European Commission

# Stakeholder views on the proposed EU Emission Trading System (ETS) covering buildings

*Main building stakeholder positions and trends*

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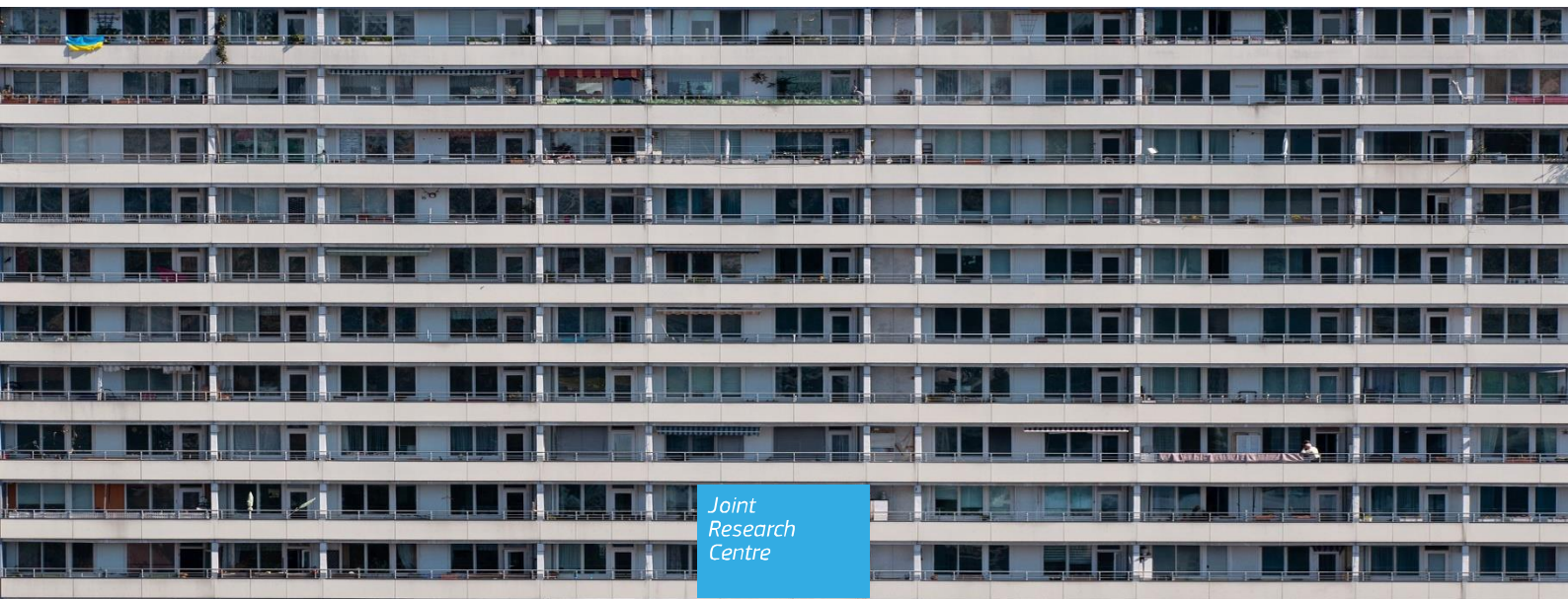

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# Content

## Abstract

The study gathers viewpoints communicated by different stakeholders related to the proposed legislation on the EU ETS covering buildings and road transport (the so-called "ETS 2"), focusing on the buildings sector. The analysis addresses four key questions: i) the role of the ETS 2 within the policy framework; ii) the relevance of covering the buildings and transport sectors under a unique ETS 2; iii) the impact of the ETS 2 in achieving a level playing field in the heating sector; and iv) suggestions to avoid adverse distributional effects and negative social impacts. It identifies stakeholders' positions, trends, and potential issues as well as possible areas of work for policymakers.

## Acknowledgements

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## List of acronyms

| | |
|---|---|
| AEA | Annual Emissions Allocation |
| CBAM | Carbon Border Adjustment Mechanism |
| CHP | Cogeneration Heat and Power |
| DH | District Heating |
| EED | Energy Efficiency Directive |
| EEOS | Energy Efficiency Obligation Scheme |
| EPBD | Energy Performance of Buildings Directive |
| ESR | Effort Sharing Regulation |
| ETD | Energy Taxation Directive |
| ETS | Emissions Trading System |
| ETS 1 | ETS covering industry, power (incl heating > 20MW) and Aviation |
| ETS 2 | Proposed new ETS covering Road Transport and Buildings – including heating < 20 MW |
| EU | European Union |
| EUA | European Union Allowance (emissions allowance) |
| IF | Innovation Fund |
| JRC | Joint Research Centre |
| LRF | Linear Reduction Factor |
| LULUCFR | Land Use Land Use Change and Forestry Regulation |
| MEPS | Minimum Energy Performance Standards |
| MS | Member States |
| MSR | Market Stability Reserve |
| MF | Modernization Fund |
| RED | Renewable Energy Directive |
| REDII | Renewable Energy Directive second revision |
| REDIII | Renewable Energy Directive third revision |
| SCF | Social Climate Fund |

## Executive Summary

Buildings are responsible for 40% of the EU's final energy consumption and 36%[1] of its energy-related greenhouse gas (GHG) emissions. Improving energy efficiency in buildings and decarbonizing their energy supply is a high EU priority, as highlighted in the EU Green Deal, NextGenerationEU and REPowerEU strategies.

In 2021, the Fit-for-55 package proposed a **new separate Emissions Trading System (ETS) for buildings** and transport for 2025, called the ETS 2. This study **gathers viewpoints of different stakeholders on the ETS 2 and identifies potential issues and areas of work for policy makers.** It focuses on **four key questions**: i) the role of the ETS 2 within the policy framework; ii) the relevance of covering the buildings and transport sectors under a unique ETS 2; iii) the impact of the ETS 2 in achieving a level playing field in the heating sector; and iv) suggestions to avoid adverse distributional effects and negative social impacts.

The results show stakeholders broadly agree there is a **lack of common level playing field between different heating solutions**, as taxes, levies and carbon prices are not coherently applied and benefit fossil-fuelled solutions. Only 30% of heating solutions are covered by the existing EU ETS, and residential taxes and levies on electricity are in general significantly higher than those on natural gas. While stakeholders agree on the latter, they hold **different views on the optimal policy path** to tackle this situation, and on the relevance of the ETS 2.

- Stakeholders supporting the ETS 2 defend that it will send the right price signal while creating a stream of revenues to finance a just energy transition. Yet, most of them highlight the need for a **coherent policy framework** to avoid double taxation and some emphasize the need to protect vulnerable consumers through energy efficiency measures before the ETS 2 comes into effect.
- Stakeholders against the ETS 2 claim it is not an appropriate instrument for the building sector, proposing alternative policies such as a deep **energy taxation** review and/or the increase of minimum energy performance **standards** in all buildings (with a focus on existing ones).

The main stakeholders' concerns include i) the **coverage of different heating solutions by two different ETS** and associated free allocations; ii) the **administrative burden, long implementation period** and the associated **opportunity cost;** and iii) the highly probable **negative social impacts,** especially on low-income consumers, affecting Member States (MS) differently. Several questions are also raised on the Social Climate Fund's scope, method and level of funding.

**The relevance of having both buildings and road transport sectors under the same ETS 2** is also contested by the majority of stakeholders having addressed the question, due to different sector-specific price elasticities and, therefore, carbon abatement costs, national taxation and challenges.

Given the numerous concerns on the appropriateness of the ETS 2 for the building sector, some stakeholders request policymakers to undertake further analysis of the current energy context and the REPowerEU objectives. A broad political agreement on the policy framework to decarbonise the building stock, including the role of ETS 2 for buildings, is of high importance. Achieving citizen acceptability of the proposed policies will be one of the biggest challenges of the upcoming years.

[1] European Commission, 2020 (link)

# 1 Introduction

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)[2] shows that limiting climate warming to around 2°C requires global greenhouse gas (GHG) emissions to peak by 2025 at the latest, and to be reduced by a quarter by 2030. Operational emissions from buildings account for 21% of global GHG emissions[3], but their share in the EU is even higher.

**Buildings across the EU are responsible for 40% of its final energy consumption and 36%[4] of its energy-related GHG emissions**. Therefore, improving energy efficiency in buildings and decarbonizing their energy supply is key to achieving the ambitious goal of carbon-neutrality by 2050, set by the European Green Deal. It is also one pillar of the REPower EU Plan, aiming at phasing out Europe's dependency on Russian energy imports.

In the **Fit-for-55 package,** the European Commission proposed to establish a **new separate Emissions Trading System (ETS) for buildings and transport** by 2025, also called ETS 2. Currently, in the heating sector, the ETS only covers larger heat supply technologies (> 20 MW) and solutions using electricity, representing around one third of the EU's heating market. The new ETS aims to create a more level playing field by covering smaller technologies such as **fossil fuel boilers** and thereby reducing differences between heating solutions across MS. However, the new ETS on buildings would risk increasing the **heating costs for consumers** and has been contested by several stakeholders.

**This study gathers opinions communicated by different stakeholders** related to the proposed legislation on the EU ETS for buildings in order to guide future policy work. In particular, it addresses four specific questions:

1) What are stakeholders' views on the role and balance of carbon pricing, standards, or other policy measures in the buildings sector?

2) Most stakeholders want the existing and new ETS to be separate. What do they think of having buildings and road transport covered by one ETS?

3) What are the stakeholders' views on the coverage of different heating technologies by two ETS? Are there concerns with respect to a level playing field, as heat from large CHP (Cogeneration Heat and Power) plants, heat pumps and electricity-based solutions are covered under the existing ETS?

4) Several stakeholders are concerned that low-income consumers may be overly impacted by the integration of the building sector into the new ETS. How can this adverse effect be avoided?

The report is structured in three sections. **Chapter 2** describes the methodology used to collect and analyse stakeholder opinions. **Chapter 3** presents the results of the analysis for each of the 4 questions, identifying stakeholders' positions and trends, as well as key findings and pending questions. Finally, **Chapter 4** provides a conclusion and recommendations for future policy work.

[2] The Intergovernmental Panel on Climate Change (link)
[3] 2019 data
[4] European Commission, 2020a (link)

# 2 Methodology

This study gathers and analyses written views expressed by different **building stakeholders** in the public space related to the legislation proposed by the Fit-for-55 Package on the creation of a new EU ETS for buildings and transport, focusing on the former. Several public consultations were organised by the Commission addressing this topic. In particular, three consultations carried out in 2020 and 2021 have been considered in the analysis:

1. Climate change – updating the EU ETS (13/11/2020 - 05/02/2021)[5]
2. National emissions reduction targets (Effort Sharing Regulation) (13/11/2020 – 05/02/2021)[6]
3. 2030 Climate Target Plan (31/03/2020 – 23/06/2020)[7]

Based on a preliminary analysis of the results of these consultations, the JRC decided to focus this study on four **questions:**

- Question 1 (Q1): What are the stakeholder views on the role and balance of carbon pricing, standards or other policy measures in the buildings sector?
- Question 2 (Q2): Most stakeholders want the old and new EU ETS to be separate (e.g., very different price elasticities). What do stakeholders think with respect to having buildings and road transport covered by one ETS?
- Question 3 (Q3): What are the stakeholder views on the coverage of different heating technologies by two emission trading systems? Are there concerns with respect to a level playing field, as heat from large CHP (Cogeneration Heat and Power) plants, heat pumps and electric heating are covered under the existing ETS?
- Question 4 (Q4): Several stakeholders are concerned that low-income consumers may be overly impacted by the integration of the building sector into the new ETS. How can this adverse effect be avoided?

Based on the results of the public consultations and desktop research, **56 position papers**, which addressed one or several of the questions above were identified. Thanks to a pre-analysis, this list was reduced to **23 representative position papers** which have been thoroughly analysed. They are listed in Table 1 below.

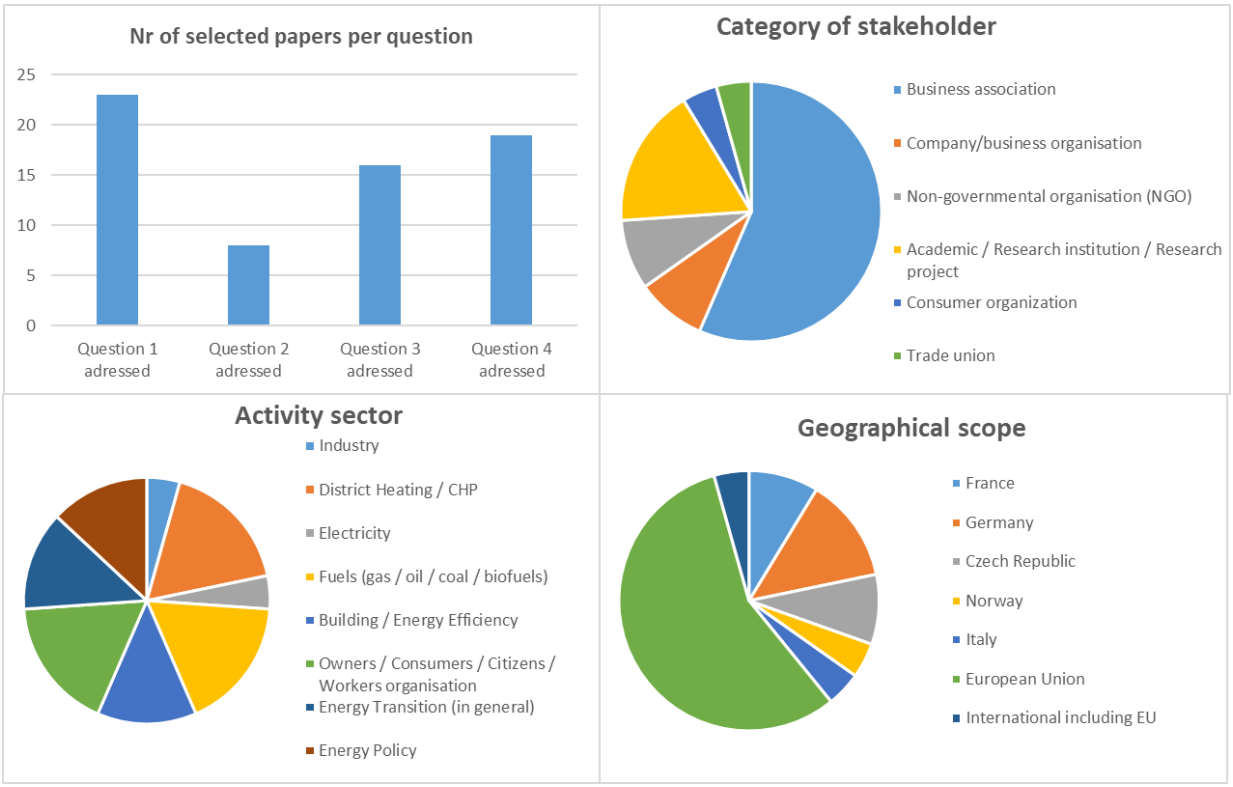
This pre-analysis was carried out based on the relevance of the study:

- A balanced and representative view on positions and arguments from stakeholders, taking into account the grid analysis;
- Different types of stakeholders as well as different activity sectors;
- A representative geographical scope of stakeholders.

