.0%	1.1%	3.0%	2.3%	1.5%	-0.1%
Coal	0	0	0	1	2	2	2	1.4%	3.4%	20.4%	8.8%	1.9%	0.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	16.9%
Oil	0	0	0	1	1	2	2	-5.3%	1.9%	14.6%	2.5%	0.9%	0.7%
Gas	0	0	2	9	15	17	10	10.2%	20.2%	17.5%	5.4%	1.4%	-4.8%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	14.0%
Biomass & Waste	0	1	0	1	3	5	8	7.1%	-3.1%	12.5%	7.1%	5.1%	4.5%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	18.9%
Nuclear	3	3	3	4	6	7	6	0.8%	0.2%	2.2%	4.4%	1.8%	-2.0%
Hydro	41	45	48	49	50	49	47	1.0%	0.7%	0.2%	0.1%	-0.2%	-0.5%
Wind	0	0	0	5	9	14	17	n.s.	40.6%	25.3%	6.5%	5.2%	1.8%
Solar	0	0	0	3	6	10	13	25.9%	19.9%	37.2%	6.1%	5.2%	3.2%
Other	0	0	1	1	2	2	2	14.4%	12.8%	8.5%	4.5%	1.2%	0.2%
Total Final Consumption² (Mtoe)	37	41	45	43	43	42	41	1.0%	0.9%	-0.4%	0.1%	-0.2%	-0.4%
Coal	1	1	1	1	1	1	0	0.2%	-3.1%	0.2%	0.6%	-3.7%	-6.1%
Oil	19	19	20	17	14	10	7	0.0%	0.3%	-1.3%	-2.2%	-3.0%	-3.3%
Gas	1	3	3	3	4	4	4	7.0%	2.2%	0.3%	1.5%	0.6%	-0.8%
Electricity	13	15	16	17	19	21	22	1.4%	1.1%	0.4%	1.3%	0.9%	0.6%
Heat	1	1	2	2	2	3	3	2.6%	4.9%	0.0%	2.8%	2.3%	1.0%
Biomass & Other	2	2	3	2	3	3	4	1.9%	1.7%	-1.3%	2.3%	1.8%	1.0%
Share of Renewables ³ (%)	41%	45%	39%	46%	52%	60%	70%	0.8%	-1.4%	1.8%	1.2%	1.3%	1.6%
Industry (incl. non-energy use)	12	14	14	15	15	15	14	1.3%	0.0%	0.4%	0.3%	-0.4%	-0.7%
Coal	1	1	1	1	1	1	0	0.2%	-3.2%	0.3%	0.6%	-3.7%	-6.1%
Oil	4	4	4	3	3	2	2	-1.2%	0.0%	-1.3%	-1.8%	-2.6%	-2.1%
Gas	0	1	2	2	2	2	2	11.9%	1.7%	0.9%	0.8%	0.6%	-1.0%
Electricity	6	6	7	8	8	8	8	1.3%	0.3%	1.3%	0.9%	0.1%	-0.3%
Heat	0	0	0	0	0	0	0	7.9%	2.6%	0.3%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	1	1	1	1	1	1	5.7%	-1.7%	-1.0%	2.0%	2.2%	1.2%
Buildings	15	15	18	15	16	16	17	0.3%	1.6%	-1.7%	0.3%	0.3%	0.3%
Coal	0	0	0	0	0	0	0	-5.6%	-1.2%	n.s.	n.s.	n.s.	n.s.
Oil	6	5	4	2	2	1	0	-1.8%	-0.5%	-5.7%	-4.5%	-5.8%	-5.5%
Gas	1	1	2	2	2	1	1	3.7%	3.1%	-1.0%	-0.6%	-2.0%	-3.5%
Electricity	7	8	9	9	10	11	12	1.3%	1.8%	-0.3%	1.1%	1.0%	1.0%
Heat	1	1	1	1	2	2	3	1.7%	5.3%	0.0%	3.2%	2.6%	1.1%
Biomass & Other	1	1	2	1	1	1	1	-0.9%	3.3%	-2.7%	-0.2%	-1.0%	-0.4%
Agriculture	1	1	1	1	1	1	1	3.4%	-0.6%	-1.3%	1.0%	0.8%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	1	0	0	1.9%	-0.3%	-2.6%	-1.7%	-4.1%	-4.2%
Gas	0	0	0	0	0	0	0	7.3%	-9.1%	0.5%	-1.2%	-2.9%	-2.9%
Electricity	0	0	0	0	0	1	1	6.5%	0.4%	0.9%	2.6%	2.7%	1.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	41.3%	-3.4%	6.3%	14.1%	7.0%	2.9%
Transport	9	10	11	12	11	10	9	1.4%	1.0%	0.4%	-0.5%	-0.9%	-1.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	8	10	11	11	9	7	5	1.5%	0.8%	0.1%	-1.9%	-2.6%	-3.5%
Gas	0	0	0	0	1	1	1	n.s.	n.s.	19.9%	17.7%	5.0%	2.1%
Electricity	0	0	0	0	1	1	2	0.1%	1.7%	1.6%	9.1%	4.2%	2.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	6.6%	9.0%	4.1%	1.8%
Other Energy Transformation & Losses⁴	2	3	11	14	13	14	12	4.6%	15.0%	1.9%	-0.8%	0.8%	-0.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Balkans	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	24	23	23	22	21	20	19	-0.5%	-0.3%	-0.2%	-0.3%	-0.6%	-0.7%
GDP per capita (ppp, k\$'05)	5	4	7	8	11	15	20	-0.9%	4.1%	1.9%	3.1%	3.6%	2.8%
GDP per capita (mer, k\$'05)	0	2	3	3	5	7	9	14.0%	4.6%	1.9%	3.1%	3.6%	2.8%
Share Value Added - Agriculture (%)	22	15	12	10	9	8	7	-3.6%	-2.6%	-1.2%	-1.7%	-1.4%	-0.8%
Share Value Added - Industry (%)	31	24	27	27	26	25	24	-2.6%	1.3%	0.1%	-0.3%	-0.4%	-0.5%
Share Value Added - Services (%)	47	61	61	62	65	67	69	2.6%	0.0%	0.2%	0.4%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	15	17	-3.4%	3.6%	-2.8%	1.0%	0.6%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	129	75	118	118	97	55	22	-5.3%	4.6%	0.0%	-2.0%	-5.4%	-8.7%
Total GHG (excl. sinks)	129	94	119	120	98	65	35	-3.1%	2.3%	0.1%	-1.9%	-4.0%	-6.1%
Total GHG (energy, industry, agriculture)	129	92	118	115	95	57	25	-3.3%	2.5%	-0.3%	-1.9%	-5.0%	-7.9%
CO ₂	101	71	88	82	66	35	10	-3.4%	2.1%	-0.7%	-2.1%	-6.3%	-11.7%
CH ₄	17	12	11	10	8	6	4	-3.5%	-0.7%	-0.8%	-3.0%	-1.6%	-3.6%
N ₂ O	9	6	10	10	10	10	9	-4.4%	5.4%	0.5%	-0.7%	-0.3%	-0.2%
F gases	1	3	9	12	11	7	1	8.5%	11.5%	2.7%	-0.7%	-5.1%	-15.0%
Total GHG from Energy and Industry	113	81	104	99	81	44	13	-3.3%	2.6%	-0.5%	-2.0%	-6.0%	-11.6%
CO₂ Emissions from Fuel Comb.	97	69	84	78	62	30	6	-3.3%	2.0%	-0.8%	-2.2%	-6.9%	-14.6%
Power generation/District heating	52	47	52	47	34	7	-11	-1.0%	1.0%	-0.9%	-3.2%	-14.3%	n.s.
Industry	16	8	9	8	7	5	4	-6.8%	1.1%	-1.7%	-1.0%	-2.4%	-2.6%
Buildings	14	5	6	4	3	2	1	-10.3%	1.5%	-3.6%	-3.8%	-5.0%	-5.8%
Agriculture	0	1	1	1	1	1	0	9.7%	-4.7%	4.0%	-1.2%	-3.7%	-3.9%
Transport	8	6	13	13	12	11	10	-2.4%	7.2%	-0.3%	-0.8%	-0.5%	-1.4%
Other	6	2	4	6	6	4	2	-9.6%	6.7%	2.1%	1.0%	-1.7%	-6.1%
CO₂ captured (CCS)	0	0	0	0	0	4	15	n.s.	n.s.	n.s.	n.s.	38.0%	13.2%
Coal	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	24.3%	6.5%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	25.3%	12.9%
Biomass	0	0	0	0	0	3	12	n.s.	n.s.	n.s.	n.s.	56.0%	14.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	20	18	21	13	15	17	19	-1.0%	1.5%	-4.5%	1.1%	1.2%	1.5%
Coal	14	13	14	4	4	1	1	-1.1%	1.2%	-11.7%	-1.6%	-8.4%	-4.9%
Oil	2	1	2	2	2	2	1	-5.0%	2.2%	3.9%	-1.4%	-2.2%	-3.4%
Natural gas	1	1	0	1	1	1	1	-1.4%	-6.4%	5.6%	4.6%	1.2%	0.6%
Biomass	2	2	2	4	4	6	7	-0.2%	2.1%	6.3%	1.2%	2.9%	2.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	13.1%	10.3%
Hydro	1	2	3	2	3	4	4	3.7%	3.9%	-1.6%	2.5%	1.6%	0.3%
Other renewables	0	0	0	0	1	3	5	n.s.	19.5%	31.7%	24.9%	12.1%	4.8%
Net Imports	12	5	10	15	13	10	6						
Coal	2	0	1	10	6	1	0						
Oil	7	4	7	5	5	4	3						
Natural gas	3	1	2	1	3	4	2						
Biomass	0	0	0	-2	-1	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	32	24	31	29	28	26	26	-3.1%	2.7%	-0.7%	-0.2%	-0.7%	-0.2%
Coal	16	13	15	14	9	2	1	-2.2%	1.6%	-0.8%	-4.2%	-12.9%	-7.5%
Oil	9	5	9	7	7	6	4	-6.4%	5.8%	-1.7%	-0.9%	-1.3%	-2.6%
Natural gas	4	2	2	2	4	5	3	-6.8%	1.8%	-1.7%	8.8%	1.8%	-5.0%
Biomass	2	2	2	2	3	6	7	-0.2%	2.3%	0.6%	4.0%	5.3%	3.0%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	13.1%	10.3%
Hydro	1	2	3	2	3	4	4	3.7%	3.9%	-1.6%	2.5%	1.6%	0.3%
Other renewables	0	0	0	0	1	3	5	n.s.	19.5%	31.7%	24.9%	12.1%	4.8%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	32	24	31	29	28	26	26	-3.1%	2.7%	-0.7%	-0.2%	-0.7%	-0.2%
Energy for Power Generation	15	14	16	15	14	12	13	-0.6%	1.5%	-1.0%	-0.5%	-1.2%	0.7%
Other Energy Transformation & Losses	2	1	2	3	4	4	4	-5.3%	5.9%	4.1%	2.5%	0.9%	-0.4%
Final consumption	21	13	19	18	18	19	19	-4.4%	3.6%	-0.7%	0.4%	0.5%	0.2%
Steel, Non-Met. Minerals and Chem.	0	1	3	2	2	1	1	5.2%	14.3%	-2.8%	-1.2%	-1.9%	-1.4%
Other Industry	7	3	2	2	3	3	4	-8.3%	-3.4%	1.1%	1.6%	1.5%	1.3%
Non-Energy Use	2	0	1	1	1	1	1	-13.4%	10.4%	-5.5%	0.9%	0.7%	-0.3%
Residential	4	5	6	5	6	6	6	1.0%	1.8%	-0.4%	0.4%	0.4%	0.0%
Services	4	2	2	2	2	2	2	-9.8%	2.6%	-1.0%	0.6%	0.9%	1.2%
Agriculture	0	0	0	0	0	0	0	11.2%	-3.1%	2.8%	1.0%	1.1%	0.9%
Road	3	2	5	5	5	5	5	-1.1%	6.9%	0.0%	0.1%	0.4%	-0.3%
Rail	0	0	0	0	0	0	0	2.1%	18.1%	-3.0%	0.5%	0.5%	0.0%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	2.5%	2.4%	1.1%
Other Transport	0	0	0	0	0	0	0	n.s.	4.8%	8.0%	1.0%	-0.5%	-2.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Balkans	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	13	12	13	12	10	5	4	-1.1%	1.0%	-0.9%	-2.2%	-5.9%	-2.7%
Coal	12	11	13	12	7	1	0	-0.4%	1.0%	-0.7%	-4.7%	-16.5%	-10.8%
Oil	1	0	0	0	0	0	0	-12.5%	-2.9%	-22.3%	34.5%	1.2%	-33.0%
Gas	0	0	0	0	2	2	0	-7.4%	7.7%	-11.4%	38.8%	1.9%	-16.1%
Biomass & Waste	0	0	0	0	0	2	3	n.s.	n.s.	n.s.	20.9%	21.7%	7.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	65	59	79	76	86	100	119	-0.9%	3.0%	-0.5%	1.2%	1.6%	1.7%
Coal	44	35	45	46	30	5	2	-2.3%	2.6%	0.1%	-4.1%	-16.2%	-9.4%
of which CCS	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	11.1%
Oil	3	1	0	0	2	2	0	-11.9%	-12.4%	-11.2%	34.6%	1.2%	-32.9%
Gas	1	0	0	0	7	10	2	-11.4%	0.3%	-2.8%	36.3%	3.5%	-13.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	13.1%
Biomass & Waste	0	0	0	0	1	7	16	n.s.	n.s.	n.s.	24.2%	22.6%	8.0%
of which CCS	0	0	0	0	0	4	14	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	16	23	34	29	36	43	44	3.7%	3.9%	-1.6%	2.5%	1.6%	0.3%
Wind	0	0	0	1	7	23	37	n.s.	n.s.	n.s.	25.2%	12.4%	4.9%
Solar	0	0	0	0	3	11	18	n.s.	n.s.	52.4%	31.5%	14.2%	4.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.9%	11.3%
Generation Capacity (GW_e)	26	13	16	20	25	38	50	-6.7%	2.6%	1.8%	2.4%	4.2%	3.0%
Coal	25	8	8	11	9	7	7	-10.5%	0.4%	2.3%	-1.4%	-2.2%	-0.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
Oil	1	1	1	1	0	1	1	-0.6%	2.4%	-2.6%	-2.1%	2.8%	2.4%
Gas	0	0	3	3	3	3	3	-1.1%	31.4%	-1.4%	1.6%	-0.3%	1.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Biomass & Waste	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	20.5%	23.2%	12.8%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	18.3%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	4	4	5	7	8	8	n.s.	0.9%	2.4%	2.4%	1.6%	0.3%
Wind	0	0	0	0	3	9	14	n.s.	n.s.	n.s.	24.2%	11.7%	4.4%
Solar	0	0	0	0	2	8	14	n.s.	n.s.	52.7%	31.9%	14.4%	5.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.3%	10.8%
Total Final Consumption² (Mtoe)	21	13	19	18	18	19	19	-4.4%	3.6%	-0.7%	0.4%	0.5%	0.2%
Coal	4	2	2	2	1	1	0	-7.0%	1.2%	-1.8%	-3.1%	-6.5%	-5.7%
Oil	8	4	8	7	6	5	4	-6.1%	6.3%	-1.2%	-1.5%	-1.5%	-1.9%
Gas	3	1	1	1	1	2	2	-7.6%	0.0%	-3.2%	4.6%	3.0%	-0.1%
Electricity	4	4	5	5	6	7	8	-0.8%	2.5%	0.8%	1.2%	1.6%	1.7%
Heat	1	1	1	1	1	1	2	-1.9%	5.2%	-1.4%	2.8%	1.8%	1.2%
Biomass & Other	2	2	2	2	3	3	3	-0.2%	2.2%	-0.1%	2.1%	1.5%	0.2%
Share of Renewables ³ (%)	15%	26%	26%	25%	37%	55%	70%	5.2%	0.2%	-0.3%	3.8%	4.3%	2.3%
Industry (incl. non-energy use)	9	4	6	5	5	5	6	-7.9%	3.7%	-1.7%	0.5%	0.3%	0.4%
Coal	1	1	1	1	1	1	0	-2.4%	1.3%	-0.4%	-1.7%	-5.5%	-5.5%
Oil	4	1	2	1	1	1	1	-15.1%	7.7%	-3.5%	-1.6%	-2.2%	-1.8%
Gas	1	1	1	0	1	1	1	-2.4%	-0.6%	-6.3%	4.1%	4.2%	1.0%
Electricity	2	1	1	2	2	2	3	-7.8%	5.3%	1.1%	1.3%	1.6%	2.0%
Heat	0	0	0	0	0	0	0	-6.1%	9.0%	-5.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	0	n.s.	-3.4%	9.0%	6.3%	3.8%	0.9%
Buildings	9	6	8	7	8	8	8	-3.1%	2.0%	-0.6%	0.4%	0.5%	0.4%
Coal	2	1	1	0	0	0	0	-12.7%	2.1%	-5.0%	-9.3%	-17.7%	-17.9%
Oil	1	1	1	0	0	0	0	-1.0%	1.1%	-3.7%	-3.9%	-5.9%	-6.4%
Gas	2	0	0	0	0	0	0	-14.8%	1.1%	0.1%	2.0%	-1.0%	-4.9%
Electricity	2	3	3	4	4	4	5	3.1%	1.5%	0.6%	0.6%	1.2%	1.2%
Heat	0	0	1	1	1	1	1	0.0%	3.7%	0.4%	3.5%	2.2%	1.5%
Biomass & Other	2	2	2	2	2	2	2	-1.2%	2.8%	-1.0%	0.6%	0.2%	-1.0%
Agriculture	0	0	0	0	0	0	0	11.2%	-3.1%	2.8%	1.0%	1.1%	0.9%
Coal	0	0	0	0	0	0	0	2.3%	-29.6%	-5.1%	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	16.2%	-2.0%	3.3%	-1.2%	-3.9%	-4.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	12.6%	-0.8%	-2.6%	-2.8%
Electricity	0	0	0	0	0	0	0	5.0%	6.0%	-1.5%	4.4%	4.6%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	-13.8%	-7.1%	23.3%	10.5%	3.4%
Transport	3	2	5	5	5	5	5	-1.0%	7.3%	-0.1%	0.1%	0.4%	-0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	2	5	5	4	4	3	-0.9%	7.3%	-0.4%	-1.2%	-1.0%	-1.7%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	19.2%	19.4%	5.5%	1.1%
Electricity	0	0	0	0	0	1	1	-5.5%	3.9%	6.9%	15.4%	5.9%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	14.9%	5.4%	3.3%
Other Energy Transformation & Losses⁴	2	1	2	3	4	4	4	-5.3%	5.9%	4.1%	2.5%	0.9%	-0.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Russia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	148	146	143	143	139	133	129	-0.1%	-0.2%	0.0%	-0.3%	-0.4%	-0.3%
GDP per capita (ppp, k\$'05)	13	9	14	16	20	24	25	-3.8%	5.1%	1.3%	2.3%	1.8%	0.4%
GDP per capita (mer, k\$'05)	6	4	6	7	9	11	11	-3.8%	5.1%	1.1%	2.3%	1.8%	0.4%
Share Value Added - Agriculture (%)	17	6	4	5	4	4	4	-9.0%	-5.0%	1.7%	-0.6%	-0.4%	-0.1%
Share Value Added - Industry (%)	48	38	35	32	31	30	30	-2.4%	-0.9%	-0.7%	-0.4%	-0.4%	-0.1%
Share Value Added - Services (%)	35	56	61	63	65	66	66	4.8%	1.0%	0.3%	0.2%	0.2%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	14	16	-3.4%	3.6%	-3.2%	0.9%	0.0%	1.3%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	3 428	1 649	1 612	1 613	1 163	714	409	-7.1%	-0.2%	0.0%	-3.2%	-4.8%	-5.4%
Total GHG (excl. sinks)	3 428	2 108	2 230	2 050	1 467	871	513	-4.7%	0.6%	-0.8%	-3.3%	-5.1%	-5.2%
Total GHG (energy, industry, agriculture)	3 300	2 092	2 218	2 048	1 467	871	435	-4.5%	0.6%	-0.8%	-3.3%	-5.1%	-6.7%
CO ₂	2 418	1 497	1 563	1 511	1 097	583	226	-4.7%	0.4%	-0.3%	-3.2%	-6.1%	-9.0%
CH ₄	593	435	491	358	212	147	87	-3.1%	1.2%	-3.1%	-5.1%	-3.6%	-5.1%
N ₂ O	248	131	150	164	154	139	121	-6.2%	1.3%	0.9%	-0.6%	-1.0%	-1.4%
F gases	41	29	14	15	4	2	1	-3.5%	-6.8%	0.2%	-11.2%	-7.9%	-8.6%
Total GHG from Energy and Industry	2 978	1 938	2 077	1 895	1 314	726	306	-4.2%	0.7%	-0.9%	-3.6%	-5.8%	-8.3%
CO₂ Emissions from Fuel Comb.	2 285	1 420	1 458	1 419	1 018	521	182	-4.6%	0.3%	-0.3%	-3.3%	-6.5%	-10.0%
Power generation/District heating	795	586	623	598	367	100	-73	-3.0%	0.6%	-0.4%	-4.8%	-12.2%	n.s.
Industry	227	157	140	149	120	83	50	-3.6%	-1.1%	0.6%	-2.1%	-3.6%	-4.9%
Buildings	336	170	137	106	73	32	13	-6.6%	-2.1%	-2.5%	-3.6%	-8.1%	-8.5%
Agriculture	49	21	14	13	11	7	5	-8.3%	-4.1%	-0.4%	-1.4%	-4.2%	-4.6%
Transport	252	112	157	184	178	154	108	-7.8%	3.4%	1.6%	-0.4%	-1.4%	-3.5%
Other	626	375	386	369	268	145	79	-5.0%	0.3%	-0.5%	-3.1%	-6.0%	-5.8%
CO₂ captured (CCS)	0	0	0	0	2	33	157	n.s.	n.s.	n.s.	34.0%	31.2%	16.9%
Coal	0	0	0	0	1	3	11	n.s.	n.s.	n.s.	26.1%	17.6%	14.7%
Gas	0	0	0	0	2	15	45	n.s.	n.s.	n.s.	51.3%	24.9%	11.8%
Biomass	0	0	0	0	0	15	101	n.s.	n.s.	n.s.	0.8%	n.s.	20.7%
Energy Balance, by fuel (Mtoe)													
Primary Production	1 234	944	1 229	1 299	1 412	1 312	1 110	-2.6%	2.7%	0.6%	0.8%	-0.7%	-1.7%
Coal	164	130	169	152	132	85	62	-2.3%	2.7%	-1.0%	-1.4%	-4.3%	-3.1%
Oil	526	325	510	539	572	545	429	-4.7%	4.6%	0.6%	0.6%	-0.5%	-2.4%
Natural gas	491	436	486	524	550	435	332	-1.2%	1.1%	0.7%	0.5%	-2.3%	-2.7%
Biomass	8	5	4	16	44	69	114	-5.5%	-0.9%	13.8%	10.9%	4.6%	5.1%
Nuclear ¹	31	35	45	51	92	148	136	1.0%	2.7%	1.3%	6.0%	4.8%	-0.9%
Hydro	14	14	14	16	18	20	19	0.0%	0.2%	0.9%	1.4%	0.8%	-0.1%
Other renewables	0	0	0	1	3	11	19	7.6%	24.1%	12.2%	8.4%	13.3%	5.9%
Net Imports	- 353	- 324	- 539	- 610	- 786	- 762	- 627						
Coal	11	- 10	- 68	- 34	- 62	- 57	- 45						
Oil	- 265	- 199	- 370	- 366	- 418	- 419	- 336						
Natural gas	- 103	- 117	- 103	- 208	- 313	- 310	- 253						
Biomass	4	2	3	0	11	28	11						
Biofuels	0	0	0	- 1	- 2	- 3	- 2						
Electricity	- 1	- 1	- 2	- 2	- 2	- 2	- 2						
Primary Energy Demand²	880	619	690	689	626	550	483	-3.5%	1.1%	0.0%	-1.0%	-1.3%	-1.3%
Coal	175	120	101	118	69	28	17	-3.7%	-1.7%	1.6%	-5.2%	-8.7%	-4.9%
Oil	261	126	140	173	154	125	93	-7.0%	1.1%	2.1%	-1.1%	-2.1%	-2.9%
Natural gas	388	319	384	316	237	125	78	-1.9%	1.9%	-1.9%	-2.8%	-6.2%	-4.6%
Biomass	12	7	7	16	55	98	125	-5.6%	0.0%	8.9%	13.2%	5.8%	2.5%
Nuclear ¹	31	35	45	51	92	148	136	1.0%	2.7%	1.3%	6.0%	4.8%	-0.9%
Hydro	14	14	14	16	18	20	19	0.0%	0.2%	0.9%	1.4%	0.8%	-0.1%
Other renewables	0	0	0	1	3	11	19	7.6%	24.1%	12.2%	8.4%	13.3%	5.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	880	619	690	689	626	550	483	-3.5%	1.1%	0.0%	-1.0%	-1.3%	-1.3%
Energy for Power Generation	325	252	286	282	255	242	233	-2.5%	1.2%	-0.1%	-1.0%	-0.5%	-0.4%
Other Energy Transformation & Losses	224	154	154	148	138	122	106	-3.6%	0.0%	-0.4%	-0.8%	-1.2%	-1.3%
Final consumption	603	400	425	425	401	357	309	-4.0%	0.6%	0.0%	-0.6%	-1.2%	-1.4%
Steel, Non-Met. Minerals and Chem.	102	78	91	92	81	67	57	-2.7%	1.6%	0.1%	-1.3%	-1.9%	-1.6%
Other Industry	128	65	52	56	52	49	47	-6.5%	-2.2%	0.6%	-0.6%	-0.7%	-0.3%
Non-Energy Use	40	36	66	74	74	67	57	-1.0%	6.2%	1.2%	0.0%	-1.0%	-1.6%
Residential	168	140	111	97	83	69	57	-1.8%	-2.3%	-1.4%	-1.5%	-1.9%	-1.8%
Services	62	25	37	34	36	35	31	-8.7%	3.9%	-0.7%	0.6%	-0.4%	-1.1%
Agriculture	22	9	6	6	6	7	7	-8.3%	-4.4%	-0.2%	1.0%	0.7%	0.4%
Road	52	34	48	50	52	49	40	-4.1%	3.4%	0.5%	0.3%	-0.6%	-2.0%
Rail	12	5	7	7	7	7	7	-7.6%	2.1%	0.8%	0.2%	-0.1%	-0.8%
Aviation	9	5	5	6	6	6	5	-6.9%	1.5%	1.4%	0.3%	-0.4%	-1.8%
Other Transport	7	1	1	2	2	2	1	-14.7%	-1.4%	6.6%	-0.3%	-2.5%	-4.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Russia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	279	204	226	213	141	64	59	-3.1%	1.0%	-0.6%	-4.0%	-7.6%	-0.7%
Coal	63	63	59	63	29	6	3	0.0%	-0.6%	0.5%	-7.4%	-14.8%	-6.7%
Oil	46	12	4	10	8	3	0	-12.6%	-10.2%	9.5%	-2.8%	-7.9%	-47.1%
Gas	170	127	160	136	98	39	20	-2.9%	2.4%	-1.6%	-3.2%	-8.8%	-6.3%
Biomass & Waste	0	2	2	5	7	15	36	29.4%	1.7%	9.0%	4.1%	8.5%	8.8%
Other	0	0	0	0	0	0	0	7.6%	24.2%	8.3%	5.5%	1.1%	2.9%
Gross Elec. Generation (TWh_e)	1 082	878	1 038	1 093	1 133	1 158	1 196	-2.1%	1.7%	0.5%	0.4%	0.2%	0.3%
Coal	157	176	166	192	92	20	14	1.1%	-0.6%	1.5%	-7.1%	-14.1%	-3.2%
of which CCS	0	0	0	0	0	2	13	n.s.	n.s.	n.s.	n.s.	n.s.	17.9%
Oil	129	33	9	44	33	15	0	-12.7%	-11.9%	16.9%	-2.8%	-7.9%	-47.0%
Gas	512	370	521	456	392	181	127	-3.2%	3.5%	-1.3%	-1.5%	-7.4%	-3.5%
of which CCS	0	0	0	0	0	26	92	n.s.	n.s.	n.s.	n.s.	n.s.	13.6%
Biomass & Waste	0	3	3	15	26	69	175	52.6%	0.9%	18.5%	5.4%	10.3%	9.8%
of which CCS	0	0	0	0	0	18	113	n.s.	n.s.	n.s.	n.s.	n.s.	20.2%
Nuclear	118	131	170	196	363	595	545	1.0%	2.7%	1.4%	6.4%	5.1%	-0.9%
Hydro	166	165	168	184	211	229	225	0.0%	0.2%	0.9%	1.4%	0.8%	-0.1%
Wind	0	0	0	4	9	29	57	n.s.	7.2%	n.s.	8.8%	12.1%	7.0%
Solar	0	0	0	1	5	19	47	n.s.	n.s.	n.s.	23.2%	14.7%	9.2%
Other	0	0	1	1	2	3	4	7.6%	24.2%	8.4%	5.8%	2.5%	5.6%
Generation Capacity (GW_e)	144	211	231	231	245	287	278	3.9%	0.9%	0.0%	0.6%	1.6%	-0.3%
Coal	42	42	42	37	28	21	5	0.0%	0.0%	-1.1%	-2.7%	-2.8%	-14.1%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	18.6%
Oil	16	16	16	13	9	7	6	0.0%	0.0%	-1.8%	-4.1%	-2.7%	-1.2%
Gas	86	88	104	100	91	82	49	0.3%	1.7%	-0.4%	-0.9%	-1.0%	-5.1%
of which CCS	0	0	0	0	0	3	15	n.s.	n.s.	n.s.	n.s.	n.s.	16.9%
Biomass & Waste	0	1	1	2	3	9	27	36.8%	0.0%	13.1%	5.1%	10.4%	11.5%
of which CCS	0	0	0	0	0	2	17	n.s.	n.s.	n.s.	n.s.	n.s.	21.6%
Nuclear	0	20	23	25	46	74	67	n.s.	1.3%	1.0%	6.2%	4.8%	-0.9%
Hydro	0	44	45	49	56	61	60	n.s.	0.2%	0.8%	1.4%	0.8%	-0.1%
Wind	0	0	0	3	6	16	28	n.s.	19.6%	n.s.	8.1%	10.7%	5.8%
Solar	0	0	0	1	5	17	36	n.s.	n.s.	n.s.	18.1%	12.4%	8.0%
Other	0	0	0	0	0	0	1	n.s.	14.6%	6.8%	5.6%	2.0%	4.5%
Total Final Consumption² (Mtoe)	603	400	425	425	401	357	309	-4.0%	0.6%	0.0%	-0.6%	-1.2%	-1.4%
Coal	68	29	28	33	21	10	5	-8.3%	-0.2%	1.5%	-4.2%	-6.9%	-6.3%
Oil	145	91	109	125	113	94	72	-4.6%	1.9%	1.4%	-1.0%	-1.8%	-2.6%
Gas	110	90	110	96	87	65	45	-2.0%	2.0%	-1.4%	-1.0%	-2.8%	-3.6%
Electricity	68	50	60	63	66	67	69	-2.9%	1.8%	0.5%	0.4%	0.2%	0.3%
Heat	203	137	115	102	99	100	92	-3.9%	-1.8%	-1.2%	-0.2%	0.0%	-0.8%
Biomass & Other	8	3	2	6	14	20	25	-9.3%	-2.5%	9.5%	9.3%	3.5%	2.3%
Share of Renewables ³ (%)	6%	8%	7%	8%	12%	20%	31%	2.1%	-0.9%	1.5%	4.3%	5.0%	4.4%
Industry (incl. non-energy use)	270	179	210	222	207	182	161	-4.0%	1.6%	0.6%	-0.7%	-1.3%	-1.2%
Coal	28	19	24	30	20	10	5	-3.9%	2.6%	2.2%	-3.9%	-6.6%	-6.2%
Oil	44	36	43	52	48	43	40	-2.0%	1.9%	2.0%	-0.8%	-1.2%	-0.8%
Gas	52	43	66	67	63	51	35	-1.9%	4.5%	0.1%	-0.7%	-2.0%	-3.7%
Electricity	41	27	28	30	30	30	31	-4.2%	0.5%	0.6%	0.1%	0.1%	0.3%
Heat	105	55	48	42	40	39	37	-6.4%	-1.4%	-1.3%	-0.3%	-0.4%	-0.4%
Biomass & Other	0	1	0	2	6	9	12	n.s.	-2.9%	13.6%	14.5%	4.4%	2.8%
Buildings	231	166	148	131	120	104	89	-3.3%	-1.1%	-1.2%	-0.9%	-1.4%	-1.6%
Coal	40	10	4	3	1	0	0	-13.1%	-8.8%	-4.2%	-9.0%	-17.2%	-17.5%
Oil	14	7	6	9	6	3	1	-7.0%	-0.6%	3.9%	-4.5%	-7.9%	-8.1%
Gas	57	47	43	28	22	10	4	-1.9%	-0.8%	-4.2%	-2.7%	-7.7%	-8.5%
Electricity	15	18	26	26	27	25	24	1.7%	3.8%	0.3%	0.0%	-0.5%	-0.4%
Heat	98	82	67	60	59	61	54	-1.7%	-2.0%	-1.1%	-0.2%	0.3%	-1.2%
Biomass & Other	7	2	2	4	5	5	5	-10.8%	-2.6%	8.2%	3.4%	-1.2%	-0.1%
Agriculture	22	9	6	6	6	7	7	-8.3%	-4.4%	-0.2%	1.0%	0.7%	0.4%
Coal	1	0	0	0	0	0	0	-7.1%	-11.5%	-3.5%	-3.4%	-7.5%	-7.5%
Oil	14	6	4	4	3	2	1	-8.7%	-4.2%	-0.4%	-1.4%	-4.4%	-4.8%
Gas	1	1	1	1	1	0	0	-0.8%	0.9%	0.6%	-0.9%	-3.1%	-3.5%
Electricity	6	3	1	1	2	2	3	-7.7%	-6.2%	0.1%	2.4%	2.4%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	0	0	0	1	2	3	-15.8%	1.1%	1.2%	17.7%	9.1%	3.0%
Transport	80	46	61	66	67	64	53	-5.4%	3.0%	0.7%	0.3%	-0.6%	-1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	73	42	56	60	56	47	30	-5.3%	2.8%	0.6%	-0.6%	-1.8%	-4.2%
Gas	1	0	0	0	2	4	6	-23.1%	3.4%	12.0%	20.3%	6.6%	3.9%
Electricity	6	3	5	6	7	9	11	-5.5%	4.5%	1.1%	2.6%	2.1%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	4	5	n.s.	n.s.	n.s.	23.1%	7.4%	3.4%
Other Energy Transformation & Losses⁴	224	154	154	148	138	122	106	-3.6%	0.0%	-0.4%	-0.8%	-1.2%	-1.3%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Ukraine	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	51	49	46	44	41	38	35	-0.5%	-0.7%	-0.4%	-0.7%	-0.8%	-0.7%
GDP per capita (ppp, k\$'05)	8	4	6	7	10	15	21	-7.5%	5.0%	1.0%	4.2%	3.9%	3.5%
GDP per capita (mer, k\$'05)	3	1	2	2	3	5	7	-7.5%	5.0%	0.7%	4.2%	3.9%	3.5%
Share Value Added - Agriculture (%)	26	17	8	12	10	8	7	-4.0%	-7.0%	4.0%	-2.5%	-1.6%	-1.0%
Share Value Added - Industry (%)	45	36	31	26	25	24	23	-2.0%	-1.5%	-1.9%	-0.2%	-0.4%	-0.5%
Share Value Added - Services (%)	30	47	60	62	65	67	69	4.6%	2.6%	0.2%	0.5%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	14	16	-3.4%	3.6%	-3.2%	0.9%	0.0%	1.3%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	804	345	311	250	187	117	64	-8.1%	-1.1%	-2.1%	-2.9%	-4.6%	-5.8%
Total GHG (excl. sinks)	873	396	349	276	210	138	84	-7.6%	-1.3%	-2.3%	-2.7%	-4.1%	-4.9%
Total GHG (energy, industry, agriculture)	873	396	349	276	210	138	84	-7.6%	-1.3%	-2.3%	-2.7%	-4.1%	-4.9%
CO ₂	652	277	253	200	155	95	48	-8.2%	-0.9%	-2.3%	-2.5%	-4.8%	-6.6%
CH ₄	162	93	66	44	26	17	11	-5.4%	-3.3%	-4.1%	-4.9%	-4.6%	-3.8%
N ₂ O	59	26	29	32	29	27	25	-7.7%	0.9%	0.9%	-0.9%	-0.8%	-0.9%
F gases	0	0	1	1	0	0	0	-5.6%	17.0%	0.3%	-10.4%	-10.9%	-12.0%
Total GHG from Energy and Industry	770	359	314	238	173	105	54	-7.3%	-1.3%	-2.7%	-3.1%	-4.9%	-6.4%
CO₂ Emissions from Fuel Comb.	613	258	234	182	137	79	35	-8.3%	-1.0%	-2.5%	-2.8%	-5.4%	-7.9%
Power generation/District heating	209	77	93	80	40	5	-21	-9.5%	1.9%	-1.5%	-6.8%	-18.8%	n.s.
Industry	127	47	31	25	24	18	14	-9.5%	-3.9%	-2.2%	-0.6%	-2.9%	-2.5%
Buildings	56	44	37	21	18	10	6	-2.5%	-1.8%	-5.5%	-1.5%	-5.3%	-5.8%
Agriculture	23	3	4	4	4	3	2	-17.2%	2.4%	0.0%	-1.1%	-3.9%	-3.9%
Transport	53	17	30	25	26	25	21	-10.6%	5.5%	-1.8%	0.4%	-0.4%	-1.7%
Other	144	69	38	26	26	18	14	-7.1%	-5.8%	-3.8%	-0.1%	-3.5%	-2.7%
CO₂ captured (CCS)	0	0	0	0	1	3	40	n.s.	n.s.	n.s.	53.9%	15.8%	27.7%
Coal	0	0	0	0	1	3	8	n.s.	n.s.	n.s.	55.6%	13.8%	11.0%
Gas	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	38.8%	24.3%
Biomass	0	0	0	0	0	0	26	n.s.	n.s.	n.s.	42.1%	9.7%	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	105	71	80	76	70	73	71	-3.8%	1.1%	-0.4%	-0.9%	0.4%	-0.3%
Coal	57	32	34	30	12	2	1	-5.5%	0.6%	-1.3%	-8.4%	-18.1%	-10.7%
Oil	6	4	4	3	4	4	4	-3.2%	-0.2%	-2.6%	1.8%	1.2%	0.0%
Natural gas	21	13	15	17	18	17	14	-4.5%	1.4%	1.0%	0.7%	-0.9%	-1.3%
Biomass	0	0	1	1	2	2	5	-2.2%	18.6%	-1.4%	4.3%	1.4%	9.6%
Nuclear ¹	20	20	24	23	29	40	36	0.2%	1.4%	-0.2%	2.2%	3.3%	-1.1%
Hydro	1	1	1	1	1	1	1	0.7%	1.4%	-0.1%	0.7%	-0.1%	-0.1%
Other renewables	0	0	0	1	4	8	10	n.s.	n.s.	n.s.	15.5%	6.5%	2.4%
Net Imports	148	58	53	20	24	17	22						
Coal	18	2	4	3	8	9	7						
Oil	62	8	9	8	9	8	6						
Natural gas	71	49	40	10	6	-3	0						
Biomass	0	0	0	0	1	4	9						
Biofuels	0	0	0	0	0	0	0						
Electricity	-2	0	0	0	0	0	0						
Primary Energy Demand²	253	130	133	97	94	90	93	-6.4%	0.2%	-3.1%	-0.3%	-0.5%	0.3%
Coal	75	34	39	33	20	11	8	-7.5%	1.2%	-1.7%	-4.5%	-6.4%	-2.7%
Oil	67	12	13	11	13	12	10	-15.9%	1.0%	-1.4%	1.1%	-0.9%	-1.8%
Natural gas	92	62	55	26	24	14	15	-3.8%	-1.2%	-7.1%	-1.0%	-5.6%	0.8%
Biomass	0	0	1	1	3	6	14	-2.2%	18.9%	-0.7%	9.3%	5.8%	9.5%
Nuclear ¹	20	20	24	23	29	40	36	0.2%	1.4%	-0.2%	2.2%	3.3%	-1.1%
Hydro	1	1	1	1	1	1	1	0.7%	1.4%	-0.1%	0.7%	-0.1%	-0.1%
Other renewables	0	0	0	1	4	8	10	n.s.	n.s.	n.s.	15.5%	6.5%	2.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	253	130	133	97	94	90	93	-6.4%	0.2%	-3.1%	-0.3%	-0.5%	0.3%
Energy for Power Generation	81	44	51	48	49	52	61	-5.9%	1.4%	-0.6%	0.1%	0.8%	1.4%
Other Energy Transformation & Losses	60	34	30	12	12	10	10	-5.4%	-1.3%	-8.7%	-0.5%	-1.1%	0.1%
Final consumption	160	74	75	55	55	52	50	-7.4%	0.2%	-3.2%	0.1%	-0.6%	-0.3%
Steel, Non-Met. Minerals and Chem.	27	13	22	16	14	11	8	-7.0%	5.5%	-3.2%	-1.2%	-3.0%	-2.4%
Other Industry	61	24	8	5	6	7	9	-8.8%	-10.9%	-3.7%	2.0%	1.3%	1.6%
Non-Energy Use	6	1	6	3	4	4	4	-15.4%	16.4%	-6.0%	1.8%	1.0%	0.5%
Residential	32	24	24	16	14	12	11	-2.8%	-0.1%	-4.1%	-0.9%	-1.7%	-1.2%
Services	3	2	5	4	5	6	6	-0.7%	6.6%	-0.4%	1.6%	0.7%	1.2%
Agriculture	9	2	2	2	2	2	2	-16.6%	1.2%	-0.1%	1.2%	1.3%	1.3%
Road	18	6	9	8	8	9	8	-9.6%	2.9%	-1.3%	0.9%	0.5%	-0.4%
Rail	2	1	1	1	1	1	1	-6.9%	-0.5%	-1.7%	1.7%	1.4%	1.1%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	1	0	0	0	0	0	0	n.s.	n.s.	-7.1%	1.3%	-0.8%	-1.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Ukraine	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	60	23	26	23	15	4	14	-9.3%	1.5%	-1.3%	-4.4%	-12.6%	13.8%
Coal	35	14	19	16	5	0	2	-8.5%	3.0%	-2.1%	-11.0%	-20.6%	13.0%
Oil	13	0	0	0	1	0	0	-30.9%	0.3%	2.3%	6.3%	-8.5%	-2.5%
Gas	12	8	6	7	8	1	4	-4.2%	-2.5%	1.0%	0.9%	-15.3%	9.3%
Biomass & Waste	0	0	0	0	2	2	9	n.s.	n.s.	-37.6%	n.s.	0.7%	18.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	299	171	189	190	227	261	319	-5.4%	1.0%	0.1%	1.8%	1.4%	2.0%
Coal	114	52	70	56	18	3	8	-7.6%	3.0%	-2.2%	-10.6%	-17.8%	12.5%
of which CCS	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	n.s.	n.s.	22.6%
Oil	48	1	1	2	3	1	1	-30.9%	-3.6%	8.4%	6.4%	-8.4%	-2.5%
Gas	50	30	16	20	29	8	21	-5.0%	-6.3%	2.6%	3.7%	-11.9%	9.9%
of which CCS	0	0	0	0	0	2	17	n.s.	n.s.	n.s.	n.s.	n.s.	24.9%
Biomass & Waste	0	0	0	0	6	6	42	n.s.	n.s.	-23.7%	n.s.	0.7%	20.6%
of which CCS	0	0	0	0	0	0	32	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	76	77	89	88	110	157	142	0.2%	1.4%	-0.2%	2.3%	3.6%	-1.0%
Hydro	11	11	13	13	14	14	14	0.7%	1.4%	-0.1%	0.7%	-0.1%	-0.1%
Wind	0	0	0	7	36	59	77	n.s.	23.6%	n.s.	17.1%	5.1%	2.7%
Solar	0	0	0	4	10	13	14	n.s.	n.s.	n.s.	9.8%	2.7%	0.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.8%	14.9%
Generation Capacity (GW_e)	42	52	54	46	67	82	80	2.2%	0.3%	-1.6%	3.8%	2.0%	-0.2%
Coal	23	22	22	12	11	11	2	-0.2%	-0.1%	-5.6%	-0.8%	-0.4%	-17.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	22.0%
Oil	7	1	1	0	1	1	1	-18.2%	0.0%	-9.1%	8.7%	2.4%	2.7%
Gas	12	14	12	8	10	9	11	0.8%	-1.0%	-4.7%	2.9%	-0.7%	1.1%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	25.0%
Biomass & Waste	0	0	0	1	2	2	7	n.s.	n.s.	33.0%	10.2%	-1.6%	12.6%
of which CCS	0	0	0	0	0	0	5	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	11	13	13	16	23	20	n.s.	1.6%	-0.1%	2.1%	3.7%	-1.5%
Hydro	0	5	5	6	6	6	6	n.s.	1.5%	0.3%	0.7%	-0.1%	-0.1%
Wind	0	0	0	3	11	18	23	n.s.	n.s.	39.6%	15.1%	4.7%	2.3%
Solar	0	0	0	3	9	11	11	n.s.	n.s.	n.s.	9.7%	2.3%	0.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.2%	14.4%
Total Final Consumption² (Mtoe)	160	74	75	55	55	52	50	-7.4%	0.2%	-3.2%	0.1%	-0.6%	-0.3%
Coal	35	15	13	12	10	5	3	-8.4%	-1.3%	-1.0%	-1.8%	-6.3%	-6.4%
Oil	43	11	13	11	12	11	10	-13.0%	1.7%	-1.5%	0.9%	-0.4%	-1.7%
Gas	33	26	25	12	11	9	8	-2.6%	-0.2%	-6.8%	-1.0%	-2.4%	-1.4%
Electricity	18	10	11	11	14	16	20	-5.8%	1.7%	0.1%	1.9%	1.4%	2.1%
Heat	31	13	12	7	7	8	8	-8.0%	-0.6%	-5.9%	0.2%	1.3%	-0.2%
Biomass & Other	0	0	1	2	2	3	3	-2.2%	14.7%	4.8%	0.0%	4.9%	1.5%
Share of Renewables ³ (%)	2%	3%	4%	7%	14%	24%	35%	2.8%	4.7%	4.6%	7.3%	5.5%	4.0%
Industry (incl. non-energy use)	95	39	36	25	24	22	21	-8.6%	-0.8%	-3.7%	-0.1%	-1.1%	-0.4%
Coal	27	12	12	11	10	5	3	-7.9%	0.2%	-0.7%	-1.6%	-6.2%	-6.4%
Oil	15	2	2	2	3	3	3	-16.8%	-0.4%	-2.4%	3.3%	1.5%	0.7%
Gas	23	12	11	4	4	4	5	-6.5%	-1.2%	-9.1%	0.0%	0.7%	0.3%
Electricity	13	5	6	5	5	6	8	-8.4%	0.9%	-2.0%	1.7%	1.5%	1.8%
Heat	16	7	5	3	3	2	2	-8.0%	-3.6%	-6.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	-0.7%	9.1%	22.1%	1.0%
Buildings	35	27	28	20	20	18	17	-2.6%	0.7%	-3.4%	-0.3%	-1.0%	-0.4%
Coal	7	3	1	0	0	0	0	-9.0%	-13.1%	-8.2%	-7.5%	-16.1%	-16.3%
Oil	2	0	0	0	1	1	0	-13.8%	-7.5%	4.8%	8.8%	-0.1%	-3.0%
Gas	10	14	14	8	7	4	2	3.2%	0.5%	-5.5%	-2.0%	-5.9%	-6.5%
Electricity	1	3	5	6	7	7	9	8.5%	3.7%	2.2%	1.4%	0.5%	1.9%
Heat	14	6	8	4	4	5	5	-8.1%	2.1%	-5.6%	0.4%	2.2%	-0.1%
Biomass & Other	0	0	1	1	1	1	1	-2.2%	14.0%	3.9%	-2.6%	-1.5%	-1.7%
Agriculture	9	2	2	2	2	2	2	-16.6%	1.2%	-0.1%	1.2%	1.3%	1.3%
Coal	1	0	0	0	0	0	0	n.s.	n.s.	-9.7%	-3.3%	-7.5%	n.s.
Oil	6	1	1	1	1	1	1	-15.7%	1.5%	0.2%	-1.1%	-3.9%	-4.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	-2.4%	-0.7%	-2.6%	-2.7%
Electricity	2	0	0	0	1	1	1	-15.9%	-4.2%	-0.4%	7.2%	6.2%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	-0.9%	20.7%	12.1%	3.7%
Transport	21	7	10	8	9	10	10	-9.9%	2.6%	-1.4%	1.0%	0.6%	-0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	-15.8%	0.0%	0.0%	0.0%
Oil	20	7	9	7	8	7	5	-10.3%	2.7%	-1.6%	0.1%	-0.7%	-2.5%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	0.7%	19.2%	7.4%	5.7%
Electricity	1	1	1	1	1	1	2	-4.7%	0.1%	-0.6%	4.5%	3.7%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	7.9%	6.8%	4.1%
Other Energy Transformation & Losses⁴	60	34	30	12	12	10	10	-5.4%	-1.3%	-8.7%	-0.5%	-1.1%	0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest CIS	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	77	81	88	98	105	110	114	0.5%	0.8%	1.1%	0.7%	0.5%	0.3%
GDP per capita (ppp, k\$'05)	5	3	6	10	15	22	27	-4.0%	7.5%	4.3%	4.6%	3.4%	2.4%
GDP per capita (mer, k\$'05)	2	1	2	4	6	8	10	-4.1%	7.4%	4.3%	4.6%	3.4%	2.4%
Share Value Added - Agriculture (%)	20	20	9	8	7	6	6	-0.4%	-7.3%	-0.9%	-1.8%	-0.9%	-0.5%
Share Value Added - Industry (%)	26	35	44	35	33	31	30	3.0%	2.1%	-2.2%	-0.4%	-0.6%	-0.5%
Share Value Added - Services (%)	53	45	47	57	60	62	64	-1.7%	0.5%	1.9%	0.5%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	14	16	-3.4%	3.6%	-3.2%	0.9%	0.0%	1.3%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	926	546	739	897	877	600	291	-5.1%	3.1%	2.0%	-0.2%	-3.7%	-7.0%
Total GHG (excl. sinks)	955	588	798	951	925	640	327	-4.7%	3.1%	1.8%	-0.3%	-3.6%	-6.5%
Total GHG (energy, industry, agriculture)	955	586	788	941	916	632	320	-4.8%	3.0%	1.8%	-0.3%	-3.6%	-6.6%
CO ₂	709	407	536	697	705	458	184	-5.4%	2.8%	2.7%	0.1%	-4.2%	-8.7%
CH ₄	174	133	193	181	151	119	86	-2.6%	3.8%	-0.6%	-1.8%	-2.4%	-3.2%
N ₂ O	69	45	56	59	59	55	50	-4.2%	2.3%	0.5%	-0.1%	-0.7%	-0.9%
F gases	3	1	3	3	1	1	1	-9.0%	10.0%	0.2%	-7.4%	-3.7%	-5.8%
Total GHG from Energy and Industry	829	503	678	829	809	537	238	-4.9%	3.0%	2.0%	-0.2%	-4.0%	-7.8%
CO₂ Emissions from Fuel Comb.	674	374	489	642	649	411	148	-5.7%	2.7%	2.8%	0.1%	-4.5%	-9.7%
Power generation/District heating	248	152	165	229	232	94	-72	-4.8%	0.8%	3.3%	0.2%	-8.6%	n.s.
Industry	128	51	81	117	105	74	50	-8.8%	4.7%	3.7%	-1.0%	-3.4%	-3.9%
Buildings	159	83	104	129	126	93	60	-6.3%	2.3%	2.1%	-0.2%	-3.0%	-4.2%
Agriculture	13	8	8	9	9	6	4	-4.2%	-0.4%	1.8%	-0.5%	-3.6%	-3.8%
Transport	56	27	41	50	51	50	46	-6.9%	4.1%	1.9%	0.3%	-0.1%	-1.0%
Other	70	53	90	109	126	93	60	-2.9%	5.5%	2.0%	1.4%	-3.7%	-4.4%
CO₂ captured (CCS)	0	0	0	0	2	40	151	n.s.	n.s.	n.s.	34.4%	33.4%	14.2%
Coal	0	0	0	0	1	5	14	n.s.	n.s.	n.s.	30.1%	20.6%	11.3%
Gas	0	0	0	0	1	12	31	n.s.	n.s.	n.s.	50.0%	23.0%	10.4%
Biomass	0	0	0	0	0	24	106	n.s.	n.s.	n.s.	0.7%	n.s.	16.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	214	194	308	431	517	476	404	-1.0%	4.7%	3.4%	1.8%	-0.8%	-1.6%
Coal	52	36	51	67	46	14	9	-3.6%	3.6%	2.7%	-3.8%	-10.9%	-4.2%
Oil	47	66	148	192	226	214	176	3.4%	8.4%	2.7%	1.7%	-0.6%	-1.9%
Natural gas	109	86	101	162	225	204	161	-2.4%	1.6%	4.8%	3.4%	-1.0%	-2.3%
Biomass	1	1	2	3	5	7	10	5.3%	1.6%	7.1%	4.3%	3.5%	3.6%
Nuclear ¹	0	1	1	1	5	18	20	n.s.	2.2%	3.3%	19.3%	12.9%	1.0%
Hydro	4	4	5	5	6	7	7	-0.6%	2.3%	-0.4%	1.3%	1.1%	0.1%
Other renewables	0	0	0	0	3	12	21	n.s.	n.s.	n.s.	48.6%	16.5%	5.3%
Net Imports	35	-45	-120	-178	-234	-219	-168						
Coal	0	-14	-14	-19	-10	2	0						
Oil	46	-30	-113	-138	-173	-166	-137						
Natural gas	-13	-2	7	-22	-59	-81	-82						
Biomass	0	0	1	2	9	27	52						
Biofuels	0	0	0	0	-1	0	0						
Electricity	1	1	0	0	0	0	0						
Primary Energy Demand²	248	150	188	252	283	256	236	-4.9%	2.3%	3.0%	1.1%	-1.0%	-0.8%
Coal	52	23	37	48	36	16	9	-8.0%	5.2%	2.6%	-2.9%	-7.8%	-5.1%
Oil	93	36	35	54	53	47	39	-9.1%	-0.3%	4.4%	0.0%	-1.2%	-2.0%
Natural gas	96	84	108	140	167	122	79	-1.4%	2.6%	2.6%	1.8%	-3.0%	-4.3%
Biomass	1	2	2	5	14	35	62	6.6%	3.0%	9.2%	10.1%	9.5%	6.0%
Nuclear ¹	0	1	1	1	5	18	20	n.s.	2.2%	3.3%	19.3%	12.9%	1.0%
Hydro	4	4	5	5	6	7	7	-0.6%	2.3%	-0.4%	1.3%	1.1%	0.1%
Other renewables	0	0	0	0	3	12	21	n.s.	n.s.	n.s.	48.6%	16.5%	5.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	248	150	188	252	283	256	236	-4.9%	2.3%	3.0%	1.1%	-1.0%	-0.8%
Energy for Power Generation	84	56	63	85	100	98	105	-4.0%	1.1%	3.0%	1.7%	-0.2%	0.7%
Other Energy Transformation & Losses	27	22	36	49	58	49	39	-2.1%	5.2%	3.1%	1.7%	-1.6%	-2.2%
Final consumption	189	100	121	158	174	165	156	-6.2%	1.9%	2.7%	1.0%	-0.5%	-0.6%
Steel, Non-Met. Minerals and Chem.	8	5	13	15	14	12	11	-3.6%	8.9%	1.4%	-0.5%	-1.8%	-1.2%
Other Industry	51	23	26	38	42	39	39	-7.8%	1.2%	3.9%	1.1%	-0.7%	-0.1%
Non-Energy Use	15	7	6	8	9	9	8	-7.6%	-1.8%	3.0%	2.1%	-0.3%	-0.7%
Residential	14	27	31	35	36	32	29	7.0%	1.1%	1.5%	0.1%	-1.1%	-1.1%
Services	72	22	25	37	43	41	36	-11.1%	1.4%	3.8%	1.6%	-0.5%	-1.4%
Agriculture	8	5	5	6	7	9	10	-5.1%	-0.4%	2.2%	2.2%	1.8%	1.5%
Road	18	9	14	18	20	21	21	-6.5%	4.5%	2.0%	1.0%	0.5%	0.0%
Rail	2	1	1	1	2	2	2	-7.3%	1.2%	0.8%	2.1%	1.3%	0.6%
Aviation	1	0	0	1	1	1	1	-1.0%	-1.0%	2.2%	4.0%	2.2%	0.6%
Other Transport	0	0	0	0	0	0	0	-7.8%	4.9%	0.5%	3.1%	-0.1%	-1.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest CIS	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	80	51	57	79	87	61	58	-4.3%	1.0%	3.3%	1.0%	-3.4%	-0.5%
Coal	28	16	19	28	22	9	6	-5.5%	2.0%	3.6%	-2.1%	-8.4%	-4.8%
Oil	19	7	1	4	4	4	2	-9.8%	-19.6%	18.1%	-0.1%	-0.5%	-8.0%
Gas	32	29	37	45	56	34	17	-1.2%	2.5%	2.2%	2.1%	-5.0%	-6.6%
Biomass & Waste	0	0	0	2	4	14	34	n.s.	n.s.	31.9%	10.6%	13.2%	8.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	295	201	256	362	477	527	622	-3.8%	2.4%	3.5%	2.8%	1.0%	1.7%
Coal	73	38	69	100	86	38	26	-6.3%	6.1%	3.7%	-1.5%	-7.8%	-3.8%
of which CCS	0	0	0	0	0	4	16	n.s.	n.s.	n.s.	n.s.	n.s.	14.0%
Oil	53	23	2	18	18	17	7	-8.1%	-19.9%	22.0%	-0.2%	-0.5%	-8.0%
Gas	116	88	119	178	254	166	99	-2.7%	3.0%	4.1%	3.6%	-4.1%	-5.1%
of which CCS	0	0	0	0	0	19	71	n.s.	n.s.	n.s.	n.s.	n.s.	14.2%
Biomass & Waste	0	0	0	3	15	65	164	n.s.	n.s.	40.7%	18.0%	15.9%	9.7%
of which CCS	0	0	0	0	0	30	125	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Nuclear	0	2	2	3	22	74	82	n.s.	2.2%	3.4%	20.0%	13.1%	1.0%
Hydro	52	49	62	60	68	76	77	-0.6%	2.3%	-0.4%	1.3%	1.1%	0.1%
Wind	0	0	0	0	11	57	95	n.s.	n.s.	39.8%	45.7%	17.9%	5.2%
Solar	0	0	0	0	4	33	72	n.s.	n.s.	n.s.	36.2%	23.1%	8.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	22.2%	10.7%
Generation Capacity (GW_e)	50	66	69	68	96	150	201	2.8%	0.4%	-0.2%	3.5%	4.5%	3.0%
Coal	15	15	15	16	17	15	9	-0.2%	0.3%	0.3%	0.7%	-1.4%	-4.5%
of which CCS	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Oil	14	7	7	7	5	4	5	-6.2%	-0.5%	0.3%	-4.0%	-0.9%	1.2%
Gas	22	29	30	27	44	45	44	2.9%	0.3%	-0.7%	4.7%	0.4%	-0.3%
of which CCS	0	0	0	0	0	2	9	n.s.	n.s.	n.s.	n.s.	n.s.	14.7%
Biomass & Waste	0	0	1	1	2	9	23	n.s.	n.s.	2.9%	12.1%	15.6%	9.9%
of which CCS	0	0	0	0	0	4	17	n.s.	n.s.	n.s.	n.s.	n.s.	15.7%
Nuclear	0	0	0	1	3	10	11	n.s.	0.0%	2.1%	19.8%	12.9%	0.8%
Hydro	0	15	17	17	19	21	21	n.s.	1.0%	-0.2%	1.3%	1.1%	0.1%
Wind	0	0	0	0	5	22	36	n.s.	n.s.	34.6%	44.6%	17.1%	4.8%
Solar	0	0	0	0	3	23	52	n.s.	n.s.	n.s.	36.5%	23.4%	8.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	21.6%	10.2%
Total Final Consumption² (Mtoe)	189	100	121	158	174	165	156	-6.2%	1.9%	2.7%	1.0%	-0.5%	-0.6%
Coal	23	7	17	19	11	4	2	-11.6%	9.6%	0.9%	-5.2%	-8.9%	-7.4%
Oil	60	24	30	40	40	35	30	-8.8%	2.2%	3.1%	0.0%	-1.3%	-1.6%
Gas	53	40	41	57	66	55	39	-2.9%	0.4%	3.3%	1.6%	-1.8%	-3.3%
Electricity	23	13	16	24	32	36	43	-5.0%	2.0%	3.9%	2.8%	1.1%	1.8%
Heat	29	15	15	15	16	18	19	-6.4%	0.0%	-0.3%	0.9%	1.4%	0.1%
Biomass & Other	1	1	2	3	8	16	23	5.2%	0.7%	7.6%	9.7%	7.0%	3.7%
Share of Renewables ³ (%)	5%	7%	7%	6%	11%	25%	42%	4.3%	-0.5%	-1.2%	5.7%	8.9%	5.4%
Industry (incl. non-energy use)	74	35	44	60	65	60	58	-7.2%	2.4%	3.1%	0.8%	-0.9%	-0.4%
Coal	19	6	12	14	9	4	2	-10.8%	7.3%	1.9%	-4.6%	-8.0%	-7.0%
Oil	22	7	6	11	12	10	9	-11.1%	-0.7%	5.4%	0.7%	-1.7%	-1.2%
Gas	12	11	13	20	25	23	18	-0.9%	1.3%	4.5%	2.4%	-0.9%	-2.4%
Electricity	13	6	8	11	14	15	17	-8.1%	3.4%	3.1%	2.8%	0.6%	1.4%
Heat	8	5	5	4	4	4	4	-3.8%	-0.2%	-2.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	2	5	8	n.s.	-2.0%	23.3%	15.7%	10.3%	6.1%
Buildings	86	49	56	72	79	73	64	-5.4%	1.2%	2.6%	0.9%	-0.8%	-1.2%
Coal	5	1	5	4	2	0	0	-14.9%	18.3%	-2.2%	-7.5%	-16.0%	-16.2%
Oil	16	4	6	9	8	6	5	-12.1%	3.9%	3.5%	-1.0%	-2.4%	-2.7%
Gas	39	28	28	36	40	31	19	-3.3%	-0.1%	2.7%	0.9%	-2.6%	-4.6%
Electricity	4	5	6	10	12	13	16	1.8%	1.0%	5.6%	2.2%	0.5%	1.8%
Heat	21	10	10	11	12	14	15	-7.6%	0.2%	0.8%	1.2%	1.9%	0.2%
Biomass & Other	1	1	1	3	5	8	10	4.7%	0.3%	6.2%	6.6%	5.1%	2.0%
Agriculture	8	5	5	6	7	9	10	-5.1%	-0.4%	2.2%	2.2%	1.8%	1.5%
Coal	0	0	0	0	0	0	0	-26.7%	43.6%	-0.8%	-3.4%	-7.5%	-7.5%
Oil	3	2	2	2	2	2	1	-1.8%	-1.8%	2.0%	-0.3%	-3.5%	-3.9%
Gas	1	0	0	0	0	0	0	-17.0%	3.6%	2.3%	0.1%	-2.2%	-2.6%
Electricity	4	2	2	3	4	5	7	-5.6%	-0.4%	2.6%	3.4%	3.1%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	8.3%	18.2%	3.3%	20.0%	10.4%	3.6%
Transport	21	11	16	20	22	23	24	-6.4%	4.0%	2.0%	1.2%	0.7%	0.1%
Coal	0	0	0	0	0	0	0	-9.9%	3.8%	4.4%	0.0%	0.0%	0.0%
Oil	20	10	15	18	18	17	15	-6.2%	3.8%	1.9%	0.0%	-0.4%	-1.3%
Gas	0	0	0	1	1	2	2	-7.0%	12.3%	3.7%	7.9%	3.7%	2.0%
Electricity	1	0	1	1	2	2	3	-10.3%	6.1%	1.6%	8.1%	3.8%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	28.9%	20.7%	7.1%	4.4%
Other Energy Transformation & Losses⁴	27	22	36	49	58	49	39	-2.1%	5.2%	3.1%	1.7%	-1.6%	-2.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Argentina	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	33	37	41	46	49	53	55	1.2%	1.1%	1.0%	0.8%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	7	10	13	15	19	23	28	3.3%	2.7%	1.4%	2.2%	1.9%	1.7%
GDP per capita (mer, k\$'05)	4	5	7	8	10	12	15	3.3%	2.7%	1.4%	2.2%	1.9%	1.7%
Share Value Added - Agriculture (%)	8	5	8	6	6	5	5	-4.6%	5.3%	-3.5%	-0.6%	-0.4%	-0.3%
Share Value Added - Industry (%)	36	28	30	27	26	25	24	-2.4%	0.6%	-0.9%	-0.4%	-0.4%	-0.4%
Share Value Added - Services (%)	56	67	62	67	68	69	71	1.8%	-0.8%	0.8%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	16	17	19	-4.2%	5.6%	0.8%	0.9%	0.9%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	318	356	383	370	249	137	61	1.1%	0.8%	-0.4%	-3.9%	-5.8%	-7.8%
Total GHG (excl. sinks)	359	404	426	400	287	210	148	1.2%	0.5%	-0.6%	-3.3%	-3.1%	-3.4%
Total GHG (energy, industry, agriculture)	242	285	321	321	287	210	148	1.6%	1.2%	0.0%	-1.1%	-3.1%	-3.4%
CO ₂	107	150	185	185	177	111	60	3.5%	2.1%	0.0%	-0.4%	-4.5%	-6.0%
CH ₄	98	97	85	82	65	55	47	-0.2%	-1.2%	-0.3%	-2.4%	-1.6%	-1.5%
N ₂ O	35	38	50	53	46	43	40	0.9%	2.9%	0.5%	-1.5%	-0.6%	-0.6%
F gases	2	0	1	1	1	0	0	-19.9%	9.2%	0.9%	-1.6%	-4.8%	-13.3%
Total GHG from Energy and Industry	133	179	213	208	197	128	73	3.0%	1.8%	-0.3%	-0.5%	-4.2%	-5.5%
CO₂ Emissions from Fuel Comb.	101	143	176	175	167	101	50	3.5%	2.1%	-0.1%	-0.5%	-4.9%	-6.8%
Power generation/District heating	19	30	45	43	44	9	-15	4.6%	4.2%	-0.4%	0.1%	-14.2%	n.s.
Industry	15	25	29	29	29	23	14	5.3%	1.5%	0.0%	-0.2%	-2.4%	-4.4%
Buildings	18	20	27	26	22	12	7	1.0%	3.0%	-0.1%	-2.0%	-5.5%	-5.6%
Agriculture	5	8	11	10	9	6	4	5.1%	3.3%	-0.7%	-0.9%	-3.9%	-4.0%
Transport	29	41	44	48	45	38	32	3.7%	0.5%	0.9%	-0.6%	-1.6%	-1.8%
Other	15	18	21	19	18	12	7	1.9%	1.3%	-1.2%	-1.1%	-3.8%	-5.1%
CO₂ captured (CCS)	0	0	0	0	1	9	41	n.s.	n.s.	n.s.	43.8%	25.8%	16.4%
Coal	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	34.3%	21.1%	11.7%
Gas	0	0	0	0	1	3	11	n.s.	n.s.	n.s.	n.s.	19.3%	12.0%
Biomass	0	0	0	0	0	4	25	n.s.	n.s.	n.s.	21.6%	56.5%	20.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	46	79	80	71	83	104	120	5.6%	0.1%	-1.1%	1.5%	2.3%	1.4%
Coal	0	0	0	0	0	0	0	0.6%	-12.3%	9.8%	2.4%	-1.4%	0.4%
Oil	26	41	37	34	48	52	51	4.7%	-1.2%	-0.8%	3.6%	0.8%	-0.3%
Natural gas	15	31	33	22	9	3	3	7.6%	0.7%	-3.9%	-9.1%	-8.6%	-1.5%
Biomass	2	3	5	8	12	19	32	6.4%	6.4%	4.1%	4.7%	4.5%	5.2%
Nuclear ¹	2	2	2	3	7	17	19	-1.6%	1.5%	3.2%	10.8%	9.2%	1.0%
Hydro	2	2	3	3	3	4	4	4.7%	1.6%	-0.3%	1.7%	1.2%	0.9%
Other renewables	0	0	0	2	3	8	11	n.s.	-3.3%	n.s.	5.6%	10.7%	3.0%
Net Imports	-2	-18	0	11	7	-13	-22						
Coal	1	0	1	2	2	2	2						
Oil	-7	-18	-5	-7	-22	-34	-36						
Natural gas	4	0	5	17	29	21	18						
Biomass	0	0	0	-2	-3	-3	-6						
Biofuels	0	0	-1	-1	-1	-1	-1						
Electricity	0	0	1	2	2	2	2						
Primary Energy Demand²	44	61	80	82	90	91	98	3.4%	2.7%	0.2%	0.9%	0.1%	0.8%
Coal	1	1	1	2	3	2	2	-6.3%	7.1%	6.9%	2.3%	-3.1%	0.0%
Oil	19	23	31	27	26	18	14	2.0%	3.0%	-1.4%	-0.6%	-3.5%	-2.2%
Natural gas	19	30	38	39	38	24	21	4.9%	2.2%	0.2%	-0.3%	-4.3%	-1.5%
Biomass	2	3	5	6	10	16	26	6.4%	6.4%	0.8%	5.5%	5.4%	4.6%
Nuclear ¹	2	2	2	3	7	17	19	-1.6%	1.5%	3.2%	10.8%	9.2%	1.0%
Hydro	2	2	3	3	3	4	4	4.7%	1.6%	-0.3%	1.7%	1.2%	0.9%
Other renewables	0	0	0	2	3	8	11	n.s.	-3.3%	n.s.	5.6%	10.7%	3.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	44	61	80	82	90	91	98	3.4%	2.7%	0.2%	0.9%	0.1%	0.8%
Energy for Power Generation	11	16	23	24	31	38	49	4.2%	3.4%	0.3%	2.9%	2.0%	2.4%
Other Energy Transformation & Losses	6	5	11	9	10	10	11	-2.0%	8.8%	-2.3%	1.0%	-0.1%	1.2%
Final consumption	31	47	56	62	65	64	66	4.3%	1.8%	1.0%	0.5%	-0.1%	0.3%
Steel, Non-Met. Minerals and Chem.	1	3	3	4	3	2	2	13.4%	1.7%	1.4%	-2.9%	-2.1%	-1.4%
Other Industry	8	12	14	14	16	17	19	4.2%	0.8%	0.2%	1.7%	0.5%	1.2%
Non-Energy Use	2	4	5	6	7	7	7	9.2%	0.8%	3.0%	1.2%	0.0%	-0.1%
Residential	6	9	13	14	13	11	11	3.9%	3.0%	0.9%	-0.7%	-1.4%	-0.5%
Services	3	3	4	4	5	5	6	0.2%	4.2%	0.6%	2.0%	0.7%	1.0%
Agriculture	2	3	4	3	4	4	5	5.3%	3.5%	-0.5%	1.2%	0.9%	0.8%
Road	9	12	14	16	16	16	15	3.4%	1.3%	1.3%	0.2%	-0.3%	-0.3%
Rail	0	0	0	0	0	0	0	5.2%	2.5%	0.3%	2.1%	1.7%	1.4%
Aviation	1	0	0	0	1	1	1	-3.3%	-3.0%	2.4%	2.9%	1.9%	1.3%
Other Transport	0	0	0	0	0	0	0	24.0%	14.7%	0.7%	1.8%	-0.5%	-1.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Argentina	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	12	18	17	18	9	14	5.2%	3.9%	-0.9%	0.8%	-6.6%	4.7%
Coal	0	0	1	2	2	1	2	3.8%	5.1%	7.7%	0.5%	-4.4%	3.4%
Oil	2	1	4	4	3	0	0	-6.1%	15.6%	-0.1%	-1.9%	-24.3%	-8.7%
Gas	5	11	13	10	11	4	5	7.4%	1.7%	-1.9%	0.9%	-9.3%	0.5%
Biomass & Waste	0	0	1	1	2	3	8	6.6%	13.5%	-1.7%	9.6%	8.4%	9.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	51	89	126	143	190	239	304	5.7%	3.5%	1.3%	2.9%	2.3%	2.4%
Coal	1	2	3	6	7	5	8	11.4%	4.7%	8.4%	1.6%	-3.5%	4.2%
of which CCS	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Oil	5	3	17	16	14	1	0	-5.4%	19.2%	-0.2%	-1.6%	-24.0%	-8.6%
Gas	20	49	63	56	62	25	28	9.4%	2.6%	-1.2%	1.1%	-8.9%	1.3%
of which CCS	0	0	0	0	0	5	21	n.s.	n.s.	n.s.	n.s.	n.s.	15.3%
Biomass & Waste	0	1	2	2	6	16	40	20.2%	12.5%	-1.7%	12.5%	10.0%	9.9%
of which CCS	0	0	0	0	0	4	24	n.s.	n.s.	n.s.	n.s.	n.s.	20.0%
Nuclear	7	6	7	10	29	71	79	-1.6%	1.5%	3.4%	11.3%	9.4%	1.0%
Hydro	18	29	34	33	39	43	47	4.7%	1.6%	-0.3%	1.7%	1.2%	0.9%
Wind	0	0	0	20	32	70	83	n.s.	-3.3%	n.s.	4.9%	8.4%	1.6%
Solar	0	0	0	0	2	8	19	n.s.	n.s.	n.s.	26.4%	16.7%	8.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	27.8%	17.3%	14.4%
Generation Capacity (GW_e)	17	23	32	43	51	74	91	2.9%	3.6%	2.9%	1.7%	3.7%	2.2%
Coal	1	1	1	1	1	1	1	-1.9%	0.0%	5.1%	0.9%	0.8%	-1.6%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	19.5%
Oil	2	1	2	3	2	3	3	-3.8%	4.9%	2.5%	-2.0%	0.8%	0.2%
Gas	7	11	17	19	17	12	11	4.8%	4.8%	1.2%	-1.2%	-3.1%	-1.4%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	18.0%
Biomass & Waste	0	0	1	0	1	2	7	19.6%	12.8%	-1.2%	7.0%	10.9%	10.4%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	20.3%
Nuclear	1	1	1	2	5	11	12	0.0%	0.0%	5.6%	11.0%	9.2%	0.8%
Hydro	7	9	11	11	13	15	16	3.0%	2.1%	0.4%	1.6%	1.1%	0.9%
Wind	0	0	0	6	10	21	24	n.s.	13.6%	n.s.	4.7%	7.8%	1.3%
Solar	0	0	0	0	2	7	17	n.s.	n.s.	n.s.	27.0%	17.1%	8.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.8%	13.9%
Total Final Consumption² (Mtoe)	31	47	56	62	65	64	66	4.3%	1.8%	1.0%	0.5%	-0.1%	0.3%
Coal	1	1	1	1	1	1	1	0.1%	1.0%	2.8%	3.3%	-2.4%	-3.2%
Oil	16	22	25	24	23	19	16	3.6%	1.1%	-0.1%	-0.4%	-2.1%	-1.9%
Gas	10	15	19	22	20	15	11	4.4%	2.6%	1.5%	-1.2%	-2.6%	-2.9%
Electricity	4	6	10	11	15	18	23	6.4%	4.1%	1.4%	2.7%	2.2%	2.3%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	37.5%	4.9%
Biomass & Other	1	3	2	3	6	10	13	6.4%	-3.2%	4.8%	7.2%	4.9%	3.3%
Share of Renewables ³ (%)	10%	12%	9%	13%	22%	41%	56%	1.5%	-2.1%	3.5%	5.3%	6.5%	3.1%
Industry (incl. non-energy use)	11	19	21	23	26	28	28	6.0%	1.0%	1.0%	1.0%	0.1%	0.7%
Coal	1	1	1	1	1	1	1	0.1%	1.0%	2.8%	3.3%	-2.4%	-3.2%
Oil	3	7	7	7	7	6	5	9.3%	0.6%	-0.3%	-0.2%	-1.9%	-1.0%
Gas	4	7	8	10	10	9	7	4.3%	2.1%	2.1%	0.0%	-1.0%	-2.1%
Electricity	2	3	4	5	6	7	9	4.8%	3.3%	0.8%	2.4%	1.9%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	1	1	2	4	6	7.0%	-8.1%	1.0%	7.0%	6.0%	5.3%
Buildings	9	12	16	18	18	17	17	2.9%	3.3%	0.9%	0.0%	-0.7%	0.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	1	2	1	1	1	0	-3.5%	4.1%	-3.8%	-1.5%	-4.5%	-4.5%
Gas	5	7	9	9	8	4	2	2.8%	2.7%	0.8%	-2.1%	-5.7%	-5.8%
Electricity	2	3	5	7	7	8	9	8.1%	4.7%	1.9%	1.4%	0.9%	1.5%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	37.5%	4.9%
Biomass & Other	0	0	0	1	2	2	2	2.8%	-3.7%	6.7%	10.9%	3.5%	0.8%
Agriculture	2	3	4	3	4	4	5	5.3%	3.5%	-0.5%	1.2%	0.9%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	3	3	2	1	5.1%	3.3%	-0.7%	-0.9%	-3.9%	-4.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	2.5%	5.2%	1.0%	14.5%	9.1%	4.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	2	n.s.	10.4%	3.2%	13.9%	8.9%	3.2%
Transport	10	13	15	17	17	17	17	3.1%	1.3%	1.3%	0.3%	-0.2%	-0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	11	12	13	12	11	9	2.1%	0.4%	0.7%	-0.3%	-1.6%	-1.9%
Gas	0	1	2	3	2	2	2	22.7%	4.7%	1.9%	-2.6%	-1.5%	-0.7%
Electricity	0	0	0	0	1	2	3	5.2%	2.5%	3.9%	28.7%	7.7%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	1	2	2	3	n.s.	n.s.	8.7%	3.6%	3.0%	2.3%
Other Energy Transformation & Losses⁴	6	5	11	9	10	10	11	-2.0%	8.8%	-2.3%	1.0%	-0.1%	1.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Brazil	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	150	176	199	216	229	236	238	1.6%	1.2%	0.8%	0.6%	0.3%	0.1%
GDP per capita (ppp, k\$'05)	7	8	10	10	12	15	18	1.0%	2.4%	-0.4%	2.0%	2.4%	2.0%
GDP per capita (mer, k\$'05)	4	4	6	5	7	9	10	1.0%	2.4%	-0.2%	2.0%	2.4%	2.0%
Share Value Added - Agriculture (%)	8	6	5	5	5	4	4	-3.8%	-1.3%	0.8%	-0.9%	-0.9%	-0.6%
Share Value Added - Industry (%)	39	27	27	22	22	20	19	-3.6%	0.3%	-2.1%	-0.3%	-0.6%	-0.7%
Share Value Added - Services (%)	53	68	68	72	74	75	77	2.5%	0.0%	0.7%	0.1%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	16	17	19	-4.2%	5.6%	0.8%	0.9%	0.9%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 381	2 080	1 279	1 175	740	455	76	4.2%	-4.7%	-0.8%	-4.5%	-4.7%	-16.4%
Total GHG (excl. sinks)	1 381	2 080	1 279	1 175	852	732	490	4.2%	-4.7%	-0.8%	-3.2%	-1.5%	-3.9%
Total GHG (energy, industry, agriculture)	620	816	962	1 028	852	732	490	2.8%	1.7%	0.7%	-1.9%	-1.5%	-3.9%
CO ₂	214	334	423	462	437	381	185	4.6%	2.4%	0.9%	-0.5%	-1.4%	-7.0%
CH ₄	285	338	357	366	252	206	175	1.7%	0.6%	0.2%	-3.7%	-2.0%	-1.6%
N ₂ O	118	142	175	193	156	142	129	1.9%	2.1%	1.0%	-2.1%	-0.9%	-0.9%
F gases	4	2	6	7	6	4	1	-5.9%	12.0%	0.5%	-1.0%	-5.1%	-15.1%
Total GHG from Energy and Industry	267	398	498	535	493	418	210	4.1%	2.3%	0.7%	-0.8%	-1.6%	-6.6%
CO₂ Emissions from Fuel Comb.	186	295	379	413	383	324	134	4.7%	2.6%	0.8%	-0.7%	-1.7%	-8.5%
Power generation/District heating	10	27	40	29	7	5	-40	10.5%	4.0%	-3.1%	-13.0%	-4.3%	n.s.
Industry	52	85	100	111	114	96	49	5.0%	1.6%	1.0%	0.3%	-1.7%	-6.5%
Buildings	20	25	23	19	13	8	5	2.2%	-0.6%	-2.3%	-3.6%	-4.5%	-4.0%
Agriculture	10	14	19	19	16	10	7	3.5%	2.5%	0.0%	-1.5%	-4.3%	-4.4%
Transport	80	124	171	200	199	180	133	4.5%	3.3%	1.5%	0.0%	-1.0%	-3.0%
Other	13	19	26	36	35	24	-20	3.3%	3.4%	3.3%	-0.4%	-3.5%	n.s.
CO₂ captured (CCS)	0	0	0	0	1	22	138	n.s.	n.s.	n.s.	n.s.	44.5%	20.3%
Coal	0	0	0	0	0	5	15	n.s.	n.s.	n.s.	n.s.	28.9%	11.9%
Gas	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	24.8%	17.8%
Biomass	0	0	0	0	0	16	117	n.s.	n.s.	n.s.	n.s.	n.s.	22.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	94	143	241	410	466	540	670	4.2%	5.4%	5.5%	1.3%	1.5%	2.2%
Coal	1	3	2	3	1	1	1	6.9%	-2.1%	2.0%	-6.2%	-2.1%	0.3%
Oil	32	63	106	209	195	177	141	6.9%	5.3%	7.0%	-0.7%	-1.0%	-2.3%
Natural gas	3	6	12	19	24	25	24	9.3%	6.9%	4.4%	2.8%	0.2%	-0.5%
Biomass	40	43	82	130	178	242	396	0.8%	6.6%	4.8%	3.2%	3.1%	5.0%
Nuclear ¹	1	2	4	5	7	21	24	10.5%	9.2%	1.6%	4.5%	11.8%	1.2%
Hydro	18	26	35	37	40	36	36	3.9%	2.9%	0.7%	0.8%	-1.2%	0.1%
Other renewables	0	0	1	8	20	37	48	n.s.	33.7%	30.2%	9.8%	6.5%	2.5%
Net Imports	36	41	24	-125	-148	-176	-281						
Coal	7	10	12	14	8	6	6						
Oil	26	25	-1	-99	-87	-83	-72						
Natural gas	1	2	11	6	3	8	11						
Biomass	0	0	0	-49	-73	-101	-212						
Biofuels	1	0	-1	0	-2	-9	-16						
Electricity	2	4	3	2	2	2	2						
Primary Energy Demand²	131	184	265	284	318	364	389	3.5%	3.7%	0.7%	1.1%	1.4%	0.7%
Coal	8	13	14	17	10	7	7	5.1%	1.0%	1.5%	-5.4%	-2.9%	-0.6%
Oil	58	88	105	110	108	94	69	4.2%	1.7%	0.5%	-0.2%	-1.4%	-3.0%
Natural gas	3	8	23	25	27	33	35	9.2%	11.4%	0.7%	1.0%	1.9%	0.5%
Biomass	40	43	82	81	105	141	184	0.8%	6.6%	0.0%	2.6%	3.0%	2.7%
Nuclear ¹	1	2	4	5	7	21	24	10.5%	9.2%	1.6%	4.5%	11.8%	1.2%
Hydro	18	26	35	37	40	36	36	3.9%	2.9%	0.7%	0.8%	-1.2%	0.1%
Other renewables	0	0	1	8	20	37	48	n.s.	33.7%	30.2%	9.8%	6.5%	2.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	131	184	265	284	318	364	389	3.5%	3.7%	0.7%	1.1%	1.4%	0.7%
Energy for Power Generation	22	37	58	64	77	109	140	5.5%	4.6%	0.9%	1.9%	3.5%	2.5%
Other Energy Transformation & Losses	20	24	44	51	63	73	74	1.9%	6.4%	1.5%	2.1%	1.4%	0.1%
Final consumption	113	156	215	230	254	276	281	3.3%	3.2%	0.7%	1.0%	0.8%	0.2%
Steel, Non-Met. Minerals and Chem.	21	28	32	33	31	31	32	2.9%	1.6%	0.1%	-0.4%	0.0%	0.1%
Other Industry	21	32	51	53	69	85	98	4.0%	4.9%	0.4%	2.6%	2.2%	1.4%
Non-Energy Use	9	14	17	15	16	17	17	3.7%	2.2%	-1.2%	0.8%	0.5%	0.0%
Residential	18	21	24	23	23	25	27	1.4%	1.4%	-0.4%	0.2%	0.7%	0.7%
Services	5	8	11	13	16	21	26	5.2%	2.7%	2.1%	2.0%	2.6%	2.1%
Agriculture	6	7	10	11	11	12	13	2.0%	3.1%	0.8%	0.7%	0.6%	0.5%
Road	29	43	65	76	81	78	63	3.9%	4.2%	1.7%	0.6%	-0.4%	-2.1%
Rail	1	1	1	1	1	1	1	-2.0%	7.6%	0.5%	0.6%	0.6%	0.2%
Aviation	2	3	3	3	4	4	4	5.1%	0.2%	0.2%	1.0%	1.2%	0.5%
Other Transport	1	1	1	1	1	1	1	-1.6%	4.1%	-1.5%	0.9%	-0.7%	-2.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Brazil	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	4	9	19	15	10	15	32	10.4%	7.4%	-2.7%	-3.5%	3.6%	8.1%
Coal	1	3	3	4	0	1	3	8.3%	-0.2%	3.0%	-19.4%	10.2%	9.5%
Oil	1	4	4	1	0	0	0	11.7%	-0.4%	-17.6%	n.s.	n.s.	n.s.
Gas	0	1	7	5	2	4	5	28.1%	22.8%	-3.7%	-6.7%	4.6%	4.4%
Biomass & Waste	1	2	6	5	8	10	24	7.7%	14.0%	-0.7%	3.4%	2.8%	9.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	223	349	515	593	745	971	1 200	4.6%	4.0%	1.4%	2.3%	2.7%	2.1%
Coal	5	11	11	19	2	6	16	8.8%	0.3%	5.1%	-18.3%	10.1%	9.3%
of which CCS	0	0	0	0	0	3	15	n.s.	n.s.	n.s.	n.s.	n.s.	16.0%
Oil	5	15	16	2	0	0	0	11.9%	0.6%	-17.2%	n.s.	n.s.	n.s.
Gas	0	4	36	25	13	20	33	28.7%	24.5%	-3.8%	-6.1%	4.5%	5.0%
of which CCS	0	0	0	0	0	2	11	n.s.	n.s.	n.s.	n.s.	n.s.	17.5%
Biomass & Waste	4	8	31	27	36	48	118	7.4%	14.9%	-1.6%	3.0%	3.0%	9.3%
of which CCS	0	0	0	0	0	7	63	n.s.	n.s.	n.s.	n.s.	n.s.	24.9%
Nuclear	2	6	15	17	27	87	97	10.5%	9.2%	1.8%	4.7%	12.2%	1.2%
Hydro	207	304	403	431	467	413	420	3.9%	2.9%	0.7%	0.8%	-1.2%	0.1%
Wind	0	0	2	68	164	281	366	n.s.	n.s.	41.1%	92.0%	5.5%	2.7%
Solar	0	0	0	3	35	114	145	n.s.	n.s.	n.s.	26.0%	12.5%	2.4%
Other	0	0	0	0	0	1	4	n.s.	n.s.	25.7%	25.1%	16.9%	13.3%
Generation Capacity (GW_e)	54	74	112	199	280	382	429	3.3%	4.2%	5.9%	3.5%	3.2%	1.2%
Coal	1	2	2	5	5	5	3	2.7%	-2.0%	12.5%	0.3%	0.1%	-5.9%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	18.4%
Oil	4	6	8	21	23	23	19	3.5%	2.9%	9.8%	1.1%	0.0%	-1.6%
Gas	0	1	11	17	22	25	18	12.0%	23.2%	3.9%	2.9%	1.4%	-3.5%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	21.8%
Biomass & Waste	1	2	8	20	28	41	54	5.1%	16.0%	9.7%	3.6%	3.9%	2.8%
of which CCS	0	0	0	0	0	1	10	n.s.	n.s.	n.s.	n.s.	n.s.	26.5%
Nuclear	1	2	2	2	4	12	13	11.8%	0.0%	2.2%	4.6%	11.9%	0.9%
Hydro	46	61	81	106	114	101	103	3.0%	2.8%	2.8%	0.8%	-1.2%	0.2%
Wind	0	0	1	27	61	99	122	n.s.	46.8%	40.1%	8.5%	5.0%	2.1%
Solar	0	0	0	2	22	75	96	n.s.	n.s.	n.s.	26.5%	12.8%	2.5%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.4%	16.3%	12.7%
Total Final Consumption² (Mtoe)	113	156	215	230	254	276	281	3.3%	3.2%	0.7%	1.0%	0.8%	0.2%
Coal	6	9	11	12	9	6	3	3.9%	2.4%	0.8%	-2.9%	-4.5%	-5.3%
Oil	53	80	94	102	100	88	65	4.2%	1.6%	0.8%	-0.1%	-1.3%	-3.0%
Gas	2	5	13	13	18	22	21	7.2%	10.0%	0.6%	3.3%	1.9%	-0.6%
Electricity	18	28	38	42	53	70	85	4.3%	3.1%	1.2%	2.3%	2.7%	2.0%
Heat	0	0	0	2	3	3	4	n.s.	28.4%	16.3%	5.5%	2.0%	1.2%
Biomass & Other	34	35	60	59	70	87	103	0.4%	5.4%	-0.1%	1.8%	2.2%	1.7%
Share of Renewables ³ (%)	48%	41%	46%	47%	57%	67%	78%	-1.5%	1.1%	0.2%	1.9%	1.6%	1.6%
Industry (incl. non-energy use)	52	73	100	101	116	134	147	3.5%	3.3%	0.1%	1.4%	1.4%	0.9%
Coal	6	9	11	12	9	6	3	3.9%	2.4%	0.8%	-2.9%	-4.5%	-5.3%
Oil	17	27	27	27	29	27	22	4.6%	0.3%	-0.2%	0.8%	-0.9%	-2.0%
Gas	2	4	10	11	16	18	15	7.0%	8.8%	1.1%	3.3%	1.5%	-1.7%
Electricity	10	13	17	17	22	28	33	2.7%	3.3%	-0.3%	2.7%	2.4%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	17	20	34	34	41	55	73	2.0%	5.3%	-0.1%	1.8%	3.1%	2.9%
Buildings	23	29	34	36	39	46	52	2.3%	1.8%	0.4%	0.9%	1.5%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	8	7	5	3	2	1	2.2%	-0.9%	-2.6%	-5.2%	-7.0%	-6.2%
Gas	0	0	0	1	1	1	1	1.9%	7.3%	2.6%	6.5%	1.5%	-1.2%
Electricity	8	14	19	23	27	34	41	5.9%	3.0%	2.0%	1.7%	2.3%	1.8%
Heat	0	0	0	2	3	3	4	n.s.	28.4%	16.3%	5.5%	2.0%	1.2%
Biomass & Other	9	7	8	6	5	6	6	-2.1%	1.1%	-3.5%	-0.3%	0.4%	0.5%
Agriculture	6	7	10	11	11	12	13	2.0%	3.1%	0.8%	0.7%	0.6%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	5	6	6	5	3	2	3.5%	2.5%	0.0%	-1.5%	-4.3%	-4.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	1	1	2	2	3	4	4	6.8%	3.2%	4.9%	1.8%	2.1%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	2	2	3	2	4	5	7	-2.8%	4.4%	-0.4%	3.7%	4.3%	2.0%
Transport	33	47	70	82	87	84	69	3.7%	4.0%	1.5%	0.6%	-0.3%	-2.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	27	41	54	64	63	56	40	4.5%	2.7%	1.7%	-0.1%	-1.1%	-3.4%
Gas	0	0	2	1	2	3	5	n.s.	21.9%	-3.2%	1.8%	5.4%	5.1%
Electricity	0	0	0	0	1	4	8	0.5%	2.9%	3.0%	20.6%	12.8%	6.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	6	15	17	21	21	17	-0.3%	9.3%	1.3%	2.3%	0.0%	-1.9%
Other Energy Transformation & Losses⁴	20	24	44	51	63	73	74	1.9%	6.4%	1.5%	2.1%	1.4%	0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Canada	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	28	31	34	38	40	42	44	1.0%	1.1%	1.0%	0.7%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	27	33	35	38	43	50	58	1.9%	0.8%	0.9%	1.2%	1.4%	1.5%
GDP per capita (mer, k\$'05)	28	33	36	40	45	52	60	1.8%	0.8%	1.0%	1.2%	1.4%	1.5%
Share Value Added - Agriculture (%)	2	2	1	2	2	2	2	-1.7%	-0.7%	2.0%	-0.4%	-0.4%	-0.3%
Share Value Added - Industry (%)	34	32	29	28	26	23	19	-0.8%	-1.1%	-0.2%	-0.9%	-1.2%	-1.6%
Share Value Added - Services (%)	64	67	70	70	73	76	79	0.5%	0.5%	0.0%	0.4%	0.4%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	14	14	16	-4.2%	5.6%	0.4%	0.1%	0.2%	1.1%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	511	661	760	767	488	335	121	2.6%	1.4%	0.1%	-4.4%	-3.7%	-9.7%
Total GHG (excl. sinks)	606	728	760	772	596	462	264	1.8%	0.4%	0.2%	-2.6%	-2.5%	-5.4%
Total GHG (energy, industry, agriculture)	587	716	701	700	548	371	236	2.0%	-0.2%	0.0%	-2.4%	-3.8%	-4.4%
CO ₂	446	551	543	559	437	284	163	2.1%	-0.1%	0.3%	-2.4%	-4.2%	-5.4%
CH ₄	72	95	89	75	56	38	28	2.8%	-0.7%	-1.7%	-2.9%	-3.9%	-3.0%
N ₂ O	59	60	60	58	52	48	45	0.2%	0.1%	-0.4%	-1.1%	-0.8%	-0.8%
F gases	11	10	9	9	3	1	1	-0.4%	-1.2%	-0.6%	-9.5%	-8.4%	-8.5%
Total GHG from Energy and Industry	541	660	646	646	498	320	185	2.0%	-0.2%	0.0%	-2.6%	-4.3%	-5.3%
CO₂ Emissions from Fuel Comb.	420	517	514	527	412	265	148	2.1%	-0.1%	0.3%	-2.4%	-4.3%	-5.6%
Power generation/District heating	97	134	109	61	19	1	-21	3.3%	-2.1%	-5.5%	-11.2%	-26.7%	n.s.
Industry	76	82	63	75	58	36	17	0.8%	-2.6%	1.7%	-2.6%	-4.8%	-7.0%
Buildings	74	85	72	76	65	44	28	1.5%	-1.7%	0.6%	-1.6%	-3.8%	-4.3%
Agriculture	8	10	15	17	14	10	6	3.1%	3.6%	1.4%	-1.5%	-4.0%	-4.0%
Transport	115	136	158	162	141	112	79	1.7%	1.5%	0.3%	-1.4%	-2.3%	-3.4%
Other	51	69	98	135	115	63	39	3.1%	3.6%	3.3%	-1.6%	-5.9%	-4.7%
CO₂ captured (CCS)	0	0	0	0	3	6	44	n.s.	n.s.	n.s.	41.8%	8.8%	22.0%
Coal	0	0	0	0	2	3	6	n.s.	n.s.	n.s.	42.6%	5.9%	9.0%
Gas	0	0	0	0	1	1	3	n.s.	n.s.	n.s.	n.s.	0.4%	12.2%
Biomass	0	0	0	0	0	2	34	n.s.	n.s.	n.s.	5.6%	48.6%	31.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	276	382	398	595	630	519	470	3.3%	0.4%	4.1%	0.6%	-1.9%	-1.0%
Coal	37	37	34	23	44	33	30	0.2%	-0.8%	-4.1%	7.0%	-3.0%	-0.8%
Oil	96	133	162	266	255	141	80	3.3%	2.0%	5.1%	-0.4%	-5.8%	-5.4%
Natural gas	90	150	132	208	178	147	133	5.2%	-1.3%	4.7%	-1.6%	-1.9%	-1.0%
Biomass	8	12	14	31	59	66	88	3.8%	2.0%	8.1%	6.5%	1.2%	2.9%
Nuclear ¹	19	19	24	28	49	80	74	0.0%	2.2%	1.4%	5.8%	5.1%	-0.8%
Hydro	26	31	30	34	35	36	38	1.9%	-0.2%	1.1%	0.4%	0.3%	0.4%
Other renewables	0	0	1	5	10	16	27	n.s.	42.2%	20.4%	7.2%	4.8%	5.2%
Net Imports	-64	-130	-145	-329	-359	-266	-231						
Coal	-12	-6	-12	-9	-38	-32	-29						
Oil	-16	-46	-78	-191	-195	-101	-61						
Natural gas	-36	-76	-53	-112	-102	-100	-98						
Biomass	0	0	0	-12	-18	-26	-36						
Biofuels	0	0	0	0	-1	-2	-2						
Electricity	0	-3	-2	-5	-5	-5	-5						
Primary Energy Demand²	212	252	253	266	271	253	239	1.7%	0.0%	0.5%	0.2%	-0.7%	-0.6%
Coal	24	31	22	14	7	1	2	2.5%	-3.4%	-4.6%	-7.3%	-18.4%	5.9%
Oil	80	87	85	75	60	39	19	0.8%	-0.3%	-1.1%	-2.2%	-4.2%	-6.9%
Natural gas	55	74	79	96	76	47	34	3.1%	0.6%	2.0%	-2.3%	-4.7%	-3.1%
Biomass	8	12	14	19	40	41	52	3.7%	1.9%	3.1%	7.7%	0.1%	2.5%
Nuclear ¹	19	19	24	28	49	80	74	0.0%	2.2%	1.4%	5.8%	5.1%	-0.8%
Hydro	26	31	30	34	35	36	38	1.9%	-0.2%	1.1%	0.4%	0.3%	0.4%
Other renewables	0	0	1	5	10	16	27	n.s.	42.2%	20.4%	7.2%	4.8%	5.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	212	252	253	266	271	253	239	1.7%	0.0%	0.5%	0.2%	-0.7%	-0.6%
Energy for Power Generation	72	89	89	88	107	133	146	2.2%	0.0%	-0.1%	1.9%	2.2%	0.9%
Other Energy Transformation & Losses	20	19	17	18	20	0	-6	-0.5%	-1.1%	0.7%	0.9%	n.s.	n.s.
Final consumption	157	185	189	204	201	189	179	1.7%	0.2%	0.8%	-0.2%	-0.6%	-0.6%
Steel, Non-Met. Minerals and Chem.	11	12	11	12	9	7	6	0.9%	-1.0%	1.0%	-2.7%	-2.3%	-1.5%
Other Industry	37	44	33	39	39	38	37	1.7%	-2.9%	1.8%	0.0%	-0.4%	-0.1%
Non-Energy Use	15	20	23	25	23	21	19	2.9%	1.7%	0.6%	-0.6%	-1.0%	-1.0%
Residential	29	31	33	35	35	34	33	0.7%	0.7%	0.4%	0.2%	-0.4%	-0.2%
Services	22	27	25	26	30	32	35	2.2%	-0.7%	0.4%	1.2%	0.7%	1.0%
Agriculture	3	4	6	6	7	8	8	2.6%	2.8%	1.5%	0.8%	0.7%	0.7%
Road	33	39	49	51	48	42	33	1.7%	2.2%	0.5%	-0.7%	-1.3%	-2.4%
Rail	2	2	2	2	2	2	2	-0.7%	0.2%	1.0%	-0.2%	-0.5%	-0.9%
Aviation	3	4	4	5	5	5	4	2.4%	-0.7%	2.7%	-0.4%	-0.7%	-0.8%
Other Transport	2	2	3	2	2	2	1	0.1%	6.6%	-3.6%	0.1%	-1.8%	-2.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Canada	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	27	39	34	22	13	0	7	3.9%	-1.3%	-4.5%	-5.3%	-30.0%	35.2%
Coal	20	27	19	9	3	0	1	2.9%	-3.3%	-6.9%	-11.0%	n.s.	n.s.
Oil	4	3	2	0	0	0	0	-1.9%	-4.3%	-28.9%	n.s.	n.s.	n.s.
Gas	2	7	11	10	3	0	1	14.7%	4.4%	-0.9%	-11.3%	-19.4%	6.8%
Biomass & Waste	1	2	2	2	7	0	6	7.8%	0.7%	0.1%	12.3%	n.s.	n.s.
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	482	605	599	651	769	908	1 045	2.3%	-0.1%	0.8%	1.7%	1.7%	1.4%
Coal	82	118	80	35	12	0	5	3.6%	-3.8%	-8.0%	-10.0%	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	16	15	8	0	0	0	0	-1.1%	-6.1%	-28.4%	n.s.	n.s.	n.s.
Gas	10	33	52	51	18	2	4	13.2%	4.4%	-0.1%	-9.8%	-19.3%	7.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Waste	4	8	9	9	30	0	29	7.2%	1.4%	-0.2%	12.7%	n.s.	n.s.
of which CCS	0	0	0	0	0	0	29	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	73	73	91	105	191	320	296	0.0%	2.2%	1.5%	6.2%	5.3%	-0.8%
Hydro	297	359	351	393	410	423	438	1.9%	-0.2%	1.1%	0.4%	0.3%	0.4%
Wind	0	0	9	57	106	157	252	n.s.	41.9%	20.7%	6.4%	3.9%	4.8%
Solar	0	0	0	1	2	5	20	n.s.	27.7%	18.3%	10.4%	12.3%	13.9%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	25.2%	15.8%	13.3%
Generation Capacity (GW_e)	103	111	131	170	207	256	305	0.7%	1.7%	2.6%	2.0%	2.1%	1.8%
Coal	19	18	14	9	5	3	1	-0.8%	-2.3%	-4.5%	-5.7%	-5.7%	-7.9%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	18.0%
Oil	7	8	7	20	20	20	20	0.5%	-0.9%	10.8%	0.3%	0.0%	-0.1%
Gas	4	7	13	17	20	21	20	5.9%	7.0%	2.9%	1.8%	0.3%	-0.3%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	20.9%
Biomass & Waste	1	1	5	4	9	18	35	2.2%	15.1%	-1.5%	8.1%	7.6%	6.9%
of which CCS	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	n.s.	18.4%
Nuclear	13	10	13	14	25	42	38	-2.2%	2.3%	0.7%	6.2%	5.3%	-0.9%
Hydro	59	67	75	81	84	87	90	1.3%	1.1%	0.7%	0.4%	0.3%	0.4%
Wind	0	0	4	24	41	59	84	n.s.	39.9%	19.4%	5.7%	3.7%	3.5%
Solar	0	0	0	2	3	6	16	n.s.	44.3%	21.4%	3.5%	8.0%	10.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.4%	15.3%	12.8%
Total Final Consumption² (Mtoe)	157	185	189	204	201	189	179	1.7%	0.2%	0.8%	-0.2%	-0.6%	-0.6%
Coal	4	5	4	4	3	3	2	0.8%	-1.4%	-0.1%	-1.5%	-2.2%	-1.5%
Oil	69	80	92	94	80	61	43	1.6%	1.4%	0.2%	-1.6%	-2.7%	-3.5%
Gas	40	49	40	49	42	31	23	1.9%	-2.0%	2.1%	-1.5%	-2.9%	-3.1%
Electricity	36	41	41	42	50	60	70	1.4%	0.0%	0.3%	1.8%	1.8%	1.5%
Heat	1	1	0	1	2	3	4	2.5%	-5.9%	5.8%	7.1%	6.7%	3.9%
Biomass & Other	7	10	11	14	23	31	36	3.1%	1.6%	2.5%	4.7%	3.0%	1.6%
Share of Renewables ³ (%)	22%	24%	25%	29%	39%	50%	65%	0.6%	0.4%	1.5%	3.2%	2.5%	2.7%
Industry (incl. non-energy use)	63	76	67	76	72	66	63	1.8%	-1.2%	1.3%	-0.6%	-0.8%	-0.5%
Coal	4	5	4	4	3	3	2	0.9%	-1.4%	-0.1%	-1.5%	-2.2%	-1.5%
Oil	18	22	27	26	22	17	14	2.0%	1.9%	-0.2%	-1.7%	-2.6%	-2.0%
Gas	20	23	16	22	19	15	10	1.5%	-3.9%	3.6%	-1.7%	-2.6%	-3.5%
Electricity	14	17	15	16	17	19	20	1.9%	-1.5%	0.3%	1.1%	0.8%	0.4%
Heat	1	1	0	1	1	1	1	2.5%	-6.6%	4.7%	-0.2%	-0.3%	-0.2%
Biomass & Other	6	8	6	8	10	13	16	3.1%	-3.1%	3.1%	2.2%	2.9%	2.4%
Buildings	50	58	58	61	65	65	68	1.4%	0.1%	0.4%	0.6%	0.1%	0.4%
Coal	0	0	0	0	0	0	0	-3.1%	-1.1%	-9.4%	-7.9%	n.s.	n.s.
Oil	9	9	5	5	5	4	3	0.0%	-5.0%	-0.5%	0.0%	-2.5%	-3.4%
Gas	20	25	24	26	21	14	8	2.3%	-0.5%	0.9%	-2.0%	-4.2%	-4.6%
Electricity	20	23	25	25	30	35	42	1.0%	0.9%	0.2%	1.6%	1.7%	1.8%
Heat	0	0	0	0	1	2	4	4.4%	17.3%	14.0%	21.0%	9.8%	4.8%
Biomass & Other	1	2	5	5	8	11	11	2.1%	9.4%	0.2%	6.1%	2.3%	0.8%
Agriculture	3	4	6	6	7	8	8	2.6%	2.8%	1.5%	0.8%	0.7%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	4	5	4	3	2	3.3%	4.2%	1.1%	-1.5%	-4.2%	-4.2%
Gas	0	1	1	1	1	1	1	1.6%	-0.3%	4.2%	-1.0%	-2.9%	-2.9%
Electricity	1	1	1	1	1	2	3	1.1%	-0.2%	1.0%	4.6%	4.9%	2.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	33.4%	9.5%	3.3%
Transport	40	47	57	61	57	50	40	1.6%	2.0%	0.5%	-0.6%	-1.3%	-2.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	40	47	56	58	49	38	25	1.6%	1.9%	0.3%	-1.7%	-2.6%	-4.1%
Gas	0	0	0	0	2	3	4	3.6%	-2.2%	23.3%	17.9%	5.1%	3.8%
Electricity	0	0	0	0	2	4	6	n.s.	n.s.	n.s.	28.1%	8.1%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	2	4	5	6	n.s.	24.2%	6.2%	6.9%	2.6%	0.3%
Other Energy Transformation & Losses⁴	20	19	17	18	20	0	-6	-0.5%	-1.1%	0.7%	0.9%	n.s.	n.s.

