

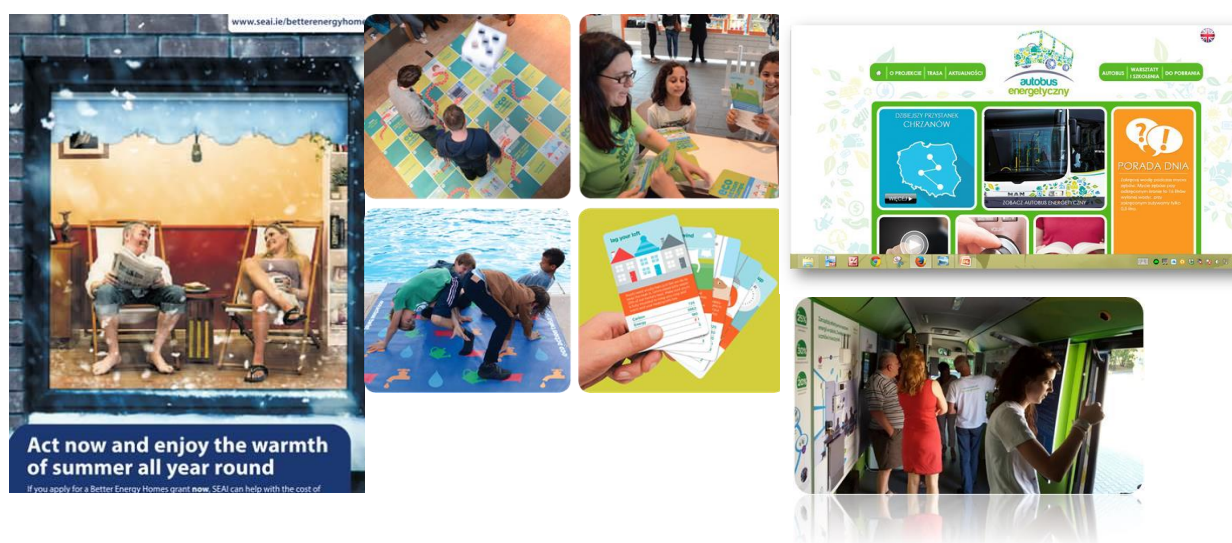
JRC SCIENCE FOR POLICY REPORT

Effective information measures to promote energy use reduction in EU Member States

Analysis of information, empowerment and training measures in Member States National energy Efficiency Action Plans

Silvia Rivas, Barbara Cuniberti, Paolo Bertoldi

2016



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Abstract

In order to achieve the EU 20% reduction on primary energy consumption target by 2020, a change in consumer behaviour and energy consumption practices is needed. Following this principle, article 12 of the Energy Efficiency Directive (EED) requires that Member States (MSs) shall take appropriate measures to promote and facilitate an efficient use of energy by small energy customers including domestic customers and small and medium-sized enterprises (SMEs). MSs have adopted policies, programmes and measures which aim to promote behavioural change. The measures undertaken are described yearly in the National energy efficiency Action Plan (NEEAP).

The aim of this report is to analyse the measures implemented within the EU territory in order to highlight the best practises on information campaigns targeting behaviour change on energy use. Concrete objectives:

1. Analyse the measures implemented so far in the EU Member States (NEEAPS)
2. Select the best practises by sector in terms of Effectiveness, Replicability and Measurability
3. Evaluate the main factors influencing the effectiveness of the measures; strength and weaknesses
4. Make general recommendations to member states for further develop of awareness and information campaigns

Information measures to promote energy use reduction across EU Member States

*Analysis of information, empowerment and
training measures in Member States National
energy Efficiency Action Plans*

Silvia Rivas, Barbara Cuniberti, Paolo Bertoldi

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Chapter 1. Introduction

Background information: policy context

Actions to increase public awareness, to induce behaviour change, and to provide education constitute an important element of policies and programmes to support energy efficiency and energy savings. In particular, the overall goal of these policies and programmes is to reduce energy consumption through non-technological measures. Energy behaviour change can be targeted at individuals, at communities and at organisations.

In this line, the Energy Efficiency Directive (2012/27/EU) adopted in 2012 to enhance the improvement of energy efficiency in the MSs in order to close the gap between the projected progress and the overall EU target of reaching 20% reduction of primary energy consumption by 2020, this includes specific provisions regarding consumer information and training in Articles 12 and 17 (see Table 1.).

Table 1 Articles of the 2012/27/EU Directive (EED)¹ setting out independent provisions on providing information to and shaping the energy consumption-related attitudes of energy consumers

Article 12

Consumer information and empowering programme

1. Member States shall take appropriate measures to promote and facilitate an efficient use of energy by small energy customers, including domestic customers. These measures may be part of a national strategy. EN 14.11.2012 Official Journal of the European Union L 315/19

2. For the purposes of paragraph 1, these measures shall include one or more of the elements listed under point (a) or (b):

(a) a range of instruments and policies to promote behavioural change which may include:

- (i) fiscal incentives;
- (ii) access to finance, grants or subsidies;
- (iii) information provision;
- (iv) exemplary projects;
- (v) workplace activities;

(b) ways and means to engage consumers and consumer organisations during the possible roll-out of smart meters through communication of:

- (i) cost-effective and easy-to-achieve changes in energy use;
- (ii) information on energy efficiency measures

Article 17

Information and training

1. Member States shall ensure that information on available energy efficiency mechanisms and financial and legal frameworks is transparent and widely disseminated to all relevant market actors, such as consumers, builders, architects, engineers, environmental and energy auditors, and installers of building elements as defined in Directive 2010/31/EU.

Member States shall encourage the provision of information to banks and other financial institutions on possibilities of participating, including through the creation of public/private partnerships, in the financing of energy efficiency improvement measures.

2. Member States shall establish appropriate conditions for market operators to provide adequate and targeted information and advice to energy consumers on energy efficiency.

3. The Commission shall review the impact of its measures to support the development of platforms, involving, inter alia, the European social dialogue bodies in fostering training programmes for energy efficiency, and shall bring forward further measures if appropriate. The Commission shall encourage European social partners in their discussions on energy efficiency.

4. Member States shall, with the participation of stakeholders, including local and regional authorities, promote suitable information, awareness-raising and training initiatives to inform citizens of the benefits and practicalities of taking energy efficiency improvement measures.

5. The Commission shall encourage the exchange and wide dissemination of information on best energy efficiency practices in Member States.

¹ Directive 2012/27/EU of the European Parliament and of the Council of October 2012 on energy efficiency.

The MSs are required to implement information, awareness-raising and training measures regarding specific areas and tools. Improvement of energy efficiency and related market transformation require informed consumers and high energy awareness among all segments of society as well as tailored information, education and training for selected stakeholders. Energy efficiency campaigns aim at changing habitual energy behaviour or investment behaviour of individuals or organisations.

State of the art

Despite various efforts at different levels (local, regional, national) and among various players to provide information and so raise awareness about energy efficiency, there is still a lack of knowledge among end-consumers of the economic potential for energy savings available to them and of existing policy measures and technologies available to exploit this potential. *The information and customised advice to save energy is neither just taken in as such by consumers, nor translated into corresponding practises (Bartiaux, 2008)*

Concerning the impact of existing policy measures focusing on information and training in energy efficiency, the literature shows significant variability, from negative impacts to over 20% savings, (Karlin, Ford & Zinger ,2015). For example, electricity savings generated by these types of measures have been estimated at 7.4% by Delmas et al 2013. Whenever higher quality calculation methods (including e.g. control groups) have been used, these savings have however generally resulted in much lower values, typically around 2%.

Nevertheless, providing information is not enough. The lack of knowledge is not only due to a lack of information, but its development depends very much on the way the information is provided. In order to carry out successful impact on energy behaviour, it is crucial to understand the underlying alternative approaches.

Ajzen and Fishbein (2005) developed the behaviour model for the understanding of the background individual behaviour, such as energy-related conduct and decisions. In their explanation there is a direct and rational relationship between behavior and intentions and they place attitude in front of intentions as a background for it. Intentions are derived from beliefs that develop according to background factors (Fig. 1.). As a general rule, the more favorable the attitude and subjective norm and the greater the perceived control, the stronger should be the person's intention to perform the behaviour in question. While rationality is a characteristic of the intention-behavior step, the preceding steps may be flawed, biased or even irrational.

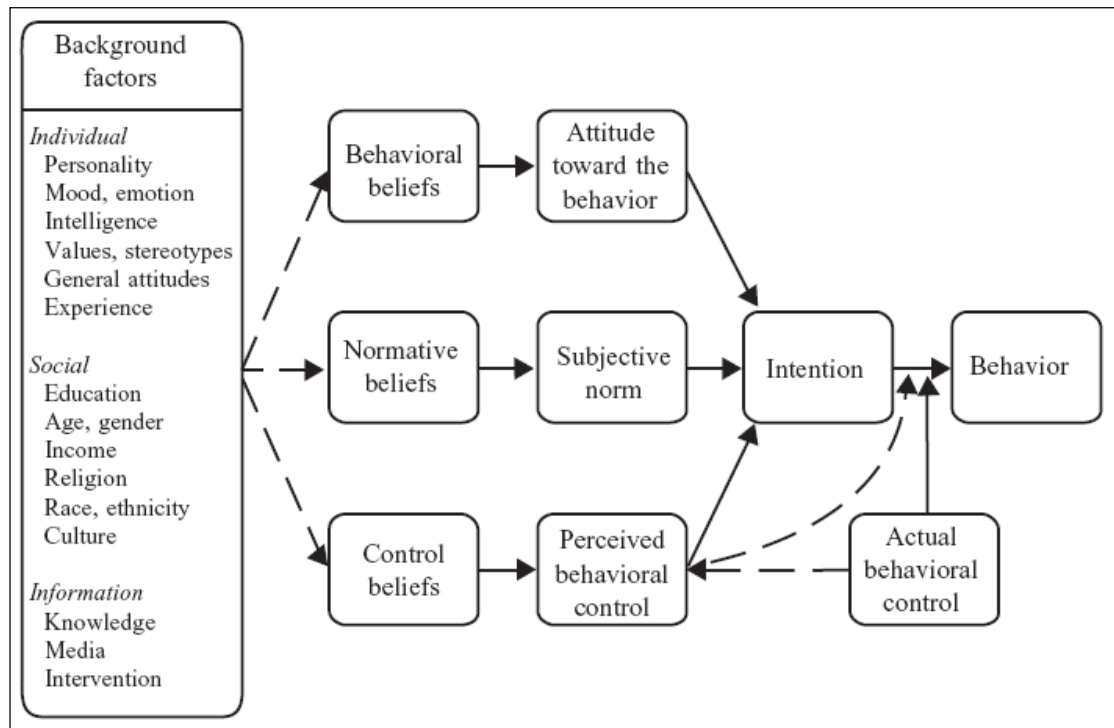


Figure 1 Development of behaviour from background factors through intention. Source: Ajzen and Fishbein 2005.

The theory itself explains the stages between beliefs and behaviour, it can fully build on previous research on the background factors. According to the authors, background factors can be grouped as individual, social and information determinants (Fig. 7.). The significance of the theory of planned behaviour is that it changes policy attention from changing attitudes to changing intentions if the behaviour is desired to be influenced. In this case attitude is only one of the many other determinants. Egmond et al. (2005) further argue that energy conservation policies should particularly deal with the part of the determinants that they call "changeable" as opposed to those that are "unchangeable".

Egmond et al. (2005, 2006) developed another model, which is very similar to that of Ajzen and Fishbein. Egmond et al. also place intentions as the central input for human behavior, but in their research they focus on the determinants. The model is based on the PRECEDE-PROCEDE model of Green and Kreuter (1999). Intention to save energy was found to be formed by "predisposing factors", which are:

- awareness
- knowledge
- norms
- attitude
- self-efficacy

and further influenced by so called "enabling factors":

- financial resources
- technical resources
- new skills

and intensified or weakened by "reinforcing factors":

- feedback from peers
- advice from experts
- subsidies and regulations from authorities

As can be seen, the same structural components are present in this model as those in planned behaviour theory: norms, attitude, feedback.

Policies reach their goals if they are able to correctly identify the action point and the susceptibility of their information targets.

Literature distinguishes three classic approaches:

- the price-based approach: save money
- the environmental approach: save the planet
- the social approach: be a good citizen

The price-based approaches to energy conservation (the provision of information concerning the economic savings that are possible when generated through energy efficiency), the first approach implemented, encountered several problems to engage and promote a real change in the energy consumer's behaviour. Among others the main problems were those related to the feasibility of the measure (*Allcott, 2011*):

- not politically feasible to implement,
- difficult to measure the real impact,
- limited public funds

When evaluating the impact of information measures (as in the case of other energy efficiency policies) it is important to take into account the so call "rebound effect", whereby the energy savings generated through energy efficiency measures may increase energy consumption of the same services or other services, thus reducing the achieved energy savings.² Regarding the business sector, there is often no incentive to invest in energy efficiency measures. One reason for this may be that the cost savings that can be achieved are insufficient incentive in themselves. Companies generally budget for energy costs using overhead cost centres, so that decisions on investments only consider energy consumption as a secondary issue. The implementation of energy efficiency measures, particularly in businesses and the public sector is also impeded where no responsibility for energy matters has been defined. The often cited pressure of time on managers is a factor here and with it, the lack of importance attached to energy efficiency in the business (*Prognos 2014*).

Finally, studies (*i.e. L. Steg, 2008, S. Van der Linden et al, 2015*) concluded that even if money could be a good motivation, it is more efficient to appeal to peoples' intrinsic motivation- ???—consumers will stop as soon as the behaviour is no longer attractive or cost effective and energy behaviour need to be a day to day concern.

The problems faced by the price-based measures facilitated the conversion to the environmental science approach. They relied in raising awareness on climate change, convincing people to take personal environmental action seriously. The message used to be negative and extremely pessimistic (*Griskevicius et al, 2008*) People regarded climate change as a non-urgent and psychologically distant risk (*Harries, 2012*). Information about climate change risks needed to be translated into relatable personal experiences (*Van der Linden 2015*)

Based on the fact that human behaviour and decision making are at the very core of the climate change problem, this is where the solution itself should come from (*Glifford 2011*) The actual approach, the social one appears, trying to integrate the social norms (referring to the perception of what is commonly done in a situation) On the basis of the

² Achieving energy efficiency through behaviour change: what does it take? EEA Technical report No 5/2013

measures for information and awareness in energy behaviour. (*Glifford 2011*). In fact we are social beings and respond to group norms (i.e. the knowledge of the energy consumption of our neighbour influences ours). Social norms do have a huge power to influence pro-environmental behaviour. They not only spur, but also guide action in direct and meaningful ways. (*P. Wesley Schultz et al, 2007*)

But an improvement is still needed; people need to be inspired, to be engaged, to have fun when receiving the message (how we feel about a given situation often has a potent influence on our decisions *Slovic and Peters 2006*). The message needs to be carefully selected and kept as simple as possible, key words being: entertain, engage, embed and educate!- (*Eco-action games Research evaluation report 2015*)

Once the basic awareness is there, the second step would be to provide targeted information on potential energy efficiency measures. It is essential to understand and study the audience targeted. Cost-effective monitoring and measurement plus specialised staff who concern themselves with energy savings in the undertaking or organisation may be helpful here.

To conclude, an inspiring list of policy guidelines, lessons learnt and examples focusing on key psychological principles that may guide the design and implementation of successful information and training measures on climate change as taken from US experience. These general principles can also be referred to as information measures that can be designed and implemented to promote energy efficiency.

Table 2 Key Psychological Lessons and Policy Advice (*Van der Linden 2015*)

Table 1. Overview of Key Psychological Lessons and Policy Advice

Psychological lesson	Policy guideline	Example policy recommendation
1. The human brain privileges experience over analysis	Highlight relevant personal experiences through affective recall, stories, and metaphors.	The National Park Service (NPS) gives concrete examples of how climate change has already harmed natural resources in specific parks.
2. People are social beings who respond to group norms	Activate and leverage relevant social group norms to promote and increase collective action.	Government climate science agencies could improve efforts to highlight descriptive norms (e.g., the scientific consensus on human-caused climate change).
3. Out of sight, out of mind: reduce psychological distance	Emphasize the present and make climate change impacts and solutions locally relevant.	NASA and The National Oceanic and Atmospheric Administration (NOAA) are supporting efforts to enable TV meteorologists to educate their viewers about current local climate change impacts.
4. Nobody likes losing but everyone likes gaining	Frame policy solutions in terms of what can be gained (not in terms of what is lost).	The Environmental Protection Agency's (EPA) "Clean Power Plan" focuses on cleaning up the nation's fuel supply, which will help clean up the nation's air and water, providing direct health benefits to all Americans.
5. Tapping the potential of human motivation	Leverage intrinsic motivation to support long-term environmental goals.	The President, Congress, and all federal agencies should be openly aspirational in designing climate policy initiatives that tap into citizens' deeply held motivations for building a better tomorrow.

Downloaded from pps.sagepub.com at Association for Psychological Science on November 17, 2015

Purpose of the report

The report aims at identifying the key measures that the Member States implement or plan to implement in terms of information campaigns and their effective impacts on energy efficiency behaviour and /or the energy saving they create focusing in particular on the article 12 elements: (III) information provisions, (IV), exemplary projects,(V) workplace activities

The report covers both stand-alone information campaigns as well as information campaigns designed to support other specific measures (e.g. availability of incentives or awareness of energy labels). In the MSsreport both type of information measures are reported and sometime it is difficult to separate them.

A study of the main *strengths and weaknesses* of the measures implemented has been carried out in order to provide the MSs with useful suggestions concerning how to increase the actual impact of their information and training campaigns.

Good practices of communication packages and training programs implemented in different MS's have been also identified. Information campaigns reach end users through many different tools: media campaigns (TV, press, social media), brochures, guides, conferences and events, web sites, contest, exhibitions, selected training etc). Regarding training purposes, three main audience sectors are covered by the MS's: general public, students and professionals on EE. Training on eco-driving is the most recurrent topic, targeting not only particular drivers but also professionals.

Member State main measures which can be identified from the National Energy efficiency Action Plans (NEEAPs) are the followings:

- Web sites and portals (sometimes jointly with market actors);
- Mass media: Radio,TV, newspaper advertisement; printed materials as leaflets;billboards;direct mail and electronic newsletters;
- Calculation tools: investments, energy savings, CO₂ emission reduction;
- Datasets
- General information and events: networks of consultation centres; modal shift promotion
- Education and awareness: textbooks for schools ,annual pupil competitions;
- Others: energy Savings Officers at public buildings;
- Training: general training, ecodriving

The implemented or planned measures in the MSs cover several target groups and main sectors: households, SMEs, organisations (workplace) and transport

The report highlights and summarise the most important measures trying to disseminate the "*lessons learned*" with a special focus on cost- effectiveness principles. (Allcott , 2011)

Regarding this, further development is needed in order to assess the efficiency of the implemented measures. The challenge is to establish an harmonised methodology to monitor and evaluate the information tool's impact both in terms of media impacts (classic criteria of media campaign evaluation: recognition, memorization, impact of behavioural changes of the targeted audience, etc.) and energy efficiency or CO₂ abatements (in particular if energy efficiency measures have been implemented as a consequence of the communication package).While consumer motivation and action can be monitored and measured, it is more challenging to estimate energy savings attributable to information campaigns (especially if when combined with other policies like labelling, billing etc.)

In relation to this, a JRC report was carried out in 2016 on feed-back measures to evaluate the potential of different energy feed-back systems and their effectiveness in achieving energy savings (*Energy Feedback Systems: Evaluation of Meta-studies on energy savings through feedback. JRC 2016*). Articles 9 and 10 of the Energy Efficiency Directive (EED) require the provision of accurate and regular metering information for final energy consumers with the roll-out of smart metering systems being of considerable importance to this effect. The focus on providing reliable, timely and accurate information to consumers is considered to be crucial so that these consumers become more aware of their consumption patterns and can act accordingly in order to manage their behaviour in terms of achieving energy savings with this information in hand. The awareness raising can be achieved through different means of communication between energy companies and the final consumer.

Chapter 2. Methodology

2.1 Objectives

Various articles of the 2012/27/EU Directive (EED) (Articles 12, 17 and 18) set out direct provisions providing information and help in shaping the energy consumption-related attitudes of energy consumers, including in particular households, small and medium-sized enterprises, regional and local public bodies. In addition, there are other articles containing links in general awareness-raising (Articles 5, 6 and 8, 10).

In particular, Article 12 of the EED requires that Member States (MSs) shall take appropriate measures to promote and facilitate an efficient use of energy by small energy customers including domestic customers and small and medium-sized enterprises SMEs. Actually, households are the place where energy change happens and individuals account for more than 40% of total OECD emissions (*Gardner and Stern, 2008*). Raising consumer awareness is a key element in encouraging individual investments aiming to improve energy efficiency and shaping conscious energy consumption habits.

MSs described the measures adopted in their 2014 National Energy Efficiency Action Plans (NEEAPS).

The JRC undertook a study of the current state of policy measures that aim to promote behavioural change through the provision of information. Having a harmonised reading framework? for all MSs is the fundamental step in order to have a complete overview. Cross fertilization among MSs using similar measures is possible and information can be better analysed regarding its implementation.