As illustrated in the figures below, Question 1 is addressed by all the selected stakeholders, while Question 2 was more scarcely discussed. Regarding the type of identified stakeholders, several categories are included in the selected panel even though the business association category represents more than half of the stakeholders. While most stakeholders are active on the EU scene, the geographical scope is well distributed with stakeholders from North, Central, Southern and Western Europe. Furthermore, several different activity sectors are covered.

[5] EU Consultation, 2020a, Climate change – updating the EU emissions trading system (ETS) (europa.eu)
[6] EU Consultation, 2020b, National emissions reduction targets (Effort Sharing Regulation) – review based on 2030 climate target plan (europa.eu)
[7] EU Consultation, 2020c, 2030 Climate Target Plan (europa.eu)

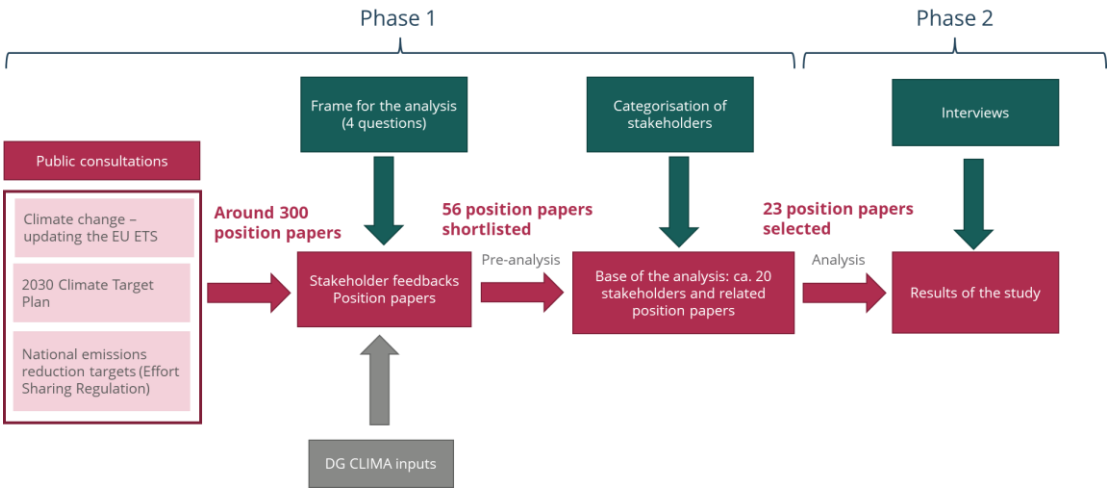
**Figure 1:** Characteristics of the selected position papers




*Source: analysis by the authors*

The **key messages and the position** of the stakeholders have been extracted from the selected papers, as well as the **main arguments** for which the robustness has been assessed. **Pending questions** have also been highlighted and **interviews** have been carried out to complete the analysis with the viewpoint of financial stakeholders (Annex 5) and to gather more opinions on Question 2 (Annex 2).

**Figure 2:** Synthesis of the methodology




*Source: outline developed by the authors*

**Table 1:** Stakeholder list for selected position papers

| Nr | Stakeholder | Category of stakeholder | Sector | Geographical scope | Date of the position paper | Questions addressed |
|---|---|---|---|---|---|---|
| 1 | **AGFW** - Energy Efficiency Association for heating, cooling and CHP | Business association | District Heating / CHP | Germany | 06/02/2021 | Q1 - Q2 - Q3 |
| 2 | **AGORA** Energie Wende - Think tank on German, European and international climate and energy policy | Academic / Research institution / Research project | Energy Policy | Germany | 07/02/2021 | Q1 - Q4 |
| 3 | **ADHCR** - Association for District Heating of the Czech Republic | Business association | District Heating / CHP | Czech Republic | 03/02/2021 | Q1 - Q2 - Q3 |
| 4 | **BDI** - Federation of German Industries (Bundesverband der Deutschen Industrie e.V.) | Business association | Industry | Germany | 08/11/2021 | All |
| 5 | **BEUC** - The European Consumer Organisation | Consumer organization | Owners / Consumers / Citizens / Workers organisation | European Union | 25/11/2020 | Q1 - Q4 |
| 6 | **CERRE** - Centre on Regulation in Europe | Academic / Research institution / Research project | Energy Policy | European Union | 01/12/2020 | All |
| 7 | **CCE** - Citizens' Climate Europe | Non-governmental organisation (NGO) | Owners / Consumers / Citizens / Workers organisation | European Union | 01/06/2020 | Q1 - Q4 |
| 8 | **COGEN** Europe - European Association for the Promotion of Cogeneration | Business association | District Heating / CHP | European Union | 05/02/2021 | Q1 - Q3 - Q4 |
| 9 | **CGA** - Czech Gas Association | Business association | Fuels (gas / oil / coal / biofuels) | Czech Republic | 20/11/2020 | All |
| 10 | **EFIEES** - European Federation of Intelligent Energy Efficiency Services | Business association | Building / Energy Efficiency | European Union | 07/02/2021 | All |
| 11 | **Energy Norway** - Norwegian electricity industry organisation | Business association | Electricity | Norway | 03/11/2021 | Q1 - Q2 - Q3 |
| 12 | **Eni** - Ente Nazionale Idrocarburi | Company/business organisation | Fuels (gas / oil / coal / biofuels) | Italia | 07/02/2021 | Q1 - Q2 |
| 13 | **ETUC** - European Trade Union Confederation | Trade union | Owners / Consumers / Citizens / Workers organisation | European Union | 09/12/2021 | Q1 - Q4 |
| 14 | **Eurima** - European Insulation Manufacturers Association | Business association | Building / Energy Efficiency | European Union | 26/11/2020 | Q1 - Q4 |
| 15 | **EuroACE** - European Alliance of Companies for Energy Efficiency in Buildings | Business association | Building / Energy Efficiency | European Union | 26/11/2020 | Q1 - Q4 |
| 16 | **Eurofuel** - European Heating Oil Association | Business association | Fuels (gas / oil / coal / biofuels) | European Union | 05/02/2021 | Q1 - Q3 - Q4 |
| 17 | **FEDENE** - French association of energy and environmental services | Business association | Energy Transition (in general) | France | 08/11/2021 | Q1 - Q3 - Q4 |
| 18 | **UIPI** - International Union of Property Owners | Business association | Owners / Consumers / Citizens / Workers organisation | European Union | 06/02/2021 | Q1 - Q3 - Q4 |
| 19 | **Klima-Allianz** Deutschland e.V. Germanwatch, WWF Deutschland, CAN-Europe | Non-governmental organisation (NGO) | Energy Transition (in general) | European Union | 01/01/2022 | Q1 - Q3 - Q4 |
| 20 | **RAP** - Regulatory Assistance Project | Academic / Research institution / Research project | Energy Policy | International including EU | 01/06/2021 | Q1 - Q3 - Q4 |
| 21 | **REWARDHeat** - Low-temperature district heating and cooling project | Academic / Research institution / Research project | District Heating / CHP | European Union | 01/10/2021 | Q1 - Q3 - Q4 |
| 22 | **UPEI** - The voice of Europe's independent fuel suppliers | Business association | Fuels (gas / oil / coal / biofuels) | European Union | 11/01/2021 | Q1 - Q3 - Q4 |
| 23 | **Veolia** | Company/business organisation | Energy Transition (in general) | France | 26/11/2020 | Q1 - Q3 - Q4 |

*Source: compilation by the authors*

# 3 Results

## 3.1 Question 1: What are stakeholders' views on the role and balance of carbon pricing, standards, or other policy measures in the building sector

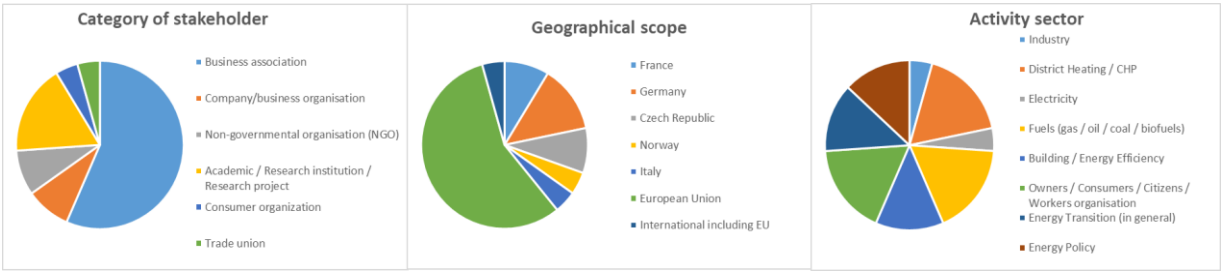
### 3.1.1 Introduction

A significant reduction of carbon emissions in the building sector is needed to achieve carbon neutrality in the EU by 2050. There are multiple EU-wide and national legislations in place impacting the reduction of energy consumption and decarbonisation of the supply. Therefore, the proposed inclusion of buildings and transport within a new ETS would need to be integrated into a complex set of existing energy policies. This puts into question the role of carbon pricing and a new ETS (ETS 2) for buildings within the overall policy framework, and the interactions with other policy measures such as energy taxation or energy efficiency standards.

The graphics and table below present the basis of the analysis.

- Number of position papers analysed addressing this question:23
- Number of interviews conducted related to this question:1

**Figure 3:** Category, geographical scope and activity sector of stakeholders that responded to Q1




*Source: analysis by the authors*

**Figure 4:** Distribution of stakeholders with respect to Category and Sector

| Category | Sector | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Industry | DH / CHP | Electricity | Fuels | Energy Efficiency | Energy Transition | Energy Policy | Owners Consumers Citizens Workers | Total |
| Business association | 1 | 3 | 1 | 3 | 3 | 1 | | 1 | **13** |
| Company/business organisation | | | | 1 | | 1 | | | **2** |
| Non-governmental organisation (NGO) | | | | | | 1 | | 1 | **2** |
| Academic / Research institution / Research project | | 1 | | | | | 3 | | **4** |
| Consumer organization | | | | | | | | 1 | **1** |
| Trade union | | | | | | | | 1 | **1** |
| Total | **1** | **4** | **1** | **4** | **3** | **3** | **3** | **4** | **23** |

*Source: analysis by the authors*

### 3.1.2 Position Analysis

**All 23 stakeholder position papers selected for this study express an opinion on the carbon pricing and policy mix**. Some are rather short in the form of statements; others are detailed with

a thorough argumentation, sometimes supported by studies. Six showcase comprehensive reviews of policy framework options to decarbonize the building sector. Annex 1 provides a summary of each stakeholder's position on the matter.

The majority of the stakeholders express the view that **carbon pricing in the building sector should be part of a coherent policy framework**. They express varying degrees of enthusiasm for the newly proposed ETS for Buildings and have been grouped for the purpose of this analysis accordingly. Several express concern with respect to ETS being the central policy instrument for the building sector and believe it should be complementary to other policy tools, while only a few favour ETS for buildings as a core policy instrument. Finally, some stakeholders **do not support ETS in the building sector**. Therefore, four main trends have been identified:

- Three stakeholders believe an **ETS for the building sector could be a central instrument** albeit it should be designed in alignment with existing or new policies within a "coherent policy mix", "coherent with all other decarbonisation policies" (the "**Yes group**"). This group includes the German Energy Efficiency Association for heating, cooling and CHP (AGFW in German), the French association of energy and environmental services (FEDENE) and Energy Norway (Norwegian industry organisation for production, distribution and trading of electricity), the latter being the only stakeholder in favour of ETS 2 as a core policy.

- A larger group of eleven stakeholders believe that an **ETS for the building sector could be part of a coherent policy framework but with conditions**. They emphasize the importance of consistency and that ETS is a complementary instrument in a framework of policies and measures, but "ETS should not be the core policy" (the "**Yes-but group"**). They tend to express concern with respect to "double counting" or "double taxation" of carbon or "market distortions". Business groups tend to be apprehensive about the impacts that the ETS 2 would have on conducting their business, whereas climate or social-oriented groups are concerned with the impact on vulnerable or low-income consumers and households. This group includes the Association for District Heating of the Czech Republic (ADHCR), the European Association for the Promotion of Cogeneration (COGEN Europe), the European Federation of Intelligent Energy Efficiency Services (EIFEES), the voice of Europe's independent fuel suppliers (UPEI), the Federation of German Industries (Bundesverband der Deutschen Industrie e.V., BDI), the French utility company Veolia, a German think tank on German, European and international climate and energy policy (AGORA), a group of four NGOs expressing a common position: Klima-Allianz, CAN-Europe, Germanwatch and WWF Deutschland (Klima-Allianz), the Centre on Regulation in Europe (CERRE), the International Union of Property Owners (UIPI) and the REWARDHeat project for Smart networks integrating renewable and waste energy sources.

- A group of six stakeholders consider that **the ETS 2 is not an appropriate instrument for the building sector,** arguing that "the extension of ETS to buildings will not support emissions reduction" (the "**No group**"). They have various suggestions for preferred alternative policies. For example, some argue that a "national solution such as energy taxation is the best policy [...] in non-ETS sectors". This group includes the European Insulation Manufacturers Association (Eurima), the European Alliance of Companies for Energy Efficiency in Buildings (EuroACE), Czech Gas Association (CGA), the European Heating Oil Association (Eurofuel), the Italian energy company Eni and the European Trade Union Confederation (ETUC). Financial stakeholders cooperating within the Energy Efficiency Financial Institutions group (EEFIG[8]) are also included in this group, according to the interview undertaken (cf. Annex 5).

- Finally, three stakeholders provided a more neutral viewpoint on the ETS 2 and alternative policies: Citizen's Climate Europe (CCE) promotes an agenda of Carbon fee and dividend,

[8] The Energy Efficiency Financial Institutions Group (EEFIG) (link)

Regulatory Assistance Project (RAP) considered five policy options (ETS with specific conditions being one), while the European Consumer organisation's (BEUC) approach is "fairness is key" and carbon pricing mechanisms (in whatever form) are evaluated through the lens of fairness, to ensure "consistency across all carbon pricing measures" for fair distribution.

### 3.1.3 Key Findings and Pending Questions

#### *3.1.3.1 The role of a separate ETS 2 for Buildings*

The table below presents the arguments for and against the implementation of ETS 2 that were identified in the position papers.