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Chile	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	13	15	17	19	20	21	22	1.4%	1.2%	1.0%	0.7%	0.4%	0.2%
GDP per capita (ppp, k\$'05)	7	11	15	18	22	26	30	4.9%	2.7%	2.2%	2.1%	1.5%	1.3%
GDP per capita (mer, k\$'05)	4	7	9	11	13	15	18	4.9%	2.7%	2.2%	2.1%	1.5%	1.3%
Share Value Added - Agriculture (%)	9	6	3	4	4	3	3	-3.8%	-5.2%	0.9%	-0.5%	-0.3%	-0.2%
Share Value Added - Industry (%)	41	32	40	32	31	30	29	-2.5%	2.1%	-2.0%	-0.4%	-0.4%	-0.4%
Share Value Added - Services (%)	50	62	57	64	65	66	68	2.2%	-0.8%	1.1%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	16	17	19	-4.2%	5.6%	0.8%	0.9%	0.9%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	55	66	96	109	57	18	-17	1.9%	3.7%	1.3%	-6.2%	-10.8%	n.s.
Total GHG (excl. sinks)	55	79	111	125	115	88	64	3.7%	3.5%	1.1%	-0.8%	-2.6%	-3.2%
Total GHG (energy, industry, agriculture)	50	79	103	125	115	88	64	4.7%	2.7%	1.9%	-0.8%	-2.6%	-3.2%
CO ₂	33	55	77	95	92	68	47	5.2%	3.4%	2.2%	-0.4%	-2.9%	-3.8%
CH ₄	12	17	18	20	16	13	11	3.6%	0.6%	1.0%	-2.2%	-2.0%	-1.7%
N ₂ O	5	7	8	9	8	7	7	3.0%	1.8%	1.5%	-2.0%	-0.8%	-0.7%
F gases	0	0	0	0	0	0	0	-8.4%	1.9%	-6.1%	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	40	67	89	108	102	76	53	5.2%	2.9%	2.0%	-0.6%	-2.8%	-3.6%
CO₂ Emissions from Fuel Comb.	30	50	71	87	83	59	38	5.3%	3.5%	2.1%	-0.5%	-3.3%	-4.2%
Power generation/District heating	8	14	25	36	31	15	9	5.2%	6.4%	3.5%	-1.4%	-6.8%	-5.2%
Industry	7	11	14	16	15	12	6	4.9%	2.3%	1.6%	-0.6%	-2.6%	-7.4%
Buildings	3	5	6	5	4	3	2	3.7%	1.7%	-0.6%	-2.3%	-2.9%	-4.1%
Agriculture	0	1	1	1	1	0	0	3.7%	4.6%	-1.7%	-1.1%	-4.2%	-4.3%
Transport	9	17	19	24	25	23	19	6.7%	0.9%	2.4%	0.5%	-1.0%	-1.9%
Other	2	3	6	6	6	6	3	2.7%	8.3%	-0.9%	1.4%	-1.0%	-6.4%
CO₂ captured (CCS)	0	0	0	0	0	3	13	n.s.	n.s.	n.s.	n.s.	31.7%	14.9%
Coal	0	0	0	0	0	3	9	n.s.	n.s.	n.s.	n.s.	33.6%	13.0%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	23.4%	16.7%
Biomass	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	26.6%	22.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	7	8	9	14	21	28	36	1.1%	0.8%	4.4%	4.3%	3.1%	2.5%
Coal	1	0	0	2	2	1	1	-15.4%	0.5%	23.1%	-1.1%	-4.4%	1.3%
Oil	1	0	1	0	1	1	1	-9.3%	4.2%	-5.0%	3.9%	3.3%	2.2%
Natural gas	1	2	2	1	4	6	8	1.2%	-0.3%	-0.2%	8.9%	4.8%	3.5%
Biomass	3	4	5	7	11	14	17	4.6%	0.5%	4.4%	4.6%	2.5%	1.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.4%	15.6%
Hydro	1	2	2	2	2	3	3	7.6%	1.6%	0.8%	1.7%	1.5%	0.9%
Other renewables	0	0	0	1	1	4	6	n.s.	n.s.	37.3%	7.5%	9.9%	4.8%
Net Imports	6	17	22	25	23	15	8						
Coal	1	3	4	5	4	1	2						
Oil	5	10	14	17	15	11	9						
Natural gas	0	4	3	2	3	2	-3						
Biomass	0	0	0	0	1	1	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	14	25	31	38	44	44	44	6.1%	2.1%	2.3%	1.4%	-0.1%	0.0%
Coal	2	3	4	7	6	3	3	2.3%	3.8%	5.0%	-2.4%	-7.6%	1.1%
Oil	6	10	15	17	16	12	10	4.9%	3.7%	1.4%	-1.0%	-2.5%	-2.3%
Natural gas	1	5	4	4	6	7	5	15.9%	-1.5%	-1.9%	5.8%	1.4%	-3.4%
Biomass	3	4	5	8	13	15	17	4.6%	0.5%	5.1%	5.1%	2.0%	1.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.4%	15.6%
Hydro	1	2	2	2	2	3	3	7.6%	1.6%	0.8%	1.7%	1.5%	0.9%
Other renewables	0	0	0	1	1	4	6	n.s.	n.s.	37.3%	7.5%	9.9%	4.8%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	14	25	31	38	44	44	44	6.1%	2.1%	2.3%	1.4%	-0.1%	0.0%
Energy for Power Generation	3	6	10	15	18	18	20	7.2%	4.7%	4.3%	2.1%	0.2%	1.0%
Other Energy Transformation & Losses	1	1	2	1	3	3	3	5.9%	2.3%	-1.2%	5.4%	2.3%	1.0%
Final consumption	11	21	24	29	32	33	33	6.2%	1.5%	1.8%	1.1%	0.2%	0.1%
Steel, Non-Met. Minerals and Chem.	0	1	1	1	1	1	1	4.1%	-0.3%	5.4%	-0.4%	-1.3%	-1.7%
Other Industry	3	6	8	11	13	13	15	7.1%	2.8%	2.7%	1.8%	0.6%	0.9%
Non-Energy Use	1	2	1	1	1	1	1	10.1%	-8.2%	-3.8%	0.2%	0.1%	-0.7%
Residential	3	5	5	5	5	5	5	4.5%	0.9%	-0.2%	-0.2%	-0.2%	-0.3%
Services	0	1	1	2	2	2	2	2.7%	8.2%	1.3%	1.5%	0.9%	0.8%
Agriculture	0	0	0	0	0	0	0	4.3%	4.2%	-1.3%	1.2%	0.8%	0.6%
Road	3	5	6	8	9	9	9	6.8%	2.2%	2.6%	1.2%	0.0%	-0.6%
Rail	0	0	0	0	0	0	0	0.2%	8.1%	1.3%	1.0%	0.5%	0.1%
Aviation	0	0	0	0	0	0	0	7.4%	4.8%	1.6%	0.3%	-0.7%	-1.1%
Other Transport	0	0	0	0	1	0	0	2.0%	2.2%	0.8%	2.0%	-1.1%	-2.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Chile	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2	5	8	12	14	12	11	7.1%	5.6%	4.4%	1.8%	-1.7%	-0.5%
Coal	2	2	4	7	5	2	3	2.4%	6.5%	5.4%	-2.7%	-8.2%	2.9%
Oil	0	0	2	2	1	1	1	-0.4%	14.4%	0.6%	-2.3%	-6.0%	3.1%
Gas	0	2	2	1	3	3	1	38.7%	0.6%	-2.5%	6.6%	0.4%	-6.4%
Biomass & Waste	0	0	0	2	5	6	6	13.5%	1.0%	19.2%	9.3%	2.2%	-0.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	18	40	60	83	105	124	148	8.5%	4.2%	3.2%	2.4%	1.7%	1.8%
Coal	7	8	17	30	23	11	14	2.6%	7.1%	5.8%	-2.5%	-7.5%	3.1%
of which CCS	0	0	0	0	0	2	11	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Oil	2	2	8	8	7	4	5	-0.4%	17.4%	-0.3%	-2.3%	-6.0%	3.2%
Gas	0	10	11	7	14	14	8	49.4%	0.2%	-3.7%	6.5%	0.5%	-6.1%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	18.4%
Biomass & Waste	0	1	2	8	21	26	26	13.4%	9.1%	12.9%	10.6%	2.5%	-0.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	9	19	22	23	28	32	35	7.6%	1.6%	0.8%	1.7%	1.5%	0.9%
Wind	0	0	0	5	10	20	27	n.s.	n.s.	31.1%	7.4%	7.2%	2.9%
Solar	0	0	0	2	3	16	32	n.s.	n.s.	n.s.	6.5%	18.3%	7.2%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	27.1%	18.4%	12.9%
Generation Capacity (GW_e)	5	10	16	26	34	49	57	8.0%	4.9%	4.8%	2.7%	3.7%	1.5%
Coal	1	2	2	5	5	5	2	6.5%	0.9%	7.0%	0.7%	0.0%	-7.2%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	16.8%
Oil	1	1	3	4	4	4	3	-0.9%	13.9%	1.4%	0.5%	0.0%	-2.5%
Gas	0	3	4	3	4	3	2	43.0%	4.8%	-2.5%	0.7%	-0.9%	-7.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	19.4%
Biomass & Waste	0	0	1	2	3	5	6	4.3%	12.3%	7.7%	4.6%	3.4%	1.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	2	4	5	7	8	9	10	5.8%	2.8%	2.1%	1.7%	1.5%	0.9%
Wind	0	0	0	3	6	10	12	n.s.	n.s.	33.0%	7.0%	6.0%	1.8%
Solar	0	0	0	3	5	13	22	n.s.	n.s.	n.s.	5.3%	10.8%	5.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.8%	12.4%
Total Final Consumption² (Mtoe)	11	21	24	29	32	33	33	6.2%	1.5%	1.8%	1.1%	0.2%	0.1%
Coal	1	1	0	1	1	1	0	1.0%	-5.6%	8.8%	0.6%	-2.6%	-6.9%
Oil	5	9	12	14	13	10	8	5.3%	2.8%	1.6%	-0.8%	-2.2%	-2.9%
Gas	1	3	2	2	3	3	3	13.4%	-3.3%	-3.3%	4.9%	2.2%	-1.4%
Electricity	1	3	5	6	8	9	11	9.0%	4.1%	2.8%	2.4%	1.6%	1.8%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	8.9%	6.1%	3.5%
Biomass & Other	3	4	4	5	7	8	10	4.1%	0.4%	2.3%	2.5%	1.6%	2.1%
Share of Renewables ³ (%)	33%	31%	26%	30%	39%	54%	69%	-0.7%	-1.4%	1.2%	2.9%	3.3%	2.4%
Industry (incl. non-energy use)	4	9	10	12	14	15	16	7.5%	0.6%	2.4%	1.5%	0.5%	0.6%
Coal	1	1	0	1	1	1	0	1.7%	-5.5%	8.9%	0.6%	-2.6%	-6.9%
Oil	2	2	3	4	3	2	1	3.5%	4.6%	1.2%	-2.1%	-4.1%	-5.3%
Gas	1	3	2	1	1	2	2	14.9%	-4.8%	-6.2%	3.9%	2.8%	-1.7%
Electricity	1	2	3	4	5	6	7	9.7%	3.4%	3.3%	2.4%	1.4%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.2%	-0.3%	-0.2%
Biomass & Other	1	1	1	2	3	4	6	5.3%	-0.3%	8.2%	3.7%	2.0%	3.1%
Buildings	4	5	7	7	7	7	7	4.3%	2.0%	0.1%	0.2%	0.1%	0.0%
Coal	0	0	0	0	0	0	0	-15.5%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	1	0	0	3.6%	1.1%	-1.3%	-4.3%	-5.2%	-5.3%
Gas	0	0	1	1	1	1	1	5.4%	4.5%	1.4%	1.9%	-0.3%	-3.1%
Electricity	0	1	2	2	2	2	3	7.8%	5.6%	1.9%	0.9%	0.6%	1.1%
Heat	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	9.0%	6.1%	3.5%
Biomass & Other	2	3	3	3	3	3	3	3.7%	0.7%	-0.9%	0.4%	0.2%	-0.3%
Agriculture	0	0	0	0	0	0	0	4.3%	4.2%	-1.3%	1.2%	0.8%	0.6%
Coal	0	0	0	0	0	0	0	-13.4%	-8.8%	-4.6%	-3.4%	n.s.	n.s.
Oil	0	0	0	0	0	0	0	8.3%	5.0%	-1.6%	-1.0%	-4.1%	-4.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	5.7%	-6.8%	7.5%	7.6%	6.5%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	10.4%	3.5%
Transport	3	6	7	9	10	10	10	6.4%	2.3%	2.5%	1.2%	-0.1%	-0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	6	7	9	9	8	6	6.4%	2.3%	2.3%	0.1%	-1.3%	-2.2%
Gas	0	0	0	0	1	1	1	3.5%	8.5%	21.5%	17.0%	3.6%	0.4%
Electricity	0	0	0	0	0	1	1	0.4%	7.0%	3.7%	22.2%	7.6%	4.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.4%	6.8%	4.7%
Other Energy Transformation & Losses⁴	1	1	2	1	3	3	3	5.9%	2.3%	-1.2%	5.4%	2.3%	1.0%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Mexico	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	86	103	119	135	148	158	164	1.8%	1.4%	1.3%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	10	12	12	14	18	23	29	1.7%	0.3%	1.4%	2.2%	2.5%	2.4%
GDP per capita (mer, k\$'05)	7	8	8	9	11	15	18	1.7%	0.3%	1.3%	2.2%	2.5%	2.4%
Share Value Added - Agriculture (%)	8	4	3	4	3	3	3	-7.7%	-0.2%	0.4%	-0.9%	-0.8%	-0.6%
Share Value Added - Industry (%)	28	35	35	32	32	30	28	2.1%	0.1%	-0.8%	-0.3%	-0.5%	-0.6%
Share Value Added - Services (%)	64	62	61	64	65	67	69	-0.3%	0.0%	0.4%	0.2%	0.3%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	12	13	14	16	-4.2%	5.6%	-0.6%	0.4%	1.1%	1.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	485	589	718	738	602	470	300	2.0%	2.0%	0.3%	-2.0%	-2.4%	-4.4%
Total GHG (excl. sinks)	498	613	731	738	703	594	466	2.1%	1.8%	0.1%	-0.5%	-1.7%	-2.4%
Total GHG (energy, industry, agriculture)	445	561	694	726	703	552	359	2.3%	2.2%	0.4%	-0.3%	-2.4%	-4.2%
CO ₂	284	381	452	507	519	405	247	3.0%	1.7%	1.2%	0.2%	-2.4%	-4.8%
CH ₄	103	118	166	136	106	75	56	1.3%	3.4%	-2.0%	-2.5%	-3.3%	-2.9%
N ₂ O	56	58	69	72	68	64	55	0.3%	1.7%	0.4%	-0.6%	-0.5%	-1.6%
F gases	1	3	8	12	11	7	1	7.9%	10.1%	3.6%	-0.3%	-5.3%	-16.6%
Total GHG from Energy and Industry	352	474	602	626	615	468	287	3.0%	2.4%	0.4%	-0.2%	-2.7%	-4.8%
CO₂ Emissions from Fuel Comb.	262	346	412	460	468	353	198	2.8%	1.8%	1.1%	0.2%	-2.8%	-5.6%
Power generation/District heating	63	112	122	157	175	101	-7	5.9%	0.9%	2.5%	1.0%	-5.3%	n.s.
Industry	55	52	47	60	54	40	27	-0.6%	-1.0%	2.5%	-1.0%	-2.9%	-4.0%
Buildings	24	31	28	26	24	16	10	2.5%	-1.1%	-0.5%	-1.1%	-4.1%	-4.4%
Agriculture	5	7	9	9	8	6	4	2.6%	2.6%	0.7%	-1.2%	-3.8%	-3.9%
Transport	83	104	148	142	137	132	117	2.3%	3.6%	-0.4%	-0.4%	-0.4%	-1.2%
Other	31	39	57	63	69	59	48	2.5%	3.9%	1.1%	0.9%	-1.7%	-2.0%
CO₂ captured (CCS)	0	0	0	0	2	36	151	n.s.	n.s.	n.s.	50.7%	32.2%	15.5%
Coal	0	0	0	0	2	9	28	n.s.	n.s.	n.s.	47.4%	19.7%	11.7%
Gas	0	0	0	0	1	11	50	n.s.	n.s.	n.s.	n.s.	32.6%	16.3%
Biomass	0	0	0	0	0	16	74	n.s.	n.s.	n.s.	24.0%	n.s.	16.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	196	230	221	186	188	196	211	1.6%	-0.4%	-1.7%	0.1%	0.4%	0.7%
Coal	3	5	6	6	7	6	6	6.8%	1.7%	-0.1%	0.7%	-1.4%	-0.4%
Oil	155	174	148	115	91	49	32	1.1%	-1.5%	-2.5%	-2.3%	-6.0%	-4.2%
Natural gas	23	32	48	43	41	36	31	3.4%	4.2%	-0.9%	-0.6%	-1.3%	-1.4%
Biomass	9	9	8	8	16	34	49	0.4%	-0.7%	-0.7%	7.5%	7.9%	3.5%
Nuclear ¹	1	2	2	3	9	31	42	10.8%	-3.3%	6.9%	11.8%	12.7%	3.1%
Hydro	2	3	3	3	3	3	3	3.5%	1.1%	-1.1%	0.3%	0.2%	-0.1%
Other renewables	4	5	6	8	22	38	49	1.5%	1.5%	2.6%	11.0%	5.8%	2.6%
Net Imports	-81	-84	-45	12	45	66	82						
Coal	1	2	3	5	6	5	4						
Oil	-82	-83	-54	-22	-5	22	30						
Natural gas	1	-3	6	28	43	38	39						
Biomass	0	0	0	1	2	2	9						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	115	145	176	198	233	263	293	2.4%	2.0%	1.2%	1.6%	1.2%	1.1%
Coal	4	7	9	11	13	10	10	6.6%	3.3%	2.0%	0.9%	-2.0%	-0.8%
Oil	72	90	95	93	86	70	62	2.2%	0.5%	-0.2%	-0.8%	-1.9%	-1.3%
Natural gas	23	29	53	71	84	74	70	2.3%	6.3%	3.0%	1.6%	-1.2%	-0.5%
Biomass	9	9	8	9	18	37	57	0.4%	-0.7%	0.6%	7.2%	7.5%	4.6%
Nuclear ¹	1	2	2	3	9	31	42	10.8%	-3.3%	6.9%	11.8%	12.7%	3.1%
Hydro	2	3	3	3	3	3	3	3.5%	1.1%	-1.1%	0.3%	0.2%	-0.1%
Other renewables	4	5	6	8	22	38	49	1.5%	1.5%	2.6%	11.0%	5.8%	2.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	115	145	176	198	233	263	293	2.4%	2.0%	1.2%	1.6%	1.2%	1.1%
Energy for Power Generation	28	48	56	73	102	133	165	5.5%	1.5%	2.7%	3.4%	2.7%	2.2%
Other Energy Transformation & Losses	11	13	25	29	36	38	41	1.2%	7.0%	1.6%	2.0%	0.6%	0.9%
Final consumption	84	99	114	122	136	149	163	1.6%	1.4%	0.7%	1.1%	1.0%	0.9%
Steel, Non-Met. Minerals and Chem.	15	14	12	13	12	12	13	-0.5%	-1.6%	0.6%	-0.3%	-0.1%	0.4%
Other Industry	12	14	16	25	30	36	43	2.1%	1.0%	4.6%	2.0%	1.8%	1.8%
Non-Energy Use	9	10	8	6	7	8	8	0.8%	-1.9%	-2.4%	1.0%	1.0%	0.5%
Residential	16	18	18	17	18	19	19	1.4%	-0.1%	-0.5%	0.8%	0.1%	0.3%
Services	2	3	5	6	9	11	14	4.7%	3.1%	3.2%	3.3%	2.2%	2.3%
Agriculture	2	3	4	4	5	5	6	2.4%	2.2%	1.2%	1.4%	1.3%	1.1%
Road	27	34	50	49	53	57	59	2.3%	4.0%	-0.3%	0.7%	0.8%	0.3%
Rail	1	1	1	1	1	1	1	-1.0%	0.5%	1.0%	1.2%	1.4%	1.3%
Aviation	0	0	0	0	0	0	0	n.s.	1.1%	-8.4%	2.7%	2.3%	1.6%
Other Transport	0	1	1	1	1	1	1	11.4%	-5.6%	0.0%	1.3%	-0.6%	-1.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Mexico	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	21	38	45	59	68	61	72	6.1%	1.8%	2.8%	1.4%	-1.1%	1.6%
Coal	2	5	8	8	9	7	7	10.0%	5.3%	0.6%	1.0%	-2.9%	-0.3%
Oil	15	23	10	12	13	7	7	4.3%	-7.9%	2.1%	0.2%	-6.3%	0.5%
Gas	3	9	25	36	42	34	30	9.7%	11.3%	3.7%	1.4%	-2.1%	-1.1%
Biomass & Waste	0	1	1	2	3	12	26	n.s.	4.1%	3.6%	6.6%	14.5%	8.1%
Other	0	1	1	1	1	2	2	1.4%	1.2%	-1.1%	9.6%	3.2%	0.9%
Gross Elec. Generation (TWh_e)	116	204	271	365	522	692	896	5.8%	2.9%	3.0%	3.6%	2.8%	2.6%
Coal	8	19	33	35	40	31	34	9.6%	5.3%	0.7%	1.3%	-2.4%	0.8%
of which CCS	0	0	0	0	0	4	27	n.s.	n.s.	n.s.	n.s.	n.s.	20.7%
Oil	62	94	44	53	55	29	30	4.3%	-7.4%	1.9%	0.3%	-6.1%	0.4%
Gas	14	41	141	196	238	192	182	11.1%	13.0%	3.4%	1.9%	-2.1%	-0.5%
of which CCS	0	0	0	0	0	26	122	n.s.	n.s.	n.s.	n.s.	n.s.	16.9%
Biomass & Waste	0	2	3	3	12	55	127	n.s.	4.9%	-0.6%	16.8%	16.4%	8.7%
of which CCS	0	0	0	0	0	18	77	n.s.	n.s.	n.s.	n.s.	n.s.	15.7%
Nuclear	3	8	6	12	37	125	170	10.8%	-3.3%	7.0%	12.3%	13.0%	3.1%
Hydro	23	33	37	33	35	35	35	3.5%	1.1%	-1.1%	0.3%	0.2%	-0.1%
Wind	0	0	1	26	80	152	183	34.2%	51.9%	35.7%	11.8%	6.5%	1.9%
Solar	0	0	0	1	12	52	112	19.9%	8.0%	37.8%	23.9%	16.1%	7.9%
Other	5	6	7	6	15	21	25	1.4%	1.2%	-1.1%	9.7%	3.4%	1.6%
Generation Capacity (GW_e)	27	42	62	78	118	182	216	4.6%	3.9%	2.3%	4.2%	4.4%	1.8%
Coal	1	5	6	6	6	5	4	15.6%	1.7%	0.1%	-0.1%	-2.4%	-1.1%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	20.2%
Oil	12	16	14	11	11	7	7	2.9%	-1.4%	-1.8%	-0.5%	-4.3%	-0.7%
Gas	5	9	28	34	42	45	27	7.1%	11.7%	2.2%	2.0%	0.7%	-4.8%
of which CCS	0	0	0	0	0	3	16	n.s.	n.s.	n.s.	n.s.	n.s.	17.5%
Biomass & Waste	0	0	0	0	2	7	16	n.s.	1.2%	-1.0%	14.7%	16.5%	8.1%
of which CCS	0	0	0	0	0	2	10	n.s.	n.s.	n.s.	n.s.	n.s.	15.1%
Nuclear	1	1	1	1	5	15	21	7.7%	0.0%	0.4%	12.2%	13.0%	3.1%
Hydro	8	10	12	12	13	13	13	2.1%	1.8%	0.5%	0.4%	0.2%	-0.1%
Wind	0	0	1	10	28	51	59	n.s.	n.s.	34.3%	11.1%	6.0%	1.5%
Solar	0	0	0	1	10	36	66	19.9%	8.0%	47.5%	21.3%	13.6%	6.3%
Other	1	1	1	1	2	3	3	2.0%	1.2%	-1.5%	10.1%	2.8%	1.8%
Total Final Consumption² (Mtoe)	84	99	114	122	136	149	163	1.6%	1.4%	0.7%	1.1%	1.0%	0.9%
Coal	2	2	2	4	3	2	2	1.2%	-0.1%	6.1%	-0.4%	-3.6%	-3.7%
Oil	51	62	74	70	63	55	46	1.9%	1.8%	-0.6%	-1.0%	-1.4%	-1.6%
Gas	14	13	13	16	19	20	19	-0.9%	-0.2%	2.5%	1.8%	0.2%	-0.7%
Electricity	9	14	18	25	36	48	63	4.9%	2.5%	3.6%	3.7%	2.9%	2.7%
Heat	0	0	0	0	1	3	5	9.6%	10.4%	4.2%	18.2%	12.1%	4.9%
Biomass & Other	9	8	7	7	13	21	29	-0.4%	-1.2%	-0.5%	6.3%	5.2%	3.2%
Share of Renewables ³ (%)	14%	12%	10%	10%	20%	37%	50%	-1.3%	-2.0%	0.3%	7.0%	6.1%	3.0%
Industry (incl. non-energy use)	36	38	36	44	49	56	64	0.7%	-0.6%	2.0%	1.2%	1.2%	1.3%
Coal	2	2	2	4	3	2	2	1.2%	-0.1%	6.1%	-0.4%	-3.6%	-3.7%
Oil	14	14	11	11	10	9	8	0.1%	-2.2%	-0.5%	-0.6%	-1.3%	-0.8%
Gas	13	12	12	14	13	11	10	-0.9%	-0.4%	1.5%	-0.6%	-1.2%	-1.5%
Electricity	5	9	10	14	19	24	30	6.4%	1.5%	3.7%	2.8%	2.4%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	10.4%	5.9%	-0.2%	-0.3%	-0.2%
Biomass & Other	2	1	1	2	4	9	14	-3.4%	-2.9%	5.1%	9.7%	8.1%	4.2%
Buildings	18	22	23	23	27	30	33	1.8%	0.5%	0.4%	1.5%	0.8%	1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	8	7	5	3	1	2.8%	-1.5%	-1.5%	-3.0%	-6.3%	-6.1%
Gas	1	1	1	2	3	3	2	-1.6%	3.4%	6.8%	5.3%	-0.4%	-2.6%
Electricity	3	5	7	10	13	16	20	3.2%	4.5%	3.1%	2.9%	2.3%	2.3%
Heat	0	0	0	0	1	3	5	9.6%	10.4%	4.1%	18.8%	12.2%	4.9%
Biomass & Other	7	7	6	5	5	5	4	0.3%	-0.9%	-2.7%	0.8%	-0.9%	-1.9%
Agriculture	2	3	4	4	5	5	6	2.4%	2.2%	1.2%	1.4%	1.3%	1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	2	3	3	3	2	1	2.6%	2.6%	0.7%	-1.2%	-3.8%	-3.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	1	1	1	1	1	2	3	1.7%	0.9%	2.6%	3.5%	3.6%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	35.5%	9.8%	3.3%
Transport	29	36	52	51	54	59	60	2.4%	3.7%	-0.2%	0.7%	0.8%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	28	36	52	49	45	41	36	2.4%	3.7%	-0.5%	-0.9%	-0.8%	-1.5%
Gas	0	0	0	1	4	5	6	n.s.	7.8%	51.4%	16.9%	4.5%	1.7%
Electricity	0	0	0	0	3	6	9	3.2%	0.8%	14.9%	22.9%	6.7%	4.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	6	9	n.s.	n.s.	n.s.	20.4%	7.8%	4.6%
Other Energy Transformation & Losses⁴	11	13	25	29	36	38	41	1.2%	7.0%	1.6%	2.0%	0.6%	0.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