The study examines the plans outlined in NEEAP for the implementation of Article 12 and 17 together with other relevant studies from the existing literature. Good practices on information campaigns and factors for success have been identified, with a special focus on cost-effectiveness. The report also investigates principles and innovative ways and means to engage individual consumers and SMEs in order to develop guidance on successful campaigns addressing behavioural changes among various groups through the provision of information.

Table 3 Concrete objectives of the study

Concrete objectives of the study

1. Analyse the measures implemented so far in the EU Member States (NEEAPs)
2. Select the best practice examples by sector in terms of Effectiveness, Replicability and Measurability
3. Evaluate the main factors influencing the effectiveness of the measures; strength and weaknesses
4. Provide general recommendations to Member States to further develop policy measures focused on awareness raising and information campaigns on energy efficiency

2.2 Selection of good practices

No harmonised procedure or common criteria is already established to define what a "good practice" in terms of promoting energy efficient behaviour is. Surveys targeting specific sectors (*Bartiaux, 2008*) or specific measures (*Abrahamse, 2007*) are the most common indicators or analysis tools used to estimate and measure the effect on consumer's behaviour. Nevertheless, effects like the "Hawthorne" effect (the behaviour of the consumer is affected because they are aware about being "watched") may have a huge influence in the impact estimates to be performed. An accurate evaluation is still a big challenge especially in terms of the real impact the information and awareness raising campaigns have on the population and the real measurable impact it has on the improvement of the energy efficiency and reduction of the total GHG emissions.

In this context, the information given in national or local authority energy action plans rarely includes information or advice regarding the monitoring or evaluation of the effectiveness of the measure. One member state, France proposes, for example, simple quantitative assessments based on performance indicators like the number of queries a web page receives per year;

"the information campaign for the general public is concerned via television/radio/the Internet, it reached 44% of the French public thanks to an effective media strategy. In particular, 4 French people out of 10 declared they remembered the advert and 92% of them judged it in a positive way" from France NEEAP 2014

This data may give some information about the number of people recruited by the measure, but not about the real effectiveness the measure has on the consumer or on how or whether the campaign had a real effect on the consumer behaviour targeted.

Examples such as Latvia or UK proposed quantitative indicators for the estimation of the CO₂ emission reduction, through the energy saving estimation measure. This is also a common practice at a local level (SEAPS). Nevertheless, the uncertainty of this kind of estimation when dealing with information campaigns is particularly important. Effects such as the "Drawback" (individuals tend to go back to old habits) or the Rebound effect (the energy savings generated through energy efficiency measures are taken back by consumers in the form of higher consumption)².

Hungary introduced for the transport sector some friendly indicators, such as the yearly increase of number of eco-drivers. This kind of indicator used worldwide and harmonised may give a clearer idea of the energy savings due to a specific measure and may serve as an indicator of the impact of the measure, or group of measures with a common target.

"...number of drivers concerned, the average number of kilometres driven by them and the average fuel consumption of passenger cars and vans per km..." from Hungarian NEEAP 2014

Latvia has proposed two types of indicators to estimate the success of an information campaign, a qualitative and a quantitative one:

"Success can be measured with the steady increase in the number of submitted projects for funding, as well as the much higher density of discussions about the necessity of energy efficiency in the media and general public" From Latvian NEEAP 2014

Croatia, apart from introducing the monitoring of the measure concept, also provides recommendations about how to design the measure. This can also be used as a qualitative indicator on the measure effectiveness.;

"the most efficient campaigns are those conducted in a limited time period and targeted towards specific activities, for example thermal insulation of buildings, more efficient lighting, etc. Targeted info campaigns should cover all the participants involved in reaching the energy efficiency improvement target." From Croatian NEEAP 2014

The UK pointed out the relevance of visual communication to stimulate curiosity in a project. The UK Energy Agency ran a project and an awareness raising campaign was organised that included posters in local shops, meetings with community councils, a launch event and direct mail. The use of a brand and an easily identifiable image in the form of a house with a scarf helped to give a more consistent message. To show more clearly the energy wastage of the household, surveyors were commissioned to take thermal images of the majority of properties in the area. The images also helped to identify exactly where in the building heat was being lost, the best interventions needed and what kind of insulation was most suitable for the household. *Hadyard Hill Community Energy project) from UK NEEAP 2014*

Criteria such as the measurability, replicability or innovation content of a concrete measure may help also to compare measures undertaken in a particular sector. Financial information would be an essential input in selecting and comparing good practices. The criteria proposed by the MSs in highlighting the best practices have been taken into consideration, covering quantitative and qualitative indicators as described above.

In the next chapter the best practises examples selected are discussed per kind of measure at a national level and per sector at a local level.

Chapter 3 RESULTS

3.1 Analysis of the NEEAPs

3.1.1 General overview

An analysis of the NEEAPs aimed at extracting and assessing all information measures focused on influencing energy related behaviour has been carried out for all EU Member States (MSs) under Art. 12 & 17 of the Energy Efficiency Directive¹

The first conclusion that can be drawn is that every MSs provides information about the actions undertaken under the mentioned articles. Although the EED foresees four main sectors (household, transport, services and industry) where implementing behavioural measures would be possible, MSs mostly target the transport and the household sectors, based on their NEEAP reporting. Therefore, the report focuses on those sectors. One exception to this is the information provided in the Croatian 2014 NEEAP, where awareness raising campaigns targeting the industry sector are also well described.

It is also important to highlight that in most cases the information given is not complete and it lacks any monitoring and measurability systems to estimate the effectiveness of the measure. Financial information is generally missing in the NEEAPS.

JRC plans a number of further steps to study in-depth the relation between quantity and extensiveness of information campaigns related to the country size and its population.

Table 2 shows the main information gathered through the NEEAPS; a grid has been set up in the form of a table in which for each country information has been organised into columns

- Type of behavioural measure included: information or /and training campaigns
- Sectors covered: household and or transport
- The implementation status of the measures proposed
- Whether a monitoring system is foreseen to estimate the effectiveness of the measure
- Whether financial information is provided in relation to the measure described
- Specific characteristics highlighted in the NEEAP

Table 4 2014 NEEAPs ART.12, 17 ANALYSIS

MSs	Measure type	Sector covered	Status	Monitor. system	Financial info	Comments/ highlights
AUSTRIA	B	H+T	I	N	N	
BELGIUM	B	H+T	I	N	N	
BULGARIA	B	H	O	N	N	
CROATIA	Inf	H+T+I	O	y		Including awareness raising campaigns in industry sector
CYPRUS	B	H+T	I	N	N	CoM relevance
CZECH REPUBLIC	B	H	I	N	N	Exemplary role of public sector encouraged
DENMARK	B	H+T	I	N	N	Energy agency as a

						coordinator
ESTONIA	Inf	H	I	N	N	Unify website
FINLAND	B	H+T	I	N	N	MoTIVA platform, merging preexistent ones
FRANCE	B	H	I	Y	Y	PRIS
GERMANY	B	H	I	N	N	Focused on professional training
GREECE	Inf	H	I	N	N	
HUNGARY	B	H+T	O	y	y	Local relevance highlighted
IRELAND	Inf	H	I	N	N	Extensive consumers website and covering industrial sector
ITALY	B	H+T	I	N	N	Regional relevance ENEA
LATVIA	Inf	H	I	Y	Y	
LITHUANIA	B	H+T	I	N	Y	
LUXEMBURG	Inf	H	I	N	N	"My energy" platform
MALTA	Inf	H+T	O	N	N	
NETHERLANDS	Inf	H	I	N	Y	
POLAND	Inf	H+T	I	N	N	
PORTUGAL	Inf	H+T	I	Y	N	ADENE
ROMANIA	B	H+T	I	Y	N	Monitoring plan
SLOVAKIA	Inf	H	I	N	N	
SLOVENIA	Inf	H+T	I	N	N	Very general information
SPAIN	B	H+T	I	N	Y	IDAE
SWEDEN	B	H+T	I	Y	N	Measures based on the local level, using the NEEAP for dissemination
UNITED KINGDOM	B	H+T	I	Y	Y	The importance of the "image"

Y: Yes, N: No, for column "measure type": Inf: information campaigns, T: training , , B: both for column "status": I: implemented, O: ongoing, for column "sector covered": H: Household sector, T: transport sector, I: Industry,

Note: The data provided are referred to the 2014 NEEAPs evaluated and don't consider any further measure implemented in the MSs

Type of information and training measures

Regarding the type of measure implemented, the first conclusion is that every MS provides information about behavioural measures within their NEEAP. While 100% of the MSs include information campaigns measures only 42% of them also present training campaigns. No MS includes only training campaigns. Figure 1 represents the geographical distribution of the MS including the different kind of measures.

Figure 2 Type of measures on energy behaviour by MS

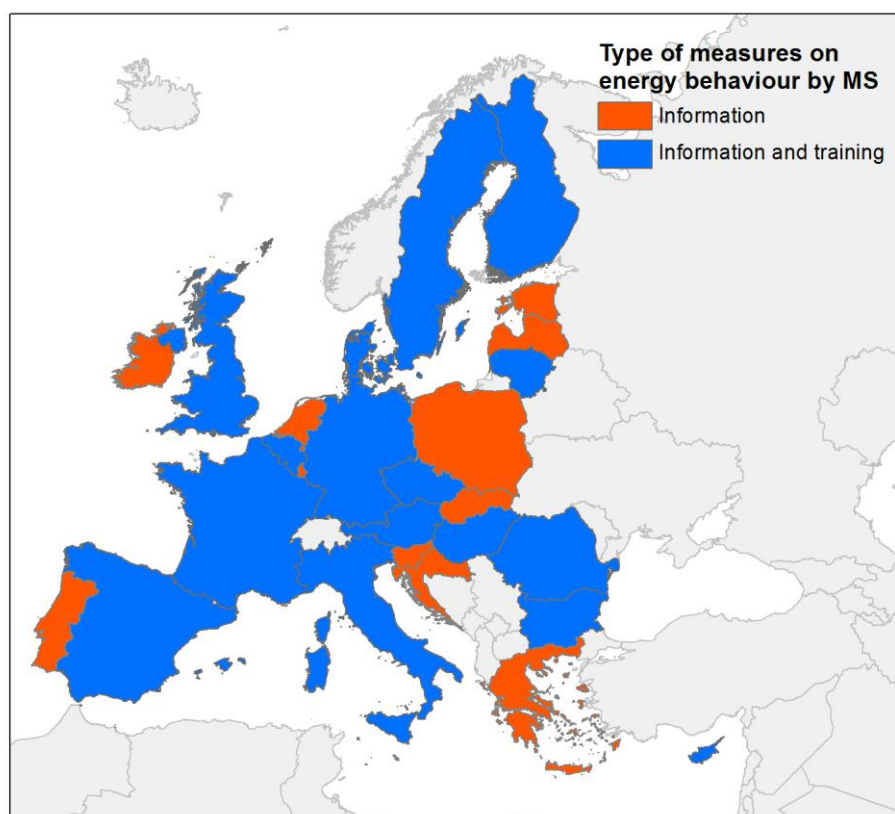


Table 4 shows the MS per each category.

Table 5 Type of behavioural measures by MS

TYPE of behavioural measure	MS
Information measures	Croatia, Estonia, Greece, Ireland, Latvia Luxemburg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia,
Information and Training measures	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark Finland, France, Germany, Hungary, Italy, Lithuania, Romania, Spain, Sweden , UK

It is interesting to evaluate why (according to the information provided in the NEEAPs) MSs prefer to invest more in information campaigns than in training ones. It may be due to the fact that the targeted audience is wider when implementing general campaigns. On the other hand, a higher impact is expected in principal from tailored and concrete training to a targeted audience. Literature reviewed doesn't give a precise weight on the different types of measures. The longer experience and the lower cost of the general campaigns must be also a factor to be considered.

Sectors covered by the MSs

As already described, the EED foresees four main sectors (household, transport, services and industry) where implementing behavioural measures would be possible, but in most cases, MSs report about measures only in the transport and the household sectors. Note again that the study is only based in the information provided within the NEAPs, any other measure the MSs are actually implementing in their territories are not taken into consideration.

The NEEAPs report more extensively in terms of detailed information and energy savings foreseen about the household sector than about the transport sector. Just 39% of the MSs indicate the implementation of measures in the transport sector. Regarding this result it should be considered that information concerning measures implemented in the transport sector is often provided in dedicated NEEAPs sections which are not related to articles 12 and 17, even though these measures may sometimes focus on information and training provision.

Traditionally the household sector has been the major target of EE measures and the most studied sector in terms of information campaigns. It is also a sector where the change is expected from individual behaviours. The transport sector relies more on collective measures to reduce the consumption, like the improvement of public transport. Nevertheless, the effectiveness of the measures implemented in the transport sector is easier to be estimate through the implementation of well-known indicators, and the trend is to encourage the consumer behaviour towards eco-friendly cars and collective changes, such as car-pooling.

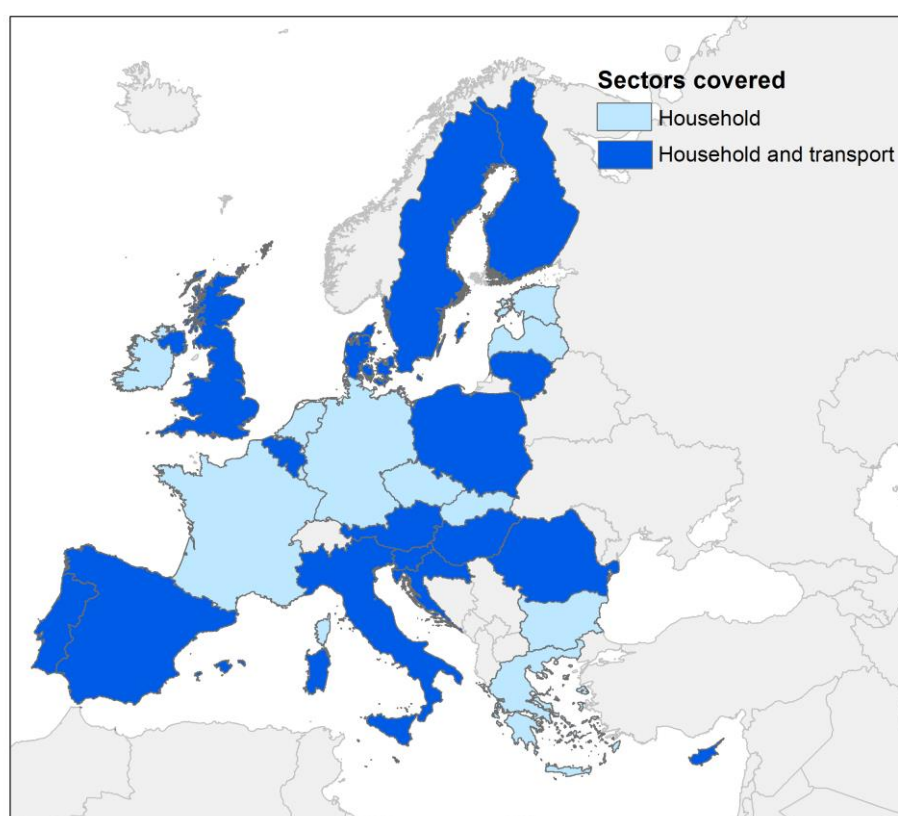
Table 5 presents the MSs included in each category.

Table 6 Sectors covered by MS

Sector covered	MS
Household	Bulgaria, Czech Republic, Estonia, France ,Germany, Greece, Ireland, Latvia, Luxemburg, Netherlands, Slovakia
Household and transport	Austria, Belgium, Croatia, Cyprus, Denmark, Finland, France, Hungary, Italy, Lithuania, Malta, Poland, Portugal, Romania, Slovenia, Spain, Sweden, UK

Figure 2 shows the geographical distribution regarding the sectors covered by the MS

Figure 3 Sectors covered per MS



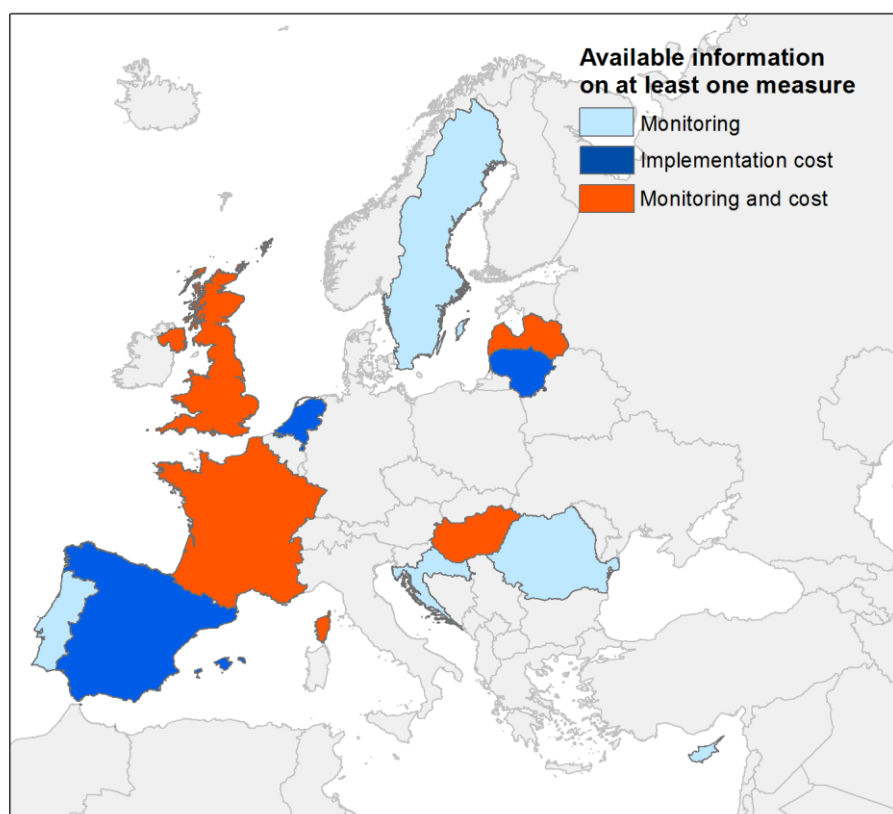
Effectiveness measures estimation and measure monitoring by MS

Implementation cost and measure monitoring are crucial in order to be able to estimate the effectiveness of policies and measures. Nevertheless this is the weakest point of the NEEAPS analysed. 53% of the MSs provided no information regarding financial or monitoring systems for the measures implemented in their territories.

14% of the MSs (4 MSs) provide monitoring and financial data related to their measures. Another 14% presents just monitoring systems information and just 10% financial information. This means that a total of 28% of the MSs presents monitoring information and 25% financial information.

Figure 3 shows the geographical distribution regarding the sectors covered by the MSs

Figure 4 MSs including monitoring and or implementation cost per measure



Nevertheless, the information given is totally diverse and not very robust, as indicated in the previous chapter, so is not possible to develop further studies regarding the effectiveness of the measures per MS.

Table 7 Monitoring and financial information

Effectiveness	MS
Monitoring	Croatia, Portugal, Romania, Sweden
Financial	Lithuania, Netherlands ,Spain
Monitoring and financial information	France, Hungary, Latvia, UK

3.1.2 Description by country

AUSTRIA

General description

There is a comprehensive set of consumer information and education programmes (Art. 12 & 17) reported in the Austrian NEEAP. These programmes are aimed at both private individuals and professionals. Measures relating to education, training, information and awareness-raising are in principle offered by the Austrian Government and the federal states.

At federal level, **klimaaktiv** <http://www.klimaaktiv.at/english.ht> (the Austrian Climate Initiative) is one of the most important information and awareness-raising programmes. Under the umbrella of klimaaktiv, a large number of programmes have been launched to promote the topics of climate protection, energy efficiency and renewable energy sources, in the personal, commercial and public spheres, by means of information, advice, education, training, quality standards and networking.

The energy agencies of the federal states offer a comprehensive range of information and services. This includes educational programmes for members of the public on a more efficient use of energy (evening events and excursions) as well as advanced training courses for professionals (ranging from one-day seminars to training courses). In addition, numerous activities are provided to inform the public about the careful use of energy. These activities include special events, appearances at trade shows, newspaper ads, brochures, website info etc.

Information on the programmes of the federal states is available at:

www.eabgld.at/

www.energieberatung-noe.at/- www.energiebewusst.at/

www.energieinstitut.at

www.energie-tirol.at/

www.esv.or.at/

www.lev.at

www.salzburg.gv.at/energieberatung

www.wienenergie.at/eportal/ep/channelView.do/pageTypeId/11889/channelId/-22149

Measures to highlight:

1.-Since 2011, the Upper Austria Energy Academy has been offering training in energy efficiency and renewable energy. The main target groups are managers responsible for energy in enterprises, local authorities and institutions, energy consultants, building services engineers, building contractors, construction site managers, planners and architects. The training programme includes seminars, field trips and courses, including training to become an energy consultant. Information is available at:

www.energyacademy.at

2. - Lower Austrian Energy Efficiency Act

Article 8 of the Lower Austrian Energy Efficiency Act – Availability of information – specifies that Information must be provided on energy efficiency measures, ways of comparing consumption and the legal framework.

Article 12 – Duties of energy managers – regulates the appointment, duties and training of managers responsible for energy in the public sector.

BELGIUM

General description

Concerning Art. 12& 17, a series of measures in place for informing consumers and building capacity on energy efficiency actions have been implemented differently in the Belgium regions. These measures include large scale information campaigns on energy efficiency opportunities for citizens and SMEs, about grants made available at the federal, municipal and provincial level for the installation of energy efficient solutions. These initiatives are undertaken during fairs, on magazines, TVs and other media.