**Table 2:** Identified arguments in favour and against ETS2 covering buildings

| Arguments **in favour** of ETS 2 covering Buildings | Arguments **against** ETS 2 covering Buildings |
|---|---|
| • Core policy to deliver a carbon price signal that will drive investments for further decarbonisation<br>• Substantial contribution to the achievement of Europe's climate goals<br>• Address existing imbalances of carbon pricing between ETS an non-ETS sectors<br>• Cover all emissions from buildings<br>• ETS 2 will allow to create a level playing field between fossil and decarbonised heating solutions<br>• Create new revenue streams to finance a fair energy transition<br>• Lead to a stable, predictable, progressive carbon price (provided it is designed accordingly) | • National solution such as energy taxation for carbon pricing in non-ETS sectors instead of ETS<br>• Revision of Energy Taxation Directive instead of ETS<br>• Priority to standards (minimum energy performance for existing and new buildings)<br>• Improve / strengthen current policy framework: Effort Sharing Regulation, Energy Efficiency Directive and Energy Performance of Building Directive instead of ETS<br>• Adverse distributional effects, negative impact on energy poverty<br>• Strengthened Social Climate Fund as a stand-alone measure instead of ETS<br>• Priority on the Energy Efficiency First principle and renovation of building stock prior to or instead of ETS<br>• Will not necessarily support emissions reduction due to low price elasticity in the building sector<br>• Risk of double taxation<br>• Risk of market disruption (e.g., price volatility)<br>• Administrative burden |

#### *3.1.3.2 Interfaces with other policies*

There are numerous observations regarding the general policy framework but also on specific policy measures and tools such as energy efficiency, fossil fuels subsidies and the market stability reserve.

### *Policy framework*

All stakeholders agree that **there should be consistency and coherency across all climate and carbon pricing policies** (energy taxation, emissions trading scheme, regulations, directives and standards).

For the **stakeholders that support an ETS extension** to the building sector (both the "Yes" and "Yes-but" groups) there is an agreement that particular care must be taken to coordinate with the Effort Sharing Regulation (ESR) and/or the energy taxation directive to avoid double counting or double taxation of carbon emissions. Most of these stakeholders consider that the ETS 2 should be a complementary tool with respect to either ESR or taxation as primary tools. Several stress the importance of maintaining national targets through the ESR.

The **stakeholders that do not support an ETS extension** to buildings (the "No group") focus on alternative measures. Some focus on measures provided by the Energy Efficiency Directive and the Energy Performance of Building Directive, such as the Minimum Energy Performance Standards, as primary policies to support energy efficiency and renovation measures. Others focus on the Effort Sharing Regulation and/or the Energy Taxation Directive as primary policies. There is a general perception among these stakeholders that an extension of the ETS to buildings would lead to price volatility and/or would generate a heavy administrative burden and complexity due to the large number of affected parties. They believe that these policies would be easier to implement than ETS and would lead to a more stable and predictable carbon pricing. In addition, the energy investments specialist interviewed highlights that the carbon price needed in the buildings sector to achieve the net zero emissions by 2050 is among the highest of all the economic sectors (in the order of 250-400 EUR/t CO2eq[9]). Thus, standards are easier to implement "politically" than energy prices to develop such investments.

### *Energy Efficiency 1st (EE1st) principle and renovation of building stock*

The EE1st principle including renovation is a recurring theme, particularly for stakeholders engaged in the building and energy efficiency industry (such as REWARDHeat, COGEN Europe, EIFIEES, Eurima, EuroAce). They argue that a reduction of energy demand is an efficient way to reduce carbon emissions in the building sector. Therefore, in their view **energy efficiency measures and renovation of the building stock should be performed prior to the implementation of the ETS 2**. This would reduce the overall energy demand for heating and cooling and thus lessen the adverse effects that the ETS 2 carbon pricing would cause. They consider the inclusion of the EE1st principle as "a guiding principle that should underpin all climate and energy policies [...] and always be considered before building additional heating and cooling capacity."

Furthermore, COGEN Europe believes it is key that the EU and national legislation fully account for and reward **cogeneration** energy savings and emission cuts for both electricity and heat. They believe the policy mix should prioritize energy efficiency solutions such as high-efficiency cogeneration and district heating (DH) and should provide sufficient free allocations for efficient/low carbon generation.

### *Fossil fuel subsidies / taxes and fuel-switching*

Several stakeholders (REWARDHeat, RAP and BEUC) point out that existing **fossil fuel subsidies send the wrong message** and do not provide incentives for a technology or fuel switch. They state that fossil fuel subsidies should be removed. As an example, REWARDHeat mentions that currently electric heat pump users pay for related pollution through the existing ETS (ETS 1), but fossil fuel heaters are exempt and often benefit from lower taxation levels on fossil energy.

[9] See for example UK Carbon Budget (link)

Contrary to the above-expressed opinion, COGEN Europe and CGA believe that **fossil fuel subsidies should be maintained under certain conditions**. They consider that the current exceptions in the Modernization Fund for financing fossil fuels should not be removed as it would hinder the switch from coal to gas. Veolia argues that preferential tax treatment of small fossil fuelled heating facilities hampers the switch in technology, and that funding of coal-to-gas switch projects should be maintained temporarily in the Modernization fund.

***Market Stability Reserve (MSR)***

The Market Stability Reserve was established by the EU to reduce the surplus of emission allowances in the carbon market. It began operating in January 2019. Several stakeholders comment on the MSR and the way it should function.

On one hand, some stakeholders emphasize the importance of incentivising emissions' reduction through the **reduction of allowances** and that the MSR should enforce the **price floor as well as the price ceiling** of the ETS 2 (a so-called "price corridor" to protect consumers from price spiking). On the other hand, some stakeholders are concerned that if the CO2eq free allowances is reduced (too much), it would be detrimental to business and would overshoot the emissions reduction target. The latter suggests that the MSR should not "artificially" drive up the carbon price.

#### *3.1.3.3 Operational aspects: How to implement a new ETS for buildings?*

The stakeholders' suggestions on how to implement a new ETS for buildings mainly focus on the timeline, technical recommendations, and interaction with other policies.

***Timing***

There are two main issues highlighted with respect to the timeline. One is the duration of the process of negotiating and implementing this new policy, while the other is regarding time allowed for upfront investments in renovation and energy efficiency.

- **Timing of investment in renovation is key**. Several stakeholders highlight that carbon pricing should only be ramped up once the supporting policy framework has become fully operational and once a sufficient scale of building renovations has been reached. The latter includes a targeted strategy for renovating the worst performing homes and those with inhabitants at risk of energy poverty, to avoid negative social impacts.

- **In the European Commission proposal, funds for renovation and energy efficiency investment will be made available one year prior to ETS 2 implementation, which is a very short timeframe** for the required upfront investments. A longer timeframe should be included in the ETS extension proposal (one stakeholder requests at least three years).

- **The importance of 'getting it right'**. Some stakeholders believe that establishing a new ETS will be time consuming and complex. It could take several years to negotiate and implement on EU and Member State level. Considering this complexity, one stakeholder highlights that if the ETS 2 does not have the intended effect of decarbonising the building and transport sectors, it would be difficult to implement the required modifications or new policies within the coming decade.

***Technical recommendations***

The technical recommendations mainly focus on which measures should be the driving factor(s) and the relationship between these factors. In some cases, stakeholders' recommendations are contradictory. The recommendations cover the following main topics:

- The **linear reduction factor** (LRF) and the rate of increase;
- **Price floor:** some stakeholders suggest the introduction of a price floor to guarantee a minimum carbon price and thus effectiveness of the policy; other suggest not to introduce a price floor;
- **Price ceiling**: some stakeholders suggest the introduction of a price ceiling or cap to protect households and businesses from spiking or (very) high carbon prices; other stakeholders are against a price ceiling, as they consider that carbon prices should be able to rise freely to further incentivise decarbonisation;
- The amount of **free allocations** or allowances and how they are distributed;
- To lessen the administrative burden: implementation at the level of Distribution System Operators (DSO) or at the wholesale level;
- How the above measures should interact and how they would interact with the Market Stability Reserve.

***Interaction with other policies***

There are already several decarbonisation policies in place and under development within the EU and several stakeholders point out interactions with existing policies when implementing the EU ETS 2. They state that:

- There should be a **progressive introduction**, to ensure that it is coherent with other policies, that there are no overlaps or double pricing and to allow for a smooth adjustment for all parties subject to ETS 2;
- The explicit (ETS) and implicit carbon pricing (energy taxation) should be aligned through the revision of the **Energy Taxation Directive** (for more consistency and higher minimum energy tax rates);
- The EU **Minimum Energy Performance Standards,** which is a proposed system under the EPBD, to require the renovation of the worst performing buildings;
- Member States should not be able to lower their overall **national carbon price** levels in response to ETS 2;
- A mechanism to link **ETS 1** and ETS 2, such as a price corridor, if a merger of the two systems is planned in the future.

#### *3.1.3.4 Pending questions / issues*

The stakeholders have raised a series of questions and / or requests that are to be resolved, that can be grouped as follows:

- Lack of clarity on the global carbon pricing / climate policy framework;

- Requests for additional assessments;
- Specific requests related mainly to their type of activity or sector;
- Distribution/expenditure of carbon pricing revenue including funding mechanisms of the Modernization Fund, the Innovation Fund, and the Social Climate Fund.

***Lack of clarity with respect to other revisions within the policy framework***

Several stakeholders find that there is a lack of clarity with regards to interactions between the ETS 2 and the existing ESR, notably the split of emissions reduction between the two. Others find that it is difficult to assess the impact and relevance of the ETS 2 prior to understanding the impact of other policy revisions such as the revisions of RED, ETD, EPBD and EED.

**Additional impact assessments**

Following up on to the previous point, there are several requests for **additional impact assessments** regarding the interaction or impacts of the ETS extension and / or ETS2 on other legislation and polices: impact on existing national legislation, impact on sectoral regulation and potential adjustments, compliance of international carbon credits, risk of redundant policies, of unintended consequences and of added complexity. Indeed, there is concern regarding distortion of steering effects as some MS have introduced carbon pricing mechanisms at national level.

***Specific requests***

There are a variety of specific requests: to **ensure the just transition of the workforce** in the affected sectors; to include measures that will support and **recognize bio-products** in the decarbonisation efforts; to **apply a Life Cycle Analysis** methodology to evaluate emissions savings; to **include additional sectors** such as **small industry and non-electric railroads** that are not covered by the ETS (one stakeholder refers to the German National ETS that shows that an extension is possible) and so forth.

***Distribution of carbon pricing revenues and funds***

There are multiple considerations regarding the distribution of carbon pricing revenues, and which measures these revenues should fund. According to stakeholders, the three main recurring categories of measures to fund are:

- Supporting measures alleviating the **adverse social impacts** of carbon pricing;
- Measures **supporting investments** in energy efficiency, renovation, innovation, fuel-switching, etc.
- Support for micro- and small business.

The means include **direct investment, tax rebates, subsidies, or direct monetary compensation**. Different categories of stakeholders have differing priorities on the measures to fund, which is observed regarding the expectations and recommendations for various funds (Modernisation, Innovation and Social Climate Fund):

- Modernization Fund

  The **Modernisation Fund** (MF) is a dedicated funding programme **to support 10 lower-income EU Member States** in their transition to climate neutrality by helping to modernise their energy

systems and improve energy efficiency. The beneficiary Member States are Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. It is funded with revenues from the EU ETS.

The stakeholders are not aligned on their view of the MF. Some stakeholders believe that the MF modalities and procedures should be maintained to ensure the predictability and the stability of the investment environment. Others state that the MF should be increased or include temporary eligibility for funding to phase out coal (see section above on fossil fuels subsidies). Stakeholders suggest numerous other specific and detailed considerations regarding the MF.

- Innovation Fund

  The **Innovation Fund** (IF) contributes to greenhouse gas reduction by **funding innovative low carbon technologies** in energy intensive industry, carbon capture, utilisation and storage, innovative renewable energy generation, and energy storage. It focuses on highly innovative technologies and flagship projects with European added value. It is funded by the EU ETS.

  Stakeholders have several suggestions regarding the IF: It should **finance innovative low carbon solutions** for heating and cooling; the IF should be reinforced to support and fund required investments in Carbon Capture Utilisation and Storage, other energy storage, renewable CHP and hydrogen; or, the IF should be prioritized as the primary allocator of additional resources with a separate funding line for targeted assistance to innovative DHC projects.

- Social Climate Fund

  The Social Climate Fund (SCF) will benefit households, micro-enterprises and transport users that are vulnerable and particularly affected by the impact of the transition towards climate neutrality. The SCF will provide temporary direct income support measures (such as a reduction in energy taxes) to tackle the increase in transport and heating fuel prices. Furthermore, the SCF would cover investments in building renovation and renewable energy (transport is also covered by the fund). Measures may include fiscal incentives, vouchers, subsidies or zero-interest loans. The SCF will be financed by a dedicated share of the revenues from the new ETS (ETS 2).

  The stakeholders' views on the **Social Climate Fund** are described in Section 3.4.3 as part of Question 4, regarding adverse social effects of the ETS 2.

As the analysis and the key findings from Question 1 show, the implementation of ETS 2 in the building sector is perceived as a complex issue by the stakeholders, with some supporting ETS 2, while others do not. It has numerous implications, potentially affects other policies, raises questions about funding / revenues and so on. The scope of ETS 2, covering both building and road transport or only buildings, is the focus of the next section.

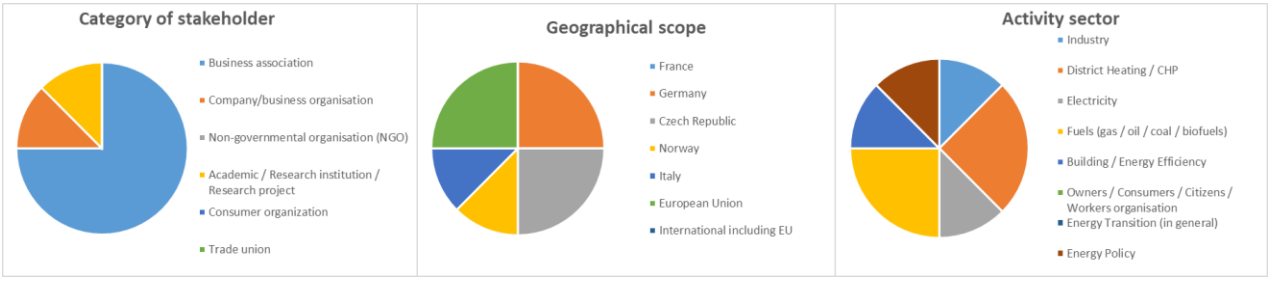
## 3.2 Question 2: Most stakeholders want the old and new EU ETS to be separate systems. What do stakeholders think of having buildings and road transport covered by one ETS?

### 3.2.1 Introduction

This question refers to stakeholders' interest in having buildings and road transport sectors covered by one single ETS (ETS 2). If buildings and transport are included in one ETS, they would be subject to identical carbon pricing mechanisms, including the LRF, and ceiling and floor prices (if applied). If they are subject to two distinct systems, price setting would be independent between the two allowing sector-specific mechanisms.