United States	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	253	283	310	334	356	374	389	1.1%	0.9%	0.7%	0.6%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	33	41	44	50	56	64	71	2.3%	0.7%	1.4%	1.1%	1.2%	1.1%
GDP per capita (mer, k\$'05)	33	41	44	50	56	64	71	2.3%	0.7%	1.4%	1.1%	1.2%	1.1%
Share Value Added - Agriculture (%)	1	1	1	1	1	1	1	-1.5%	-0.1%	1.0%	-0.5%	-0.5%	-0.4%
Share Value Added - Industry (%)	24	23	20	20	19	18	16	-0.3%	-1.3%	-0.2%	-0.6%	-0.7%	-0.8%
Share Value Added - Services (%)	75	76	78	79	80	81	83	0.1%	0.4%	0.0%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	14	14	16	-4.2%	5.6%	0.4%	0.1%	0.2%	1.1%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	5 233	6 146	5 691	5 150	3 525	2 349	1 359	1.6%	-0.8%	-1.0%	-3.7%	-4.0%	-5.3%
Total GHG (excl. sinks)	6 056	6 830	6 649	6 025	4 323	3 017	1 911	1.2%	-0.3%	-1.0%	-3.3%	-3.5%	-4.5%
Total GHG (energy, industry, agriculture)	6 056	6 829	6 649	6 025	4 323	3 017	1 911	1.2%	-0.3%	-1.0%	-3.3%	-3.5%	-4.5%
CO ₂	4 938	5 721	5 515	5 042	3 571	2 354	1 316	1.5%	-0.4%	-0.9%	-3.4%	-4.1%	-5.7%
CH ₄	633	588	581	450	318	273	229	-0.7%	-0.1%	-2.5%	-3.4%	-1.5%	-1.7%
N ₂ O	395	384	404	402	387	372	358	-0.3%	0.5%	0.0%	-0.4%	-0.4%	-0.4%
F gases	90	136	150	131	47	18	8	4.2%	1.0%	-1.4%	-9.8%	-9.4%	-7.8%
Total GHG from Energy and Industry	5 582	6 355	6 115	5 505	3 827	2 539	1 452	1.3%	-0.4%	-1.0%	-3.6%	-4.0%	-5.4%
CO₂ Emissions from Fuel Comb.	4 809	5 587	5 390	4 913	3 456	2 260	1 242	1.5%	-0.4%	-0.9%	-3.5%	-4.2%	-5.8%
Power generation/District heating	1 866	2 372	2 332	1 777	1 008	377	-66	2.4%	-0.2%	-2.7%	-5.5%	-9.4%	n.s.
Industry	581	524	428	445	331	233	118	-1.0%	-2.0%	0.4%	-2.9%	-3.5%	-6.6%
Buildings	544	602	545	503	376	269	172	1.0%	-1.0%	-0.8%	-2.9%	-3.3%	-4.4%
Agriculture	46	45	53	55	41	26	17	-0.2%	1.8%	0.4%	-2.9%	-4.3%	-4.4%
Transport	1 424	1 713	1 677	1 725	1 400	1 145	879	1.9%	-0.2%	0.3%	-2.1%	-2.0%	-2.6%
Other	349	331	354	407	300	209	122	-0.5%	0.7%	1.4%	-3.0%	-3.6%	-5.2%
CO₂ captured (CCS)	0	0	0	0	12	152	789	n.s.	n.s.	n.s.	n.s.	28.6%	17.9%
Coal	0	0	0	0	10	57	146	n.s.	n.s.	n.s.	n.s.	19.3%	9.9%
Gas	0	0	0	0	3	26	150	n.s.	n.s.	n.s.	58.4%	25.9%	19.3%
Biomass	0	0	0	0	0	70	493	n.s.	n.s.	n.s.	0.5%	n.s.	21.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	1 623	1 692	1 777	2 052	1 897	1 811	1 773	0.4%	0.5%	1.4%	-0.8%	-0.5%	-0.2%
Coal	488	542	540	372	245	129	110	1.1%	-0.1%	-3.7%	-4.1%	-6.2%	-1.6%
Oil	433	376	355	628	554	422	266	-1.4%	-0.6%	5.9%	-1.3%	-2.7%	-4.5%
Natural gas	420	448	499	624	435	324	296	0.7%	1.1%	2.3%	-3.6%	-2.9%	-0.9%
Biomass	82	76	112	120	156	218	327	-0.8%	3.9%	0.7%	2.7%	3.4%	4.1%
Nuclear ¹	162	211	222	212	283	395	447	2.7%	0.5%	-0.5%	2.9%	3.4%	1.3%
Hydro	25	24	25	24	25	25	25	-0.3%	0.2%	-0.1%	0.3%	0.1%	0.0%
Other renewables	14	15	25	71	200	297	302	0.3%	5.6%	11.0%	10.9%	4.1%	0.1%
Net Imports	329	590	472	248	237	258	347						
Coal	-32	-9	-37	-80	-87	-58	-46						
Oil	340	496	450	176	103	109	159						
Natural gas	21	100	58	114	96	64	70						
Biomass	0	0	0	28	110	133	160						
Biofuels	0	0	-1	4	9	5	-2						
Electricity	0	3	2	5	5	5	5						
Primary Energy Demand²	1 953	2 282	2 249	2 299	2 134	2 069	2 120	1.6%	-0.1%	0.2%	-0.7%	-0.3%	0.2%
Coal	456	534	503	292	159	71	65	1.6%	-0.6%	-5.3%	-5.9%	-7.7%	-1.0%
Oil	772	871	805	804	657	531	425	1.2%	-0.8%	0.0%	-2.0%	-2.1%	-2.2%
Natural gas	441	548	556	738	531	388	366	2.2%	0.2%	2.9%	-3.2%	-1.3%	-0.6%
Biomass	82	76	112	148	266	351	487	-0.8%	3.9%	2.8%	6.1%	2.8%	3.3%
Nuclear ¹	162	211	222	212	283	395	447	2.7%	0.5%	-0.5%	2.9%	3.4%	1.3%
Hydro	25	24	25	24	25	25	25	-0.3%	0.2%	-0.1%	0.3%	0.1%	0.0%
Other renewables	14	15	25	71	200	297	302	0.3%	5.6%	11.0%	10.9%	4.1%	0.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	1 953	2 282	2 249	2 299	2 134	2 069	2 120	1.6%	-0.1%	0.2%	-0.7%	-0.3%	0.2%
Energy for Power Generation	754	931	958	901	884	958	1 162	2.1%	0.3%	-0.6%	-0.2%	0.8%	2.0%
Other Energy Transformation & Losses	127	124	160	254	273	260	247	-0.2%	2.6%	4.7%	0.7%	-0.5%	-0.5%
Final consumption	1 300	1 538	1 489	1 531	1 428	1 380	1 318	1.7%	-0.3%	0.3%	-0.7%	-0.3%	-0.5%
Steel, Non-Met. Minerals and Chem.	127	152	97	95	76	67	60	1.8%	-4.4%	-0.2%	-2.2%	-1.2%	-1.2%
Other Industry	181	185	169	192	180	178	175	0.2%	-0.9%	1.3%	-0.6%	-0.1%	-0.1%
Non-Energy Use	119	153	135	122	117	115	108	2.5%	-1.2%	-1.1%	-0.4%	-0.2%	-0.6%
Residential	224	265	268	259	237	231	224	1.7%	0.1%	-0.3%	-0.9%	-0.3%	-0.3%
Services	157	193	217	232	233	249	266	2.1%	1.2%	0.7%	0.1%	0.7%	0.7%
Agriculture	14	14	18	19	20	21	22	-0.2%	2.2%	0.9%	0.5%	0.4%	0.3%
Road	397	493	522	532	479	436	386	2.2%	0.6%	0.2%	-1.0%	-0.9%	-1.2%
Rail	11	10	9	13	14	14	13	-0.5%	-1.3%	3.9%	0.4%	0.0%	-0.5%
Aviation	64	68	49	57	61	60	57	0.7%	-3.2%	1.5%	0.6%	-0.1%	-0.5%
Other Transport	6	4	4	9	9	8	7	-4.3%	0.5%	7.6%	0.4%	-1.3%	-2.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

United States	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	554	681	686	594	376	241	388	2.1%	0.1%	-1.4%	-4.5%	-4.4%	4.9%
Coal	392	492	469	254	125	33	28	2.3%	-0.5%	-5.9%	-6.9%	-12.6%	-1.3%
Oil	27	30	11	20	16	10	25	0.8%	-9.5%	6.3%	-2.0%	-4.6%	9.3%
Gas	93	137	185	300	197	126	149	3.9%	3.1%	4.9%	-4.1%	-4.3%	1.7%
Biomass & Waste	40	21	20	17	34	66	181	-6.0%	-0.5%	-1.6%	6.9%	7.0%	10.5%
Other	1	1	2	2	5	5	6	-0.9%	1.9%	4.3%	7.9%	0.8%	0.6%
Gross Elec. Generation (TWh_e)	3 210	4 052	4 378	4 544	4 897	5 670	6 510	2.4%	0.8%	0.4%	0.8%	1.5%	1.4%
Coal	1 700	2 129	1 994	1 099	541	143	140	2.3%	-0.7%	-5.8%	-6.8%	-12.5%	-0.2%
of which CCS	0	0	0	0	0	14	119	n.s.	n.s.	n.s.	n.s.	n.s.	24.1%
Oil	131	118	48	83	70	45	105	-1.0%	-8.6%	5.6%	-1.7%	-4.3%	8.9%
Gas	382	634	1 018	1 667	1 124	737	845	5.2%	4.8%	5.1%	-3.9%	-4.1%	1.4%
of which CCS	0	0	0	0	0	54	348	n.s.	n.s.	n.s.	n.s.	n.s.	20.5%
Biomass & Waste	79	72	75	63	144	306	886	-0.9%	0.5%	-1.7%	8.5%	7.8%	11.2%
of which CCS	0	0	0	0	0	64	485	n.s.	n.s.	n.s.	n.s.	n.s.	22.4%
Nuclear	612	798	839	802	1 093	1 572	1 798	2.7%	0.5%	-0.5%	3.1%	3.7%	1.4%
Hydro	289	280	286	283	291	293	294	-0.3%	0.2%	-0.1%	0.3%	0.1%	0.0%
Wind	3	6	95	430	1 201	1 614	1 341	6.3%	32.6%	16.3%	10.8%	3.0%	-1.8%
Solar	0	0	4	91	375	895	1 027	14.3%	36.7%	36.1%	15.2%	9.1%	1.4%
Other	16	15	18	27	58	65	74	-0.9%	1.9%	4.3%	8.0%	1.1%	1.3%
Generation Capacity (GW_e)	739	859	1 040	1 090	1 390	1 785	1 634	1.5%	1.9%	0.5%	2.5%	2.5%	-0.9%
Coal	271	321	319	218	116	85	19	1.7%	-0.1%	-3.7%	-6.1%	-3.1%	-14.0%
of which CCS	0	0	0	0	0	2	16	n.s.	n.s.	n.s.	n.s.	n.s.	23.3%
Oil	82	130	56	32	33	29	28	4.7%	-8.1%	-5.3%	0.3%	-1.3%	-0.3%
Gas	176	190	407	445	433	371	178	0.8%	7.9%	0.9%	-0.3%	-1.5%	-7.1%
of which CCS	0	0	0	0	0	8	53	n.s.	n.s.	n.s.	n.s.	n.s.	21.6%
Biomass & Waste	11	15	12	9	20	47	123	3.2%	-2.6%	-2.6%	8.4%	8.9%	10.0%
of which CCS	0	0	0	0	0	9	63	n.s.	n.s.	n.s.	n.s.	n.s.	21.2%
Nuclear	102	98	101	98	134	194	221	-0.4%	0.3%	-0.3%	3.1%	3.7%	1.3%
Hydro	92	99	101	103	106	107	107	0.7%	0.2%	0.2%	0.3%	0.1%	0.0%
Wind	2	2	39	133	333	441	366	4.5%	32.3%	13.0%	9.6%	2.9%	-1.9%
Solar	0	1	3	48	207	502	581	2.3%	18.9%	31.7%	15.8%	9.3%	1.5%
Other	3	3	2	4	7	9	11	0.5%	-1.5%	3.9%	7.1%	2.5%	2.2%
Total Final Consumption² (Mtoe)	1 300	1 538	1 489	1 531	1 428	1 380	1 318	1.7%	-0.3%	0.3%	-0.7%	-0.3%	-0.5%
Coal	58	39	31	25	21	18	14	-3.8%	-2.4%	-2.1%	-1.6%	-1.3%	-2.6%
Oil	683	793	761	736	598	483	368	1.5%	-0.4%	-0.3%	-2.1%	-2.1%	-2.7%
Gas	288	345	295	318	249	198	149	1.8%	-1.6%	0.8%	-2.4%	-2.2%	-2.8%
Electricity	226	301	326	337	364	422	487	2.9%	0.8%	0.4%	0.8%	1.5%	1.5%
Heat	2	7	8	10	21	35	47	11.3%	1.3%	2.1%	7.7%	5.0%	3.2%
Biomass & Other	43	52	69	104	174	223	252	2.1%	2.8%	4.2%	5.3%	2.5%	1.2%
Share of Renewables ³ (%)	6%	6%	8%	13%	30%	47%	56%	-0.4%	2.9%	4.8%	9.3%	4.3%	1.9%
Industry (incl. non-energy use)	427	490	402	408	373	360	343	1.4%	-2.0%	0.2%	-0.9%	-0.4%	-0.5%
Coal	53	37	29	24	21	18	14	-3.6%	-2.3%	-2.1%	-1.3%	-1.2%	-2.6%
Oil	147	160	150	124	112	98	84	0.8%	-0.6%	-1.9%	-1.0%	-1.4%	-1.5%
Gas	124	155	111	142	106	85	62	2.3%	-3.3%	2.5%	-2.9%	-2.2%	-3.0%
Electricity	75	98	74	75	74	75	74	2.8%	-2.7%	0.1%	-0.1%	0.1%	0.0%
Heat	0	4	5	5	5	5	5	n.s.	2.2%	-0.2%	-0.2%	0.3%	-0.2%
Biomass & Other	29	36	32	39	56	80	104	2.2%	-1.1%	2.0%	3.5%	3.6%	2.7%
Buildings	381	458	485	492	471	480	490	1.8%	0.6%	0.1%	-0.4%	0.2%	0.2%
Coal	5	2	2	1	0	0	0	-7.0%	-3.8%	-3.4%	-11.1%	-15.7%	-16.2%
Oil	45	48	36	32	34	30	20	0.5%	-2.8%	-1.0%	0.5%	-1.5%	-3.8%
Gas	164	189	182	170	114	75	46	1.5%	-0.4%	-0.7%	-3.9%	-4.1%	-4.7%
Electricity	152	202	251	259	258	284	318	2.9%	2.2%	0.3%	-0.1%	1.0%	1.1%
Heat	2	3	3	5	16	30	43	1.7%	-0.2%	5.5%	12.6%	6.3%	3.7%
Biomass & Other	14	13	12	24	48	62	63	-0.3%	-0.7%	7.1%	7.1%	2.5%	0.3%
Agriculture	14	14	18	19	20	21	22	-0.2%	2.2%	0.9%	0.5%	0.4%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	14	16	16	12	8	5	-0.2%	1.1%	0.5%	-2.9%	-4.4%	-4.6%
Gas	0	0	1	1	1	1	1	n.s.	n.s.	-1.6%	-1.9%	-2.9%	-3.0%
Electricity	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	24.3%	7.6%	3.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	5	9	12	n.s.	n.s.	13.2%	15.3%	5.7%	2.4%
Transport	477	576	584	611	564	519	463	1.9%	0.1%	0.5%	-0.8%	-0.8%	-1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	477	572	559	564	440	348	259	1.8%	-0.2%	0.1%	-2.5%	-2.3%	-2.9%
Gas	0	0	1	6	28	38	40	n.s.	10.2%	24.2%	17.1%	3.0%	0.5%
Electricity	0	0	1	3	31	60	90	0.7%	3.6%	18.7%	26.3%	6.8%	4.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	3	24	39	65	72	73	n.s.	22.5%	4.9%	5.2%	1.1%	0.2%
Other Energy Transformation & Losses⁴	127	124	160	254	273	260	247	-0.2%	2.6%	4.7%	0.7%	-0.5%	-0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Central America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	63	74	84	93	102	109	113	1.6%	1.3%	1.1%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	3	4	5	6	8	10	13	3.2%	2.7%	2.4%	2.8%	2.9%	2.8%
GDP per capita (mer, k\$'05)	3	3	4	5	6	9	11	1.7%	1.7%	1.9%	2.8%	2.9%	2.8%
Share Value Added - Agriculture (%)	8	5	6	6	5	4	4	-3.9%	0.4%	1.5%	-2.1%	-1.6%	-1.2%
Share Value Added - Industry (%)	37	40	42	27	26	25	25	0.9%	0.4%	-4.4%	-0.2%	-0.2%	-0.3%
Share Value Added - Services (%)	55	55	53	67	69	70	71	-0.1%	-0.4%	2.4%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	12	13	14	16	-4.2%	5.6%	-0.6%	0.4%	1.1%	1.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	282	293	322	357	207	147	106	0.4%	1.0%	1.0%	-5.3%	-3.3%	-3.3%
Total GHG (excl. sinks)	295	328	349	358	286	248	222	1.1%	0.6%	0.2%	-2.2%	-1.4%	-1.1%
Total GHG (energy, industry, agriculture)	168	202	253	281	286	243	151	1.8%	2.3%	1.0%	0.2%	-1.6%	-4.6%
CO ₂	95	126	163	186	199	175	98	2.9%	2.6%	1.3%	0.7%	-1.3%	-5.7%
CH ₄	48	51	64	66	61	48	37	0.6%	2.3%	0.3%	-0.9%	-2.4%	-2.5%
N ₂ O	25	24	24	27	25	19	17	-0.7%	0.2%	1.2%	-1.0%	-2.3%	-1.6%
F gases	0	0	1	1	1	1	0	n.s.	16.9%	-0.8%	0.1%	-5.3%	-16.7%
Total GHG from Energy and Industry	117	153	203	225	237	207	122	2.7%	2.9%	1.0%	0.5%	-1.4%	-5.2%
CO₂ Emissions from Fuel Comb.	85	111	138	163	172	147	71	2.7%	2.2%	1.7%	0.5%	-1.6%	-7.0%
Power generation/District heating	23	37	51	56	51	35	-13	4.7%	3.4%	0.9%	-1.0%	-3.7%	n.s.
Industry	22	23	25	34	39	31	17	0.4%	0.8%	3.1%	1.4%	-2.1%	-5.8%
Buildings	8	9	9	9	10	8	5	0.8%	-0.2%	0.6%	0.4%	-1.9%	-3.8%
Agriculture	2	1	1	1	1	1	0	-1.6%	-4.4%	0.1%	-0.2%	-3.6%	-3.8%
Transport	20	31	40	44	48	49	45	4.6%	2.4%	1.0%	0.9%	0.2%	-0.9%
Other	10	10	13	20	25	24	16	-0.1%	2.6%	4.5%	2.4%	-0.4%	-3.7%
CO₂ captured (CCS)	0	0	0	0	0	11	55	n.s.	n.s.	n.s.	n.s.	35.9%	17.9%
Coal	0	0	0	0	0	4	13	n.s.	n.s.	n.s.	n.s.	25.3%	11.8%
Gas	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	39.4%	16.4%
Biomass	0	0	0	0	0	6	39	n.s.	n.s.	n.s.	n.s.	n.s.	21.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	33	42	70	63	58	73	98	2.6%	5.1%	-1.0%	-0.8%	2.3%	3.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	10	11	8	11	14	15	1.9%	0.1%	-2.2%	2.9%	2.1%	1.1%
Natural gas	4	13	38	24	4	4	6	11.7%	11.0%	-4.6%	-16.6%	1.3%	3.6%
Biomass	18	16	16	23	24	31	45	-1.5%	0.5%	3.6%	0.3%	2.5%	3.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	21.0%	17.1%
Hydro	1	1	2	2	2	2	3	2.8%	3.4%	0.5%	0.9%	0.8%	0.3%
Other renewables	1	2	3	6	17	21	29	9.2%	6.1%	6.5%	11.4%	2.4%	2.9%
Net Imports	18	20	10	31	60	58	46						
Coal	0	0	1	4	6	7	6						
Oil	17	24	26	32	27	20	17						
Natural gas	0	-4	-18	2	31	33	25						
Biomass	0	0	0	-6	-3	-2	-3						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	51	62	80	94	118	131	144	2.0%	2.5%	1.7%	2.3%	1.0%	0.9%
Coal	0	0	1	4	6	7	6	5.8%	13.5%	10.4%	5.7%	0.5%	-0.4%
Oil	26	34	37	40	38	34	32	2.8%	0.8%	0.8%	-0.6%	-1.0%	-0.5%
Natural gas	5	9	20	26	34	37	31	6.6%	8.2%	2.7%	2.9%	0.8%	-1.7%
Biomass	18	16	16	17	21	29	42	-1.5%	0.5%	0.4%	1.9%	3.4%	3.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	21.0%	17.1%
Hydro	1	1	2	2	2	2	3	2.8%	3.4%	0.5%	0.9%	0.8%	0.3%
Other renewables	1	2	3	6	17	21	29	9.2%	6.1%	6.5%	11.4%	2.4%	2.9%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	51	62	80	94	118	131	144	2.0%	2.5%	1.7%	2.3%	1.0%	0.9%
Energy for Power Generation	11	16	24	28	39	44	55	4.3%	4.0%	1.3%	3.7%	1.2%	2.1%
Other Energy Transformation & Losses	6	6	6	8	11	14	15	-0.4%	-0.4%	4.0%	3.1%	2.2%	0.9%
Final consumption	38	46	57	68	81	92	100	1.7%	2.2%	1.8%	1.8%	1.2%	0.9%
Steel, Non-Met. Minerals and Chem.	0	1	1	1	1	1	1	6.4%	4.9%	1.1%	0.4%	-0.6%	-0.5%
Other Industry	14	12	11	16	19	22	25	-0.9%	-0.9%	3.3%	2.1%	1.2%	1.4%
Non-Energy Use	3	6	11	14	18	22	25	7.3%	6.6%	2.2%	2.9%	1.8%	1.2%
Residential	11	13	16	17	18	19	19	1.4%	2.5%	0.9%	0.5%	0.3%	0.0%
Services	2	2	3	4	5	6	8	1.8%	4.2%	2.5%	3.0%	2.2%	2.0%
Agriculture	1	1	0	1	1	1	1	-1.3%	-1.6%	1.2%	1.4%	1.3%	1.2%
Road	8	11	13	15	17	20	21	3.9%	1.6%	1.2%	1.7%	1.2%	0.6%
Rail	0	0	0	0	0	0	0	-8.6%	10.0%	4.7%	2.1%	1.9%	1.6%
Aviation	0	0	0	0	0	1	1	4.7%	9.3%	1.4%	3.4%	2.7%	1.8%
Other Transport	1	0	0	0	0	0	0	-8.9%	-1.5%	0.0%	2.7%	0.7%	-1.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Central America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	13	19	20	20	21	23	4.0%	3.7%	0.3%	0.3%	0.1%	1.3%
Coal	0	0	1	2	3	3	3	33.6%	14.9%	9.2%	4.0%	0.6%	0.1%
Oil	7	10	13	12	9	5	3	4.3%	2.4%	-0.1%	-3.6%	-5.5%	-4.8%
Gas	1	2	4	4	5	6	4	5.6%	6.8%	1.0%	2.8%	1.7%	-3.8%
Biomass & Waste	1	1	2	1	3	5	12	-1.9%	5.7%	-6.0%	9.4%	7.5%	8.4%
Other	0	0	0	0	1	1	1	9.1%	5.5%	4.7%	10.4%	0.0%	1.7%
Gross Elec. Generation (TWh_e)	43	68	95	117	154	208	283	4.8%	3.3%	2.1%	2.8%	3.1%	3.1%
Coal	0	1	3	8	13	14	15	33.5%	14.7%	10.1%	4.9%	0.9%	0.7%
of which CCS	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	n.s.	19.5%
Oil	24	40	47	55	38	21	13	5.4%	1.8%	1.4%	-3.6%	-5.5%	-4.7%
Gas	4	7	14	17	23	29	22	6.6%	7.4%	1.8%	3.3%	2.3%	-2.9%
of which CCS	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	n.s.	n.s.	16.9%
Biomass & Waste	2	2	3	1	4	20	56	-0.1%	4.7%	-7.3%	11.0%	16.9%	10.8%
of which CCS	0	0	0	0	0	7	39	n.s.	n.s.	n.s.	n.s.	n.s.	19.2%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	13	17	23	24	27	29	30	2.8%	3.4%	0.5%	0.9%	0.8%	0.3%
Wind	0	0	1	5	23	46	72	n.s.	12.3%	24.2%	16.3%	7.1%	4.6%
Solar	0	0	0	1	13	35	57	n.s.	-15.9%	n.s.	24.6%	10.8%	5.0%
Other	1	2	3	5	14	14	18	9.1%	5.5%	4.7%	10.5%	0.2%	2.1%
Generation Capacity (GW_e)	13	18	25	30	41	63	85	3.6%	2.9%	1.9%	3.4%	4.2%	3.1%
Coal	0	0	0	1	2	2	2	5.6%	1.1%	10.6%	3.9%	0.8%	1.7%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	21.6%
Oil	8	11	15	15	12	10	6	3.6%	2.7%	0.0%	-2.0%	-2.1%	-5.5%
Gas	1	2	3	4	4	5	5	4.3%	3.6%	2.8%	1.0%	1.7%	-0.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	20.2%
Biomass & Waste	0	1	1	1	1	3	9	6.1%	5.1%	1.2%	-1.2%	12.7%	12.0%
of which CCS	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	20.3%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	4	5	6	6	7	7	2.3%	2.9%	1.2%	0.9%	0.8%	0.3%
Wind	0	0	0	2	7	14	21	n.s.	14.9%	21.4%	15.3%	6.7%	4.3%
Solar	0	0	0	1	7	20	33	n.s.	-15.9%	n.s.	24.9%	10.8%	4.9%
Other	0	0	1	1	2	2	2	9.3%	2.4%	4.3%	8.9%	1.4%	1.6%
Total Final Consumption² (Mtoe)	38	46	57	68	81	92	100	1.7%	2.2%	1.8%	1.8%	1.2%	0.9%
Coal	0	0	1	1	3	3	2	-1.0%	12.3%	9.7%	6.3%	-0.2%	-1.0%
Oil	17	21	23	25	27	27	27	2.1%	0.9%	1.0%	0.6%	0.0%	0.1%
Gas	3	6	12	17	22	23	21	8.1%	7.0%	3.0%	2.9%	0.6%	-1.2%
Electricity	3	5	7	8	11	15	20	4.6%	3.7%	2.1%	2.9%	3.1%	3.1%
Heat	0	0	0	1	2	2	3	n.s.	n.s.	n.s.	9.8%	3.3%	2.6%
Biomass & Other	15	14	14	16	17	21	26	-1.2%	0.4%	0.9%	0.7%	2.3%	2.4%
Share of Renewables ³ (%)	45%	36%	35%	33%	38%	51%	68%	-2.1%	-0.4%	-0.5%	1.4%	2.9%	2.9%
Industry (incl. non-energy use)	17	19	24	31	39	45	51	1.2%	2.2%	2.7%	2.4%	1.4%	1.3%
Coal	0	0	1	1	3	3	2	-1.0%	12.3%	9.7%	6.3%	-0.2%	-1.0%
Oil	7	7	7	8	10	11	13	0.2%	-0.8%	2.1%	1.8%	1.1%	2.0%
Gas	3	6	12	16	19	20	17	8.0%	7.2%	2.5%	2.2%	0.3%	-1.3%
Electricity	1	2	2	3	4	5	7	4.5%	2.7%	2.9%	3.4%	2.9%	3.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	6	4	2	3	3	6	11	-3.7%	-6.2%	2.9%	1.8%	6.6%	5.7%
Buildings	13	15	19	21	24	25	27	1.5%	2.7%	1.1%	1.0%	0.7%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	3	3	2	2	1	1	0.4%	0.0%	-1.4%	-2.9%	-4.8%	-5.1%
Gas	0	0	0	1	2	2	1	11.9%	-2.6%	19.4%	7.7%	0.9%	-2.9%
Electricity	2	3	4	5	6	8	10	4.8%	4.1%	1.7%	1.6%	2.1%	2.4%
Heat	0	0	0	1	2	2	3	n.s.	n.s.	n.s.	9.8%	3.3%	2.6%
Biomass & Other	8	9	12	12	12	12	12	0.8%	3.1%	0.4%	-0.1%	0.2%	-0.4%
Agriculture	1	1	0	1	1	1	1	-1.3%	-1.6%	1.2%	1.4%	1.3%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	0	0	0	0	0	0	-1.6%	-4.4%	0.1%	-0.2%	-3.6%	-3.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-1.4%	10.5%	2.3%	2.5%	3.0%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	3.1%	-2.7%	4.5%	4.8%	7.5%	3.1%
Transport	8	12	14	15	18	20	22	3.2%	1.6%	1.2%	1.7%	1.2%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	11	13	15	15	15	14	4.3%	2.2%	0.9%	0.5%	-0.1%	-1.1%
Gas	0	0	0	0	1	2	2	n.s.	n.s.	n.s.	17.8%	5.0%	1.7%
Electricity	0	0	0	0	1	2	3	-0.7%	10.0%	7.6%	31.8%	9.8%	5.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	0	0	1	2	3	-4.9%	-12.0%	4.4%	10.4%	6.5%	5.4%
Other Energy Transformation & Losses⁴	6	6	6	8	11	14	15	-0.4%	-0.4%	4.0%	3.1%	2.2%	0.9%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest South America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	102	122	140	158	173	184	192	1.8%	1.4%	1.2%	0.9%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	6	7	9	11	16	22	30	0.9%	2.6%	2.8%	3.4%	3.4%	3.2%
GDP per capita (mer, k\$'05)	3	3	4	5	7	10	14	0.8%	2.5%	2.8%	3.4%	3.4%	3.2%
Share Value Added - Agriculture (%)	12	8	7	8	7	6	6	-3.8%	-0.7%	0.4%	-1.2%	-0.9%	-0.6%
Share Value Added - Industry (%)	43	37	42	34	32	30	28	-1.5%	1.3%	-2.2%	-0.4%	-0.6%	-0.8%
Share Value Added - Services (%)	45	55	50	59	61	64	66	2.0%	-0.8%	1.5%	0.4%	0.4%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	12	8	13	14	16	17	19	-4.2%	5.6%	0.8%	0.9%	0.9%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	17	26	22	25	37	36	35	4.7%	-1.9%	1.5%	4.0%	-0.1%	-0.5%
GHG emissions (Mt CO₂ eq.)													
Total GHG	872	914	1 122	1 026	208	- 272	- 594	0.5%	2.1%	-0.9%	-14.7%	n.s.	n.s.
Total GHG (excl. sinks)	891	985	1 183	1 026	676	524	337	1.0%	1.8%	-1.4%	-4.1%	-2.5%	-4.3%
Total GHG (energy, industry, agriculture)	414	504	661	699	644	492	294	2.0%	2.7%	0.6%	-0.8%	-2.7%	-5.0%
CO ₂	206	265	378	419	425	304	133	2.6%	3.6%	1.0%	0.1%	-3.3%	-7.9%
CH ₄	152	182	210	203	154	127	107	1.8%	1.4%	-0.3%	-2.7%	-1.9%	-1.8%
N ₂ O	53	55	70	73	62	58	54	0.4%	2.3%	0.4%	-1.5%	-0.7%	-0.7%
F gases	4	2	3	4	3	2	1	-8.2%	8.2%	1.1%	-1.2%	-4.4%	-10.5%
Total GHG from Energy and Industry	266	338	463	498	486	350	166	2.4%	3.2%	0.7%	-0.2%	-3.2%	-7.2%
CO₂ Emissions from Fuel Comb.	188	238	348	387	387	266	97	2.4%	3.9%	1.1%	0.0%	-3.7%	-9.6%
Power generation/District heating	29	31	62	61	59	2	-81	0.7%	7.0%	-0.2%	-0.3%	-28.3%	n.s.
Industry	44	56	84	91	93	68	34	2.5%	4.1%	0.8%	0.2%	-3.1%	-6.6%
Buildings	17	19	22	25	24	17	11	1.6%	1.1%	1.6%	-0.6%	-3.2%	-4.1%
Agriculture	2	5	6	9	8	6	4	7.3%	2.9%	3.8%	-0.5%	-3.5%	-3.6%
Transport	65	80	119	145	150	136	115	2.1%	4.1%	2.0%	0.3%	-1.0%	-1.6%
Other	31	46	55	56	53	37	14	4.0%	1.8%	0.1%	-0.1%	-3.4%	-9.6%
CO₂ captured (CCS)	0	0	0	0	2	42	149	n.s.	n.s.	n.s.	n.s.	36.1%	13.5%
Coal	0	0	0	0	2	11	24	n.s.	n.s.	n.s.	n.s.	19.6%	8.0%
Gas	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	n.s.	40.8%	10.7%
Biomass	0	0	0	0	0	29	120	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
Energy Balance, by fuel (Mtoe)													
Primary Production	218	317	362	452	503	491	550	3.8%	1.3%	2.3%	1.1%	-0.2%	1.1%
Coal	15	31	51	70	86	50	32	7.6%	5.1%	3.3%	2.0%	-5.2%	-4.5%
Oil	155	229	227	254	215	188	153	3.9%	-0.1%	1.1%	-1.7%	-1.3%	-2.0%
Natural gas	25	31	53	72	108	94	75	2.3%	5.4%	3.2%	4.1%	-1.4%	-2.2%
Biomass	13	11	13	33	61	104	216	-2.2%	2.1%	9.6%	6.4%	5.5%	7.5%
Nuclear ¹	0	0	0	0	1	7	9	n.s.	n.s.	n.s.	36.2%	18.5%	2.6%
Hydro	10	16	18	21	25	27	30	4.6%	1.5%	1.6%	1.4%	1.0%	1.0%
Other renewables	0	0	0	1	7	20	35	n.s.	-11.4%	54.6%	19.1%	11.2%	5.6%
Net Imports	- 129	- 206	- 208	- 279	- 300	- 263	- 283						
Coal	- 11	- 28	- 46	- 63	- 75	- 41	- 22						
Oil	- 111	- 173	- 143	- 165	- 135	- 126	- 105						
Natural gas	- 4	- 1	- 15	- 33	- 61	- 56	- 44						
Biomass	0	0	0	- 15	- 25	- 36	- 104						
Biofuels	0	0	0	0	- 1	- 2	- 3						
Electricity	- 2	- 4	- 4	- 4	- 4	- 4	- 4						
Primary Energy Demand²	89	111	154	173	203	228	267	2.3%	3.3%	1.2%	1.6%	1.1%	1.6%
Coal	4	3	4	7	11	9	9	-0.9%	2.4%	5.7%	3.8%	-1.4%	-0.2%
Oil	44	55	84	90	81	62	48	2.3%	4.3%	0.7%	-1.1%	-2.5%	-2.5%
Natural gas	20	30	38	39	47	39	31	4.0%	2.2%	0.4%	1.8%	-1.9%	-2.2%
Biomass	13	11	13	18	37	68	112	-2.2%	2.1%	3.2%	7.3%	6.5%	5.0%
Nuclear ¹	0	0	0	0	1	7	9	n.s.	n.s.	n.s.	36.2%	18.5%	2.6%
Hydro	10	16	18	21	25	27	30	4.6%	1.5%	1.6%	1.4%	1.0%	1.0%
Other renewables	0	0	0	1	7	20	35	n.s.	-11.4%	54.6%	19.1%	11.2%	5.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	89	111	154	173	203	228	267	2.3%	3.3%	1.2%	1.6%	1.1%	1.6%
Energy for Power Generation	21	27	42	46	61	85	119	2.8%	4.3%	0.9%	2.9%	3.4%	3.4%
Other Energy Transformation & Losses	9	14	18	20	25	27	33	3.9%	3.0%	1.0%	2.1%	0.9%	1.8%
Final consumption	67	82	111	131	154	171	194	2.0%	3.1%	1.7%	1.6%	1.1%	1.3%
Steel, Non-Met. Minerals and Chem.	9	12	17	16	18	18	21	3.0%	3.3%	-0.5%	0.8%	0.3%	1.3%
Other Industry	13	15	24	31	40	50	63	1.6%	4.7%	2.7%	2.6%	2.1%	2.4%
Non-Energy Use	2	5	3	3	3	3	3	10.1%	-4.8%	-0.7%	0.7%	-0.1%	0.0%
Residential	16	16	18	19	21	22	23	-0.3%	1.6%	0.7%	0.6%	0.4%	0.7%
Services	3	4	6	8	11	15	19	3.6%	4.0%	3.1%	3.3%	2.6%	2.8%
Agriculture	2	2	3	4	5	5	6	2.4%	2.4%	2.7%	1.5%	1.2%	1.0%
Road	22	27	39	48	54	57	57	2.2%	3.7%	2.2%	1.2%	0.4%	0.0%
Rail	0	0	0	0	0	0	0	-2.7%	1.3%	4.8%	1.6%	1.4%	1.2%
Aviation	0	0	0	0	0	0	1	-0.8%	1.1%	3.9%	3.6%	2.7%	0.6%
Other Transport	1	0	0	1	1	1	1	-5.5%	2.7%	3.6%	2.9%	0.8%	-0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South America	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	11	12	24	23	28	31	46	0.9%	7.2%	-0.2%	1.9%	1.0%	3.9%
Coal	1	1	1	2	4	3	4	-4.2%	7.9%	5.3%	4.8%	-1.3%	2.5%
Oil	3	4	9	9	5	1	0	1.9%	7.8%	0.6%	-5.9%	-13.9%	-17.8%
Gas	6	7	12	9	12	7	4	0.9%	6.2%	-2.7%	2.6%	-4.9%	-4.8%
Biomass & Waste	0	0	1	2	7	19	37	1.7%	17.7%	6.4%	12.8%	10.4%	6.6%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	154	226	303	363	496	705	974	3.9%	3.0%	1.8%	3.2%	3.6%	3.3%
Coal	4	3	5	10	18	16	22	-3.7%	6.9%	7.7%	5.9%	-1.2%	2.7%
of which CCS	0	0	0	0	0	0	6	19	n.s.	n.s.	n.s.	n.s.	12.6%
Oil	13	16	32	41	22	5	1	2.2%	7.5%	2.4%	-5.8%	-13.7%	-17.7%
Gas	21	25	50	43	61	40	26	1.8%	7.0%	-1.4%	3.4%	-4.2%	-4.1%
of which CCS	0	0	0	0	0	3	8	n.s.	n.s.	n.s.	n.s.	n.s.	9.4%
Biomass & Waste	1	1	4	8	31	91	182	3.6%	19.1%	6.5%	14.3%	11.5%	7.2%
of which CCS	0	0	0	0	0	33	113	n.s.	n.s.	n.s.	n.s.	n.s.	13.0%
Nuclear	0	0	0	0	5	28	35	n.s.	n.s.	n.s.	36.4%	18.6%	2.4%
Hydro	116	182	212	247	285	316	347	4.6%	1.5%	1.6%	1.4%	1.0%	1.0%
Wind	0	0	0	9	46	105	185	n.s.	n.s.	55.0%	17.7%	8.7%	5.9%
Solar	0	0	0	4	28	105	174	n.s.	n.s.	n.s.	21.6%	14.0%	5.2%
Other	0	0	0	0	0	1	3	n.s.	n.s.	26.1%	24.8%	18.7%	14.5%
Generation Capacity (GW_e)	43	55	65	96	145	252	362	2.5%	1.8%	4.0%	4.2%	5.7%	3.7%
Coal	1	1	1	2	3	4	4	4.7%	-0.2%	7.0%	6.1%	1.9%	2.0%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Oil	6	9	8	15	14	15	16	3.3%	-0.6%	6.0%	-0.1%	0.5%	0.8%
Gas	8	10	16	26	26	30	27	1.8%	5.3%	4.9%	0.1%	1.6%	-1.0%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Biomass & Waste	0	0	1	2	5	19	45	1.9%	14.0%	10.1%	11.3%	15.0%	9.1%
of which CCS	0	0	0	0	0	5	21	n.s.	n.s.	n.s.	n.s.	n.s.	16.2%
Nuclear	0	0	0	0	1	4	5	n.s.	n.s.	n.s.	36.1%	18.5%	2.2%
Hydro	28	36	40	44	51	57	62	2.4%	1.1%	1.1%	1.4%	1.0%	1.0%
Wind	0	0	0	6	28	60	96	n.s.	n.s.	n.s.	16.5%	7.7%	4.9%
Solar	0	0	0	2	17	63	105	n.s.	n.s.	n.s.	22.0%	14.1%	5.3%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	24.1%	18.1%	14.0%
Total Final Consumption² (Mtoe)	67	82	111	131	154	171	194	2.0%	3.1%	1.7%	1.6%	1.1%	1.3%
Coal	2	3	2	5	6	4	2	2.6%	-2.2%	6.8%	2.6%	-4.1%	-6.1%
Oil	36	46	60	70	67	54	42	2.6%	2.7%	1.5%	-0.5%	-2.0%	-2.4%
Gas	8	11	19	19	24	23	20	3.3%	5.9%	0.0%	2.0%	-0.2%	-1.5%
Electricity	8	12	17	23	32	47	66	3.4%	4.0%	2.7%	3.6%	3.9%	3.4%
Heat	0	0	0	0	1	2	4	n.s.	-17.4%	31.1%	19.8%	12.5%	5.9%
Biomass & Other	13	10	12	15	24	40	59	-2.3%	1.3%	2.1%	5.3%	5.0%	4.0%
Share of Renewables ³ (%)	34%	32%	26%	27%	40%	61%	79%	-0.5%	-1.9%	0.4%	3.7%	4.4%	2.6%
Industry (incl. non-energy use)	24	32	44	50	61	71	87	3.1%	3.1%	1.3%	1.9%	1.5%	2.1%
Coal	2	3	2	5	6	4	2	3.0%	-2.2%	6.9%	2.7%	-4.1%	-6.1%
Oil	8	12	15	16	14	10	6	4.8%	2.1%	0.4%	-1.2%	-3.9%	-4.1%
Gas	7	9	16	14	14	14	11	2.3%	5.5%	-1.4%	0.7%	-0.6%	-1.9%
Electricity	4	5	7	10	14	21	30	2.2%	3.9%	3.7%	3.6%	4.1%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	4	6	12	22	37	1.0%	2.1%	4.5%	6.9%	6.5%	5.2%
Buildings	19	20	24	28	32	36	42	0.4%	2.1%	1.3%	1.5%	1.2%	1.6%
Coal	0	0	0	0	0	0	0	-5.9%	-3.0%	3.4%	-7.4%	-16.0%	-16.2%
Oil	5	5	5	5	3	2	1	0.4%	0.3%	-0.1%	-3.7%	-5.2%	-4.8%
Gas	1	2	2	4	6	5	3	10.0%	4.1%	5.1%	3.2%	-1.7%	-3.7%
Electricity	4	7	10	12	14	18	24	4.2%	4.1%	1.9%	1.9%	2.3%	2.9%
Heat	0	0	0	0	1	2	4	n.s.	-17.4%	31.1%	19.8%	12.5%	5.9%
Biomass & Other	9	6	7	7	8	9	10	-3.4%	0.7%	-0.4%	1.9%	1.3%	0.7%
Agriculture	2	2	3	4	5	5	6	2.4%	2.4%	2.7%	1.5%	1.2%	1.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	3	3	2	1	7.2%	3.0%	3.8%	-0.5%	-3.5%	-3.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	2.0%	-0.1%	-2.1%	-2.2%
Electricity	0	0	0	1	1	1	2	7.7%	5.2%	4.0%	3.8%	4.1%	3.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	1	1	1	2	3	-3.4%	0.2%	-1.4%	5.8%	6.1%	2.7%
Transport	23	27	39	49	56	58	59	2.0%	3.7%	2.2%	1.3%	0.4%	0.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	22	27	38	46	46	41	34	1.9%	3.4%	2.0%	0.0%	-1.3%	-1.9%
Gas	0	0	1	2	3	5	6	28.3%	23.7%	2.2%	7.8%	3.4%	1.4%
Electricity	0	0	0	0	3	7	11	0.7%	1.3%	11.4%	40.9%	9.8%	4.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	3	6	9	-22.0%	n.s.	18.2%	11.8%	6.3%	4.1%
Other Energy Transformation & Losses⁴	9	14	18	20	25	27	33	3.9%	3.0%	1.0%	2.1%	0.9%	1.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Egypt	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	56	68	82	101	117	134	151	1.9%	1.8%	2.1%	1.5%	1.4%	1.2%
GDP per capita (ppp, k\$'05)	3	4	5	6	10	14	18	2.3%	2.9%	1.5%	4.2%	3.6%	2.7%
GDP per capita (mer, k\$'05)	1	1	1	2	3	4	5	2.3%	2.9%	1.6%	4.2%	3.6%	2.7%
Share Value Added - Agriculture (%)	19	17	14	10	8	7	6	-1.4%	-1.8%	-3.4%	-2.6%	-1.5%	-0.9%
Share Value Added - Industry (%)	29	33	38	37	37	34	31	1.4%	1.3%	-0.2%	-0.1%	-0.7%	-1.0%
Share Value Added - Services (%)	52	50	49	53	56	59	63	-0.3%	-0.3%	0.9%	0.5%	0.6%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	18	-3.4%	3.6%	-3.0%	1.0%	1.2%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	138	172	273	306	355	343	255	2.2%	4.8%	1.1%	1.5%	-0.4%	-2.9%
Total GHG (excl. sinks)	138	172	274	306	355	343	255	2.2%	4.7%	1.1%	1.5%	-0.4%	-2.9%
Total GHG (energy, industry, agriculture)	138	172	274	306	355	343	255	2.2%	4.7%	1.1%	1.5%	-0.4%	-2.9%
CO ₂	92	116	197	228	284	278	205	2.3%	5.5%	1.4%	2.2%	-0.2%	-3.0%
CH ₄	25	36	48	45	43	38	27	3.7%	3.0%	-0.7%	-0.4%	-1.2%	-3.5%
N ₂ O	19	18	24	30	26	25	22	-0.8%	3.2%	2.3%	-1.5%	-0.2%	-1.2%
F gases	2	3	4	3	2	2	1	3.5%	2.8%	-1.3%	-4.0%	-3.1%	-6.0%
Total GHG from Energy and Industry	120	147	245	269	317	305	222	2.1%	5.3%	0.9%	1.6%	-0.4%	-3.1%
CO₂ Emissions from Fuel Comb.	81	99	171	193	237	222	152	2.1%	5.6%	1.2%	2.1%	-0.6%	-3.7%
Power generation/District heating	22	27	62	77	93	72	16	2.0%	8.7%	2.1%	2.0%	-2.5%	-14.1%
Industry	26	23	30	32	37	37	33	-1.1%	2.6%	0.7%	1.4%	0.1%	-1.2%
Buildings	11	12	18	18	23	19	10	1.6%	3.7%	0.2%	2.2%	-1.8%	-5.9%
Agriculture	0	0	7	8	9	6	4	n.s.	40.6%	1.3%	0.5%	-3.0%	-3.5%
Transport	16	29	39	45	58	66	63	6.1%	3.1%	1.5%	2.6%	1.4%	-0.5%
Other	6	8	16	14	18	22	25	2.1%	7.1%	-1.5%	2.7%	2.0%	1.5%
CO₂ captured (CCS)	0	0	0	0	0	19	96	n.s.	n.s.	n.s.	n.s.	48.3%	17.2%
Coal	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	n.s.	38.1%	14.0%
Gas	0	0	0	0	0	17	55	n.s.	n.s.	n.s.	n.s.	52.4%	12.4%
Biomass	0	0	0	0	0	0	32	n.s.	n.s.	n.s.	n.s.	18.7%	n.s.
Energy Balance, by fuel (Mtoe)													
Primary Production	54	55	88	89	109	119	120	0.2%	4.8%	0.1%	2.0%	0.9%	0.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	45	35	34	26	21	17	15	-2.4%	-0.2%	-2.8%	-2.3%	-2.0%	-1.3%
Natural gas	7	17	51	58	79	81	74	9.9%	11.3%	1.3%	3.2%	0.2%	-0.9%
Biomass	2	1	2	1	2	2	5	-1.7%	1.7%	-1.8%	2.8%	1.7%	8.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.9%	10.6%
Hydro	1	1	1	1	1	1	2	3.3%	-0.5%	1.0%	1.2%	0.6%	0.4%
Other renewables	0	0	0	3	6	18	26	14.1%	16.7%	33.1%	8.5%	12.0%	3.5%
Net Imports	-22	-14	-15	-2	4	11	30						
Coal	1	1	0	2	3	4	5						
Oil	-23	-12	-1	10	21	23	24						
Natural gas	0	-3	-15	-14	-20	-17	-6						
Biomass	0	0	0	0	0	1	7						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	32	41	73	87	112	131	150	2.4%	6.0%	1.9%	2.5%	1.5%	1.4%
Coal	1	1	0	2	3	4	5	2.4%	-6.2%	14.1%	4.9%	4.0%	2.9%
Oil	22	23	34	36	42	40	38	0.3%	3.9%	0.8%	1.3%	-0.3%	-0.5%
Natural gas	7	14	36	44	59	64	68	7.9%	9.5%	2.1%	2.9%	0.8%	0.5%
Biomass	2	1	2	1	2	3	11	-1.9%	1.7%	-1.6%	3.7%	3.9%	14.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.9%	10.6%
Hydro	1	1	1	1	1	1	2	3.3%	-0.5%	1.0%	1.2%	0.6%	0.4%
Other renewables	0	0	0	3	6	18	26	14.1%	16.7%	33.1%	8.5%	12.0%	3.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	32	41	73	87	112	131	150	2.4%	6.0%	1.9%	2.5%	1.5%	1.4%
Energy for Power Generation	9	12	26	35	44	56	77	3.1%	8.0%	3.0%	2.5%	2.3%	3.3%
Other Energy Transformation & Losses	2	2	4	5	7	10	14	0.6%	5.6%	1.2%	4.0%	3.6%	3.4%
Final consumption	24	32	53	63	82	97	105	2.8%	5.3%	1.7%	2.7%	1.7%	0.7%
Steel, Non-Met. Minerals and Chem.	1	1	0	1	1	1	1	1.0%	-5.3%	10.5%	-2.2%	-1.4%	-0.6%
Other Industry	10	9	14	15	19	21	22	-0.3%	4.1%	0.7%	2.3%	1.1%	0.2%
Non-Energy Use	2	3	7	8	11	14	14	4.0%	7.7%	1.8%	3.6%	1.7%	0.3%
Residential	6	7	12	14	18	20	21	2.8%	4.9%	2.0%	2.2%	1.3%	0.5%
Services	0	1	2	3	5	7	10	11.3%	6.9%	3.5%	3.8%	4.1%	3.2%
Agriculture	0	0	3	3	4	5	6	10.1%	24.9%	2.1%	2.1%	2.0%	1.8%
Road	5	8	14	16	22	27	29	4.9%	5.1%	1.7%	3.0%	2.0%	0.6%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.6%	4.0%	3.1%
Aviation	0	0	1	1	1	1	2	8.0%	2.5%	1.2%	4.2%	2.9%	1.4%
Other Transport	0	1	1	0	0	1	0	n.s.	-3.5%	-5.4%	4.1%	1.5%	-0.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Egypt	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	8	11	25	31	37	36	50	3.0%	8.6%	2.3%	1.8%	-0.3%	3.3%
Coal	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	25.0%	7.0%	5.4%
Oil	4	2	5	5	6	4	4	-6.9%	10.1%	-0.5%	1.7%	-4.7%	1.6%
Gas	4	9	20	26	31	31	35	8.3%	8.3%	2.9%	1.6%	0.0%	1.3%
Biomass & Waste	0	0	0	0	0	0	8	n.s.	n.s.	n.s.	n.s.	n.s.	36.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	42	78	147	212	285	401	543	6.3%	6.5%	3.7%	3.0%	3.5%	3.1%
Coal	0	0	0	0	4	8	14	n.s.	n.s.	n.s.	25.4%	7.0%	5.3%
of which CCS	0	0	0	0	0	2	10	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Oil	13	22	20	22	26	16	19	5.2%	-1.2%	1.0%	1.7%	-4.7%	1.7%
Gas	19	42	112	148	180	181	210	8.3%	10.3%	2.8%	1.9%	0.0%	1.5%
of which CCS	0	0	0	0	0	41	138	n.s.	n.s.	n.s.	n.s.	n.s.	12.8%
Biomass & Waste	0	0	0	0	0	2	43	n.s.	n.s.	n.s.	n.s.	n.s.	37.5%
of which CCS	0	0	0	0	0	0	40	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	10	14	13	14	16	17	18	3.3%	-0.5%	1.0%	1.2%	0.6%	0.4%
Wind	0	0	1	26	55	139	172	n.s.	27.0%	33.1%	7.7%	9.8%	2.1%
Solar	0	0	0	0	5	38	66	n.s.	n.s.	29.0%	29.4%	23.5%	5.8%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	22.9%	18.9%
Generation Capacity (GW_e)	12	19	26	51	71	119	142	5.1%	3.3%	6.8%	3.3%	5.4%	1.7%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	25.6%	7.0%	5.1%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Oil	4	6	5	7	8	6	7	3.5%	-2.5%	2.9%	1.6%	-1.8%	1.2%
Gas	5	10	18	33	40	46	36	8.3%	6.2%	6.1%	1.9%	1.4%	-2.4%
of which CCS	0	0	0	0	0	5	19	n.s.	n.s.	n.s.	n.s.	n.s.	13.5%
Biomass & Waste	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	37.4%
of which CCS	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	3	3	3	3	4	4	0.3%	0.2%	0.8%	1.2%	0.6%	0.4%
Wind	0	0	1	8	16	41	50	n.s.	40.0%	31.0%	7.2%	9.4%	2.0%
Solar	0	0	0	0	3	21	38	n.s.	n.s.	29.1%	29.6%	23.6%	5.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	22.3%	18.4%
Total Final Consumption² (Mtoe)	24	32	53	63	82	97	105	2.8%	5.3%	1.7%	2.7%	1.7%	0.7%
Coal	1	1	0	1	1	1	1	1.0%	-5.3%	12.2%	1.1%	-0.3%	-1.0%
Oil	16	20	30	32	36	37	34	2.2%	3.8%	0.7%	1.2%	0.2%	-0.7%
Gas	2	4	11	14	22	25	22	5.0%	10.7%	2.4%	4.9%	1.3%	-1.5%
Electricity	3	6	11	14	19	28	37	5.9%	6.8%	3.0%	3.1%	3.6%	3.1%
Heat	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	9.3%	14.7%	5.9%
Biomass & Other	2	1	2	1	2	3	5	-1.9%	1.7%	-1.3%	4.2%	4.1%	4.0%
Share of Renewables ³ (%)	11%	8%	6%	9%	12%	27%	38%	-2.6%	-3.6%	4.2%	3.7%	8.0%	3.6%
Industry (incl. non-energy use)	13	13	21	24	31	36	37	0.6%	4.8%	1.3%	2.6%	1.3%	0.3%
Coal	1	1	0	1	1	1	1	1.0%	-5.3%	12.2%	1.1%	-0.3%	-1.0%
Oil	8	7	8	8	9	9	10	-0.9%	1.0%	0.5%	0.9%	0.5%	0.8%
Gas	2	4	10	11	15	17	16	4.4%	10.4%	1.4%	3.3%	1.2%	-1.0%
Electricity	1	2	4	4	5	7	9	3.8%	5.2%	0.9%	3.5%	2.8%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	0	0	0	0	0	0	n.s.	n.s.	n.s.	37.7%	2.1%	0.0%
Buildings	6	9	14	18	23	27	31	3.6%	5.2%	2.2%	2.5%	1.9%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	5	4	3	2	1	1.1%	3.1%	-1.9%	-3.3%	-5.0%	-6.2%
Gas	0	0	1	2	6	6	3	16.9%	9.7%	9.7%	10.1%	0.0%	-5.7%
Electricity	2	3	7	10	12	16	21	7.5%	7.7%	3.7%	2.2%	2.9%	2.8%
Heat	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	9.3%	14.7%	5.9%
Biomass & Other	1	1	2	1	1	1	1	2.1%	1.7%	-1.6%	-0.6%	-2.5%	-4.4%
Agriculture	0	0	3	3	4	5	6	10.1%	24.9%	2.1%	2.1%	2.0%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	2	3	3	2	1	n.s.	40.6%	1.3%	0.5%	-3.0%	-3.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	1	1	2	4	6.9%	6.9%	5.6%	5.3%	6.8%	4.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	15.7%	4.2%
Transport	5	10	15	17	24	29	31	6.0%	4.5%	1.6%	3.1%	2.1%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	10	15	17	21	23	22	6.0%	4.3%	1.4%	2.3%	1.0%	-0.8%
Gas	0	0	0	1	1	2	3	n.s.	n.s.	4.2%	9.8%	5.8%	2.3%
Electricity	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	28.1%	10.4%	5.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	25.4%	11.7%	9.2%
Other Energy Transformation & Losses⁴	2	2	4	5	7	10	14	0.6%	5.6%	1.2%	4.0%	3.6%	3.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Algeria & Libya	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	30	37	42	50	56	60	65	1.9%	1.5%	1.6%	1.1%	0.8%	0.7%
GDP per capita (ppp, k\$'05)	5	7	6	8	12	16	21	2.9%	-0.7%	2.6%	3.9%	3.1%	2.3%
GDP per capita (mer, k\$'05)	2	3	4	4	7	9	11	3.7%	2.6%	0.8%	3.9%	3.1%	2.3%
Share Value Added - Agriculture (%)	8	5	7	10	8	7	7	-3.9%	2.6%	4.1%	-1.9%	-1.1%	-0.6%
Share Value Added - Industry (%)	33	34	62	45	43	39	35	0.5%	6.0%	-3.1%	-0.5%	-0.9%	-1.0%
Share Value Added - Services (%)	59	60	32	45	49	53	58	0.2%	-6.2%	3.6%	0.8%	0.9%	0.8%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	18	-3.4%	3.6%	-3.0%	1.0%	1.2%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	169	198	253	337	364	285	176	1.6%	2.5%	2.9%	0.8%	-2.4%	-4.7%
Total GHG (excl. sinks)	169	199	254	338	366	287	179	1.6%	2.5%	2.9%	0.8%	-2.4%	-4.6%
Total GHG (energy, industry, agriculture)	167	197	252	336	363	284	176	1.7%	2.5%	2.9%	0.8%	-2.4%	-4.7%
CO ₂	113	134	179	281	317	245	146	1.7%	3.0%	4.6%	1.2%	-2.6%	-5.0%
CH ₄	48	57	64	44	37	31	23	1.7%	1.2%	-3.8%	-1.5%	-1.9%	-2.9%
N ₂ O	6	5	7	10	8	8	7	-0.4%	2.9%	3.1%	-1.5%	-0.3%	-1.5%
F gases	1	1	1	1	1	1	1	4.0%	3.0%	0.2%	-3.0%	-2.1%	-2.6%
Total GHG from Energy and Industry	159	189	242	322	350	271	165	1.7%	2.5%	2.9%	0.8%	-2.5%	-4.9%
CO₂ Emissions from Fuel Comb.	80	102	145	231	266	199	107	2.5%	3.5%	4.8%	1.4%	-2.9%	-6.0%
Power generation/District heating	18	32	47	65	91	45	-14	5.8%	4.1%	3.2%	3.4%	-6.9%	n.s.
Industry	8	10	15	22	16	11	7	2.0%	4.2%	4.1%	-2.9%	-4.1%	-4.0%
Buildings	10	14	20	30	28	17	10	3.6%	3.7%	4.3%	-0.7%	-4.8%	-5.5%
Agriculture	0	0	0	0	0	0	0	0.9%	17.6%	6.6%	-0.1%	-2.7%	-2.9%
Transport	18	23	46	80	91	88	73	2.6%	7.1%	5.8%	1.3%	-0.4%	-1.9%
Other	26	24	17	34	39	39	31	-0.9%	-3.4%	6.9%	1.6%	-0.2%	-2.1%
CO₂ captured (CCS)	0	0	0	0	1	38	109	n.s.	n.s.	n.s.	47.6%	43.6%	11.0%
Coal	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	16.7%	30.3%	12.6%
Gas	0	0	0	0	1	24	57	n.s.	n.s.	n.s.	n.s.	38.5%	9.0%
Biomass	0	0	0	0	0	13	49	n.s.	n.s.	n.s.	20.8%	n.s.	14.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	179	227	255	218	273	275	253	2.4%	1.1%	-1.5%	2.3%	0.1%	-0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	133	150	174	125	131	128	120	1.2%	1.5%	-3.3%	0.5%	-0.2%	-0.7%
Natural gas	46	77	80	93	140	139	125	5.3%	0.4%	1.5%	4.2%	0.0%	-1.1%
Biomass	0	0	0	1	1	2	1	3.6%	1.1%	11.4%	8.9%	5.0%	-11.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.6%	-0.4%
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	1.6%	1.5%	0.5%
Other renewables	0	0	0	0	1	5	8	n.s.	n.s.	n.s.	33.8%	23.1%	5.3%
Net Imports	-145	-185	-195	-123	-160	-162	-132						
Coal	0	1	0	0	1	1	1						
Oil	-116	-129	-144	-78	-80	-86	-82						
Natural gas	-30	-56	-51	-45	-81	-82	-71						
Biomass	0	0	0	0	0	5	19						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	34	43	60	95	113	112	120	2.3%	3.5%	4.7%	1.7%	0.0%	0.7%
Coal	0	1	0	0	1	1	1	2.6%	-4.1%	0.4%	6.9%	6.4%	0.1%
Oil	17	21	30	46	51	42	38	2.0%	3.8%	4.3%	0.9%	-2.0%	-1.1%
Natural gas	16	21	29	48	59	57	53	2.6%	3.3%	5.1%	2.1%	-0.3%	-0.7%
Biomass	0	0	0	1	2	7	20	3.6%	1.1%	9.4%	12.9%	15.2%	10.6%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	7.6%	-0.4%
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	1.6%	1.5%	0.5%
Other renewables	0	0	0	0	1	5	8	n.s.	n.s.	n.s.	33.8%	23.1%	5.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	34	43	60	95	113	112	120	2.3%	3.5%	4.7%	1.7%	0.0%	0.7%
Energy for Power Generation	7	12	19	26	37	42	57	5.8%	4.5%	3.3%	3.7%	1.4%	3.0%
Other Energy Transformation & Losses	11	9	7	12	16	18	20	-1.9%	-2.6%	6.2%	2.7%	1.1%	1.1%
Final consumption	18	24	40	64	72	70	68	3.0%	5.0%	5.0%	1.1%	-0.3%	-0.2%
Steel, Non-Met. Minerals and Chem.	1	1	2	4	3	2	1	-1.6%	12.1%	6.5%	-4.4%	-4.4%	-1.9%
Other Industry	3	4	5	7	7	6	6	3.3%	2.0%	3.7%	0.2%	-1.8%	-0.1%
Non-Energy Use	3	5	5	8	9	9	9	3.5%	1.5%	3.8%	1.6%	-0.2%	0.0%
Residential	4	6	8	12	12	10	9	4.5%	3.0%	4.3%	-0.1%	-2.0%	-0.5%
Services	0	1	3	5	6	7	8	4.3%	17.7%	4.6%	3.3%	1.0%	1.6%
Agriculture	0	0	0	0	1	1	1	0.9%	10.0%	2.5%	2.4%	2.1%	1.9%
Road	7	8	16	28	33	35	33	2.2%	6.5%	5.9%	1.9%	0.4%	-0.5%
Rail	0	0	0	0	0	0	0	1.2%	9.5%	2.9%	0.5%	0.0%	-0.4%
Aviation	0	0	0	0	0	0	0	7.2%	26.5%	8.7%	1.6%	0.9%	0.4%
Other Transport	0	0	0	0	0	0	0	0.9%	9.8%	4.5%	1.8%	-0.4%	-1.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Algeria & Libya	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	12	19	26	36	38	50	5.9%	4.5%	3.3%	3.5%	0.4%	2.7%
Coal	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	30.5%	9.0%	4.1%
Oil	3	5	5	6	8	3	5	5.1%	0.5%	2.5%	2.2%	-8.2%	4.7%
Gas	4	7	14	19	28	28	27	6.3%	6.5%	3.6%	3.7%	0.1%	-0.3%
Biomass & Waste	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	34.7%	11.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	27	43	81	130	201	244	326	4.6%	6.5%	4.8%	4.5%	2.0%	2.9%
Coal	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	30.9%	8.9%	3.9%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	13.5%
Oil	11	13	18	27	33	15	23	1.5%	3.6%	3.8%	2.3%	-7.7%	4.3%
Gas	16	30	62	102	160	170	166	6.4%	7.6%	5.1%	4.5%	0.6%	-0.2%
of which CCS	0	0	0	0	0	56	132	n.s.	n.s.	n.s.	n.s.	n.s.	8.9%
Biomass & Waste	0	0	0	0	1	27	81	n.s.	n.s.	n.s.	n.s.	34.8%	11.6%
of which CCS	0	0	0	0	0	17	60	n.s.	n.s.	n.s.	n.s.	n.s.	13.2%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	-8.8%	12.4%	6.4%	1.6%	1.5%	0.5%
Wind	0	0	0	0	4	20	32	n.s.	n.s.	n.s.	41.6%	18.8%	4.7%
Solar	0	0	0	0	1	9	20	n.s.	n.s.	38.0%	14.2%	25.4%	8.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	27.0%	15.9%
Generation Capacity (GW_e)	8	11	20	30	39	59	68	2.7%	6.2%	4.4%	2.6%	4.2%	1.4%
Coal	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	31.2%	8.6%	3.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	13.6%
Oil	4	4	4	5	7	7	6	-0.5%	-0.1%	2.8%	3.1%	0.4%	-1.7%
Gas	4	6	15	24	29	32	22	5.8%	9.1%	4.7%	1.7%	1.1%	-3.6%
of which CCS	0	0	0	0	0	7	17	n.s.	n.s.	n.s.	n.s.	n.s.	9.0%
Biomass & Waste	0	0	0	0	0	4	11	n.s.	n.s.	n.s.	n.s.	34.3%	11.7%
of which CCS	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	-0.4%	0.0%	-0.8%	1.6%	1.5%	0.5%
Wind	0	0	0	0	1	8	12	n.s.	n.s.	n.s.	40.5%	18.1%	4.3%
Solar	0	0	0	0	1	7	16	n.s.	n.s.	48.1%	10.1%	24.9%	7.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	26.4%	15.3%
Total Final Consumption² (Mtoe)	18	24	40	64	72	70	68	3.0%	5.0%	5.0%	1.1%	-0.3%	-0.2%
Coal	0	0	0	0	0	0	0	-3.2%	-0.9%	1.0%	2.3%	-2.3%	-3.2%
Oil	12	15	23	38	41	37	31	2.3%	4.9%	4.9%	0.8%	-1.0%	-1.7%
Gas	4	7	11	18	18	14	11	4.6%	4.6%	5.4%	-0.3%	-2.1%	-2.8%
Electricity	2	2	5	7	11	14	19	4.7%	7.5%	3.8%	4.5%	2.1%	3.0%
Heat	0	0	0	0	0	2	3	n.s.	n.s.	n.s.	n.s.	27.5%	4.4%
Biomass & Other	0	0	0	1	2	2	4	3.6%	1.1%	14.4%	6.9%	3.5%	6.9%
Share of Renewables ³ (%)	1%	1%	1%	1%	3%	14%	31%	0.0%	-3.6%	2.3%	12.7%	18.2%	8.3%
Industry (incl. non-energy use)	7	9	12	19	19	16	16	2.9%	3.0%	4.3%	0.0%	-1.3%	-0.2%
Coal	0	0	0	0	0	0	0	-3.2%	-0.9%	1.0%	2.3%	-2.3%	-3.2%
Oil	2	3	4	6	7	6	7	2.6%	2.8%	3.3%	1.3%	-0.7%	0.7%
Gas	3	5	6	10	8	7	5	3.7%	3.1%	4.6%	-2.0%	-2.3%	-2.7%
Electricity	1	1	1	2	3	3	4	2.7%	4.0%	6.3%	3.2%	-0.1%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	3.8%	-8.6%	23.2%
Buildings	4	7	11	17	19	17	18	4.5%	5.3%	4.4%	1.0%	-0.9%	0.4%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	3	4	3	2	1	2.3%	1.0%	2.1%	-1.8%	-5.5%	-5.5%
Gas	1	2	4	8	8	5	3	6.9%	7.5%	6.2%	0.0%	-4.4%	-5.5%
Electricity	1	1	3	5	7	8	10	6.6%	9.0%	2.9%	3.7%	1.5%	2.6%
Heat	0	0	0	0	0	2	3	n.s.	n.s.	n.s.	n.s.	27.5%	4.4%
Biomass & Other	0	0	0	1	1	1	1	3.6%	1.1%	13.0%	1.7%	-4.6%	4.0%
Agriculture	0	0	0	0	1	1	1	0.9%	10.0%	2.5%	2.4%	2.1%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	0.9%	12.0%	1.6%	-0.4%	-3.5%	-3.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	11.7%	0.1%	-2.2%	-2.5%
Electricity	0	0	0	0	0	1	1	1.0%	8.8%	1.1%	2.9%	2.9%	2.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	9.5%	4.3%
Transport	7	9	16	28	34	36	34	2.2%	6.6%	5.8%	1.9%	0.4%	-0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	9	16	28	31	29	23	2.2%	6.6%	5.7%	0.9%	-0.7%	-2.1%
Gas	0	0	0	0	2	3	3	n.s.	n.s.	n.s.	20.9%	5.3%	0.7%
Electricity	0	0	0	0	1	3	4	3.0%	7.5%	7.8%	27.2%	8.8%	5.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	34.7%	9.9%	7.0%
Other Energy Transformation & Losses⁴	11	9	7	12	16	18	20	-1.9%	-2.6%	6.2%	2.7%	1.1%	1.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Morocco & Tunisia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	33	39	43	49	53	56	58	1.6%	1.1%	1.2%	0.8%	0.5%	0.3%
GDP per capita (ppp, k\$'05)	3	4	5	7	11	16	23	1.7%	3.7%	3.2%	4.2%	4.1%	3.4%
GDP per capita (mer, k\$'05)	2	2	3	4	5	8	11	1.9%	3.7%	3.1%	4.2%	4.1%	3.4%
Share Value Added - Agriculture (%)	17	13	12	10	8	7	6	-3.2%	-0.1%	-2.0%	-2.3%	-1.5%	-0.9%
Share Value Added - Industry (%)	32	30	30	30	29	26	22	-0.6%	-0.2%	0.0%	-0.3%	-1.1%	-1.6%
Share Value Added - Services (%)	51	57	58	60	63	67	72	1.2%	0.1%	0.4%	0.5%	0.6%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	16	18	-3.4%	3.6%	-3.0%	1.0%	1.2%	1.2%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	50	69	104	131	155	152	124	3.2%	4.2%	2.4%	1.7%	-0.2%	-2.0%
Total GHG (excl. sinks)	59	79	104	131	158	155	128	3.0%	2.8%	2.3%	1.9%	-0.2%	-1.9%
Total GHG (energy, industry, agriculture)	58	78	103	130	158	155	128	3.0%	2.9%	2.3%	2.0%	-0.2%	-1.9%
CO ₂	37	54	77	101	128	127	104	3.8%	3.6%	2.8%	2.4%	-0.1%	-1.9%
CH ₄	13	16	18	19	20	20	16	2.1%	1.3%	0.5%	0.6%	-0.4%	-1.9%
N ₂ O	8	8	8	9	9	9	8	-0.2%	0.6%	1.2%	-0.1%	-0.6%	-1.1%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	45	64	89	115	142	140	115	3.5%	3.4%	2.5%	2.2%	-0.2%	-2.0%
CO₂ Emissions from Fuel Comb.	32	47	67	89	112	109	88	4.0%	3.7%	2.8%	2.3%	-0.3%	-2.1%
Power generation/District heating	12	17	24	33	42	37	24	3.9%	3.7%	3.0%	2.5%	-1.4%	-4.2%
Industry	8	8	11	14	16	15	12	0.0%	2.3%	2.7%	1.7%	-1.0%	-2.2%
Buildings	3	5	7	9	14	15	12	5.8%	2.9%	2.5%	4.9%	0.9%	-2.6%
Agriculture	2	3	5	6	6	4	3	6.6%	4.7%	2.1%	-0.9%	-3.3%	-3.5%
Transport	6	12	17	24	29	33	33	6.4%	3.8%	3.1%	2.0%	1.3%	-0.1%
Other	1	1	3	4	5	5	5	4.8%	9.7%	1.0%	2.9%	0.8%	0.1%
CO₂ captured (CCS)	0	0	0	0	0	7	32	n.s.	n.s.	n.s.	n.s.	37.0%	16.6%
Coal	0	0	0	0	0	4	15	n.s.	n.s.	n.s.	n.s.	33.1%	15.7%
Gas	0	0	0	0	0	3	16	n.s.	n.s.	n.s.	n.s.	47.1%	17.3%
Biomass	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.4%	21.4%
Energy Balance, by fuel (Mtoe)													
Primary Production	7	8	10	11	19	28	38	0.8%	2.5%	1.0%	5.5%	4.4%	3.0%
Coal	0	0	0	0	0	0	0	-22.5%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	4	4	4	6	9	11	-2.2%	0.6%	-0.9%	4.8%	3.9%	2.5%
Natural gas	0	2	3	4	8	11	15	17.5%	6.0%	3.2%	6.2%	3.9%	2.7%
Biomass	1	2	2	2	2	2	2	2.7%	1.2%	-2.6%	3.6%	0.0%	0.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.8%	10.6%
Hydro	0	0	0	0	0	0	0	-4.7%	16.8%	-2.8%	1.5%	0.9%	0.6%
Other renewables	0	0	0	1	2	6	10	n.s.	29.8%	25.6%	8.7%	9.8%	5.2%
Net Imports	5	11	17	24	28	24	20						
Coal	1	3	3	4	5	5	6						
Oil	3	7	11	16	16	11	6						
Natural gas	1	1	3	3	7	8	7						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	12	18	27	35	46	53	58	3.9%	4.0%	2.7%	2.8%	1.3%	1.1%
Coal	1	3	3	4	5	5	6	8.4%	0.2%	4.2%	2.2%	-0.6%	1.6%
Oil	8	10	16	20	21	20	17	2.4%	4.1%	2.7%	0.6%	-0.9%	-1.2%
Natural gas	1	3	6	7	14	19	22	8.2%	7.4%	2.7%	6.7%	2.8%	1.6%
Biomass	1	2	2	2	2	2	2	2.7%	1.2%	-2.4%	3.4%	-0.1%	0.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	16.8%	10.6%
Hydro	0	0	0	0	0	0	0	-4.7%	16.8%	-2.8%	1.5%	0.9%	0.6%
Other renewables	0	0	0	1	2	6	10	n.s.	29.8%	25.6%	8.7%	9.8%	5.2%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	12	18	27	35	46	53	58	3.9%	4.0%	2.7%	2.8%	1.3%	1.1%
Energy for Power Generation	4	5	8	12	17	21	29	3.7%	4.4%	3.4%	3.6%	2.3%	3.3%
Other Energy Transformation & Losses	0	0	2	2	4	4	5	4.3%	13.5%	3.6%	4.3%	1.6%	1.6%
Final consumption	9	14	20	26	34	39	42	4.2%	3.6%	2.6%	2.7%	1.4%	0.8%
Steel, Non-Met. Minerals and Chem.	0	0	2	3	4	4	4	0.1%	20.9%	4.1%	1.5%	-0.3%	-0.9%
Other Industry	3	3	3	3	5	5	6	1.2%	-2.5%	2.5%	3.6%	1.6%	0.7%
Non-Energy Use	0	0	1	1	1	1	1	8.5%	4.7%	3.3%	-0.4%	-1.9%	-3.0%
Residential	2	3	4	5	7	7	7	4.5%	2.9%	1.4%	2.7%	0.7%	0.5%
Services	1	1	2	2	3	4	6	3.6%	4.9%	0.8%	5.8%	3.2%	2.4%
Agriculture	1	1	2	2	3	3	4	6.5%	4.9%	2.3%	1.8%	1.7%	1.5%
Road	2	4	6	8	10	13	14	6.1%	3.6%	3.2%	2.7%	2.0%	0.9%
Rail	0	0	0	0	0	0	0	5.7%	3.4%	2.0%	0.9%	0.7%	0.2%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	6.4%	4.2%	3.5%	1.8%
Other Transport	0	0	1	1	1	1	1	9.9%	5.3%	4.0%	2.8%	0.7%	-0.9%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Morocco & Tunisia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	4	5	8	10	14	15	19	3.8%	4.1%	2.8%	3.0%	0.5%	2.4%
Coal	1	2	3	4	4	4	5	10.9%	2.7%	3.1%	0.9%	-1.2%	2.9%
Oil	2	1	1	2	3	2	2	-5.9%	1.7%	6.4%	1.9%	-3.1%	-1.3%
Gas	1	2	4	4	7	9	12	9.2%	6.2%	0.9%	5.1%	2.5%	3.0%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	15	23	40	61	96	144	199	4.3%	5.4%	4.3%	4.7%	4.1%	3.3%
Coal	2	9	11	16	18	17	24	14.8%	2.2%	3.7%	1.4%	-0.6%	3.6%
of which CCS	0	0	0	0	0	3	19	n.s.	n.s.	n.s.	n.s.	n.s.	18.5%
Oil	8	5	6	11	13	10	8	-5.8%	2.4%	6.3%	2.0%	-2.9%	-1.4%
Gas	4	9	19	21	36	48	70	9.6%	7.2%	1.1%	5.6%	3.1%	3.7%
of which CCS	0	0	0	0	0	8	41	n.s.	n.s.	n.s.	n.s.	n.s.	18.0%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	1	4	3	3	4	4	-4.7%	16.8%	-2.8%	1.5%	0.9%	0.6%
Wind	0	0	1	10	20	38	53	n.s.	24.8%	29.3%	6.8%	6.5%	3.5%
Solar	0	0	0	0	6	28	39	n.s.	n.s.	21.5%	29.6%	16.6%	3.3%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	28.9%	18.4%	14.4%
Generation Capacity (GW_e)	4	7	10	17	26	48	61	6.8%	3.5%	5.2%	4.6%	6.2%	2.4%
Coal	0	1	2	3	4	4	3	12.1%	2.1%	4.4%	3.1%	0.8%	-1.5%
of which CCS	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	n.s.	18.8%
Oil	2	2	2	2	3	3	2	3.4%	-0.6%	1.1%	1.7%	0.6%	-1.3%
Gas	1	2	4	5	7	9	12	10.7%	7.7%	2.6%	2.2%	3.2%	2.8%
of which CCS	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	19.0%
Biomass & Waste	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	2	2	2	3	3	3	4.3%	1.4%	1.8%	1.4%	0.9%	0.6%
Wind	0	0	0	4	7	13	17	n.s.	18.7%	27.9%	6.3%	5.9%	2.9%
Solar	0	0	0	0	4	16	23	n.s.	n.s.	21.7%	29.9%	16.6%	3.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.8%	13.9%
Total Final Consumption² (Mtoe)	9	14	20	26	34	39	42	4.2%	3.6%	2.6%	2.7%	1.4%	0.8%
Coal	0	1	0	0	1	1	1	2.8%	-30.6%	37.3%	10.2%	-0.2%	-3.9%
Oil	6	9	14	17	17	17	15	4.3%	4.1%	2.1%	0.4%	-0.5%	-1.2%
Gas	0	1	1	3	6	8	8	6.1%	6.1%	8.2%	9.2%	3.1%	-0.7%
Electricity	1	2	3	5	7	11	14	5.2%	5.5%	3.7%	4.5%	4.0%	3.1%
Heat	0	0	0	0	0	0	2	n.s.	n.s.	6.2%	-4.0%	18.7%	25.4%
Biomass & Other	1	2	2	2	2	3	3	2.7%	1.2%	-2.4%	2.7%	1.2%	1.9%
Share of Renewables ³ (%)	16%	14%	13%	11%	13%	22%	30%	-1.6%	-1.0%	-1.7%	2.4%	4.9%	3.4%
Industry (incl. non-energy use)	3	4	6	8	10	10	10	1.7%	3.2%	3.3%	2.2%	0.5%	-0.1%
Coal	0	1	0	0	1	1	1	2.8%	-30.6%	37.3%	10.2%	-0.2%	-3.9%
Oil	2	2	3	4	4	2	2	-0.3%	5.5%	1.9%	-1.5%	-4.0%	-4.4%
Gas	0	0	1	1	2	3	3	5.1%	5.7%	2.1%	5.7%	3.6%	0.7%
Electricity	1	1	1	2	3	4	5	4.3%	3.1%	5.3%	4.1%	2.9%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	1.5%	3.6%	3.8%	-2.6%	-2.2%
Buildings	3	4	6	7	10	11	13	4.3%	3.4%	1.2%	3.6%	1.6%	1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	1	1	5.5%	2.6%	-1.4%	-0.8%	-1.9%	-2.4%
Gas	0	0	0	1	4	5	4	10.1%	6.9%	16.7%	10.5%	2.2%	-2.7%
Electricity	0	1	2	2	3	4	6	6.4%	7.6%	2.3%	3.2%	3.5%	3.3%
Heat	0	0	0	0	0	0	2	n.s.	n.s.	6.2%	-4.0%	18.7%	25.4%
Biomass & Other	1	2	2	2	1	1	1	2.3%	1.2%	-3.1%	-1.5%	-3.3%	-2.4%
Agriculture	1	1	2	2	3	3	4	6.5%	4.9%	2.3%	1.8%	1.7%	1.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	1	1	6.6%	4.7%	2.0%	-0.9%	-3.3%	-3.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	13.9%	-0.3%	-2.0%	-2.2%
Electricity	0	0	0	0	1	1	2	6.1%	6.9%	3.9%	8.5%	6.9%	4.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	10.2%	3.5%
Transport	2	5	7	9	12	14	15	6.3%	3.8%	3.3%	2.7%	1.9%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	5	7	9	11	12	11	6.4%	3.8%	3.1%	1.7%	1.0%	-0.4%
Gas	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	21.6%	7.7%	3.5%
Electricity	0	0	0	0	0	1	2	2.8%	-1.8%	7.5%	20.5%	9.8%	5.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	20.8%	4.3%	4.8%
Other Energy Transformation & Losses⁴	0	0	2	2	4	4	5	4.3%	13.5%	3.6%	4.3%	1.6%	1.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

South Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	37	45	52	57	60	63	66	2.0%	1.4%	0.9%	0.6%	0.5%	0.4%
GDP per capita (ppp, k\$'05)	8	7	9	10	13	18	21	-0.2%	2.1%	0.9%	2.6%	3.0%	1.8%
GDP per capita (mer, k\$'05)	5	5	6	6	8	11	13	-0.2%	2.0%	0.8%	2.6%	3.0%	1.8%
Share Value Added - Agriculture (%)	5	3	3	2	2	2	2	-3.4%	-2.2%	-1.2%	-0.7%	-0.6%	-0.3%
Share Value Added - Industry (%)	40	32	30	29	26	23	21	-2.3%	-0.5%	-0.5%	-0.8%	-1.2%	-1.0%
Share Value Added - Services (%)	55	65	67	69	71	75	77	1.6%	0.4%	0.3%	0.3%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	16	18	19	-3.4%	3.6%	-3.2%	2.1%	1.2%	0.6%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	351	403	511	548	468	346	197	1.4%	2.4%	0.7%	-1.6%	-3.0%	-5.5%
Total GHG (excl. sinks)	351	405	511	548	470	348	199	1.5%	2.3%	0.7%	-1.5%	-3.0%	-5.5%
Total GHG (energy, industry, agriculture)	347	402	510	537	467	317	181	1.5%	2.4%	0.5%	-1.4%	-3.8%	-5.5%
CO ₂	275	324	426	457	403	268	143	1.7%	2.8%	0.7%	-1.2%	-4.0%	-6.1%
CH ₄	51	57	63	58	44	31	22	1.2%	1.0%	-0.8%	-2.7%	-3.3%	-3.7%
N ₂ O	20	19	18	19	18	17	15	-0.4%	-0.4%	0.6%	-0.6%	-0.8%	-0.8%
F gases	1	2	3	2	2	1	1	0.6%	5.2%	-1.3%	-3.7%	-2.8%	-5.6%
Total GHG from Energy and Industry	315	370	476	501	435	289	155	1.6%	2.5%	0.5%	-1.4%	-4.0%	-6.0%
CO₂ Emissions from Fuel Comb.	254	304	405	425	366	225	105	1.8%	2.9%	0.5%	-1.5%	-4.8%	-7.4%
Power generation/District heating	142	188	242	200	168	66	-30	2.8%	2.6%	-1.8%	-1.7%	-9.0%	n.s.
Industry	32	28	42	35	28	19	13	-1.3%	4.2%	-1.7%	-2.4%	-3.7%	-3.7%
Buildings	12	9	17	27	15	7	5	-2.2%	6.3%	4.7%	-5.4%	-7.2%	-4.5%
Agriculture	3	4	3	6	5	4	2	2.0%	-1.1%	6.4%	-1.3%	-4.0%	-4.2%
Transport	29	36	42	55	59	63	58	2.0%	1.5%	2.8%	0.7%	0.6%	-0.8%
Other	36	40	60	102	90	66	57	1.1%	4.1%	5.4%	-1.2%	-3.0%	-1.6%
CO₂ captured (CCS)	0	0	0	0	1	15	76	n.s.	n.s.	n.s.	n.s.	39.2%	17.7%
Coal	0	0	0	0	0	6	21	n.s.	n.s.	n.s.	n.s.	28.4%	13.8%
Gas	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	n.s.	32.0%	20.2%
Biomass	0	0	0	0	0	9	52	n.s.	n.s.	n.s.	n.s.	n.s.	19.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	108	153	166	167	180	145	142	3.6%	0.8%	0.0%	0.8%	-2.1%	-0.2%
Coal	91	128	145	144	143	81	70	3.5%	1.3%	-0.1%	-0.1%	-5.5%	-1.4%
Oil	5	10	5	7	8	6	4	7.2%	-8.0%	4.2%	1.3%	-2.6%	-5.0%
Natural gas	2	1	1	1	2	2	2	-0.8%	-1.0%	-2.3%	7.3%	0.5%	0.9%
Biomass	8	9	11	9	13	18	19	1.9%	1.4%	-1.5%	3.5%	3.1%	0.4%
Nuclear ¹	2	3	3	3	8	30	34	4.4%	-0.7%	0.2%	9.3%	14.2%	1.3%
Hydro	0	0	0	0	1	1	1	3.3%	2.6%	-0.9%	3.4%	2.4%	1.2%
Other renewables	0	0	0	2	6	8	13	n.s.	n.s.	37.7%	12.2%	3.4%	5.0%
Net Imports	-21	-47	-27	-30	-45	-12	-9						
Coal	-23	-46	-45	-49	-66	-41	-42						
Oil	3	-2	15	13	12	13	11						
Natural gas	-1	0	3	4	7	14	10						
Biomass	0	0	0	2	2	4	11						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	1	0	0	0	0	0						
Primary Energy Demand²	87	106	138	136	134	134	134	2.0%	2.7%	-0.1%	-0.2%	0.0%	0.0%
Coal	68	82	100	95	77	40	28	1.9%	2.1%	-0.5%	-2.1%	-6.4%	-3.3%
Oil	9	9	20	20	19	19	15	0.2%	8.5%	0.0%	-0.1%	-0.3%	-2.3%
Natural gas	0	1	4	5	9	16	13	10.9%	10.7%	1.5%	7.3%	5.6%	-2.0%
Biomass	8	9	11	12	15	22	30	1.9%	1.4%	0.8%	2.7%	3.5%	3.3%
Nuclear ¹	2	3	3	3	8	30	34	4.4%	-0.7%	0.2%	9.3%	14.2%	1.3%
Hydro	0	0	0	0	1	1	1	3.3%	2.6%	-0.9%	3.4%	2.4%	1.2%
Other renewables	0	0	0	2	6	8	13	n.s.	n.s.	37.7%	12.2%	3.4%	5.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	87	106	138	136	134	134	134	2.0%	2.7%	-0.1%	-0.2%	0.0%	0.0%
Energy for Power Generation	38	51	64	56	59	68	77	3.0%	2.4%	-1.4%	0.4%	1.5%	1.3%
Other Energy Transformation & Losses	8	13	21	22	21	17	16	4.8%	4.8%	0.5%	-0.6%	-2.1%	-0.8%
Final consumption	52	57	70	75	75	75	74	0.8%	2.1%	0.6%	0.1%	0.0%	-0.1%
Steel, Non-Met. Minerals and Chem.	10	7	10	10	9	7	6	-3.5%	3.4%	-0.2%	-1.2%	-2.3%	-1.9%
Other Industry	13	14	18	16	15	14	14	0.9%	2.7%	-1.4%	-0.3%	-0.9%	0.2%
Non-Energy Use	4	6	4	3	3	2	2	2.8%	-2.6%	-4.7%	0.0%	-0.9%	-1.8%
Residential	10	12	15	16	15	13	12	1.5%	2.2%	0.9%	-0.7%	-1.2%	-1.2%
Services	3	4	5	6	6	6	7	2.5%	1.8%	2.4%	-0.5%	0.7%	1.6%
Agriculture	1	2	2	2	3	3	4	1.7%	0.3%	4.5%	1.5%	1.4%	1.0%
Road	9	11	15	20	23	26	26	1.8%	3.0%	2.8%	1.4%	1.4%	0.1%
Rail	0	1	0	0	1	1	1	5.2%	-6.5%	2.9%	1.6%	1.8%	0.9%
Aviation	0	1	1	1	2	2	3	5.7%	5.0%	2.9%	2.9%	2.7%	0.9%
Other Transport	0	0	0	0	0	0	0	n.s.	4.5%	32.7%	1.4%	-0.1%	-2.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

South Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	36	47	61	51	45	29	30	2.9%	2.6%	-1.8%	-1.3%	-4.1%	0.1%
Coal	36	47	61	50	40	15	7	2.8%	2.6%	-1.9%	-2.1%	-9.6%	-7.2%
Oil	0	0	0	0	1	1	1	n.s.	n.s.	19.3%	8.5%	4.9%	-4.1%
Gas	0	0	0	0	3	7	5	n.s.	n.s.	n.s.	43.4%	10.8%	-4.4%
Biomass & Waste	0	0	0	0	1	7	18	n.s.	-0.7%	11.6%	14.5%	19.4%	10.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	167	211	260	241	285	343	424	2.3%	2.1%	-0.7%	1.7%	1.9%	2.1%
Coal	156	193	242	204	168	63	33	2.2%	2.3%	-1.7%	-1.9%	-9.3%	-6.2%
of which CCS	0	0	0	0	0	4	23	n.s.	n.s.	n.s.	n.s.	n.s.	18.1%
Oil	0	0	0	1	3	4	3	n.s.	n.s.	18.8%	9.0%	5.4%	-3.7%
Gas	0	0	0	0	12	34	25	n.s.	n.s.	n.s.	41.1%	11.2%	-3.1%
of which CCS	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	21.1%
Biomass & Waste	0	0	0	1	5	32	88	n.s.	-0.7%	11.6%	19.1%	20.7%	10.6%
of which CCS	0	0	0	0	0	11	62	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Nuclear	8	13	12	12	31	122	139	4.4%	-0.7%	0.2%	9.8%	14.5%	1.3%
Hydro	3	4	5	5	6	8	9	3.3%	2.6%	-0.9%	3.4%	2.4%	1.2%
Wind	0	0	0	8	42	57	84	n.s.	n.s.	n.s.	17.5%	3.0%	4.0%
Solar	0	0	0	10	18	22	41	n.s.	n.s.	n.s.	6.2%	2.5%	6.3%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	31.4%	19.2%	11.1%
Generation Capacity (GW_e)	35	41	44	54	76	91	121	1.7%	0.7%	2.1%	3.3%	1.9%	2.9%
Coal	31	37	38	35	30	16	10	1.8%	0.2%	-0.7%	-1.6%	-5.9%	-4.6%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	18.6%
Oil	0	0	0	0	0	1	1	29.8%	0.0%	-1.2%	2.6%	6.3%	4.5%
Gas	0	0	2	3	4	6	8	n.s.	n.s.	2.7%	3.8%	4.9%	2.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	22.2%
Biomass & Waste	0	0	0	0	1	4	13	n.s.	0.0%	11.8%	13.8%	20.7%	11.3%
of which CCS	0	0	0	0	0	1	8	n.s.	n.s.	n.s.	n.s.	n.s.	19.5%
Nuclear	2	2	2	2	5	17	19	0.0%	0.0%	0.2%	9.6%	14.3%	1.1%
Hydro	2	2	2	2	3	4	4	0.3%	0.1%	0.8%	3.4%	2.4%	1.2%
Wind	0	0	0	4	18	24	33	n.s.	n.s.	n.s.	16.4%	2.7%	3.2%
Solar	0	0	0	8	14	18	32	n.s.	n.s.	n.s.	6.4%	2.2%	6.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.7%	10.6%
Total Final Consumption² (Mtoe)	52	57	70	75	75	75	74	0.8%	2.1%	0.6%	0.1%	0.0%	-0.1%
Coal	17	16	16	15	9	3	1	-0.9%	-0.1%	-0.1%	-4.9%	-9.7%	-9.0%
Oil	15	16	23	28	27	26	23	0.7%	3.6%	2.1%	-0.2%	-0.4%	-1.3%
Gas	0	1	4	4	6	8	7	5.6%	15.2%	0.5%	4.6%	3.0%	-0.6%
Electricity	12	15	17	16	19	23	29	2.3%	1.5%	-0.6%	1.8%	1.8%	2.1%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	11.7%	7.4%	8.8%	7.1%
Biomass & Other	8	9	11	11	13	13	12	1.8%	1.5%	0.3%	1.6%	0.2%	-1.3%
Share of Renewables ³ (%)	16%	17%	16%	17%	25%	33%	47%	0.8%	-0.8%	0.9%	4.0%	2.7%	3.5%
Industry (incl. non-energy use)	27	27	32	28	26	23	22	-0.2%	2.0%	-1.4%	-0.6%	-1.3%	-0.6%
Coal	15	14	12	9	6	3	1	-0.4%	-1.5%	-2.6%	-3.7%	-8.1%	-8.2%
Oil	4	2	4	4	4	3	2	-6.6%	9.4%	-0.6%	-1.4%	-2.1%	-2.4%
Gas	0	1	4	3	4	4	4	5.5%	15.6%	-0.7%	0.9%	1.2%	-1.1%
Electricity	7	8	10	10	10	10	12	1.6%	2.2%	-0.8%	0.6%	0.2%	1.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	2	3	3	3	1.3%	1.6%	-1.1%	4.5%	1.7%	-1.2%
Buildings	14	16	20	22	21	20	19	1.7%	2.1%	1.3%	-0.7%	-0.6%	-0.2%
Coal	2	1	3	6	3	0	0	-4.6%	8.3%	5.6%	-7.3%	-15.5%	-15.8%
Oil	1	1	1	1	1	1	0	5.0%	1.6%	-0.6%	-3.5%	-3.0%	-3.2%
Gas	0	0	0	0	1	1	1	8.2%	-4.5%	26.2%	14.5%	4.8%	-1.8%
Electricity	4	6	6	6	7	9	11	3.4%	0.7%	-0.6%	1.8%	2.4%	2.0%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	11.7%	7.4%	8.8%	7.1%
Biomass & Other	6	8	9	9	9	7	5	1.9%	1.4%	0.4%	-0.1%	-2.3%	-4.3%
Agriculture	1	2	2	2	3	3	4	1.7%	0.3%	4.5%	1.5%	1.4%	1.0%
Coal	0	0	0	0	0	0	0	3.3%	-0.3%	22.6%	-3.5%	-7.5%	-7.5%
Oil	1	1	1	2	1	1	1	2.0%	-1.2%	4.5%	-0.8%	-3.4%	-3.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	1	1	1	1	1	0.8%	4.1%	0.2%	3.7%	3.8%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	55.9%	10.4%	3.2%
Transport	10	12	16	22	25	29	30	2.1%	2.8%	2.9%	1.5%	1.5%	0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	10	12	16	21	21	22	20	2.1%	3.0%	2.7%	0.2%	0.2%	-1.0%
Gas	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	20.6%	5.8%	0.8%
Electricity	0	0	0	0	1	3	5	2.9%	-4.1%	1.8%	15.2%	7.3%	4.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	17.7%	7.7%	3.7%
Other Energy Transformation & Losses⁴	8	13	21	22	21	17	16	4.8%	4.8%	0.5%	-0.6%	-2.1%	-0.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Sub-Saharan Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	475	625	825	1 084	1 393	1 749	2 138	2.8%	2.8%	2.8%	2.5%	2.3%	2.0%
GDP per capita (ppp, k\$'05)	1	1	1	2	3	4	6	-0.3%	3.6%	3.0%	3.9%	4.0%	4.0%
GDP per capita (mer, k\$'05)	1	0	1	1	1	2	3	-0.5%	3.5%	2.9%	3.9%	4.0%	4.0%
Share Value Added - Agriculture (%)	32	27	23	17	11	8	6	-1.7%	-1.6%	-2.8%	-4.4%	-3.1%	-2.1%
Share Value Added - Industry (%)	29	33	29	27	29	30	29	1.3%	-1.2%	-0.7%	0.6%	0.2%	-0.2%
Share Value Added - Services (%)	39	40	47	55	60	62	64	0.2%	1.8%	1.5%	0.8%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	16	18	19	-3.4%	3.6%	-3.2%	2.1%	1.2%	0.6%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 701	1 841	1 878	2 423	1 819	1 468	1 437	0.8%	0.2%	2.6%	-2.8%	-2.1%	-0.2%
Total GHG (excl. sinks)	1 701	1 841	1 878	2 423	2 031	2 378	2 545	0.8%	0.2%	2.6%	-1.8%	1.6%	0.7%
Total GHG (energy, industry, agriculture)	629	759	884	1 221	1 369	1 456	1 160	1.9%	1.5%	3.3%	1.2%	0.6%	-2.3%
CO ₂	160	208	241	451	689	854	722	2.7%	1.5%	6.5%	4.3%	2.2%	-1.7%
CH ₄	310	394	454	566	503	445	294	2.4%	1.4%	2.2%	-1.2%	-1.2%	-4.1%
N ₂ O	157	155	186	200	173	153	141	-0.2%	1.9%	0.7%	-1.4%	-1.2%	-0.8%
F gases	2	2	2	4	4	4	2	-0.2%	3.7%	4.4%	0.1%	-0.8%	-3.6%
Total GHG from Energy and Industry	329	399	459	775	1 009	1 150	892	1.9%	1.4%	5.4%	2.7%	1.3%	-2.5%
CO₂ Emissions from Fuel Comb.	99	130	192	364	523	610	450	2.8%	4.0%	6.6%	3.7%	1.5%	-3.0%
Power generation/District heating	20	27	40	106	143	122	-70	3.0%	4.0%	10.2%	3.0%	-1.6%	n.s.
Industry	21	19	28	51	80	93	67	-1.2%	4.1%	6.2%	4.6%	1.5%	-3.2%
Buildings	12	17	24	39	50	45	34	3.6%	3.4%	4.8%	2.5%	-0.9%	-2.8%
Agriculture	2	4	4	6	6	4	3	6.2%	0.4%	3.8%	0.0%	-3.6%	-3.4%
Transport	38	52	83	140	204	290	373	3.2%	4.7%	5.4%	3.9%	3.6%	2.6%
Other	5	10	13	22	40	56	42	8.3%	2.2%	5.8%	5.9%	3.4%	-2.7%
CO₂ captured (CCS)	0	0	0	0	2	40	255	n.s.	n.s.	n.s.	n.s.	38.4%	20.3%
Coal	0	0	0	0	1	15	50	n.s.	n.s.	n.s.	n.s.	26.3%	12.5%
Gas	0	0	0	0	0	4	16	n.s.	n.s.	n.s.	n.s.	n.s.	15.6%
Biomass	0	0	0	0	0	21	189	n.s.	n.s.	n.s.	n.s.	n.s.	24.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	309	438	611	529	624	692	819	3.6%	3.4%	-1.4%	1.7%	1.0%	1.7%
Coal	4	4	3	41	10	8	8	-0.5%	-4.0%	31.4%	-13.1%	-1.9%	-0.4%
Oil	151	227	310	213	215	191	151	4.1%	3.2%	-3.7%	0.1%	-1.2%	-2.3%
Natural gas	5	15	46	60	103	126	127	12.2%	11.6%	2.7%	5.6%	2.0%	0.1%
Biomass	144	186	243	197	265	312	440	2.6%	2.7%	-2.0%	3.0%	1.7%	3.5%
Nuclear ¹	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	25.7%	15.9%
Hydro	4	5	8	9	11	13	15	3.1%	4.4%	1.4%	2.0%	1.9%	1.6%
Other renewables	0	0	1	9	21	41	77	2.9%	13.0%	21.2%	9.1%	7.1%	6.3%
Net Imports	- 127	- 200	- 287	- 105	- 91	- 58	- 66						
Coal	1	0	1	-30	11	14	11						
Oil	- 127	- 192	- 256	- 116	- 93	- 46	20						
Natural gas	- 1	- 8	- 32	- 35	- 51	- 40	- 35						
Biomass	0	0	0	78	50	21	- 60						
Biofuels	0	0	0	- 2	- 7	- 6	- 2						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	181	237	323	424	534	633	753	2.7%	3.1%	2.7%	2.3%	1.7%	1.7%
Coal	5	4	3	11	21	22	19	-1.9%	-1.3%	12.3%	6.6%	0.4%	-1.4%
Oil	25	34	54	96	121	145	171	3.3%	4.7%	5.9%	2.3%	1.8%	1.7%
Natural gas	4	8	14	25	52	85	92	7.2%	6.1%	6.1%	7.6%	5.1%	0.7%
Biomass	144	186	243	275	314	333	379	2.6%	2.7%	1.3%	1.3%	0.6%	1.3%
Nuclear ¹	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	25.7%	15.9%
Hydro	4	5	8	9	11	13	15	3.1%	4.4%	1.4%	2.0%	1.9%	1.6%
Other renewables	0	0	1	9	21	41	77	2.9%	13.0%	21.2%	9.1%	7.1%	6.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	181	237	323	424	534	633	753	2.7%	3.1%	2.7%	2.3%	1.7%	1.7%
Energy for Power Generation	11	15	24	54	83	123	202	3.5%	4.8%	8.5%	4.4%	4.0%	5.1%
Other Energy Transformation & Losses	2	4	6	11	28	43	58	8.1%	4.3%	6.3%	10.0%	4.4%	3.2%
Final consumption	174	225	304	379	460	534	612	2.6%	3.1%	2.2%	2.0%	1.5%	1.4%
Steel, Non-Met. Minerals and Chem.	2	1	1	2	4	4	5	-3.9%	0.1%	7.8%	3.6%	1.8%	1.9%
Other Industry	14	17	28	40	56	71	88	2.4%	5.1%	3.6%	3.4%	2.4%	2.2%
Non-Energy Use	1	1	2	4	7	12	18	0.8%	3.8%	8.8%	6.4%	5.1%	4.1%
Residential	137	175	228	257	280	288	283	2.5%	2.7%	1.2%	0.9%	0.3%	-0.2%
Services	6	9	10	17	25	31	42	3.8%	1.6%	5.3%	4.0%	2.1%	3.0%
Agriculture	1	2	2	3	4	4	5	4.7%	1.1%	2.9%	1.3%	1.4%	1.3%
Road	12	18	31	52	80	117	161	4.0%	5.4%	5.4%	4.3%	3.9%	3.3%
Rail	0	0	0	0	0	0	1	-5.6%	-0.8%	4.1%	1.8%	2.1%	2.4%
Aviation	0	0	1	2	3	5	8	4.3%	8.2%	6.8%	6.5%	5.9%	5.1%
Other Transport	0	0	0	0	1	1	1	-1.2%	2.2%	6.2%	4.9%	3.0%	1.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Sub-Saharan Africa	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	9	15	36	51	68	110	3.7%	4.6%	9.4%	3.5%	2.8%	4.9%
Coal	2	2	1	6	13	13	12	-1.2%	-3.0%	15.8%	7.6%	0.3%	-0.6%
Oil	2	3	6	18	16	11	10	4.2%	5.6%	11.8%	-1.2%	-3.9%	-0.6%
Gas	2	4	7	10	17	27	27	7.1%	6.1%	4.5%	5.3%	4.6%	-0.1%
Biomass & Waste	0	0	1	1	4	15	58	4.1%	6.2%	4.6%	15.8%	15.3%	14.5%
Other	0	0	0	1	1	1	1	2.9%	13.0%	20.1%	4.6%	0.2%	1.5%
Gross Elec. Generation (TWh_e)	66	90	147	277	473	807	1 360	3.1%	5.1%	6.5%	5.5%	5.5%	5.4%
Coal	6	5	5	26	61	63	63	-1.1%	-1.7%	18.9%	8.8%	0.4%	0.0%
of which CCS	0	0	0	0	0	9	52	n.s.	n.s.	n.s.	n.s.	n.s.	18.6%
Oil	8	12	20	79	72	49	46	3.7%	5.5%	14.5%	-1.0%	-3.7%	-0.6%
Gas	7	12	29	47	88	145	146	5.3%	8.9%	4.9%	6.5%	5.2%	0.0%
of which CCS	0	0	0	0	0	8	38	n.s.	n.s.	n.s.	n.s.	n.s.	16.2%
Biomass & Waste	0	1	1	2	15	70	292	3.8%	5.1%	7.2%	20.9%	16.6%	15.3%
of which CCS	0	0	0	0	0	25	202	n.s.	n.s.	n.s.	n.s.	n.s.	23.1%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	44	59	90	104	126	153	179	3.1%	4.4%	1.4%	2.0%	1.9%	1.6%
Wind	0	0	0	6	55	171	334	21.8%	11.3%	n.s.	23.7%	12.1%	6.9%
Solar	0	0	0	3	43	139	277	n.s.	39.0%	42.2%	29.2%	12.6%	7.1%
Other	0	0	1	9	15	16	22	2.9%	13.0%	20.1%	4.7%	0.8%	3.3%
Generation Capacity (GW_e)	23	27	41	71	141	269	447	1.6%	4.2%	5.6%	7.1%	6.7%	5.2%
Coal	2	2	2	4	11	11	10	-0.5%	1.4%	7.5%	9.8%	0.7%	-1.3%
of which CCS	0	0	0	0	0	1	8	n.s.	n.s.	n.s.	n.s.	n.s.	20.0%
Oil	4	5	8	20	29	31	29	1.2%	5.0%	9.6%	3.9%	0.9%	-0.9%
Gas	3	6	11	18	22	32	36	8.2%	6.6%	5.4%	1.9%	4.1%	1.0%
of which CCS	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	n.s.	18.7%
Biomass & Waste	0	0	0	0	2	11	48	1.0%	7.6%	1.4%	18.3%	16.9%	16.3%
of which CCS	0	0	0	0	0	3	31	n.s.	n.s.	n.s.	n.s.	n.s.	24.6%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	15	15	20	23	28	34	40	0.3%	3.0%	1.3%	2.0%	1.9%	1.6%
Wind	0	0	0	3	23	67	122	n.s.	13.2%	n.s.	22.5%	11.4%	6.3%
Solar	0	0	0	2	25	81	159	n.s.	39.0%	42.4%	29.6%	12.6%	7.1%
Other	0	0	0	1	2	2	3	4.1%	12.0%	18.5%	4.9%	2.0%	2.7%
Total Final Consumption² (Mtoe)	174	225	304	379	460	534	612	2.6%	3.1%	2.2%	2.0%	1.5%	1.4%
Coal	3	2	2	5	7	6	4	-2.6%	0.2%	9.0%	4.5%	-1.6%	-5.3%
Oil	21	29	46	75	102	131	158	3.1%	4.8%	5.0%	3.1%	2.5%	1.9%
Gas	1	2	4	9	22	37	43	5.3%	6.1%	9.7%	9.6%	5.4%	1.3%
Electricity	4	6	10	19	33	57	95	3.3%	5.6%	6.4%	5.6%	5.5%	5.3%
Heat	0	0	0	0	0	2	9	n.s.	n.s.	4.0%	52.2%	28.4%	16.0%
Biomass & Other	144	186	242	271	295	300	304	2.6%	2.7%	1.1%	0.9%	0.2%	0.1%
Share of Renewables ³ (%)	84%	84%	81%	73%	67%	65%	67%	0.0%	-0.3%	-1.1%	-0.8%	-0.4%	0.4%
Industry (incl. non-energy use)	16	20	31	46	67	87	111	1.7%	4.8%	4.1%	3.7%	2.7%	2.5%
Coal	2	1	1	4	7	6	4	-3.6%	-1.5%	12.5%	6.0%	-0.9%	-5.2%
Oil	5	4	6	10	13	15	16	-0.4%	3.9%	4.4%	3.1%	1.2%	0.8%
Gas	1	1	4	7	13	23	25	2.3%	9.2%	7.1%	6.7%	5.6%	1.0%
Electricity	2	3	4	8	14	23	37	1.9%	4.2%	7.0%	5.4%	5.0%	4.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	7	10	16	18	19	20	29	3.9%	5.1%	1.1%	0.9%	0.4%	3.7%
Buildings	143	184	239	275	306	319	325	2.6%	2.6%	1.4%	1.1%	0.4%	0.2%
Coal	0	0	0	0	0	0	0	-2.8%	6.2%	1.2%	-4.6%	-15.0%	-15.8%
Oil	3	5	7	10	10	7	5	3.3%	4.0%	3.8%	-0.1%	-3.6%	-4.4%
Gas	0	0	0	2	7	10	8	n.s.	n.s.	n.s.	14.9%	3.5%	-1.3%
Electricity	2	3	6	11	18	28	47	4.9%	7.0%	5.9%	5.1%	5.0%	5.1%
Heat	0	0	0	0	0	2	9	n.s.	n.s.	4.0%	52.2%	28.4%	16.0%
Biomass & Other	137	175	225	251	271	272	256	2.5%	2.5%	1.1%	0.7%	0.0%	-0.6%
Agriculture	1	2	2	3	4	4	5	4.7%	1.1%	2.9%	1.3%	1.4%	1.3%
Coal	0	0	0	1	0	0	0	6.1%	1.0%	2.4%	-2.1%	-7.2%	-7.5%
Oil	0	1	1	1	1	1	1	6.4%	0.0%	4.8%	1.1%	-2.3%	-2.5%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	3.2%	-0.6%	4.7%	5.2%	6.3%	4.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	1	1	1	1	2	3	3.2%	2.3%	1.2%	1.8%	3.9%	2.0%
Transport	13	19	32	55	84	124	172	3.8%	5.3%	5.5%	4.4%	4.0%	3.3%
Coal	0	0	0	0	0	0	0	-21.2%	1.4%	2.7%	0.0%	0.0%	0.0%
Oil	13	19	32	54	77	108	136	3.9%	5.3%	5.4%	3.6%	3.4%	2.4%
Gas	0	0	0	0	2	5	9	n.s.	n.s.	n.s.	26.6%	9.7%	6.0%
Electricity	0	0	0	0	1	5	11	n.s.	4.7%	32.7%	42.2%	13.7%	8.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	3	6	16	n.s.	n.s.	n.s.	22.5%	6.9%	9.5%
Other Energy Transformation & Losses⁴	2	4	6	11	28	43	58	8.1%	4.3%	6.3%	10.0%	4.4%	3.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Iran	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	56	66	74	83	89	91	92	1.6%	1.2%	1.2%	0.6%	0.3%	0.1%
GDP per capita (ppp, k\$'05)	6	7	11	12	17	24	32	2.1%	4.0%	0.6%	3.8%	3.7%	2.7%
GDP per capita (mer, k\$'05)	2	2	3	3	5	7	9	2.1%	3.8%	0.6%	3.8%	3.7%	2.7%
Share Value Added - Agriculture (%)	13	9	7	9	8	7	7	-3.3%	-2.8%	2.4%	-1.3%	-0.9%	-0.5%
Share Value Added - Industry (%)	34	41	41	38	36	33	31	1.9%	0.2%	-0.9%	-0.5%	-0.7%	-0.7%
Share Value Added - Services (%)	54	50	52	54	56	60	62	-0.7%	0.3%	0.3%	0.5%	0.5%	0.4%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.6%	0.9%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	292	456	678	833	794	566	326	4.5%	4.0%	2.1%	-0.5%	-3.3%	-5.4%
Total GHG (excl. sinks)	293	456	681	835	802	576	337	4.5%	4.1%	2.1%	-0.4%	-3.3%	-5.2%
Total GHG (energy, industry, agriculture)	293	456	681	835	802	576	337	4.5%	4.1%	2.1%	-0.4%	-3.3%	-5.2%
CO ₂	214	352	541	705	686	471	247	5.1%	4.4%	2.7%	-0.3%	-3.7%	-6.3%
CH ₄	57	80	115	100	87	76	64	3.5%	3.8%	-1.4%	-1.4%	-1.4%	-1.6%
N ₂ O	19	23	23	29	28	28	25	1.6%	0.2%	2.2%	-0.3%	0.1%	-1.2%
F gases	3	2	2	2	1	1	1	-1.5%	-1.6%	-1.3%	-6.1%	0.3%	0.3%
Total GHG from Energy and Industry	260	418	641	784	750	524	291	4.8%	4.4%	2.0%	-0.4%	-3.5%	-5.7%
CO₂ Emissions from Fuel Comb.	184	316	485	639	616	400	181	5.6%	4.4%	2.8%	-0.4%	-4.2%	-7.6%
Power generation/District heating	36	69	131	194	229	83	-66	6.8%	6.6%	4.0%	1.7%	-9.6%	n.s.
Industry	38	43	84	131	133	129	119	1.4%	6.9%	4.5%	0.2%	-0.3%	-0.8%
Buildings	43	92	122	131	84	46	24	8.0%	2.8%	0.7%	-4.4%	-5.9%	-6.2%
Agriculture	12	11	14	11	10	7	5	-0.8%	1.8%	-2.0%	-0.6%	-3.4%	-3.7%
Transport	39	75	101	115	108	93	69	6.6%	3.1%	1.3%	-0.6%	-1.4%	-3.0%
Other	16	26	34	58	52	41	31	4.9%	2.5%	5.4%	-1.1%	-2.3%	-2.9%
CO₂ captured (CCS)	0	0	0	0	3	69	220	n.s.	n.s.	n.s.	47.7%	37.3%	12.4%
Coal	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	6.5%	38.8%	14.3%
Gas	0	0	0	0	3	41	100	n.s.	n.s.	n.s.	n.s.	30.9%	9.3%
Biomass	0	0	0	0	0	26	115	n.s.	n.s.	n.s.	8.3%	n.s.	16.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	187	251	349	435	556	585	542	3.0%	3.4%	2.2%	2.5%	0.5%	-0.8%
Coal	0	1	1	1	1	0	0	8.0%	-0.4%	0.2%	-1.8%	-3.0%	-2.5%
Oil	164	200	221	223	251	258	272	2.0%	1.0%	0.1%	1.2%	0.3%	0.5%
Natural gas	22	49	126	207	288	285	218	8.5%	9.9%	5.1%	3.4%	-0.1%	-2.6%
Biomass	0	0	1	2	3	6	7	-1.8%	16.4%	12.4%	5.1%	5.5%	1.6%
Nuclear ¹	0	0	0	1	8	23	24	n.s.	n.s.	n.s.	18.9%	10.6%	0.4%
Hydro	1	0	1	1	2	2	2	-5.0%	10.1%	5.5%	1.8%	1.3%	0.3%
Other renewables	0	0	0	0	2	11	18	n.s.	17.6%	22.7%	32.5%	18.3%	5.1%
Net Imports	-117	-128	-141	-150	-264	-310	-249						
Coal	0	1	1	1	2	3	4						
Oil	-113	-132	-138	-120	-154	-186	-202						
Natural gas	-4	3	-4	-29	-110	-136	-96						
Biomass	0	0	0	-1	0	10	45						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	-1	-1	-1	-1						
Primary Energy Demand²	70	123	208	285	292	275	293	5.8%	5.4%	3.2%	0.2%	-0.6%	0.6%
Coal	1	1	1	1	2	4	5	10.8%	0.2%	-1.6%	5.9%	5.3%	1.8%
Oil	51	69	83	102	97	72	71	2.9%	1.9%	2.1%	-0.5%	-3.0%	-0.1%
Natural gas	17	53	122	178	178	149	122	11.7%	8.8%	3.8%	0.0%	-1.8%	-2.0%
Biomass	0	0	1	1	3	15	52	-1.8%	16.4%	8.9%	8.4%	16.9%	12.9%
Nuclear ¹	0	0	0	1	8	23	24	n.s.	n.s.	n.s.	18.9%	10.6%	0.4%
Hydro	1	0	1	1	2	2	2	-5.0%	10.1%	5.5%	1.8%	1.3%	0.3%
Other renewables	0	0	0	0	2	11	18	n.s.	17.6%	22.7%	32.5%	18.3%	5.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	70	123	208	285	292	275	293	5.8%	5.4%	3.2%	0.2%	-0.6%	0.6%
Energy for Power Generation	14	27	52	78	103	108	137	7.2%	6.8%	4.1%	2.8%	0.5%	2.4%
Other Energy Transformation & Losses	6	9	15	23	24	25	29	5.1%	4.5%	4.6%	0.5%	0.2%	1.7%
Final consumption	55	95	157	211	205	193	195	5.6%	5.2%	3.0%	-0.3%	-0.6%	0.1%
Steel, Non-Met. Minerals and Chem.	1	3	9	14	13	12	11	17.6%	12.1%	4.4%	-0.7%	-1.1%	-0.4%
Other Industry	14	16	30	48	52	53	58	1.7%	6.4%	4.9%	0.8%	0.2%	0.9%
Non-Energy Use	6	8	14	25	29	32	34	1.9%	6.0%	6.4%	1.4%	0.9%	0.7%
Residential	13	30	47	58	41	28	25	8.9%	4.6%	2.2%	-3.3%	-3.9%	-1.2%
Services	4	9	11	13	13	12	14	7.4%	2.3%	1.4%	0.1%	-0.7%	1.0%
Agriculture	4	4	6	7	9	11	13	0.4%	4.0%	1.3%	2.0%	1.9%	1.7%
Road	13	24	40	45	47	45	40	6.3%	5.0%	1.3%	0.3%	-0.4%	-1.1%
Rail	0	0	0	0	0	0	0	n.s.	36.8%	5.6%	3.1%	2.8%	1.9%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	0	1	0	0	0	0	0	n.s.	-30.1%	4.1%	-1.3%	-0.6%	-2.0%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Iran	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	13	27	51	75	90	72	92	7.5%	6.7%	3.9%	1.9%	-2.3%	2.6%
Coal	0	0	0	0	1	1	2	22.3%	-3.1%	-6.5%	28.3%	6.1%	4.3%
Oil	6	7	13	22	21	2	8	1.5%	6.1%	5.4%	-0.7%	-21.7%	15.4%
Gas	7	19	38	53	68	57	44	11.2%	7.0%	3.3%	2.7%	-1.9%	-2.4%
Biomass & Waste	0	0	0	0	0	0	12	n.s.	n.s.	9.7%	46.6%	43.0%	12.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	59	121	233	376	534	607	771	7.5%	6.7%	4.9%	3.6%	1.3%	2.4%
Coal	0	0	0	0	3	6	9	22.2%	-3.1%	-2.4%	28.8%	6.0%	4.1%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	15.1%
Oil	22	25	46	91	85	8	31	1.5%	6.1%	7.1%	-0.7%	-21.0%	14.6%
Gas	31	92	177	261	366	326	272	11.5%	6.8%	4.0%	3.5%	-1.1%	-1.8%
of which CCS	0	0	0	0	0	90	243	n.s.	n.s.	n.s.	n.s.	n.s.	10.4%
Biomass & Waste	0	0	0	0	2	57	195	n.s.	n.s.	11.3%	49.4%	42.7%	13.1%
of which CCS	0	0	0	0	0	34	136	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Nuclear	0	0	0	6	34	95	99	n.s.	n.s.	n.s.	19.3%	10.7%	0.4%
Hydro	6	4	10	16	19	22	23	-5.0%	10.1%	5.5%	1.8%	1.3%	0.3%
Wind	0	0	0	1	22	67	84	n.s.	16.0%	24.1%	31.5%	11.8%	2.4%
Solar	0	0	0	0	2	26	56	n.s.	n.s.	3.1%	51.8%	27.9%	8.2%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	28.2%	19.0%
Generation Capacity (GW_e)	18	34	61	86	124	165	172	6.5%	6.2%	3.4%	3.8%	2.9%	0.4%
Coal	0	0	0	0	0	0	1	22.2%	n.s.	n.s.	29.2%	5.7%	4.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
Oil	6	8	13	18	21	20	11	3.5%	4.1%	3.8%	1.2%	-0.5%	-5.6%
Gas	10	23	40	54	73	65	36	8.6%	5.8%	3.0%	3.0%	-1.2%	-5.8%
of which CCS	0	0	0	0	0	11	31	n.s.	n.s.	n.s.	n.s.	n.s.	10.5%
Biomass & Waste	0	0	0	0	0	7	26	n.s.	n.s.	-2.6%	49.7%	42.3%	13.1%
of which CCS	0	0	0	0	0	4	18	n.s.	n.s.	n.s.	n.s.	n.s.	15.1%
Nuclear	0	0	0	1	5	15	15	n.s.	n.s.	n.s.	19.0%	10.5%	0.2%
Hydro	2	2	8	12	14	16	17	0.2%	15.6%	3.3%	1.8%	1.3%	0.3%
Wind	0	0	0	1	9	26	33	n.s.	n.s.	21.4%	30.1%	11.2%	2.1%
Solar	0	0	0	0	1	15	34	n.s.	n.s.	3.2%	51.9%	28.2%	8.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	27.6%	18.4%
Total Final Consumption² (Mtoe)	55	95	157	211	205	193	195	5.6%	5.2%	3.0%	-0.3%	-0.6%	0.1%
Coal	0	1	1	1	1	2	2	7.4%	-0.8%	0.6%	3.9%	2.9%	1.5%
Oil	41	56	64	72	69	65	58	3.3%	1.3%	1.1%	-0.4%	-0.6%	-1.0%
Gas	9	29	75	108	92	74	61	12.0%	10.0%	3.7%	-1.6%	-2.2%	-1.9%
Electricity	4	8	16	27	38	44	56	6.7%	7.0%	5.3%	3.6%	1.3%	2.5%
Heat	0	0	0	0	0	3	6	n.s.	n.s.	n.s.	n.s.	n.s.	6.8%
Biomass & Other	0	0	1	4	4	5	11	-1.8%	16.3%	19.5%	1.3%	2.8%	7.7%
Share of Renewables ³ (%)	1%	1%	1%	1%	4%	15%	31%	-9.6%	6.9%	4.0%	9.8%	14.8%	7.9%
Industry (incl. non-energy use)	21	27	53	88	95	97	104	2.7%	7.0%	5.2%	0.8%	0.3%	0.7%
Coal	0	1	1	1	1	2	2	7.2%	-0.7%	0.6%	4.0%	2.9%	1.5%
Oil	12	12	16	19	23	28	32	0.3%	2.6%	1.7%	2.0%	1.8%	1.5%
Gas	7	11	31	59	58	53	49	4.6%	11.2%	6.7%	-0.2%	-0.8%	-0.9%
Electricity	1	3	5	9	12	14	18	8.6%	6.7%	5.0%	3.0%	1.6%	2.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	3	n.s.	n.s.	n.s.	4.0%	0.6%	21.3%
Buildings	17	39	58	71	54	40	38	8.6%	4.1%	2.0%	-2.6%	-3.0%	-0.5%
Coal	0	0	0	0	0	0	0	n.s.	-7.3%	-1.1%	-8.8%	n.s.	n.s.
Oil	12	15	9	7	5	4	2	3.0%	-5.0%	-2.3%	-3.9%	-2.6%	-4.6%
Gas	3	19	40	46	29	14	7	21.7%	7.9%	1.5%	-4.5%	-6.8%	-6.9%
Electricity	3	5	8	14	18	17	21	5.3%	6.5%	5.2%	2.6%	-0.6%	1.9%
Heat	0	0	0	0	0	3	6	n.s.	n.s.	n.s.	n.s.	n.s.	6.8%
Biomass & Other	0	0	1	3	2	1	2	-1.8%	16.3%	18.3%	-3.6%	-5.0%	1.9%
Agriculture	4	4	6	7	9	11	13	0.4%	4.0%	1.3%	2.0%	1.9%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	4	3	3	2	1	-0.8%	1.1%	-3.0%	-0.7%	-3.7%	-4.0%
Gas	0	0	0	1	1	1	0	n.s.	n.s.	6.6%	-0.1%	-2.2%	-2.5%
Electricity	0	1	2	4	5	7	10	9.4%	10.2%	5.9%	3.4%	3.7%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	55.2%	10.3%	3.2%
Transport	13	25	40	45	47	45	40	6.6%	4.7%	1.3%	0.3%	-0.4%	-1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	13	25	35	43	38	31	23	6.6%	3.4%	2.0%	-1.1%	-1.9%	-3.2%
Gas	0	0	5	2	4	5	5	n.s.	n.s.	-7.0%	6.3%	2.8%	-1.8%
Electricity	0	0	0	0	3	5	8	n.s.	36.8%	28.7%	26.0%	5.4%	3.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	34.5%	9.7%	7.0%
Other Energy Transformation & Losses⁴	6	9	15	23	24	25	29	5.1%	4.5%	4.6%	0.5%	0.2%	1.7%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Saudi Arabia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	16	21	28	34	39	43	46	2.7%	2.8%	2.0%	1.3%	1.0%	0.7%
GDP per capita (ppp, k\$'05)	19	19	24	27	31	37	41	0.0%	2.5%	1.1%	1.5%	1.7%	1.1%
GDP per capita (mer, k\$'05)	12	12	15	17	20	23	26	0.0%	2.3%	1.3%	1.5%	1.7%	1.1%
Share Value Added - Agriculture (%)	6	5	2	2	2	2	2	-1.5%	-7.1%	-0.5%	-0.2%	-0.2%	-0.1%
Share Value Added - Industry (%)	49	54	58	46	44	42	40	1.0%	0.8%	-2.4%	-0.4%	-0.5%	-0.4%
Share Value Added - Services (%)	45	41	39	52	54	56	58	-1.0%	-0.5%	2.8%	0.4%	0.4%	0.3%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.6%	0.9%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	211	316	545	710	633	469	289	4.1%	5.6%	2.7%	-1.1%	-2.9%	-4.7%
Total GHG (excl. sinks)	211	316	545	710	634	471	291	4.1%	5.6%	2.7%	-1.1%	-2.9%	-4.7%
Total GHG (energy, industry, agriculture)	211	316	545	710	634	471	291	4.1%	5.6%	2.7%	-1.1%	-2.9%	-4.7%
CO ₂	171	266	477	636	580	425	256	4.5%	6.0%	2.9%	-0.9%	-3.1%	-5.0%
CH ₄	31	43	60	65	47	40	31	3.5%	3.4%	0.7%	-3.1%	-1.7%	-2.6%
N ₂ O	6	6	8	9	6	6	5	0.2%	1.7%	1.6%	-3.5%	-1.1%	-1.6%
F gases	2	0	0	0	1	0	0	-26.3%	11.7%	3.6%	-0.9%	-2.5%	-21.8%
Total GHG from Energy and Industry	206	311	541	705	629	465	286	4.2%	5.7%	2.7%	-1.1%	-3.0%	-4.7%
CO₂ Emissions from Fuel Comb.	156	240	429	565	502	346	185	4.4%	6.0%	2.8%	-1.2%	-3.7%	-6.1%
Power generation/District heating	59	104	181	250	216	89	-37	5.9%	5.7%	3.3%	-1.4%	-8.5%	n.s.
Industry	28	53	112	145	134	123	117	6.5%	7.8%	2.6%	-0.8%	-0.8%	-0.5%
Buildings	3	4	5	8	10	8	6	3.0%	2.8%	3.9%	3.0%	-2.0%	-3.6%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	49	61	106	140	121	106	81	2.1%	5.8%	2.8%	-1.5%	-1.3%	-2.6%
Other	17	19	25	23	21	20	18	1.2%	2.6%	-0.6%	-0.9%	-0.9%	-0.7%
CO₂ captured (CCS)	0	0	0	0	1	49	142	n.s.	n.s.	n.s.	n.s.	55.3%	11.1%
Coal	0	0	0	0	0	2	5	n.s.	n.s.	n.s.	n.s.	40.5%	11.8%
Gas	0	0	0	0	1	18	43	n.s.	n.s.	n.s.	n.s.	42.7%	9.2%
Biomass	0	0	0	0	0	30	94	n.s.	n.s.	n.s.	n.s.	n.s.	12.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	380	491	559	782	777	775	706	2.6%	1.3%	3.4%	-0.1%	0.0%	-0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	352	450	486	683	633	623	574	2.5%	0.8%	3.4%	-0.8%	-0.2%	-0.8%
Natural gas	28	41	72	98	141	141	118	3.9%	5.8%	3.1%	3.7%	0.0%	-1.7%
Biomass	0	0	0	1	1	4	3	-9.3%	2.9%	n.s.	3.5%	15.2%	-3.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	-0.2%
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	1	2	7	10	n.s.	n.s.	n.s.	15.8%	11.9%	3.6%
Net Imports	-318	-393	-373	-549	-564	-578	-513						
Coal	0	0	0	0	2	3	4						
Oil	-309	-383	-361	-542	-519	-548	-512						
Natural gas	-8	-10	-13	-7	-47	-43	-35						
Biomass	0	0	0	0	0	10	30						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	62	98	186	233	214	197	193	4.6%	6.6%	2.3%	-0.9%	-0.8%	-0.2%
Coal	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	16.7%	6.3%	2.5%
Oil	43	67	126	141	114	75	62	4.6%	6.5%	1.1%	-2.1%	-4.1%	-1.8%
Natural gas	19	31	60	91	95	98	83	4.7%	6.9%	4.2%	0.4%	0.4%	-1.7%
Biomass	0	0	0	1	1	14	33	-9.5%	2.9%	n.s.	4.8%	29.9%	8.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	-0.2%
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	1	2	7	10	n.s.	n.s.	n.s.	15.8%	11.9%	3.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	62	98	186	233	214	197	193	4.6%	6.6%	2.3%	-0.9%	-0.8%	-0.2%
Energy for Power Generation	22	37	65	93	83	74	79	5.6%	5.7%	3.6%	-1.1%	-1.1%	0.7%
Other Energy Transformation & Losses	6	5	17	4	4	5	7	-0.4%	12.3%	-13.8%	0.1%	2.3%	3.8%
Final consumption	39	64	121	162	153	148	143	4.9%	6.6%	3.0%	-0.6%	-0.3%	-0.4%
Steel, Non-Met. Minerals and Chem.	0	0	1	2	3	3	3	n.s.	n.s.	5.6%	0.4%	0.1%	0.5%
Other Industry	11	20	42	56	53	51	50	6.3%	7.7%	2.8%	-0.6%	-0.4%	-0.2%
Non-Energy Use	7	14	25	34	32	31	30	7.1%	5.7%	3.0%	-0.4%	-0.3%	-0.4%
Residential	3	6	11	15	15	15	15	5.9%	6.1%	3.4%	-0.5%	0.0%	0.6%
Services	1	2	5	8	8	9	10	5.3%	8.2%	4.1%	0.3%	0.5%	1.0%
Agriculture	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Road	16	20	35	46	42	39	34	2.2%	5.8%	2.8%	-0.9%	-0.6%	-1.3%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	1	1	1	1	1	0	0	2.0%	0.5%	2.5%	-4.4%	-2.9%	-2.3%
Other Transport	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Saudi Arabia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	22	37	65	92	80	67	69	5.6%	5.7%	3.6%	-1.3%	-1.8%	0.3%
Coal	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	22.6%	6.0%	2.9%
Oil	9	19	35	42	33	8	7	7.7%	6.0%	1.8%	-2.4%	-12.7%	-1.6%
Gas	12	18	30	50	47	44	29	3.7%	5.3%	5.3%	-0.7%	-0.6%	-4.1%
Biomass & Waste	0	0	0	0	0	13	31	n.s.	n.s.	n.s.	7.5%	50.3%	9.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	69	126	240	363	360	378	438	6.2%	6.6%	4.2%	-0.1%	0.5%	1.5%
Coal	0	0	0	0	4	7	9	n.s.	n.s.	n.s.	23.0%	5.9%	2.7%
of which CCS	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	n.s.	n.s.	12.2%
Oil	34	68	129	169	133	37	32	7.2%	6.6%	2.7%	-2.3%	-11.9%	-1.6%
Gas	35	58	111	188	197	204	147	5.1%	6.7%	5.4%	0.5%	0.4%	-3.2%
of which CCS	0	0	0	0	0	43	102	n.s.	n.s.	n.s.	n.s.	n.s.	9.2%
Biomass & Waste	0	0	0	0	1	63	156	n.s.	n.s.	n.s.	8.3%	51.7%	9.4%
of which CCS	0	0	0	0	0	39	115	n.s.	n.s.	n.s.	n.s.	n.s.	11.5%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	6	16	30	36	n.s.	n.s.	n.s.	10.4%	6.8%	1.9%
Solar	0	0	0	0	10	37	57	n.s.	n.s.	n.s.	41.4%	14.2%	4.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	25.9%	16.5%
Generation Capacity (GW_e)	24	31	60	93	91	111	121	2.6%	6.8%	4.5%	-0.2%	2.1%	0.8%
Coal	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	23.3%	5.6%	2.6%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	12.3%
Oil	13	18	33	50	41	33	29	3.2%	6.4%	4.4%	-2.0%	-2.3%	-1.2%
Gas	11	13	27	40	37	36	22	1.9%	7.2%	3.9%	-0.7%	-0.2%	-4.8%
of which CCS	0	0	0	0	0	5	13	n.s.	n.s.	n.s.	n.s.	n.s.	9.3%
Biomass & Waste	0	0	0	0	0	8	21	n.s.	n.s.	n.s.	8.4%	51.3%	9.5%
of which CCS	0	0	0	0	0	5	15	n.s.	n.s.	n.s.	n.s.	n.s.	11.5%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	3	7	12	14	n.s.	n.s.	n.s.	10.1%	6.1%	1.6%
Solar	0	0	0	0	6	21	34	n.s.	n.s.	n.s.	41.6%	14.3%	4.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	25.4%	16.0%
Total Final Consumption² (Mtoe)	39	64	121	162	153	148	143	4.9%	6.6%	3.0%	-0.6%	-0.3%	-0.4%
Coal	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	12.5%	4.9%	1.7%
Oil	29	43	76	98	82	68	57	4.3%	5.7%	2.6%	-1.8%	-1.8%	-1.7%
Gas	6	12	27	37	44	48	47	6.4%	9.0%	3.1%	1.7%	1.0%	-0.3%
Electricity	5	9	17	26	26	27	32	6.1%	7.4%	4.0%	0.0%	0.6%	1.5%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	28.9%	4.6%
Biomass & Other	0	0	0	0	1	2	4	-9.6%	2.9%	55.5%	3.8%	9.1%	7.6%
Share of Renewables ³ (%)	0%	0%	0%	1%	2%	13%	26%	n.s.	n.s.	n.s.	12.4%	18.1%	7.3%
Industry (incl. non-energy use)	18	34	69	92	88	85	83	6.6%	7.2%	2.9%	-0.5%	-0.4%	-0.2%
Coal	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	12.5%	4.9%	1.7%
Oil	11	22	39	50	42	35	32	6.9%	6.0%	2.6%	-1.8%	-1.9%	-0.8%
Gas	6	12	27	36	39	43	43	6.4%	9.0%	2.8%	0.9%	0.9%	-0.1%
Electricity	1	1	2	5	5	6	6	4.2%	8.7%	6.7%	1.0%	0.6%	1.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-6.0%	2.5%	1.5%
Buildings	5	8	16	23	23	23	25	5.7%	6.8%	3.7%	-0.2%	0.2%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	1	1	1	3.0%	2.8%	1.4%	-2.7%	-4.1%	-3.8%
Gas	0	0	0	1	2	2	2	n.s.	n.s.	n.s.	13.2%	-0.6%	-3.6%
Electricity	4	7	15	21	19	19	21	6.3%	7.3%	3.5%	-1.0%	-0.1%	1.1%
Heat	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	28.9%	4.6%
Biomass & Other	0	0	0	0	0	0	0	-9.6%	2.9%	33.1%	4.4%	0.7%	-1.0%
Agriculture	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	1	1	1	9.2%	4.8%	3.0%	2.1%	2.0%	1.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	16	20	35	46	42	40	35	2.2%	5.6%	2.8%	-1.0%	-0.6%	-1.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	16	20	35	46	38	33	25	2.2%	5.6%	2.7%	-1.8%	-1.6%	-2.7%
Gas	0	0	0	0	2	3	3	n.s.	n.s.	n.s.	22.2%	4.1%	-1.6%
Electricity	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	32.7%	6.7%	4.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	44.5%	13.8%	9.3%
Other Energy Transformation & Losses⁴	6	5	17	4	4	5	7	-0.4%	12.3%	-13.8%	0.1%	2.3%	3.8%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Turkey	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	54	63	72	82	88	93	96	1.6%	1.3%	1.3%	0.6%	0.6%	0.3%
GDP per capita (ppp, k\$'05)	8	10	13	16	21	26	31	2.0%	2.5%	2.4%	2.8%	2.2%	1.6%
GDP per capita (mer, k\$'05)	5	6	8	10	13	16	19	2.0%	2.5%	2.5%	2.8%	2.2%	1.6%
Share Value Added - Agriculture (%)	18	11	9	8	8	7	7	-4.6%	-1.8%	-1.3%	-0.7%	-0.5%	-0.3%
Share Value Added - Industry (%)	32	31	26	26	25	24	23	-0.3%	-1.7%	-0.1%	-0.5%	-0.5%	-0.4%
Share Value Added - Services (%)	50	57	64	66	68	69	70	1.4%	1.1%	0.2%	0.3%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	13	14	15	17	-3.4%	3.6%	-2.8%	1.0%	0.6%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	18	21	30	46	47	40	34	1.4%	3.8%	4.4%	0.2%	-1.7%	-1.6%
GHG emissions (Mt CO₂ eq.)													
Total GHG	137	238	309	408	330	249	99	5.6%	2.6%	2.8%	-2.1%	-2.7%	-8.8%
Total GHG (excl. sinks)	181	288	367	455	416	338	199	4.7%	2.4%	2.2%	-0.9%	-2.1%	-5.2%
Total GHG (energy, industry, agriculture)	181	288	367	455	416	338	199	4.7%	2.4%	2.2%	-0.9%	-2.1%	-5.2%
CO ₂	135	216	291	370	353	293	171	4.8%	3.0%	2.4%	-0.5%	-1.8%	-5.3%
CH ₄	34	53	57	62	42	28	16	4.7%	0.7%	0.8%	-3.7%	-4.1%	-5.7%
N ₂ O	12	17	14	16	14	13	11	3.4%	-1.9%	1.4%	-1.5%	-0.9%	-1.7%
F gases	1	2	5	7	7	4	1	10.6%	11.4%	3.6%	-0.7%	-4.4%	-10.6%
Total GHG from Energy and Industry	151	260	340	420	386	311	176	5.6%	2.7%	2.1%	-0.8%	-2.1%	-5.6%
CO₂ Emissions from Fuel Comb.	118	195	254	323	299	238	121	5.1%	2.7%	2.4%	-0.8%	-2.3%	-6.5%
Power generation/District heating	31	68	96	113	105	71	-8	8.1%	3.6%	1.6%	-0.7%	-3.8%	n.s.
Industry	28	52	44	41	40	36	28	6.5%	-1.7%	-0.7%	-0.1%	-1.0%	-2.6%
Buildings	23	27	49	48	32	21	13	1.6%	6.2%	-0.2%	-3.8%	-4.2%	-4.6%
Agriculture	6	8	14	14	13	9	6	3.4%	5.4%	-0.2%	-0.9%	-3.8%	-4.1%
Transport	26	34	43	79	84	81	70	2.6%	2.3%	6.3%	0.7%	-0.4%	-1.5%
Other	4	6	8	29	24	19	13	3.2%	3.3%	13.5%	-1.7%	-2.4%	-4.2%
CO₂ captured (CCS)	0	0	0	0	1	23	86	n.s.	n.s.	n.s.	36.0%	32.2%	14.1%
Coal	0	0	0	0	1	7	15	n.s.	n.s.	n.s.	42.9%	18.5%	8.6%
Gas	0	0	0	0	0	6	18	n.s.	n.s.	n.s.	29.4%	45.4%	11.5%
Biomass	0	0	0	0	0	10	53	n.s.	n.s.	n.s.	7.7%	n.s.	17.7%
Energy Balance, by fuel (Mtoe)													
Primary Production	23	26	31	50	70	94	109	1.0%	2.0%	4.9%	3.4%	3.0%	1.5%
Coal	10	13	18	14	9	6	4	2.4%	3.3%	-2.2%	-4.3%	-4.1%	-5.3%
Oil	4	3	2	3	5	6	7	-2.9%	-1.0%	1.6%	4.6%	2.8%	1.5%
Natural gas	0	1	1	1	2	4	6	11.6%	0.7%	4.4%	10.4%	5.4%	3.6%
Biomass	7	7	5	15	21	28	32	-1.0%	-3.5%	12.9%	3.4%	2.6%	1.6%
Nuclear ¹	0	0	0	0	1	6	8	n.s.	n.s.	n.s.	38.1%	19.7%	3.1%
Hydro	2	3	4	7	8	9	10	2.9%	5.3%	4.2%	2.3%	1.1%	0.5%
Other renewables	0	0	1	10	23	35	42	13.1%	14.3%	23.1%	8.7%	4.2%	2.0%
Net Imports	26	50	73	84	84	76	66						
Coal	4	10	14	20	16	11	5						
Oil	19	28	28	35	34	29	22						
Natural gas	3	12	31	36	41	39	36						
Biomass	0	0	0	-8	-7	-4	2						
Biofuels	0	0	0	0	0	1	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	50	76	104	135	155	170	175	4.4%	3.2%	2.6%	1.4%	0.9%	0.3%
Coal	15	23	32	35	25	17	9	4.6%	3.5%	0.8%	-3.3%	-3.7%	-6.2%
Oil	23	31	30	38	39	35	29	3.0%	-0.3%	2.3%	0.2%	-0.9%	-2.0%
Natural gas	3	13	31	37	43	43	41	16.0%	9.5%	1.7%	1.5%	-0.1%	-0.3%
Biomass	7	7	5	7	15	24	34	-1.0%	-3.5%	5.1%	6.9%	4.9%	3.8%
Nuclear ¹	0	0	0	0	1	6	8	n.s.	n.s.	n.s.	38.1%	19.7%	3.1%
Hydro	2	3	4	7	8	9	10	2.9%	5.3%	4.2%	2.3%	1.1%	0.5%
Other renewables	0	0	1	10	23	35	42	13.1%	14.3%	23.1%	8.7%	4.2%	2.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	50	76	104	135	155	170	175	4.4%	3.2%	2.6%	1.4%	0.9%	0.3%
Energy for Power Generation	11	24	37	54	73	91	106	7.9%	4.6%	3.7%	3.1%	2.2%	1.6%
Other Energy Transformation & Losses	2	3	4	8	8	8	8	5.4%	3.5%	6.1%	-0.1%	0.9%	-0.2%
Final consumption	41	59	80	99	111	121	122	3.7%	3.1%	2.2%	1.1%	0.9%	0.1%
Steel, Non-Met. Minerals and Chem.	5	6	9	14	15	18	19	2.1%	4.6%	3.8%	1.3%	1.7%	0.6%
Other Industry	7	15	15	15	18	20	22	8.1%	0.3%	-0.1%	1.6%	1.3%	0.7%
Non-Energy Use	3	4	7	8	9	10	9	2.3%	7.3%	1.2%	1.4%	0.7%	-0.9%
Residential	15	18	23	22	22	21	20	1.8%	2.7%	-0.4%	-0.2%	-0.1%	-0.8%
Services	1	2	6	12	13	14	16	13.4%	9.7%	7.4%	0.7%	1.0%	1.1%
Agriculture	2	3	5	5	6	6	7	4.1%	5.5%	-0.1%	1.4%	1.0%	0.6%
Road	8	11	13	22	26	28	28	2.3%	2.4%	5.2%	1.7%	0.8%	-0.2%
Rail	0	0	0	0	0	0	0	0.4%	-3.6%	2.5%	1.1%	0.7%	0.2%
Aviation	0	1	0	1	1	1	1	9.5%	-5.7%	3.7%	3.8%	2.2%	0.9%
Other Transport	0	0	1	1	1	1	1	-2.6%	11.9%	2.9%	2.1%	-0.7%	-2.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Turkey	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	21	32	37	40	40	46	8.7%	4.3%	1.5%	0.9%	0.0%	1.3%
Coal	6	11	14	18	12	8	4	6.4%	2.6%	2.6%	-4.2%	-3.4%	-7.7%
Oil	1	3	1	1	1	2	1	8.9%	-14.3%	1.2%	7.6%	3.3%	-3.6%
Gas	2	7	17	17	23	22	22	13.3%	8.7%	0.0%	3.2%	-0.7%	0.1%
Biomass & Waste	0	0	0	1	3	8	18	n.s.	7.3%	21.8%	13.0%	10.1%	9.1%
Other	0	0	0	0	1	1	1	-0.5%	24.3%	24.0%	8.7%	0.4%	-0.7%
Gross Elec. Generation (TWh_e)	58	125	211	301	423	572	707	8.1%	5.4%	3.6%	3.5%	3.1%	2.2%
Coal	20	38	55	71	48	35	18	6.6%	3.7%	2.6%	-3.8%	-3.0%	-6.4%
of which CCS	0	0	0	0	0	3	15	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Oil	4	9	2	3	6	8	6	9.0%	-13.5%	2.5%	7.6%	3.4%	-3.5%
Gas	10	46	98	103	139	125	131	16.3%	7.8%	0.5%	3.0%	-1.0%	0.4%
of which CCS	0	0	0	0	0	15	44	n.s.	n.s.	n.s.	n.s.	n.s.	11.5%
Biomass & Waste	0	0	0	3	12	35	89	n.s.	7.6%	22.3%	13.5%	11.2%	9.7%
of which CCS	0	0	0	0	0	13	63	n.s.	n.s.	n.s.	n.s.	n.s.	17.2%
Nuclear	0	0	0	0	4	25	33	n.s.	n.s.	n.s.	39.5%	19.9%	3.0%
Hydro	23	31	52	78	98	108	114	2.9%	5.3%	4.2%	2.3%	1.1%	0.5%
Wind	0	0	3	32	79	153	200	n.s.	56.5%	27.2%	9.3%	6.8%	2.7%
Solar	0	0	0	4	24	68	102	n.s.	n.s.	n.s.	19.3%	10.7%	4.1%
Other	0	0	1	6	13	14	15	-0.5%	24.3%	24.0%	8.8%	0.7%	0.3%
Generation Capacity (GW_e)	17	27	49	102	153	228	260	5.0%	6.1%	7.6%	4.1%	4.1%	1.3%
Coal	6	7	12	17	16	13	3	2.9%	5.1%	3.4%	-0.4%	-2.3%	-14.5%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	16.8%
Oil	2	2	2	1	2	2	3	-2.7%	-0.4%	-2.0%	2.4%	4.4%	0.3%
Gas	2	7	18	31	40	49	42	12.3%	10.0%	5.6%	2.4%	2.2%	-1.6%
of which CCS	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	n.s.	n.s.	14.5%
Biomass & Waste	0	0	0	1	2	5	13	n.s.	11.5%	21.8%	8.2%	11.3%	10.3%
of which CCS	0	0	0	0	0	2	9	n.s.	n.s.	n.s.	n.s.	n.s.	18.1%
Nuclear	0	0	0	0	1	4	5	n.s.	n.s.	n.s.	39.2%	19.6%	2.8%
Hydro	7	11	16	34	41	46	48	5.1%	3.5%	7.9%	2.0%	1.0%	0.6%
Wind	0	0	1	15	34	63	77	n.s.	53.0%	27.1%	8.9%	6.2%	2.2%
Solar	0	0	0	3	15	44	66	n.s.	n.s.	n.s.	19.6%	10.9%	4.2%
Other	0	0	0	1	2	2	2	0.0%	20.2%	22.4%	8.9%	2.6%	0.9%
Total Final Consumption² (Mtoe)	41	59	80	99	111	121	122	3.7%	3.1%	2.2%	1.1%	0.9%	0.1%
Coal	8	12	17	12	9	5	3	3.5%	3.3%	-3.5%	-2.5%	-5.4%	-5.9%
Oil	20	26	28	37	37	34	28	2.5%	0.8%	2.7%	0.0%	-1.0%	-1.8%
Gas	1	5	13	19	18	19	17	21.0%	10.3%	3.8%	-0.4%	0.5%	-1.3%
Electricity	4	8	15	21	30	41	50	7.9%	5.9%	3.7%	3.6%	3.1%	2.1%
Heat	0	1	3	4	5	6	8	12.4%	9.2%	3.6%	2.0%	1.9%	1.7%
Biomass & Other	7	6	4	7	11	16	17	-1.1%	-3.7%	3.9%	5.8%	3.4%	0.6%
Share of Renewables ³ (%)	24%	16%	13%	20%	33%	47%	59%	-3.7%	-2.4%	4.4%	5.3%	3.8%	2.3%
Industry (incl. non-energy use)	15	24	32	37	43	48	50	5.3%	2.7%	1.4%	1.5%	1.3%	0.3%
Coal	5	10	9	6	7	5	3	6.5%	-0.8%	-3.6%	0.4%	-3.3%	-5.4%
Oil	6	8	8	9	9	8	7	2.9%	-0.2%	0.8%	-0.3%	-0.6%	-0.8%
Gas	1	2	7	8	8	9	9	10.1%	14.0%	2.7%	-0.4%	1.2%	-0.5%
Electricity	2	4	7	10	14	19	24	5.4%	5.3%	4.2%	3.4%	3.4%	2.2%
Heat	0	0	1	2	2	2	2	50.7%	10.9%	4.2%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	1	3	5	5	n.s.	n.s.	n.s.	12.1%	4.5%	0.2%
Buildings	15	20	29	34	34	35	35	2.6%	3.7%	1.6%	0.1%	0.3%	0.0%
Coal	3	2	7	5	2	0	0	-4.5%	13.9%	-3.4%	-7.6%	-16.0%	-16.2%
Oil	3	4	1	1	1	1	1	1.4%	-8.7%	-1.7%	0.0%	-0.9%	-2.3%
Gas	0	3	6	10	8	7	4	50.4%	7.5%	4.5%	-2.0%	-1.8%	-4.4%
Electricity	1	4	7	10	13	16	19	10.7%	6.5%	3.2%	2.6%	2.2%	1.6%
Heat	0	1	2	2	3	4	6	7.4%	8.0%	3.0%	3.6%	3.0%	2.5%
Biomass & Other	7	6	4	5	6	6	5	-1.1%	-3.7%	1.1%	2.0%	0.4%	-1.9%
Agriculture	2	3	5	5	6	6	7	4.1%	5.5%	-0.1%	1.4%	1.0%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	27.9%	-3.4%	-7.5%	-7.5%
Oil	2	3	4	4	4	3	2	3.4%	5.3%	-0.4%	-0.9%	-3.8%	-4.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	12.9%	-0.4%	-2.5%	-2.8%
Electricity	0	0	0	0	1	1	2	18.2%	6.2%	0.4%	4.8%	5.1%	3.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	48.5%	10.4%	3.4%
Transport	9	12	14	24	28	31	30	2.4%	2.1%	5.1%	1.8%	0.8%	-0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	12	14	23	23	22	18	2.4%	2.1%	4.7%	0.3%	-0.7%	-1.9%
Gas	0	0	0	0	2	3	4	n.s.	36.7%	16.8%	19.4%	5.9%	2.1%
Electricity	0	0	0	0	2	3	5	8.3%	-6.5%	22.3%	22.5%	6.1%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	1	3	4	n.s.	n.s.	54.5%	10.5%	6.3%	3.6%
Other Energy Transformation & Losses⁴	2	3	4	8	8	8	8	5.4%	3.5%	6.1%	-0.1%	0.9%	-0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Mediterranean Middle East	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	27	36	46	54	65	73	80	2.9%	2.5%	1.6%	1.9%	1.2%	1.0%
GDP per capita (ppp, k\$'05)	5	7	8	10	12	15	20	2.7%	1.5%	1.8%	2.0%	2.5%	2.4%
GDP per capita (mer, k\$'05)	3	5	5	6	7	9	12	4.0%	-0.1%	1.8%	2.0%	2.5%	2.4%
Share Value Added - Agriculture (%)	6	4	1	1	1	1	1	-4.3%	-11.8%	1.3%	-0.9%	-0.9%	-0.7%
Share Value Added - Industry (%)	6	8	5	6	6	6	5	3.1%	-4.2%	1.5%	-0.2%	-0.3%	-0.4%
Share Value Added - Services (%)	89	88	94	93	93	93	94	0.0%	0.6%	-0.1%	0.0%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.6%	0.9%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	110	166	197	193	202	164	83	4.2%	1.7%	-0.2%	0.4%	-2.1%	-6.6%
Total GHG (excl. sinks)	110	167	198	195	203	166	85	4.3%	1.7%	-0.2%	0.4%	-2.0%	-6.5%
Total GHG (energy, industry, agriculture)	110	167	198	195	203	166	85	4.3%	1.7%	-0.2%	0.4%	-2.0%	-6.5%
CO ₂	90	140	168	176	185	148	71	4.6%	1.8%	0.5%	0.5%	-2.2%	-7.1%
CH ₄	12	17	19	11	12	12	10	4.0%	0.8%	-5.2%	0.8%	0.5%	-1.7%
N ₂ O	7	7	8	4	3	3	2	0.6%	1.2%	-7.8%	-1.9%	-1.7%	-1.7%
F gases	1	1	3	4	4	2	1	3.4%	6.6%	3.7%	-0.7%	-4.3%	-9.4%
Total GHG from Energy and Industry	101	157	187	192	201	163	82	4.5%	1.7%	0.3%	0.4%	-2.1%	-6.6%
CO₂ Emissions from Fuel Comb.	81	127	158	163	169	131	55	4.6%	2.2%	0.3%	0.4%	-2.5%	-8.3%
Power generation/District heating	29	59	88	94	96	59	-7	7.3%	4.1%	0.7%	0.2%	-4.8%	n.s.
Industry	8	10	13	13	15	15	14	2.4%	2.3%	0.6%	1.4%	-0.4%	-1.0%
Buildings	14	17	18	14	11	9	7	2.1%	0.9%	-3.1%	-1.9%	-2.1%	-2.6%
Agriculture	1	1	2	1	1	1	1	4.0%	2.5%	-3.2%	-0.6%	-3.6%	-3.7%
Transport	21	31	31	34	37	39	35	4.0%	0.1%	1.0%	0.7%	0.6%	-1.1%
Other	9	8	6	6	8	9	6	-0.2%	-3.9%	1.2%	2.5%	0.5%	-2.8%
CO₂ captured (CCS)	0	0	0	0	1	14	65	n.s.	n.s.	n.s.	n.s.	38.1%	16.7%
Coal	0	0	0	0	0	3	9	n.s.	n.s.	n.s.	n.s.	21.6%	10.8%
Gas	0	0	0	0	0	3	13	n.s.	n.s.	n.s.	n.s.	56.9%	14.7%
Biomass	0	0	0	0	0	7	43	n.s.	n.s.	n.s.	n.s.	n.s.	19.3%
Energy Balance, by fuel (Mtoe)													
Primary Production	22	33	31	11	21	33	43	4.0%	-0.6%	-9.7%	6.3%	4.9%	2.7%
Coal	0	0	0	0	0	0	0	5.4%	0.1%	n.s.	n.s.	n.s.	n.s.
Oil	20	27	20	0	0	1	1	3.1%	-3.1%	-50.6%	19.3%	28.3%	-0.9%
Natural gas	1	4	9	9	14	17	20	12.2%	7.8%	-0.6%	4.3%	2.4%	1.4%
Biomass	0	0	0	0	1	1	1	3.0%	1.3%	8.8%	6.9%	3.1%	1.2%
Nuclear ¹	0	0	0	0	1	4	6	n.s.	n.s.	n.s.	36.8%	18.9%	4.5%
Hydro	0	0	0	0	0	0	0	1.5%	-0.6%	0.2%	1.2%	0.9%	0.3%
Other renewables	0	1	1	2	5	10	15	4.8%	6.7%	2.5%	12.4%	6.3%	4.5%
Net Imports	5	10	27	47	48	44	47						
Coal	2	7	8	11	11	8	7						
Oil	2	3	15	35	31	20	18						
Natural gas	0	0	5	1	6	10	2						
Biomass	0	0	0	0	1	6	20						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	27	43	58	58	69	78	90	4.8%	3.0%	0.0%	1.7%	1.2%	1.5%
Coal	2	7	8	11	11	8	7	11.2%	1.4%	4.2%	-0.5%	-3.2%	-1.4%
Oil	23	31	35	35	31	21	19	3.2%	1.1%	0.1%	-1.1%	-3.8%	-1.2%
Natural gas	1	5	15	10	19	28	22	12.4%	11.8%	-3.9%	6.9%	3.7%	-2.3%
Biomass	0	0	0	0	2	7	21	2.9%	1.3%	12.4%	13.0%	15.6%	11.5%
Nuclear ¹	0	0	0	0	1	4	6	n.s.	n.s.	n.s.	36.8%	18.9%	4.5%
Hydro	0	0	0	0	0	0	0	1.5%	-0.6%	0.2%	1.2%	0.9%	0.3%
Other renewables	0	1	1	2	5	10	15	4.8%	6.7%	2.5%	12.4%	6.3%	4.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	27	43	58	58	69	78	90	4.8%	3.0%	0.0%	1.7%	1.2%	1.5%
Energy for Power Generation	9	19	31	31	38	44	57	7.0%	5.2%	0.0%	2.1%	1.5%	2.6%
Other Energy Transformation & Losses	3	2	1	2	3	5	6	-1.6%	-5.0%	3.9%	5.5%	3.7%	1.5%
Final consumption	18	29	37	37	44	52	59	4.9%	2.4%	0.0%	1.9%	1.5%	1.4%
Steel, Non-Met. Minerals and Chem.	0	1	2	1	2	1	2	17.8%	2.5%	-1.8%	0.8%	-0.6%	0.4%
Other Industry	3	4	5	5	7	8	10	2.1%	2.7%	0.6%	2.5%	1.7%	2.2%
Non-Energy Use	1	4	3	3	3	4	4	11.9%	-1.9%	-1.6%	1.9%	0.9%	0.8%
Residential	3	6	8	7	8	9	11	6.2%	3.3%	-1.0%	1.4%	1.2%	1.5%
Services	3	4	6	5	7	8	10	1.7%	3.3%	-0.3%	2.3%	1.8%	2.1%
Agriculture	0	1	1	1	1	1	1	4.6%	2.7%	-0.9%	1.9%	1.8%	1.7%
Road	6	9	12	14	16	19	21	3.7%	3.1%	1.2%	1.9%	1.7%	0.7%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	32.7%	-12.2%	-2.4%	3.5%	2.9%	2.1%
Other Transport	0	0	0	0	0	0	0	n.s.	5.8%	-2.2%	2.0%	0.0%	-1.2%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Mediterranean Middle East	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	18	29	29	32	30	35	7.3%	5.2%	-0.2%	0.9%	-0.6%	1.7%
Coal	2	6	7	11	10	6	5	10.6%	1.7%	3.7%	-0.9%	-4.1%	-1.5%
Oil	6	9	9	12	10	3	3	4.5%	0.3%	2.4%	-1.5%	-11.1%	0.5%
Gas	1	2	13	6	11	15	9	13.8%	18.1%	-6.7%	5.8%	3.2%	-4.8%
Biomass & Waste	0	0	0	0	1	5	17	n.s.	n.s.	9.8%	29.5%	22.7%	12.9%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	38	85	136	137	178	237	331	8.5%	4.8%	0.1%	2.7%	2.9%	3.4%
Coal	10	29	34	48	45	30	26	10.9%	1.6%	3.5%	-0.8%	-4.0%	-1.3%
of which CCS	0	0	0	0	0	2	9	n.s.	n.s.	n.s.	n.s.	n.s.	18.5%
Oil	21	42	39	50	43	14	14	7.0%	-0.8%	2.7%	-1.6%	-10.8%	0.4%
Gas	3	10	59	30	55	81	55	13.6%	19.3%	-6.4%	6.2%	3.9%	-3.8%
of which CCS	0	0	0	0	0	8	34	n.s.	n.s.	n.s.	n.s.	n.s.	15.1%
Biomass & Waste	0	0	0	0	3	25	87	n.s.	n.s.	11.7%	30.8%	23.2%	13.3%
of which CCS	0	0	0	0	0	9	52	n.s.	n.s.	n.s.	n.s.	n.s.	18.7%
Nuclear	0	0	0	0	3	16	24	n.s.	n.s.	n.s.	37.0%	19.0%	4.5%
Hydro	3	4	4	4	4	4	5	1.5%	-0.6%	0.2%	1.2%	0.9%	0.3%
Wind	0	0	0	0	8	35	67	11.6%	13.9%	44.4%	34.2%	15.7%	6.7%
Solar	0	0	0	3	17	32	52	n.s.	n.s.	37.7%	18.9%	6.6%	5.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	31.6%	17.6%	11.1%
Generation Capacity (GW_e)	11	20	27	38	50	69	91	6.4%	2.8%	3.3%	3.0%	3.2%	2.8%
Coal	2	4	5	7	9	8	6	7.8%	1.2%	4.0%	2.1%	-1.6%	-2.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	18.6%
Oil	7	9	6	7	6	5	5	2.9%	-4.3%	1.5%	-1.1%	-2.6%	-0.5%
Gas	1	5	15	19	18	16	8	19.5%	11.5%	2.9%	-0.8%	-1.2%	-6.9%
of which CCS	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Biomass & Waste	0	0	0	0	0	3	12	n.s.	n.s.	7.7%	30.9%	23.0%	13.3%
of which CCS	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	n.s.	n.s.	18.8%
Nuclear	0	0	0	0	0	2	4	n.s.	n.s.	n.s.	36.7%	18.8%	4.3%
Hydro	1	2	2	2	2	2	2	4.6%	-2.0%	-0.4%	1.2%	0.9%	0.3%
Wind	0	0	0	0	3	14	25	n.s.	18.1%	39.1%	32.8%	14.9%	6.2%
Solar	0	0	0	2	11	20	31	n.s.	n.s.	40.9%	17.9%	5.6%	4.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.0%	10.6%
Total Final Consumption² (Mtoe)	18	29	37	37	44	52	59	4.9%	2.4%	0.0%	1.9%	1.5%	1.4%
Coal	0	0	0	1	1	1	1	30.2%	-0.1%	17.6%	2.2%	-1.1%	-1.6%
Oil	14	20	24	22	20	18	15	3.5%	1.9%	-0.9%	-0.9%	-1.4%	-1.6%
Gas	1	2	2	3	6	10	10	11.5%	-2.5%	3.8%	9.2%	4.5%	0.6%
Electricity	3	6	9	10	13	17	24	8.4%	4.8%	0.3%	2.9%	3.0%	3.4%
Heat	0	1	1	1	3	4	5	4.8%	6.6%	0.5%	8.7%	2.3%	1.8%
Biomass & Other	0	0	0	0	1	2	4	2.9%	-0.1%	11.4%	9.7%	8.3%	6.2%
Share of Renewables ³ (%)	4%	4%	5%	6%	16%	31%	54%	-0.7%	1.4%	3.1%	9.9%	6.9%	5.6%
Industry (incl. non-energy use)	5	9	10	10	12	13	16	6.9%	0.9%	-0.5%	2.1%	1.2%	1.7%
Coal	0	0	0	1	1	1	1	30.2%	-0.1%	17.6%	2.2%	-1.1%	-1.6%
Oil	4	5	6	5	5	4	4	2.7%	1.1%	-1.6%	0.0%	-1.5%	-0.6%
Gas	0	2	2	2	3	4	5	55.4%	-2.5%	-0.6%	5.6%	3.6%	1.3%
Electricity	1	2	3	2	3	4	6	7.3%	3.7%	-0.7%	2.6%	2.5%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-0.2%	-0.3%	-0.2%
Biomass & Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	16.8%	10.6%	10.9%
Buildings	7	10	14	13	15	18	21	4.1%	3.3%	-0.7%	1.8%	1.5%	1.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	5	6	4	2	1	1	3.5%	0.9%	-4.1%	-4.4%	-6.1%	-4.6%
Gas	1	0	0	1	1	2	2	n.s.	n.s.	n.s.	9.4%	3.6%	-1.1%
Electricity	2	4	7	7	8	10	13	9.1%	5.4%	0.4%	1.6%	2.1%	2.8%
Heat	0	1	1	1	3	4	5	4.8%	6.6%	0.5%	8.7%	2.3%	1.8%
Biomass & Other	0	0	0	0	0	1	1	2.9%	-0.1%	7.3%	2.9%	6.1%	3.1%
Agriculture	0	1	1	1	1	1	1	4.6%	2.7%	-0.9%	1.9%	1.8%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	0	0	0	0	4.0%	2.5%	-3.2%	-0.6%	-3.6%	-3.7%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	1	1	1	5.8%	3.0%	2.5%	3.2%	3.4%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.5%	3.7%
Transport	6	9	12	14	16	19	21	4.0%	2.8%	1.2%	1.9%	1.7%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	6	9	12	13	13	12	10	4.0%	2.8%	0.8%	-0.3%	-0.6%	-1.6%
Gas	0	0	0	0	2	4	4	n.s.	n.s.	n.s.	19.8%	6.5%	0.6%
Electricity	0	0	0	0	1	3	5	n.s.	n.s.	n.s.	27.3%	7.5%	5.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	16.6%	8.8%	6.7%
Other Energy Transformation & Losses⁴	3	2	1	2	3	5	6	-1.6%	-5.0%	3.9%	5.5%	3.7%	1.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest Persian Gulf	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	34	48	69	90	111	133	155	3.3%	3.8%	2.7%	2.1%	1.8%	1.5%
GDP per capita (ppp, k\$'05)	6	11	12	11	13	14	15	7.2%	0.5%	-0.7%	1.6%	0.9%	0.4%
GDP per capita (mer, k\$'05)	5	7	8	10	12	13	13	4.2%	1.3%	2.3%	1.6%	0.9%	0.4%
Share Value Added - Agriculture (%)	1	1	1	0	0	0	0	4.8%	-4.8%	-11.9%	-0.7%	-0.3%	-0.1%
Share Value Added - Industry (%)	4	17	29	24	24	23	23	16.5%	5.6%	-1.9%	-0.2%	-0.1%	-0.1%
Share Value Added - Services (%)	96	82	70	76	76	76	77	-1.5%	-1.6%	0.8%	0.1%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	12	18	12	14	16	17	-3.4%	3.6%	-3.7%	1.6%	0.9%	1.0%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	284	413	685	877	851	570	382	3.8%	5.2%	2.5%	-0.3%	-3.9%	-3.9%
Total GHG (excl. sinks)	284	415	686	877	852	571	384	3.8%	5.2%	2.5%	-0.3%	-3.9%	-3.9%
Total GHG (energy, industry, agriculture)	284	415	686	877	852	571	384	3.8%	5.2%	2.5%	-0.3%	-3.9%	-3.9%
CO ₂	214	319	540	727	730	467	300	4.1%	5.4%	3.0%	0.0%	-4.4%	-4.3%
CH ₄	57	85	131	138	112	96	78	4.2%	4.4%	0.6%	-2.1%	-1.6%	-2.0%
N ₂ O	10	9	12	8	7	6	5	-1.3%	2.8%	-4.0%	-1.1%	-1.9%	-1.0%
F gases	4	2	4	4	3	2	1	-5.5%	6.0%	-0.2%	-2.1%	-2.5%	-8.3%
Total GHG from Energy and Industry	273	402	670	871	846	565	378	3.9%	5.3%	2.7%	-0.3%	-4.0%	-3.9%
CO₂ Emissions from Fuel Comb.	174	277	479	652	650	395	236	4.8%	5.6%	3.1%	0.0%	-4.9%	-5.0%
Power generation/District heating	60	105	207	256	261	102	7	5.7%	7.1%	2.2%	0.2%	-9.0%	-24.0%
Industry	44	67	112	180	179	133	113	4.3%	5.3%	4.9%	-0.1%	-2.9%	-1.6%
Buildings	9	15	19	22	22	13	9	4.8%	2.6%	1.3%	0.2%	-4.8%	-4.2%
Agriculture	0	1	1	1	1	1	0	11.0%	-5.2%	0.8%	-0.9%	-4.0%	-4.3%
Transport	42	55	83	106	99	87	71	2.8%	4.2%	2.5%	-0.7%	-1.3%	-1.9%
Other	19	35	58	87	89	60	36	6.1%	5.2%	4.1%	4.1%	-3.8%	-4.9%
CO₂ captured (CCS)	0	0	0	0	1	54	162	n.s.	n.s.	n.s.	n.s.	47.3%	11.5%
Coal	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	33.9%	13.5%
Gas	0	0	0	0	1	36	88	n.s.	n.s.	n.s.	n.s.	42.7%	9.4%
Biomass	0	0	0	0	0	17	70	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Energy Balance, by fuel (Mtoe)													
Primary Production	351	539	719	1 106	1 246	1 216	1 118	4.4%	2.9%	4.4%	1.2%	-0.2%	-0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	314	460	517	759	767	770	759	3.9%	1.2%	3.9%	0.1%	0.0%	-0.1%
Natural gas	36	79	202	346	473	425	335	8.1%	9.8%	5.5%	3.2%	-1.1%	-2.4%
Biomass	0	0	0	1	2	2	4	2.4%	6.3%	17.6%	8.7%	3.4%	6.2%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	-0.3%
Hydro	0	0	0	1	1	1	1	-13.5%	22.8%	2.1%	1.9%	1.5%	0.7%
Other renewables	0	0	0	0	4	18	19	n.s.	n.s.	n.s.	32.2%	16.1%	0.5%
Net Imports	- 282	- 429	- 518	- 814	- 943	- 970	- 873						
Coal	0	0	1	2	3	4	4						
Oil	- 279	- 409	- 433	- 669	- 686	- 716	- 703						
Natural gas	- 3	- 19	- 86	- 148	- 261	- 266	- 202						
Biomass	0	0	0	0	1	7	27						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	1	1	1	1	1						
Primary Energy Demand²	69	111	202	292	303	246	245	4.8%	6.2%	3.8%	0.4%	-2.1%	-0.1%
Coal	0	0	1	2	3	4	4	n.s.	n.s.	11.1%	3.4%	1.3%	0.0%
Oil	35	51	84	90	81	54	57	3.7%	5.1%	0.7%	-1.1%	-4.0%	0.5%
Natural gas	33	60	116	198	211	159	133	6.0%	6.9%	5.5%	0.7%	-2.8%	-1.8%
Biomass	0	0	0	1	2	10	31	2.5%	6.3%	18.3%	13.1%	14.7%	12.3%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	8.6%	-0.3%
Hydro	0	0	0	1	1	1	1	-13.5%	22.8%	2.1%	1.9%	1.5%	0.7%
Other renewables	0	0	0	0	4	18	19	n.s.	n.s.	n.s.	32.2%	16.1%	0.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	69	111	202	292	303	246	245	4.8%	6.2%	3.8%	0.4%	-2.1%	-0.1%
Energy for Power Generation	23	40	79	102	111	88	100	5.7%	7.2%	2.5%	0.8%	-2.3%	1.3%
Other Energy Transformation & Losses	7	13	26	49	52	45	44	6.0%	6.9%	6.7%	0.6%	-1.4%	-0.2%
Final consumption	44	68	116	172	180	156	151	4.3%	5.5%	4.1%	0.4%	-1.4%	-0.3%
Steel, Non-Met. Minerals and Chem.	2	3	6	13	11	11	12	5.6%	5.2%	8.1%	-1.1%	0.0%	0.2%
Other Industry	17	26	43	67	68	48	43	4.6%	5.2%	4.6%	0.2%	-3.4%	-1.1%
Non-Energy Use	5	6	13	20	23	22	22	3.5%	7.1%	4.4%	1.4%	-0.3%	0.1%
Residential	6	9	14	18	20	19	20	4.4%	4.2%	2.8%	0.7%	-0.5%	0.6%
Services	1	3	8	13	17	17	19	11.3%	10.6%	5.0%	2.3%	0.3%	1.1%
Agriculture	0	0	0	0	0	0	0	8.0%	-4.4%	1.3%	1.5%	1.3%	1.2%
Road	14	19	32	41	41	38	35	3.3%	5.1%	2.5%	-0.1%	-0.7%	-0.9%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	1.7%	-1.6%	-0.4%	-0.5%
Other Transport	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Persian Gulf	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	23	40	79	101	106	69	80	5.8%	7.1%	2.5%	0.5%	-4.2%	1.5%
Coal	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	25.7%	3.8%	3.0%
Oil	9	14	26	23	18	3	12	5.0%	6.6%	-1.3%	-2.6%	-16.2%	15.0%
Gas	14	26	53	78	87	57	42	6.3%	7.4%	4.0%	1.0%	-4.1%	-3.0%
Biomass & Waste	0	0	0	0	1	8	24	n.s.	n.s.	n.s.	n.s.	22.8%	12.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	79	140	284	454	553	529	601	5.9%	7.4%	4.8%	2.0%	-0.4%	1.3%
Coal	0	0	0	0	3	5	6	n.s.	n.s.	n.s.	26.1%	3.7%	2.8%
of which CCS	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	14.5%
Oil	31	53	62	97	74	13	50	5.6%	1.6%	4.6%	-2.7%	-15.8%	14.2%
Gas	45	86	218	347	418	290	233	6.7%	9.7%	4.8%	1.9%	-3.6%	-2.2%
of which CCS	0	0	0	0	0	74	179	n.s.	n.s.	n.s.	n.s.	n.s.	9.2%
Biomass & Waste	0	0	0	0	5	37	124	n.s.	n.s.	n.s.	n.s.	22.9%	12.8%
of which CCS	0	0	0	0	0	22	85	n.s.	n.s.	n.s.	n.s.	n.s.	14.3%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	3	1	5	6	7	8	9	-13.5%	22.8%	2.1%	1.9%	1.5%	0.7%
Wind	0	0	0	0	3	14	25	n.s.	n.s.	n.s.	53.0%	16.0%	5.8%
Solar	0	0	0	3	42	161	153	n.s.	n.s.	n.s.	31.1%	14.3%	-0.5%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	33.7%	18.1%
Generation Capacity (GW_e)	26	35	68	116	143	207	166	2.9%	6.9%	5.5%	2.1%	3.8%	-2.2%
Coal	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	26.3%	4.1%	2.7%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	14.7%
Oil	14	14	16	25	17	14	12	-0.1%	1.2%	4.9%	-3.8%	-2.3%	-1.0%
Gas	10	18	50	86	96	87	36	5.7%	10.5%	5.6%	1.2%	-1.0%	-8.5%
of which CCS	0	0	0	0	0	10	25	n.s.	n.s.	n.s.	n.s.	n.s.	9.6%
Biomass & Waste	0	0	0	0	1	5	17	n.s.	n.s.	n.s.	n.s.	23.1%	12.8%
of which CCS	0	0	0	0	0	3	12	n.s.	n.s.	n.s.	n.s.	n.s.	14.6%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	2	3	3	3	4	4	5	4.7%	-0.4%	2.3%	1.9%	1.5%	0.7%
Wind	0	0	0	0	1	6	9	n.s.	n.s.	n.s.	51.7%	15.4%	5.3%
Solar	0	0	0	2	23	91	86	n.s.	n.s.	n.s.	31.3%	14.6%	-0.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	33.2%	17.6%
Total Final Consumption² (Mtoe)	44	68	116	172	180	156	151	4.3%	5.5%	4.1%	0.4%	-1.4%	-0.3%
Coal	0	0	1	2	3	2	2	n.s.	n.s.	10.8%	1.2%	-1.5%	-1.1%
Oil	24	33	53	67	67	56	50	3.3%	4.7%	2.5%	-0.1%	-1.7%	-1.3%
Gas	15	25	43	71	71	55	47	5.2%	5.7%	5.2%	0.0%	-2.5%	-1.5%
Electricity	6	10	19	31	38	37	43	6.2%	6.8%	4.9%	2.0%	-0.2%	1.4%
Heat	0	0	0	0	0	3	4	n.s.	n.s.	n.s.	n.s.	38.2%	2.0%
Biomass & Other	0	0	0	1	1	2	6	2.5%	6.3%	17.3%	8.2%	5.4%	9.7%
Share of Renewables ³ (%)	1%	0%	0%	1%	4%	17%	27%	-11.7%	9.8%	5.2%	16.7%	16.9%	4.5%
Industry (incl. non-energy use)	23	36	61	99	102	81	77	4.5%	5.6%	4.9%	0.3%	-2.2%	-0.6%
Coal	0	0	1	2	3	2	2	n.s.	n.s.	10.8%	1.2%	-1.5%	-1.1%
Oil	7	9	14	20	26	23	23	2.4%	5.0%	3.6%	2.2%	-1.1%	0.2%
Gas	15	24	43	69	65	49	42	5.1%	5.8%	4.9%	-0.6%	-2.7%	-1.6%
Electricity	1	3	4	7	9	7	8	6.3%	3.1%	7.5%	2.1%	-2.2%	0.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	-2.7%	-2.8%	30.0%
Buildings	7	12	22	32	36	36	39	5.7%	6.1%	3.7%	1.4%	-0.1%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	6	6	4	2	1	4.6%	2.7%	-0.5%	-4.0%	-7.3%	-5.2%
Gas	0	0	0	2	4	3	2	12.0%	-2.7%	26.3%	10.0%	-2.6%	-3.5%
Electricity	4	7	16	24	28	28	32	6.2%	7.9%	4.2%	1.4%	-0.1%	1.3%
Heat	0	0	0	0	0	3	4	n.s.	n.s.	n.s.	n.s.	38.2%	2.0%
Biomass & Other	0	0	0	0	0	0	1	2.5%	6.3%	9.7%	2.0%	-2.9%	6.0%
Agriculture	0	0	0	0	0	0	0	8.0%	-4.4%	1.3%	1.5%	1.3%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	11.0%	-5.2%	0.8%	-0.9%	-4.0%	-4.3%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	-24.9%	22.5%	5.9%	9.5%	7.5%	3.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	11.9%	5.3%
Transport	14	19	32	41	41	38	35	3.3%	5.2%	2.5%	-0.1%	-0.7%	-0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	19	32	41	37	31	25	3.3%	5.2%	2.5%	-1.0%	-1.6%	-2.2%
Gas	0	0	0	0	2	2	3	n.s.	n.s.	n.s.	24.4%	4.6%	1.3%
Electricity	0	0	0	0	2	3	4	n.s.	n.s.	n.s.	31.3%	5.1%	3.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	31.0%	9.0%	5.9%
Other Energy Transformation & Losses⁴	7	13	26	49	52	45	44	6.0%	6.9%	6.7%	0.6%	-1.4%	-0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