Include also the provision of calculation tools to estimate associated investment opportunities and to compare the energy performances of houses based on quantitative information reported in buildings energy performance certificates (EPC). To highlight also that information about the possibilities to participate in the financing of energy efficiency improvement measures are being provided to banks through a policy agreement with the Flemish government that can be signed by financing institutes. Signatories accept to offer advantageous loans to builders of energy efficient buildings and acquire the right to be mentioned in government communications concerning energy efficient buildings renovations. Demonstration projects for nZEBs are also mentioned among the initiatives undertaken to promote consumers information on energy efficiency.

Measures to highlight:

1. Energy guzzlers

The energy guzzlers website (Dutch: www.energievreeters.be / French: www.energivores.be) is a sophisticated but handsome internet-based CO₂ calculator, allowing:

- to evaluate the energy performance of existing appliances/products at home, giving personalized advice on replacement or better use
- to make a "wise" personal selection of new appliances/products amongst all the ones available on the Belgian market. It calculates not only the CO₂ emissions and financial cost, but also the yearly savings and the payback time, whilst taking into account personal selection criteria, personal behavior, specific parameters (energy price, mean outside temperature of the region,...) and most fiscal incentives and subsidies.

2. Database EPD building material

The Federal Public Service of Health, Food Chain Safety and Environment makes available a database allowing manufacturers to declare. Environmental impacts over the full life cycle of construction product. As a result, one will also be able to take into account the "embedded-energy", the energy required to produce, install, maintain and remove a construction product. The better properties can be isolated, the greater the importance of the "embedded-energy" will be. An accompanying Royal Decree is under development to discourage vague environmental messages and encourage quantitative verified information.

3. Promotion of modal shift

Measures implemented by the federal authorities to promote modal shift, focus basically on limiting the growth of road traffic and on promoting other means of transport but can have an indirect effect on energy use in the transport sector as well. A set of measures aimed at encouraging people to use public transport, carpooling, bicycling or walking for everyday mobility have been introduced:

3.1. Promotion of public transport:

- o The Highway Code has been amended so that it gives opportunities to the manager to open the roadway lane reserved for buses;

- o Free train services are funded by the Federal Government for civil servant commuters;

3.2. Promotion of car-sharing: The FPS Mobility and Transport has contributed to the development of car-sharing system called "Cambio" with the participation of regional carriers STIB, De Lijn and TEC.

3.3 Promotion of employee commuter plans: federal government makes available diagnostic tools that can serve as a basis for setting up transport plans for companies. This policy encompass two measures:

- Free train service are funded by the Federal Government for civil servant commuters;
- Extension of the fiscal deduction of expenses incurred for homework travel, when using alternative transport (foot, bicycle, public transport, etc.). The Royal Decree of 13 June 2010 granting compensation for using bicycles to staff members of the federal public administration.

The law of 8 April 2003 (Articles 161-170) requires the participation to the triennial diagnosis of workers displacement from home to work in all BE 17 BE companies and public institutions employing on average more than 100 workers. These companies and public institutions are obliged to seek the advice of the board Corporate or consultative committee, or failing that, they inform another authoritative body for the consultation association. By this requirement the Government aimed at advising and encouraging employers to take action by using business transport plans and support the costs of workers transportation between home and workplace.

4. Stimulation of Ecodriving

According to the Royal Decree of 10 January 2013 (amending various provisions relating to the examination centers for categories C, C + E, C1, C1 + E, D, D + E, D1 and D1 + E) a reform of the certifications of professional drivers of heavy vehicles have taken place: from early 2013, drivers of vehicles of the group 2 (vehicle categories C and D) must follow a periodic training which contain at least one module of defensive or economical driving. It is often a very popular eco-driving module. Decrease of fuel consumption is a direct objective of this type of training.

5. Using fiscal instruments to guide behaviour buying low-carbon vehicles.

The reformed First Registration Vehicle Tax came into effect on 1 March 2012, which means that the environmental features of the vehicle - CO2 emissions, particulate emissions, fuel type and European standard - are taken into account when determining the basic taxable amount. By 2016 the reformed annual road tax system will provide an additional means of guiding behaviour. As part of this reformation the possibility of an exemption/discount for owners of (plug-in) electric cars or natural gas vehicles is also being investigated.

6. Communication.

To encourage consumers and companies to choose an energy-efficient and eco-friendly car, it is extremely important to provide information and raise awareness. Objective information about the energy efficiency and environmental features of cars is provided accessibly (see e.g. www.ecoscore.be). In future communication will focus more on the possibilities and market for new vehicle technologies (hybrid, plug-in hybrid, electric and fuel cell (hydrogen) vehicles, but also vehicles fuelled by (compressed) natural gas).

7. Encouraging the use of alternative energy carriers and technologies.

A Master Plan for Electric Driving is being prepared, which includes the following actions: Communication is important to convince potential users of electric vehicles that they are reliable and that the charging and operating range need not be a real obstacle. Potential users need accurate information about the vehicles available on the market.

8. Reforming driver training and examinations. Learner drivers already have to learn about energy-efficient driving during their driving lessons as, once they have got into particular driving habits, it is always more difficult to change them. Agreements must be reached with the federal government and the other regions on driver training and the conditions to be set for obtaining a driving licence.

9. - Enforcement policy for speed limits

At speeds above 100 km/h a car consumes far more fuel and also emits far more harmful substances.

BULGARIA

General description

For Art. 12 & 17, the NEEAP stated that the electricity distributors publish information on their web sites about energy-savings methods and maintain online archives of electronic bills. The experts employed by these companies help customers to better understand the calculation of electricity consumption.

In order to fulfil their individual targets, energy traders may implement horizontal measures aimed at increasing energy efficiency at the level of final consumers, such as information or promotional campaigns. Efficient energy use by SMEs and households is promoted and facilitated via broad information and training campaigns, establishment of consultation centres at training locations, and public awareness activities in this area. The campaigns address all age groups, including schoolchildren, students, communities and all other citizens. The media also have an enormous role in this respect.

While the State gives information about the existence of this campaigns, the level of detail is under average, making difficult the deep knowledge and also the evaluation of the potential or impact of the measure.

CROATIA

General description

Following the principles that information is a precondition for a successful implementation of measures, and co-financing is a necessity for achieving certain established energy efficiency targets, a great improvement have been described in the information sector in Croatia during the last triennial period.

Clear and comprehensible energy bills (electricity, heat energy and natural gas). This raises the consumers' awareness of the way in which they consume energy. The bills should contain graphic comparisons of consumption in the billing period of the current year and the corresponding period in the previous year. The bills should be based on the actual achieved consumption. The bills should also contain information on where to obtain advice on efficient energy consumption, and a toll-free phone number is recommended.

It is also important that the new regulation under developing, which will define the energy efficiency policy, will stipulate the obligation of operators/suppliers to, at least once a year, deliver their customers a bill specifying the following:

- Consumption in comparison to the same period in the previous year – graphic and table overview

- Proposal of measures that can be undertaken by the customer in order to reduce monitoring
- Info points, including the main website where the customers can find further information – see measure: Info campaigns ME should draw up an instruction on the basis of the future Energy

Regarding the building sector, the info campaigns have tried to raise the awareness of target groups about the benefits and possibilities of energy efficiency improvements. If comprehensive, financially demanding measures are being implemented; integral renovation has proven to be the most efficient and the most cost-effective. However, if the measures in question are 'small measures', the most efficient campaigns are those conducted in a limited time period and targeted towards specific activities, for example thermal insulation of buildings, more efficient lighting, etc. Targeted info campaigns should cover all the participants involved in reaching the energy efficiency improvement target. In addition to targeted activities, a single site containing all the information for all the stakeholders, from citizens to industry, is also required.

Measures to highlight

A website will be developed as an upgrade of pre-existent ones (the UNDP EE campaign, linking to the EPEEF, ME and MCPP websites as well as to the ISGE,) but it will contain a broader range of information. This should be the main website for all the activities, projects, measures and programmes; in other words, it should feature everything regarding energy efficiency in the Republic of Croatia.

CYPRUS

General description

Several measures targeting consumer information and training (Art. 12 & 17) are in place in Cyprus. These include: appointment of Energy Savings Officers in all public buildings, pupil competition and presentations in schools of all levels, training seminars on energy management and RES held on an annual basis, information dissemination through leaflets, information days, annual state fair etc.

Measures to highlight

1. Annual Pupil Competition, where all public and approved private secondary and technical education schools may participate. The competition includes research projects by pupils and/or experimental/laboratory applications, which are directly related to RES or energy saving. Projects must focus on smart and functional ways to save energy, as well as on ways or technologies which may be used to improve energy efficiency. The best three projects from Secondary Schools and the best three projects from High Schools/Technical Schools are awarded pecuniary prizes in an official ceremony held at the end of each school year.
2. Presentations in schools of all levels (preschool, primary and secondary education) on energy savings and renewable energy sources.
3. Appointment of Energy Savings Officers. The aim is to appoint at least one ES Officer in each building (owned or leased), which is used by the services of the public or broader public sector. ES Officers ensure that energy-saving measures are implemented in the building as much as possible, especially zero-cost measures. In addition, they draw up an annual Report on Energy Consumption and Actions in relation to the building under their responsibility. An event and training meetings of ES Officer groups are organised

on an annual basis by the Energy Department, for the training and information of ES Officers.

4. - Officers of the Energy Institute and of the Energy Department perform inspections in buildings used by services of the public sector (owned or leased), aiming to provide advice on energy saving to staff-members. If necessary, in addition to building inspections, officers may make presentations on energy savings and RES.

5.- Preparing and publishing information leaflets on:

(a). 'Guide on fuel economy and the reduction of carbon dioxide emissions in passenger vehicles'.

(b). 'Zero-cost measures for energy savings at the workplace and at home'.

(c). 'Ecodesign leaflet'.

(d). 'Technical guide on nearly zero-energy buildings'.

(e). 'Cogeneration of heat and power

(f). 'Energy efficiency in end use and energy services'.

(g) 'Energy savings guide'.

(h). 'Energy star labelling guide'.

(i). 'Energy auditors - energy audits'.

(j). 'Renewable energy sources in simple words'.

(k). 'Energy applications laboratory (Solar Collector and System Tests)'.

(l). 'Photovoltaic Systems with the offsetting method'.

(m). 'Labelling of tyres with respect to fuel efficiency and other essential parameters'.

(n). 'Twelve rules for pupils'

In addition, the Energy Department has drawn up two textbooks on energy addressed to preschool and primary school pupils, as well as to secondary and technical education pupils. These textbooks have been approved by the Ministry of Education and Culture for inclusion in the school curriculum.

6. - Training seminars on energy management and RES are held on an annual basis, in cooperation with the Human Resources Development Authority of Cyprus (HRDA), the Productivity Centre and the Energy Institute. Four (4) seminars were held in 2013 in Nicosia, Limassol, Larnaca and Paphos, with a duration of 60 hours each. The seminars were addressed to unemployed engineers of all specialisations.

7.- Information days were held in Nicosia, Limassol and Paphos addressed mainly to engineers who are members of the Cyprus Scientific and Technical Chamber (ETEK), the Cyprus Employers and Industrialists Federation (OEB), the Cyprus Chamber of Commerce and Industry (KEBE), hotel owners, entrepreneurs, credit institutions, municipalities and communities, contractors and the general public. Information days focused on energy audits, the energy efficiency of buildings, energy labelling, energy-saving and RES technologies used for heating and cooling purposes.

8. - The Energy Department and the Energy Institute participate in the annual State fair organised by the Cyprus State Fairs Authority, as well as in the annual fair titled 'Save Energy' organised by the Cyprus Employers and Industrialists Federation in cooperation with the Energy Department and the Electricity Authority of Cyprus (EAC) sponsored, inter alia, by the Special RES and ES Fund. Printed information material on the different energy-saving and RES technologies is distributed at the fairs. In addition, information is provided to the general public with regard to the provisions of the grant schemes. The most efficient energy-saving investments made by natural or legal persons under the grant scheme of the Special Fund for RES and ES are rewarded at the 'Save Energy' fair.

9. Public awareness on energy saving is also raised through the energy bills of the EAC.

10. Energy-saving information is provided at the websites of bodies active in the energy sector (e.g., Energy Department, Energy Institute, Cyprus Energy Agency, EAC, CERA, TSO, etc.).

Important to highlight that the following activities have been carried out or are expected to be carried out under the Action Plans of Municipalities having signed the Covenant of Mayors and the Pact of Islands (Municipalities of Strovolos, Larnaca, Lakatamia, Paralimni, Aradippou, Aglantzia, Aghios Athanasios, Latsia, Dali, Yeri, Engomi, Polis Chrysochous, Lefkara, Derynia and Nicosia): presentations on RES and ES, inter alia, no-light days, presentations addressed to pupils, advisory services to citizens, distribution of information leaflets, etc. In addition, their websites provide information on energy saving and renewable energy sources

CZECH REPUBLIC

General description

General information about the objectives of the main measures implemented or on-going in terms of change energy use behaviour is provided in the Czech NEEAP.

Measures to highlight

1. Awareness of the energy savings in heat consumption in households. The aim of this measure is to hold information campaigns and awareness events on energy savings in households (the media, leaflets, lectures, etc.).

2. Expansion of the role of the public sector in demonstrating new technologies. The main thrust of this measure is to introduce green procurement in state administration. This would be mandatory for organisations falling within the scope of the effect of the Public Procurement Act.

Since November 2010, 'Rules for the application of environmental requirements in central and local government procurement procedure and purchasing' have applied in the Czech Republic. These rules were adopted by the Government to promote green procurement in the public sector. The rules only define basic parameters, i.e. they state the bodies for which they are binding, and how and when evaluations of their implementation are to be evaluated. Selected product groups are regulated by more detailed methodologies. These methodologies establish environmental requirements for products and services procured, and also include detailed instructions on how to incorporate these requirements into public procurement.

At present, methodologies are available for the purchase of furniture and office computer equipment, which, as of 1 November 2010, should govern the procedure followed by central bodies of state administration (the Government Office, ministries and other institutions, such as the Energy Regulatory Office, etc.). Further to international developments, methodologies that are also significant from the perspective of energy consumption are also due to be incorporated into the rules:

- energy-saving and environmentally friendly buildings;
- public street lighting;
- wall panels;

- mobile telephones;
- combined heat and electricity generation;
- boilers;
- air conditioning and heat pumps;
- windows.

The target groups are organisations of state administration and local government, organisations subject to the Public Procurement Act and other business entities.

DENMARK

General description

Numerous measures targeting consumer information and training are in place in Denmark. The Energy Agency provides information and advice on how to increase efficiency of energy to end-users, home owners, public sector and commercial enterprises. Consumer information campaigns improving energy efficiency in building, (building regulation, building codes, energy efficient solutions and energy renovations) are the focus of the Danish Energy Agency. Funds have been allocated to ease the energy renovation process for home owners. Experts' advice is offered to simplify and clarify how to renovate the buildings. Additionally a training course was set up aiming advisers to offer comprehensive advice on energy renovations of homes.

The Energy Agency in Denmark has established a real action plan and a strategy for information campaign on energy efficiency for end-users. The aim of this information campaign is to promote energy-efficient solutions and energy-efficient behaviour among the end users. The information campaign mainly addresses end users with a focus on home owners, the public sector and commercial enterprises. This involves preparing material on energy-efficient solutions, information on building regulations, and better access to information and knowledge about energy renovation.

The Danish Energy Agency www.spareenergi.dk support the Agency's communications with end users concerning energy-efficient solutions both in private households and in public and private enterprises.

The target for the campaign at www.spareenergi.dk is to:

- ensure a solid and effective communications platform for the efficiency campaign;
- ensure the greatest possible access to information;
- become the citizen's preferred starting point for energy efficiency improvements;
- support users of tools and information

Measures to highlight

1. Via the Spareenergi (Save Energy) website a large number of tools are being provided to help final customers improve energy efficiency, such as Ny Varme (New Heating), which will provide home owners with an easily accessible overview of the economics of switching from oil and natural gas to heat pumps or district heating. Det dynamiske energimærke (the dynamic energy label) provides home owners with an overview of opportunities for energy improvements. Casebiblioteket (the Case Library) is a collection of illustrated examples from all around the country of home owners who have energy-renovated their own homes. The collection will become part of www.sparEnergi.dk

2. BedreBolig (Better Homes) is a new scheme introduced in Denmark in 2014 aiming to simplify the renovation process for home owners by offering comprehensive expert advice. Its main focus is to develop cooperation and to facilitate dialogue between home owners and financial institutions. DKK 15 million (approx. EUR 2 million) has been allocated to this information campaign.

3. The Danish Energy Agency is also supporting energy labelling of buildings and has therefore developed a website www.maerkdinbygning.dk which aims to facilitate building owners to use energy labelling and to facilitate an analysis of energy saving opportunities for detached houses on the basis of the data gathered through energy labelling.

4. The conversion from oil-fired and natural gas boilers in existing buildings is largely concerned with improving energy efficiency. For this initiative, the Danish Energy Agency has started providing impartial advice to building owners. This consists of specific advice for building owners together with other advice and information initiatives, such as the establishment of local partnerships
<http://spareenergi.dk/forbruger/varme/varmepumper/spoerg-om-varmepumper>

5. Energy saving by energy companies. This scheme will continue to raise awareness of the scheme, including through the distribution of brochures about the scheme and holding meetings with relevant actors,

6. Information campaign aimed at SMEs The Danish Energy Agency publishes Energiledelse: Små og mellemstore virksomheder (Energy management: Small and medium-sized enterprises), which is a guide for enterprises on using energy more efficiently. The guide is distributed via the website www.spareenergi.dk

In Denmark, a large number of initiatives have been taken to promote also energy efficiency in the transport sector.

7. Measures which can improve energy efficiency in public transport

- Conversion from diesel to electric trains on main lines. The conversion is being financed by Togfonden (the Train Fund; see below) and is taking place until 2025.
- Fuel saving and energy-efficient buses give advantages in public tenders
- Energy efficiency requirements for taxis

8. Measures which can make public transport more attractive

- Grants (until 2013) for bus mobility and service improvements
- Grants for improved access to train stations and platforms.
- Metro expansion and development of light railways. Being established in particular to improve mobility and may not yield any energy efficiencies
- Environmental zones in large towns. Established out of consideration for the environment and have no or very little effect on transport efficiency.

9. Programmes to encourage eco-driving?

- 'Kør grønt' (Green driving) measures on buses and trains can provide contractual benefits
- Mandatory refresher courses for professional drivers which include 'green driving'. The refresher courses are mandatory under EU law, but the 'green driving' element is a Danish national interpretation within the framework of the Directive.
- Certification scheme for transport in municipalities and enterprises to reduce CO2 emissions. Financial support for sustainable transport measures
- Togfonden (the Train Fund) (around EUR 7 billion) for improvement and electrification of railways

- Accessibility fund for the improvement of accessibility at stations, transport fund for station modernisation and new stations and a fund for better access to public transport, including parking
- Cycle fund for, among other things, establishing cycle paths
- Fund for energy-efficient transport solutions
- Infrastructure fund for electric, gas and hydrogen vehicles. However, gas vehicles do not improve energy efficiency.

Tax incentives

- In 2007, vehicle taxation was changed so that the registration tax was reduced for cars with low fuel consumption
- A green owner's tax related to the vehicle's fuel consumption has existed since 1999
- Electric and hydrogen vehicles are exempt from tax until 2015 inclusive

ESTONIA

General description and measures to highlight

The main adopted measures to promote and facilitate efficient use of energy by domestic customers:

1. Support schemes for the reconstruction of apartment buildings, the primary objective of which is to ensure their energy efficiency.

2. Reducing the consumption of heating energy in apartment buildings by raising consumer awareness and changing patterns of behaviour, based on the measurement of individual heating costs,

http://www.kredex.ee/public/Uuringud/Allokaatorid_uuring_191112.pdf

<http://www.kredex.ee/korteriuhistu/korteriuhistu-laenud-ja-toetused/renoveerimislaen-3/>

<http://www.kredex.ee/korteriuhistu/korteriuhistu-toetused/rekonstrueerimise-toetus/>)

Estonia's biggest banks (Swedbank, SEB) are also active in implementing support schemes, because beneficiaries' requirement for own contribution is often fulfilled through a bank loan;

3. Support schemes for improving the energy efficiency of small residential buildings. Potential beneficiaries will find information on support schemes on the SA KredEx website²³.

4. National energy saving week is held once a year. More information regarding the energy saving week is published on its website

5. Advertising campaigns have been organised in order to inform residents about energy saving. A description of the measure is published on the internet²⁵; the campaigns were organised by SA KredEx;

6. The exemption of interest on loans for home renovation from income tax,

FINLAND

General description

Regarding the provisions of Art. 12 and 17 on consumer information and training, Finland has in place a large number of measures to disseminate information, mainly through Motiva, the Finnish energy efficiency governmental agency.

Measures to highlight

Motiva coordinates a network of regional consultancy organisations providing energy advice targeted directly at consumers and companies. In addition, the Finnish Ministry of the Environment hosts an online portal, which contains information about property renovations for consumers and property owners, and coordinates a renovation consultancy network. The responsibility for advising consumers on ecodesign and energy labelling requirements also lies with Motiva which is also responsible for the coordination, with the respective ministries or sector associations, of disseminating energy efficiency advice for the transport sector, energy performance of buildings and energy certificates, property management and maintenance or products efficiency like lighting for households.