- Number of position papers addressing this question: 8
- Number of interviews related to this question: 2

**Figure 5:** Category, geographical scope and activity sector of stakeholders that responded to Q2




*Source: analysis by the authors*

### 3.2.2 Position Analysis

Eight of the 23 stakeholder position papers selected for this study discussed the question of having buildings and road transport covered by one ETS. The stakeholders consist of six business associations, one company and one research institution. A summary of the position on this question, of each stakeholder, is provided in Annex 2.

- **Five stakeholders express a preference for two separate ETS** one for the building sector and one for the road transport sector. They are all business associations (AGFW, ADHCR, EFIEES, Energy Norway and BDI). These five stakeholders, in terms of carbon policy, support an ETS 2 system for the building sector, in either the "yes" or "yes-but" groups as described in section 3.1.
- **Two stakeholders**, Eni and the Czech Gas Association, both in the "fuels" sector, **do not support ETS implementation for the building sector**, although they state that road transport could be covered by an ETS.

There are thus no opinions in the analysed position papers that support covering building and road transport sectors within one new ETS 2.

CERRE examined the question with the **base hypothesis that both building and road transport sectors would be included in the current ETS framework** and considered whether the two sectors should be introduced in the EU ETS jointly or sequentially. They concluded that several considerations support a joint inclusion in the EU ETS.

In the **complementary interviews** undertaken (cf. Annex 2 and 5), most of the stakeholders share a view against a unique ETS 2 for both buildings and transport sectors, arguing each sector has specific challenges, emission abatement costs and price elasticities and taxes. Housing Europe

indicates that in Germany having a unique CO2 price for both questions raised some issues. The RAP indicates there are some benefits related to having a broader sectoral scope in market mechanisms like the ETS, such as diversifying the risk in case such an instrument would not deliver in one of the sectors.

### 3.2.3 Key Findings and Pending Questions

**Table 2:** Identified arguments in favour and against an unique ETS 2 for Buildings and Transport sectors

| Arguments **against a unique ETS 2** for Buildings and Transport sectors | Arguments **in favour of a unique ETS 2** for Buildings and Transport sectors |
|---|---|
| • Allows setting the right price signal in each sector as price elasticities on demand vary between buildings and road transport<br>• An efficient carbon price signal would directly yield considerable steering effects within the European heating and cooling sector<br>• Carbon avoidance costs differ across building and road transport sectors<br>• Building and Transport sectors face different challenges<br>• Separate systems would allow for individualized sectoral accommodations<br>• National taxes differ in each sector | • Diversify the risk in case ETS 2 would not deliver in one of the sectors |

#### *3.2.3.1 "One system per sector" approach*

Seven stakeholders highlight the importance of **stand-alone systems** and support **distinct new ETS for building and road transport sectors**. They make statements such as "it is important to distinctly treat the transport and building sector" and "stand-alone separate upstream emission trading systems, one for buildings and one for road transport". They focus mainly on differing carbon price signals, differing carbon avoidance costs and differing challenges between the two sectors, which would have an important impact on the design of the future ETS 2. One stakeholder insists that "the existing ETS and the new stand-alone systems should stay independent and no relationship between them should be established" and furthermore that there should be no overlapping with CO2 pricing in the existing ETS.

#### *3.2.3.2 Separate ETS for the building sector – an inappropriate approach*

The two stakeholders that do not favour separate ETS for building and road transport are altogether against implementation of an ETS in the **building sector**. One states that Building and Transport should be under separate policies, is against the ETS extension especially for the building sector and believes that energy taxation is the best policy tool (refer to Section 3.1.3). The other stakeholder believes that in the short term "alternative and simpler carbon pricing tools" should be applied for the building sector. Furthermore, this stakeholder is concerned with cost transfer to millions of clients and difficulty with the compliance obligation for the energy suppliers.

Interestingly, they state that a unified EU-wide approach would be optimal for the road transport sector, which could take the form of an ETS. Eni also states that the existing ETS could be extended

to road and maritime transport but would require removal of other existing measures (i.e., Renewable Energy Directive II (RED II), Fuel Quality Directive and Energy taxation Directive).

#### *3.2.3.3 Pending questions / issues*

Three stakeholders raise the question of potential inclusion of the building sector (in ETS 2) into the existing ETS (ETS 1) at a later stage in the future, to form **one unified system and price signal** for all sectors. One stakeholder suggests that unification could not take place before 2030, another states the possibility for a "long-term" unification, the third points out a set of criteria to assess the possibility of inclusion of ETS 2 into ETS 1 at a later stage.

The analysis of both Questions 1 and 2 demonstrates that stakeholders are very much aware of potential issues that could arise from covering the building sector in a separate ETS, notably, ensuring a level playing field for heating systems that would be covered by two different ETS. The following section investigates this issue.

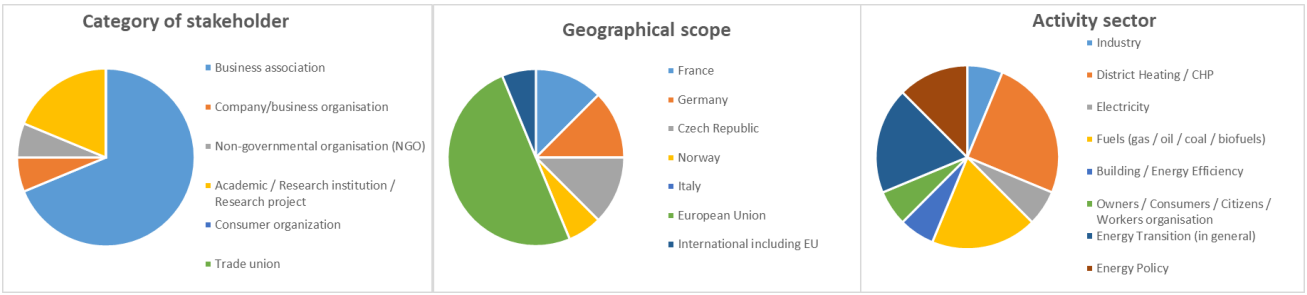
## 3.3 Question 3: What are stakeholder views on the coverage of different heating technologies by two emission trading systems? Are there concerns with respect to a level playing field (e.g., large CHP, heat pumps and electric heating are covered under the existing ETS)?

### 3.3.1 Introduction

This question refers to the concerns regarding a level playing field between heating solutions, and stakeholder views on the coverage of different heating technologies by two emissions trading systems. Currently large-scale (above 20 MW) and electrical heating solutions are covered by the existing ETS, covering 1/3 of the EU heat demand, whereas small-scale facilities (such as individual fossil fuel boilers) are not (they are covered by the ESR). Including buildings in a new ETS separate from the existing one would ensure that all heating systems are covered by the same type of mechanism and overall contribute to a level playing field by reducing the price competitiveness of fossil heating solutions, but would not imply an identical carbon pricing for all these solutions.

- Number of position papers addressing this question: 16
- Number of interviews related to this question: 1

**Figure 6:** Category, geographical scope and activity sector of stakeholders that responded to Q3




*Source: analysis by the authors*

### 3.3.2 Position Analysis

Of the selected 23 position papers, **16 express** an opinion with respect to a level playing field between different heating solutions. The majority highlight the **importance of implementing a level playing field** and avoiding market distortions. Some stakeholders address this topic in terms of **technology neutrality**.

Furthermore, the undertaken analysis shows that some stakeholders consider that **all heating technologies should be covered by the same ETS**. They state that district heating systems supplying heat to buildings should be part of the new ETS and excluded from the existing one. This would ensure the same cost of carbon in the heating market and is deemed a viable option to establish a level playing field in the heating market.

A summary of the position of each stakeholder is provided in Annex 3.

| Widespread agreement on the need for a **level playing field** |
|---|
| • To avoid market distortions<br>• To ensure a fair contribution of all sectors<br>• To cover all heating and cooling technologies and fuels<br>• To ensure economic competitiveness of technologies using renewable and waste energy sources |

### 3.3.3 Key Findings and Pending Questions

#### *3.3.3.1 Level playing field*

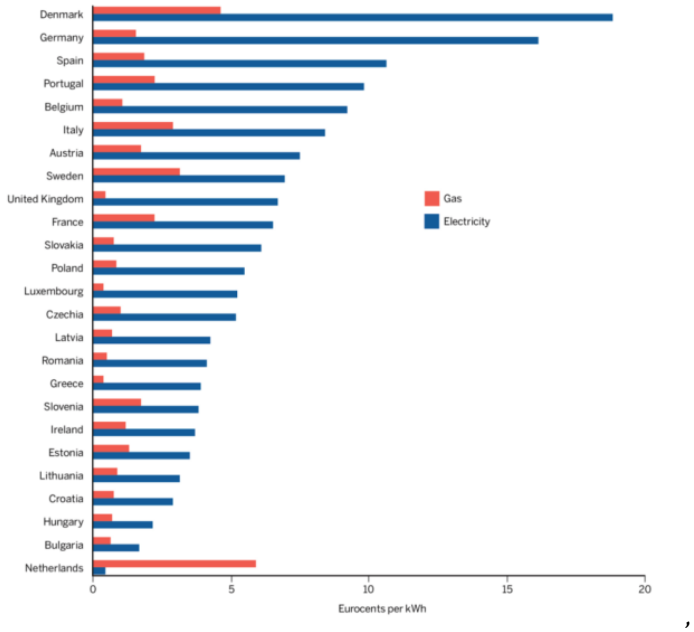
Several stakeholders point out the fact that **currently there is not a level playing field** in the heating sector, as large heating systems are covered by the existing ETS, while small and individual heating systems are not. They note that the **EU ETS covers around 30% of building emissions from heating** at present due to the coverage of district heating as well as electric heating, and that Member States have the responsibility for other building emissions through their ESR targets. But as one stakeholder states, carbon pricing of fossil fuels for heating at the national level is 'often absent or limited'.

Many stakeholders highlight the **market distortions that this situation currently generates**. There is **full agreement** on the importance of ensuring a level playing field in the future, and that care must be taken when implementing the ETS 2 to establish a level playing field across the entire heat market in the building sector, covering both heating and cooling systems.

Figure 7 illustrates the **current imbalance in terms of taxes and levies on residential gas and electricity prices**. Gas benefits from lower taxes and levies in all countries except for the Netherlands, which places lower tax and levy burden on electricity than on fossil gas.

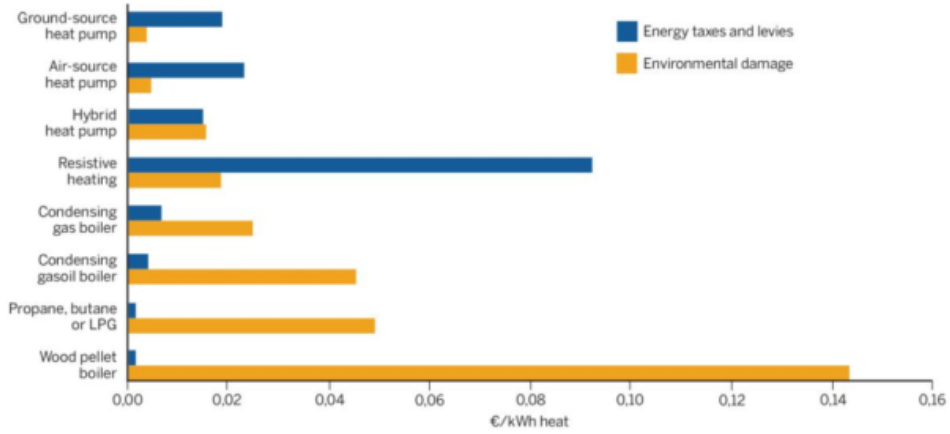
The Regulatory Assistance Project, in their position paper, illustrates the existing **lack of coherence and level playing field in carbon pricing through the example of Belgium**. Figure 8 compares the levies and taxes in Belgium with estimates of the environmental damage costs for each unit of heat consumed under different space heating technologies, demonstrating the counterproductive household energy taxes.

**Figure 7:** Levies and taxes (including VAT) on residential and electricity prices (euro cents per kWh, 2020 average)




*Source: Regulatory Assistance Project's position paper*[10]

**Figure 8:** Comparison of energy taxes and levies and environmental damage per unit of heat for Belgium




*Source: Regulatory Assistance Project's position paper*[11]

The energy investments expert interviewed argues that **the introduction of a carbon price can only be effective in the context of tax review to the different energy sources and consumers.** In this context, the resulting final price for consumers should reflect the CO2 emissions of each energy source, whilst avoiding the volatility expected from the introduction of a carbon price by an ETS.

[10] Regulatory Assistance Project position paper (link), based their analysis on data from the EU Commission *Energy prices and costs in Europe*, Energy prices and costs in Europe (europa.eu)

[11] Regulatory Assistance Project position paper (link), who refers to Baetens, R. (2020). Carbon Taxes: The curious case of Belgium's counterproductive household energy taxes. CE Delft. (2019), and Milieuschadekosten van verschillende technologieën voor woningverwarming (Environmental damage costs of different home heating technologies)

#### *3.3.3.2 Specific points with respect to a level playing field*

Some stakeholders mention specific points. One states that there should be a level playing field between **cogeneration** and less efficient heating solutions. Another, that all heating **fuels** should be covered. Others point out that, currently, fossil fuels in individual heating systems have additional advantages through tax measures or subsidies in some cases, in addition to not being covered by the ETS. Moreover, one stakeholder refers to the need for an instrument that would assess **discrepancies in carbon pricing between the ETS 1 and ETS 2** (they are likely to feature different carbon prices) and potentially provide a correction mechanism if the price discrepancy becomes substantial.

#### *3.3.3.3 Market Distortion*

Market distortion is a concern for most stakeholders. They are concerned with the distortion of competition created by the lack of a level playing field. They point out the distortion of competition that is currently present in the **DH sector**, because heating installations of less than 20 MW are excluded. They state that covering all heating fuels in an EU ETS would level the playing field across sectors and energy vectors. Another example is provided: electric **heat pump** users pay for related pollution through ETS 1, whereas **fossil boilers** are exempt and often "benefit from lower taxation levels on fossil energy".

#### *3.3.3.4 Fair contribution*

Some stakeholders highlight the importance of a fair contribution of all sectors and a fair balance on bearing the costs. They state that a **coherent carbon price across different sectors** with fair burden sharing would ensure a real level playing field. According to these stakeholders there is currently an imbalance, as in the EU ETS 2, all allowances are to be auctioned and thus actually paid for (mainly by households), whereas in the EU ETS 1, there are still **freely allocated quotas** to the energy-intensive industry, which undermines the polluter-pays principle.

#### *3.3.3.5 Interaction with other policies*

Some stakeholders do not support ETS for buildings as they believe it is not the right policy tool (refer to Section 3.1.2). However, they agree that if a new ETS is implemented in the building sector, it should cover all energies and fuels used for heating and cooling and thus integrate technologies currently in the scope of ETS 1.

If the EU ETS is widened to buildings, stakeholders that represent building owners and gas distribution (i.e., UIPI and CGA) point to the risk of an average cost increase on heating of 30% on gas-fuelled households[12].