China	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	1 155	1 270	1 342	1 403	1 416	1 395	1 349	1.0%	0.5%	0.5%	0.1%	-0.1%	-0.3%
GDP per capita (ppp, k\$'05)	1	3	7	13	21	30	38	8.9%	9.6%	6.5%	4.9%	3.6%	2.3%
GDP per capita (mer, k\$'05)	1	1	3	6	9	13	16	8.6%	9.4%	6.4%	4.9%	3.6%	2.3%
Share Value Added - Agriculture (%)	22	13	9	8	7	7	7	-5.2%	-3.3%	-1.3%	-0.9%	-0.4%	-0.2%
Share Value Added - Industry (%)	34	41	45	38	33	28	24	2.1%	0.8%	-1.6%	-1.3%	-1.6%	-1.5%
Share Value Added - Services (%)	44	46	46	54	59	65	69	0.3%	0.1%	1.6%	1.0%	0.9%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	26	10	23	20	21	21	22	-9.4%	8.8%	-1.3%	0.4%	0.0%	0.3%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	3 707	4 773	10 942	13 480	11 840	7 535	4 442	2.6%	8.7%	2.1%	-1.3%	-4.4%	-5.1%
Total GHG (excl. sinks)	3 811	5 105	11 235	13 860	12 279	7 990	5 069	3.0%	8.2%	2.1%	-1.2%	-4.2%	-4.4%
Total GHG (energy, industry, agriculture)	3 811	5 105	11 235	13 860	12 279	7 990	5 069	3.0%	8.2%	2.1%	-1.2%	-4.2%	-4.4%
CO ₂	2 445	3 632	8 884	11 326	10 359	6 577	4 149	4.0%	9.4%	2.5%	-0.9%	-4.4%	-4.5%
CH ₄	1 016	1 045	1 644	1 574	1 041	795	595	0.3%	4.6%	-0.4%	-4.1%	-2.7%	-2.9%
N ₂ O	338	378	529	632	548	426	292	1.1%	3.4%	1.8%	-1.4%	-2.5%	-3.7%
F gases	13	51	177	328	331	192	34	14.8%	13.3%	6.4%	0.1%	-5.3%	-15.9%
Total GHG from Energy and Industry	3 035	4 316	10 231	12 715	11 394	7 264	4 548	3.6%	9.0%	2.2%	-1.1%	-4.4%	-4.6%
CO₂ Emissions from Fuel Comb.	2 206	3 196	7 737	9 688	8 560	4 902	2 821	3.8%	9.2%	2.3%	-1.2%	-5.4%	-5.4%
Power generation/District heating	594	1 253	3 175	4 412	3 707	1 169	173	7.8%	9.7%	3.3%	-1.7%	-10.9%	-17.4%
Industry	801	935	2 711	2 620	2 167	1 356	849	1.6%	11.2%	-0.3%	-1.9%	-4.6%	-4.6%
Buildings	417	319	502	615	470	336	231	-2.6%	4.6%	2.1%	-2.6%	-3.3%	-3.7%
Agriculture	89	49	89	112	89	50	28	-5.9%	6.3%	2.3%	-2.3%	-5.5%	-5.6%
Transport	115	249	524	987	1 188	1 238	1 102	8.0%	7.7%	6.5%	1.9%	0.4%	-1.2%
Other	190	392	736	943	938	753	436	7.5%	6.5%	2.5%	-0.1%	-2.2%	-5.3%
CO₂ captured (CCS)	0	0	0	0	7	174	871	n.s.	n.s.	n.s.	54.1%	37.2%	17.4%
Coal	0	0	0	0	2	58	283	n.s.	n.s.	n.s.	48.8%	37.6%	17.2%
Gas	0	0	0	0	5	52	284	n.s.	n.s.	n.s.	n.s.	26.5%	18.5%
Biomass	0	0	0	0	0	64	304	n.s.	n.s.	n.s.	2.4%	n.s.	16.8%
Energy Balance, by fuel (Mtoe)													
Primary Production	898	1 145	2 251	2 567	2 736	2 771	2 774	2.5%	7.0%	1.3%	0.6%	0.1%	0.0%
Coal	537	733	1 660	1 673	1 162	406	246	3.2%	8.5%	0.1%	-3.6%	-10.0%	-4.9%
Oil	137	161	202	236	226	155	83	1.7%	2.3%	1.6%	-0.4%	-3.7%	-6.1%
Natural gas	13	23	82	121	313	464	412	5.8%	13.4%	4.0%	10.0%	4.0%	-1.2%
Biomass	201	203	214	253	329	364	413	0.1%	0.5%	1.7%	2.7%	1.0%	1.3%
Nuclear ¹	0	4	19	88	362	875	998	n.s.	15.9%	16.4%	15.2%	9.2%	1.3%
Hydro	11	19	62	122	152	159	154	5.8%	12.5%	7.0%	2.2%	0.4%	-0.3%
Other renewables	0	1	12	74	193	348	468	29.4%	27.6%	19.6%	10.0%	6.1%	3.0%
Net Imports	- 66	1	377	973	1 216	1 104	966						
Coal	- 48	- 65	135	338	309	106	73						
Oil	- 20	65	230	507	597	629	540						
Natural gas	1	0	11	109	240	228	165						
Biomass	0	0	1	19	69	139	180						
Biofuels	0	0	0	0	1	4	8						
Electricity	0	0	0	- 1	- 1	- 1	- 1						
Primary Energy Demand²	832	1 146	2 628	3 541	3 952	3 876	3 740	3.3%	8.6%	3.0%	1.1%	-0.2%	-0.4%
Coal	489	668	1 795	2 012	1 471	512	318	3.2%	10.4%	1.1%	-3.1%	-10.0%	-4.6%
Oil	117	227	432	744	823	784	623	6.8%	6.7%	5.6%	1.0%	-0.5%	-2.3%
Natural gas	15	23	93	230	553	691	577	4.7%	14.8%	9.5%	9.2%	2.3%	-1.8%
Biomass	201	204	215	272	398	503	593	0.1%	0.5%	2.4%	3.9%	2.4%	1.7%
Nuclear ¹	0	4	19	88	362	875	998	n.s.	15.9%	16.4%	15.2%	9.2%	1.3%
Hydro	11	19	62	122	152	159	154	5.8%	12.5%	7.0%	2.2%	0.4%	-0.3%
Other renewables	0	1	12	74	193	348	468	29.4%	27.6%	19.6%	10.0%	6.1%	3.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	832	1 146	2 628	3 541	3 952	3 876	3 740	3.3%	8.6%	3.0%	1.1%	-0.2%	-0.4%
Energy for Power Generation	163	344	911	1 437	1 786	1 941	2 121	7.8%	10.2%	4.7%	2.2%	0.8%	0.9%
Other Energy Transformation & Losses	50	101	315	389	468	510	519	7.4%	12.1%	2.1%	1.9%	0.9%	0.2%
Final consumption	676	821	1 777	2 369	2 565	2 452	2 275	2.0%	8.0%	2.9%	0.8%	-0.5%	-0.7%
Steel, Non-Met. Minerals and Chem.	143	209	664	733	733	584	468	3.9%	12.3%	1.0%	0.0%	-2.2%	-2.2%
Other Industry	107	117	298	394	464	491	499	0.9%	9.8%	2.8%	1.7%	0.6%	0.2%
Non-Energy Use	43	61	121	192	183	165	133	3.6%	7.1%	4.7%	-0.5%	-1.0%	-2.1%
Residential	294	284	361	453	453	401	354	-0.3%	2.4%	2.3%	0.0%	-1.2%	-1.2%
Services	26	41	98	167	215	253	285	4.8%	9.2%	5.4%	2.6%	1.7%	1.2%
Agriculture	29	18	34	42	45	47	48	-4.5%	6.2%	2.2%	0.7%	0.4%	0.1%
Road	22	66	161	317	377	409	394	11.7%	9.2%	7.0%	1.7%	0.8%	-0.4%
Rail	10	9	12	13	16	18	19	-1.3%	2.9%	0.8%	1.9%	1.2%	0.5%
Aviation	1	4	11	26	37	44	45	22.1%	10.3%	8.9%	3.5%	1.7%	0.2%
Other Transport	3	12	17	32	42	39	30	16.7%	3.8%	6.4%	2.7%	-0.6%	-2.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

China	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	152	320	817	1 153	1 079	558	501	7.7%	9.8%	3.5%	-0.7%	-6.4%	-1.1%
Coal	139	302	783	1 060	777	144	96	8.1%	10.0%	3.1%	-3.1%	-15.5%	-4.0%
Oil	13	13	4	25	49	51	22	0.6%	-10.6%	19.0%	7.0%	0.4%	-8.1%
Gas	1	4	18	49	197	246	214	19.5%	17.1%	10.4%	15.0%	2.2%	-1.4%
Biomass & Waste	0	1	12	20	57	118	169	n.s.	30.2%	5.4%	11.1%	7.7%	3.7%
Other	0	0	0	0	0	0	0	6.7%	1.4%	0.8%	-16.7%	n.s.	n.s.
Gross Elec. Generation (TWh_e)	651	1 389	4 247	7 349	9 914	11 551	13 237	7.9%	11.8%	5.6%	3.0%	1.5%	1.4%
Coal	470	1 080	3 274	4 739	3 482	664	465	8.7%	11.7%	3.8%	-3.0%	-15.3%	-3.5%
of which CCS	0	0	0	0	0	57	343	n.s.	n.s.	n.s.	n.s.	n.s.	19.7%
Oil	52	49	14	112	219	227	98	-0.5%	-11.5%	22.7%	7.0%	0.3%	-8.0%
Gas	3	18	83	245	1 021	1 305	1 262	20.6%	16.6%	11.4%	15.3%	2.5%	-0.3%
of which CCS	0	0	0	0	0	89	697	n.s.	n.s.	n.s.	n.s.	n.s.	22.9%
Biomass & Waste	0	2	34	54	223	524	802	n.s.	30.2%	4.8%	15.2%	8.9%	4.4%
of which CCS	0	0	0	0	0	77	325	n.s.	n.s.	n.s.	n.s.	n.s.	15.4%
Nuclear	0	17	74	347	1 464	3 576	4 089	n.s.	16.0%	16.7%	15.5%	9.3%	1.3%
Hydro	127	222	722	1 415	1 765	1 845	1 794	5.8%	12.5%	7.0%	2.2%	0.4%	-0.3%
Wind	0	1	45	335	1 311	2 238	2 847	n.s.	53.5%	22.3%	14.6%	5.5%	2.4%
Solar	0	0	1	101	427	1 163	1 854	26.7%	22.7%	n.s.	15.5%	10.5%	4.8%
Other	0	0	0	0	2	8	27	6.7%	3.1%	5.8%	20.4%	17.6%	12.3%
Generation Capacity (GW_e)	158	346	1 013	1 885	3 047	4 248	4 241	8.2%	11.3%	6.4%	4.9%	3.4%	0.0%
Coal	98	232	701	1 059	1 092	1 002	261	9.0%	11.7%	4.2%	0.3%	-0.9%	-12.6%
of which CCS	0	0	0	0	0	8	50	n.s.	n.s.	n.s.	n.s.	n.s.	20.8%
Oil	21	21	15	24	43	46	49	0.2%	-3.1%	4.4%	6.0%	0.7%	0.7%
Gas	3	11	31	56	167	225	299	14.9%	11.2%	5.9%	11.6%	3.0%	2.9%
of which CCS	0	0	0	0	0	11	107	n.s.	n.s.	n.s.	n.s.	n.s.	25.5%
Biomass & Waste	0	0	7	9	31	76	127	n.s.	30.4%	3.2%	12.9%	9.2%	5.3%
of which CCS	0	0	0	0	0	10	44	n.s.	n.s.	n.s.	n.s.	n.s.	15.6%
Nuclear	0	2	10	52	217	519	587	n.s.	16.6%	17.9%	15.3%	9.1%	1.2%
Hydro	36	79	216	394	476	495	483	8.2%	10.5%	6.2%	1.9%	0.4%	-0.2%
Wind	0	0	31	199	686	1 072	1 249	n.s.	57.2%	20.3%	13.2%	4.6%	1.5%
Solar	0	0	1	92	335	813	1 183	26.7%	31.7%	n.s.	13.8%	9.3%	3.8%
Other	0	0	0	0	0	1	3	0.0%	0.4%	3.2%	20.1%	17.0%	11.8%
Total Final Consumption² (Mtoe)	676	821	1 777	2 369	2 565	2 452	2 275	2.0%	8.0%	2.9%	0.8%	-0.5%	-0.7%
Coal	322	297	767	715	511	257	150	-0.8%	10.0%	-0.7%	-3.3%	-6.6%	-5.3%
Oil	87	185	373	641	688	651	536	7.8%	7.2%	5.6%	0.7%	-0.5%	-1.9%
Gas	10	16	62	140	238	292	251	5.0%	14.3%	8.5%	5.5%	2.1%	-1.5%
Electricity	43	92	301	527	715	838	957	7.8%	12.5%	5.8%	3.1%	1.6%	1.3%
Heat	13	28	73	118	143	169	181	7.7%	10.2%	4.9%	1.9%	1.7%	0.7%
Biomass & Other	201	202	201	229	271	244	201	0.1%	-0.1%	1.3%	1.7%	-1.0%	-1.9%
Share of Renewables ³ (%)	33%	28%	16%	19%	25%	33%	40%	-1.4%	-5.4%	1.4%	3.0%	2.7%	1.9%
Industry (incl. non-energy use)	292	387	1 082	1 319	1 380	1 240	1 100	2.8%	10.8%	2.0%	0.5%	-1.1%	-1.2%
Coal	204	226	670	624	470	247	146	1.0%	11.5%	-0.7%	-2.8%	-6.2%	-5.1%
Oil	40	72	138	204	183	146	104	6.1%	6.7%	4.0%	-1.1%	-2.2%	-3.3%
Gas	8	10	28	75	151	201	172	2.4%	11.2%	10.4%	7.3%	2.9%	-1.5%
Electricity	30	60	204	344	455	504	556	7.1%	13.0%	5.4%	2.8%	1.0%	1.0%
Heat	11	19	43	58	71	82	87	5.9%	8.4%	3.2%	2.0%	1.4%	0.7%
Biomass & Other	0	0	0	13	50	59	35	n.s.	n.s.	n.s.	14.8%	1.7%	-5.2%
Buildings	319	324	459	620	667	655	640	0.2%	3.5%	3.0%	0.7%	-0.2%	-0.2%
Coal	97	61	82	76	31	5	1	-4.6%	3.1%	-0.8%	-8.7%	-16.4%	-16.6%
Oil	8	19	34	63	57	44	30	9.8%	6.0%	6.1%	-0.9%	-2.5%	-4.0%
Gas	2	7	27	48	72	75	58	10.8%	15.4%	5.9%	4.0%	0.5%	-2.6%
Electricity	9	27	85	166	231	293	350	11.4%	12.3%	6.9%	3.4%	2.4%	1.8%
Heat	3	9	31	60	72	88	94	13.4%	13.2%	6.9%	1.8%	2.0%	0.7%
Biomass & Other	201	202	199	207	205	149	108	0.1%	-0.2%	0.4%	-0.1%	-3.1%	-3.2%
Agriculture	29	18	34	42	45	47	48	-4.5%	6.2%	2.2%	0.7%	0.4%	0.1%
Coal	11	6	11	12	8	3	1	-5.8%	6.8%	0.8%	-4.4%	-8.5%	-8.5%
Oil	15	8	14	20	18	12	7	-5.9%	5.8%	3.5%	-0.9%	-4.2%	-4.8%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	6.2%	0.3%	-2.2%	-2.7%
Electricity	4	5	8	10	13	16	18	2.2%	6.2%	1.6%	2.8%	2.4%	0.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	6	16	21	n.s.	n.s.	n.s.	48.4%	9.5%	3.0%
Transport	35	92	201	389	472	510	487	10.0%	8.2%	6.8%	2.0%	0.8%	-0.5%
Coal	10	4	3	2	2	2	1	-8.0%	-2.8%	-2.9%	-2.0%	-2.0%	-2.0%
Oil	25	86	186	354	430	449	395	13.1%	8.0%	6.6%	2.0%	0.4%	-1.3%
Gas	0	0	7	16	15	16	21	n.s.	46.2%	9.3%	-0.9%	0.4%	2.8%
Electricity	1	1	3	7	15	24	33	9.6%	10.3%	7.3%	8.1%	4.7%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	2	10	10	20	37	n.s.	n.s.	19.2%	0.1%	7.4%	6.6%
Other Energy Transformation & Losses⁴	50	101	315	389	468	510	519	7.4%	12.1%	2.1%	1.9%	0.9%	0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

India	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	871	1 053	1 231	1 389	1 528	1 634	1 705	1.9%	1.6%	1.2%	1.0%	0.7%	0.4%
GDP per capita (ppp, k\$'05)	1	2	3	5	9	14	20	3.6%	5.9%	5.5%	6.0%	4.4%	3.5%
GDP per capita (mer, k\$'05)	0	1	1	2	3	5	7	3.6%	5.9%	5.8%	6.0%	4.4%	3.5%
Share Value Added - Agriculture (%)	29	23	18	16	14	13	13	-2.3%	-2.3%	-1.5%	-1.3%	-0.6%	-0.3%
Share Value Added - Industry (%)	26	26	27	30	27	23	18	-0.2%	0.5%	0.9%	-1.0%	-1.7%	-2.2%
Share Value Added - Services (%)	44	51	55	54	59	64	69	1.4%	0.7%	0.0%	0.9%	0.8%	0.7%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	23	24	24	26	-7.8%	10.3%	1.4%	0.6%	-0.1%	0.7%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 200	1 633	2 334	3 573	4 034	2 984	1 212	3.1%	3.6%	4.3%	1.2%	-3.0%	-8.6%
Total GHG (excl. sinks)	1 229	1 682	2 463	3 674	4 157	3 104	1 367	3.2%	3.9%	4.1%	1.2%	-2.9%	-7.9%
Total GHG (energy, industry, agriculture)	1 229	1 682	2 462	3 674	4 157	3 104	1 367	3.2%	3.9%	4.1%	1.2%	-2.9%	-7.9%
CO ₂	546	929	1 610	2 685	3 273	2 344	762	5.5%	5.7%	5.2%	2.0%	-3.3%	-10.6%
CH ₄	507	555	615	686	585	514	448	0.9%	1.0%	1.1%	-1.6%	-1.3%	-1.4%
N ₂ O	166	188	220	264	238	199	153	1.3%	1.5%	1.9%	-1.0%	-1.8%	-2.6%
F gases	10	10	18	39	61	47	4	0.6%	5.8%	8.2%	4.5%	-2.5%	-21.6%
Total GHG from Energy and Industry	748	1 165	1 922	3 076	3 644	2 677	1 030	4.5%	5.1%	4.8%	1.7%	-3.0%	-9.1%
CO₂ Emissions from Fuel Comb.	502	866	1 442	2 401	2 826	1 887	384	5.6%	5.2%	5.2%	1.6%	-4.0%	-14.7%
Power generation/District heating	215	490	792	1 276	1 481	697	-587	8.6%	4.9%	4.9%	1.5%	-7.3%	n.s.
Industry	107	125	260	491	562	435	287	1.5%	7.6%	6.6%	1.4%	-2.5%	-4.1%
Buildings	76	97	157	224	232	134	80	2.5%	5.0%	3.6%	0.4%	-5.3%	-5.1%
Agriculture	14	26	27	37	40	28	19	6.6%	0.5%	3.4%	0.7%	-3.4%	-3.9%
Transport	74	96	164	281	375	444	470	2.5%	5.5%	5.5%	2.9%	1.7%	0.6%
Other	16	33	42	90	136	148	115	7.6%	2.6%	7.9%	4.2%	0.9%	-2.5%
CO₂ captured (CCS)	0	0	0	0	2	159	1 076	n.s.	n.s.	n.s.	n.s.	n.s.	21.1%
Coal	0	0	0	0	0	23	87	n.s.	n.s.	n.s.	44.0%	n.s.	14.1%
Gas	0	0	0	0	1	48	196	n.s.	n.s.	n.s.	n.s.	42.4%	15.1%
Biomass	0	0	0	0	0	88	793	n.s.	n.s.	n.s.	38.1%	n.s.	24.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	268	350	493	640	696	823	844	2.7%	3.5%	2.6%	0.8%	1.7%	0.2%
Coal	85	134	216	315	268	110	38	4.7%	4.9%	3.9%	-1.6%	-8.5%	-10.0%
Oil	35	38	44	41	39	35	27	0.8%	1.5%	-0.8%	-0.5%	-1.0%	-2.6%
Natural gas	10	22	41	52	46	39	34	8.0%	6.5%	2.5%	-1.3%	-1.5%	-1.3%
Biomass	130	145	173	186	202	244	254	1.1%	1.8%	0.7%	0.8%	1.9%	0.4%
Nuclear ¹	2	4	7	15	60	244	281	10.7%	4.4%	7.7%	15.2%	15.1%	1.4%
Hydro	6	6	11	14	18	19	20	0.4%	5.2%	3.1%	2.0%	0.9%	0.2%
Other renewables	0	0	2	17	64	132	190	32.5%	27.1%	23.9%	14.3%	7.4%	3.7%
Net Imports	32	87	195	419	644	636	662						
Coal	7	12	64	135	140	39	16						
Oil	24	74	118	226	283	291	261						
Natural gas	1	1	14	58	219	299	249						
Biomass	0	0	0	1	0	3	129						
Biofuels	0	0	0	0	1	3	7						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	300	438	689	1 059	1 341	1 459	1 506	3.8%	4.6%	4.4%	2.4%	0.8%	0.3%
Coal	92	146	280	450	409	149	54	4.7%	6.7%	4.9%	-1.0%	-9.6%	-9.6%
Oil	59	112	162	267	322	326	288	6.6%	3.7%	5.1%	1.9%	0.1%	-1.2%
Natural gas	11	23	54	110	265	339	283	7.9%	9.0%	7.3%	9.2%	2.5%	-1.8%
Biomass	130	145	173	187	202	247	383	1.1%	1.8%	0.8%	0.8%	2.0%	4.5%
Nuclear ¹	2	4	7	15	60	244	281	10.7%	4.4%	7.7%	15.2%	15.1%	1.4%
Hydro	6	6	11	14	18	19	20	0.4%	5.2%	3.1%	2.0%	0.9%	0.2%
Other renewables	0	0	2	17	64	132	190	32.5%	27.1%	23.9%	14.3%	7.4%	3.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	300	438	689	1 059	1 341	1 459	1 506	3.8%	4.6%	4.4%	2.4%	0.8%	0.3%
Energy for Power Generation	64	140	239	398	599	780	917	8.1%	5.5%	5.2%	4.2%	2.7%	1.6%
Other Energy Transformation & Losses	7	8	29	45	69	86	92	2.0%	13.5%	4.3%	4.4%	2.3%	0.6%
Final consumption	247	321	483	739	886	906	903	2.6%	4.2%	4.4%	1.8%	0.2%	0.0%
Steel, Non-Met. Minerals and Chem.	24	38	72	143	127	93	71	4.7%	6.6%	7.2%	-1.2%	-3.1%	-2.6%
Other Industry	46	49	86	136	193	195	177	0.6%	5.8%	4.7%	3.6%	0.1%	-1.0%
Non-Energy Use	14	30	37	61	79	76	64	7.7%	2.3%	5.2%	2.5%	-0.4%	-1.6%
Residential	120	141	172	208	210	191	170	1.7%	2.0%	1.9%	0.1%	-1.0%	-1.1%
Services	14	16	33	49	82	110	145	1.6%	7.1%	4.2%	5.1%	3.0%	2.8%
Agriculture	9	15	19	30	38	44	50	6.0%	2.3%	4.5%	2.3%	1.5%	1.2%
Road	16	28	58	102	141	175	196	6.2%	7.4%	5.7%	3.3%	2.2%	1.1%
Rail	4	2	4	5	8	12	16	-6.2%	5.0%	4.3%	4.3%	3.6%	2.9%
Aviation	1	1	2	3	6	9	11	3.0%	8.5%	6.2%	6.8%	4.2%	2.4%
Other Transport	1	1	1	1	2	2	2	-0.5%	4.4%	2.2%	5.8%	2.0%	-0.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

India	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	57	129	220	352	457	385	426	8.6%	5.4%	4.8%	2.7%	-1.7%	1.0%
Coal	48	110	177	286	298	101	30	8.7%	4.9%	4.9%	0.4%	-10.2%	-11.3%
Oil	5	9	7	12	21	27	8	6.0%	-1.9%	4.8%	5.7%	2.8%	-11.3%
Gas	3	9	27	42	98	151	128	10.3%	11.1%	4.7%	8.9%	4.4%	-1.7%
Biomass & Waste	0	1	8	11	41	106	260	n.s.	27.3%	3.4%	13.5%	10.0%	9.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	293	570	979	1 872	3 022	4 133	5 415	6.9%	5.6%	6.7%	4.9%	3.2%	2.7%
Coal	192	390	658	1 172	1 246	433	147	7.4%	5.4%	5.9%	0.6%	-10.0%	-10.3%
of which CCS	0	0	0	0	0	27	108	n.s.	n.s.	n.s.	n.s.	n.s.	14.8%
Oil	13	29	24	53	92	122	37	8.2%	-1.8%	8.1%	5.6%	2.9%	-11.2%
Gas	10	56	113	196	461	744	742	18.8%	7.3%	5.7%	8.9%	4.9%	0.0%
of which CCS	0	0	0	0	0	105	492	n.s.	n.s.	n.s.	n.s.	n.s.	16.7%
Biomass & Waste	0	1	15	35	144	457	1 273	n.s.	27.6%	9.2%	15.0%	12.2%	10.8%
of which CCS	0	0	0	0	0	114	963	n.s.	n.s.	n.s.	n.s.	n.s.	23.8%
Nuclear	6	17	26	56	241	1 001	1 153	10.7%	4.5%	7.9%	15.6%	15.3%	1.4%
Hydro	72	74	123	167	205	223	227	0.4%	5.2%	3.1%	2.0%	0.9%	0.2%
Wind	0	2	20	111	367	710	1 191	48.6%	27.9%	18.9%	12.7%	6.8%	5.3%
Solar	0	0	0	81	267	441	636	8.8%	11.8%	n.s.	12.7%	5.1%	3.7%
Other	0	0	0	0	0	2	9	n.s.	n.s.	19.5%	35.6%	19.5%	14.4%
Generation Capacity (GW_e)	78	123	202	470	828	1 252	1 645	4.6%	5.1%	8.8%	5.8%	4.2%	2.8%
Coal	52	79	118	241	270	237	128	4.3%	4.1%	7.4%	1.1%	-1.3%	-6.0%
of which CCS	0	0	0	0	0	4	15	n.s.	n.s.	n.s.	n.s.	n.s.	15.2%
Oil	3	5	5	9	15	22	24	5.9%	-1.2%	6.6%	5.1%	4.1%	0.9%
Gas	3	10	21	32	67	114	164	11.4%	7.5%	4.4%	7.7%	5.4%	3.7%
of which CCS	0	0	0	0	0	13	67	n.s.	n.s.	n.s.	n.s.	n.s.	17.7%
Biomass & Waste	0	1	3	13	21	65	195	n.s.	14.6%	14.6%	4.6%	12.0%	11.7%
of which CCS	0	0	0	0	0	15	138	n.s.	n.s.	n.s.	n.s.	n.s.	24.7%
Nuclear	1	3	4	8	33	136	153	8.2%	4.9%	6.6%	15.4%	15.1%	1.2%
Hydro	19	24	37	53	65	71	72	2.3%	4.7%	3.5%	2.1%	0.8%	0.2%
Wind	0	1	13	62	181	325	501	44.9%	27.1%	16.5%	11.4%	6.0%	4.4%
Solar	0	0	0	53	175	282	406	8.8%	11.8%	n.s.	12.7%	4.9%	3.7%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	34.9%	18.9%	13.9%
Total Final Consumption² (Mtoe)	247	321	483	739	886	906	903	2.6%	4.2%	4.4%	1.8%	0.2%	0.0%
Coal	43	41	99	156	106	45	22	-0.5%	9.4%	4.7%	-3.8%	-8.2%	-7.0%
Oil	50	94	134	228	270	267	251	6.5%	3.6%	5.5%	1.7%	-0.1%	-0.6%
Gas	6	10	22	57	142	153	122	5.1%	8.6%	10.0%	9.5%	0.7%	-2.3%
Electricity	18	32	62	121	198	270	353	5.8%	6.8%	6.9%	5.0%	3.1%	2.7%
Heat	0	0	0	0	10	33	33	16.5%	23.5%	3.8%	36.9%	12.7%	0.0%
Biomass & Other	130	144	165	176	161	140	123	1.0%	1.3%	0.6%	-0.9%	-1.4%	-1.2%
Share of Renewables ³ (%)	57%	49%	38%	29%	29%	36%	48%	-1.5%	-2.5%	-2.7%	0.1%	2.2%	2.8%
Industry (incl. non-energy use)	84	116	194	341	400	364	313	3.3%	5.3%	5.8%	1.6%	-0.9%	-1.5%
Coal	30	32	84	138	92	42	21	0.5%	10.1%	5.2%	-4.0%	-7.7%	-6.6%
Oil	17	36	37	70	82	73	62	8.1%	0.2%	6.7%	1.5%	-1.1%	-1.6%
Gas	6	9	17	44	109	121	94	4.8%	6.6%	9.8%	9.4%	1.1%	-2.5%
Electricity	9	14	28	52	74	83	92	4.1%	7.3%	6.5%	3.6%	1.2%	1.1%
Heat	0	0	0	0	0	0	0	n.s.	23.5%	3.4%	-0.2%	-0.3%	-0.2%
Biomass & Other	23	26	29	36	43	45	44	1.3%	1.3%	2.2%	1.7%	0.4%	-0.2%
Buildings	134	158	205	257	292	300	315	1.7%	2.6%	2.3%	1.3%	0.3%	0.5%
Coal	10	9	16	18	14	3	1	-1.4%	5.9%	1.5%	-2.7%	-13.3%	-15.0%
Oil	11	19	27	39	34	19	11	5.6%	3.6%	3.7%	-1.4%	-5.6%	-5.8%
Gas	0	0	3	12	29	25	19	21.0%	27.7%	13.8%	9.7%	-1.4%	-3.1%
Electricity	5	11	23	49	93	143	202	8.5%	7.8%	7.9%	6.7%	4.4%	3.5%
Heat	0	0	0	0	10	33	33	16.5%	23.5%	3.8%	37.7%	12.8%	0.0%
Biomass & Other	108	119	136	139	111	77	50	1.0%	1.3%	0.2%	-2.2%	-3.6%	-4.1%
Agriculture	9	15	19	30	38	44	50	6.0%	2.3%	4.5%	2.3%	1.5%	1.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	8	8	12	13	9	6	6.6%	0.4%	3.4%	0.7%	-3.4%	-3.9%
Gas	0	0	0	0	0	0	0	5.4%	2.7%	1.8%	0.9%	-2.2%	-2.6%
Electricity	4	7	11	18	24	29	35	5.3%	4.1%	5.3%	2.7%	2.2%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	6	9	n.s.	n.s.	n.s.	n.s.	14.9%	3.9%
Transport	21	32	64	111	157	198	225	4.4%	7.2%	5.6%	3.5%	2.4%	1.3%
Coal	2	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	18	31	62	107	141	165	172	5.5%	7.1%	5.6%	2.8%	1.6%	0.4%
Gas	0	0	1	1	4	6	9	n.s.	33.6%	0.3%	10.1%	5.3%	3.6%
Electricity	0	1	1	3	7	15	24	7.2%	5.0%	8.3%	11.3%	7.1%	4.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	5	12	20	n.s.	-0.7%	20.0%	28.6%	9.0%	5.3%
Other Energy Transformation & Losses⁴	7	8	29	45	69	86	92	2.0%	13.5%	4.3%	4.4%	2.3%	0.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Indonesia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	181	212	242	272	295	312	322	1.5%	1.3%	1.2%	0.8%	0.6%	0.3%
GDP per capita (ppp, k\$'05)	2	3	4	6	9	13	18	2.6%	3.8%	4.4%	4.4%	3.5%	3.2%
GDP per capita (mer, k\$'05)	1	1	2	2	4	5	7	2.6%	3.8%	4.3%	4.4%	3.5%	3.2%
Share Value Added - Agriculture (%)	19	16	14	12	11	10	10	-2.2%	-1.1%	-1.1%	-1.2%	-0.6%	-0.4%
Share Value Added - Industry (%)	39	46	43	40	39	37	34	1.6%	-0.7%	-0.6%	-0.2%	-0.5%	-0.8%
Share Value Added - Services (%)	41	38	43	47	50	52	56	-0.7%	1.2%	0.9%	0.5%	0.5%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	30	-7.8%	10.3%	1.0%	1.4%	1.1%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	996	1 325	1 920	1 902	1 361	1 154	912	2.9%	3.8%	-0.1%	-3.3%	-1.6%	-2.3%
Total GHG (excl. sinks)	1 333	1 572	1 920	1 902	1 361	1 154	948	1.7%	2.0%	-0.1%	-3.3%	-1.6%	-2.0%
Total GHG (energy, industry, agriculture)	377	511	701	887	916	759	462	3.1%	3.2%	2.4%	0.3%	-1.9%	-4.8%
CO ₂	158	291	414	553	638	524	273	6.3%	3.6%	2.9%	1.4%	-1.9%	-6.3%
CH ₄	141	158	214	244	199	163	130	1.1%	3.1%	1.3%	-2.0%	-1.9%	-2.2%
N ₂ O	76	62	73	89	78	71	58	-2.0%	1.5%	2.0%	-1.2%	-1.0%	-1.9%
F gases	2	0	1	1	1	1	1	-12.9%	3.7%	6.7%	-0.7%	-0.2%	-4.8%
Total GHG from Energy and Industry	248	384	548	712	771	637	365	4.5%	3.6%	2.7%	0.8%	-1.9%	-5.4%
CO₂ Emissions from Fuel Comb.	137	265	383	509	580	464	220	6.8%	3.8%	2.9%	1.3%	-2.2%	-7.2%
Power generation/District heating	22	62	122	167	168	96	-61	10.7%	7.1%	3.2%	0.1%	-5.4%	n.s.
Industry	31	60	93	104	128	100	56	6.9%	4.5%	1.1%	2.0%	-2.4%	-5.7%
Buildings	21	38	25	31	31	18	11	5.9%	-4.3%	2.3%	0.1%	-5.3%	-4.6%
Agriculture	3	8	9	7	7	5	4	9.4%	2.0%	-3.1%	0.8%	-3.2%	-3.6%
Transport	32	64	94	125	139	148	144	7.0%	4.0%	2.9%	1.1%	0.6%	-0.2%
Other	27	34	39	75	106	96	65	2.0%	1.6%	6.7%	3.6%	-1.0%	-3.8%
CO₂ captured (CCS)	0	0	0	0	1	30	159	n.s.	n.s.	n.s.	29.1%	48.5%	18.1%
Coal	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	9.0%	42.8%	12.5%
Gas	0	0	0	0	0	10	32	n.s.	n.s.	n.s.	48.7%	35.1%	12.6%
Biomass	0	0	0	0	0	19	121	n.s.	n.s.	n.s.	11.5%	n.s.	20.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	161	229	371	496	373	335	319	3.6%	4.9%	3.0%	-2.8%	-1.1%	-0.5%
Coal	6	46	189	275	85	19	2	22.7%	15.2%	3.8%	-11.1%	-13.9%	-18.4%
Oil	75	72	49	54	71	69	50	-0.5%	-3.7%	1.0%	2.8%	-0.2%	-3.3%
Natural gas	37	57	71	87	114	106	86	4.6%	2.1%	2.1%	2.7%	-0.7%	-2.1%
Biomass	42	49	52	65	71	90	123	1.6%	0.6%	2.2%	0.8%	2.4%	3.2%
Nuclear ¹	0	0	0	0	0	4	5	n.s.	n.s.	n.s.	n.s.	n.s.	1.7%
Hydro	0	1	2	1	2	2	3	5.8%	5.7%	-0.6%	2.0%	3.7%	2.2%
Other renewables	1	4	8	13	30	44	49	15.8%	6.9%	4.7%	8.9%	3.7%	1.1%
Net Imports	-65	-78	-169	-243	-64	-21	-7						
Coal	-1	-34	-159	-249	-61	-3	3						
Oil	-41	-14	22	38	22	12	23						
Natural gas	-22	-31	-32	-28	-17	-16	-16						
Biomass	0	0	0	-3	-9	-15	-17						
Biofuels	0	0	0	-1	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	96	151	202	253	308	313	312	4.6%	2.9%	2.3%	2.0%	0.2%	0.0%
Coal	5	12	30	27	24	16	5	10.2%	9.8%	-1.4%	-1.2%	-3.9%	-10.8%
Oil	34	58	71	92	93	82	73	5.6%	2.0%	2.6%	0.2%	-1.3%	-1.2%
Natural gas	15	27	39	59	98	90	70	6.1%	3.9%	4.3%	5.2%	-0.8%	-2.5%
Biomass	42	49	52	62	62	75	106	1.6%	0.6%	1.7%	0.0%	1.9%	3.6%
Nuclear ¹	0	0	0	0	0	4	5	n.s.	n.s.	n.s.	n.s.	n.s.	1.7%
Hydro	0	1	2	1	2	2	3	5.8%	5.7%	-0.6%	2.0%	3.7%	2.2%
Other renewables	1	4	8	13	30	44	49	15.8%	6.9%	4.7%	8.9%	3.7%	1.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	96	151	202	253	308	313	312	4.6%	2.9%	2.3%	2.0%	0.2%	0.0%
Energy for Power Generation	8	24	46	68	90	103	120	11.7%	6.7%	3.8%	2.9%	1.3%	1.5%
Other Energy Transformation & Losses	11	12	18	21	34	36	36	1.1%	4.2%	1.3%	4.9%	0.7%	-0.1%
Final consumption	80	121	150	188	215	216	212	4.3%	2.1%	2.3%	1.4%	0.1%	-0.2%
Steel, Non-Met. Minerals and Chem.	3	5	10	13	14	11	8	6.3%	6.1%	3.3%	0.9%	-3.1%	-2.4%
Other Industry	15	25	32	36	46	43	40	5.2%	2.2%	1.2%	2.5%	-0.5%	-0.8%
Non-Energy Use	7	10	9	13	16	15	14	2.9%	-1.4%	4.0%	2.3%	-0.4%	-0.9%
Residential	42	53	56	67	70	68	63	2.4%	0.6%	1.8%	0.5%	-0.2%	-0.8%
Services	1	4	5	7	10	14	18	13.2%	3.2%	4.0%	3.7%	2.9%	2.7%
Agriculture	1	2	3	2	3	3	4	9.4%	2.4%	-2.7%	2.2%	1.5%	1.1%
Road	10	20	32	42	46	51	54	7.4%	4.9%	3.0%	0.8%	1.0%	0.6%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	1	2	4	6	7	7	7.4%	14.1%	6.2%	2.8%	1.7%	0.8%
Other Transport	1	2	2	3	4	4	3	7.9%	2.0%	4.1%	3.1%	0.1%	-1.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Indonesia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	7	19	37	53	58	53	63	11.3%	6.7%	3.7%	0.9%	-1.0%	1.8%
Coal	2	8	19	21	18	13	4	13.7%	8.4%	1.3%	-1.7%	-3.5%	-10.2%
Oil	4	5	8	13	12	5	3	1.5%	6.3%	4.6%	-0.6%	-8.2%	-6.6%
Gas	0	6	9	17	25	24	22	39.3%	4.1%	7.0%	3.7%	-0.3%	-0.9%
Biomass & Waste	0	0	0	0	1	8	31	n.s.	31.5%	26.6%	7.1%	25.2%	14.5%
Other	0	0	1	1	2	3	3	15.8%	6.8%	2.2%	8.9%	1.9%	0.8%
Gross Elec. Generation (TWh_e)	33	93	170	276	353	432	548	11.1%	6.2%	5.0%	2.5%	2.0%	2.4%
Coal	10	34	68	84	71	52	19	13.3%	7.2%	2.1%	-1.6%	-3.2%	-9.3%
of which CCS	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	n.s.	13.1%
Oil	15	18	34	55	52	23	12	1.8%	6.4%	4.9%	-0.6%	-7.8%	-6.4%
Gas	1	26	40	75	116	120	123	42.9%	4.4%	6.4%	4.5%	0.3%	0.2%
of which CCS	0	0	0	0	0	20	74	n.s.	n.s.	n.s.	n.s.	n.s.	13.8%
Biomass & Waste	0	0	0	2	4	38	154	n.s.	31.5%	33.0%	8.2%	26.7%	15.0%
of which CCS	0	0	0	0	0	23	131	n.s.	n.s.	n.s.	n.s.	n.s.	18.9%
Nuclear	0	0	0	0	0	18	22	n.s.	n.s.	n.s.	n.s.	n.s.	1.7%
Hydro	6	10	17	16	20	29	36	5.8%	5.7%	-0.6%	2.0%	3.7%	2.2%
Wind	0	0	0	17	29	65	81	n.s.	n.s.	n.s.	5.8%	8.4%	2.2%
Solar	0	0	0	16	33	54	65	n.s.	n.s.	n.s.	7.6%	5.1%	1.8%
Other	1	5	9	12	27	33	37	15.8%	6.8%	2.2%	8.9%	2.0%	1.0%
Generation Capacity (GW_e)	13	25	34	77	102	140	167	6.9%	3.0%	8.4%	2.9%	3.3%	1.8%
Coal	2	8	13	30	30	27	15	16.1%	5.4%	8.6%	0.0%	-0.9%	-5.7%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	13.2%
Oil	7	5	6	9	8	6	6	-4.6%	2.2%	4.2%	-0.4%	-3.7%	-0.2%
Gas	1	8	10	14	18	18	20	32.6%	2.1%	3.0%	2.7%	-0.1%	1.0%
of which CCS	0	0	0	0	0	3	9	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Biomass & Waste	0	0	0	0	0	5	21	n.s.	31.2%	13.9%	7.9%	26.4%	15.2%
of which CCS	0	0	0	0	0	3	18	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Nuclear	0	0	0	0	0	3	3	n.s.	n.s.	n.s.	n.s.	n.s.	1.5%
Hydro	3	4	4	6	8	16	23	2.9%	-1.2%	4.3%	3.8%	6.8%	3.8%
Wind	0	0	0	7	13	27	32	n.s.	n.s.	n.s.	5.6%	7.6%	1.9%
Solar	0	0	0	9	21	35	43	n.s.	n.s.	n.s.	8.1%	5.3%	2.1%
Other	0	0	1	1	3	4	5	9.9%	12.7%	2.2%	8.7%	2.6%	1.1%
Total Final Consumption² (Mtoe)	80	121	150	188	215	216	212	4.3%	2.1%	2.3%	1.4%	0.1%	-0.2%
Coal	2	5	8	8	8	6	3	7.7%	5.9%	-0.4%	0.2%	-3.7%	-4.8%
Oil	27	49	61	73	77	73	68	6.0%	2.3%	1.8%	0.5%	-0.5%	-0.8%
Gas	6	12	16	27	43	38	27	6.7%	3.2%	5.5%	4.7%	-1.3%	-3.5%
Electricity	2	7	13	21	27	33	42	10.8%	6.5%	5.1%	2.5%	2.0%	2.4%
Heat	0	0	0	0	2	5	6	n.s.	n.s.	n.s.	23.6%	12.4%	1.3%
Biomass & Other	42	49	51	58	58	61	66	1.6%	0.4%	1.2%	0.1%	0.5%	0.8%
Share of Renewables ³ (%)	58%	45%	37%	35%	34%	42%	55%	-2.6%	-1.8%	-0.6%	-0.3%	2.2%	2.5%
Industry (incl. non-energy use)	26	40	50	62	76	69	62	4.7%	2.1%	2.2%	2.1%	-0.9%	-1.1%
Coal	2	5	8	8	8	6	3	7.7%	5.9%	-0.4%	0.2%	-3.7%	-4.8%
Oil	9	13	15	16	17	14	12	3.8%	1.7%	0.5%	0.7%	-1.6%	-1.7%
Gas	6	11	16	25	37	33	22	6.7%	3.2%	4.8%	4.0%	-1.2%	-3.8%
Electricity	1	3	4	7	8	8	9	8.9%	4.2%	4.1%	2.0%	0.4%	1.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	7	9	6	6	6	8	15	1.8%	-3.0%	0.0%	-0.4%	3.0%	6.5%
Buildings	43	57	61	74	81	82	81	2.9%	0.7%	2.0%	0.8%	0.2%	-0.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	-4.6%	-15.0%	n.s.
Oil	7	12	8	8	6	3	1	5.9%	-4.4%	0.7%	-3.7%	-7.5%	-6.3%
Gas	0	0	0	2	6	4	3	8.1%	14.4%	30.0%	10.5%	-3.0%	-3.3%
Electricity	1	4	8	14	18	23	30	12.6%	7.8%	5.7%	2.5%	2.4%	2.6%
Heat	0	0	0	0	2	5	6	n.s.	n.s.	n.s.	23.6%	12.4%	1.3%
Biomass & Other	35	41	45	49	49	47	41	1.6%	1.0%	0.9%	0.0%	-0.4%	-1.4%
Agriculture	1	2	3	2	3	3	4	9.4%	2.4%	-2.7%	2.2%	1.5%	1.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	2	2	2	1	9.4%	2.0%	-3.1%	0.8%	-3.2%	-3.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	n.s.	n.s.	3.8%	5.9%	6.2%	4.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	15.1%	4.5%
Transport	11	22	36	50	55	61	64	7.4%	5.1%	3.3%	1.1%	1.0%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	11	22	36	47	52	55	53	7.4%	5.1%	2.8%	0.9%	0.5%	-0.3%
Gas	0	0	0	0	1	1	2	n.s.	-6.6%	29.3%	18.0%	4.6%	4.2%
Electricity	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	51.5%	9.6%	5.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	2	2	5	8	n.s.	n.s.	29.3%	0.9%	6.2%	5.8%
Other Energy Transformation & Losses⁴	11	12	18	21	34	36	36	1.1%	4.2%	1.3%	4.9%	0.7%	-0.1%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Malaysia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	18	23	28	32	36	39	41	2.5%	1.8%	1.4%	1.1%	0.7%	0.5%
GDP per capita (ppp, k\$'05)	7	11	14	20	27	36	46	4.4%	2.7%	3.5%	3.3%	2.8%	2.5%
GDP per capita (mer, k\$'05)	3	5	6	9	12	17	21	4.4%	2.7%	3.5%	3.3%	2.8%	2.5%
Share Value Added - Agriculture (%)	15	9	10	8	8	8	8	-5.5%	1.6%	-2.0%	-0.3%	-0.2%	-0.1%
Share Value Added - Industry (%)	42	48	41	37	32	27	22	1.4%	-1.7%	-0.9%	-1.4%	-1.7%	-2.0%
Share Value Added - Services (%)	43	43	49	55	60	65	70	0.1%	1.4%	1.0%	0.9%	0.8%	0.7%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	30	-7.8%	10.3%	1.0%	1.4%	1.1%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	- 153	- 57	404	478	410	325	236	n.s.	n.s.	1.7%	-1.5%	-2.3%	-3.2%
Total GHG (excl. sinks)	126	211	404	478	410	326	248	5.3%	6.7%	1.7%	-1.5%	-2.3%	-2.7%
Total GHG (energy, industry, agriculture)	91	165	257	334	306	231	126	6.1%	4.6%	2.6%	-0.9%	-2.8%	-5.9%
CO ₂	63	127	211	284	268	202	104	7.3%	5.2%	3.0%	-0.6%	-2.8%	-6.4%
CH ₄	18	28	33	33	24	16	10	4.4%	1.7%	0.0%	-3.2%	-4.0%	-4.0%
N ₂ O	9	9	13	16	13	12	10	0.1%	3.3%	2.1%	-1.8%	-0.8%	-1.5%
F gases	1	1	1	2	1	1	1	0.7%	7.1%	2.0%	-4.1%	-1.5%	-3.3%
Total GHG from Energy and Industry	78	152	242	316	291	217	115	6.9%	4.8%	2.7%	-0.8%	-2.9%	-6.2%
CO₂ Emissions from Fuel Comb.	58	116	192	259	241	176	83	7.2%	5.1%	3.0%	-0.7%	-3.1%	-7.2%
Power generation/District heating	16	37	96	125	102	51	-23	8.9%	9.9%	2.7%	-2.0%	-6.8%	n.s.
Industry	14	26	31	38	35	24	14	6.4%	1.6%	2.3%	-0.9%	-3.5%	-5.6%
Buildings	2	4	6	6	9	8	5	7.0%	3.5%	0.3%	2.7%	-1.2%	-3.9%
Agriculture	0	0	3	3	3	2	2	n.s.	25.9%	0.5%	-0.5%	-3.6%	-3.9%
Transport	15	31	40	62	65	70	71	7.9%	2.6%	4.4%	0.5%	0.7%	0.2%
Other	11	17	15	24	26	22	15	4.2%	-1.0%	4.4%	1.1%	-2.0%	-3.8%
CO₂ captured (CCS)	0	0	0	0	0	10	69	n.s.	n.s.	n.s.	n.s.	51.0%	20.9%
Coal	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	38.8%	12.2%
Gas	0	0	0	0	0	6	18	n.s.	n.s.	n.s.	n.s.	53.3%	12.1%
Biomass	0	0	0	0	0	3	47	n.s.	n.s.	n.s.	n.s.	55.8%	30.7%
Energy Balance, by fuel (Mtoe)													
Primary Production	47	74	91	126	140	114	102	4.6%	2.1%	3.4%	1.1%	-2.0%	-1.1%
Coal	0	0	2	2	2	1	1	14.5%	20.3%	3.7%	-0.8%	-4.8%	-6.6%
Oil	31	33	36	42	32	17	10	0.6%	0.9%	1.6%	-2.8%	-6.0%	-5.2%
Natural gas	14	38	50	74	86	63	45	10.4%	2.7%	4.0%	1.5%	-3.1%	-3.4%
Biomass	1	2	2	6	16	23	34	1.8%	2.2%	10.8%	10.2%	3.7%	3.9%
Nuclear ¹	0	0	0	0	1	3	3	n.s.	n.s.	n.s.	n.s.	16.5%	0.9%
Hydro	0	1	1	1	1	2	2	5.7%	-0.7%	8.0%	1.6%	1.4%	0.4%
Other renewables	0	0	0	0	1	5	8	n.s.	n.s.	n.s.	28.5%	14.7%	4.1%
Net Imports	- 25	- 25	- 16	- 20	- 28	- 6	8						
Coal	1	2	13	21	14	7	3						
Oil	-19	-14	-10	-2	7	19	25						
Natural gas	-7	-14	-19	-36	-42	-26	-16						
Biomass	0	0	0	-2	-6	-6	-4						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	22	49	74	106	112	108	110	8.1%	4.3%	3.6%	0.5%	-0.4%	0.2%
Coal	1	2	15	23	16	8	4	5.7%	20.3%	4.6%	-3.5%	-6.8%	-6.3%
Oil	12	19	26	40	39	36	35	4.6%	2.9%	4.5%	-0.3%	-0.7%	-0.4%
Natural gas	7	25	31	38	44	37	29	13.6%	2.4%	2.1%	1.4%	-1.8%	-2.5%
Biomass	1	2	2	4	10	18	30	1.8%	2.2%	5.6%	10.1%	5.9%	5.4%
Nuclear ¹	0	0	0	0	1	3	3	n.s.	n.s.	n.s.	n.s.	16.5%	0.9%
Hydro	0	1	1	1	1	2	2	5.7%	-0.7%	8.0%	1.6%	1.4%	0.4%
Other renewables	0	0	0	0	1	5	8	n.s.	n.s.	n.s.	28.5%	14.7%	4.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	22	49	74	106	112	108	110	8.1%	4.3%	3.6%	0.5%	-0.4%	0.2%
Energy for Power Generation	6	15	33	41	43	41	47	10.7%	8.0%	2.2%	0.4%	-0.3%	1.2%
Other Energy Transformation & Losses	5	9	8	14	16	15	16	6.5%	-0.7%	5.2%	1.3%	-0.3%	0.6%
Final consumption	14	30	43	66	71	72	74	8.0%	3.7%	4.4%	0.8%	0.1%	0.3%
Steel, Non-Met. Minerals and Chem.	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Industry	6	12	15	19	20	17	15	7.9%	2.4%	2.7%	0.3%	-1.5%	-1.2%
Non-Energy Use	1	2	4	11	11	9	7	10.4%	5.1%	11.7%	-0.4%	-2.0%	-2.1%
Residential	2	3	4	6	6	7	7	4.2%	3.5%	2.4%	1.2%	0.6%	0.3%
Services	1	2	4	6	8	11	14	10.9%	6.9%	3.0%	3.8%	2.8%	2.5%
Agriculture	0	0	1	1	1	2	2	n.s.	26.2%	0.6%	1.8%	1.2%	0.9%
Road	5	10	15	22	24	27	29	8.5%	3.3%	4.5%	0.7%	1.0%	0.8%
Rail	0	0	0	0	0	0	0	n.s.	15.1%	3.8%	3.2%	2.5%	2.0%
Aviation	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other Transport	0	0	0	0	0	0	0	-20.8%	11.6%	19.3%	2.0%	-0.6%	-2.1%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Malaysia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	5	15	32	39	39	32	34	10.9%	8.2%	2.1%	-0.1%	-2.1%	0.7%
Coal	1	1	13	20	14	6	3	6.3%	24.1%	4.5%	-3.7%	-7.7%	-7.6%
Oil	3	1	1	2	2	0	1	-10.7%	-2.6%	11.6%	-3.5%	-13.4%	3.3%
Gas	1	12	18	16	18	15	12	24.4%	4.1%	-1.1%	1.2%	-2.1%	-2.0%
Biomass & Waste	0	0	0	1	6	10	19	n.s.	n.s.	9.0%	21.1%	6.4%	6.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	23	69	125	172	204	236	290	11.6%	6.1%	3.2%	1.8%	1.4%	2.1%
Coal	3	8	43	80	56	27	13	10.1%	18.7%	6.4%	-3.5%	-7.1%	-6.9%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	12.9%
Oil	11	4	4	9	6	2	2	-10.2%	0.2%	9.7%	-3.6%	-12.9%	3.9%
Gas	6	51	71	65	86	73	69	24.9%	3.3%	-0.9%	2.9%	-1.6%	-0.6%
of which CCS	0	0	0	0	0	14	48	n.s.	n.s.	n.s.	n.s.	n.s.	12.7%
Biomass & Waste	0	0	1	3	22	43	88	n.s.	n.s.	10.2%	23.2%	7.2%	7.4%
of which CCS	0	0	0	0	0	4	53	n.s.	n.s.	n.s.	n.s.	n.s.	30.9%
Nuclear	0	0	0	0	3	12	13	n.s.	n.s.	n.s.	n.s.	16.6%	0.9%
Hydro	4	7	6	14	16	19	20	5.7%	-0.7%	8.0%	1.6%	1.4%	0.4%
Wind	0	0	0	0	7	31	48	n.s.	n.s.	n.s.	44.0%	15.6%	4.4%
Solar	0	0	0	1	8	28	36	n.s.	n.s.	n.s.	22.5%	13.3%	2.5%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	30.1%	19.3%	13.3%
Generation Capacity (GW_e)	5	14	27	40	50	73	87	11.4%	7.0%	3.9%	2.3%	3.9%	1.8%
Coal	1	1	8	13	13	10	8	0.8%	19.4%	5.6%	-0.4%	-1.8%	-2.4%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	12.9%
Oil	1	2	2	3	2	2	2	4.7%	-3.6%	5.7%	-2.9%	0.0%	1.5%
Gas	1	8	15	16	16	12	11	24.4%	6.6%	0.3%	0.1%	-2.4%	-1.4%
of which CCS	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	n.s.	n.s.	13.0%
Biomass & Waste	0	0	1	2	4	7	13	n.s.	20.9%	8.4%	9.3%	6.6%	6.3%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	31.0%
Nuclear	0	0	0	0	0	2	2	n.s.	n.s.	n.s.	n.s.	16.4%	0.7%
Hydro	1	2	2	6	7	8	8	6.6%	0.1%	10.9%	1.6%	1.4%	0.4%
Wind	0	0	0	0	3	12	18	n.s.	n.s.	53.7%	43.0%	14.9%	4.0%
Solar	0	0	0	1	5	19	25	n.s.	n.s.	n.s.	22.8%	13.5%	2.7%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.8%	12.8%
Total Final Consumption² (Mtoe)	14	30	43	66	71	72	74	8.0%	3.7%	4.4%	0.8%	0.1%	0.3%
Coal	1	1	2	2	2	1	1	6.8%	6.3%	3.1%	-2.5%	-2.6%	-3.3%
Oil	9	18	23	34	34	32	31	7.1%	2.7%	3.9%	-0.1%	-0.4%	-0.5%
Gas	1	4	6	13	15	13	9	13.5%	4.9%	7.4%	1.6%	-1.7%	-3.5%
Electricity	2	5	10	14	16	19	23	11.9%	6.1%	3.6%	1.8%	1.5%	2.1%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	45.6%	19.7%
Biomass & Other	1	2	2	2	4	6	9	1.8%	-0.3%	3.9%	4.2%	5.4%	3.7%
Share of Renewables ³ (%)	13%	8%	6%	7%	13%	27%	42%	-5.0%	-3.5%	2.2%	6.9%	7.2%	4.5%
Industry (incl. non-energy use)	6	14	19	31	31	26	22	8.2%	2.9%	5.1%	0.0%	-1.6%	-1.5%
Coal	1	1	2	2	2	1	1	6.8%	6.3%	3.1%	-2.5%	-2.6%	-3.3%
Oil	4	6	6	10	8	6	5	5.1%	0.3%	4.4%	-1.2%	-2.8%	-2.2%
Gas	1	4	6	12	13	10	7	13.5%	4.5%	7.3%	0.6%	-2.4%	-4.1%
Electricity	1	3	5	6	7	6	6	12.9%	4.9%	3.4%	0.6%	-1.0%	-0.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	4	2.5%	n.s.	n.s.	15.1%	10.8%	6.0%
Buildings	3	5	9	11	15	18	21	6.5%	5.0%	2.7%	2.6%	1.9%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	1	1	0	7.0%	3.4%	-1.4%	-2.9%	-5.5%	-4.7%
Gas	0	0	0	0	2	2	2	7.4%	8.2%	29.6%	14.9%	1.6%	-3.5%
Electricity	1	2	5	7	9	12	16	10.7%	7.3%	3.7%	2.6%	2.7%	2.9%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	45.6%	19.7%
Biomass & Other	1	1	2	2	2	3	2	1.6%	1.8%	1.5%	1.1%	1.6%	-0.5%
Agriculture	0	0	1	1	1	2	2	n.s.	26.2%	0.6%	1.8%	1.2%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	1	1	1	1	0	n.s.	25.9%	0.5%	-0.5%	-3.6%	-3.9%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	5.6%	11.7%	7.8%	4.3%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	50.7%	11.1%	3.7%
Transport	5	10	15	23	24	27	29	8.4%	3.3%	4.5%	0.7%	1.0%	0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	5	10	14	22	23	25	25	8.4%	3.1%	4.4%	0.5%	0.6%	0.1%
Gas	0	0	0	0	0	0	1	n.s.	42.2%	-2.0%	2.0%	3.6%	6.1%
Electricity	0	0	0	0	0	0	1	n.s.	15.1%	4.3%	18.1%	10.2%	6.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	54.6%	7.0%	6.9%	6.5%
Other Energy Transformation & Losses⁴	5	9	8	14	16	15	16	6.5%	-0.7%	5.2%	1.3%	-0.3%	0.6%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Thailand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	57	63	67	69	68	66	62	1.0%	0.6%	0.3%	0.0%	-0.3%	-0.6%
GDP per capita (ppp, k\$'05)	4	6	8	10	15	21	28	3.4%	3.7%	2.6%	3.6%	3.7%	3.0%
GDP per capita (mer, k\$'05)	2	2	3	4	6	8	11	3.4%	3.7%	2.6%	3.6%	3.7%	3.0%
Share Value Added - Agriculture (%)	12	9	11	10	10	9	9	-3.8%	2.2%	-0.3%	-0.6%	-0.4%	-0.2%
Share Value Added - Industry (%)	37	37	40	36	34	30	26	-0.1%	0.8%	-1.0%	-0.7%	-1.1%	-1.3%
Share Value Added - Services (%)	50	55	49	54	57	61	65	0.8%	-1.0%	0.8%	0.5%	0.7%	0.6%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	30	-7.8%	10.3%	1.0%	1.4%	1.1%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	210	278	365	436	366	309	213	2.9%	2.8%	1.8%	-1.7%	-1.7%	-3.7%
Total GHG (excl. sinks)	210	284	383	442	396	344	256	3.1%	3.0%	1.4%	-1.1%	-1.4%	-2.9%
Total GHG (energy, industry, agriculture)	191	268	367	438	396	337	232	3.4%	3.2%	1.8%	-1.0%	-1.6%	-3.7%
CO ₂	93	169	249	315	304	262	174	6.2%	4.0%	2.4%	-0.4%	-1.5%	-4.0%
CH ₄	82	81	97	99	72	57	42	0.0%	1.8%	0.2%	-3.1%	-2.3%	-3.0%
N ₂ O	16	16	20	24	20	19	16	0.2%	2.4%	1.5%	-1.7%	-0.6%	-1.5%
F gases	1	1	0	0	0	0	0	-2.4%	-8.4%	-1.8%	-6.6%	0.5%	0.2%
Total GHG from Energy and Industry	121	203	293	359	337	287	192	5.3%	3.7%	2.1%	-0.6%	-1.6%	-3.9%
CO₂ Emissions from Fuel Comb.	82	154	231	296	283	241	157	6.5%	4.1%	2.5%	-0.4%	-1.6%	-4.2%
Power generation/District heating	27	54	81	85	70	51	-1	7.1%	4.2%	0.5%	-2.0%	-3.2%	n.s.
Industry	14	31	50	74	64	42	23	8.2%	4.8%	4.1%	-1.4%	-4.2%	-5.6%
Buildings	3	5	9	8	10	9	6	6.0%	5.8%	-1.1%	1.9%	-0.9%	-4.3%
Agriculture	6	9	11	14	13	9	6	4.5%	2.1%	2.4%	-0.7%	-3.7%	-4.1%
Transport	27	44	61	82	87	93	92	4.9%	3.3%	3.0%	0.6%	0.7%	-0.2%
Other	5	11	19	33	40	38	31	8.8%	5.9%	5.8%	1.8%	-0.5%	-1.8%
CO₂ captured (CCS)	0	0	0	0	0	13	75	n.s.	n.s.	n.s.	n.s.	55.3%	19.1%
Coal	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	46.8%	11.7%
Gas	0	0	0	0	0	10	28	n.s.	n.s.	n.s.	n.s.	n.s.	11.3%
Biomass	0	0	0	0	0	1	40	n.s.	n.s.	n.s.	n.s.	41.3%	42.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	21	41	72	70	65	61	59	6.8%	5.8%	-0.4%	-0.7%	-0.6%	-0.4%
Coal	3	5	5	5	5	3	2	4.9%	0.4%	-0.3%	-1.4%	-5.0%	-2.0%
Oil	3	9	19	18	11	5	3	11.0%	7.9%	-0.9%	-4.9%	-6.6%	-5.0%
Natural gas	5	17	30	28	21	14	8	11.9%	6.0%	-0.8%	-2.7%	-3.7%	-5.3%
Biomass	9	10	17	16	22	25	30	0.7%	5.8%	-0.9%	3.4%	1.3%	1.8%
Nuclear ¹	0	0	0	0	1	5	6	n.s.	n.s.	n.s.	n.s.	21.9%	1.2%
Hydro	0	1	0	1	1	1	1	1.9%	-0.8%	2.3%	1.2%	1.3%	0.9%
Other renewables	0	0	0	3	5	8	8	n.s.	6.4%	n.s.	6.6%	4.5%	0.7%
Net Imports	15	26	40	79	93	96	97						
Coal	1	2	11	15	8	3	3						
Oil	15	23	26	45	49	51	48						
Natural gas	0	1	3	15	33	37	38						
Biomass	0	0	0	3	2	3	6						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	1	1	1	1						
Primary Energy Demand²	37	68	113	149	158	158	155	6.3%	5.2%	2.8%	0.6%	0.0%	-0.1%
Coal	4	8	16	20	12	6	5	7.1%	7.9%	2.1%	-4.7%	-6.7%	-2.2%
Oil	18	32	45	63	60	57	51	5.8%	3.5%	3.4%	-0.5%	-0.5%	-1.0%
Natural gas	5	17	33	43	54	52	46	13.3%	6.6%	2.6%	2.4%	-0.4%	-1.1%
Biomass	9	10	17	19	24	28	36	0.7%	5.8%	1.0%	2.5%	1.4%	2.5%
Nuclear ¹	0	0	0	0	1	5	6	n.s.	n.s.	n.s.	n.s.	21.9%	1.2%
Hydro	0	1	0	1	1	1	1	1.9%	-0.8%	2.3%	1.2%	1.3%	0.9%
Other renewables	0	0	0	3	5	8	8	n.s.	6.4%	n.s.	6.6%	4.5%	0.7%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	37	68	113	149	158	158	155	6.3%	5.2%	2.8%	0.6%	0.0%	-0.1%
Energy for Power Generation	9	20	33	36	39	45	53	8.0%	4.9%	1.1%	0.6%	1.5%	1.7%
Other Energy Transformation & Losses	2	4	8	18	22	23	24	7.9%	8.1%	7.9%	2.1%	0.3%	0.4%
Final consumption	29	51	85	112	117	115	109	5.8%	5.2%	2.8%	0.5%	-0.2%	-0.5%
Steel, Non-Met. Minerals and Chem.	2	6	12	16	13	10	8	8.4%	7.8%	2.8%	-1.7%	-2.9%	-1.9%
Other Industry	6	12	15	20	22	20	18	6.5%	2.4%	3.1%	1.2%	-0.8%	-1.4%
Non-Energy Use	0	6	18	26	27	23	19	29.3%	12.4%	3.8%	0.2%	-1.3%	-1.9%
Residential	8	8	11	12	13	12	10	0.2%	3.9%	0.9%	0.2%	-0.6%	-1.3%
Services	1	3	6	7	9	12	14	8.2%	6.1%	1.6%	2.7%	3.0%	2.1%
Agriculture	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.4%	1.1%	0.7%
Road	9	14	19	26	28	31	32	5.3%	3.0%	3.1%	0.8%	1.0%	0.3%
Rail	0	0	0	0	0	0	0	-0.6%	-1.1%	1.4%	1.0%	0.9%	0.4%
Aviation	0	0	0	1	1	1	1	n.s.	n.s.	4.3%	-0.4%	-0.7%	-1.1%
Other Transport	0	0	0	0	0	0	0	-16.2%	2.7%	8.8%	1.2%	-0.9%	-2.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Thailand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	9	20	32	33	32	31	39	8.2%	5.0%	0.3%	-0.2%	-0.3%	2.1%
Coal	3	4	7	8	5	2	2	5.0%	5.2%	1.8%	-5.4%	-7.6%	1.2%
Oil	3	2	0	1	1	3	4	-0.8%	-19.6%	13.7%	-5.0%	17.5%	2.1%
Gas	4	13	23	21	21	19	19	12.8%	5.9%	-0.7%	0.0%	-1.0%	0.2%
Biomass & Waste	0	0	2	3	6	7	13	n.s.	17.5%	1.9%	8.0%	2.0%	6.0%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	44	96	160	196	224	272	319	8.1%	5.2%	2.1%	1.3%	1.9%	1.6%
Coal	11	18	30	30	18	10	12	4.9%	5.4%	-0.1%	-4.7%	-5.8%	1.6%
of which CCS	0	0	0	0	0	3	8	n.s.	n.s.	n.s.	n.s.	n.s.	12.3%
Oil	10	10	1	4	3	13	16	-0.3%	-19.3%	13.7%	-4.9%	17.5%	2.1%
Gas	18	62	119	116	116	105	113	13.2%	6.8%	-0.3%	0.0%	-1.0%	0.7%
of which CCS	0	0	0	0	0	25	75	n.s.	n.s.	n.s.	n.s.	n.s.	11.7%
Biomass & Waste	0	1	3	9	20	27	62	n.s.	20.9%	10.6%	8.2%	2.9%	8.6%
of which CCS	0	0	0	0	0	1	43	n.s.	n.s.	n.s.	n.s.	n.s.	53.6%
Nuclear	0	0	0	0	3	21	24	n.s.	n.s.	n.s.	n.s.	22.1%	1.2%
Hydro	5	6	6	7	8	9	10	1.9%	-0.8%	2.3%	1.2%	1.3%	0.9%
Wind	0	0	0	20	27	47	42	n.s.	n.s.	n.s.	3.2%	5.7%	-1.2%
Solar	0	0	0	10	29	39	40	n.s.	n.s.	n.s.	11.2%	3.0%	0.2%
Other	0	0	0	0	0	0	1	7.2%	2.4%	1.8%	27.9%	19.3%	13.8%
Generation Capacity (GW_e)	10	27	41	68	87	96	94	10.9%	4.2%	5.2%	2.4%	1.0%	-0.2%
Coal	1	3	4	5	5	1	2	5.7%	4.3%	1.9%	0.1%	-11.4%	1.3%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	12.3%
Oil	3	6	10	8	7	5	5	7.0%	5.6%	-2.1%	-1.0%	-3.8%	0.3%
Gas	3	15	21	25	25	19	16	17.7%	3.4%	1.7%	-0.1%	-2.9%	-1.2%
of which CCS	0	0	0	0	0	3	10	n.s.	n.s.	n.s.	n.s.	n.s.	11.8%
Biomass & Waste	0	0	1	3	3	4	8	n.s.	9.8%	12.1%	0.5%	1.5%	7.9%
of which CCS	0	0	0	0	0	0	6	n.s.	n.s.	n.s.	n.s.	n.s.	53.7%
Nuclear	0	0	0	0	0	3	4	n.s.	n.s.	n.s.	n.s.	21.8%	1.0%
Hydro	2	3	5	6	7	8	9	3.5%	3.9%	3.0%	1.2%	1.3%	0.9%
Wind	0	0	0	13	18	28	22	n.s.	n.s.	n.s.	2.9%	4.7%	-2.5%
Solar	0	0	0	7	21	28	28	n.s.	n.s.	n.s.	11.0%	2.8%	0.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.7%	13.3%
Total Final Consumption² (Mtoe)	29	51	85	112	117	115	109	5.8%	5.2%	2.8%	0.5%	-0.2%	-0.5%
Coal	1	4	9	12	8	4	2	10.3%	10.0%	2.5%	-4.2%	-6.3%	-4.7%
Oil	15	29	44	58	55	50	44	6.9%	4.2%	2.9%	-0.5%	-1.0%	-1.2%
Gas	0	2	5	11	19	19	15	27.0%	11.8%	8.8%	6.0%	0.1%	-2.8%
Electricity	3	8	13	16	19	22	26	8.7%	5.4%	2.4%	1.3%	1.9%	1.5%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	53.8%	23.9%
Biomass & Other	9	9	14	15	17	19	20	0.2%	4.4%	0.5%	0.9%	1.3%	0.8%
Share of Renewables ³ (%)	31%	20%	21%	21%	25%	32%	40%	-4.2%	0.5%	-0.2%	1.9%	2.4%	2.2%
Industry (incl. non-energy use)	9	23	45	62	62	54	45	9.6%	6.9%	3.3%	0.1%	-1.4%	-1.7%
Coal	1	4	9	12	8	4	2	10.3%	10.0%	2.5%	-4.2%	-6.3%	-4.7%
Oil	3	10	20	28	24	18	14	12.1%	7.1%	3.5%	-1.5%	-2.6%	-2.4%
Gas	0	2	3	8	16	16	12	27.0%	7.6%	10.0%	6.9%	0.0%	-2.9%
Electricity	2	3	5	7	7	7	7	8.4%	4.7%	2.2%	0.5%	-0.3%	-0.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	4	7	7	7	9	10	4.0%	5.0%	0.0%	0.5%	1.5%	1.4%
Buildings	9	11	17	19	21	23	25	1.9%	4.6%	1.1%	1.1%	1.0%	0.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	2	3	2	1	1	1	6.0%	5.8%	-3.0%	-4.1%	-5.2%	-4.8%
Gas	0	0	0	1	2	3	2	n.s.	n.s.	n.s.	14.3%	1.7%	-4.1%
Electricity	2	4	7	9	11	14	17	8.9%	6.0%	2.5%	1.5%	2.6%	2.0%
Heat	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	53.8%	23.9%
Biomass & Other	6	5	7	7	7	6	4	-2.1%	2.9%	0.2%	-0.4%	-1.3%	-3.0%
Agriculture	2	3	3	4	5	6	6	4.5%	2.1%	2.4%	1.4%	1.1%	0.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	3	4	4	3	2	4.5%	2.1%	2.4%	-0.7%	-3.7%	-4.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	1	1	4.8%	8.1%	5.8%	19.7%	10.4%	4.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	n.s.	55.5%	11.0%	3.6%
Transport	9	15	20	27	29	32	33	4.9%	3.1%	3.1%	0.7%	0.9%	0.3%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	9	15	18	24	26	28	28	4.9%	2.0%	3.0%	0.9%	0.8%	-0.2%
Gas	0	0	1	2	1	1	1	n.s.	n.s.	2.8%	-6.4%	-2.8%	3.3%
Electricity	0	0	0	0	0	1	1	n.s.	6.6%	13.4%	23.0%	11.3%	6.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	1	1	2	2	3	n.s.	n.s.	6.5%	3.9%	2.6%	3.2%
Other Energy Transformation & Losses⁴	2	4	8	18	22	23	24	7.9%	8.1%	7.9%	2.1%	0.3%	0.4%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Vietnam	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	68	80	88	98	105	110	113	1.6%	1.0%	1.1%	0.7%	0.4%	0.3%
GDP per capita (ppp, k\$'05)	1	2	3	5	8	12	16	5.8%	5.6%	4.9%	4.9%	4.1%	3.3%
GDP per capita (mer, k\$'05)	0	1	1	1	2	3	5	5.8%	5.6%	4.9%	4.9%	4.1%	3.3%
Share Value Added - Agriculture (%)	39	23	18	15	13	12	11	-5.2%	-2.1%	-1.9%	-1.6%	-0.8%	-0.5%
Share Value Added - Industry (%)	23	34	32	34	34	32	30	4.2%	-0.6%	0.5%	-0.1%	-0.5%	-0.7%
Share Value Added - Services (%)	39	43	50	51	53	56	59	1.1%	1.4%	0.3%	0.5%	0.5%	0.5%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	30	-7.8%	10.3%	1.0%	1.4%	1.1%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	112	100	273	397	387	307	221	-1.1%	10.5%	3.8%	-0.2%	-2.3%	-3.2%
Total GHG (excl. sinks)	112	144	288	409	426	350	272	2.6%	7.2%	3.6%	0.4%	-1.9%	-2.5%
Total GHG (energy, industry, agriculture)	89	144	287	409	426	347	252	4.9%	7.2%	3.6%	0.4%	-2.0%	-3.1%
CO ₂	20	52	147	251	300	243	172	10.0%	11.0%	5.5%	1.8%	-2.1%	-3.4%
CH ₄	59	74	109	113	85	67	50	2.3%	4.0%	0.4%	-2.8%	-2.3%	-2.9%
N ₂ O	10	18	31	45	41	37	30	5.7%	5.4%	3.9%	-1.1%	-1.0%	-1.9%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Total GHG from Energy and Industry	36	78	204	298	335	271	192	8.2%	10.0%	3.9%	1.2%	-2.1%	-3.4%
CO₂ Emissions from Fuel Comb.	17	44	124	213	247	185	120	9.9%	10.9%	5.6%	1.5%	-2.9%	-4.2%
Power generation/District heating	5	11	41	87	105	48	-9	9.0%	13.7%	7.8%	2.0%	-7.6%	n.s.
Industry	6	14	41	65	67	51	42	9.9%	11.1%	4.8%	0.4%	-2.6%	-2.0%
Buildings	2	7	11	13	17	15	11	12.9%	5.4%	1.4%	2.4%	-0.7%	-3.6%
Agriculture	1	1	2	2	2	2	1	5.0%	3.8%	1.7%	0.8%	-3.1%	-3.7%
Transport	4	11	28	42	50	63	71	9.8%	10.4%	4.0%	1.9%	2.2%	1.2%
Other	0	0	1	4	5	6	4	8.4%	45.6%	14.4%	2.0%	0.5%	-3.4%
CO₂ captured (CCS)	0	0	0	0	0	14	59	n.s.	n.s.	n.s.	n.s.	50.9%	15.5%
Coal	0	0	0	0	0	2	6	n.s.	n.s.	n.s.	n.s.	41.3%	15.1%
Gas	0	0	0	0	0	5	20	n.s.	n.s.	n.s.	n.s.	43.9%	14.5%
Biomass	0	0	0	0	0	7	32	n.s.	n.s.	n.s.	n.s.	n.s.	16.3%
Energy Balance, by fuel (Mtoe)													
Primary Production	17	39	65	63	55	68	76	8.4%	5.3%	-0.4%	-1.3%	2.3%	1.1%
Coal	2	7	25	13	1	0	0	10.3%	14.5%	-6.7%	-25.4%	n.s.	n.s.
Oil	3	16	16	19	18	17	13	20.0%	-0.5%	1.8%	-0.4%	-0.7%	-2.3%
Natural gas	0	1	8	9	12	15	17	44.5%	19.4%	1.9%	2.3%	2.3%	1.2%
Biomass	12	13	14	15	16	21	24	1.2%	0.3%	0.8%	0.7%	2.6%	1.6%
Nuclear ¹	0	0	0	0	0	3	5	n.s.	n.s.	n.s.	n.s.	n.s.	3.8%
Hydro	0	1	2	5	5	6	6	10.5%	6.6%	7.8%	0.8%	1.0%	0.1%
Other renewables	0	0	0	1	3	7	11	n.s.	n.s.	n.s.	5.4%	10.3%	5.4%
Net Imports	0	-11	-7	25	51	41	38						
Coal	0	-2	-11	15	24	8	5						
Oil	0	-9	3	6	12	15	18						
Natural gas	0	0	0	4	16	18	13						
Biomass	0	0	0	0	0	0	1						
Biofuels	0	0	0	0	0	0	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	17	28	58	87	106	109	114	4.9%	7.6%	4.2%	2.0%	0.3%	0.4%
Coal	2	4	15	28	25	8	5	7.0%	12.9%	6.7%	-1.2%	-10.6%	-5.1%
Oil	3	8	19	24	30	32	31	11.2%	9.1%	2.7%	2.0%	0.6%	-0.1%
Natural gas	0	1	8	13	27	33	30	n.s.	21.9%	4.9%	7.6%	1.8%	-0.9%
Biomass	12	13	14	15	16	21	25	1.2%	0.3%	0.9%	0.7%	2.6%	2.0%
Nuclear ¹	0	0	0	0	0	3	5	n.s.	n.s.	n.s.	n.s.	n.s.	3.8%
Hydro	0	1	2	5	5	6	6	10.5%	6.6%	7.8%	0.8%	1.0%	0.1%
Other renewables	0	0	0	1	3	7	11	n.s.	n.s.	n.s.	5.4%	10.3%	5.4%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	17	28	58	87	106	109	114	4.9%	7.6%	4.2%	2.0%	0.3%	0.4%
Energy for Power Generation	2	5	16	32	41	42	50	10.7%	12.8%	7.3%	2.5%	0.2%	1.6%
Other Energy Transformation & Losses	0	0	1	-1	0	2	5	n.s.	n.s.	n.s.	n.s.	16.0%	10.2%
Final consumption	16	25	48	70	83	88	89	4.6%	6.8%	3.8%	1.7%	0.6%	0.1%
Steel, Non-Met. Minerals and Chem.	0	0	6	13	13	12	12	n.s.	n.s.	7.8%	0.6%	-0.9%	-0.6%
Other Industry	5	8	11	17	23	23	23	5.7%	3.8%	4.3%	2.8%	0.1%	-0.2%
Non-Energy Use	0	0	2	3	3	3	2	16.9%	32.8%	1.9%	2.1%	-0.9%	-2.2%
Residential	10	12	16	19	19	19	17	2.4%	2.9%	1.5%	0.4%	-0.2%	-1.0%
Services	0	1	2	3	4	5	5	12.6%	4.8%	4.9%	4.6%	1.8%	0.2%
Agriculture	0	0	1	1	1	1	1	5.4%	3.8%	3.0%	2.5%	1.9%	1.5%
Road	1	3	10	15	18	24	28	10.3%	11.4%	4.1%	2.2%	2.6%	1.7%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	0	1.4%	3.9%	2.9%	0.4%	-0.3%	-1.0%
Other Transport	0	0	0	0	0	0	0	17.8%	8.3%	-3.1%	3.5%	0.6%	-1.7%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Vietnam	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	1	4	14	26	33	26	28	10.8%	14.4%	6.6%	2.6%	-2.4%	0.5%
Coal	1	1	5	15	16	4	2	2.6%	15.5%	12.2%	0.1%	-13.6%	-4.7%
Oil	0	1	1	2	3	3	2	13.1%	-1.2%	3.4%	7.9%	-1.9%	-6.1%
Gas	0	1	8	9	14	16	14	n.s.	21.4%	1.4%	4.7%	1.3%	-1.4%
Biomass & Waste	0	0	0	0	0	0	4	10	n.s.	5.7%	28.6%	27.7%	10.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	4.6%	1.6%	-1.3%
Gross Elec. Generation (TWh_e)	9	27	95	188	241	278	331	11.8%	13.6%	7.1%	2.5%	1.4%	1.8%
Coal	2	3	20	66	68	16	11	4.6%	20.2%	12.8%	0.3%	-13.3%	-3.9%
of which CCS	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	n.s.	n.s.	16.2%
Oil	1	5	3	7	16	13	7	13.2%	-2.8%	7.9%	7.9%	-1.9%	-6.0%
Gas	0	4	44	50	80	91	84	n.s.	26.1%	1.2%	4.8%	1.4%	-0.8%
of which CCS	0	0	0	0	0	12	54	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Biomass & Waste	0	0	0	0	2	18	49	n.s.	n.s.	6.0%	31.5%	28.2%	10.4%
of which CCS	0	0	0	0	0	9	36	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Nuclear	0	0	0	0	0	13	19	n.s.	n.s.	n.s.	n.s.	n.s.	3.8%
Hydro	5	15	28	58	63	70	71	10.5%	6.6%	7.8%	0.8%	1.0%	0.1%
Wind	0	0	0	5	7	32	48	n.s.	n.s.	58.2%	4.2%	15.5%	4.2%
Solar	0	0	0	1	4	22	40	n.s.	n.s.	n.s.	18.5%	20.0%	6.1%
Other	0	0	0	1	2	2	3	n.s.	n.s.	n.s.	4.7%	2.3%	1.2%
Generation Capacity (GW_e)	2	6	20	49	63	101	124	11.7%	11.7%	9.6%	2.6%	4.8%	2.1%
Coal	1	1	3	17	22	22	21	-1.0%	17.4%	18.5%	2.5%	0.0%	-0.8%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	16.1%
Oil	1	2	2	4	4	3	4	8.2%	2.2%	6.5%	0.5%	-0.9%	0.6%
Gas	0	1	6	8	11	15	14	n.s.	19.4%	1.7%	4.2%	2.8%	-0.6%
of which CCS	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	n.s.	16.5%
Biomass & Waste	0	0	0	0	0	3	7	n.s.	n.s.	0.8%	31.3%	28.4%	10.3%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	14.9%
Nuclear	0	0	0	0	0	2	3	n.s.	n.s.	n.s.	n.s.	n.s.	3.6%
Hydro	1	3	8	15	16	18	18	16.6%	9.7%	6.6%	0.8%	1.0%	0.1%
Wind	0	0	0	5	7	21	28	n.s.	n.s.	n.s.	3.2%	12.5%	2.9%
Solar	0	0	0	0	2	16	29	n.s.	n.s.	n.s.	18.9%	20.2%	6.3%
Other	0	0	0	0	0	0	0	3.4%	0.0%	8.5%	4.5%	1.4%	2.2%
Total Final Consumption² (Mtoe)	16	25	48	70	83	88	89	4.6%	6.8%	3.8%	1.7%	0.6%	0.1%
Coal	1	3	10	13	9	4	3	9.2%	11.8%	2.6%	-3.1%	-7.0%	-5.5%
Oil	2	7	17	24	27	29	30	10.8%	9.8%	3.5%	1.2%	0.8%	0.3%
Gas	0	0	0	5	14	17	16	n.s.	39.2%	25.2%	11.3%	2.1%	-0.7%
Electricity	1	2	7	14	19	21	26	13.7%	14.5%	6.8%	2.5%	1.5%	1.8%
Heat	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	23.2%
Biomass & Other	12	13	14	15	15	16	13	1.2%	0.3%	0.8%	0.2%	0.6%	-2.0%
Share of Renewables ³ (%)	76%	58%	34%	29%	27%	33%	40%	-2.7%	-5.2%	-1.5%	-1.0%	2.3%	1.7%
Industry (incl. non-energy use)	5	8	20	33	40	38	37	5.7%	9.4%	5.3%	1.9%	-0.3%	-0.5%
Coal	1	2	8	11	8	4	3	8.5%	13.4%	3.2%	-2.9%	-6.4%	-5.3%
Oil	0	2	4	6	6	5	4	13.2%	10.3%	3.3%	0.5%	-2.6%	-2.4%
Gas	0	0	0	4	10	12	12	n.s.	39.2%	23.0%	9.9%	1.6%	-0.1%
Electricity	0	1	4	9	11	13	15	12.3%	17.7%	7.8%	2.9%	1.2%	1.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	3	3	4	5	4	1.3%	-2.1%	1.8%	1.5%	2.6%	-1.7%
Buildings	10	13	18	22	24	24	23	2.9%	3.1%	1.9%	1.0%	0.2%	-0.7%
Coal	0	1	2	1	1	0	0	14.3%	6.2%	-1.4%	-4.6%	-15.0%	-15.8%
Oil	0	1	2	2	2	1	1	11.7%	4.6%	-1.4%	-2.8%	-3.2%	-3.2%
Gas	0	0	0	1	3	5	3	n.s.	n.s.	n.s.	17.1%	3.1%	-3.3%
Electricity	0	1	3	6	7	8	10	15.9%	12.1%	5.4%	1.8%	1.5%	1.8%
Heat	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	23.2%
Biomass & Other	9	10	11	12	11	10	7	1.2%	1.0%	0.5%	-0.6%	-1.0%	-4.1%
Agriculture	0	0	1	1	1	1	1	5.4%	3.8%	3.0%	2.5%	1.9%	1.5%
Coal	0	0	0	0	0	0	0	-9.4%	-2.0%	-0.7%	-2.1%	-7.2%	-7.5%
Oil	0	0	1	1	1	0	0	8.8%	4.2%	1.8%	0.9%	-3.0%	-3.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	1	4.0%	3.5%	8.9%	4.6%	4.7%	3.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	15.6%	4.5%
Transport	1	3	10	15	19	24	28	9.7%	11.2%	4.0%	2.2%	2.5%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	3	10	15	18	22	25	9.9%	11.2%	4.0%	1.8%	2.2%	1.1%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.0%	7.8%	8.1%
Electricity	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	14.8%	9.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	22.4%	7.6%	6.7%
Other Energy Transformation & Losses⁴	0	0	1	-1	0	2	5	n.s.	n.s.	n.s.	n.s.	16.0%	10.2%