Training on sustainable development and energy efficiency are seen as transversal subjects and are featured in all levels of education.

Energy efficiency advice for the transport sector is provided in connection with national mobility management work, which is coordinated by Motiva Ltd on commission from the Finnish Transport Agency. The Finnish Transport Agency also grants funding to regions and local governments for the purposes of mobility management

FRANCE

General description

Several measures targeting consumer information and training (Art. 12 & 17) are in place in France for all the sectors. For the building sector there is a plan to introduce a building renovation passport to follow up the implementation.

Measures to highlight

A number of information and communication tools are in place for the transport sector in particular a 'one-stop' approach and PRIS (Renovation Information Service Points)

1. The aim of the housing energy renovation plan is to help owners make decisions through the implementation of a National one-stop approach and of a local network for the energy renovation of private dwellings, a genuine local public service for energy renovation with 450 Renovation Information Service Points (PRIS), present on the whole territory.

The national one-stop approach has a national toll-free number, 0810 140 240, and a website (<http://www.renovation-info-service.gouv.fr/>). Its mission is to guide property owners based on their profile and their location and suggest local information centres, local counselling centres and provide basic information.

The PRIS's mission is to provide technical, financial, fiscal and regulatory information, to give advice, free of charge and objectively, to the enquiring home-owner on the design of the energy renovation project for his dwelling. They are public and independent and are intended for all property owners (owners, co-owners, public building owners in situations of energy poverty). Set up in 2001, initiated by the ADEME (French Agency

for Environment and Energy Management), its purpose is to advise homeowners on energy efficiency and renewable energies. In 2012, 507 000 people were informed by EIE and 121 000 received personalised advice from 453 network advisors that led to the realisation of work of up to more than EUR 520 million (55% of the advised people went on to carry out work). The latest assessment of the direct environmental impact of EIE was carried out in 2011 by the ADEME and led to a reduction of greenhouse gas emissions of 134 000 t_{eq} CO₂.

In order to inform people of the existence of these PRIS, the "j'éco-rénove, j'économise (by renovating, I save)" awareness campaign launched in September 2013 by the Ministry of Housing and Territorial Equality and the Ministry of Ecology, Sustainable development and Energy, aims to encourage property owners to carry out energy renovation work on their dwellings and assist them in their work. The campaign was carried out in three phases:

A TV advert broadcast from 21 October to 8 November 2013 on terrestrial and digital channels;

A national radio campaign that ran from 4 to 20 November 2013;

A version for the web online until the end of 2013;

A press campaign from November 2013 to February 2014.

The way they measure the effectiveness of behaviour campaigns is by the number of questions the platform received; The first available assessment elements show that more than 60 000 enquiries were received between September 2013 and the end of November 2013 via the national phone number. Most of these enquiries (93%) were made by property-owners. The website received around 700 000 visits. In the same period, almost 60 000 people consulted the Espace Info Energie network showing a 78% increase compared to the same period of the previous year.

As far as the information campaign for the general public is concerned via television/radio/the Internet, it reached 44% of the French public thanks to an effective media strategy. In particular, 4 French people out of 10 declared they remembered the advert and 92% of them judged it in a positive way.

Finally, at the end of the second environmental conference of 21 September 2013, the Prime Minister announced the creation of a "renovation passport" in order to facilitate assistance to households during audit activities and their work projects.

2.-Decree No.2010-788 of 12 July 2010 addressing the National commitment to the environment introduced the possibility of issuing energy saving certificates within the context of carrying out information, training and innovation programmes. Among the first actions that have benefited from this provision, one can cite:

- The "FEEBAT" (Formation aux Economies d'Energie des entreprises et artisans du BATiment -training in energy saving for building companies and artisans) training provision has been in force since the beginning of 2008 and by the end of 2013 had allowed to train more than 66 000 trainees.

- The "2012 Grenelle Environment Roundtable Rule of the art " programme that aims to elaborate technical documents destined to guide companies and artisans in the building sector in the renovation, maintenance and construction of buildings compliant with energy objectives.

3.-Finally, the housing improvement club has implemented a training system dedicated to the basics of building renovation trades: this is an on-line apprenticeship platform destined to building professionals⁴⁶. Around 17 000 trainees (taking into account active users) have benefited from this. It was funded between 2008 and 2010 mainly by the ADEME with the initial contribution of the Anah.

4.-Within the context to the PRAXIBAT programme, the ADEME helps regional councils invest in practical work platforms in order to give training centres the necessary equipment to implement thermal solar energy, photovoltaic energy, wood heaters, heat pumps as well as lighting, ventilation and the energy performance of opaque walls.

5.- The BEEP network (Bati Environment –Espace Pro): since 2006, this network aims to share experience and expertise in order to facilitate access to relevant and valid information, as well as to concrete examples. It groups together regional and national resource centres such as the Effinergie,

GERMANY

General description and measures to highlight

Several measures targeting consumer information and training (Art. 12 & 17) are in place in Germany.

Information purposes

1. - EnergieEffizienz: An information campaign on energy efficiency for private households,

Training purposes

1.-Germany has a well-regarded system for training energy service providers, particularly in the construction sector. The core of this sophisticated staff training system is a three or three-and-a-half year dual vocational course in which the practical training in businesses alternates with theoretical teaching in vocational colleges. Standardised national testing schemes and curriculum plans in the relevant trades ensure that people complete the training with comparable skills all over the country. The vocational training thus builds up comprehensive

professional competence, enabling graduates to plan and handle technical tasks in a complex and changing field of work. Apprentices are then highly qualified in their trade to handle both known and as yet unknown or new requirements. Many apprentices also continue on courses with up to 1 700 teaching hours to become masters of their trades, expanding their technical knowledge of all matters relating to building or for their specific building, development or technical trade.

With regard to the necessary qualifications for energy-related building renovation and energy efficient building, the EU project 'BUILD UP Skills' has shown for Germany that the necessary sets of qualifications are widely established in the training and masters' examination schemes for the relevant occupations and that the relevant technologies and processes are well covered. Germany also has a very extensive education and training system for building workers. For the areas of energy efficiency and renewable energies alone, a survey of training providers in craft and industry identified around 315 courses (excluding advanced and masters' courses and ignoring product training from industry and the wholesale sector). These include the advanced training to become a building energy consultant, which has been available for almost 20 years.

These qualification and training systems have been well-established for several decades; they are reliable and transparent to consumers. They lay the foundations for attaining the national energy efficiency targets. Germany is constantly enhancing these tried and tested qualification and training systems.

2.-Alongside them, Germany also offers special accreditation systems for providers of energy services and certification systems for measures to improve energy efficiency. Deutsche Akkreditierungsstelle GmbH (DAkkS) is the appointed national accreditation body for Germany. DAkkS provides accreditation to certification bodies for management systems, products/services and people and to verification bodies for emissions trading. Under the Peak Equalisation Efficiency Systems Regulation [Spitzenausgleichs-Effizienzsystemverordnung – SpaEfV], DAkkS is also responsible for monitoring the 44 currently accredited certification bodies for energy management systems, which currently have around 280 technical auditors/experts.

Efforts are being made to expand the auditing capacity further, as the scale of the audits is increasing in 2014–2015.

3.-One can also apply to Deutsche Akkreditierungs- und Zulassungsgesellschaft für Umweltgutachter mbH (Dau GmbH), the German accreditation and licensing company for environmental consultants, for authorisation to act as an environmental expert. They confirm that organisations (industrial and service companies and other business) are meeting the requirements of the European eco-audit system (EMAS). For this, environmental consultants and/or organisations pass through a special authorisation procedure. The authorisation procedure follows an examination of the specialist knowledge required for an industry-specific licence, i.e. for particular sectors based on NACE codes. Authorised environmental consultants can certify according to the EMAS and also hold a licence to certify under ISO 50001 and alternative systems (e.g. for energy and electricity tax).

4. For quality assurance purposes and to help to locate qualified and tested experts in this market segment, the German Government has created the list of energy efficiency experts, together with the BAFA and the KfW. The aim is to provide quality assurance for funded on-site energy consultations and high-efficiency renovations and new builds funded by the KfW. This is achieved with standardised specifications for the required qualifications, regular training courses and evidence of practical work done, with spot-checks on this evidence. Overall, therefore, the national level of technical competence, objectivity and reliability among energy service providers in Germany may be considered sufficient.

GREECE

General description

Several measures targeting consumer information and training (Art. 12 & 17) have been mentioned in the Greek NEEAP. These include information campaigns (internet, radio, TV etc.) for the energy efficiency in households programme, information campaign by Public Power Corporation through leaflet dissemination targeting final customers and creation of a helpdesk providing operational assistance and response services to the public. All measures.

Measures to highlight:

1. As part of the programme 'Saving Energy at Home', a large-scale information campaign was held to inform households of the benefits of their potential involvement in the programme and to facilitate those who finally decided to join the programme.

As part of this programme and after the establishment of the Special Holding Fund 'Saving Energy at Home', an open call for tenders was launched for banks to be involved in the Fund's activities.

The banks that finally registered to take part in the programme are: Alpha Bank SA , National Bank of Greece SA , Piraeus Bank SA , E.F.G. Bank Eurobank - Ergasias SA

In addition to the investments provided for in the programme 'Saving Energy at Home', these banks are also financing, by granting green loans, interventions aimed at improving the energy efficiency of their residential and commercial customers. Public awareness-raising and campaigning on these funding programmes are organised by these banks themselves.

HUNGARY

General description

Considering that Hungary has a significant energy savings potential through the modernisation of energy-wasting buildings and the replacement of high-consumption electric appliances, information programmes in order to promote the reduction of energy consumption should primarily target these areas. Since residential energy consumption accounts for a significant part, i.e. nearly one-third, of final energy consumption it is of key importance to involve households by making them interested in reducing their individual consumption with a view to achieving Hungary's energy efficiency and energy savings targets. Because of the fact that high energy costs make subsistence more difficult, it is particularly important to provide low-income household with useful information.

In agreement with the Directive, the National Energy Strategy, adopted in October 2011, also puts emphasis in the importance of people's attitudes and the energy savings potentials associated with these attitudes. Various measures specified by the Awareness-Raising AP are conducive to satisfying the information requirements provided for in the EED. The Awareness-Raising AP specifies the following five main areas with regard to the measures:

- (1) energy efficiency and energy conservation;
- (2) increasing the use of renewable energy sources by residents;
- (3) energy savings in the transport sector;
- (4) achieving a low carbon dioxide emissions society;
- (5) adapting to the changed climatic conditions. The action plan aims to promote climate and energy conscious behavioural patterns, encourage individual action toward reducing energy consumption and carbon dioxide emissions and achieve sustainable energy consumption. The long-term aim of the measures is to ensure that interests of the environment and the community should be more decisive than cost considerations in making consumer decisions.

Measure to highlight

1. The Awareness-Raising Action plan.

Requires in the first place that an energy and climatic information website must be set up in order to improve the energy efficiency of domestic customers.

The Awareness-Raising AP intends to organise targeted information programmes concerning energy conservation in order to efficiently exploit the significant role in awareness raising of the existing local administrative infrastructure, public bodies and organisations, and thus to promote conscious energy consumption among local

businesses and households (with particular regard to households in regions that are lagging behind, inflicted by energy poverty). The planned auxiliary materials providing guidance will outline low-cost measures to improve the efficiency of a building or the use of buildings. Local governments play a significant role in energy-efficient and energy-conscious development and operation of settlements.

2.-During the financial period 2007–2013, in the framework of the Environment and Energy Operational Programme ('EEOP'), Hungary offered several opportunities to submit applications for the implementation of awareness-raising programmes to be co-financed by the European Union, which were also able to contribute to numerous programmes to encourage the reduction of energy consumption.

The so called 'Campaigns to encourage a sustainable lifestyle and related behavioural patterns (awareness-raising, information provision and training)' tender scheme

3.-'Profitable energy' pilot project

The project included an awareness-raising campaign and a series of events organised by the ÉMI Nonprofit Kft. between September 2012 and August 2013 in Borsod-Abaúj-Zemplén County. The purpose of the project was to inform residents of the advantages of utilising renewable energy, existing projects in the field and potential methods in order to achieve energy conservation and energy efficiency, which are of key importance for a sustainable lifestyle.

The target encompassed the county's entire population, focusing, however, on people aged between 25 and 59 (financially independent, potential decision-makers). Local government leaders and institution managers from that age group were called on to cooperate, including leaders and managers based in disadvantaged areas. They were called on in order to help promote elements of a sustainable lifestyle, convey information and practical skills, provide information, raise awareness and measure longer-term impacts of the series of events.

The maintenance of longer-term goals of the project is ensured by a website developed in the framework of the project (<http://www.megteruloenergia.hu/>).

4. 'Demonstration of Energy Efficiency and Utilisation of Renewable Energy Sources Through Public Buildings' project

Under the project, 2-day awareness-raising residential campaigns (road shows) are organised in 7 Hungarian regional centres, demonstrating the promotion of use of the so-called Building Energy Rating Tool, the planning and steps of possible and practical energy efficiency improvements of residential buildings, the possible practical uses of renewable energy sources and the targets and achievements of the project. At the campaign sites, an interactive exhibition will be available installed on the platform of a truck, demonstrating practical uses of renewable energy sources in buildings.

At the training programme to be organised under the project, 125 experts will have the opportunity to acquire skills related to the practical uses of the Building Energy Rating Tool. Apart from the application of rating tools, these experts will also become capable of providing customised individual advice on energy efficiency.

5. Instruction and promotion of eco driving techniques

A relatively cheaper yet highly effective means to increase the energy efficiency of road transport is the promotion of energy-conscious and environment and climate-friendly driving techniques. Two factors are required in order to efficiently promote techniques collectively called eco driving: 1. skills sharing; 2. influencing driver behaviour so they apply the skills acquired in practice.

On the basis of certified measurements, the use of eco driving techniques may result in up to 8-10 % savings in fuel consumption. The extensive use of eco driving techniques could lead to energy savings on a level that could only be achieved through investments of billions of Forints in other fields.

The task to be tackled is to include the instruction of the theory and practice of eco-driving in driving lessons, to offer the opportunity of training (e.g. in combination with transport safety training) for regular drivers in the framework of information and pilot projects and to carry out practical mobilising demonstrations in connection with other transport-related environmental campaigns.

The calculation is based on the fact that where eco driving is part of the driving lessons, the share of persons obtaining a driving licence who are able to properly apply eco driving skills will increase from 45 % to 65 %, which will in turn result in savings of 8 % on average, while a further 55 %-35 % of drivers are assumed to apply eco driving techniques on an occasional basis or improperly, achieving an average fuel saving of 2 %. Starting in 2017, promotional campaigns, events and an eco-driving competence centre to be set up will increase the share of occasional application of eco driving techniques from 5 % to 15 %, resulting in an average saving of 1.5 %. The number of drivers concerned, the average number of kilometres driven by them and the average fuel consumption of passenger cars and vans are based on KSH data and KTI research materials.

IRELAND

General description

The measures in place in Ireland regarding consumer information and training include: Consumer awareness activities implemented under the umbrella of Building Energy rating, Better Energy Homes and Warmer Homes campaigns, an extensive consumer website (i.e. Power of One).

Measures to highlight

1.- Domestic Supports

Consumer awareness activities are now implemented under the umbrella of Building Energy Rating, Better Energy Homes and Warmer Homes. An extensive consumer website is maintained under the Power of One with supporting awareness and guidance in electronic and printed resource formats for homeowners. The website receives approximately 200,000 visits per year⁴.

http://www.seai.ie/Power_of_One/

http://www.seai.ie/Your_Building/BER/

2. Industry and small business training

The Large Industry Energy Network (LIEN) is a voluntary grouping, facilitated by the Sustainable Energy Authority of Ireland (SEAI), of companies that work together to develop and maintain robust energy management. The network provides sharing of best practice and case studies. Information seminars are organised on a regular basis to build capacity and exchange new learning and approaches to reducing energy consumption.

SEAI provides advice and training for SMEs through a number of different supports:

Businesses with a total energy spend is less than €100,000 per year can avail of three half-day workshops over 10-12 weeks and tuition in SEAI's online tools and access to best practice. See more at:

http://www.seai.ie/Your_Business/Business_Training/SmallBusiness_Training/#sthash.nz7I8eIG.dpuf

EnergyMAP Training

Businesses with a total energy spend of more than €100,000 per year can avail of three full-day workshops and on-site support from energy advisors. See more at: http://www.seai.ie/Your_Business/Business_Training/EnergyMAP_Training/#sthash.0n4eiV67.dpuf

Also provides a dedicated energy customers team and website resource for consumers who have questions about their electricity, gas supply or water supply, are looking for advice on switching or wish to make a complaint⁶.

ITALY

General description

A decree is the main policy measure whereby Art. 12 & 17 are apparently being implemented. This decree establishes that the national energy agency ENEA, in collaboration with trade associations, ESCOs, consumers associations, Regions, etc. will have to produce a three years information and training program by December 2014 aiming to energy efficiency promotion.

The main instruments adopted in Italy over the past three years to encourage final customers to change their habits have been: incentives, grants or subsidies, the provision of information, flagship/exemplary projects, workplace activities and energy saving education.

The success of the tax deduction scheme (55% and 65%), as proved by the savings achieved in our country, is also due to the liaising role played by the Ministry of Economic Development between the Government and the public in delivering information and raising awareness of the scheme; other agencies which have helped disseminate information were the Revenue Agency, the Regional and Provincial energy agencies and the municipal authorities.

This incentive has also been a driver of energy efficiency. At national level, the main entities providing information on energy savings and energy efficiency to SMEs and households are ENEA, GSE and the Regulatory Authority for Electricity Gas and Water. The Office of the Prime Minister and the Competent Ministries organise periodically dedicated information campaigns.

At regional and local level, information is provided by the Regions, the Provinces, the Municipal authorities, the local Energy Agencies and the Chambers of Commerce. The media used include radio, TV, web, newspapers and integrated projects.

While confirming the effectiveness of the measures already implemented and of the information models applied to date in Italy, to transpose Article 12, 16 and 17 of Directive 2012/27/EU, ensuring an integrated uptake strategy designed to help attain the targets and ensure success of the actions set out in the NEAAP 2014-2016 and to disseminate at national, regional and local level transparent information on Energy Efficiency, an Integrated Energy Efficiency Uptake Plan (Piano Integrato di Diffusione dell'Efficienza Energetica - PIDEE) will be designed, for national and interregional implementation in close coordination with the Regions and the leading industry associations. The Plan addresses the provision of information and training on energy efficiency; in greater detail, it sets out the targets, beneficiaries, strategies and contents of the information and training actions, the budget, the implementing agencies and the provisions for post-hoc assessment of the activities.

In accordance with the provisions of Directive 2012/27/EU, the energy efficiency uptake strategy will include the following actions:

- The dissemination among public authorities, SMEs and consumers of information on good practices implemented under the energy efficiency measures;
- Strengthening of communication on energy efficiency to improve the user-friendliness and transparency of information; initiatives promoting energy-awareness in daily behaviours targeting specific groups (e.g. home-makers' associations, high school students, universities);
- Drafting of check lists and guidelines for local authorities and market operators for assessing and monitoring the results of EE promotion actions;
- Design, implementation and testing, in cooperation with sector operators (system operators, distributors, associations etc.), of instruments to ensure the dissemination to all relevant market players of information on energy efficiency schemes and the financial frameworks via direct means (information from computers or smart meters combined with home-installed displays) and indirect means (smart bills containing historical and comparative energy consumption data).
- Promotion of energy audits as a useful instrument to provide the information needed to take energy efficiency measures, and assessment of the impact of the communication campaign.
- Awareness-raising in the building trade, with a focus on the real estate market; cooperation on actions to raise end-users' awareness of the energy performance of buildings.
- Cooperation with research institutes, universities and companies to assess the costs of EE systems and components, compare the different technologies available for a given energy service and examine the applicability of innovative technologies in the home;
- Planning and delivery of awareness-raising initiatives on the workplace and of training of the Energy Manager within public authorities;

The initial target groups of information and training actions include: public sector employees, in particular in schools; banks and financial institutes; SMEs and the general public.

The following dissemination methods will be used to influence consumption patterns:

- Communication and engagement. Traditional communication actions will be accompanied by a system-wide approach to maximise their impacts, using different media according to target group.
- Feedback (direct and indirect). Consumers need some benchmarks to determine whether they are consuming too much energy. A mix of direct and indirect feedback in the supply of energy has been so far the most successful in steering consumer behaviour, achieving significant energy savings.
- Education. The provision of training on energy issues (including distance learning mode) will be promoted, together with guidelines on teaching methods and standards on training quality.

Measures to highlight

1. COLOR Project (Competency Learning Outcomes Recognition for migrants) promoting application of the ECVET system (validation of formal, non-formal and informal learning) in Italy.
2. "Quality Vocational Training in the restoration of heritage buildings" a project funded by the Leonardo da Vinci programme for quality restoration of buildings of historical and architectural value.

3. REE-TROFIT: "Toward an EQF scheme in the building sector: a training model supported by Chambers of Commerce" is a project promoting the identification of good practices and their national mainstreaming in the vocational training of energy efficiency operators and installers of renewable energy systems. Compener: a project funded by the Leonardo Da Vinci Programme, coordinated by ENEA which designed the detailed qualification framework, in accordance with the European qualification framework, for different roles in the energy field, including the energy manager and the energy certifier.