#### *3.3.3.6 Pending questions / issues*

Some pending questions and issues remain, namely regarding clarifications on the scope of the ETS 2 and technical requests.

### *Clarifications on the scope of ETS 2*

Some stakeholders request clarifications of the scope of ETS 2 with relation to ensuring a level playing field:

[12] Cambridge Econometrics, 2020, Decarbonising European transport and heating fuels - Is the EU ETS the right tool? (europeanclimate.org)

- Clarification of the **definition of "electricity generator**", given the current definition is viewed as detrimental to CHP and as favouring carbon-leakage by one stakeholder (COGEN);

- Clarification regarding the **coverage of industrial CHP installations below the 20 MW threshold**. One stakeholder (Veolia) claims they will be excluded from both EU ETS 1 and EU ETS 2, creating an uneven playing field for installations of different sizes in this sector;

- Clarification on the status of implementation of **Carbon Border Adjustment Mechanism** and reduction of **free allocations**. One stakeholder (Klima-Allianz) considers both measures would help reduce the imbalance between the two ETS ("the goal should be to switch from free allocations to auctioning as swiftly as possible").

**Technical requests**

Some stakeholders have specific technical requests or recommendations related to the level playing field:

- Decouple the update of benchmarks values for refineries and for hydrogen (to reflect the increasing importance of H2 production outside of the refinery sector);

- Count renewable and carbon neutral energy with an emission factor of zero;

- The responsibility to buy emission allowances should be on the energy distributors that would pass on to final energy consumers.

The analysis has so far focused on stakeholder opinions with respect to policy aspects of ETS 2 implementation and on the sectors and technologies within the scope of this new ETS. In addition, many stakeholders are mindful of the social adverse impacts that such new carbon pricing would bring about, especially on vulnerable and low-income consumers. They propose various means to alleviate these harmful impacts. The following section examines stakeholders' opinions on this matter.

## 3.4 Question 4: Several stakeholders are concerned that low-income consumers may be overly impacted by the integration of the building sector into the new ETS. How can this adverse effect be avoided?

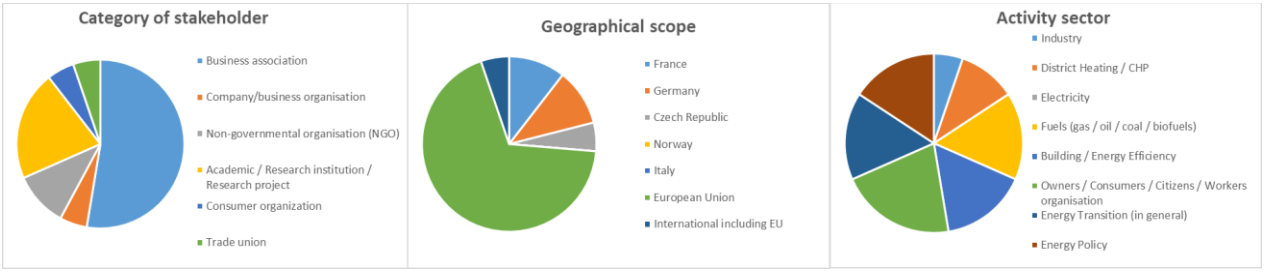
### 3.4.1 Introduction

Energy poverty is defined as the lack of access to adequate, affordable, reliable, and environmentally sound energy services. Applying carbon pricing tools to the heating sector will likely cause rising energy prices for all consumers. Vulnerable or poor households would be disproportionately affected[13] by carbon pricing and are at risk of falling into energy poverty if such policies are applied. This group is the least able to afford the extra energy costs and often unable to invest in energy efficiency and heating improvements.

This question refers to stakeholders' concerns that low-income and vulnerable consumers and households could be negatively affected by the introduction of an ETS 2 and addresses the stakeholders' suggestions to avoid these adverse effects.

- Number of position papers addressing this question: 19
- Number of interviews related to this question: 1

**Figure 9:** Category, geographical scope and activity sector of stakeholders that responded to Q4




*Source: analysis by the authors*

### 3.4.2 Position Analysis

From the selected 23 position papers, 19 express an opinion regarding the risk that low-income consumers will be **impacted and the suggestions to avoid this adverse effect. All show concern with potential adverse distributional effects** from the introduction of EU ETS 2. A summary of the position of each stakeholder is provided in Annex 4.

Broadly viewed, the stakeholders in the categories academic, NGO, Trade union and Consumer, and active in the sectors of energy policy, energy transition, and consumer / owner / workers organisation are focused on the **adverse distributional effects on low-income or poorer households, the impacts on energy poverty, and other negative social impacts**. They all express opinions on how revenues from carbon pricing might be used to alleviate these negative social impacts, including both incentive measures and direct payments.

The other major group of stakeholders, business associations and companies, also express concerns on the adverse distributional effects on poorer and low-income households but are **equally concerned with impacts on small business**. In their opinions on how to alleviate the negative impacts they tend to focus more on funding of energy efficiency and renovation, rather than direct support to households.

[13] Berry, A., (2019) The distributional effects of a carbon tax and its impact on fuel poverty: A microsimulation study in the French context, *Energy Policy*

Measures to assist small businesses are supported by stakeholders from both groups.

### 3.4.3 Key Findings and Pending Questions

#### *3.4.3.1 Adverse social effects*

Our analysis reveals that all stakeholders expressing an opinion agree on the fact that the implementation of ETS 2 on buildings is **highly likely to cause severe negative social impacts**. These would affect **low-income and poorer households disproportionately**, though other social groups would also be impacted, such as middle-income households. Some also note that there is a risk of **geographical disparity**, with poorer Member States being hit harder.

Several stakeholders also point to the risk of increasing the issues of **energy poverty** due to higher energy costs resulting from ETS 2 implementation, particularly for poorer households, in rural areas and in inefficient buildings. One stakeholder emphasises that energy poverty is already a widespread problem within the EU with more than 50 million households affected.

Several stakeholders are concerned that **micro-businesses and small to mid-size companies** might be severely impacted as well.

There is a broad agreement among stakeholders that the impacted households should be protected from the negative effects, and in several stakeholders' views small businesses should be protected as well.

#### *3.4.3.2 Measures to alleviate the adverse social effects*

The measures suggested by stakeholders to alleviate the negative social impacts fall into **two categories**, either direct payments to households or support for investments in energy efficiency, clean technology and building renovation.

- A few stakeholders suggest **direct monetary support to citizens / households**: as a lump-sum rebate, through direct subsidies or in the form of a monthly dividend. One stakeholder cites the enactment of a similar policy in Canada, where the regular receipt of carbon dividends preserves consumers' purchasing power and raises voters' interest in preserving the policy. The interviewed energy investment expert also mentions that it is economically preferable to use carbon revenues to compensate low income consumers than to give this money to low-income households for the energy renovation of their buildings[14].

- A majority of stakeholders, however, suggest that the focus should be on **energy efficiency, clean energy technologies and renovation of the building stock**. They deem these measures should be supported by incentives either through subsides or tax measures. Moreover, a few stakeholders indicate a need for technical assistance and capacity building.

Stakeholders overall agree that **priority should be on energy-poor, vulnerable, and low-income households**, as well as households in the **worst performing buildings**. However, support should not be limited to the poorest households, but should also benefit other affected households and small businesses.

[14] Martin Sandbu (2020) *Economics of belonging*

Most stakeholders want to see 100% **carbon pricing revenue** recycled back to consumers and to decarbonisation efforts through the above-mentioned measures. Several stakeholders believe all the funds should go to renovation and clean energy, while a few defend that all carbon revenue should be paid back directly to citizens, and some support sharing between the two.

A few stakeholders also mention that **non-financial barriers** play a role in hampering decarbonisation efforts and should be addressed. These barriers are typically lack of knowledge about supporting measures, "hassle" factors, lack of skilled workers to perform renovation, building ownership and so on.

#### *3.4.3.3 Wider benefits*

In some stakeholders' views, wider benefits might be expected from renovation efforts and reduced energy consumption. They state that the households suffering from energy poverty are often those who live in the worst performing segment of the building stock. Boosting the energy performance of those buildings would improve **health and comfort** of the occupants. Besides GHG emissions reduction, the wider benefits would be **lower energy bills**, reduced healthcare system costs, **lower fossil fuel imports**, and the number of **jobs** created.

#### *3.4.3.4 Solidarity*

Some stakeholders also mention solidarity as an important factor, stating that solidarity will be required for a fair burden sharing and a just transition and that carbon revenue allocation should include '**solidarity' criteria for distribution between and within Member States** to ensure energy affordability for the most vulnerable households.

#### *3.4.3.5 Political acceptability*

Some stakeholders highlight the issue of political and citizen acceptability of ETS 2. There are risks related to the lack of acceptance and backlash if the social adverse effects are not dealt with in time and efficiently, or if funds from carbon pricing are spent in other areas, not related to climate policy. Some refer to the Yellow vests movement in France as an example of such backlash. One stakeholder highlights that **explicitly linking the carbon price to compensation measures could increase public support for carbon pricing**. Another stakeholder believes that an explicit price ceiling in the ETS 2 would help ensuring social acceptability.

#### *3.4.3.6 Pending questions / issues*

The stakeholders have raised some questions and / or requests that are to be resolved.

Some stakeholders requests **additional assessments** of distributional impacts, of social impacts, of prices, and of the wider benefits of recycling carbon revenue in energy renovation of the building stock.

However, most of the pending questions and issues relate to the new **Social Climate Fund**.

- One stakeholder suggests a reinforced Social Climate Fund as stand-alone policy instead of ETS 2 financed with more "progressive" sources of revenue (they suggest several types of taxes);

- One stakeholder requests detailed investigation of the design and the effectiveness of the Social Climate Fund and specification of the redistribution mechanisms both with respect to

"just distribution between Member States " and with respect to "social acceptability" and low-income households;

- A few stakeholders suggest the creation of other funds such as 'Energy Solidarity Fund' (a suggestion from Poland dedicated to the reduction of energy expenses of low-income households), 'Renovation Fund' (dedicated to renovation of the building stock) or other 'new mechanisms' for ETS revenues to support poor households;

- Finally, there are suggestions and questions on the **scope, method and level of funding**, and on the distribution of revenue of the Social Climate Fund.
    - The scope of the fund should be "better" specified to make sure that efficient district heating and high efficiency cogeneration are explicitly mentioned. The SCF should be structured to facilitate energy efficiency improvements of buildings and switch to renewable heating solutions;

    - Some state that the SCF should target both consumers and micro companies as beneficiaries, but also support **SMEs**. It should represent a good balance between direct income support and investments. It should shield vulnerable households and finance a switch to efficient low-carbon heating and cooling solutions, including DHC and energy performance;

    - Several stakeholders believe the mechanisms of the SCF are insufficient to mitigate the adverse impacts of ETS 2 and address all the concerns. One stakeholder (Veolia) points out that **the planned amount of €144.4 billion for the Fund might not be sufficient** and greater share of revenues generated by the new system should be channelled to it. Another believes that the funds are insufficient to eradicate already existing energy poverty and to compensate the adverse effects of ETS 2.

# 4 Conclusion

The study provides an **overview of building stakeholders' positions** on the EU ETS for buildings and road transport (ETS 2) proposed by the European Commission as part of its Fit-for-55 package. It focuses on the building sector and is mainly based on the analysis of 23 **position papers**, published between June 2020 and January 2022, complemented with 2 interviews, covering a **wide range of stakeholders** (i.e., business associations, energy companies, NGOs, academia, consumer organizations, trade unions, financial actors) and sectors of activity.

It focuses on four key questions addressing: i) the role of the ETS 2 within the policy framework (Q1); ii) the relevance of covering the buildings and transport sectors under a unique ETS 2 (Q2); iii) the impact of the ETS 2 in achieving a level playing field in the heating sector (Q3); and iv) suggestions to avoid adverse distributional effects and negative social impacts (Q4). By doing so, **it contributes to the ongoing debate on this policy and identifies potential issues and areas of work for policymakers.**

The stakeholders perceive that there is currently a **lack of level playing field in the EU heating sector**, **benefiting smaller as well as fossil-fuelled solutions**. The current EU ETS (ETS 1) covers around 30% of building emissions (i.e., boilers and CHP units larger than 20 MW, as well as electric generation) while smaller fossil heat boilers are not. On top of this, the current imbalance in terms of taxes and levies between residential gas and electricity taxes at the EU level, with some exceptions, and remaining subsidies to fossil fuels hamper the price competitiveness of low-carbon heating solutions.

While there is broad agreement on the importance of ensuring a level playing field in the near future, stakeholders' vision on the best policies to achieve it and their **position** with respect to the ETS 2 differ.

- A minority of stakeholders consider the proposed **ETS 2 as a core policy** to reach EU climate and energy targets (the "Yes group"), arguing it will deliver a carbon price signal driving investments towards decarbonisation while creating a stream of revenues to finance the energy transition and address adverse social effects.
- A larger group supports the introduction of the **ETS 2 as part of a larger coherent policy package, but do not consider it a core policy** (the "Yes-but group"). They raise concerns about several issues detailed below.
- A group of stakeholders considers the **ETS 2 is not an appropriate instrument for the building sector** (the "No group"), proposing alternative preferable policies.
- Finally, three of the analysed position papers provided a more neutral viewpoint on the ETS 2 and alternative policies.

All stakeholders highlight the need for a **coherent policy framework.** The ETS 2 presents strong interfaces with the ETS 1, the Effort Sharing Mechanism, the Energy Taxation Directive and national taxation systems, the EED and EPBD, and the proposed Carbon Border Adjustment Mechanism (amongst others) that need to be adequately addressed to accelerate decarbonisation while avoiding double taxation. This includes a coherent and optimal **implementation calendar**, allowing for instance to protect low-income consumers from the potential adverse effect of the ETS 2 before it comes into effect.

On top of the interfaces mentioned above, the implementation of the ETS 2 raises a number of additional **issues and concerns**.

- The **coverage of different heating solutions by two different ETS** may lead to market distortion, as CO2 prices and free allocations will be set independently. To address this, some stakeholders consider all heating solutions should be covered by the ETS 2, while others ask for a

fair treatment regarding free-quota allocations or even a price corridor between both ETS leading to a unique system in the future.

- **The relevance of having both buildings and road transport sectors under the same ETS 2** has been contested by the majority of stakeholders that addressed this question. Their arguments are mainly based on the different sector-specific price elasticities and therefore carbon abatement costs, national taxation, and challenges. An academic stakeholder indicates that the main benefit of having a broader sectoral scope is to diversify the risk in case the ETS 2 does not deliver in one of the sectors.
- **The administrative burden and long implementation period, and the associated opportunity cost**. Some stakeholders deem the establishment of an ETS 2 as time consuming and complex, highlighting the risk of 'not getting it right' and therefore missing the opportunity of properly addressing the decarbonisation of buildings within this decade. Besides, the current energy context has put a higher short-term priority in EU's fossil-fuel independence. Therefore, some alternative policies based on taxation or standards are considered easier to implement in the short term.
- Finally, all stakeholders expressing an opinion on the subject consider **the ETS 2 is highly likely to have a negative social impact**, especially on low-income consumers (both households and SMEs), affecting MS differently. The main EU policy measure aiming at limiting this risk, the Social Climate Fund, raises numerous questions in terms of scope, method and level of funding. Moreover, the **distribution of ETS 2 revenues** finds two main trends, namely the use for energy renovation and supply decarbonisation and the direct monetary support to citizens in form of a "climate dividend".