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest South Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	262	333	398	468	531	585	626	2.4%	1.8%	1.6%	1.3%	1.0%	0.7%
GDP per capita (ppp, k\$'05)	1	1	2	3	5	8	12	1.9%	3.4%	3.8%	5.4%	5.2%	4.4%
GDP per capita (mer, k\$'05)	0	1	1	1	2	3	4	1.9%	3.4%	3.8%	5.4%	5.2%	4.4%
Share Value Added - Agriculture (%)	30	25	21	17	13	11	10	-1.7%	-1.9%	-2.0%	-2.8%	-1.6%	-0.9%
Share Value Added - Industry (%)	23	24	23	25	27	26	24	0.2%	-0.1%	0.7%	0.7%	-0.2%	-0.9%
Share Value Added - Services (%)	47	51	56	58	60	63	66	0.9%	0.9%	0.4%	0.4%	0.4%	0.5%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	24	25	-7.8%	10.3%	1.1%	0.8%	0.2%	0.4%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	439	537	662	850	1 041	993	744	2.0%	2.1%	2.5%	2.0%	-0.5%	-2.8%
Total GHG (excl. sinks)	439	537	662	850	1 041	993	744	2.0%	2.1%	2.5%	2.0%	-0.5%	-2.8%
Total GHG (energy, industry, agriculture)	341	444	606	797	1 003	958	716	2.7%	3.2%	2.8%	2.3%	-0.5%	-2.9%
CO ₂	82	146	234	398	603	598	415	6.0%	4.8%	5.5%	4.2%	-0.1%	-3.6%
CH ₄	216	245	307	326	330	293	239	1.3%	2.3%	0.6%	0.1%	-1.2%	-2.0%
N ₂ O	42	52	64	72	70	66	60	2.1%	2.2%	1.1%	-0.3%	-0.5%	-0.9%
F gases	1	1	1	1	1	1	1	-2.1%	3.0%	0.1%	-4.9%	2.3%	1.7%
Total GHG from Energy and Industry	144	231	353	541	762	736	523	4.8%	4.3%	4.4%	3.5%	-0.3%	-3.4%
CO₂ Emissions from Fuel Comb.	75	135	213	367	556	541	358	6.0%	4.7%	5.6%	4.2%	-0.3%	-4.0%
Power generation/District heating	20	45	67	122	148	115	-20	8.4%	4.2%	6.1%	2.0%	-2.5%	n.s.
Industry	20	28	50	61	111	102	82	3.6%	5.8%	2.2%	6.1%	-0.8%	-2.2%
Buildings	12	18	26	47	90	68	26	3.5%	4.1%	6.0%	6.8%	-2.8%	-9.0%
Agriculture	2	3	3	5	6	5	3	3.2%	2.8%	3.5%	1.7%	-2.1%	-2.8%
Transport	19	37	60	122	186	236	252	6.8%	4.8%	7.4%	4.3%	2.4%	0.7%
Other	2	5	7	11	16	16	14	10.4%	3.0%	5.2%	3.8%	0.1%	-0.9%
CO₂ captured (CCS)	0	0	0	0	1	30	165	n.s.	n.s.	n.s.	49.2%	39.0%	18.5%
Coal	0	0	0	0	0	5	18	n.s.	n.s.	n.s.	22.5%	49.6%	13.5%
Gas	0	0	0	0	1	24	68	n.s.	n.s.	n.s.	n.s.	37.2%	11.1%
Biomass	0	0	0	0	0	2	79	n.s.	n.s.	n.s.	23.2%	44.2%	48.1%
Energy Balance, by fuel (Mtoe)													
Primary Production	56	76	114	117	127	153	192	3.2%	4.1%	0.2%	0.8%	1.9%	2.3%
Coal	1	1	2	2	3	4	3	2.3%	5.1%	1.0%	3.3%	0.5%	-1.4%
Oil	3	3	4	5	8	11	14	1.0%	2.2%	2.8%	3.7%	3.5%	2.7%
Natural gas	14	26	51	62	59	55	52	6.0%	7.2%	1.9%	-0.6%	-0.5%	-0.7%
Biomass	36	43	52	41	45	48	61	2.0%	1.7%	-2.3%	0.9%	0.6%	2.6%
Nuclear ¹	0	1	1	1	4	16	21	21.2%	5.5%	5.2%	10.5%	14.9%	2.4%
Hydro	2	2	4	4	5	6	7	0.4%	7.0%	0.1%	1.7%	1.7%	1.1%
Other renewables	0	0	0	1	3	14	34	n.s.	n.s.	45.1%	19.9%	14.8%	9.6%
Net Imports	12	23	24	67	142	148	135						
Coal	1	1	4	9	11	10	7						
Oil	11	24	28	58	77	81	80						
Natural gas	-1	-2	-7	-3	53	56	42						
Biomass	0	0	0	2	1	0	3						
Biofuels	0	0	0	0	0	1	2						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	68	100	139	183	268	301	326	4.0%	3.3%	2.8%	3.9%	1.2%	0.8%
Coal	2	3	6	11	14	13	11	1.3%	8.6%	6.7%	2.7%	-0.6%	-2.5%
Oil	14	27	32	64	84	91	93	6.7%	1.6%	7.1%	2.9%	0.8%	0.2%
Natural gas	14	24	44	60	111	112	94	5.8%	6.3%	3.0%	6.5%	0.0%	-1.7%
Biomass	36	43	52	43	45	48	65	2.0%	1.7%	-1.8%	0.5%	0.5%	3.1%
Nuclear ¹	0	1	1	1	4	16	21	21.2%	5.5%	5.2%	10.5%	14.9%	2.4%
Hydro	2	2	4	4	5	6	7	0.4%	7.0%	0.1%	1.7%	1.7%	1.1%
Other renewables	0	0	0	1	3	14	34	n.s.	n.s.	45.1%	19.9%	14.8%	9.6%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	68	100	139	183	268	301	326	4.0%	3.3%	2.8%	3.9%	1.2%	0.8%
Energy for Power Generation	10	19	30	49	67	88	122	6.8%	4.9%	5.0%	3.1%	2.7%	3.3%
Other Energy Transformation & Losses	1	3	3	4	9	16	34	15.2%	0.1%	3.1%	9.2%	6.1%	7.5%
Final consumption	60	84	116	148	221	243	249	3.4%	3.3%	2.4%	4.1%	1.0%	0.2%
Steel, Non-Met. Minerals and Chem.	3	4	7	8	11	10	9	2.7%	5.0%	1.8%	2.4%	-0.6%	-0.4%
Other Industry	7	11	19	24	53	59	57	4.9%	5.3%	2.3%	8.3%	1.0%	-0.3%
Non-Energy Use	4	5	5	6	10	11	11	4.2%	-0.4%	1.4%	4.9%	1.0%	0.0%
Residential	38	48	60	62	69	56	42	2.4%	2.3%	0.3%	1.1%	-2.1%	-2.8%
Services	1	2	3	5	9	10	11	5.0%	5.1%	3.7%	5.5%	2.0%	0.6%
Agriculture	1	1	2	3	4	5	6	2.0%	4.1%	3.3%	3.5%	3.0%	2.5%
Road	6	11	18	38	62	86	103	6.2%	5.5%	7.6%	5.1%	3.3%	1.9%
Rail	0	0	0	1	1	1	1	1.5%	0.4%	3.6%	1.8%	2.0%	1.7%
Aviation	0	1	1	1	2	4	6	16.1%	0.1%	3.3%	6.8%	5.6%	3.9%
Other Transport	0	0	1	1	1	1	1	5.2%	10.5%	2.9%	5.0%	2.7%	0.3%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	8	16	25	43	54	52	60	7.8%	4.5%	5.5%	2.3%	-0.5%	1.5%
Coal	0	0	0	4	5	7	5	17.8%	12.7%	28.2%	3.5%	2.4%	-2.8%
Oil	2	8	9	18	16	6	6	12.5%	2.0%	6.8%	-1.4%	-8.6%	-1.6%
Gas	5	8	16	21	33	38	32	4.8%	6.3%	3.2%	4.6%	1.3%	-1.7%
Biomass & Waste	0	0	0	0	0	1	18	n.s.	n.s.	8.8%	8.9%	23.2%	34.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	52	95	157	249	376	564	775	6.2%	5.2%	4.7%	4.2%	4.1%	3.2%
Coal	0	0	1	13	22	29	25	20.3%	13.6%	31.5%	5.0%	2.9%	-1.4%
of which CCS	0	0	0	0	0	5	21	n.s.	n.s.	n.s.	n.s.	n.s.	14.5%
Oil	8	32	40	80	70	29	25	14.2%	2.3%	7.1%	-1.3%	-8.5%	-1.6%
Gas	19	36	64	94	169	206	187	6.4%	5.9%	4.0%	6.0%	2.0%	-1.0%
of which CCS	0	0	0	0	0	41	131	n.s.	n.s.	n.s.	n.s.	n.s.	12.4%
Biomass & Waste	0	0	0	0	0	4	92	n.s.	n.s.	10.8%	15.9%	26.9%	35.6%
of which CCS	0	0	0	0	0	1	87	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	2	3	6	16	66	84	21.2%	5.5%	5.4%	10.9%	15.1%	2.4%
Hydro	24	25	49	50	59	69	77	0.4%	7.0%	0.1%	1.7%	1.7%	1.1%
Wind	0	0	0	6	36	122	186	n.s.	33.3%	n.s.	18.9%	12.9%	4.3%
Solar	0	0	0	0	4	38	98	n.s.	n.s.	2.9%	40.0%	24.9%	10.0%
Other	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	24.5%	18.8%	14.8%
Generation Capacity (GW_e)	13	24	34	53	83	145	218	6.5%	3.7%	4.4%	4.7%	5.8%	4.2%
Coal	0	0	0	2	3	4	4	0.0%	10.7%	17.6%	5.0%	2.5%	-2.0%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	15.0%
Oil	3	5	7	14	15	13	14	4.7%	3.5%	7.2%	1.1%	-1.3%	0.4%
Gas	4	11	16	21	32	35	36	9.9%	3.6%	3.2%	3.9%	1.0%	0.4%
of which CCS	0	0	0	0	0	5	19	n.s.	n.s.	n.s.	n.s.	n.s.	14.1%
Biomass & Waste	0	0	0	0	0	1	14	n.s.	n.s.	5.8%	10.3%	26.4%	37.3%
of which CCS	0	0	0	0	0	0	13	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	0	0	0	1	3	10	13	13.7%	0.0%	7.2%	10.7%	14.9%	2.2%
Hydro	5	7	11	12	14	16	18	3.7%	4.0%	0.8%	1.7%	1.7%	1.1%
Wind	0	0	0	3	13	42	62	n.s.	29.9%	51.4%	17.9%	12.1%	3.9%
Solar	0	0	0	0	3	23	58	n.s.	n.s.	9.6%	34.9%	22.9%	9.5%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	18.3%	14.3%
Total Final Consumption² (Mtoe)	60	84	116	148	221	243	249	3.4%	3.3%	2.4%	4.1%	1.0%	0.2%
Coal	2	2	5	7	9	7	5	0.3%	9.0%	2.9%	2.4%	-2.9%	-3.1%
Oil	11	19	22	44	67	83	86	5.0%	1.6%	7.4%	4.2%	2.2%	0.4%
Gas	8	14	27	36	74	66	49	5.7%	6.7%	3.0%	7.5%	-1.1%	-3.0%
Electricity	3	6	11	17	26	40	55	6.1%	6.5%	4.7%	4.2%	4.2%	3.3%
Heat	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	36	43	52	43	45	48	45	2.0%	1.7%	-1.7%	0.4%	0.5%	-0.6%
Share of Renewables ³ (%)	64%	56%	49%	32%	25%	30%	43%	-1.4%	-1.4%	-4.1%	-2.6%	2.0%	3.8%
Industry (incl. non-energy use)	14	21	31	38	73	79	77	4.2%	4.0%	2.1%	6.7%	0.8%	-0.2%
Coal	2	2	5	7	9	7	5	0.5%	8.5%	3.1%	2.7%	-2.7%	-3.1%
Oil	2	3	2	3	6	8	9	6.0%	-4.1%	3.8%	6.2%	2.8%	1.5%
Gas	6	9	15	17	35	34	30	4.7%	4.7%	1.0%	7.6%	-0.2%	-1.3%
Electricity	1	2	4	7	10	12	15	4.6%	7.4%	4.8%	4.0%	2.2%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	4	5	5	14	18	19	4.2%	1.9%	0.3%	10.9%	2.9%	0.1%
Buildings	39	50	63	67	78	67	54	2.5%	2.5%	0.5%	1.5%	-1.5%	-2.2%
Coal	0	0	0	0	0	0	0	-11.7%	31.8%	-0.4%	-5.1%	-15.5%	-16.2%
Oil	2	2	2	3	4	4	2	-0.1%	-2.1%	3.5%	4.7%	0.7%	-6.8%
Gas	2	4	8	16	33	23	8	7.8%	6.4%	7.0%	7.5%	-3.5%	-9.6%
Electricity	2	3	6	10	12	17	22	8.4%	6.0%	4.8%	2.3%	3.5%	2.3%
Heat	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	33	40	47	38	29	22	12	1.9%	1.7%	-2.0%	-2.8%	-2.6%	-6.2%
Agriculture	1	1	2	3	4	5	6	2.0%	4.1%	3.3%	3.5%	3.0%	2.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	1	2	1	1	3.1%	2.8%	3.6%	1.7%	-2.1%	-2.8%
Gas	0	0	0	0	0	0	0	n.s.	2.9%	0.8%	1.9%	-0.9%	-1.4%
Electricity	0	0	1	1	2	3	4	0.1%	6.0%	3.0%	4.7%	4.9%	3.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	n.s.	16.8%	4.8%
Transport	7	12	20	40	67	92	112	6.4%	5.1%	7.3%	5.1%	3.3%	1.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	12	17	37	55	69	73	6.3%	3.2%	8.3%	4.1%	2.3%	0.6%
Gas	0	0	3	3	6	9	10	n.s.	42.7%	-0.7%	7.1%	3.7%	1.3%
Electricity	0	0	0	0	3	8	14	-7.2%	n.s.	n.s.	40.0%	10.9%	6.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	6	13	n.s.	n.s.	n.s.	23.4%	10.1%	7.7%
Other Energy Transformation & Losses⁴	1	3	3	4	9	16	34	15.2%	0.1%	3.1%	9.2%	6.1%	7.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Rest South East Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	170	202	229	257	281	300	314	1.8%	1.3%	1.1%	0.9%	0.7%	0.4%
GDP per capita (ppp, k\$'05)	2	2	3	4	5	6	8	2.8%	4.1%	3.3%	1.9%	1.9%	2.1%
GDP per capita (mer, k\$'05)	1	1	2	2	3	3	4	3.1%	4.2%	3.4%	1.9%	1.9%	2.1%
Share Value Added - Agriculture (%)	12	7	6	5	5	4	4	-4.9%	-1.1%	-2.5%	-0.8%	-0.7%	-0.6%
Share Value Added - Industry (%)	34	34	29	26	26	26	26	0.3%	-1.6%	-1.4%	0.1%	0.0%	-0.1%
Share Value Added - Services (%)	55	58	64	69	70	70	70	0.7%	0.9%	0.8%	0.0%	0.0%	0.1%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	25	28	30	-7.8%	10.3%	1.0%	1.4%	1.1%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	740	857	949	1 123	879	587	405	1.5%	1.0%	1.7%	-2.4%	-4.0%	-3.6%
Total GHG (excl. sinks)	740	857	949	1 123	993	754	627	1.5%	1.0%	1.7%	-1.2%	-2.7%	-1.8%
Total GHG (energy, industry, agriculture)	525	671	782	951	867	629	408	2.5%	1.5%	2.0%	-0.9%	-3.2%	-4.2%
CO ₂	338	454	524	625	599	419	248	3.0%	1.4%	1.8%	-0.4%	-3.5%	-5.1%
CH ₄	141	161	196	251	207	158	121	1.4%	2.0%	2.5%	-1.9%	-2.7%	-2.6%
N ₂ O	44	43	42	52	44	39	33	-0.1%	-0.3%	2.2%	-1.6%	-1.1%	-1.8%
F gases	3	12	20	23	18	14	7	15.7%	5.3%	1.4%	-2.3%	-2.7%	-6.8%
Total GHG from Energy and Industry	404	538	626	772	724	513	318	2.9%	1.5%	2.1%	-0.6%	-3.4%	-4.7%
CO₂ Emissions from Fuel Comb.	310	430	496	591	553	371	207	3.3%	1.4%	1.8%	-0.7%	-3.9%	-5.7%
Power generation/District heating	88	180	228	279	242	114	6	7.4%	2.4%	2.0%	-1.4%	-7.3%	-25.3%
Industry	127	110	121	130	128	97	62	-1.4%	1.0%	0.7%	-0.2%	-2.8%	-4.4%
Buildings	30	31	32	36	36	22	13	0.4%	0.3%	1.1%	-0.1%	-4.6%	-5.3%
Agriculture	4	4	2	3	3	2	1	-0.6%	-5.7%	3.2%	-0.2%	-3.8%	-4.0%
Transport	42	73	82	101	103	103	100	5.8%	1.2%	2.1%	0.2%	0.0%	-0.2%
Other	19	31	30	42	41	34	24	5.1%	-0.5%	3.4%	0.0%	-2.0%	-3.3%
CO₂ captured (CCS)	0	0	0	0	0	19	109	n.s.	n.s.	n.s.	n.s.	52.5%	19.3%
Coal	0	0	0	0	0	2	7	n.s.	n.s.	n.s.	n.s.	41.0%	15.7%
Gas	0	0	0	0	0	9	35	n.s.	n.s.	n.s.	n.s.	46.9%	15.2%
Biomass	0	0	0	0	0	9	67	n.s.	n.s.	n.s.	n.s.	n.s.	22.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	84	88	121	354	442	323	330	0.6%	3.2%	11.4%	2.2%	-3.1%	0.2%
Coal	27	20	40	243	254	87	72	-2.8%	7.0%	19.7%	0.5%	-10.1%	-1.9%
Oil	9	11	11	7	8	10	16	2.1%	-0.3%	-3.4%	1.1%	1.5%	5.1%
Natural gas	9	13	24	25	63	61	42	3.3%	6.4%	0.4%	9.9%	-0.4%	-3.7%
Biomass	22	21	23	52	61	75	98	-0.4%	0.9%	8.4%	1.5%	2.2%	2.7%
Nuclear ¹	9	10	11	11	16	37	35	1.6%	0.8%	-0.1%	4.2%	8.6%	-0.7%
Hydro	3	3	3	3	4	4	5	0.2%	1.3%	0.8%	0.9%	1.2%	0.8%
Other renewables	5	10	9	12	35	49	63	7.9%	-1.4%	3.2%	11.3%	3.5%	2.5%
Net Imports	54	96	102	- 80	- 132	- 15	- 17						
Coal	15	34	28	- 172	- 202	- 66	- 58						
Oil	44	66	70	95	84	68	54						
Natural gas	- 5	- 3	4	22	13	14	21						
Biomass	0	0	0	- 25	- 26	- 29	- 35						
Biofuels	0	0	0	0	- 1	- 2	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	137	185	223	274	309	309	312	3.0%	1.9%	2.1%	1.2%	0.0%	0.1%
Coal	43	54	69	71	52	21	14	2.5%	2.4%	0.4%	-3.0%	-8.6%	-3.9%
Oil	53	77	81	102	92	78	69	3.8%	0.5%	2.4%	-1.0%	-1.7%	-1.2%
Natural gas	4	10	28	47	76	74	63	10.0%	11.0%	5.4%	5.0%	-0.2%	-1.7%
Biomass	22	21	23	28	35	46	64	-0.4%	0.9%	1.7%	2.4%	2.8%	3.2%
Nuclear ¹	9	10	11	11	16	37	35	1.6%	0.8%	-0.1%	4.2%	8.6%	-0.7%
Hydro	3	3	3	3	4	4	5	0.2%	1.3%	0.8%	0.9%	1.2%	0.8%
Other renewables	5	10	9	12	35	49	63	7.9%	-1.4%	3.2%	11.3%	3.5%	2.5%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	137	185	223	274	309	309	312	3.0%	1.9%	2.1%	1.2%	0.0%	0.1%
Energy for Power Generation	42	76	93	115	140	149	166	6.1%	2.1%	2.1%	2.0%	0.6%	1.1%
Other Energy Transformation & Losses	7	12	12	12	15	17	17	5.1%	-0.5%	0.6%	2.2%	1.2%	-0.2%
Final consumption	101	119	150	187	201	198	195	1.6%	2.4%	2.2%	0.7%	-0.2%	-0.2%
Steel, Non-Met. Minerals and Chem.	14	18	23	27	28	24	22	2.4%	2.4%	1.6%	0.6%	-1.4%	-1.2%
Other Industry	27	25	28	34	39	38	38	-0.9%	1.3%	1.7%	1.4%	-0.2%	0.0%
Non-Energy Use	6	11	28	42	43	42	39	5.7%	9.8%	4.1%	0.5%	-0.4%	-0.7%
Residential	26	28	29	33	34	34	33	0.5%	0.6%	1.2%	0.4%	0.0%	-0.3%
Services	9	11	14	18	20	21	22	2.0%	2.4%	2.3%	1.0%	0.4%	0.9%
Agriculture	1	1	1	1	2	2	2	-0.1%	-3.2%	3.3%	1.6%	1.4%	1.3%
Road	14	22	24	30	32	34	35	4.4%	0.8%	2.1%	0.7%	0.6%	0.4%
Rail	0	0	1	1	1	1	1	0.1%	11.0%	4.4%	0.9%	0.7%	0.6%
Aviation	1	1	1	1	1	1	1	5.4%	-4.5%	6.1%	1.2%	0.4%	-0.4%
Other Transport	1	1	1	1	2	1	1	5.6%	-0.8%	1.1%	0.8%	-1.3%	-2.8%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest South East Asia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	26	53	70	89	85	59	63	7.4%	2.9%	2.4%	-0.4%	-3.7%	0.8%
Coal	12	29	40	43	31	10	7	9.6%	3.1%	0.9%	-3.3%	-10.9%	-2.6%
Oil	12	16	7	10	8	5	4	2.4%	-7.6%	3.6%	-2.5%	-3.6%	-2.6%
Gas	1	6	21	33	41	32	26	18.2%	12.9%	4.6%	2.2%	-2.4%	-2.2%
Biomass & Waste	0	1	2	2	3	8	22	11.5%	9.0%	-0.3%	4.8%	10.8%	10.6%
Other	0	1	1	1	3	4	4	7.8%	-1.6%	2.8%	11.0%	1.4%	1.8%
Gross Elec. Generation (TWh_e)	168	296	402	512	582	639	736	5.8%	3.1%	2.5%	1.3%	0.9%	1.4%
Coal	41	116	161	179	129	41	33	11.1%	3.3%	1.0%	-3.2%	-10.9%	-1.9%
of which CCS	0	0	0	0	0	2	8	n.s.	n.s.	n.s.	n.s.	n.s.	17.6%
Oil	53	67	29	45	34	24	18	2.3%	-8.0%	4.4%	-2.5%	-3.6%	-2.5%
Gas	3	28	117	182	233	185	152	23.7%	15.2%	4.5%	2.5%	-2.3%	-1.9%
of which CCS	0	0	0	0	0	20	93	n.s.	n.s.	n.s.	n.s.	n.s.	16.4%
Biomass & Waste	1	2	5	5	10	35	107	13.8%	8.4%	0.1%	7.4%	13.3%	11.8%
of which CCS	0	0	0	0	0	10	71	n.s.	n.s.	n.s.	n.s.	n.s.	21.2%
Nuclear	33	39	42	41	64	151	141	1.6%	0.8%	-0.1%	4.5%	9.0%	-0.7%
Hydro	32	32	37	40	44	49	53	0.2%	1.3%	0.8%	0.9%	1.2%	0.8%
Wind	0	0	1	3	13	47	88	n.s.	n.s.	11.8%	15.5%	13.4%	6.5%
Solar	0	0	0	4	18	65	90	n.s.	n.s.	n.s.	15.3%	13.9%	3.4%
Other	5	12	10	13	37	43	53	7.8%	-1.6%	2.8%	11.0%	1.6%	2.0%
Generation Capacity (GW_e)	41	69	103	116	144	199	203	5.2%	4.2%	1.2%	2.1%	3.3%	0.2%
Coal	11	22	35	38	38	32	10	7.3%	4.4%	0.8%	0.1%	-1.7%	-11.1%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	17.8%
Oil	13	19	12	12	10	6	5	4.1%	-4.5%	0.1%	-1.5%	-5.5%	-2.0%
Gas	2	7	30	35	39	38	24	16.5%	15.6%	1.4%	1.2%	-0.1%	-4.4%
of which CCS	0	0	0	0	0	3	12	n.s.	n.s.	n.s.	n.s.	n.s.	17.2%
Biomass & Waste	0	1	1	1	1	5	15	23.2%	4.2%	-0.8%	3.9%	13.0%	11.8%
of which CCS	0	0	0	0	0	1	9	n.s.	n.s.	n.s.	n.s.	n.s.	21.4%
Nuclear	5	5	5	5	8	18	17	0.0%	0.2%	0.2%	4.5%	9.0%	-0.7%
Hydro	10	13	18	18	20	22	24	2.3%	3.4%	0.1%	0.9%	1.2%	0.8%
Wind	0	0	1	2	8	25	44	n.s.	n.s.	14.0%	15.4%	12.3%	5.7%
Solar	0	0	0	4	15	46	58	n.s.	n.s.	35.7%	12.9%	12.2%	2.2%
Other	1	2	2	2	5	6	7	8.1%	0.2%	-0.2%	10.6%	1.4%	1.8%
Total Final Consumption² (Mtoe)	101	119	150	187	201	198	195	1.6%	2.4%	2.2%	0.7%	-0.2%	-0.2%
Coal	30	23	27	25	19	10	5	-2.7%	1.7%	-1.0%	-2.7%	-6.4%	-5.8%
Oil	34	51	66	86	79	69	62	4.0%	2.5%	2.8%	-0.8%	-1.5%	-1.0%
Gas	1	2	4	12	31	38	33	5.5%	8.3%	10.6%	10.0%	2.0%	-1.4%
Electricity	12	21	30	38	44	49	56	5.8%	3.5%	2.5%	1.3%	1.0%	1.4%
Heat	1	1	1	1	1	4	5	-2.9%	4.0%	1.4%	2.9%	10.2%	3.0%
Biomass & Other	22	21	22	25	27	30	34	-0.7%	0.5%	1.3%	0.8%	1.1%	1.3%
Share of Renewables ³ (%)	25%	21%	20%	19%	22%	32%	45%	-1.9%	-0.7%	-0.3%	1.6%	3.8%	3.3%
Industry (incl. non-energy use)	48	54	79	102	110	104	98	1.2%	3.9%	2.6%	0.8%	-0.6%	-0.5%
Coal	26	19	23	22	17	9	5	-2.8%	2.0%	-0.8%	-2.4%	-5.7%	-5.6%
Oil	14	21	35	48	42	34	30	4.2%	5.2%	3.3%	-1.3%	-2.2%	-1.3%
Gas	1	1	3	9	24	31	28	6.6%	10.6%	12.1%	10.3%	2.6%	-1.2%
Electricity	6	10	15	20	23	24	26	5.0%	3.6%	2.9%	1.5%	0.4%	0.8%
Heat	0	0	0	0	0	0	0	-3.6%	0.7%	0.5%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	2	2	3	3	5	9	7.7%	2.8%	1.7%	1.1%	4.3%	6.6%
Buildings	36	39	43	51	54	55	56	0.9%	1.2%	1.6%	0.6%	0.1%	0.2%
Coal	5	4	4	3	2	0	0	-1.6%	0.4%	-2.1%	-4.6%	-15.0%	-15.8%
Oil	3	4	4	5	4	2	1	2.6%	-0.4%	2.3%	-2.8%	-5.3%	-5.6%
Gas	1	1	1	3	6	6	4	4.3%	3.4%	7.8%	8.9%	-1.2%	-4.3%
Electricity	5	11	14	18	19	22	27	6.9%	3.2%	2.1%	0.9%	1.4%	1.8%
Heat	1	0	1	1	1	3	5	-2.5%	5.3%	1.6%	3.6%	11.4%	3.1%
Biomass & Other	21	19	19	21	21	21	19	-1.2%	0.1%	1.0%	0.1%	-0.2%	-0.7%
Agriculture	1	1	1	1	2	2	2	-0.1%	-3.2%	3.3%	1.6%	1.4%	1.3%
Coal	0	0	0	0	0	0	0	-32.8%	12.8%	4.7%	-2.1%	-7.2%	n.s.
Oil	1	1	1	1	1	1	0	0.0%	-5.7%	3.2%	-0.2%	-3.8%	-4.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	1	1	1	1	1.5%	4.7%	3.5%	2.9%	3.2%	2.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	4.3%	7.0%	-0.7%	24.6%	13.6%	4.2%
Transport	16	25	26	33	36	38	39	4.4%	0.8%	2.3%	0.7%	0.6%	0.3%
Coal	0	0	0	0	0	0	0	-4.4%	n.s.	n.s.	0.0%	0.0%	0.0%
Oil	16	24	26	32	32	32	30	4.4%	0.5%	2.1%	0.1%	-0.1%	-0.4%
Gas	0	0	0	0	1	1	2	n.s.	n.s.	0.6%	11.1%	5.2%	5.0%
Electricity	0	0	0	0	1	1	2	4.5%	15.0%	3.9%	6.5%	5.6%	4.2%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	1	2	4	4	n.s.	n.s.	14.1%	11.1%	5.1%	2.1%
Other Energy Transformation & Losses⁴	7	12	12	12	15	17	17	5.1%	-0.5%	0.6%	2.2%	1.2%	-0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Australia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	17	19	22	26	28	31	33	1.1%	1.5%	1.5%	1.1%	0.9%	0.8%
GDP per capita (ppp, k\$'05)	24	30	34	39	46	53	61	2.2%	1.5%	1.3%	1.6%	1.5%	1.3%
GDP per capita (mer, k\$'05)	25	31	36	41	48	56	64	2.2%	1.5%	1.3%	1.6%	1.5%	1.3%
Share Value Added - Agriculture (%)	5	3	2	2	2	2	2	-3.0%	-3.5%	-0.3%	-0.6%	-0.4%	-0.3%
Share Value Added - Industry (%)	31	27	27	26	25	23	21	-1.5%	0.1%	-0.3%	-0.7%	-0.7%	-0.7%
Share Value Added - Services (%)	64	70	71	71	73	75	77	0.9%	0.1%	0.1%	0.3%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	25	26	-7.8%	10.3%	1.2%	0.9%	0.2%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	502	534	558	507	295	115	-43	0.6%	0.4%	-1.0%	-5.3%	-9.0%	n.s.
Total GHG (excl. sinks)	540	549	581	514	451	341	250	0.2%	0.6%	-1.2%	-1.3%	-2.8%	-3.0%
Total GHG (energy, industry, agriculture)	408	482	536	499	435	313	173	1.7%	1.1%	-0.7%	-1.4%	-3.3%	-5.7%
CO ₂	265	342	394	374	337	238	112	2.6%	1.4%	-0.5%	-1.0%	-3.4%	-7.2%
CH ₄	110	107	102	87	70	53	42	-0.3%	-0.4%	-1.6%	-2.2%	-2.8%	-2.1%
N ₂ O	28	31	33	30	26	21	18	1.1%	0.5%	-0.8%	-1.6%	-1.9%	-1.6%
F gases	5	3	7	7	2	1	0	-6.6%	10.6%	-0.5%	-10.0%	-10.0%	-10.4%
Total GHG from Energy and Industry	328	402	464	429	371	260	128	2.0%	1.5%	-0.8%	-1.4%	-3.5%	-6.8%
CO₂ Emissions from Fuel Comb.	250	325	375	356	319	222	100	2.6%	1.4%	-0.5%	-1.1%	-3.5%	-7.7%
Power generation/District heating	132	182	206	160	124	58	-21	3.3%	1.2%	-2.5%	-2.5%	-7.3%	n.s.
Industry	35	41	39	49	48	35	20	1.4%	-0.5%	2.5%	-0.4%	-2.9%	-5.6%
Buildings	9	11	13	12	14	11	8	2.1%	1.8%	-0.5%	1.0%	-1.8%	-3.4%
Agriculture	3	4	6	7	6	4	3	2.2%	3.9%	1.0%	-1.3%	-4.0%	-4.1%
Transport	58	70	83	90	84	73	59	1.9%	1.7%	0.8%	-0.8%	-1.3%	-2.1%
Other	12	17	28	37	44	40	31	2.9%	5.3%	2.9%	1.7%	-0.9%	-2.4%
CO₂ captured (CCS)	0	0	0	0	1	23	94	n.s.	n.s.	n.s.	24.9%	40.1%	14.9%
Coal	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	8.7%	28.9%	11.2%
Gas	0	0	0	0	1	10	28	n.s.	n.s.	n.s.	52.5%	31.1%	11.2%
Biomass	0	0	0	0	0	12	62	n.s.	n.s.	n.s.	3.9%	n.s.	17.5%
Energy Balance, by fuel (Mtoe)													
Primary Production	176	235	313	335	383	283	243	2.9%	2.9%	0.7%	1.4%	-3.0%	-1.5%
Coal	126	166	240	222	196	73	33	2.8%	3.7%	-0.8%	-1.2%	-9.5%	-7.7%
Oil	28	35	23	22	34	34	26	2.2%	-4.0%	-0.4%	4.3%	0.0%	-2.6%
Natural gas	16	26	43	72	118	126	108	4.9%	5.1%	5.1%	5.1%	0.6%	-1.5%
Biomass	4	5	4	14	24	32	56	2.4%	-1.7%	12.5%	5.6%	3.1%	5.6%
Nuclear ¹	0	0	0	0	0	3	4	n.s.	n.s.	n.s.	35.0%	22.8%	1.2%
Hydro	1	1	1	1	2	2	2	1.2%	-2.1%	2.4%	0.6%	0.7%	0.0%
Other renewables	0	0	1	4	9	13	14	0.9%	23.0%	19.1%	8.0%	3.7%	1.3%
Net Imports	-87	-126	-188	-205	-249	-153	-110						
Coal	-90	-118	-190	-186	-176	-65	-30						
Oil	4	-1	17	25	6	-3	-3						
Natural gas	-2	-7	-15	-37	-68	-75	-62						
Biomass	0	0	0	-6	-11	-9	-15						
Biofuels	0	0	0	0	-1	-1	-1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	89	108	124	130	135	130	132	2.0%	1.4%	0.5%	0.3%	-0.3%	0.2%
Coal	36	48	50	36	21	8	3	2.9%	0.3%	-3.3%	-5.3%	-9.2%	-9.4%
Oil	33	34	40	47	41	32	24	0.5%	1.6%	1.7%	-1.6%	-2.5%	-2.8%
Natural gas	14	19	28	34	51	51	46	3.0%	4.0%	1.9%	4.0%	0.0%	-0.9%
Biomass	4	5	4	8	13	23	41	2.4%	-1.7%	6.2%	5.1%	6.2%	5.8%
Nuclear ¹	0	0	0	0	0	3	4	n.s.	n.s.	n.s.	35.0%	22.8%	1.2%
Hydro	1	1	1	1	2	2	2	1.2%	-2.1%	2.4%	0.6%	0.7%	0.0%
Other renewables	0	0	1	4	9	13	14	0.9%	23.0%	19.1%	8.0%	3.7%	1.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	89	108	124	130	135	130	132	2.0%	1.4%	0.5%	0.3%	-0.3%	0.2%
Energy for Power Generation	37	50	58	53	53	54	63	3.0%	1.6%	-1.0%	0.0%	0.3%	1.5%
Other Energy Transformation & Losses	5	3	7	10	15	16	17	-5.6%	9.8%	3.0%	4.1%	0.8%	0.7%
Final consumption	58	71	77	87	91	88	87	2.0%	0.9%	1.2%	0.4%	-0.3%	-0.1%
Steel, Non-Met. Minerals and Chem.	7	8	8	8	7	6	5	0.4%	0.5%	0.1%	-0.8%	-2.6%	-1.9%
Other Industry	13	17	16	21	23	22	23	2.8%	-1.0%	3.1%	0.9%	-0.4%	0.1%
Non-Energy Use	4	4	5	5	5	5	4	1.2%	0.7%	1.1%	-0.5%	-1.2%	-1.1%
Residential	7	9	10	10	11	11	12	1.9%	1.3%	0.0%	0.8%	0.2%	0.3%
Services	3	5	7	7	9	10	12	3.8%	3.4%	0.4%	2.1%	1.4%	1.4%
Agriculture	1	2	2	2	3	3	3	2.1%	3.2%	1.1%	1.0%	0.8%	0.6%
Road	19	22	25	27	26	25	24	1.8%	1.0%	0.8%	-0.2%	-0.4%	-0.6%
Rail	1	1	1	1	1	1	1	0.9%	4.2%	1.2%	0.2%	-0.1%	-0.4%
Aviation	1	2	2	4	4	4	4	5.9%	2.8%	3.7%	1.2%	0.0%	-0.3%
Other Transport	1	0	1	0	0	0	0	-3.9%	6.7%	-10.5%	0.9%	-1.4%	-2.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Australia	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	35	48	56	47	42	37	43	3.1%	1.6%	-1.8%	-1.2%	-1.3%	1.7%
Coal	30	43	46	30	18	7	3	3.5%	0.6%	-4.0%	-5.3%	-9.3%	-9.1%
Oil	1	1	1	2	1	1	1	-5.7%	4.5%	7.8%	-2.1%	-5.6%	5.6%
Gas	3	4	9	14	21	21	20	1.6%	8.6%	4.3%	3.9%	0.1%	-0.6%
Biomass & Waste	1	1	1	1	2	8	20	-0.2%	0.5%	1.6%	9.3%	14.6%	9.1%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	155	210	252	256	302	349	414	3.1%	1.8%	0.2%	1.6%	1.5%	1.7%
Coal	121	174	181	119	69	26	12	3.7%	0.4%	-4.1%	-5.3%	-9.3%	-7.6%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	13.3%
Oil	4	2	4	7	6	3	6	-6.7%	9.3%	4.7%	-2.0%	-5.1%	5.5%
Gas	14	16	45	68	103	113	115	1.2%	10.8%	4.1%	4.3%	0.9%	0.2%
of which CCS	0	0	0	0	0	21	65	n.s.	n.s.	n.s.	n.s.	n.s.	11.9%
Biomass & Waste	1	1	3	3	8	37	95	4.2%	9.4%	0.9%	10.8%	16.0%	9.8%
of which CCS	0	0	0	0	0	15	68	n.s.	n.s.	n.s.	n.s.	n.s.	16.3%
Nuclear	0	0	0	0	2	14	16	n.s.	n.s.	n.s.	36.3%	23.0%	1.2%
Hydro	15	17	14	17	18	19	20	1.2%	-2.1%	2.4%	0.6%	0.7%	0.0%
Wind	0	0	5	31	76	106	112	n.s.	56.3%	19.8%	9.4%	3.4%	0.6%
Solar	0	0	0	12	20	29	37	13.6%	22.3%	44.6%	5.5%	3.8%	2.3%
Other	0	0	0	0	0	0	2	n.s.	n.s.	14.3%	30.3%	18.2%	14.5%
Generation Capacity (GW_e)	38	46	60	74	88	102	105	1.9%	2.6%	2.1%	1.8%	1.4%	0.3%
Coal	24	27	30	24	15	9	2	0.9%	1.2%	-2.1%	-4.8%	-5.3%	-14.5%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	13.1%
Oil	2	4	2	2	2	2	1	9.3%	-5.9%	0.5%	0.1%	-3.4%	-1.5%
Gas	4	6	16	18	22	23	20	4.6%	10.5%	0.9%	2.0%	0.4%	-1.4%
of which CCS	0	0	0	0	0	3	8	n.s.	n.s.	n.s.	n.s.	n.s.	12.0%
Biomass & Waste	0	0	1	0	1	5	12	4.5%	4.0%	-1.0%	9.6%	15.6%	9.4%
of which CCS	0	0	0	0	0	2	9	n.s.	n.s.	n.s.	n.s.	n.s.	16.2%
Nuclear	0	0	0	0	0	2	2	n.s.	n.s.	n.s.	36.0%	22.8%	1.0%
Hydro	8	9	9	9	9	10	10	1.0%	-0.5%	0.1%	0.6%	0.7%	0.0%
Wind	0	0	2	10	22	30	31	n.s.	49.7%	18.3%	8.4%	3.1%	0.3%
Solar	0	0	0	10	16	21	25	13.6%	22.3%	48.7%	5.0%	2.7%	1.8%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	17.7%	14.0%
Total Final Consumption² (Mtoe)	58	71	77	87	91	88	87	2.0%	0.9%	1.2%	0.4%	-0.3%	-0.1%
Coal	6	5	4	5	3	2	1	-0.4%	-2.1%	1.9%	-4.5%	-6.1%	-5.8%
Oil	29	35	39	44	38	30	23	1.8%	1.1%	1.1%	-1.5%	-2.2%	-2.9%
Gas	9	11	12	13	19	18	15	2.5%	1.0%	0.8%	3.4%	-0.5%	-2.1%
Electricity	11	15	18	18	22	25	30	2.9%	1.9%	0.2%	1.8%	1.4%	1.8%
Heat	0	0	0	0	1	1	2	0.0%	11.9%	5.2%	2.6%	6.5%	4.1%
Biomass & Other	3	4	3	6	9	12	18	2.9%	-2.6%	6.0%	3.7%	3.5%	3.7%
Share of Renewables ³ (%)	8%	8%	7%	13%	23%	37%	53%	0.2%	-1.8%	6.8%	5.4%	4.9%	3.7%
Industry (incl. non-energy use)	24	29	29	35	36	33	31	1.9%	-0.3%	2.0%	0.3%	-0.9%	-0.4%
Coal	5	5	4	5	3	2	1	-0.2%	-2.1%	1.9%	-4.5%	-6.1%	-5.8%
Oil	6	8	7	10	7	5	4	1.8%	-0.3%	2.5%	-2.4%	-3.3%	-2.7%
Gas	6	8	8	9	13	11	8	2.1%	0.9%	1.4%	3.0%	-1.2%	-3.5%
Electricity	5	7	7	7	8	9	10	2.7%	0.4%	0.3%	1.5%	0.8%	1.1%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	1	2	2	4	4	5	9	5.2%	-3.3%	7.5%	1.6%	2.5%	4.7%
Buildings	11	14	17	18	20	22	24	2.5%	2.1%	0.1%	1.3%	0.8%	0.8%
Coal	0	0	0	0	0	0	0	-10.4%	-3.9%	-3.4%	-9.4%	-17.2%	n.s.
Oil	1	1	1	1	1	1	1	0.4%	4.1%	1.5%	0.3%	-0.9%	-2.8%
Gas	3	4	4	4	4	3	2	3.1%	1.3%	-1.2%	1.4%	-2.1%	-3.7%
Electricity	6	8	11	11	12	13	15	3.2%	3.1%	-0.1%	0.9%	1.0%	1.6%
Heat	0	0	0	0	1	1	2	0.0%	11.9%	5.2%	2.6%	6.5%	4.1%
Biomass & Other	2	2	1	2	3	3	4	0.6%	-2.9%	3.0%	3.7%	2.6%	1.4%
Agriculture	1	2	2	2	3	3	3	2.1%	3.2%	1.1%	1.0%	0.8%	0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	2	2	2	1	1	2.2%	3.9%	0.9%	-1.3%	-4.1%	-4.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	21.5%	-0.8%	-2.7%	-2.8%
Electricity	0	0	0	0	0	1	1	2.0%	-2.0%	0.7%	4.5%	4.6%	2.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	25.7%	9.3%	3.3%
Transport	21	25	29	32	32	31	29	1.9%	1.4%	0.9%	0.0%	-0.3%	-0.6%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	21	25	28	31	27	22	17	1.8%	1.3%	0.7%	-1.3%	-1.8%	-2.9%
Gas	0	0	0	0	2	3	4	24.9%	-1.0%	15.0%	19.3%	5.3%	2.9%
Electricity	0	0	0	0	2	3	5	2.6%	5.4%	3.4%	13.4%	6.0%	4.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	2	3	n.s.	n.s.	8.5%	10.1%	5.7%	4.8%
Other Energy Transformation & Losses⁴	5	3	7	10	15	16	17	-5.6%	9.8%	3.0%	4.1%	0.8%	0.7%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