Examples of information campaign for energy efficiency:

National campaigns:

- Communication Campaign: "Il risparmio energetico è un guadagno per tutti" (Energy Saving is profitable for all): promoted by Ministry of Economic Development and Ministry of the Environment.

- Communication Campaign "Rimetti la casa al centro del tuo mondo" (Place the home at the centre of your world): promoted By Government. This campaign consists of TV and radio public announcements to inform the public of tax relief measures, promote use of the incentives by the general public and help improve the country's energy performance. The campaign was also broadcast on some national and local TV and radio stations, on the websites of the main daily newspapers and disseminated on the web. http://www.palazzochigi.it/GovernoInforma/campagne_comunicazione/agevolazioni_fiscali_casa/index.html

- Energy Project : "Diritti a viva voce" (Speak up for rights): promoted by CNCU and AEEG. The Project is a set of face-to-face and electronic services for the protection of consumers and users of energy services in Italy. Its aim is to inform consumers, raise their awareness and support them in all energy-related issues. The project has been promoted by the 18 Consumer Associations members of CNCU, the National Consumer and User Council with the support of the Electricity and Gas Authority. To date, since the start of the Project, more than 15 000 users have received assistance from the project's 45 info desks. www.energiadirittivivavoce.it

- National Competition "Energia da Vedere" (Energy to be seen): promoted by ENEA in collaboration with Isnova (Institute for promotion of technological innovation) ; is an Open competition of ideas for young people (under 35) for multimedia contributions on the theme of energy efficiency, responsible use, sustainable energy and energy efficiency. The competition consisted of 4 sections: short, audio commercials, video commercials, appliances. http://www.youtube.com/user/eneautee?feature=results_main

Regional campaigns

Regione Veneto

- "Il risparmio energetico in ufficio. Le azioni quotidiane che fanno bene all'ambiente" (Energy Saving in the office. The daily actions that are good for the environment).

The Regional Agency for the Environment of the Regione Veneto (www.arpa.veneto.it) with the support of the Ministry of Environment created in 2012 a campaign addressed to regional governments to promote energy savings in the public offices. The campaign tool was a handbook entitled: "Energy savings in office. Everyday actions to improve the environment ". The handbook explains through a simple language some of the main concepts related to international and national policies. The manual proposes good practices examples implemented in favour of or with the participation of public and simple cards containing information and tips to acquire "virtuous" behaviour on the use of printers, copiers, personal computers, monitors, elevators, heating systems, equipment illuminating, etc.

Regione Emilia-Romagna

One of the main policies of this axis focuses on facilitating the energy-efficient retrofitting of buildings, in both the residential and the public sector. Local energy

planning, information and communication (EnercitEE) has been used as the main strategic regional project for communication and information with the action of identifying and disseminating good practices for energy efficiency. Thanks to LEEAN, the first steps towards the creation of a regional energy network have been taken. More than 80 organizations have been linked, which will facilitate the region's dissemination of information on energy efficiency policies and sharing of technical content.

At the regional policy level, important contributions have been made by ActEE in the area of changing citizens' behaviour and consumption attitudes and in the area of local energy planning by CLIPART. ActEE developed an innovative and low-cost communication tool package that was adaptable for use at both the local and regional levels, and was suitable for local authorities as well as energy agencies. The suggestions and results achieved will make relevant contributions in the design of the energy efficiency communication strategy of the region. CLIPART developed a practical tool (handbook) which describes a number of supporting procedures and tools for local/regional administrators who want to improve or introduce policies for mitigation (i.e. cutting greenhouse gas emissions) and adaptation (i.e. understanding and managing the impacts of climate change on the environment and society).

- "Se queste mura potessero parlare...di energia" (If only these walls could speak...about energy) Use of 3D architectural mapping to raise user awareness on energy saving, promoted by ENEA
- Donne di classe A+ (Class A+ women) Awareness raising program for homemakers, promoted by ENEA e Federcasalinghe
-

Educational Campaigns:

- "Facciamo di più con meno. La PA che risparmia energia", (Let's do more with less. The Public Authority saves energy) promoted by: ENEA and Ministry of Economic Development
 - "Do you speak ENERGIA?" (Do you speak ENERGY?) Project for including the themes of energy efficiency and energy savings in the English language classroom, promoted by ENEA and British Council
 - "Corso di Sopravvivenza Energetica per studenti fuori sede" (Energy survival course for students living away from home) promoted by ENEA and Public Universities. The aim of the action is to experiment with social marketing techniques to raise awareness on the themes of energy saving in public and private buildings. The course, addressed to all university students, provided information on how to reduce energy consumption and the energy bill, improving efficiency. Starting in October 2012 two editions of the course were held and about 200 students participated. Course participants were given one training credit.
 - "Portati il risparmio a casa" (Make savings at home); Take Away Course on energy saving and efficiency. Promoted by ISPRA
- "Il risparmio energetico comincia da scuola" (Energy saving starts at school) promoted by: Piedmont Region
- "A scuola di Risparmio energetico e sviluppo delle fonti rinnovabili"- (Learning about energy saving and the development of renewable sources);The Project was sponsored by the Consumer's Movement and the Citizen Defence Movement in agreement with the GSE Spa - Manager of Electrical Services. 147 secondary schools were involved as part of the project was carried out an investigation to understand what kind of initiatives has been implemented to develop energy saving measures. A competition for new ideas called "Tell me your energy" was launched. It was attended by about 1,600 pupils of the secondary Italian schools, producing the written papers on the thematic.

Training

A centre for the advanced vocational training of energy sector technicians and operators is housed within ENEA's Casaccia Centre in Rome. The School, set up in October 2012, has the following functions:

- Workshop for implementing educational and training projects in the energy sector;
- Training hub providing a permanent and comprehensive package of advanced courses to train specialist technicians promptly and effectively;
- Centre for the spread of technical and scientific culture and for the transfer of innovative technologies linked to the R&D projects implemented by ENEA
- A permanent centre providing guidance to young people towards the technical professions

The School has a broad range of training paths and relies on the competences of ENEA researchers and technicians. In June 2012, at the School of Energy, the first edition of the Summer School in Energy Efficiency was held addressed to young graduates in technical-economy subjects. All course participants, after attending the course, were engaged in paid internships with partner companies.

Brochures

A series of information brochures on energy saving have been published since 2003 by ENEA and addressed to general public. Some titles: "Saving energy with the washing machine", "Saving energy with dishwasher", "Saving energy with the fridge and the freezer", "Saving energy with heating installations", "The energy label", "Air conditioning systems: cooling equipment and heat pumps".

WEB sites:

The GSE portal (www.gse.it) provides information on access to incentives (Thermal Account Energy Account, EEC) and also has a section devoted to consumers entitled "Energia Facile"(Energy made easy). The section includes Guidance, Good Practices, Regulation and FAQ

The Authority for Electricity, Gas and the Water system has an information website with section devoted to consumers (www.autorita.energia.it). This section has the following tools:

Lo Sportello per il consumatore (The consumer Info Desk). This section provides information, assistance and protection to end users and consumer producers of electricity and gas. It provides a direct communication channel which respond promptly to complaints and requests for information.

The Info Desk operates via a call centre which has been upgraded and staffed with professional operators on the free phone number 800.166.654 and includes a specialised task force managing and replying to complaints.

Atlante dei diritti del consumatore (Atlas of consumers' rights) The Atlas of Consumers' Rights is a handy guide to the safeguards and guarantees established by the Energy Authority for the benefit of end users in the sectors of electricity and gas. The guide is a list of questions and answers in simple communicative language, which can be consulted by means of a search engine.

La bolletta spiegata (Explaining the energy bill) Explaining the energy bill is a section of the AEEG's website explaining in detail the contents the energy bill (gas/electricity): the cost of electricity effectively used, taxes and system charged i.e. incentives for renewables and for the decommissioning of nuclear power plants.

Trova offerte (Find offers)

A service to help domestic customers find and compare different offers for the suppliers electricity and gas to find those best suited to their consumption profile. The service is entirely free and available

LATVIA

General description

Several measures targeting consumer information and training (Art. 12 & 17) are in place in Latvia, supporting the implementation of existing measures (e.g. Awareness raising campaign "Let's Live Warmer", supporting the renovation of multi apartment renovation programme).

Measures to highlight

1.-The Latvian „Let's Live Warmer" (Dzīvo siltāk) information campaign (Nationwide campaign in Latvia inspires citizens to take action to improve insulation in residential buildings).It won an award as "ambitious and innovative EE measure" at the EU Sustainable Energy Week in 2012. It is still in place.

The campaign "Let's Live Warmer" is a communications campaign developed by the Ministry of Economics of the Republic of Latvia to promote energy efficiency of buildings in Latvia and raise awareness about the availability of European Union funding for energy-efficiency measures for multi-apartment buildings. The key objectives of the campaign are to raise awareness about energy-efficiency among the general public and decision makers, and encourage apartment-owners to renovate their homes. The main underlying issues were general lack of knowledge about the benefits of energy-efficiency measures and a lack of cooperation between all involved parties – apartment owners, construction companies, municipalities and financiers. A large number of conferences, seminars, discussions and publications on national, regional and local level were organized during five and a half years of the campaign. Two-way communication was established through social networking, engaging in direct communication with citizens. Success can be measured with the steady increase in the number of submitted projects for funding, as well as the much higher density of discussions about the necessity of energy efficiency in the media and general public. Due to success of the campaign, the program's EU funding was increased fourfold – from 20 to 89 million EUR. It all started with an initiative from one civil servant that came up with the slogan "Let's Live Warmer", leading to using social networking sites to inform the public about energy efficiency and the opportunities of using ERDF funding for housing insulation. It is remarkable how something that started as one civil servant's initiative turned into one of the most well-known twitter names among Latvian social campaigns. - See more at: <http://www.worldgbc.org/activities/govt-leadership-awards/europe/2015-nominees/live-warmer#sthash.DFNKVbiV.dpuf>

LITHUANIA

General description and measures to highlight

1.The Energy Efficiency/Housing Pilot Project (EEHPP) 20 was established in 1996 with the partnership of World Bank, the Danish Ministry of Housing and Urban Development, and the Netherlands Ministry of Foreign Affairs to improve energy efficiency in the residential sector..

At the time, the residential sector lacked access to EE financing because government grants and credits for EE investment projects were limited. EEHPP was one of the first projects to target EE financing through a credit line for homeowners and HOAs (Homeowners' association).

The project provided credit for EE renovations of residential buildings, schools alongside included Technical Assistance (TA).

The TA component included setting up advisory centre for increasing information, strengthening project implementation through support for project preparation (energy audits/investment projects), training of local consultants, training of banks, advising PIU (Project Implementation Unit) staff, and reinforcing policy reform in the energy and housing sectors. Advisory centre were formed to convince homeowners and HOAs to implement EE by providing free technical, financial, and legal advice³.

2. Based on the situation of the Lithuanian energy sector in 1997, the 'Taupukas' programme was the first programme in Lithuania on the awareness raising aspect and for implementation strategy measures, the idea emerged to raise awareness of energy saving issues in the residential sector in Lithuania. The main idea was to implement an advertisement campaign, revealing the benefits of energy and water reservoir saving. The 'Taupukas' programme was one of the measures included in the 5-year strategy implementation. It started in January 1998 and was completed in May 1999. The main institution responsible for implementation of the Taupukas programme was Energy Efficiency Centre of the Energy Agency. The budget for the entire 5-year strategy measures implementation was 400 000 EUR. Financing was provided through Phare programme. The Taupukas programme was a public educational programme: the main idea of the programme was to change the behaviour of the end-user - by stimulating energy and reservoir saving. Through the implementation of information campaign awareness among various groups was raised in Lithuania to change the common attitude towards reduction of energy consumption while retaining comfort.⁴

3) Recently several measures targeting consumer information and trainings are in place in Lithuania. Energy companies are obliged to provide to energy consumers information on energy efficiency measures and practices.

Other measures include consultations to building owners on renovation of multi-apartment buildings and publications of recommendations on thermal energy saving measures. Furthermore, information about ongoing energy efficiency programs is published on the websites of respective administrative bodies and ministries.

4) A Day Without Cars Initiative To draw the public's attention to the negative effect of transport on the environment, human health and traffic safety and to encourage the urban population not to use their cars during the campaign and to opt for the less-polluting public transport or bicycles or go on foot. Usually the information on the campaign is published in local or national media and events are organised in schools or public places.

In 2002 the campaign was organised by 12 municipalities, in 2003 – 21, 2004 – 18, 2005 – 25, 2006 – 21, 2007 – 19, 2008 – 16, 2009 – 11, 2010 – 23, 2011 – 14, 2012 – 19 and 2013 – 18.

No studies are undertaken to assess the impact of the campaign on the car flows or pollution reduction. Only a few EU Member States

³ The Residential Energy Efficiency Program in Lithuania -Case Study- May 2014; Prepared by Viktoras Sirvydis –World Bank Group

⁴ Changing behaviour - Project co-funded by the European Commission within THE SEVENTH FRAMEWORK PROGRAMME THEME ENERGY.2007.9.1.2

LUXEMBURG

General description and measures to highlight

Several measures targeting consumer information and training (Art. 12 & 17) are in place in Luxembourg. The households, enterprises and municipalities can receive information regarding energy savings and renewables from "Myenergy".

The Myenergy Platform (<http://www.myenergy.lu/>) is National reference for energy efficiency promotion.

Myenergy Platform includes: Myenergy infopoints (<http://infopoint.myenergy.lu/>), Myenergydays (<http://myenergydays.myenergy.lu/>) and Myenergyhome (<http://www.myenergyhome.lu/>).

Myenergy is the national body for the promotion of a sustainable energy transition. Supported by the State of the Grand Duchy of Luxembourg, represented by the Ministry of Economy, the Ministry of Sustainable Development and the Ministry of Housing, its mission is to be the partner and the public facilitator to mobilize and inform the citizens to a rational and sustainable use of energy. There are also other information sources for information and advisory of energy customers as Internet portal www.oekotopten.lu and <http://www.guichet.public.lu/home/fr/index.html>

Luxembourg has a powerful electromobility platform, with a clear lack of awareness promotion

MALTA

General description

Numerous training and advisory programmes have taken place and are in progress.

These range from:

- Tertiary and post-tertiary level courses in environmental sciences (including energy efficiency) which have greatly been expanded at the University.
- Practical Training courses at MCAST and ISE directed at operators and installers of RES and EE equipment.
- Participation by experts in popular interactive radio and TV programmes at household level to explain issues and reply to questions related to wise energy use directly to individual consumers.
- Advertising campaigns using TV spots, bill boards and distribution of information brochures with practical energy savings tips.

Measures to highlight

National Campaign:

'Save and Reduce', a Government-funded campaign, designed to promote sustainable energy, water and waste management practices in households was offered to all households in the island of Gozo starting as from 2012. This project was under the responsibility of the Ministry for Gozo in cooperation with the Institute of Sustainable Energy of the University of Malta. Some aspects of the project have been described elsewhere under 'consumer information'. This programme was offered to 11,000 households, out of which 8828 (56% of all households in Gozo) accepted to receive the

visits and audits. An information booklet that contained qualitative and quantitative information about energy efficiency was handed out to the household. The officers visiting the households were subjected to a training course by the Institute of Sustainable Energy prior to the start of the programme.

Media:

The media has been used extensively to deliver information and advice and raise awareness on Energy Efficiency to citizens. The local TV and radio stations are all accessible over the whole national territory. Taken together, programmes are widely followed.

Many TV and audio programmes intended for general viewing and others aimed at specific audiences (e.g. housewives) contain sessions on Energy Efficiency and Renewable Energy Sources. These programmes are interactive between the technical advisor invited to the program (supported by the program anchor) and the consumer via telephone from his home. Government agencies provide experts, as do private market operators.

Mail Shots - A 'mail shot' whereby pamphlets on energy tips are delivered to each and every household is a cheap medium to pass on the Energy Efficiency message. This is facilitated by the size of the country (circa 186,000 households) and by a liberalised highly competitive postal service, including private operators who have developed a niche market delivering campaign and P.R. material.

Billboards - Use of billboards along major roads and bypasses is another relatively cheap and effective medium that is very popular and known to be particularly effective. Its effectiveness lies in the fact that the billboards are placed at strategic points along the few busy road arteries through which much of the traffic carrying consumers to those zones with a high concentration of work places has to pass.

WEB sites

Use of the Internet: Several local market operators host websites offering advice on Energy Efficiency. The Maltese people, especially the younger generation are very IT-literate and foreign EE sites are accessible and surfed.

Enemalta hosts a website supported by a customer care service that assists the consumer estimate his energy consumption and provides advice and tips on energy use efficiency and RES.

The main features of this website are:

- An Ecocalculator

This enables the householder to estimate how much energy is being used in the household by appliances in a given list. The calculator allows the householder to judge what appliances are using too much electricity and suggests alternatives/ corrective action. The calculator also works out the amount of greenhouse gas emissions generated by the household to reinforce the EE message

The Malta Resources Authority too hosts an informative website, which informs stakeholders on regulatory issues and other matters within the functions and other terms of reference of the Authority.

The site contains information on:

- Authorisations, permits, licenses and notifications covering electricity and RES; registration of training courses for RES systems; authorisations for activities related to the inland fuel market and bunkering.
- Regulated tariffs for electricity and fuels, and feed-in tariffs for RES
- Registers of licensees and authorised service providers

- Information on the workings of support schemes for retailers and consumers; technical information to assist consumers e.g. to maximise the benefit out of their RES investment, and guidelines; registered products
- Information on Climate Change impacts and adaption, emissions and other matters.
- Library publications, legislation and archived documents

NETHERLANDS

General description and measures to highlight

Several measures targeting consumer information and training are in place in the Netherlands. These include: Energy Investment Allowance for small entrepreneurs, energy tax and excise duties on mineral oils, information dissemination by the Netherlands Enterprise Agency on sustainable leases for buildings, performance contracts, etc., information dissemination by Milieu Centraal and the National Institute for Family Finance Information and information distribution by independent network organisation Esconetwerk on the provision of energy services.

The web site of Milieu centraal⁵ "Everything about energy and the environment in everyday life", is a portal for helping end-users to arise their knowledge on various topic as how to improve heating, ventilation and insulation as well as appliance and lighting in order to save energy and CO2 emissions; the portal offers also some interactive services which able the end user to calculate its personal energy consumption and CO2 emissions of their own house.

POLAND

General description

Since 2007, the Ministry of Economy has conducted an informational campaign promoting energy efficiency measures under the theme "Time to save energy". The campaign aimed to promote profitability of energy-saving solutions and to supplement activities of the Ministry of Economy directed towards an increase the energy efficiency of the Polish economy.

Measures to highlight

In 2008, two brochures were elaborated and 10 000 copies sent out (i.e., "Intelligent Energy – a User Guide" and "Intelligent Energy - a guide for manufacturers, distributors and resellers of equipment and household appliances). These materials were intended to promote awareness on energy saving technologies and the creation of a new social attitude and behaviour towards a rational and economical use of energy in everyday life. Brochure entitled "Intelligent Energy - a User Guide" included information related to energy saving activities in households and offices. This publication aimed to facilitate decision making when choosing energy-using equipment that will be both economically and environmentally sound.

⁵ <http://www.milieucentraal.nl/>

In 2009 an updated second edition of "Intelligent Energy - a User Guide" in a 1 000 000 copies were distributed to customers along with the invoice for electricity. Within the framework of this campaign, a booklet addressed to school children and parents to promote issues related to rational use of energy (with a circulation of 200 000 copies) was developed and sent to the Environmental Education Centres throughout the country. In addition Ministry of Economy purchased 54 500 CFLs and forwarded them to all municipalities in Poland as an element of the promotion of energy saving behaviour.

Another important element of the campaign was a multimedia campaign promoting energy demand-side management addressed directly to final consumers. The end results of this action included television and radio spots to alter social behaviour in energy savings. In 2010 the Ministry of Economy purchased air time on the main TV channel (TVP SA) and 28 spots were aired to encourage the efficient and economical use of energy in everyday life. The spots were seen by more than 7.5 million people. Spots were also spread over the radio. Ministry of Economy bought air time on Radio RMF FM where 34 spots were conducted to encourage changes in attitudes and social behaviour to be more energy efficient. Spots on the radio RMF FM were heard by about 3 million people. The Action Plan annexed to the Poland's Energy policy until 2030 envisages further actions in this area in 2009-2012 (<http://www.mg.gov.pl/node/10722>).

In Polish NEEAP was mentioned implementation of the "National wide advisory programme regarding EE and RES" as a planned measure.

PORTUGAL

General description

Regarding Art. 12 & 17, on information and training, ADENE, the Portuguese Energy Agency is responsible for the promotion, information of energy efficiency and training of professionals. In the NEEAP, there is a set of measures that can be considered to suit the provisions of the article, namely green taxes for private vehicles and the promotion for the acquisition of electric vehicles or energy managers in State organizations.

The NEEAP programme regarding Behaviours comprises measures directly concerning the dissemination of information on energy efficiency with awareness campaigns to be developed in schools, for the transport sector, homes and workplaces.

Measures to highlight

PPEC Programme - Consumption Efficiency Promotion Plan for Electric Energy - this programme coordinated by ERSE, the Energy Services Regulatory Entity, promotes by tenders, several measures for the reduction of energy consumption.

There are two types of measures, tangible and intangible-where information campaigns fall, and two different types of promoters within the project – Companies operating in the electric sector and others.