Based on the above, some of the stakeholders propose **alternative carbon pricing paths**, such as a complete **review of energy taxes, subsidies, and levies** to ensure a level playing field taking into account environmental and social externalities, as well as an increase of minimum energy performance **standards** in all buildings complemented with financial support to reach those standards. They consider these options will be faster and politically easier to implement, while providing a long-term view on $CO_2$ prices and reducing their volatility.

In conclusion, there is a general consensus amongst stakeholders on the need to decarbonize the building sector while creating a common level field between different heating solutions, but not on the optimal policy path to reach those targets. Given the numerous concerns on the appropriateness of the ETS 2 in the building sector, some stakeholders request policy makers to undertake additional impact assessments, which appears all the more relevant considering the current energy context and REPowerEU objectives.

A broad political agreement on the policy framework to decarbonise the building stock, including the role of ETS 2 for buildings, is of high importance. It is clear that achieving public acceptability of the proposed policies will be one of the biggest challenges of the upcoming years.

## References


- Artelys, *Towards an efficient, integrated and cost-effective net-zero energy system in 2050 - The role of cogeneration*, 2020, Presentation of Key findings, Study commissioned by COGEN Europe, PowerPoint Presentation (artelys.com)
- Berry, A., *The distributional effects of a carbon tax and its impact on fuel poverty: A microsimulation study in the French context*, Energy Policy, Volume 124, 2019, p.81-94
- Cambridge Econometrics, *Decarbonising European transport and heating fuels – Is the ET ETS the right tool?*, Cambridge UK, 2020, Decarbonising European transport and heating fuels - Is the EU ETS the right tool? (europeanclimate.org)
- DNV GL, *A pathway to a Carbon Neutral 2050: The role of gas*, 2020, commissioned by eurogas, Eurogas-Slide-Deck-Key-Findings-in-a-Pathway-to-European-Carbon-Neutrality-The-Role-of-Gas-1.pdf
- EU Commission, *Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU*, Final report, prepared by Ipsos Belgium and Navigant, 2019, 1.final_report.pdf (europa.eu)
- EU Commission, *Renovation Wave for Europe*, 2020, Renovation Wave Communication (europa.eu)
- EU Commission, *COMMISSION STAFF WORKING DOCUMENT, IMPACT ASSESSMENT REPORT*, Accompanying the document: REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, SWD(2021) 611 final, Brussels, 2021, EUR-Lex - 52021SC0611 - EN - EUR-Lex (europa.eu)
- EU Consultation on climate action, *Updating the EU emissions trading system (ETS)*, 2020a, Climate change – updating the EU emissions trading system (ETS) (europa.eu)
- EU Consultation on climate action, *National emissions reduction target (Effort Sharing Regulation) – review based on 2030 climate target plan*, 2020b, National emissions reduction targets (Effort Sharing Regulation) – review based on 2030 climate target plan (europa.eu)
- EU Consultation on climate action, *2030 Climate Target Plan*, 2020c, 2030 Climate Target Plan (europa.eu)
- Sandbu, Martin, 2020, *The Economics of Belonging: A radical Plan to Win Back the Left Behind and Achieve Prosperity for All*, Economics and Finance, Princeton University Press
- UPEI Position paper, *Avoiding regulatory inconsistencies in future Policy frameworks*, 2020, Publications - UPEI Position Paper - Avoiding regulatory inconsistencies in future policy frameworks - UPEI - The voice of Europe's independent fuel suppliers

# Annexes

### Annex 1. Summary of stakeholder positions regarding Question 1

*Stakeholder considerations from the "Yes" group*

**AGFW** (German business association for district heating and CHP), believes that the extension of the European ETS is a unique opportunity to develop a working carbon price. It should **consider carbon taxation and the relationship with the Effort Sharing Regulation** ("the future trading system must be aligned with the European energy taxation regime to prevent competitive distortions, especially to the detriment of small CHP plants"). They believe that it should also address the current **imbalance of carbon pricing between the current ETS and non-ETS sectors** and highlight the importance of maintaining cost efficiency in the current ETS framework. To ensure **market stability** they suggest an increase of the linear reduction factor in conjunction with an early application of the strengthened cap rather than reductions or additional changes to the MSR mechanism. They favour Option 1 put forward in the published Inception Impact Assessment for Regulation 2018/842 on the Effort Sharing Regulation[15] (*Option 1: Keep current ESR sectoral scope in parallel to extending emissions trading).*

**FEDENE** (French business association for energy and environmental services) "welcomes the initiative to revise the EU-ETS" and states that a carbon pricing mechanism in the heating and cooling sector should be "properly implemented". It is fundamental to them that that the new ETS is a separate mechanism from the existing ETS "*and follows upstream approach*". It should be **introduced progressively** to understand the "particularities" of the heating and cooling sector and designed coherently with all other decarbonation policies **to minimize the administrative burden** and in a way to **avoid price fluctuations**.

**Energy Norway** (business association for the electric industry) states that the ETS is a core policy instrument, expanding it is crucial for further decarbonization. The initiatives in the fit-for-55 package are interlinked, each one depends on the design of the others. **Fairness and solidarity** are fundamental, the burden should be divided fairly and cost effectively. The Linear Reduction Factor (LRF) and the Market Stability Reserve (MSR) are two main policy tools to deliver a robust ETS system. Careful introduction of changes to ensure a **predictable price trajectory**. They also indicate a method to determine benchmark values and conditions for free allocations and claim **auction revenues** should go the funding the Modernisation Fund, the Innovation Fund and a "solidarity pool". For sectors where a Carbon Border Adjustment mechanism (**CBAM**) is planned in the future, free allocations would no longer be necessary and should be removed.

*Stakeholder considerations from the "Yes-but" group*

**Association for District Heating of the Czech Republic** (ADHCR) states that for ETS to remain a relevant tool for decarbonisation it should be expanded to cover "at least the emissions from buildings (all stationary combustion installations) including those which are now outside the scope of the EU ETS". Clarity on the balance with ESR is required and if any additional policies are needed, they should be sector specific. They believe the Linear Reduction Factor should be the main driver in the new ETS. ADHCR also has specific observations on the Market Stability Reserve.

**CERRE** (Centre on Regulation in Europe) considers that "extending the EU ETS to buildings and transport, if done in a way that does not undermine existing standards, adequately mitigates potentially severe distributional effects and is consistent with the 2050 net zero target, would be a substantial contribution to the achievement of Europe's climate goals". "An extension which does not take due account of each of these elements will fail, either to be implemented in the first place, or at some point along the way to 2050." They reviewed various issues and deemed that introduction of

[15] EU Commission, 2021, EUR-Lex - 52021SC0611 - EN - EUR-Lex (europa.eu)

Buildings and Road Transport in the current ETS should be joint, not sequential. They believe it could be a powerful incentive to efficient emissions reduction, would improve the **cost efficiency** of the system and reduce the cost of achieving a given emissions reduction target. Note that CERRE examined the case of an extension of current EU ETS to both Building and Road Transport sectors (not a separate ETS for each sector).

**COGEN Europe** highlights the importance of consistency between the revisions of the EU ETS, Effort Sharing, Energy Efficiency Directive and Energy Taxation Directive (to obtain a level playing field, as detailed under Question 3 analysis). They focus on EE1st and refer to a study they commissioned to Artelys[16] on the role of CHP in reaching carbon neutrality by 2050. There are several technical considerations, namely regarding the heat benchmark applicable to CHP heat, and how its reduction is detrimental to CHP.

**European Federation of Intelligent Energy Efficiency Services** (EFIEES) supports the introduction of carbon pricing in sectors that are not covered by the EU ETS, to achieve a stable, predictable and progressive carbon price. They state that coherence and synergies between the various policy instruments must be ensured: Emissions Trading System, Effort Sharing Regulation, Energy Taxation Directive and the Carbon Border Adjustment Mechanism. In particular, the revision of ETS and ESR must be coordinated and coherent because the ESR in their opinion is key to ensure that Member States continue to pursue national climate policies. They highlight the importance of **reliable monitoring rules**, and that double counting and administrative burden must be avoided.

The **voice of Europe's independent fuel suppliers** (UPEI) insists on the need for a coherent policy framework. They consider that the current ETS cannot be fully implemented in the Road and Building sectors due to the very high number of emitters. They currently face a 'patchwork situation' with demonstrated inconsistencies (UPEI refers to their paper on Regulatory Inconsistencies[17], which includes suggestions to remedy the inconsistencies). They thus suggest the implementation of either ETS or ESR to avoid parallel systems, regulatory inconsistencies, and administrative burden. They require regulatory predictability and consumer demand as a guarantee for investments in renewable and low carbon fuels.

The **Federation of German Industries** (BDI) frames the question as "Fit-for-55: Fit for Industry?". They believe that an overarching fit-for-55 governance mechanism should be established to ensure a consistent implementation of EU climate goals across all relevant EU policies and instruments. They have conducted a detailed review of issues and provide feed-back on their view with respect to the positive elements of the legislative package and to the issues remaining to be solved or missing regarding the main policies including (but not limited to) EU-ETS, RED III, EED, ETD.

**Veolia** states that the EU ETS 2 should be designed "in strict coherence" with policies of the fit-for-55 package (EED, REDIII, EPBD) and other regulatory measures (standards for example) and to avoid market distortions stemming from "dramatically different" carbon price levels between the two EU ETS. They highlight that it is "crucial" that EU ETS 2 does not replace Member States obligation to provide and design active policies in the building sector. Furthermore, they see it as positive that the building sector remains under the ESR scope. Finally, they state that EU ETS 2 should be introduced progressively to allow smooth adjustment for all parties involved in its functioning. They favour an allocation of carbon pricing resources that would channel revenues towards the most urgent and relevant decarbonisation initiatives with detailed considerations regarding the Modernisation fund and the Innovation fund.

**AGORA** focuses on the global 'Fit-for-55' policy. They state that it must "guarantee achieving environmental integrity and address solidarity" and they highlight the importance of a "on one hand robust compliance mechanism, each ton of CO2 emitted must be either ruled by ETS or ESR and on the other hand support for lower-income MS and poorer house-holds". They also consider that

[16] Artelys, 2020, PowerPoint Presentation (artelys.com)
[17] UPEI, 2020, Publications - UPEI Position Paper - Avoiding regulatory inconsistencies in future policy frameworks - UPEI - The voice of Europe's independent fuel suppliers

"companion policies" (CO2 standards for vehicles, tightened building codes…) are necessary for the carbon pricing to function and achieve targets. They present four governance options (based on ETS and/or ESR, MS "opt-in" and "national minimum targets. Specifically, regarding ETS, they insist on the necessity of **no price cap**, prices must be allowed to rise as high as necessary to reach the emission reduction target. Furthermore, they focus on the timeline of implementation, they expect it will be challenging to achieve within the given timeframe for fit-for-55 emissions reduction "it is difficult to imagine a fully functional separate ETS or expanded EU ETS before 2025".

**Klima-Allianz** focuses on a "holistic policy mix". They set out 6 criteria that should be applied to obtain an effective and socially just carbon pricing. They state that EU ETS 2 is a useful "complementary instrument" but must not replace ESR as the core compliance instrument. To guarantee effectiveness they propose introduction of a steadily increasing price floor but also an explicit price ceiling (to avoid harm to particularly affected households). Furthermore, Member States should not be able to lower overall carbon price levels in response to ETS 2. They consider that carbon pricing indeed introduces the "polluter pays principle" and that it could help channel investments to low-carbon alternatives.

In **International Union of Property Owners** (IUPI) view, extension of ETS to the building sector could present benefits, but it is not guaranteed. The risks of regulatory redundancy and of overburdening the citizens and building owners should be considered in detail. They conclude that "the extension of the ETS can only be envisaged as an alternative to strict sectoral measures, in order not to overburden citizens and real estate owners, both in terms of pilling up regulation as well as creating financial pressure".

**REWARDHeat** state that the heating and cooling sector will be significantly impacted by the proposed new EU climate legislation package ("fit-for-55", EED, RED and EU ETS revisions). The application of a CO2 price on emissions in the building sector would be an important tool to implement the polluter pays principle while providing funds to accelerate the energy transition. They state that **EE1st** is the guiding principle and should be included in the revised EED, they also suggest more ambitious targets for renewable energy share in heating and cooling in the building sector in the revised RED III. With respect to ETS their main comments are on ensuring a level playing field (cf. Question 3). Their position is summarized in four points: make use of waste heat; define waste heat (as a renewable resource); make waste heat recovery standard; put a price on carbon that reflects future damage.

*Stakeholder considerations from the "No" group*

**Eurima**'s focus is on renovation and funding of renovation works through new or revised measures (they represent insulation manufacturers). In their view, the extension of ETS to buildings will not support emissions reduction. Instead, other policies and standards (ESR, EED and EPBD) will support renovation and prioritize EE1st over ETS on Buildings (cf. Question 1 - subsection on EE1st principle). They are concerned that an ETS extension combined with more ambitious ESR policies will result in higher energy costs being passed down to consumers resulting in higher energy bills for non-renovated households and negative social impact (relates to Question 4).

**EuroACE** is not favourable to an extension of the EU ETS or the creation of a separate ETS for buildings. ETS on buildings implies a higher number of parties affected, with more administrative complexity, and with **low price elasticity**. Carbon pricing is not an appropriate tool for the buildings sector, as most barriers which need to be overcome are non-economic barriers, "drivers for renovation are lower energy bills but also other factors such as increased comfort and improved wellbeing", they refer to two studies[18] [19]. In their view, the focus should be on improving the current regulatory framework and strengthening the EPBD and the EED. Revision of the ETD could also be more appropriate.

[18] Cambridge Econometrics, 2020, Decarbonising European transport and heating fuels - Is the EU ETS the right tool? (europeanclimate.org)
[19] European Commission, 2019, 1.final_report.pdf (europa.eu)

It is **Czech Gas Association'**s (CGA) position is that a national solutions such as energy taxation is the best policy tool for carbon pricing in non-ETS sectors, in particular for building. EU ETS, Energy Taxation Directive, Carbon Border Adjustment Mechanism and Effort Sharing Regulation should be complementary, transparent, and without overlaps that would impose double taxation and/or administrative burden on stakeholders. It should also respect national specificities of less wealthy EU Member States. They believe that a carbon pricing system based on energy taxation would be easier to implement and has clear advantages in terms of system predictability and stability. They refer to two studies[20] [21], both conclude that extension of EU ETS to non-ETS sectors (buildings and transport sector) would not result in emissions reductions in these sectors but would put pressure on sectors already covered by the EU ETS.