Japan	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	122	126	127	125	120	114	107	0.3%	0.1%	-0.2%	-0.4%	-0.5%	-0.6%
GDP per capita (ppp, k\$'05)	27	29	31	34	38	44	51	0.8%	0.6%	0.8%	1.2%	1.5%	1.5%
GDP per capita (mer, k\$'05)	32	34	37	40	45	52	60	0.8%	0.6%	0.8%	1.2%	1.5%	1.5%
Share Value Added - Agriculture (%)	2	2	1	1	1	1	1	-2.8%	-2.9%	-0.3%	-0.6%	-0.6%	-0.5%
Share Value Added - Industry (%)	38	31	28	27	27	27	27	-2.0%	-1.2%	-0.2%	0.0%	0.0%	0.0%
Share Value Added - Services (%)	60	67	71	72	72	72	72	1.2%	0.6%	0.1%	0.0%	0.0%	0.0%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	24	25	-7.8%	10.3%	1.2%	0.5%	0.1%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	1 058	1 139	1 067	936	780	555	241	0.7%	-0.6%	-1.3%	-1.8%	-3.3%	-8.0%
Total GHG (excl. sinks)	1 133	1 228	1 142	979	783	561	250	0.8%	-0.7%	-1.5%	-2.2%	-3.3%	-7.8%
Total GHG (energy, industry, agriculture)	1 125	1 224	1 140	978	769	494	213	0.9%	-0.7%	-1.5%	-2.4%	-4.3%	-8.1%
CO ₂	1 037	1 146	1 089	932	737	469	193	1.0%	-0.5%	-1.5%	-2.3%	-4.4%	-8.5%
CH ₄	32	26	21	19	16	13	10	-2.2%	-2.3%	-0.7%	-1.9%	-2.1%	-2.3%
N ₂ O	30	28	21	19	13	10	9	-0.8%	-2.8%	-1.1%	-3.6%	-2.0%	-1.6%
F gases	26	25	9	8	3	1	1	-0.2%	-10.2%	-0.6%	-9.6%	-8.5%	-7.5%
Total GHG from Energy and Industry	1 096	1 199	1 115	954	749	476	197	0.9%	-0.7%	-1.5%	-2.4%	-4.4%	-8.4%
CO₂ Emissions from Fuel Comb.	950	1 061	1 022	867	682	424	157	1.1%	-0.4%	-1.6%	-2.4%	-4.6%	-9.5%
Power generation/District heating	333	383	431	355	272	123	-49	1.4%	1.2%	-1.9%	-2.6%	-7.6%	n.s.
Industry	200	185	157	143	114	85	59	-0.8%	-1.6%	-1.0%	-2.2%	-2.9%	-3.5%
Buildings	143	177	156	121	92	63	44	2.1%	-1.3%	-2.5%	-2.7%	-3.6%	-3.5%
Agriculture	21	16	10	10	8	5	3	-2.6%	-4.3%	-0.4%	-2.1%	-4.7%	-4.6%
Transport	213	260	229	198	163	123	82	2.0%	-1.2%	-1.4%	-1.9%	-2.8%	-3.9%
Other	40	40	39	40	33	24	16	0.1%	-0.3%	0.4%	-1.9%	-3.1%	-3.9%
CO₂ captured (CCS)	0	0	0	0	2	34	156	n.s.	n.s.	n.s.	32.2%	33.3%	16.5%
Coal	0	0	0	0	2	11	30	n.s.	n.s.	n.s.	41.4%	20.7%	10.7%
Gas	0	0	0	0	0	6	24	n.s.	n.s.	n.s.	23.4%	39.7%	15.0%
Biomass	0	0	0	0	0	17	102	n.s.	n.s.	n.s.	0.7%	n.s.	19.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	76	107	101	90	115	141	151	3.5%	-0.7%	-1.1%	2.5%	2.1%	0.7%
Coal	4	2	0	0	0	0	0	-9.0%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	1	1	1	0	0	0	0	1.3%	-0.7%	-3.9%	0.1%	-0.7%	-3.5%
Natural gas	2	2	3	2	1	0	0	1.5%	3.0%	-5.1%	-8.4%	-7.0%	-4.7%
Biomass	5	6	10	10	20	27	29	1.6%	5.5%	0.1%	7.1%	3.2%	0.7%
Nuclear ¹	54	85	76	58	58	55	52	4.8%	-1.1%	-2.8%	0.0%	-0.5%	-0.6%
Hydro	8	8	8	8	9	9	9	0.1%	-0.7%	0.4%	0.8%	0.2%	0.1%
Other renewables	3	4	3	12	28	50	61	3.4%	-1.1%	13.9%	8.6%	6.0%	2.0%
Net Imports	363	413	400	351	298	227	196						
Coal	73	96	115	103	73	40	25						
Oil	243	254	202	161	123	88	61						
Natural gas	47	63	83	82	90	76	65						
Biomass	0	0	0	3	12	22	44						
Biofuels	0	0	0	0	1	1	1						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	439	521	500	441	413	369	347	1.7%	-0.4%	-1.3%	-0.6%	-1.1%	-0.6%
Coal	77	97	115	103	73	40	25	2.4%	1.7%	-1.1%	-3.4%	-5.9%	-4.6%
Oil	243	255	202	162	124	89	61	0.5%	-2.3%	-2.2%	-2.7%	-3.3%	-3.6%
Natural gas	49	66	86	84	90	76	65	2.9%	2.7%	-0.2%	0.7%	-1.7%	-1.5%
Biomass	5	6	10	13	32	49	73	1.6%	5.5%	3.1%	9.2%	4.6%	4.0%
Nuclear ¹	54	85	76	58	58	55	52	4.8%	-1.1%	-2.8%	0.0%	-0.5%	-0.6%
Hydro	8	8	8	8	9	9	9	0.1%	-0.7%	0.4%	0.8%	0.2%	0.1%
Other renewables	3	4	3	12	28	50	61	3.4%	-1.1%	13.9%	8.6%	6.0%	2.0%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	439	521	500	441	413	369	347	1.7%	-0.4%	-1.3%	-0.6%	-1.1%	-0.6%
Energy for Power Generation	174	222	230	198	200	190	200	2.4%	0.4%	-1.4%	0.1%	-0.5%	0.5%
Other Energy Transformation & Losses	15	20	16	12	11	11	10	3.2%	-2.1%	-2.5%	-0.9%	-0.4%	-0.5%
Final consumption	316	362	342	310	289	264	243	1.4%	-0.6%	-1.0%	-0.7%	-0.9%	-0.8%
Steel, Non-Met. Minerals and Chem.	62	62	60	60	52	40	31	0.0%	-0.3%	0.0%	-1.4%	-2.6%	-2.4%
Other Industry	52	51	42	35	35	35	36	-0.2%	-1.8%	-1.9%	0.0%	-0.1%	0.3%
Non-Energy Use	39	46	45	41	40	39	38	1.5%	-0.3%	-0.8%	-0.4%	-0.2%	-0.3%
Residential	38	49	50	40	37	36	35	2.5%	0.2%	-2.1%	-0.7%	-0.4%	-0.4%
Services	45	62	64	61	62	61	61	3.1%	0.3%	-0.4%	0.1%	-0.1%	0.0%
Agriculture	7	5	3	3	3	3	4	-2.6%	-4.4%	-0.4%	0.3%	0.3%	0.2%
Road	63	78	69	60	52	42	31	2.1%	-1.2%	-1.3%	-1.5%	-2.0%	-2.9%
Rail	2	2	2	2	2	2	2	0.4%	-0.1%	-0.6%	0.5%	0.6%	0.5%
Aviation	3	4	4	4	4	4	4	2.1%	1.1%	-1.4%	0.1%	0.0%	-0.3%
Other Transport	4	5	3	3	3	2	2	0.9%	-3.3%	-0.9%	-0.8%	-2.5%	-3.4%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Japan	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	110	124	142	121	105	76	78	1.2%	1.4%	-1.7%	-1.3%	-3.2%	0.3%
Coal	25	47	61	49	33	15	9	6.6%	2.6%	-2.2%	-4.0%	-7.3%	-5.2%
Oil	49	27	18	11	6	3	0	-5.9%	-4.1%	-5.0%	-5.4%	-7.0%	-16.6%
Gas	33	47	56	54	52	34	26	3.5%	1.9%	-0.5%	-0.3%	-4.2%	-2.9%
Biomass & Waste	2	3	7	6	13	23	42	2.9%	8.6%	-0.8%	7.5%	5.4%	6.4%
Other	0	0	0	1	1	1	1	6.8%	-2.4%	9.5%	5.4%	0.3%	2.1%
Gross Elec. Generation (TWh_e)	842	1 059	1 117	1 016	1 087	1 155	1 237	2.3%	0.5%	-0.9%	0.7%	0.6%	0.7%
Coal	116	229	299	237	159	75	45	7.0%	2.7%	-2.3%	-3.9%	-7.3%	-5.0%
of which CCS	0	0	0	0	0	0	7	n.s.	n.s.	n.s.	n.s.	n.s.	17.2%
Oil	237	135	92	46	27	13	2	-5.4%	-3.8%	-6.6%	-5.4%	-7.0%	-16.6%
Gas	179	256	301	298	290	188	148	3.7%	1.6%	-0.1%	-0.3%	-4.2%	-2.4%
of which CCS	0	0	0	0	0	15	64	n.s.	n.s.	n.s.	n.s.	n.s.	15.8%
Biomass & Waste	11	16	36	32	63	105	203	3.7%	8.8%	-1.2%	6.9%	5.3%	6.8%
of which CCS	0	0	0	0	0	21	121	n.s.	n.s.	n.s.	n.s.	n.s.	18.9%
Nuclear	202	322	288	230	229	218	204	4.8%	-1.1%	-2.2%	0.0%	-0.5%	-0.7%
Hydro	96	97	91	94	102	104	105	0.1%	-0.7%	0.4%	0.8%	0.2%	0.1%
Wind	0	0	4	27	136	312	349	n.s.	43.4%	21.3%	17.4%	8.6%	1.1%
Solar	0	0	4	45	69	126	162	39.2%	27.0%	28.0%	4.5%	6.2%	2.5%
Other	2	3	3	7	11	13	19	6.8%	-2.4%	9.5%	5.7%	1.4%	3.8%
Generation Capacity (GW_e)	225	258	283	328	379	461	464	1.4%	0.9%	1.5%	1.5%	2.0%	0.1%
Coal	31	63	63	76	72	54	18	7.4%	0.1%	1.8%	-0.6%	-2.7%	-10.5%
of which CCS	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	17.7%
Oil	78	66	56	50	40	36	35	-1.6%	-1.6%	-1.1%	-2.2%	-1.1%	-0.4%
Gas	47	37	55	53	51	46	38	-2.3%	4.1%	-0.4%	-0.4%	-1.1%	-1.9%
of which CCS	0	0	0	0	0	2	9	n.s.	n.s.	n.s.	n.s.	n.s.	17.3%
Biomass & Waste	3	3	8	6	11	17	31	1.8%	9.6%	-1.6%	5.2%	4.6%	6.4%
of which CCS	0	0	0	0	0	3	16	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Nuclear	29	42	46	37	36	34	31	4.0%	0.9%	-2.2%	-0.2%	-0.7%	-0.9%
Hydro	38	46	48	52	56	57	57	2.0%	0.4%	0.7%	0.8%	0.2%	0.1%
Wind	0	0	2	12	52	110	120	n.s.	32.7%	17.9%	15.8%	7.9%	0.8%
Solar	0	0	4	41	60	105	132	43.4%	27.1%	27.4%	4.0%	5.7%	2.3%
Other	0	1	1	1	2	2	3	7.0%	0.1%	5.9%	5.9%	1.6%	3.4%
Total Final Consumption² (Mtoe)	316	362	342	310	289	264	243	1.4%	-0.6%	-1.0%	-0.7%	-0.9%	-0.8%
Coal	50	46	48	49	35	19	11	-0.8%	0.3%	0.3%	-3.3%	-5.9%	-5.1%
Oil	182	208	170	143	111	81	58	1.3%	-2.0%	-1.7%	-2.5%	-3.1%	-3.3%
Gas	15	23	35	31	39	43	41	4.2%	4.1%	-1.0%	2.2%	1.1%	-0.5%
Electricity	64	81	86	79	84	90	96	2.3%	0.6%	-0.9%	0.7%	0.6%	0.7%
Heat	1	1	1	1	1	3	6	0.4%	-2.9%	-0.8%	3.3%	8.4%	6.2%
Biomass & Other	3	3	3	7	19	27	31	0.2%	0.3%	9.9%	10.3%	3.9%	1.2%
Share of Renewables ³ (%)	5%	4%	5%	9%	20%	38%	52%	-1.2%	1.7%	6.1%	8.8%	6.4%	3.2%
Industry (incl. non-energy use)	153	158	147	137	127	113	105	0.3%	-0.7%	-0.7%	-0.7%	-1.1%	-0.8%
Coal	49	45	47	49	35	19	11	-0.7%	0.4%	0.3%	-3.2%	-5.8%	-5.1%
Oil	69	74	61	52	41	32	27	0.7%	-1.9%	-1.6%	-2.4%	-2.5%	-1.7%
Gas	4	5	8	9	18	26	26	2.9%	4.5%	1.2%	6.7%	3.7%	0.0%
Electricity	29	31	28	24	26	27	29	0.7%	-1.0%	-1.7%	0.9%	0.5%	0.7%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	3	3	3	3	7	10	12	0.4%	0.4%	1.9%	8.3%	2.8%	2.0%
Buildings	83	110	113	101	99	97	96	2.8%	0.3%	-1.1%	-0.2%	-0.2%	-0.1%
Coal	1	1	1	0	0	0	0	-4.4%	-1.6%	-1.6%	-9.4%	-17.2%	-17.5%
Oil	36	42	29	22	15	10	7	1.6%	-3.6%	-2.9%	-3.5%	-4.0%	-4.0%
Gas	11	18	26	22	18	13	10	4.7%	4.0%	-1.9%	-1.6%	-3.1%	-3.0%
Electricity	34	48	56	53	55	57	60	3.6%	1.5%	-0.5%	0.3%	0.4%	0.6%
Heat	1	1	1	1	1	3	6	0.4%	-2.9%	-0.8%	3.3%	8.4%	6.2%
Biomass & Other	0	0	0	3	9	14	14	-10.8%	-20.8%	n.s.	11.1%	3.8%	0.0%
Agriculture	7	5	3	3	3	3	4	-2.6%	-4.4%	-0.4%	0.3%	0.3%	0.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	7	5	3	3	3	2	1	-2.6%	-4.3%	-0.4%	-2.1%	-4.7%	-4.6%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	1	-0.3%	-5.7%	0.9%	10.6%	7.5%	3.5%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	2	n.s.	n.s.	n.s.	40.6%	9.3%	3.1%
Transport	72	88	78	69	60	50	39	2.0%	-1.2%	-1.3%	-1.3%	-1.8%	-2.6%
Coal	0	0	0	0	0	0	0	n.s.	-0.4%	0.1%	0.0%	0.0%	0.0%
Oil	71	87	77	66	52	38	23	2.0%	-1.2%	-1.5%	-2.3%	-3.2%	-4.7%
Gas	0	0	0	0	3	4	5	n.s.	15.1%	16.4%	19.6%	4.6%	2.3%
Electricity	1	2	2	2	3	5	6	1.0%	0.2%	0.3%	7.4%	3.9%	1.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	3	4	n.s.	n.s.	n.s.	12.7%	6.7%	3.1%
Other Energy Transformation & Losses⁴	15	20	16	12	11	11	10	3.2%	-2.1%	-2.5%	-0.9%	-0.4%	-0.5%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

South Korea	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	43	46	49	51	53	52	51	0.7%	0.6%	0.4%	0.2%	0.0%	-0.3%
GDP per capita (ppp, k\$'05)	11	19	27	34	44	51	57	5.3%	3.5%	2.5%	2.4%	1.5%	1.1%
GDP per capita (mer, k\$'05)	9	15	22	29	36	42	47	5.8%	3.8%	2.5%	2.4%	1.5%	1.1%
Share Value Added - Agriculture (%)	8	4	2	2	2	2	2	-6.1%	-5.6%	-0.9%	-0.3%	-0.2%	-0.1%
Share Value Added - Industry (%)	38	38	38	37	34	32	30	0.0%	0.1%	-0.4%	-0.8%	-0.7%	-0.5%
Share Value Added - Services (%)	54	58	59	61	64	66	68	0.7%	0.3%	0.3%	0.5%	0.3%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	24	26	-7.8%	10.3%	1.2%	0.5%	0.3%	0.6%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	274	489	598	622	502	386	202	5.9%	2.0%	0.4%	-2.1%	-2.6%	-6.3%
Total GHG (excl. sinks)	302	516	632	657	536	411	226	5.5%	2.1%	0.4%	-2.0%	-2.6%	-5.8%
Total GHG (energy, industry, agriculture)	301	515	630	649	522	407	225	5.5%	2.0%	0.3%	-2.1%	-2.5%	-5.8%
CO ₂	253	455	577	596	478	365	194	6.0%	2.4%	0.3%	-2.2%	-2.7%	-6.1%
CH ₄	31	31	32	31	27	26	19	-0.1%	0.3%	-0.2%	-1.4%	-0.3%	-3.1%
N ₂ O	11	16	13	14	12	11	9	4.3%	-2.0%	0.7%	-1.6%	-0.5%	-2.0%
F gases	6	13	8	7	4	4	2	7.5%	-4.7%	-1.4%	-4.5%	-1.9%	-6.0%
Total GHG from Energy and Industry	281	498	610	625	500	384	207	5.9%	2.1%	0.3%	-2.2%	-2.6%	-6.0%
CO₂ Emissions from Fuel Comb.	230	413	540	556	443	332	168	6.1%	2.7%	0.3%	-2.3%	-2.8%	-6.6%
Power generation/District heating	42	133	264	252	172	88	-24	12.1%	7.1%	-0.5%	-3.8%	-6.5%	n.s.
Industry	60	97	98	109	92	84	64	4.9%	0.2%	1.0%	-1.7%	-0.9%	-2.7%
Buildings	69	65	55	51	46	40	29	-0.6%	-1.7%	-0.6%	-1.2%	-1.3%	-3.0%
Agriculture	5	10	7	7	5	3	2	7.5%	-3.7%	0.4%	-3.8%	-4.3%	-4.5%
Transport	44	80	91	108	104	95	79	6.2%	1.2%	1.8%	-0.4%	-0.9%	-1.9%
Other	9	28	26	28	25	22	17	11.5%	-1.0%	1.1%	-1.4%	-1.3%	-2.4%
CO₂ captured (CCS)	0	0	0	0	2	12	104	n.s.	n.s.	n.s.	35.6%	22.3%	24.0%
Coal	0	0	0	0	1	4	13	n.s.	n.s.	n.s.	35.5%	14.4%	12.6%
Gas	0	0	0	0	0	7	29	n.s.	n.s.	n.s.	43.7%	30.8%	14.7%
Biomass	0	0	0	0	0	1	61	n.s.	n.s.	n.s.	13.8%	29.9%	58.3%
Energy Balance, by fuel (Mtoe)													
Primary Production	24	37	49	67	117	163	173	4.2%	2.8%	3.3%	5.7%	3.3%	0.6%
Coal	7	4	1	1	0	0	0	-6.1%	-12.2%	-4.2%	-6.3%	-6.0%	-2.7%
Oil	0	1	1	0	0	0	0	3.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Natural gas	0	0	0	0	0	0	0	n.s.	n.s.	-16.9%	12.2%	1.9%	2.7%
Biomass	3	3	7	10	10	9	19	2.2%	7.5%	3.8%	0.2%	-0.4%	7.1%
Nuclear ¹	14	29	39	53	99	138	135	7.5%	3.1%	3.0%	6.5%	3.4%	-0.2%
Hydro	1	0	1	1	1	1	1	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Other renewables	0	0	0	4	7	14	19	15.9%	14.3%	36.2%	6.9%	7.1%	2.8%
Net Imports	69	154	206	229	201	173	149						
Coal	16	38	72	70	39	22	15						
Oil	50	98	94	107	92	77	60						
Natural gas	3	17	38	50	68	71	65						
Biomass	0	0	1	1	0	0	5						
Biofuels	0	0	0	0	1	3	4						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	93	191	254	296	318	336	322	7.4%	2.9%	1.5%	0.7%	0.5%	-0.4%
Coal	23	42	73	71	39	22	16	6.2%	5.8%	-0.4%	-5.7%	-5.7%	-3.3%
Oil	50	99	95	107	92	77	60	7.0%	-0.4%	1.2%	-1.5%	-1.7%	-2.6%
Natural gas	3	17	39	51	69	71	66	20.1%	8.5%	2.7%	3.1%	0.4%	-0.8%
Biomass	3	3	7	11	10	10	23	2.5%	7.9%	4.2%	-0.4%	-0.6%	9.3%
Nuclear ¹	14	29	39	53	99	138	135	7.5%	3.1%	3.0%	6.5%	3.4%	-0.2%
Hydro	1	0	1	1	1	1	1	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Other renewables	0	0	0	4	7	14	19	15.9%	14.3%	36.2%	6.9%	7.1%	2.8%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	93	191	254	296	318	336	322	7.4%	2.9%	1.5%	0.7%	0.5%	-0.4%
Energy for Power Generation	27	67	115	132	164	190	200	9.5%	5.6%	1.4%	2.2%	1.5%	0.5%
Other Energy Transformation & Losses	4	15	13	13	13	15	15	15.4%	-1.3%	-0.2%	0.1%	1.4%	-0.2%
Final consumption	71	135	169	204	207	211	196	6.7%	2.3%	1.9%	0.1%	0.2%	-0.7%
Steel, Non-Met. Minerals and Chem.	13	25	32	37	31	30	26	6.5%	2.7%	1.2%	-1.6%	-0.4%	-1.4%
Other Industry	11	21	24	30	34	37	35	7.2%	1.1%	2.4%	1.2%	0.8%	-0.4%
Non-Energy Use	7	25	38	51	48	46	39	14.0%	4.4%	2.9%	-0.7%	-0.4%	-1.5%
Residential	14	15	20	21	20	19	18	0.7%	2.9%	0.4%	-0.4%	-0.5%	-1.0%
Services	10	18	21	25	32	36	38	6.4%	1.6%	1.7%	2.5%	1.3%	0.4%
Agriculture	2	4	3	4	4	5	5	8.1%	-1.8%	2.0%	1.5%	1.1%	0.9%
Road	11	22	28	34	35	36	33	7.7%	2.5%	1.9%	0.3%	0.2%	-0.8%
Rail	0	0	0	0	0	0	0	2.9%	-2.7%	0.1%	1.4%	0.8%	0.2%
Aviation	2	3	1	2	2	2	2	3.9%	-11.6%	6.2%	0.6%	0.9%	-0.9%
Other Transport	2	1	1	0	0	0	0	-1.4%	-6.1%	-11.1%	-0.3%	-1.7%	-3.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

South Korea	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	12	37	75	75	58	37	46	11.7%	7.2%	0.0%	-2.6%	-4.2%	2.0%
Coal	6	24	52	45	23	7	4	15.2%	8.1%	-1.5%	-6.2%	-11.6%	-6.4%
Oil	5	8	5	5	4	3	1	5.4%	-4.7%	0.3%	-2.6%	-2.3%	-6.9%
Gas	2	6	18	25	28	26	24	10.9%	12.0%	3.5%	1.2%	-1.1%	-0.7%
Biomass & Waste	0	0	0	1	2	2	17	n.s.	34.9%	2.5%	13.4%	0.8%	23.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gross Elec. Generation (TWh_e)	105	290	499	622	772	915	986	10.7%	5.6%	2.2%	2.2%	1.7%	0.8%
Coal	18	111	219	189	101	31	17	20.2%	7.0%	-1.5%	-6.1%	-11.1%	-5.6%
of which CCS	0	0	0	0	0	3	15	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Oil	19	35	19	22	17	13	7	6.3%	-5.8%	1.3%	-2.6%	-2.3%	-6.8%
Gas	10	29	103	157	173	152	146	11.9%	13.4%	4.3%	1.0%	-1.3%	-0.4%
of which CCS	0	0	0	0	0	18	75	n.s.	n.s.	n.s.	n.s.	n.s.	15.6%
Biomass & Waste	0	0	1	2	6	8	84	n.s.	28.1%	4.2%	13.5%	2.6%	27.2%
of which CCS	0	0	0	0	0	0	75	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	53	109	149	202	391	551	539	7.5%	3.2%	3.1%	6.8%	3.5%	-0.2%
Hydro	6	6	6	9	9	9	9	-1.2%	1.4%	2.8%	0.6%	0.2%	0.1%
Wind	0	0	1	30	51	105	107	n.s.	47.3%	43.2%	5.7%	7.4%	0.1%
Solar	0	0	1	12	25	45	75	n.s.	n.s.	31.5%	7.5%	6.2%	5.1%
Other	0	0	0	0	0	1	2	n.s.	n.s.	24.1%	28.6%	12.6%	11.8%
Generation Capacity (GW_e)	20	49	77	134	188	242	235	9.4%	4.6%	5.7%	3.5%	2.6%	-0.3%
Coal	4	14	28	30	27	24	2	14.3%	7.1%	0.7%	-1.0%	-1.4%	-20.3%
of which CCS	0	0	0	0	0	0	2	n.s.	n.s.	n.s.	n.s.	n.s.	19.1%
Oil	4	4	4	4	4	4	4	2.1%	0.0%	0.0%	-1.1%	-0.2%	1.1%
Gas	3	13	20	39	53	54	43	17.5%	4.6%	6.8%	3.2%	0.2%	-2.3%
of which CCS	0	0	0	0	0	2	12	n.s.	n.s.	n.s.	n.s.	n.s.	17.4%
Biomass & Waste	0	1	0	1	1	1	12	n.s.	-12.0%	23.1%	-1.6%	1.7%	24.7%
of which CCS	0	0	0	0	0	0	10	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Nuclear	8	14	18	25	48	68	66	6.1%	2.6%	3.6%	6.6%	3.6%	-0.3%
Hydro	2	3	6	7	7	7	8	3.0%	5.8%	2.3%	0.5%	0.2%	0.1%
Wind	0	0	0	14	24	46	43	n.s.	40.3%	43.7%	5.3%	6.6%	-0.6%
Solar	0	0	1	13	23	37	56	n.s.	n.s.	34.5%	6.1%	4.8%	4.4%
Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	27.9%	12.1%	11.3%
Total Final Consumption² (Mtoe)	71	135	169	204	207	211	196	6.7%	2.3%	1.9%	0.1%	0.2%	-0.7%
Coal	16	15	18	21	11	10	8	-0.5%	1.9%	1.5%	-6.1%	-0.8%	-2.8%
Oil	44	80	82	96	83	70	55	6.2%	0.2%	1.6%	-1.4%	-1.7%	-2.4%
Gas	1	11	21	25	39	45	40	32.1%	6.5%	1.9%	4.7%	1.3%	-1.1%
Electricity	8	23	39	48	60	72	77	10.8%	5.5%	2.3%	2.2%	1.7%	0.8%
Heat	0	3	4	4	4	5	6	n.s.	2.8%	-1.1%	0.5%	0.9%	3.3%
Biomass & Other	3	3	6	10	9	10	10	2.1%	6.4%	5.6%	-1.0%	1.2%	0.0%
Share of Renewables ³ (%)	5%	3%	5%	9%	11%	17%	25%	-3.2%	3.9%	5.9%	2.0%	4.3%	4.1%
Industry (incl. non-energy use)	31	71	94	118	113	112	100	8.8%	2.9%	2.2%	-0.4%	0.0%	-1.1%
Coal	7	14	17	20	11	10	8	8.1%	1.7%	1.8%	-6.0%	-0.8%	-2.8%
Oil	18	36	44	53	44	36	29	7.4%	2.0%	1.8%	-1.8%	-1.9%	-2.3%
Gas	0	3	7	11	24	30	27	44.4%	9.4%	4.4%	8.4%	2.1%	-0.8%
Electricity	5	13	20	25	27	32	33	10.0%	4.3%	2.3%	0.9%	1.6%	0.4%
Heat	0	2	2	2	2	2	2	n.s.	1.0%	-2.0%	-0.2%	-0.3%	-0.2%
Biomass & Other	1	3	5	7	5	3	2	8.2%	5.1%	4.7%	-4.6%	-5.2%	-3.2%
Buildings	24	33	41	46	52	56	55	3.3%	2.2%	1.1%	1.3%	0.6%	0.0%
Coal	9	1	1	1	0	0	0	-24.1%	4.5%	-3.9%	-15.4%	-16.0%	-16.2%
Oil	10	14	7	6	5	4	3	3.3%	-6.7%	-1.4%	-2.8%	-2.2%	-2.7%
Gas	1	8	12	13	13	12	9	29.6%	4.5%	0.2%	0.3%	-0.8%	-3.1%
Electricity	3	9	18	22	30	35	37	11.9%	7.1%	2.1%	3.0%	1.5%	0.7%
Heat	0	1	2	2	2	3	4	n.s.	5.5%	-0.1%	1.1%	1.8%	5.1%
Biomass & Other	1	0	1	2	2	2	2	-11.3%	10.2%	9.1%	-0.2%	0.2%	-1.6%
Agriculture	2	4	3	4	4	5	5	8.1%	-1.8%	2.0%	1.5%	1.1%	0.9%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	2	3	2	2	2	1	1	7.5%	-3.7%	0.4%	-3.8%	-4.3%	-4.5%
Gas	0	0	0	0	0	0	0	n.s.	-9.6%	-1.5%	-2.5%	-2.9%	-3.2%
Electricity	0	0	1	1	2	3	4	13.8%	6.6%	4.6%	5.2%	3.0%	2.0%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	1	1	1	n.s.	n.s.	n.s.	18.6%	4.5%	1.9%
Transport	15	27	30	36	38	39	36	6.3%	1.2%	1.8%	0.3%	0.3%	-0.8%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	14	27	29	35	33	29	23	6.3%	0.7%	1.8%	-0.6%	-1.1%	-2.3%
Gas	0	0	1	1	2	3	4	n.s.	n.s.	1.1%	4.9%	3.6%	3.3%
Electricity	0	0	0	0	1	2	3	7.2%	0.7%	4.4%	16.4%	5.7%	3.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	2	5	5	n.s.	n.s.	2.5%	16.6%	9.8%	1.9%
Other Energy Transformation & Losses⁴	4	15	13	13	13	15	15	15.4%	-1.3%	-0.2%	0.1%	1.4%	-0.2%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

New Zealand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	3	4	4	5	5	5	6	1.3%	1.3%	0.8%	0.8%	0.6%	0.4%
GDP per capita (ppp, k\$'05)	19	23	25	30	35	40	47	1.7%	1.1%	1.8%	1.6%	1.4%	1.5%
GDP per capita (mer, k\$'05)	21	24	28	33	39	44	52	1.7%	1.3%	1.8%	1.6%	1.4%	1.5%
Share Value Added - Agriculture (%)	6	8	7	6	5	5	5	2.6%	-1.5%	-2.0%	-0.7%	-0.5%	-0.5%
Share Value Added - Industry (%)	29	25	23	22	21	20	19	-1.2%	-0.9%	-0.2%	-0.5%	-0.5%	-0.6%
Share Value Added - Services (%)	65	66	70	72	73	75	76	0.2%	0.5%	0.3%	0.2%	0.2%	0.2%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	25	26	-7.8%	10.3%	1.2%	0.9%	0.2%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	23	38	42	44	24	16	2	5.4%	0.9%	0.6%	-6.1%	-4.0%	-18.0%
Total GHG (excl. sinks)	60	71	73	71	58	52	40	1.7%	0.4%	-0.4%	-2.0%	-1.1%	-2.7%
Total GHG (energy, industry, agriculture)	60	71	73	71	58	52	37	1.7%	0.4%	-0.4%	-2.0%	-1.1%	-3.3%
CO ₂	24	31	33	34	27	25	14	2.5%	0.7%	0.1%	-2.0%	-0.9%	-5.5%
CH ₄	27	29	28	25	21	18	15	1.0%	-0.3%	-1.2%	-1.9%	-1.3%	-1.8%
N ₂ O	8	10	10	10	9	8	8	1.7%	0.6%	-0.1%	-1.3%	-0.9%	-0.9%
F gases	1	0	1	1	0	0	0	-6.7%	13.5%	1.2%	-10.1%	-10.0%	-10.7%
Total GHG from Energy and Industry	30	37	40	38	30	27	16	2.2%	0.8%	-0.4%	-2.4%	-0.9%	-5.2%
CO₂ Emissions from Fuel Comb.	23	29	31	30	25	23	12	2.5%	0.4%	-0.1%	-2.0%	-0.9%	-5.8%
Power generation/District heating	4	6	6	2	1	1	-3	5.1%	0.2%	-10.5%	-4.3%	-4.0%	n.s.
Industry	7	7	6	9	7	7	4	-0.1%	-0.7%	3.6%	-2.1%	-0.1%	-4.7%
Buildings	1	1	1	1	1	1	1	0.7%	-0.2%	-1.4%	0.8%	0.5%	-3.0%
Agriculture	1	2	1	2	1	1	0	2.2%	-0.6%	1.6%	-4.0%	-4.3%	-4.2%
Transport	9	12	14	14	12	11	9	3.4%	1.3%	0.5%	-1.7%	-0.9%	-2.7%
Other	1	2	2	2	1	1	1	2.9%	1.0%	1.5%	-3.1%	-1.3%	-6.0%
CO₂ captured (CCS)	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	21.3%	21.0%	17.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	6.5%	5.9%	8.0%
Gas	0	0	0	0	0	1	2	n.s.	n.s.	n.s.	n.s.	20.6%	11.4%
Biomass	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	37.4%	29.4%	23.6%
Energy Balance, by fuel (Mtoe)													
Primary Production	13	15	18	24	25	26	27	1.8%	1.8%	2.8%	0.6%	0.4%	0.4%
Coal	1	2	3	2	2	2	2	4.9%	2.8%	-1.6%	-1.0%	-0.6%	-0.9%
Oil	3	2	3	2	3	4	4	-2.7%	3.2%	-0.8%	3.2%	1.9%	0.1%
Natural gas	4	5	4	4	3	3	2	2.5%	-2.6%	-0.1%	-2.1%	-1.9%	-2.5%
Biomass	1	1	1	1	2	2	4	4.0%	0.7%	1.9%	2.4%	2.5%	5.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.3%	1.8%
Hydro	2	2	2	2	2	2	2	0.5%	0.1%	-0.8%	0.2%	0.0%	0.3%
Other renewables	2	3	5	11	13	13	13	3.2%	7.5%	8.2%	1.0%	0.4%	-0.1%
Net Imports	1	3	2	3	1	1	0						
Coal	0	-1	-1	-1	-2	-2	-2						
Oil	2	4	4	4	2	1	0						
Natural gas	-1	0	0	0	1	2	2						
Biomass	0	0	0	0	0	0	0						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	13	18	20	27	26	27	27	2.9%	1.2%	3.0%	-0.1%	0.3%	-0.1%
Coal	1	1	1	1	1	0	0	-0.3%	1.7%	-1.0%	-7.9%	-3.2%	-5.1%
Oil	4	6	6	7	5	5	4	2.7%	0.8%	0.7%	-2.1%	-1.0%	-2.5%
Natural gas	3	5	4	4	4	5	4	5.0%	-3.0%	1.1%	0.5%	1.1%	-1.2%
Biomass	1	1	1	1	2	2	4	4.0%	0.7%	0.4%	3.0%	2.5%	5.7%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	6.3%	1.8%
Hydro	2	2	2	2	2	2	2	0.5%	0.1%	-0.8%	0.2%	0.0%	0.3%
Other renewables	2	3	5	11	13	13	13	3.2%	7.5%	8.2%	1.0%	0.4%	-0.1%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	13	18	20	27	26	27	27	2.9%	1.2%	3.0%	-0.1%	0.3%	-0.1%
Energy for Power Generation	6	7	10	15	16	17	18	2.8%	3.4%	4.1%	0.6%	0.5%	0.7%
Other Energy Transformation & Losses	0	1.2%	n.s.	n.s.	n.s.	n.s.	n.s.						
Final consumption	10	13	13	15	15	15	15	2.8%	0.0%	1.6%	-0.3%	0.3%	-0.6%
Steel, Non-Met. Minerals and Chem.	1	1	1	2	1	1	1	0.4%	-2.5%	4.5%	-2.3%	-1.0%	-2.4%
Other Industry	3	3	3	4	4	4	4	2.1%	0.5%	1.7%	0.3%	0.9%	-0.3%
Non-Energy Use	1	2	1	2	2	1	1	10.3%	-5.2%	5.9%	-1.3%	-0.3%	-1.3%
Residential	1	1	1	1	1	2	2	1.1%	0.7%	-0.5%	0.4%	0.8%	0.4%
Services	1	1	1	1	1	2	2	1.7%	1.8%	0.1%	1.2%	1.2%	1.0%
Agriculture	0	1	1	1	1	1	1	2.8%	0.5%	2.6%	0.9%	0.7%	0.7%
Road	3	3	4	4	4	4	3	3.0%	1.7%	0.7%	-1.0%	-0.2%	-1.5%
Rail	0	0	0	0	0	0	0	10.4%	-4.8%	0.6%	0.1%	-0.1%	-0.4%
Aviation	0	0	0	0	0	0	0	2.4%	-1.6%	-1.7%	0.8%	1.6%	0.3%
Other Transport	0	0	0	0	0	0	0	4.7%	-3.9%	4.4%	-0.4%	-1.3%	-2.6%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

New Zealand	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	2	3	3	2	2	2	3	4.4%	0.9%	-4.3%	-0.9%	1.9%	4.9%
Coal	0	0	0	0	0	0	0	8.2%	2.7%	-11.3%	-7.8%	-0.4%	-1.1%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	7.3%	3.8%	2.2%
Gas	1	2	2	1	0	1	1	4.3%	-0.7%	-10.3%	-3.2%	3.9%	4.9%
Biomass & Waste	0	0	0	0	0	0	0	1.3%	0.2%	-11.5%	4.1%	12.7%	17.5%
Other	0	0	1	1	1	1	1	3.2%	7.2%	8.0%	0.5%	0.0%	-0.2%
Gross Elec. Generation (TWh_e)	32	39	45	46	53	61	69	2.0%	1.4%	0.2%	1.4%	1.4%	1.3%
Coal	1	2	2	1	0	0	0	8.8%	2.9%	-11.4%	-7.5%	-0.1%	-0.3%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	16.0%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	16.7%	7.4%	3.8%	2.2%
Gas	6	10	10	3	2	4	6	5.3%	0.4%	-10.3%	-3.1%	4.3%	5.3%
of which CCS	0	0	0	0	0	1	4	n.s.	n.s.	n.s.	n.s.	n.s.	13.2%
Biomass & Waste	1	1	1	0	0	1	6	1.6%	0.2%	-11.1%	4.4%	14.1%	18.1%
of which CCS	0	0	0	0	0	1	5	n.s.	n.s.	n.s.	n.s.	n.s.	23.4%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	23	24	25	23	23	23	24	0.5%	0.1%	-0.8%	0.2%	0.0%	0.3%
Wind	0	0	2	6	12	17	17	n.s.	29.8%	13.5%	7.6%	3.7%	-0.3%
Solar	0	0	0	0	1	2	3	n.s.	n.s.	42.5%	17.8%	5.6%	4.8%
Other	2	3	6	13	13	13	13	3.2%	7.2%	8.0%	0.5%	0.0%	-0.1%
Generation Capacity (GW_e)	7	8	11	13	16	19	20	1.1%	2.9%	1.5%	2.2%	1.7%	0.7%
Coal	1	1	1	0	0	0	0	-1.0%	-4.8%	-4.7%	-10.1%	-1.8%	-0.9%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	16.1%
Oil	0	0	0	0	0	0	0	n.s.	n.s.	1.2%	1.3%	0.6%	0.7%
Gas	1	1	2	2	3	2	2	2.7%	4.4%	-0.3%	2.1%	-1.4%	-1.2%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	14.5%
Biomass & Waste	0	0	0	0	0	1	1	0.9%	8.9%	0.6%	5.0%	0.9%	9.9%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	24.0%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	5	5	5	5	5	5	5	0.9%	0.1%	-0.3%	0.2%	0.0%	0.3%
Wind	0	0	1	2	3	5	5	n.s.	30.8%	12.4%	7.3%	3.4%	-0.5%
Solar	0	0	0	0	1	2	4	n.s.	n.s.	43.1%	18.4%	6.5%	5.8%
Other	0	1	2	3	3	4	3	7.1%	11.6%	3.4%	-0.6%	2.4%	-2.4%
Total Final Consumption² (Mtoe)	10	13	13	15	15	15	15	2.8%	0.0%	1.6%	-0.3%	0.3%	-0.6%
Coal	1	1	1	1	0	0	0	-2.3%	1.9%	0.3%	-7.0%	-2.9%	-4.4%
Oil	4	5	6	6	5	5	4	2.8%	1.1%	0.7%	-2.1%	-1.0%	-2.5%
Gas	2	3	2	3	4	4	3	5.3%	-5.4%	6.8%	0.9%	0.6%	-3.0%
Electricity	2	3	3	3	4	5	5	2.0%	1.3%	0.3%	1.5%	1.5%	1.3%
Heat	0	0	0	0	0	0	0	1.4%	1.6%	2.1%	-0.3%	-0.2%	1.9%
Biomass & Other	1	1	1	1	2	2	2	4.5%	0.7%	1.2%	2.6%	1.7%	3.1%
Share of Renewables ³ (%)	29%	28%	30%	32%	43%	50%	63%	-0.4%	0.7%	0.9%	2.9%	1.4%	2.4%
Industry (incl. non-energy use)	4	6	5	7	7	7	6	3.2%	-1.4%	3.1%	-0.6%	0.3%	-0.8%
Coal	1	1	1	1	0	0	0	-2.0%	2.1%	0.6%	-6.8%	-2.6%	-4.2%
Oil	1	1	1	1	1	1	1	1.0%	1.8%	2.0%	-1.4%	0.6%	0.0%
Gas	2	3	1	3	3	3	2	5.8%	-6.1%	7.7%	-0.1%	0.2%	-3.7%
Electricity	1	1	1	1	2	2	2	2.3%	0.5%	0.3%	1.7%	1.4%	0.8%
Heat	0	0	0	0	0	0	0	2.1%	0.7%	2.4%	-0.2%	-0.3%	-0.2%
Biomass & Other	0	1	1	1	1	1	1	5.6%	0.9%	0.4%	-0.5%	-0.6%	3.9%
Buildings	2	2	3	3	3	3	3	1.4%	1.2%	-0.2%	0.8%	1.0%	0.7%
Coal	0	0	0	0	0	0	0	-5.8%	-4.0%	-5.2%	-15.9%	n.s.	n.s.
Oil	0	0	0	0	0	0	0	0.6%	1.7%	-0.2%	-1.6%	-0.6%	-3.1%
Gas	0	0	0	0	0	0	0	5.6%	-0.5%	-1.8%	4.3%	1.3%	-3.0%
Electricity	1	2	2	2	2	2	2	1.5%	1.7%	-0.2%	0.2%	0.8%	1.2%
Heat	0	0	0	0	0	0	0	-0.4%	3.8%	1.4%	-0.7%	0.1%	5.7%
Biomass & Other	0	0	0	0	0	0	0	0.1%	-0.5%	2.5%	4.7%	2.6%	1.1%
Agriculture	0	1	1	1	1	1	1	2.8%	0.5%	2.6%	0.9%	0.7%	0.7%
Coal	0	0	0	0	0	0	0	4.6%	12.4%	1.0%	-7.0%	-7.5%	-7.5%
Oil	0	0	0	0	0	0	0	2.3%	-1.4%	1.1%	-3.8%	-4.2%	-4.2%
Gas	0	0	0	0	0	0	0	0.5%	-3.5%	8.1%	-2.6%	-2.9%	-2.9%
Electricity	0	0	0	0	0	0	1	6.6%	5.1%	3.9%	2.9%	2.1%	1.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	26.2%	4.9%	2.2%
Transport	3	4	5	5	4	4	4	3.1%	1.2%	0.7%	-0.8%	-0.1%	-1.4%
Coal	0	0	0	0	0	0	0	0.0%	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	3	4	5	5	4	3	2	3.3%	1.2%	0.4%	-2.2%	-1.2%	-3.1%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	18.2%	3.6%	0.9%
Electricity	0	0	0	0	0	0	0	1.8%	-0.8%	15.7%	24.1%	5.6%	3.6%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	27.2%	14.6%	6.1%	4.0%
Other Energy Transformation & Losses⁴	0	0	0	0	0	0	0	1.2%	n.s.	n.s.	n.s.	n.s.	n.s.

² does not include international aviation and maritime bunkers; includes non-energy uses³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants⁴ includes statistical differences

Rest Pacific	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Main Economic Indicators													
Population (Million)	6	8	9	11	13	15	17	2.3%	2.0%	1.8%	1.6%	1.4%	1.1%
GDP per capita (ppp, k\$'05)	2	2	2	3	4	6	9	1.2%	1.1%	3.1%	2.7%	3.9%	4.3%
GDP per capita (mer, k\$'05)	1	1	1	2	2	3	5	1.0%	1.0%	3.1%	2.7%	3.9%	4.3%
Share Value Added - Agriculture (%)	27	28	29	9	3	1	0	0.5%	0.4%	-11.6%	-10.1%	-10.6%	-7.9%
Share Value Added - Industry (%)	27	31	30	11	11	11	11	1.3%	-0.2%	-9.5%	0.0%	-0.1%	-0.3%
Share Value Added - Services (%)	46	41	40	80	86	88	89	-1.2%	-0.1%	7.1%	0.7%	0.2%	0.1%
Prices													
International/Regional (\$'05/boe)													
Coal	17	7	20	22	24	25	26	-7.8%	10.3%	1.2%	0.9%	0.2%	0.5%
Oil	33	32	72	77	85	82	90	-0.2%	8.4%	0.6%	1.0%	-0.3%	0.8%
Gas	28	24	47	58	45	38	34	-1.2%	6.8%	2.1%	-2.4%	-1.7%	-1.1%
GHG emissions (Mt CO₂ eq.)													
Total GHG	101	96	102	113	96	73	56	-0.6%	0.6%	1.0%	-1.6%	-2.7%	-2.5%
Total GHG (excl. sinks)	101	96	102	113	96	80	77	-0.6%	0.6%	1.0%	-1.6%	-1.8%	-0.3%
Total GHG (energy, industry, agriculture)	13	12	16	20	25	26	18	-0.2%	2.7%	1.9%	2.2%	0.4%	-3.6%
CO ₂	3	5	8	10	17	19	12	3.5%	5.5%	3.0%	4.9%	1.2%	-4.5%
CH ₄	5	4	5	5	4	3	2	-0.7%	0.6%	0.5%	-2.2%	-2.5%	-1.8%
N ₂ O	5	4	4	5	4	4	3	-3.0%	0.7%	1.3%	-1.4%	-1.1%	-1.0%
F gases	0	0	0	0	0	0	0	n.s.	n.s.	-4.9%	0.3%	-5.3%	-16.7%
Total GHG from Energy and Industry	5	6	10	13	18	20	13	2.5%	4.6%	2.1%	3.8%	1.0%	-4.3%
CO₂ Emissions from Fuel Comb.	3	4	7	10	16	18	11	2.9%	5.0%	3.7%	4.8%	1.4%	-4.7%
Power generation/District heating	1	1	2	3	5	4	-2	6.4%	2.6%	7.0%	3.3%	-1.7%	n.s.
Industry	1	1	2	2	2	2	2	6.7%	9.2%	-3.4%	2.9%	0.7%	-4.0%
Buildings	0	0	0	0	1	1	0	-4.1%	-0.3%	5.6%	3.9%	-0.2%	-3.5%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	1	2	2	3	3	4	4	2.1%	2.5%	3.0%	1.0%	1.6%	1.2%
Other	0	0	0	2	5	7	7	1.4%	36.1%	14.9%	12.5%	3.7%	0.0%
CO₂ captured (CCS)	0	0	0	0	0	1	8	n.s.	n.s.	n.s.	n.s.	38.2%	18.5%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	19.4%	11.5%
Gas	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	36.9%	16.3%
Biomass	0	0	0	0	0	1	6	n.s.	n.s.	n.s.	n.s.	48.1%	19.9%
Energy Balance, by fuel (Mtoe)													
Primary Production	6	6	3	6	7	8	13	-1.2%	-7.3%	8.1%	1.6%	2.3%	4.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	4	4	0	1	1	2	2	-2.1%	-21.0%	9.9%	3.5%	2.9%	1.7%
Natural gas	0	0	0	0	0	0	0	6.2%	0.0%	-2.4%	0.5%	0.3%	0.1%
Biomass	2	2	2	4	4	5	9	0.2%	-0.1%	9.4%	-0.1%	1.3%	5.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	0	1	2	2	n.s.	n.s.	3.8%	10.0%	5.2%	1.3%
Net Imports	-3	-2	2	-1	1	2	0						
Coal	0	0	0	0	1	2	2						
Oil	-3	-2	2	1	1	1	0						
Natural gas	0	0	0	0	1	2	2						
Biomass	0	0	0	-3	-2	-2	-4						
Biofuels	0	0	0	0	0	0	0						
Electricity	0	0	0	0	0	0	0						
Primary Energy Demand²	3	3	5	5	7	10	12	1.5%	2.9%	0.7%	4.4%	3.1%	2.0%
Coal	0	0	0	0	1	2	2	n.s.	n.s.	47.7%	16.0%	4.3%	0.6%
Oil	1	1	2	2	2	2	2	3.0%	3.1%	2.0%	0.0%	-0.5%	-2.5%
Natural gas	0	0	0	0	1	2	2	30.1%	16.9%	-10.3%	21.6%	4.7%	2.1%
Biomass	2	2	2	2	2	3	5	0.2%	-0.1%	-0.6%	0.9%	3.5%	5.9%
Nuclear ¹	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Other renewables	0	0	0	0	1	2	2	n.s.	n.s.	3.8%	10.0%	5.2%	1.3%
Primary Energy Demand, by sector (Mtoe)													
Primary Energy Demand	3	3	5	5	7	10	12	1.5%	2.9%	0.7%	4.4%	3.1%	2.0%
Energy for Power Generation	0	1	1	2	3	4	6	4.7%	6.1%	4.8%	6.0%	4.3%	2.7%
Other Energy Transformation & Losses	0	0	0	0	1	2	2	n.s.	7.7%	-14.5%	40.2%	5.8%	2.4%
Final consumption	3	3	4	4	4	5	7	0.9%	2.1%	-0.1%	1.9%	2.0%	2.2%
Steel, Non-Met. Minerals and Chem.	0	0	0	0	0	0	0	n.s.	n.s.	-5.1%	4.3%	0.4%	1.1%
Other Industry	1	1	1	1	1	1	2	3.2%	2.2%	-5.0%	3.1%	3.5%	3.4%
Non-Energy Use	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Residential	1	1	2	2	2	2	2	-0.1%	0.2%	0.7%	0.4%	0.0%	-0.3%
Services	0	0	0	0	1	1	1	2.8%	3.5%	9.8%	4.9%	4.9%	5.0%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Road	0	1	1	1	1	1	1	2.2%	0.9%	3.1%	1.2%	1.7%	1.5%
Rail	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Aviation	0	0	0	0	0	0	1	1.4%	2.9%	4.1%	4.1%	4.5%	3.7%
Other Transport	0	0	0	0	0	0	0	0.0%	0.0%	1.5%	2.6%	1.8%	0.5%

¹ Primary energy from nuclear is calculated considering the primary heat equivalent of the electricity produced with an average efficiency of 33%

Rest Pacific	1990	2000	2010	2020	2030	2040	2050	'90-'00	'00-'10	'10-'20	'20-'30	'30-'40	'40-'50
Power Generation													
Fuel Inputs Therm. Power (Mtoe)	0	0	1	1	2	3	4	6.3%	3.0%	7.3%	4.1%	3.7%	3.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	23.0%	5.6%	2.0%
Oil	0	0	1	1	1	1	0	6.4%	2.6%	5.8%	0.0%	-1.9%	-10.6%
Gas	0	0	0	0	1	1	1	6.2%	0.0%	31.4%	14.3%	4.8%	3.5%
Biomass & Waste	0	0	0	0	0	1	2	5.4%	-0.1%	11.8%	5.6%	20.8%	12.2%
Other	0	0	0	0	0	0	0	n.s.	n.s.	2.4%	9.6%	4.5%	-0.3%
Gross Elec. Generation (TWh_e)	2	3	4	6	9	14	23	3.8%	3.2%	2.3%	4.9%	4.8%	5.0%
Coal	0	0	0	0	0	1	1	n.s.	n.s.	n.s.	23.6%	6.0%	2.2%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.6%
Oil	1	2	2	4	4	3	1	6.0%	4.3%	5.6%	0.0%	-1.8%	-10.6%
Gas	0	0	0	1	2	4	7	41.5%	-1.1%	13.1%	12.5%	5.2%	4.7%
of which CCS	0	0	0	0	0	1	3	n.s.	n.s.	n.s.	n.s.	n.s.	17.0%
Biomass & Waste	0	0	0	0	0	3	9	1.7%	1.3%	9.7%	10.0%	23.8%	12.8%
of which CCS	0	0	0	0	0	1	7	n.s.	n.s.	n.s.	n.s.	n.s.	18.4%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	1	1	1	0	0	0	0	0.6%	0.4%	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	0	1	2	4	n.s.	n.s.	n.s.	21.1%	12.1%	9.0%
Solar	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	9.7%	3.8%	4.6%
Other	0	0	0	0	1	2	2	n.s.	n.s.	2.4%	9.6%	4.6%	0.5%
Generation Capacity (GW_e)	0	0	1	1	2	3	5	0.7%	4.9%	2.4%	5.8%	5.5%	5.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	23.8%	6.0%	2.4%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	14.7%
Oil	0	0	1	1	1	1	0	-0.3%	4.5%	1.0%	-0.1%	-0.8%	-2.4%
Gas	0	0	0	0	0	1	1	7.4%	0.0%	3.5%	13.0%	5.5%	4.8%
of which CCS	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	17.2%
Biomass & Waste	0	0	0	0	0	0	1	0.0%	9.4%	0.0%	7.2%	23.6%	13.0%
of which CCS	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	n.s.	n.s.	18.6%
Nuclear	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Hydro	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Wind	0	0	0	0	0	1	1	n.s.	n.s.	10.2%	20.1%	11.5%	8.3%
Solar	0	0	0	0	0	0	1	n.s.	n.s.	n.s.	10.6%	4.5%	5.1%
Other	0	0	0	0	0	0	0	0.0%	28.4%	0.0%	9.0%	4.2%	0.2%
Total Final Consumption² (Mtoe)	3	3	4	4	4	5	7	0.9%	2.1%	-0.1%	1.9%	2.0%	2.2%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	10.7%	8.0%	3.5%	-1.4%
Oil	1	1	1	1	1	1	1	1.9%	2.4%	0.6%	0.0%	0.4%	0.2%
Gas	0	0	0	0	1	1	1	n.s.	n.s.	-1.6%	9.4%	2.9%	-0.6%
Electricity	0	0	0	0	1	1	2	3.8%	3.1%	1.8%	5.0%	4.8%	4.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	11.0%	7.5%	2.7%
Biomass & Other	2	2	2	2	2	2	2	0.2%	-0.1%	-1.1%	0.0%	0.7%	3.0%
Share of Renewables ³ (%)	65%	60%	49%	44%	41%	46%	61%	-0.7%	-2.0%	-1.1%	-0.7%	1.2%	2.9%
Industry (incl. non-energy use)	1	1	1	1	1	2	2	3.2%	5.1%	-5.0%	3.4%	2.7%	3.0%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	10.7%	8.0%	3.5%	-1.4%
Oil	0	0	1	0	0	0	0	8.1%	4.8%	-4.0%	-1.7%	-2.9%	-4.0%
Gas	0	0	0	0	1	1	1	n.s.	n.s.	-3.0%	7.9%	2.7%	-0.9%
Electricity	0	0	0	0	0	0	0	3.7%	2.4%	-7.4%	3.9%	4.4%	4.8%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	1	0.6%	-0.8%	-8.3%	2.5%	7.2%	9.4%
Buildings	2	2	2	2	2	2	3	0.0%	0.4%	1.7%	1.3%	1.3%	1.7%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	-4.0%	-0.3%	3.3%	-0.7%	-2.6%	-4.4%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	14.0%	1.8%	-3.0%
Electricity	0	0	0	0	1	1	1	4.0%	4.4%	8.6%	4.7%	4.7%	4.9%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	11.0%	7.5%	2.7%
Biomass & Other	1	1	1	1	1	1	1	0.1%	0.1%	0.1%	-0.6%	-1.0%	-0.6%
Agriculture	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Transport	0	1	1	1	1	1	2	2.1%	1.2%	3.2%	1.8%	2.3%	2.1%
Coal	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Oil	0	1	1	1	1	1	1	2.1%	1.2%	2.9%	0.6%	1.4%	1.0%
Gas	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	20.7%	6.0%	3.4%
Electricity	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	29.7%	7.8%	5.4%
Heat	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Biomass & Other	0	0	0	0	0	0	0	n.s.	n.s.	n.s.	13.8%	7.9%	7.5%
Other Energy Transformation & Losses⁴	0	0	0	0	1	2	2	n.s.	7.7%	-14.5%	40.2%	5.8%	2.4%

² does not include international aviation and maritime bunkers; includes non-energy uses

³ ratio of renewable energy over final energy demand increased by distribution losses and self consumption of electricity and steam plants

⁴ includes statistical differences

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List of abbreviations and definitions

Country and regional codes

CIS: Commonwealth of Independent States

EU28: European Union with 28 Member States as of June 2017

Mediterranean Middle-East: Israel, Jordan, Lebanon, Palestine, Syria

Other Balkans: Albania, Bosnia-Herzegovina, Kosovo, Macedonia, Montenegro, Serbia

Other CIS: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Rep., Moldova, Tajikistan, Turkmenistan, Uzbekistan

Rest Central America: Bahamas, Barbados, Belize, Bermuda, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, NL Antilles and Aruba, Panama, St Lucia, St Vincent and Grenadines, Trinidad and Tobago

Rest Gulf: Bahrain, Iraq, Kuwait, Oman, Qatar, United Arab Emirates, Yemen

Rest Pacific: Fiji Islands, Kiribati, Papua New Guinea, Samoa (Western), Solomon Islands, Tonga, Vanuatu

Rest South America: Bolivia, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela

Rest South Asia: Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka

Rest South-East Asia: Brunei, Cambodia, Hong-Kong, Lao PDR, Macau, Mongolia, Myanmar, Korea (PR), Philippines, Singapore, Taiwan

Rest Sub-Saharan Africa: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Congo DR, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Seychelles, Senegal, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe

Acronyms & Abbreviations

BGR: German Federal Institute for Geosciences and Natural Resources (Bundesanstalt für Geowissenschaften und Rohstoffe)

CCS: Carbon Capture and Sequestration

DOE: US Department Of Energy

EC: European Commission

EIA: US Energy Information Administration

GDP: Gross Domestic Product

GECO: Global Energy & Climate Outlook

GHG: Greenhouse Gases

IEA: International Energy Agency

IIASA: International Institute for Applied Statistical Analysis

IMF: International Monetary Fund

INDC: Intended Nationally Determined Contribution

JRC: Joint Research Centre of the European Commission

LULUCF: Land Use, Land Use Change and Forestry

NEA: Nuclear Energy Agency

OECD: Organisation of Economic Co-operation and Development

UN: United Nations

UNFCCC: United Nations Framework Convention on Climate Change

USGS: US Geological Survey

Units

Energy

Mtoe	million tonnes of oil equivalent	1000 000 toe
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Electricity

GW	gigawatts	1000 000 000 W
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TWh	terawatt-hours	1000 000 000 000 Wh
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Prices

\$/boe	\$ per barrel of oil equivalent
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Emissions

MtCO ₂ e	million tonnes of CO ₂ equivalent	1000 000 tCO ₂ e
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Monetary units

k\$	thousand dollars	1000 \$
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Values are given in US dollars of 2005.

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