ROMANIA

General description and measures to highlight

Consumer information programmes and training programmes are particularly important to ensure efficient implementation of policies and measures using appropriate financial and technical resources.

In the 2014 National Reform Programme, the Romanian Government states that, in the 2013 campaign to inform the population and businesses on the importance of improving energy efficiency, ANRE organised 8 seminars in 6 cities (Iași, Timișoara, Brașov, Cluj, Galați Bucharest) attended by approximately 370 trainees and presented EU Directive 27/2017, the general objectives of the energy efficiency policy in Romania, energy efficiency issues in public and residential buildings, issues related to funding facilities, issues concerning the thermal rehabilitation of buildings, etc.

It should be mentioned that ANRE has an important role in informing consumers and stimulating training.

To promote energy performance contracting to municipalities, ANRE held working meetings with the EBRD advisory team and the European PPP Expertise Centre (EPEC) representatives. ANRE also held an online seminar (webinar) on energy performance contracting.

The case studies related to projects co-financed from the State budget are disseminated on the ANRE website and in the meetings with consumers. Thus, between 2006 and 2009 the National Programme provided co-financing through allocations from the State budget to investment projects for energy efficiency improvement and use of renewable energy, whose direct beneficiaries were local authorities; pilot projects were developed in the following areas:

- works for the rehabilitation and improvement of district heating systems in terms of generation, transmission and distribution (zonal thermal power stations, block thermal power stations, thermal substations, equipment of stations with efficient heating modules and/or machinery: steam and/or hot water boilers, heat exchangers, pumps, etc.);
- works for the generation of power in cogeneration systems (cogeneration plants, installation of cogeneration groups with heat engines);
- works for the upgrading and expansion of heat transmission and distribution networks in primary circuit and secondary circuit (heating lines, outdoor heating and hot water networks);
- works for the automation of operation of systems and installations and heat metering for final consumers connected to district heating systems;
- works for the use of renewable energy sources (solar energy, geothermal energy, biomass energy - sawdust and other wood waste);
- works for the replacement of the fuel used to generate heat;
- upgrading of indoor and outdoor public lighting;
- thermal rehabilitation of public buildings and use of local RES potential.

All case studies were presented at meetings with industrial consumers.

The participation of Romanian entities in international projects is important as it ensures optimal dissemination of results, by presenting case studies and experiences of EU countries.

ANRE is concerned with raising energy consumers' awareness of the needs and possibilities to reduce energy consumption, highlighting the benefits of energy audits. Thus, the IEE project 'Residential Monitoring to Decrease Energy Use and Carbon Emissions in Europe – REMODECE' aimed to monitor energy consumption and carbon emissions in the residential sector and an assessment was made of energy savings that could be achieved with the existing means through efficient use of appliances or by removing/reducing standby consumption.

The main purpose of the IEE project 'Monitoring Electricity Consumption in the Tertiary Sector - EL TERTITY' was to assess energy consumption in public buildings, aiming to collect detailed and reliable information on energy consumption and identify energy efficiency improvement options.

The outcomes of these projects were disseminated on the ANRE website.

To improve energy efficiency in low-income households and communities in Romania, a project funded by the United Nations Development Programme - Global Environment Fund provides specialisation of architects, building engineers, qualified auditors through training courses and postgraduate courses in energy efficiency of buildings. Training courses are held also in RDAs for around 250 participants. The information activity will be carried out by creating seven information points that will highlight the sustainable insulating materials available locally.

The funding programme 'Sustainable Energy Financing Facility' (RoSEFF) is currently active and supports SMEs in Romania to invest in energy efficiency and renewable energy by providing technical and financial facilities. In 2013, RoSEFF together with Business Advisory Services (BAS) in Romania and ANRE organised several training programmes on 'Practical solutions to reduce energy costs for SMEs'.

SC IPA SA's participation as partner in the international project 'Promoting Industrial Energy Efficiency – PINE' funded by the Intelligent Energy Europe Programme aims mainly at improving energy efficiency in industrial SMEs (manufacturing) through audit programmes and providing further technical professional advice for the implementation of customised measures. The expected final results are:

- uptake of effective cost-cutting measures to improve the energy efficiency of SMEs;
- increased investment in highly energy efficient machinery and equipment;
- improved energy management to exploit the energy saving potential.

ANRE has become involved in promoting the development of an energy services market in Romania by participating in the European Energy Service Initiative - EESI project co-financed by the Intelligent Energy Europe programme. The events organised under this project were attended by over 120 representatives of local and central authorities, companies engaged in the energy rehabilitation of public buildings through Energy Performance Contracting (EPC). Issues related to the legislative framework and European experiences (advanced forms of EPC, case studies) were presented. Documents were drawn up under the project, enabling local authorities to initiate investment projects based on the performance contracting-type financial mechanism. Those documents were posted in the Romanian section of the www.european-energy-service-initiative.net website and included: definitions, auditing procedure, contract sample, baseline, tender documents, financing systems, case studies, pilot projects implemented in Romania.

In 2008, the Ministry of Regional Development and Housing (currently the Ministry of Regional Development and Public Administration) published the brochure 'Thermal rehabilitation of apartment blocks. 100% thermal comfort with only 20% valuation

works' under the National Programme developed with local public administration authorities, stating the following:

- Why thermal rehabilitation was necessary;
- What thermal rehabilitation involved;
- How much thermal rehabilitation cost;
- The role of the local public authority was;
- The steps to be taken by owners' associations;
- How the national programme (actions) worked;
- Interventions;
- Energy performance certificate of a home;
- Ideas to save energy.

This brochure is available on the website of the Ministry of Regional Development and Public Administration (www.mdrap.ro).

Between 2015 and 2020, when the Intelligent Metering System (IMS) is to be implemented, final consumers must be informed of the mandatory and optional functionalities of smart meters, how the energy consumption is monitored, and billing frequency. Proper information ensures the achievement of benefits deriving from the use of smart meters.

Regarding the transport, the NEEAP includes general comments as Encourage alternative transport modalities (such as cycling, car-pooling or car-sharing) through urban planning and the development of an appropriate infrastructure for cycling (bike lanes, storage racks, special subway and train wagons/compartments for bikes) and extension of pedestrian areas, especially in large urban agglomerations;

SLOVAKIA

General description and measures to highlight

Energy efficiency information campaign – since 2010, the Slovak Innovation and Energy Agency has been responsible for providing public information and advisory activities under the 'LIVING WITH ENERGY' national project (Measured 2.2 of the Operational Programme Competitiveness and Economic Growth). Since May 2010, advice centres have been set up in Trenčín, Banská Bystrica and Košice to provide free individualised advisory services to the general public and professionals by means of toll-free telephone lines (3 320 consultations), email correspondence (2 360 consultations) and personal consultations (1 650 at the centres and 2 400 at exhibitions and trade fairs).

The Slovak Innovation and Energy Agency has published more than 40 types of documents on energy savings and the use of Renewable Energy Sources with an overall print run of 2 780 350 copies, and has held more than 120 professional events for 5 650 participants. Consulting is also available via a website, which has attracted more than 2 200 000 hits. This measure is being continued under the Operational Programme Environmental Quality 2014–2020.

'Major Building Renovation' information campaign – In 2012, the Ministry of Transport, Construction and Regional Development, in partnership with the Slovak Innovation and Energy Agency, started preparing an information campaign intended primarily for the end users of buildings. The aim of the campaign is to explain measures proposed for the major renovation of housing stock and the importance of energy performance certificates for buildings. As part of the campaign, the Ministry of Transport, Construction and Regional Development also launched a website at www.byvajusporne.sk to provide

information to the owners and occupants of multi- and single-family buildings. The campaign is set to continue in the new period.

Information campaigns focusing on the replacement of old appliances with more energy-efficient products, and on the purchase of such new products, are held every year by appliance manufacturers. However, neither the Ministry of Economy nor the CECED collect data on the campaigns that have been implemented. The new period (2014-2016 with an outlook up to 2020) will see the continuation of the replacement of white goods and the tightening of minimum technical requirements by the Commission within the scope of established eco-design and labelling legislation. It is expected that a consumer information campaign will be held and that the monitoring of savings will be improved by the introduction of more efficient appliances among other appliance types.

Educational campaigns:

Educating children on energy efficiency – since 2010, the Slovak Innovation and Energy Agency has been responsible for raising energy-saving awareness among children and young people under the 'LIVING WITH ENERGY' national project (Measured 2.2 of the Operational Programme Competitiveness and Economic Growth). The 'Auntie Eta's Advice' information materials are used in more than 50 primary schools. Slovak Innovation and Energy Agency experts have visited more than 30 schools where, as part of an expert programme, they explain energy savings to the children. In addition to the annual 'Energy Efficiency Marathon', aimed at highlighting the principles of energy efficiency in the production and distribution of energy, the Slovak Innovation and Energy Agency also regularly organises lectures at the youth club hosted by the Agency's offices in Banská Bystrica. This measure is being continued under the Operational Programme Environmental Quality 2014–2020.

Children are also educated on energy and energy efficiency under the 'EkoFond for Schools' initiative, which is designed for the pupils and teachers of primary and secondary schools. The EkoFond encourages education in primary schools by means of the following:

- an annual contest for pupils and teachers designed to encourage teachers to come up with creative energy efficiency projects.
- a multimedia educational site at www.platforma.ekofond.sk, which is both a source of information and instructions on how to conduct experiments for science teachers, and a platform for their e-learning.
- an interactive travelling exhibition on energy in the third millennium, which is intended mainly for pupils in the second stage of primary schools and for secondary schools. Between October 2011 and June 2013, the exhibition was visited by 19 855 pupils of primary and secondary schools and 976 teachers.

To improve the quality of education in secondary schools, the EkoFond created and introduced the new field of study 'Building Energy Facilities Engineer', a four-year study programme. This included the publication of new educational materials focusing on progressive energy efficient technologies.

The EkoFond also contributes to the training of teachers and supervisors of secondary vocational schools with a technical specialisation in the energy efficient technical equipment of buildings.

SLOVENIA

General description and measures to highlight

The main objectives of the consumer information and training programmes in Slovenia are indicated by the NEEAP as:

- to inform and improve the awareness of the essential target groups regarding the benefits of EE and of the use of RES;
- to provide the specific activities essential for a target group;
- to provide attractive models;
- to show good models from public sector measures.

The implementation of existing information and training measures continues (H.3, H.4, G.3, G.5), Table 14. Articles 351–353 of EZ-1 refer to information and training programmes. Information, training and awareness-raising programmes for different target groups are carried out by the Support Centre.³⁸ Funding is earmarked from the Eco Fund resources for implementation of the raising energy efficiency scheme.

Information to consumers on EE measures and the use of RES will continue to be sent to other actors on the energy services market as well. These activities are also currently being implemented within final customer energy saving schemes, with 80 contracts being signed for the provision of information programmes in 2012.

Energy consulting for RES for broad consumption continues to be implemented via the network of energy advice offices (ENSVET), the operation of which is to be funded from Eco Fund resources. An average of 6,000 advisory sessions are held within ENSVET per year. The objective is to increase this figure to 10,000 per year. The number of advisory sessions should increase in the future with the operation of mobile ENSVET units. It is envisaged that ENSVET will take over consulting measures from the EE scheme for low-income households, in addition to the tasks it had performed up to now (existing measure: G.3). Within this framework, the provision of advice is planned on possible measures to reduce energy consumption among socially deprived groups, as is the allocation of EE installations. Visits will be made by regional social work centres, with 300 such visits being planned for 2014. Individual assistance could provide households with savings of up to EUR 150 on their energy bills per year.

Other organisations are active in the area of EE promotion and the use of RES; these include energy companies (e.g. the Energy Solutions Centre, the 'Positive Energy' EE and RES website, including the REUS Research Study into Energy Efficiency in Slovenia), non-governmental organisations (Focus, Umanotera, E-forum), the Eco Fund, local energy agencies, etc.

EE issues are also addressed in education programmes (e.g. the 'Energy' course at the Faculty of Energy at the University of Maribor, the 'Eco School' programme for nursery, primary and secondary schools, optional subjects in environmental protection, which include energy efficiency, in grammar schools and primary schools, etc.). The 2011 White Paper on Education in the Republic of Slovenia³⁹ also mentions sustainable development, part of which includes energy efficiency, as one of the strategic challenges and policies of the national education system.

Funds for information and consumer training are available within the 2014–2020 financial perspective as part of the priority investment in supporting energy efficiency and the use of RES in public infrastructure, including public buildings and the housing sector. Emphasis is placed on special measures linked to improvements to energy efficiency in households faced with fuel poverty, as well as support for raising awareness of and providing education in energy efficiency measures.

Energy advice network for citizens – ENSVET

Provision of information, advice and assistance to citizens about investments in EE, RES use, and the preparation of applications for tenders for the acquisition of financial

incentives for investments are carried out. The measure also includes the setting-up of mobile ENSVET units.

SPAIN

General description

Several measures targeting consumer information and training (Art. 12 & 17) are in place in Spain. The NEEAP describes them in details and groups them under "communication and information" and "training" headings.

Measures to highlight

Among the most important initiatives: (a) on-line open datasets on IDAE website (e.g. databases of energy service and renewable energy companies; databases on high energy efficiency devices); (b) free e-learning courses; and (c) citizen information service on energy efficiency and renewable energies (SICER), set up in 2008.

As for art 16, the draft Royal Decree, lays down requirements for undertaking professional activity as an energy service provider and the requirements for professional activity as an energy auditor.

In relation to the package of measures for efficient use of means of transport, significant advancements have been made in fleet management (for accurate route and load management) through audits, implementation of computer systems and ongoing training in efficient driving techniques for both general and professional drivers.

The Sustainable Mobility Strategy envisaged the dissemination and introduction of efficient driving techniques in driving tests and encouraged the development of driver training courses as one of the priority measures for achieving a more sustainable transport sector in Spain.

Within this framework, the Ministry of Industry, Energy and Tourism, through IDAE, collaborated with the Directorate-General for Traffic of the Ministry of the Interior and, on 1 January 2014, efficient driving training techniques were introduced into the Spanish driver licensing system for passenger and industrial vehicles through an amendment to the 'General Driver Regulations' (approved by Royal Decree 772/1997 of 30 May 1997). This measure and its implementation as of January 2014 will generate significant savings bearing in mind the number of new driver's licences applied for each year (around 450 000 new drivers).

More than 85,000 professional drivers of industrial vehicles have been trained in efficient driving techniques in recent years. This training was provided through two channels: agreements with the sector (30 000 professionals) and collaboration agreements with the autonomous communities signed to enforce the 2008–2012 Energy Saving and Efficiency Action Plan (around 55 000 professionals). The Ministry of Industry, Energy and Tourism, through IDAE, together with the Ministry of Development, has signed collaboration agreements with vehicle manufacturers and road haulage associations.

Spain intends to continue working on measures to improve road fleet management through audits and by incorporating computer applications which improve energy efficiency, as well as efficient driving programmes aimed at both professional drivers and passenger vehicle drivers (excluding new drivers).

SWEDEN

General description and measures to highlight

Regarding the provisions of Art. 12 & 17 on consumer information and training, Sweden considers that the municipal climate and energy advice fulfils the needs on promoting efficient energy consumption for small energy consumers. This measure is seen as a way of information dissemination. This measure is to be continued at least until 2017. In addition, the Swedish Energy Agency is working to disseminate information and raise awareness, according to the NEEAP.

There are various kinds of conferences and meetings that are organised on the initiative of public-sector players, where stakeholders, including market players, are given an opportunity to provide information.

In addition to the activities mentioned above, information about energy efficiency measures is also available from relevant players now, for example via the Swedish Energy Agency website, various networks of market players (BELOK, BEBO, BELIVS, HYLOK, ENIG, etc.), publicsector players (the Sustainable Municipalities project, energy-efficient authorities, etc.) and municipal energy and climate advisers.

There are many different kinds of information initiative that affect energy consumption in the transport sector. The car index of new cars' impact on the climate is the result of collaboration between the Swedish Transport Administration and the Swedish Consumer Agency which started in 2007. The aim of the report is to shed light on purchases of new cars by Swedes and about the types of climate consequences. The report is produced twice a year, and it provides statistics about carbon dioxide emissions from new cars according to the EU method, as well as the estimated climate impact for all local authorities, all counties, and nationally.

The Swedish Consumer Agency and the Swedish Energy Agency are working together to develop and administer a portal of information and facts about cars, called Bilsvär.se, with consumers as the target group.

The work is being done in collaboration with the Swedish Transport Administration, which is providing expertise on various specialist matters where needed. The aim of Bilsvär.se is to provide consumers with easily accessible, reliable information about new and used car models and thus reinforce their opportunities to be well-informed and active in the market. Before any purchase decision is made, there must be adequate information in hand for selecting a model based on needs, financial conditions and the environmental perspective.

For green vehicles there is the website www.miljofordon.se, which has been co-financed by the Swedish Energy Agency since 2011. It contains information to supplement the New Car Guide.

UNITED KINGDOM

General description

Concerning Art. 12&17, the NEEAP proves that a series of actions related to consumer information and training for professionals in the field of energy efficiency have been implemented as part of the Green Deal. The NEEAP also mentions that "the UK will be introducing legislation in June to ensure that the requirements of Article 17 continue to be met". In addition, it highlights that energy suppliers are required to adhere to an Installation Code of Practice when installing smart meters. Moreover, it indicates that the Government has contracted the Energy Saving Advice Service to provide households with access to impartial, free advice on energy efficiency measures and opportunities available under the Green Deal and ECO. A series of measures concerning awareness raising and training initiatives for citizens is also described.

Measures to highlight

The Build Up Skills UK project is another initiative mentioned in the NEEAP. Together with this initiative, a series of certification schemes in place for energy service providers, energy auditors, energy managers and installers of energy-related building elements is described to prove compliance with Art. 16.

Good practice example – The important role of "images" to stimulate curiosity into a project: Hadyard Hill Community Energy Project, Energy Agency – Scotland, UK

The project was targeted at reducing the demand for energy and to reduce the number of people living in fuel poverty. The measures were started in December 2006, and insulation measures were installed between March and August 2007.

The Hadyard Hill wind farm was built near Girvan in South Ayrshire by Scottish and Southern Energy. The wind farm generates enough electricity to power 80,000 homes. Scottish and Southern Energy set aside £300,000 (€352,046) to increase energy savings in the area by offering free insulation for properties in the community. The Energy Agency ran the project and **an awareness raising campaign** was organised that included posters in local shops, meetings with community councils, a launch event and direct mail. The use of a brand and an **easily identifiable image** in the form of a house with a scarf helped to give a more consistent image. To show more clearly the energy wastage of the household, surveyors were commissioned to take thermal images of the majority of properties in the area. The images also helped to identify exactly where in the building heat was being lost, the best interventions needed and what kind of insulation was most suitable for the household. Further surveyors were contracted to carry out door to door data collection on the building and structure of the properties. The surveyors also asked questions to identify the ecological footprint of the household. A report was subsequently sent to the household giving them a summary on their household and later insulation measures were installed.

As results of the Hadyard Hill Community Energy Project, the insulation brought a total reduction in energy consumption of 2,900,000 kWh for the 480 insulated households, from 830 targeted in the area around the wind farm. This means that there has been an average reduction of 6,200 kWh per household per annum. The community is producing over 744 tonnes less CO₂ per annum. The amount of people living in fuel poverty in the neighbourhood was reduced by 10% thanks to this scheme.

- The Energy Saving Trust is the UK's leading impartial organisation helping people to save energy and reduce carbon emissions. The Energy Saving Trust does this by providing expert insight and knowledge about energy saving, supporting people to take action, helping local authorities and communities to save energy and providing quality assurance for goods, services and installers. <http://www.energysavingtrust.org.uk/business/Business/Information/Publications-and-Report-Library/Publications-and-Case-Studies>


Eco-driving is driving that uses fuel efficient driving techniques, and it is included in the practical car driving test. The Driver and Vehicle Standards Agency (DVSA) National Standard for driving cars and light vans includes a section specifically about driving in a fuel-efficient, responsible way and the DVSA National Standard for driver and rider training sets an expectation that Approved Driving Instructors will be able to teach those skills effectively. The Government has provided grant funding to the Energy Saving Trust (EST) since 2009 to support them in delivering eco-driving lessons to business vehicle fleet drivers. To date the EST has trained over 32,000 drivers. The Government is also working to ensure that there is publicly available information on the potential financial and environmental benefits of eco-driving to encourage motorists to use the techniques. Accordingly, Government has funded the EST to undertake field trials that will provide eco-driving training to 500 drivers, followed by on-going evaluation of the fuel savings they achieve while driving

3.2 Best practices at a national level

This chapter reviews a selection of good practice examples, with a short description. The examples are organised per type of measure. More information about the given measures could be found in the NEEAPs and in the country assessments above.