**Eurofuel** considers that a coherent policy framework is essential both for stakeholders to adapt and for the objectives to be met. Sector specificities and national circumstances should be taken into account. If the ETS is extended to the building sector, it should be accompanied by other policies to address non-price barriers to renovation and the financing difficulties for small emitters and households, they state "expanding ETS to buildings is not fit for purpose as it presents more risks than real opportunities". A potential ETS extension to buildings would require a careful design to ensure a coherent policy framework among all climate and energy policies (including ESR, ETD, REDII). Considerable efforts will be required from stakeholders who will face multiple legislative requirements; uncertainties as revisions are in progress; potentially increased administrative burdens and regulatory inconsistencies. Eurofuel promotes the use of liquid fuels for domestic heating, mainly for off-grid households. They promote a three-step approach to decarbonize the heating sector: first energy efficiency; second hybrid systems with renewables; third incorporate low carbon liquid fuels progressively.

**Eni** does not consider that ETS extension is an appropriate tool in the short term for carbon pricing. Due to marginal abatement cost levels and price elasticities between different sectors, an extension of the current ETS to other sectors would face issues in the short-term such as market disruption with a supply / demand imbalance or price volatility. They suggest a separate mechanism "alternative and simpler carbon pricing tools" for building in the short term until in the medium to long-term cost abatement convergence among different sectors is proven and a unified carbon price signal for all sectors could be a solution and all potential policy overlaps are minimized.

**European Trade Union Confederation** (ETUC) favours a new Social Climate Fund (SCF) as a stand-alone measure (without a new ETS) financed with more "progressive" sources of revenue (they suggest several types of taxes). The carbon pricing mechanisms should be designed in a way that leads to a just transition, not to more inequality and poverty. In their opinion, carbon pricing mechanisms such as ETS should not be the core policy of EU's climate action. Furthermore, they express concerns on the adverse mainly social effects of an ETS on buildings and transport. If a new ETS is implemented, they suggest an improved SCF to mitigate adverse effects, with significantly increased funding. They insist on the importance of timing of implementation and upfront funding, which in their view should be available at least three years prior to a new ETS implementation for upfront investments in clean solutions (versus one year in current EC proposition). To enable households to make the necessary upfront investments in clean alternative solutions, they mention several funding options (e.g., taxes).

*Stakeholder considerations from the neutral viewpoint group*

**Citizen's Climate Europe** (CCE) are strong advocates of a "Carbon fee and dividend" (CFD) policy as the most efficient climate policy for carbon reduction, to be adopted to local/ regional circumstances. In the EU context, this means adapting CDF to the multiple mechanisms in place and under consideration (EU Green Deal). They put forth 3 implementation options that would allow to better integrate CCE's 4 core principles in the existing EU-wide framework. "Although these all deviate

[20] Cambridge Econometrics, 2020, Decarbonising European transport and heating fuels - Is the EU ETS the right tool? (europeanclimate.org)
[21] DNV GL, 2020, Eurogas-Slide-Deck-Key-Findings-in-a-Pathway-to-European-Carbon-Neutrality-The-Role-of-Gas-1.pdf

to some degree from the main CCL proposal, each of them generally satisfies its core principles". Option 1: Repurpose the ETD as an economy-wide carbon price; Option 2: Introduce a floor to the ETS and gradually extend it to all major sectors; Option 3: Allow for two-way conversion (i.e., fungibility) between European Union Allawances (EUAs) underETS and Annual Emissions Allocation (AEAs) under ESR. For each option CCE accounts for the modifications required to the current policy framework ETD, ETS, ESR and introduction of CBAM. Their opinion is based on their in-house research and various studies.

**Regulatory Assistance Project** (RAP) focuses on identifying a comprehensive policy framework that will enable to achieve EU climate and emissions reduction targets in a way that is socially fair. They reviewed in detail five policy options, ETS with specific conditions is one of these. They recommend "a gradual and measured introduction of carbon pricing, either at the national or EU level, as one part of a broader package of measures to meet increased Effort Sharing Regulation targets. To achieve this, they recommend implementation of a comprehensive framework of policies to meet the 2030 carbon reduction targets combining carbon pricing, regulation and supporting policy measures. "Energy prices should reflect environmental costs" and "Carbon revenues should be 100% recycled in carbon reduction." They highlight the importance of avoiding wrong signals "rebalancing the prices of the fuels used for space heating, through a fair distribution of taxes and levies, is important in order to send the right signals to building owners and the heating system supply chain". They also highlight that in their opinion timing of investment in renovation is key. Carbon pricing should only be ramped up once the supporting policy framework has become fully operational and at sufficient scale, including a targeted strategy for renovating the worst performing homes of those in energy poverty or on low incomes.

**The European Consumer Organisation (BEUC)** considers that fairness is essential for social acceptability of carbon pricing measures. In their view, distributional fairness is the key principle: fair distribution of costs between consumers and companies according to "polluter pays principle". Their approach to carbon pricing mechanisms (in whatever form) is seen through the lens of fairness to ensure "consistency across all carbon pricing measures". They state that exemptions from carbon pricing measures hinder decarbonisation, harms consumers and leads to lower public acceptability. Also, that carbon pricing in the EU should be accompanied by a carbon border adjustment to avoid displacing CO2 emissions elsewhere in the world.

**Annex 2. Summary of stakeholder positions regarding Question 2**

For **Energy Norway** it is crucial not to disturb the stability of the current ETS. They therefore support standalone systems for buildings and road transport and state that overlapping CO2 pricing of emissions with the existing ETS must be avoided. They believe such a solution would be more efficient, cost-effective and transparent and that standalone systems would allow for gradually setting up the required regulatory framework and administrative capacity, particularly in terms of verification and monitoring. The existing ETS and the two new ETS should remain independent.

**AGFW** supports a "One system per sector" approach. Separate and standalone trading systems should be established for building and road transport sectors. A clear sectoral distinction will enable establishing sufficient carbon pricing signals for each sector. In their view, carbon avoidance costs differ across sectors. "Especially with respect to buildings an efficient carbon price signal would directly yield considerable steering effects within the European heating and cooling sector".

**EFIEES** believes that Building and Transport sectors should be under separate schemes "it is important to distinctly treat the transport and building sector", because they face different challenges. Their differences would have an important impact on the future design of the EU ETS.

**BDI** supports two separate systems for the new sectors: They should be separate from each other and subject to two standalone separate upstream emission trading systems, one for buildings and one for road transport. They should be separate in order to set further incentives through price signals in a market-based system and to set the right price signals in each sector

**ADHCR** expresses a view which is less marked, they consider a separate trading scheme for buildings as a viable option to establish a level playing field in the heating market (related to Question 3) but which could "potentially include transportation". They state that to ensure the same cost of carbon and level playing field in the heating market (related to Question 3), DH systems supplying heat to buildings should be part of the new system and excluded from the (current) ETS.

**Eni** states that building and road transport should be under separate policies. In the short term "alternative and simpler carbon pricing tools" should be applied for the building sector. Specifically, regarding the building sector, they are concerned with the resulting cost transfer to millions of clients and difficulty with the compliance obligation for the energy suppliers. Should ETS be implemented for the building sector, they recommend that it "be applied to Distribution System Operators to lessen the administrative burden". They consider that ETS could be extended to road and maritime transport. If it is, existing measures such as RED and Energy taxation directive should be removed, to avoid multiple mechanisms and double taxation.

**CGA** is against ETS extension for the building sector. They consider that "energy taxation is the way of the carbon pricing for non-ETS sectors (especially in building sector, where there is a need to reflect national specificities and energy poverty)" and suggest tailor-made solutions at Member State level with EU coordination ("differentiated tax rate under the revised Energy Taxation Directive for buildings sector as it respects different socio-economic conditions of EU Member States"). They refer to two studies *(related to Question 1)* (Cambridge Econometrics and DNV GL), both studies conclude "that extension of EU ETS to non-ETS sectors (buildings and transport sector) would not result in emissions reductions in these sectors but would also put a pressure on sectors already covered by the EU ETS." For the transport sector CGA believes that a unified EU-wide approach would be optimal because individual national solutions might lead to a relative comparative disadvantage in the EU market or export emissions from one Member State into another with less strict policies.

**CERRE** examined the question from a different perspective. They worked with the base hypothesis that both building and road transport sectors would be included in the current ETS framework and considered whether transport and heating fuels should be introduced in the EU ETS jointly or sequentially. They reviewed a number of issues related to this including the effect on current prices (road transport fuels are already heavily taxed); coupling with the power sector; total transaction costs (example set-up of monitoring, reporting and verification network would be identical for both

sectors); long term signals and strengthened investment incentives; the time to agree and implement an extension. Having reviewed all these issues, they conclude in favour of a one-off extension, not sequential with first one sector and then later the other sector.

Inputs from webinar on New ETS for Buildings and Transport held on 03/03/2022[22]

The authors took the opportunity of this webinar to ask Question 2 of this study to the 3 panellists during the Q&A session:

- The **European Heat Pump Association** believes a specific ETS 2 per sector would be more relevant, as each sector faces specific challenges and tackling them under a single ETS may be counterproductive.
- **Housing Europe** is concerned about potential issues that may arise by putting together the building and transport sectors and highlights the focus should be on how to distribute revenues. A German member of this association was particularly concerned about this question, as it caused some issues in Germany after the recent introduction of a CO2 price in both sectors.
- **RAP** highlights the need of some kind of CO2 pricing in both sectors, which does not necessarily have to be an ETS but this is currently the option proposed at EU level. For this option, they indicate there are some benefits related to having a broader sectoral scope, such as diversifying the risk in case such an instrument would not deliver in one of the sectors. In general, they indicate "the broader the better for a trading system". However, they highlight the need to align such a policy instrument with other policies to tackle energy poverty and the price inelasticity on the demand side. Besides, they indicate the current energy crisis may reduce the importance of introducing a carbon price to prioritise other faster solutions to reduce Europe's dependency on fossil fuels.

[22] Constructive carbon trading: Shaping the design of the ETS for buildings (ETS TALK part of a series of meetings upon invitation organised within the LIFE ETX) (link)

**Annex 3. Summary of stakeholder positions regarding Question 3**

**AGFW** highlight that a carbon level playing field should be developed. They believe that establishing a separate trading system for buildings would create a carbon level playing field in the sector in the medium term. They also state "in the absence of a level playing field, ETS-covered sectors will still require free certificate allocations to offset the inconsistencies in carbon pricing." They are concerned with possible double counting: CHP plants larger than 20 MW, already covered through the current ETS, should not receive double CO2 price, technology neutrality should be maintained. In terms of application, AGFW suggests an upstream solution focused on wholesale fuel trading, as they believe that extending the scope to individual households is unfeasible and risks slowdown of the transition process.

**ADHCR** also highlights the importance of "restoring a fair level playing field across the whole heat market". The expansion of ETS would remedy undue distortion of competition on the heat market between installations above 20 MW installed thermal input (currently included in the EU ETS) and smaller installations (outside the EU ETS) constituting a major obstacle for decarbonisation of the heating sector, which they believe is particularly detrimental to DH in the Czech Republic. They refer to figures given in the Renovation Wave for Europe:[23] "EU ETS covers at present around 30% of building emissions from heating due to the coverage of district heating as well as electric heating".

**COGEN** highlights the importance of ensuring a level playing field between CHP and less efficient heating solutions (through consistency between the revisions of the EU ETS, Effort Sharing, Energy Efficiency Directive and Energy Taxation Directive). Specifically, regarding cogeneration solutions they state that it is key that EU and national legislations fully account for and rewards CHP energy savings and emission cuts for both electricity and heat. They believe it is likely that EU ETS 2 and EU ETS 1 systems will feature different carbon prices. They therefore suggest including an instrument to assess discrepancies in carbon pricing to gradually have the two systems converge. Moreover, should differences in carbon pricing become substantial, potentially correction mechanisms should be foreseen. They also foresee potential issues with "internal carbon leakage" between ETS 1 and ETS 2 because CHP integrates heat and electricity, while competing with less efficient solutions in those two separate markets. COGEN also has several technical considerations, namely regarding the heat benchmark applicable to CHP heat, and how its reduction would be detrimental to CHP.

For **EFIEES** the main priority is to establish a coherent carbon price across different sectors, for a "fair burden sharing" and a "real level playing field". Specifically, they consider it is vital to have a level playing field among all the different heating and cooling solutions. In order to avoid market distortion, sectors that are already covered by ETS 1 should not be impacted by the new ETS 2.

The **CGA** is concerned with the impacts of a new ETS. They state that widening the single ETS cap to include transport and buildings would push up average spending on gas-fuelled household heating by 30% (the estimate is from Cambridge Econometrics study). According to CGA, gas-fuelled household heating is the most cost-effective and environmentally friendly alternative for district heating system in the Czech Republic as it may be substituted in the future by renewable and decarbonized gases such as biomethane, hydrogen or synthetic natural gas (SNG).

**UPEI** calls for a level playing field in terms of carbon pricing. They highlight the importance of a "technology neutral approach". In addition, they consider that to be fair and thorough, all energies and fuels in building and road transport sectors should be covered (liquid fuels, gaseous fuels, electricity). Furthermore, they state that renewable and carbon neutral energies should be counted with an emission factor of zero.

**Eurofuel** does not believe that extending ETS to Buildings is the right policy tool, since in their view it is unlikely to bring benefits in terms of energy efficiency. But "if it is, then it should cover all energies and fuels used for heating. The principle of technology neutrality should be respected applying full life cycle assessments for fairness.

[23] EU Commission, 2020, Renovation wave for Europe, Renovation Wave Communication (europa.eu)

**FEDENE** considers that ETS implementation for the building sector should lead to a level playing field of all solutions to accelerate decarbonisation. To ensure a genuine level playing field within a given sector, economic competitiveness of renewable solutions, while preventing market distortion. In particular, the heating and cooling sector needs a uniform CO2 pricing signal so DHC can compete on equal footing with individual heating solutions. Further efforts are also needed to minimise regulatory and administrative burdens.

**Energy Norway** states that a level playing field for new and existing technologies should be ensured and to do so, the free allocation to production should be independent of the nature of the production process. "Necessary to modify the definition of the products and of the processes and emissions covered for some benchmarks to ensure a level playing field for new and existing technologies".

**Veolia** states that an adequate carbon price is needed across different sectors to ensure a genuine level playing field and harmonious and fair process of decarbonisation, particularly in the heating market. "There is a need for a uniform CO2 pricing signal to make sure solutions that provide numerous positive externalities such as DHC, can compete on equal footing with individual heating solutions."

**CERRE**'s position is that the inclusion of "heating fuels" in the EU ETS would level the playing field cross fuel vectors and remove the distortion arising from the fact that 30% of emissions related to buildings heating are already included in the EU ETS (via covered CHP plants and electric heating systems). "Extending the scope of the EU ETS to heating and transport fuels would, importantly, create a level playing field between sectors and across energy vectors for incentivising carbon emissions reductions."

**REWARDHeat** welcomes the new ETS for buildings and transport to bring a level playing field across the heating and cooling sector. They state that fossil fuels used in individual heating systems have an unjustified advantage as they are not covered by the EU ETS which is detrimental to the development of efficient, low-carbon solutions. They state that currently most of generated district heat is covered by the existing ETS while individual fossil fuel heating is not. The ETS reform to cover all fossil fuel emissions in residential and commercial buildings is important. "Setting a carbon price on all fossil fuels is an essential part of the decarbonisation of the energy system." It will enshrine a "fair distribution of cost", as currently electric heat pump users pay for related pollution through the ETS 1, while fossil heaters are exempt and often "benefit from lower taxation levels on fossil energy".

**Klima-Allianz** are focused on the social aspect of a level playing field and the fair distribution of costs going beyond the heating sector. They state that there should be a fair balance on bearing the costs and that all sectors should contribute. In the current situation they consider that there is an imbalance: "In EU ETS 2 all allowances are to be auctioned and thus actually paid for (mainly by households), whereas in EU ETS 1 they are still allocated freely to the energy-intensive industry most of the time, which undermines the polluter pays principle and thus lowers and endangers the acceptance for emissions trading".

**RAP** highlights the existing imbalances in carbon pricing across various fuels: fossil, electric; the need to reduce energy consumption, switch to electricity and decarbonize electricity production. They highlight the need to rebalance carbon pricing, providing several interesting charts on carbon price imbalance. They emphasize that rebalancing the prices of fossil fuels and electricity will be a key element of the decarbonisation policy package.

**UIPI** (Property owners association) focuses on ensuring technology neutrality. The extension of the ETS to "buildings in full", should cover all heating and cooling related emissions with the responsibility to buy emission allowances lying on energy distributors, then passing on the cost to the final energy consumers. They refer to the Commission's Impact Assessment on the 2030 Climate Target Plan, according to which "the current share of total buildings' emissions related to heating covered by the EU ETS is around 30%" whereas the rest is covered by the Effort Sharing Scheme.

**BDI** (representative for German industry) focuses on the importance of a global level playing field, not on the heating sector: "Ensuring a level playing field as well as competitive neutrality remains [...] a priority for the BDI and its industries. European companies can only reach ambitious climate goals if they are themselves economically successful. German industry remains highly export-oriented, and maintaining competitiveness of EU exports, particularly in the affected sectors, is key".

**Annex 4. Summary of stakeholder positions regarding Question 4**

**COGEN** states that it should be ensured that consumers are not subject to excessive additional cost, further contributing to energy poverty. Corrective mechanisms should be in place if substantial differences in carbon pricing (between the two ETS) are observed. Furthermore, the SCF should support vulnerable consumers but also small businesses and all domestic consumers.

**Eurima** states that the ETS extension to buildings will generate negative social impacts unacceptable to EU citizens. Incentive measures should prioritize "deep renovation" focused on the most vulnerable households". To avoid negative social impacts of higher energy bills the timeline of implementation and the EE1st principle are essential, i.e., homes should be renovated prior to ETS extension to Buildings.

**EuroACE** supports Carbon Revenue Recycling into building renovation programmes for energy savings and for a just transition to compensate distributional effects. The households suffering from energy poverty are often those who live in the worst performing segment of the building stock. They see wider benefits of boosting the energy performance of those buildings, such as improve health and comfort of the occupants, GHG emissions reduction, lower energy bills, reduced healthcare system costs, lower fossil fuel imports, and job creation.

**EIFIEES** believes that the most vulnerable households should be protected from the social and distributional impacts of an ETS scheme on Buildings.

**CGA**'s position is that a national solution, such as carbon tax, would respect the socio-economic situation in the Czech Republic. They believe that an extension of ETS in a separate form to the buildings sector would have significant negative socio-economic impacts on low-income and middle-income households in the Czech Republic severely affecting their quality of life.

**Eurofuel** states a potential ETS extension to buildings without changes of other heating cost-related regulations would lead to higher heating costs, putting an excessive burden on consumers. They believe that particularly people living in rural areas, in old and less efficient buildings, would be exposed to risk of energy poverty and increased individual spending. Therefore, incentives should be implemented to support renovation, clean heating solutions and to overcome both non-financial and financial barriers.

**UPEI** are concerned that if the carbon price is high, it would disproportionately affect people living in rural areas, in old buildings, with risk of energy poverty. But if the price is low, the impact on energy consumption would be limited but still carry a significant administrative burden on operators and public authorities. The Building and Transport sector have low price elasticity on demand since behavioural changes are often limited by the lack of suitable alternatives and high conversion costs, including non-monetary costs.

**FEDENE** supports tools to mitigate the risks of social, distributional and economic impacts. The Social Climate Fund should be sufficiently funded to shield vulnerable households and finance a switch to efficient low-carbon heating and cooling solutions, including DHC and energy performance.

**BDI** highlights the importance of creating awareness that measures for climate protection trigger enormous investments but also have consequences for socially weaker groups. They support the creation of a Social Climate fund, the funds should be spent effectively, reach recipients in an "unbureaucratic manner" and represent a good balance between direct income support and investments. They believe the latter is more likely to protect vulnerable populations in the long-term. They state that generated revenue should be spent according to its origin, i.e., sector and member state.

**Veolia** believes that social safeguards to protect customers from sharply rising energy prices are needed. The Social Climate Fund should be given the sufficient financial resources to shield the most vulnerable households and finance the necessary switch to low carbon heating solutions. The EU ETS

2 will have significant social and distributional impacts that could backfire and end up jeopardizing the ambition of this revision.

**Agora** states that "More solidarity will be needed". Distributional effects are a challenge but can be resolved. Revenues from carbon pricing must be 100% recycled back to consumers in one way or another for targeted support and climate policy measures, and/or as a lump-sum rebate. Revenue allocation between Member States should at least in part be based on solidarity criteria (e.g., GDP per capita). Using carbon pricing revenues for other purposes such as repaying EU debt threatens the acceptance of higher CO2 prices. Poorer EU Member States need to increase their 2030 targets considerably more than what their share would be, based on fairness considerations. Distributional questions warrant specific measures to moderate disproportionate impacts on vulnerable groups in society, including both revenue redistribution and additional companion policies.

**CERRE** states that distributional impacts remain a serious challenge for the extension of the EU ETS. They consider that adjustment of existing fuel taxes or targeted use of the revenue from additional carbon permit sales could support poorer consumers who might be adversely affected by the extension. They also highlight that commercial and industrial users might be able to pass on the increase in fuel prices to customers, but households cannot and hence assume the burden of retail price increase in full.

**REWARDHeat** considers that use of ETS 2 revenues in the Social Climate Fund will contribute to achieving the decarbonisation target for buildings without risking increased rates of fuel poverty or other negative social impacts. They suggest supporting measures for consumers within more vulnerable socio-economic groups, such as financial incentives to switch to clean alternatives.

**CCE** states that "the objective of carbon pricing is environmental, not fiscal, which argues strongly for it to be revenue neutral". They consider that measures to protect consumers subject to higher prices are needed to ensure climate policies maintain political support. They also claim that this would be best achieved by returning all net revenues received from the carbon fee to citizens in the form of a monthly dividend.

**Klima-Allianz** considers that revenues from auctioning allowances should be used to compensate low-income groups and businesses within Member States and reward those who emit less. An equitable distribution of auctioning revenues among Member States could mitigate economic and social inequalities.

**RAP**'s position is that revenues from carbon pricing must target energy-poor, vulnerable and low-income households in the worst performing buildings, as they are the most affected by price increases and the least able to invest in low-carbon technologies.

**UIPE** states that ETS 2 will impact citizens, in particular the most vulnerable. They refer to the Cambridge econometrics study[24] "widening the single ETS cap to include buildings would push up average spending on gas-fuelled household heating by 30% in 2030". They suggest that the impacts could be compensated by reinvesting the additional revenues from carbon pricing in subsidies for investments in energy renovation, "including but not limited to the poorest households".

**ETUC** considers that carbon pricing policies on buildings produce regressive distributional effects, affecting low- and middle-income households more than high income households generating more inequalities and increase in energy poverty. Furthermore, they deem that upfront investment costs and various obstacles to building renovation will prevent households - particularly low-income - from modifying their consumption. They suggest there is a need to massively mobilise funding to support those households, and to invest in public transport and building renovation. They thus support the new Social Climate Fund but believe the mechanisms of the SCF are insufficient to address all the concerns.

[24] Cambridge Econometrics, 2020, Decarbonising European transport and heating fuels - Is the EU ETS the right tool? (europeanclimate.org)

Finally, **BEUC** deems that carbon pricing measures may have detrimental effects on consumers with lower incomes and therefore the distributional impacts should be assessed before implementing. They highlight the importance of transparency on the use of revenues from carbon pricing and state that it should be clear who is paying for and who is benefitting from carbon pricing. They suggest funding of sustainable public investment for "affordable solutions to unsustainable lifestyles" or to directly retrocede revenue to consumers to mitigate the negative distributional impacts.

**Annex 5. Transcription of interview providing the view of financial stakeholders**

*Interviewee: Juan Alario is an energy investment expert and former Associate Director of the European Investment Bank in charge of Renewable Energies and Energy Efficiency, where he participated in the development of several financial instruments for energy efficiency. He is currently a member of the investment committee of the Global Climate Partnership Fund[25] and has participated in various projects in the EU and third countries aiming at developing financial instruments to finance the energy renovation of buildings.*

*Interview (Luxembourg, 28/06/2022)*

Energy prices, including CO2 prices are important for energy investment decisions and behavioural changes.

The majority of the investment to reduce GHG emissions in the EU27 correspond to the transport and buildings sectors; while the energy sector accounts for just 11% and 16% of the total in 2020-30 and 2030-50 respectively. The large majority of the investment in these two sectors is related to energy renovations of existing buildings, in electrical or hydrogen vehicles, followed by investments in transport infrastructures (see my article in "La revue de l'énergie"[26]). Therefore, **transport and buildings are key sectors in the energy transition from an investment point of view**.

Energy consumption is often taxed, but these taxes are normally unrelated to carbon emissions. Taxes vary substantially depending on the energy source and energy consuming sector (generally lower for energy intensive industries and agriculture than for other sectors).

1) What are the stakeholders' views on the role and balance of carbon pricing, standards or other policy measures in the buildings sector?

   In my view, and in the view of the Energy Efficiency financial Institutions Group (EEFIG[27]), **the standards (to existing and new buildings) should play the most important role to reduce GHG emissions in the building sector**, followed by advice to building owners and grants/subsidies and adapted financing. Carbon pricing plays a role in promoting low carbon solutions (heating/cooling and energy efficiency improvements). However, its impact is limited, due to low energy price elasticity of the energy consumption in buildings, negative impact on energy poverty and high discount rate used by building owners for energy investments. The main reasons to favor standards is the low priority of energy investments in relation to others (such as aesthetics) and the significant barriers to investment, notably access to information. For more details see my article in *La Revue de l'Énergie n° 658 – septembre-octobre 2021*. In addition, **the carbon price needed to achieve the net zero emissions by 2050 is among the highest of all the economic sectors (in the order of 250-400 EUR/t CO2eq[28])**, thus it is "politically" easier to use standards than energy prices to develop such investments.

2) Most stakeholders want the existing and new EU ETS to be separate. What do stakeholders think with respect to having buildings and road transport covered by one ETS?

   **In my view, buildings and transport should be separated, in order to set a carbon price adapted to each sector** (taking into account sector-specific price elasticity) and to take into account existing taxes at national level. The issues for buildings have already been mentioned and for transport the situation varies a lot depending on the sector (cars/vans/motorbikes; trucks, or maritime transport): existing taxes or low carbon technologies available, etc. To be noted that

[25] Global Climate Partnership Fund, (link)
[26] La Revue de l'Énergie n° 658 – sept.-oct. 2021, « Les investissements pour la rénovation énergétique des bâtiments en Europe »
[27] The Energy Efficiency Financial Institutions Group (EEFIG) (link)
[28] See for example UK Carbon Budget (link)

in my view, in the transport sector, standards/regulations will play an important role, similarly to the buildings sector, such as a ban on internal combustion cars or restriction to use high polluting vehicles in certain cities.

Most financial profitability analysis in these sectors use existing prices to evaluate investments, so carbon prices do not play a role. **It will be good that a long-term carbon price trajectory is known, in order that it can be integrated in the financial profitability analysis**. A key issue is the regulatory risk, predictability and volatility, of the carbon taxes applied to these two sectors, in order that it can be considered in the financial analysis of an investment or decision (behavior). Financial institutions could take this into account in the assessment of the long-term sustainability of certain investments in these sectors, as they do for large consumers subject to EU ETS.

3) What are the stakeholder views on the coverage of different heating technologies by two emission trading systems? Are there concerns with respect to a level playing field, as heat from large CHP (Cogeneration Heat and Power) plants, heat pumps and electricity-based solutions are covered under the existing ETS?

As I mentioned before the current situation of the energy taxes is very "messy" and often taxes are unrelated to the GHG emissions of the different energy sources/usages. Visibility on taxes could be improved. **An additional carbon tax can only be effective in my view if it is in the context of a review of the taxes to the different energy sources and consumers.**

We have already significant issues in terms of the level playing field of different heating technologies. It is thus important, that taxes to heating technologies are reviewed, in order that they reflect the CO2eq emissions of each energy source. I think that the expected development of EU ETS CO2eq prices should be taken into account to set the taxes to smaller usages (buildings and transport), and to reduce electricity taxes. However, avoiding the volatility of the EU ETS.

The topic being politically delicate due to the impact on energy poverty, a political consensus is needed.

4) Several stakeholders are concerned about the risk that low-income consumers are too affected by the integration of the buildings sector into the new ETS. What are the suggestions to avoid this adverse effect?

As mentioned before, this is an important issue. However, rather than non-taxing low-income consumers (households and SMEs), it is economically preferable to give them an additional revenue to compensate for the higher energy prices. **It is economically preferable to use carbon revenues to compensate low-income consumers than to give this money to low-income households for the energy renovation of their buildings**, according to studies consulted[29].

[29] Martin Sandbu (2020) *Economics of belonging*
Concerning carbon taxes, the book mentions: "A solution is needed that can undo the regressiveness of a carbon tax without removing its incentive for carbon reduction. Such a solution exists. It has been gathering support among US policy makers across political dividing lines, and support is quickly picking up across Western Europe. In the United States it goes by the name of "**carbon fee and dividend**" and economists have coined the term "**carbon cheque**", but the idea is the same: to impose a meaningful carbon tax on all emission sources, from which the entire revenue would be immediately redistributed as a "dividend" ..."Canada is trying to implement it; official economic advisers in France and Germany are advocating it"..."Similarly, a study by France's official economic analysis bureau found that a "carbon cheque" that is differentiated by type of region (whether rural or urban) can be designed so that it makes virtually everyone in the bottom half of the income distribution better off even after paying higher carbon taxes on fuel and energy".

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