3.2.1 Information campaigns

Table 8 Web page model

	Austria	<p>Klimaaktiv- The Austrian Climate Initiative http://www.klimaaktiv.at/english.ht Under the umbrella of klimaaktiv, a large number of programmes have been launched to promote the topics of climate protection, energy efficiency and renewable energy sources, in the personal, commercial and public spheres, by means of information, advice, education, training, quality standards and networking.</p>
	Belgium	<p>Eco-friendly car www.ecoscore.be Objective information about the energy efficiency and environmental features of cars is provided to encourage consumers and companies to choose an energy-efficient and eco-friendly car</p>
	Croatia	<p>Website upgrading pre-existent ones , covering every topic related to EE</p>
	Denmark	<p>The Danish Energy Agency www.spareenergi.dk support the Agency's communications with end users concerning energy-efficient solutions both in private households and in public and private enterprises.</p>
	Estonia	<p>www.KredEx.ee The aim is to reduce the consumption of heating energy in apartment buildings by raising consumer awareness and changing patterns of behaviour, based on the measurement of individual heating costs</p>
	Finland	<p>MOTIVA platform; coordinates a network of regional consultancy organisations providing energy advice targeted directly at consumers and companies</p>
	France	<p>www.renovation-info-service.gouv.fr Its mission is to guide property owners based on their profile and their location and suggest local information centres, local</p>

		counselling centres and provide basic information.
	Hungary	www.megteruloenergia.hu The purpose of the project was to inform residents of the advantages of utilising renewable energy, existing projects in the field and potential methods in order to achieve energy conservation and energy efficiency, which are of key importance for a sustainable lifestyle
	Ireland	WWW.seai.ie An extensive consumer website is maintained under the Power of One with supporting awareness and guidance in electronic and printed resource formats for homeowners
	Italy	www.efficienzaenergetica.enea.it National dedicated web-site for energy-efficiency measures
	Luxemburg	MyEnergy platform, National reference for energy efficiency promotion. www.myenergy.lu
	Netherlands	"Everything about energy and the environment in everyday life" portal

Table 9 Mass media

	Cyprus	Leaflets and textbooks by the Energy department
	Czech Republic	Energy savings in heat consumption, leaflets radio and TV advertisements
	Denmark	Brochures targeting energy companies
	France	"j'éco-rénove, j'économise" (by renovating , I save) TV and radio advertisements,
	Germany	EnergirEffizienz General information campaign, leaflets radio and TV advertisements
	Greece	"Saving energy at home" General information campaign covering TV, radio, and leaflets

	Italy	ActEE Low cost innovative tool multilevel package
	Latvia	"Let's live warmer" household renovation programme awarded in the EU Sustainable Energy Week 2012
	Lithuania	"Taupukas" regarding residential sector
	Malta	Eco-Gozo project " Save and reduce" radio, TV, internet, mail shots and billboards
	Poland	"Time to save energy" multimedia campaign promoting energy demand-side management addressed directly to final consumers
	Portugal	PPEC programme-Consumption Efficiency Promotion Plan for electric Energy There are two types of measures, tangible and intangible-where information campaigns fall, and two different types of promoters within the project – Companies operating in the electric sector and others
	UK	Hadyard Hill Community energy project The project was targeted at reducing the demand for energy and to reduce the number of fuel poor

Table 10 Calculations tools: investments –energy savings- CO₂ emissions reduction


	Belgium	Energy guzzlers Dutch: www.energievreeters.be / French: www.energivores.b Calculating the Co2 reductions when implementing measures at a household level
	Denmark	NYVarme (new heating) Economic info regarding the use of several fuels
	Italy	CLIPART About mitigation policies procedures
	Netherlands	Co2 emission calculator
	Romania	Monitoring plan within the ANRE website Estimating measures efficiency

Table 11 Dataset


	Belgium	LCA of building material , estimating the "embedded –energy" of household elements
	Bulgaria	On-line archives with help desk services Including prices trends of fuels and consumptions
	Denmark	Det Dynamiske energymaerke Catalogue of energy improvements
	Denmark	Casebiblioteket Illustrated examples of energy renovated houses
	France	BEEP network Sharing experience and expertise on the household sector
	Germany	Energy Efficiency expert list
	Lithuania	Recommendations for energy renovation
	Spain	Open datasets , provided by IDEA of energy service sand Res companies

Table 12 Modal shift promotion

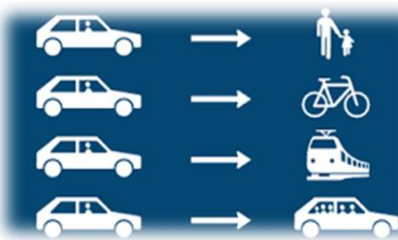
	Belgium	LCA of building material , estimating the "embedded –energy"
	Belgium	Public transport promotion : buses lane opening, free trains services for civil servants
	Belgium	Car sharing "Cambio" system, with the participation of regional carriers
	Denmark	Grants for bus mobility and train use
	Finland	General information campaigns
	Lithuania	A Day Without Cars Initiative

Table 13 General information and events

	Cyprus	Energy days
	Cyprus	Annual energy state Fair
	Denmark	Specific advice regarding boilers conversion to building owners by the Danish energy agency
	Denmark	Energy management information campaign and guidebook
	Estonia	National energy savings week
	France	Working group developing technical documents in eco design and renovation
	Greece	Helpdesk for final energy customers
	Hungary	Awareness Raising Action plan, targeted information programmes on energy conservation
	Hungary	"Profitable Energy" pilot project under the "Campaigns to encourage a sustainable lifestyle and related behavioural patterns" program
	Italy	On-line customers Helpdesk
	Italy	Regional campaign targeting public officers , Region Veneto
	Lithuania	Technical assistance in the "EE housing pilot project" trough an advisory center
	Luxembur g	Energy days
	Spain	SICER Citizen information system on EE and RES, set up in 2008
	Slovakia	'Major Building Renovation' information campaign

Table 14 Others

	Cyprus	Appointment of Energy Savings officers in every building
	Czech Republic	Expansion of the role of public sector in demonstrating new technologies
	Denmark	BedreBolgi :expert advice trying to gather together owners and financial institution
	France	PRIS (Renovation information Points) regarding the household sector
	France	Renovation passport, allowing owners to have assistance during renovation process
	Ireland	The large industry Energy network (LIEN), voluntary group towards robust energy management
	Italy	"Energy savings in the office" good practises handbook
	Italy	Creation of a Regional Energy network
	Luxemburg	Energy info points
	Poland	Intelligent Energy Guidebooks
	UK	The Energy Saving Trust, organisation providing expert energy advice to owners and authorities
	Slovenia	Energy advice network for citizens – ENSVET

3.2.2 Training programs

Table 15 General training




	Austria	Austrian training in EE and renewables with energy consultant diploma www.energyacademy.at www.noe.gv.at/Umwelt/Energie/Energie-Gemeinden/EEG.htm
	Cyprus	Seminars by Energy institute officers on energy management
	Finland	General training in all levels of education
	France	"FEEBAT", targeting building companies and artisans
	France	On line trainings on building renovation trades
	Germany	Professional trainings in the EE field
	Ireland	Energy MAP training targeting SMEs
	Italy	"Course for Energy saving and development of RES: new ideas grow in class"
	Lithuania	Specific training for SMEs and builders in the "EE housing pilot project" through an advisory center
	Spain	Free e-learning courses

Table 16 Education and awareness

	Bulgaria	School Energy days
	Cyprus	Annual pupil competition
	Cyprus	School Energy days
	Hungary	"Demonstration of Energy Efficiency and utilisation of Renewable Energy sources in public buildings" pilot project under the "Campaigns to encourage a sustainable lifestyle and related behavioural patterns" program
	Italy	"Energy to be seen" national multimedia competition

	Italy	"Tell me your energy" school innovative ideas competition
	Malta	General educational campaign

Table 17 Ecodriving

	Belgium	Eco driving module mandatory for driven license
	Denmark	Mandatory "refresher" driving courses including eco-driving
	Denmark	Contractual benefits in buses and trains applying eco-driving
	Hungary	Including eco-driving optional instruction

Chapter 4: Conclusions

Strengths and weaknesses of NEEAPS information measures

From the above analysis of the NEEAPs, it has been concluded that all EU MSs integrate, to a greater or lesser extent, public awareness, information and benefit campaigns, towards a behavioural change in energy use in their EE policy. Except for a few examples, information measures are given a substantial role. The main findings regarding the measures in terms of analyses within the MS NEEAPs 2014 are described below.

Type of measure

Measures under the heading "information campaigns" are the preferred area of intervention. Measures targeting different groups and covering several sectors are present in every NEEAP analysed.

The most common tools which the measures rely on include:

- the lately developed: *web based* platforms are the most popular means of communication selected. Several MSs describe the added value of unifying the topics under one umbrella web. It is also recommended to keep the messages as simple and entertaining as possible. See Results chapter, table 7 (*such as the Austrian klimaaktiv or the Finnish MOTIVA platforms*)
- the classic: *mass info campaigns*. In general the scope and messages to be communicated are extremely varied. There is a need to tailor-made targeted messages for a specific audience. But very generally, they must target specific areas of the society. The need for repetition in order to engage people with the message is underestimated in almost all the relevant NEEAPs. See Results chapter table 8 (*such as the German EnergiEffizienz, or the French "j'éco-rénove, j'économise"*)
- Active communication *on-line tools*: to calculate CO₂ reduction or energy savings estimations. Table 9 (*for example the Belgian energy guzzlers tool*)
- *databases*: MSs present databases containing examples of energy efficiency applications, e.g. illustrated examples of energy renovated houses, energy efficient expert lists. These kinds of measures targeting users with previous knowledge on the topic, may be very effective. Table 10, (*such as the Danish illustrated catalogues*)
- *modal shift promotion* strategies: MSs continue to repeat the basic measures relying on economic incentives, not making the citizens an actor. energy days , helpdesks and *info points*,

On the contrary less than the half of the EU MSs include training measures within their 2014 NEEAPs. It would be worthwhile to understand the reason why MSs focus less on tailored training measures that in principal may have a greater impact because they target more enthusiastic or empathic audience (students, energy related workers..) Three main types are described:

- General training to adults , targeting sectors or general ones
- Education and awareness raising at schools
- Eco-driving, general (adults, students) or professional (drivers, energy related workers) training

Sector covered

More than 60% of the measures described within the 2014 NEEAPs target the household sector. The measures on information and awareness rising in transport are underrepresented in the NEEAPS, probably due to the custom of not describing the transport measures under the articles of the EED on which the analysis was based.

This fact is also evident when reviewing literature in energy use behaviour. Most of the publications are based on measures implemented in the household sector.

Monitoring and evaluation information

The monitoring and evaluation phase of any measure is critical. It must to be integrated in the planning phase of any development, especially when trying to adapt or modify human behaviour. The evaluation of the effectiveness of the measure is the crucial part and needs to:

- choose an evaluation method,
- collect the data,
- conduct the evaluation and report results,
- disseminate the results to improve the effectiveness of future programs.

As already commented in the "results" chapter, apart from basic performance indicators regarding information campaigns or modal shift promotion, no data about monitoring or evaluation of any measure is included in the NEEAPS documents. This is the weakest point of the information and training measures described in the NEEAPs. In some cases, this lack of information may be due to confidentiality and privacy reasons.

Even if it is not still an harmonised world-wide method for comparing energy behavioural measures, literature provides several examples as basic as a "comparison before the program and after" or the use of statistical analysis like the *Difference in differences* (DDI) "comparing the average change over time in the outcome variable for the treatment group, compared to the average change over time for the control group" *Abadie, A. (2005)* or the *Randomized control trial* (RCT) "the people being studied are randomly allocated one or other of the different treatments under study". **Schulz KF**, et al (2010) that can easily adopted by the MSs.

MSs have to learn how to evaluate information campaigns. This should be one of the short term targets regarding information and awareness measures implementation.

The NEEAPs analysis carried out as illustrated in the previous chapters allows the main MS strengths and weaknesses in developing and implementing information and training campaigns on energy efficiency to be identified, as reported in table 18. The aim of this exercise is to present in a nutshell the lessons learnt. This feedback may be used by MSs in order to strengthen existing practises and solve some of the problems faced while designing and implementing these measures. Recommendations are given in the following paragraph. Please note that measures related to transport are not well enough described in the NEEAPs.

Table 18 Strengths and weaknesses of NEEAPS information

Strengths	Weaknesses
✓ <u>unifying</u> information in web pages(information hubs)	- mass media information campaigns very general; <u>not tailored information for target groups</u>
✓ the development of <u>active communication</u> tools is growing	- Mass media , <u>repetition</u> need to engaged citizen's <u>underestimated</u>
✓ generation of <u>datasets</u> targeting audience with energy knowledge	- <u>lack of innovation</u> ; repeating not efficient measures
✓ <u>easier and more engaging</u> access to energy information through energy days and info-points	- <u>lack of a good planning phase</u> of the measure (audience, message, tool)
	- Measures in <u>transport</u> sector not enough described
	- <u>not monitoring or evaluating system in place to track or asses the measure effectiveness</u>

Recommendations

Once the main strengths and weaknesses of the measures implemented by MSs have been identified, the next step is to analyse and discuss them in order to provide the MSs with useful elements to improve the impact of their information and training campaigns. This exercise has been performed by integrating the factors highlighted in pre-existing literature as drivers of good practises regarding the planning, implementation and evaluation of information and training campaigns on energy related behaviour.

Planning

Literature and experience show the relevance of an optimal planning of the measure to be implemented. One way to improve the effectiveness is to carefully design a strategic plan to develop the measure⁶:

- Setting the measure/programme goals in line with policy goals
- analysis of the determinants of desired behavioural change
- analysis of market segmentation and choice of target groups
- choice of instruments
- planning the organisation and management
- risk analysis and back-up plan
- programme testing and pilot campaigning
- planning the resources
- planning the monitoring and evaluation

⁶ Case studies on innovative communication campaign packages on EE Global CCS institute study

Three main factors have to be specially considered during the planning phase,

- selection of the **communication channel** , based on the following factors: cost-efficiency, media brands, media coverage and access, cultural factors, long-term view and repetition. In particular, the repetition is a factor frequently underestimated. Repeating campaigns to stay in the mind of the citizens is essential. Changing behaviour is a process. It is essential to maintain a presence in the minds of the target group. Therefore repetition or further development of the campaign is recommended. Pure information doesn't necessarily result in behavioural changes: Information materials must be accompanied by actions allowing people to reproduce a new behaviour. Also important is to check the suitability of the selected communication tools, e.g. often it is much more effective to write a personal letter than to use anonymous direct mailing. Face-to-face contacts are more effective than telephone calls. Pictures and films are livelier than brochures and texts and leave a more lasting impression.
- **Targeting**, as described in the introduction and results chapter. Tailored information measures targeting concrete social groups is one of the major factor towards an effective campaign.
- **Monitoring and evaluation** of measures. As introduced in the previous paragraph when studying the main weaknesses of the MS NEEAPs regarding information and training campaigns (statistical evaluation methods), the challenge is to find better ways to evaluate a measure's effectiveness, to develop new indicators for societal progress allowing to measure if higher awareness is translated into more energy efficient individual behaviours.

The message

The effectiveness of information campaign relies mostly on the effectiveness of delivered messages. They must be simple, adequate to the targeted group, easy to understand and inspiring. Three main aspects need to be considered:

- Emotions and rational arguments: Emotions are a very appropriate way to raise awareness. Once the target group is aware of the problem (e.g. motorised transport) and also of their own role, it makes sense to provide also rational arguments that support a change of behaviour. Strategies for behaviour change would be more effective if they would target the factors influencing the behaviour *Steg(2008)*. Messages must spur curiosity.
- *Tone*: pessimistic and catastrophic messages are not translated in a positive behavioural change. Experience shows that the message needs to be humorous and must engage the audience. It needs to be tailored, positive and based on principles of cooperation and self-responsibility (*Rowe and Traver, 2000; Zoellner et al, 2001*). The main pillars of this type of communication are: information, consultation, cooperation and self-responsibility (*Rowe and Traver, 2000; Zoellner et al, 2001*).

- *Feasibility*. Perhaps the most important aspect to be addressed to ensure the effectiveness of measures. Citizens need to be informed and motivated, but they absolutely need to be able to adopt the measures. The role of the government is to provide opportunities for feasible action. It should also be considered that only reliable information can enable the implementation of effective solutions

Overall recommendations

Based on the analysis so far carried out, we can conclude that there is still a lack of knowledge among final-consumers of the existing economic potential associated with energy savings available to them and of the solutions available to exploit this potential.

Furthermore, lack of knowledge is not due to lack of available information but depends on the way the information is provided. It can safely be concluded that the previous approaches, namely:

- the price-based approach - save money
- the environmental approach - save the planet

have not been very successful.

Based on the fact that human behaviour and decision making are the very core of the climate change problem, and the solution should come from that (*Griskevicius, 2008*), the social approach, integrating social norms (refer to the perception of what is commonly done in a situation) should be at the core of the information and awareness measures for changing the energy behaviour towards sustainable practices.

Unfortunately, from the analysis carried out we cannot conclude that a social norms approach has been implemented so far by the member States

An improvement is still needed; people need to be inspired, to be engaged, to have fun when receiving the message that needs to be carefully selected and kept as simple as possible.

As a summary:

Figure 5 Overall recommendations

POLICY MAKERS SHOULD CONSIDER⁷

- ✓ emphasizing energy use/climate change as a real, actual local and personal risk
- ✓ facilitating more affective and experiential engagement (personal stories)
- ✓ leveraging relevant social group norms
- ✓ framing policy solutions on what can be gained from immediate action
- ✓ appealing to intrinsically valued long-term goals and outcomes

⁷ Own-source, based among others on Van der Linden et al work 2015. See References epigraph

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List of abbreviations and definitions

ADEME French Agency for Environment and Energy Management

ADENE Agencia para a energia(PT)

CEREB Centre for Efficient and Renewable Energy in buildings

CTC covenant territorial coordinators

CO₂ carbon dioxide

CoM Covenant of Mayors

DDI Difference in differences

EE Energy Efficiency

EED Energy Efficiency Directive

ENEA agenzia nazionale per le nuove tecnologie, l' energia e lo sviluppo economico sostenibile (IT)

ESCOs Energy service company

GHG greenhouse gases

IDAE Instituto para la diversificacion y ahorro de la energía (ES)

IEA International Energy Agency

LCA life cycle assessment

LIEN Large Industry Energy Network. (IR)

MSs Member States

NEEAPS National Energy Efficiency Action Plans

RES renewable energy source

RCT Randomized control trial

SEAI Sustainable Energy Authority of Ireland

SMEs Small and medium-sized enterprises

SEAP sustainable energy action plan

UNFCCC United Nations Framework Convention on Climate Change

UNDP United Nations Development Programme

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ANNEX 1

Summaries of DG ENERGY/Joint Research Centre's workshop presentations on "Workshop on Information Campaigns and Other Measures for Energy Consumption Behavioural Changes" taken place on the 24th of September 2015.

Workshop on Information Campaigns and Other Measures for Energy Consumption Behavioural Changes

The workshop held on September 2015 aims at presenting and discussing good practices on information campaigns targeting behaviour change and factors for success will be identified, with a special focus on cost-effectiveness. The workshop will also present principles and innovative ways and means to engage individual consumers and SMEs, including guidance on successful campaigns addressing behavioural changes among various groups. The workshop gathers experts to share their experience with successful campaigns on behavioural change measures with regards to energy efficiency.

The Role of New Media in Promoting Behaviour Change; Beth Karlin, University of Southern California

The work being performed at the Transformational Media Lab is investigating on how media can be used to transform individuals, communities and systems. Some starting points can be withdrawn:

- 1) Technology and new media are changing how we interact with our natural, built, and social worlds;
- 2) There are potential opportunities to leverage these changes for pro-social / pro-environmental benefit;
- 3) A psychological approach provides a theoretical base and empirical methods to understand this potential.

On how to understand the intrinsic messages to be taken on how media (and especially new types of media) can influence individuals in their behaviours, three thought need to be considered:

- There's always a story: In the aspect that there is always a context associated to an expected action and the behaviour will depend of the framing of this expected action. For the same expected action, the point where an individual is coming from and the different perspective and different value it gives to a certain product or service.

- It's not a one-way street: in the aspect that a consumer is one of many characters. Is a costumer, a citizen, a member of a community, a prosumer, a producer and an active participant in society. The change of paradigm is that a media agent instead of Showing a story in the way of "I tell a story and you listen to it" is now Sharing a story in the way of "We create a story together" with the consumer. More than ever, people belong to a participatory culture.

- Ask the right questions: In order to achieve the expected results there is a need for investigating what are the drivers that engage individuals to save energy for example, as is the case of energy feedback.

A meta-study was made in order to realize the effects of feedback on energy conservation. For this, different parameters were analysed in the different studies: Study Population (Who?), Study duration (How long?), Frequency of feedback (How often?), Feedback Medium (What type?), Disaggregation (What level) and comparison (What message?).

For a feedback system to be effective, some parameters are seen as crucial:

- Who? : Market penetration of Energy feedback systems is between 1 to 10%, being situated in the innovators and early adopters in the Rogers Innovation Curve

- What type?: Different type of feedback are possible. Indirect and Direct feedback with different type of interaction between the user and utility

- What amount?: The amount of energy consumed and the way of it being presented to costumers was also analysed. A cognitive approach proved to be more effective when presenting results

- What message?: The message being transmitted has to be clear in a way that the costumer can read it easily and in an engaging way.

Attention on the message to be delivered is very important and no further messages should be delivered at the same time. For example, in a non-smoking campaign, an image of a cigarette butt in the ground, besides giving the message for non-smoking may also be giving a littering message. Simplicity and up-to-the point in the message is key.

Between the design of an information campaign and the expected energy savings arising from such campaign, there is no simple path. In order for an information campaign to be effective consideration should be given to the user experience, changes in knowledge and attitudes decurrently from the gaining of this knowledge, leading to a behavioural change and ultimately to the energy savings. This is only possible if a knowledge of who is the object of the campaign, while getting a previous context of the knowledge, attitudes and behaviours of the subjects.

Ultimately, it could be concluded that simplicity in the way the information is given in information campaigns is key in order to get the message through. New media can have an important role in the transmission of this message.

Effectiveness of programmes aimed at household energy conservation, Françoise Bartiaux, UCL Belgium

The work being developed in terms of understanding the effectiveness of programmes aimed at household energy conservation focuses on questioning the rational-actor paradigm, show relevant sociological, anthropological and psychological factors and then propose alternatives.

The approach was to base the research in reviews in sociology, psychology and economics. While it would seem natural that having a general knowledge on climate change and energy related daily practices could lead to energy savings, this is not necessarily the case. The importance of social norms on comfort, convenience and cleanliness (Shove, 2003) is also to be considered.

A relevant finding within 25 in-depth interviews was that "one can ring alarm bells as much as one wants, only those who want to hear it will hear it", in the way that there is a limit for the information effectiveness in the way of reaching to the final subject.

The effectiveness of sensitization campaigns directed to children have shown to be effective. Children transfer energy saving measures and practices at home if parents recognize and develop a strong child's agentive power, if at home there are some energy saving practices and messages, if the other agents of socialization (school, TV, internet) provide the children with environmental education and if parents have a high participation in this subjects with their children. This type of cooperation between different socialisation agents would relieve children from doing often alone this coordination between their parents, their school and the media.

An evaluation on the implementation of measures identifies in Energy Assessment Procedures in buildings has shown that even after these audits, information and advice per se even if can lead to thoughts may not necessarily lead to an immediate change and implement the identified measures. So, why that with a customized knowledge from these audits there is little action. Some of the answers may be that the home owners

may still be in the need of discursive consciousness, need of social support, need of consistent information, and an enhanced self-esteem.

Other socio-anthropological factors of reluctance for change may be the fear of losing the beliefs and commitment in a consumption society, a fear of a social devaluation of subjectivity, fear of being isolated and disconnected.

Some psychological-based alternatives for overcoming the above mentioned barriers can be the use of social networks, use the power of narratives, develop and use new indicators for societal progress.

The central role given to information as a main policy tool should be questioned. Neither general nor customized knowledge brings about environmentally friendlier action. Other policy tools should be looked into as in general, policies for sustainable energy consumption provide: Discursive consciousness (via perceived obligation, social support and social legitimacy) may bring relief from making individual choices that would be conflicting with social normalcy.

Harnessing behaviour to drive energy efficiency, Giulia Gioffreda, Opower

Behavioural energy efficiency programmes are built on a single powerful idea: that providing people with better information about their energy use motivates them to use less. It is a premise pioneered by social science and proven by years of rigorous testing. When utility customers start receiving proactive, personalized insights into reducing their energy waste, they pay attention and start changing their behaviour. That, in turn, transforms them into a clean energy resource. Engaged utility customers use less electricity than their peers, generate fewer carbon emissions, and ease demand on the grid. They also save money on their bills and think more highly of their energy providers.

There are five principles that we always follow at Opower when helping utilities to improve their communication with consumers:

1. Design for how people actually behave
2. Assume people don't care
3. Always lead to action
4. Aim for lasting relationships
5. Build for everyone who receives a utility bill

Those 5 principles are always combined with behavioural science techniques, such as the use of neighbour comparison; social norms; loss aversion principle; reciprocity principle; setting an EE goal; use a format of communication designed for limited attention span (etc.).

Most of the times the problem is not the quantity of the content. It is the quality. Many utilities are falling back on messaging that is generic, redundant, and fails to provide much value. And all too often, their BEE programs are following suit. To capture customers' attention and achieve long-term energy savings, utilities need to talk to their customers as individuals, sharing highly personalized content that mirrors their own experiences and preferences. Timing is also critical. A 2012 study from Accenture found that customers spend just 9 minutes a year engaging with their energy providers. It's imperative that utilities increase the moments to engage their customers. Billing information should reach consumers at least monthly.

Behavioural energy efficiency should always be scientifically measured. A high level of measurement rigor is achieved through careful experimental design, and specifically by implementing randomised control trials. A randomised controlled trial

(RCT) is a specific type of scientific experiment and is the gold standard for clinical trials. In such trials, RCTs are often used to test the efficacy or effectiveness of various types of medical interventions within a patient population. RCTs may also provide an opportunity to gather useful information about adverse effects, such as drug reactions. RCTs have also been recognized as the gold standards to evaluate behavioural energy efficiency.

Saving energy in the workplace: why, and for whom?, Caroline Leygue, University of Nottingham UK

With 33% of GHG emissions in the UK being emitted from shared business sector, exploring motivations to save energy at work is an important step to maximize the efficiency of campaigns.

While at home, the motivation to save energy may be the costs savings or eventually an environmental concern, in the workplace employees do not pay for their energy use. So what would be the main motivation in the workplace? Altruism towards the environment or the company? A self-oriented motivation for just personal interest or for feeling good about oneself (warm glow)?

Through a study in a university and a private company, the main motivations to save energy were the Environmental concern, the Organization's Finances, the Warm Glow and the Organization's image, leading to a conclusion that motivations seem to affect how people react to campaigns to reduce energy use. Also feedback from energy use displays seems to affect people's motivations. In this case, people that are more concerned with the organization's finances are more susceptible to this type of engagement.

In conclusion, looking at motivations is important. Saving energy at work or school is a benevolent act. However, energy saving intentions are predicted by altruistic motivations mostly. Campaigns focusing on altruism might be generally more attractive than ones focusing on warm-glow and introducing CO2 units on displays at work can be beneficial, however for some people giving information on costs as well is even better.

Real time feedback on electricity consumption: a case study in Italy, Massimo Tavoni, Politecnico di Milano

A study was carried out on the basis of data collected by Enel Distribuzione in the Enel Info+ Isernia project under a collaboration agreement between Politecnico di Milano and Enel Distribuzione

The distributed Distribution of 'Enel Info+' kit contained:

- Enel smart info - the device that can be plugged in every socket to collect the certified data managed by the smart meter through the power-line.
- A dedicated Display - display informing users about instantaneous power, as well as daily, weekly and monthly consumptions. Also reported billing time slots (on-peak, intermediate and off-peak) and (only in its latest version) instantaneous power refresh and inferred consumption habits.

The programme's duration was of 2 years with a total sample of 6000 users. A sample of 2000 observations were performed considering the date of delivery and version of display, the municipality, contractual information (e.g. max power) and monthly consumption in the 3 billing time slots. Another 1000 observations sample regarded 15 minute resolution data. Besides the information collected in these observations, there were also evaluated survey questions, basically on the dwelling and household characteristics.

A cluster analysis on high frequency data was made to test whether patterns of consumption have changed, to define a certain number of load curves representing typical days.

In the end, a range of 1 to 6 % of savings was found with an average of 3%. It was also found that the effect increases over time (in terms of the year that the displays have been installed and for how long the household has the display). Another find was that the reduction on energy consumption seems to be equally distributed.

How a games-centric approach to engagement creates energy savings, Paula Owen, eco action games, UK

Eco action games is testing a new, positive approach to environmental education, engagement & behaviour change. Using the theory of gamification, as well as a 'games-centric' approach to get messages across, through medium of traditional, well known games but with an energy saving twist . It has created the concept of 'eco action playground' events and explore which sectors/age groups it works better with.

The approach and target groups is taking the eco playground to schools, community groups, corporate, festivals, etc. Up to now it has been presented in 40 events with a reach of approximately 5000 players. A large schools programme is being implemented with a robust evaluation framework and analysis.

The take of the company is to create energy saving versions of a number of well know traditional social games, through hosting and facilitating "eco playground" educational events using the games as a way to engage and educate attendees. In order to obtain a baseline, pre-workshop quantitative surveys are being conducted, as well a post event evaluation. After several months of the event a follow-up is made in order to assess longer-term impact and behavioural changes due to the attendance of the workshop/playground.

There are 4 pillar on the game-centric engagement. 1) Entertain: in the way that any communication tool using game centric engagement has to entertain; 2) Engage: For the technique to influence behavioural change, individuals have to engage with the process and the messaging; 3) Educate: Besides of being there for a good time, the audience playing the game needs to learn the message being transmitted; 4) Embed: To what extent the process of learning and engaging through games and play can embed behavioural change in the participants beyond the duration of the game.

Different types of projects have been launched. From the adult population, 1st year school students and secondary schools have been the target of the projects. From the post game surveys, a great majority of the participants have enjoyed the events and the experience of learning new information about environmental actions. Over half of the surveyed stated that they have learned new and useful information and would be taking actions as a result of the learning process. On average the surveyed people have committed to adopt 3 actions learned. On the follow-up survey months after the activity, the average number of actions that respondees had already adopted was 4 from a 20% response rate.

On a Manchester University research project a pilot event was developed to test undergraduate students' engagement with sustainability issues. The evaluation was made through pre and post event questionnaires and a follow-up survey 2 months later. Previously to the event 64% of the students felt they could do something individually to combat climate change. After the event, over 90% of the students have declared to have enjoyed the event and the games played. Over 80% felt that they learnt new information about actions to be taken. Actions like turning lights off when leaving the room/house, turning off appliances on standby or make sure that washing machines were packed were some of the measures adopted since the event, discovered in the follow-up questionnaire.

The objective of the company is now to continue developing further school projects, continue to work with the Manchester University, develop online/mobile engagement games and start developing international versions.

Promoting energy-saving behaviour in cities: Formal social groups as multipliers of communal energy-saving activities?, Corinne Moser, ZHAW Institut of Sustainable Development, Switzerland,

This project objective is to find out whether cities can use formal social groups as multipliers to promote energy saving behaviour. For example a volleyball club going to away games. Normally players would meet at their sports facility and use their private cars to go to the game. The alternative would be for the players to meet at the train station and take the train to the game with team members sharing an experience and ultimately having a spill-over to private behaviour. The hypothesis of the study was to realize if activities promoted via social groups have a stronger impact on energy saving behaviours compared to activities addressing inhabitants directly.

Why tackle this subject departing with cities? Switzerland has put cities as a priority in terms of reducing energy consumption per capita and cities are key agents of change in the upcoming energy transition as role models (e.g. energy-efficient public buildings) and by promoting energy-saving behaviour.

A city project on mobility had car drivers give up driver's license for 2 weeks to try out e-bike for free and make a positive experience. After the trial phase the likelihood of people to drive less or buy an e-bike was measured over 4 in a scale of 1 to 6, concluding that intervention seems to have an impact on people's mobility habits.

Cities and city utilities are seen as central regarding energy and energy savings. From a 525 sample collected in the cities of Winterthur, Baden and Zug, over than half of the respondents claim to trust city institutions regarding energy and energy savings.

As a part of cities, formal social groups can be seen as multipliers of communal energy-saving activities, since these may pose as intermediaries between the city administration and its inhabitants. For example, a District Association promoting energy savings at homes may pose itself as information provider from a trusted source, with the possibility to exchange information and learn from each other due to the proximity. A social control and the formation of new social norms can be seen as important prerequisites for behaviour change.

Experiences of policies for behavioural change – Concerted Action for the EU Energy Efficiency Directive, Anette Persson, CA EED Core Theme Leader – Consumer information programmes, training and certification of professionals

The Concerted Action for the EED is an initiative where all Member States plus Norway are present in order to exchange experiences and best practices concerning the implementation of the EED.

Some of the barriers identified during the CAEED were the lack of awareness, lack of interest, lack of money, lack of targeted messages, lack of balance between national and local actions, the fact that the pricing structure for electricity does not give incentive for savings or the difficulty for the administration to evaluate and measure the impact of such measures

Some key findings regarding information as a policy tool were that achieving a behavioural change requires deep insight into consumers. It is essential to communicate the right message – and to keep the message simple, the message must be very carefully chosen and adapted to the specific target group, there is generally a lack of interest in energy consumption in households, organizations and SMEs and that the message should try to spur curiosity rather than provoke guilt.

The key findings regarding the design of measures for behavioural change were to identify the drivers and multiple benefits of energy efficiency such as health, well-being, convenience etc., recognize the importance of social context and social practices, practitioners should be aware of ideas from several schools' research, motivating,

enabling and reinforcing factors are all needed, the planning phase is crucial and that a variety of tools exist to facilitate the design process.

The key findings when evaluating soft measures were that the evaluation of the effect of "soft measures" such as information campaigns and advisory services is a challenge, also other aspects than savings in kWh should be included in the evaluation, the evaluation must be an integral part of the design of a measure, evaluation is a learning process. Several EU-projects have looked into the topic of evaluation (i.e. BEHAVE, BEWAREE, Changing behaviour)

In terms of the key findings regarding smart meters and consumer engagement were that the implementation of smart meters is still in an early process in most Member States, that a smart meter does not generate savings per se with additional services or tools being needed, In-home displays are a key feature in order to engage consumers, the roll out of smart meters should be accompanied by a strategy for consumer engagement and that the Distribution System Operators are strategically important for information during the roll-out of smart meters. The challenge is to choose the right message to the consumer and not focus too much on the technical details of the meters as such. Trust is important and a 100% positive attitude among consumers may not be realistic at the start of the roll-out. Also, privacy and protection of data is crucial and consumers should be aware of their rights concerning privacy.

As conclusions, the main drivers for change need to be identified, since they are more often related to convenience, safety, health, social status, environmental concern than purely economical or "saving kWh". There should be more focus on behavioural change in SMEs, industries and organizations, in addition to households. Also, the energy sector could benefit from experiences from completely different sectors where behaviour is a key aspect, such as health and road security for example.

Successful Behaviour Campaigns in Finland, Irmeli Mikkonen, Motiva Oy, Finland

Motiva, the Finnish Energy Agency considers to be communicating actively with its websites being visited more than 920k times, its training events and seminars had about 2360 participants, its newsletters reached over 20.000 decision-makers and its visibility in digital media grew by 127%, all this in 2014.

One of Motiva's web interfaces is the www.eneuvonta.fi "Consumer Energy Advice" providing advice and guidance, good practices, tips and inspiration and reliable and impartial information regarding sustainable energy consumption, through a web portal and by regional advisors throughout Finland. Some other features of this platform consist on the coordination of an advisor network and the advisors' training. Annually energy advice is given directly and at events to nearly 40.000 consumers, with the regional advice service reaching nearly 75% of the Finnish population.

Annually, Motiva coordinates the National Energy Awareness week, in which municipalities, companies and other organizations concentrate on promoting energy efficiency voluntarily. Motiva is responsible to provide the participants with tools, materials and information and for media and stakeholder communication on a national level. For the year of 2014, 336 companies and organizations have participated.

Another initiative promoted by Motiva is the Energy Awareness week for schools, aimed at second form pupils, with half of the age group participating. Some of the activities developed during the week are daily lessons using an energy educational material package and children are perform energy agent work at home. The material is sponsored by local energy companies with the culmination of the week with an energy competition. About 80 energy companies are sponsoring the schools, with 25.000 pupils participating.

Finally, the behaviour campaign ingredients can be narrowed into 1) Seasonal and targeted communication, where the essential groundwork needs to be done by assembling the information, facts, data, sources and expertise and 2) Involve your

target group, and know what are their needs, their resources and have the capacity to speak their language.

Governance for Climate Protection Influencing energy-related behaviour, Kerstin Schilcher, Austrian Energy Agency

Klima:aktiv is the Austrian Climate Initiative from the Austrian Energy Agency and is the umbrella programme for soft measures and strengthens and complements existing initiatives.

Some of the noticeable programmes being developed under klima:aktiv are for example:

The Austrian climate protection award "klimaschutzpreis" that rewards Austria's best climate protection projects. With partners like the Ministry of Environment, Broadcasting and press companies, this project that has been going on since 2008, nominates 16 projects in 4 categories and is telecasted on TV. Klima:aktiv receives hundreds of applications for this initiative that reaches to 27 million viewers with 450.000 daily viewers and 1.5 million hits on the initiative website.

Topprodukte.at is a web platform developed by klima:aktiv that provides information on energy efficient products. With 3000 products listed, in 7 categories (lighting, business, household, heating, mobility, communication and entertainment), the platform reaches 980.000 unique visitors per year. Also, there has been developed a mobile app named ecoGator that allows users to access the information of the energy efficient products.

Smergy is a campaign for young adults, tailored specifically to this tier of the population, giving information on energy efficient actions to be taken in a humorous and ironic way. The content is based on the premise that perceived benefits should be easily achieved, with credibility and socially accepted. The contents delivered in this project is as simple as possible, with a clear justification of the proposed measures with useful instructions and the setting of goals and prizes. Klima:aktiv monitors the performance of this project by sending out questionnaires, online user surveys, website and social media statistics and the Media uptake and clippings of the initiative.

Let's Live Warmer, Inese Bērziņa, Ministry of Economics Republic of Latvia

Latvian housing stock has more than 39.000 multi-apartment buildings with of 63 % of all households live in multi-apartment buildings, and in the capital city Riga – 85 %. More than 60 % of multi-apartment buildings were built in the period from the 1960's to 1995, when building standards were not very strict. 20 million Euro were provided by EU funding for energy efficiency in multi-apartment residential buildings, but the lack of knowledge about energy efficiency, the little experience in implementing energy efficiency projects and the lack of cooperation between involved parties, associated with the economic crisis originated in a small number of project applications.

To overcome this, Latvia has launched, in 2010, an informative campaigns called "Let's Live Warmer" with more than 30 industry associations and business stakeholders signing a memorandum of cooperation. This initiative has been rolled-out in different type of mediums:

- 210 seminars and conferences have been organized with more than 6700 attendees and other 2740 participants online.
- Social media has been also important in the passing of the message, with twitter, facebook, youtube and slideshare presentations being accessible to interested people.
- Direct Communication was also used, with a bi-weekly newsletter being sent to 1750 clients and partners. Meetings with NGO and representatives from business and banks have been also occurring at least once a month.

- Publicity with press releases, initiating articles and stories in TV and radio about energy efficiency and the cooperation with professional magazines dealing with construction and buildings.
- The official site of the campaign in the website of the Ministry of Economic Affairs has had more than 300.000 visits
- A competition named " The most energy efficient building in Latvia" has also been started.

Overall, the initiative has received more than 1500 projects and has created a network and communications platform that unites competitors and partners for a common goal. Government institutions are now more accessible and open to communication through different means of communication and innovative ways on how to implement cost-free activities, enhance cooperation and attract funding from partners.

Promoting Home Energy Upgrades in Ireland, Fiona Smith, Sustainable Energy Authority of Ireland (SEAI)

SEAI is the national energy Authority in Ireland and promotes energy efficiency and renewable Energy. Better Energy Homes is the flagship programme in delivering home energy upgrades (insulation and heating systems) that has been in place, through grant support since 2009.

Since 2009 over 170,000 Irish homes have been upgraded, with an applications peak in 2011. The reduction in applications can be explained due to a captive market, the recession, disengaged contractors and the need to encourage deeper retrofits.

In 2013 a research in the Irish market has concluded that 50% of the population was aware of the grants. A particular focus was given towards people over 50 years, called "empty nesters", that have the children out of the home and have a greater available income. In 2014 SEAI, implemented a national awareness campaign in different Media, such as in the national radios, national press, digital display ads and Google Adwords. These press and online-creative campaigns, tailored for the "empty nesters" were timed for pre-summer and pre-heating season with a two phased campaign occurring in May and August.

These multimedia campaigns had the result of slowing down the declining of the grant applications and the realization that the lack awareness was not just the issue, but also a review of the grants package to encourage deeper retrofits and a review of the wider retrofit market was in need.

Acting up on this, in 2015, the Better Energy Homes was relaunched in March with new higher grant amounts. Also there was made an outreach to contractors who operate the scheme. A greater use of digital marketing with Google Adwords, targeting through YouTube, twitter, targeted sites and the developing of video case stories around the homeowners have been produced. The impact of these actions is already visible with grant application being 42% higher compared with 2014.

Energy Bus – mobile education and information centre for counteracting climate change, Krzysztof Kuczma, KAPE The Polish National Energy Conservation Agency, Poland

The Energy Bus is a Mobile information education centre created to raise awareness and knowledge on energy efficiency, renewable energy sources and "clean" transport, as well as water saving and waste management, equipped with multimedia presentations, models, posters etc. There is the constant presence of two energy experts giving free advice about energy conservation and renewable energy sources. The target groups of the Energy Bus are Public Administration, local entrepreneurs, city residents and especially young people.

The project being rolled out from 2014 to 2016 is a nationwide campaign in 16 regions, encompassing more than 200 municipalities.

The project was developed by adapting a city bus in order that it could be a mobile education and information centre. For this, information material for the campaign participants were prepared. A dedicated website (<http://www.autobusenergetyczny.pl/>) and a computer game were also developed. The way to make the message through and make people aware of the Energy Bus was through Media campaigns in the press, radio and on the internet, including social networks like Facebook.

Different types of target groups implied that different material should be developed. For the young people a drawing contest for a comic book was developed, while for civil servants and entrepreneurs, energy efficiency information workshops have been taking place. For each of the 16 regions, the campaign lasts about a month, with daily expert advice in the bus, discussion and information forums and increasing ecological awareness of people living in communities. Inside the bus, visitors can see different types of energy efficient technologies like heat recovery models, wind energy and photovoltaic panels solutions, efficient lighting, insulation or cost-effective energy management system in a school, along with informative boards.

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