CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

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Concerted Action Energy
Efficiency Directive

6

# Consumer information programmes, training and certification of professionals

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# Contents





# 1 Introduction and context

The Concerted Action for the Energy Efficiency Directive (CA EED) was launched in spring 2013 in order to support the effective implementation of the Directive on Energy Efficiency (2012/27/EU). The CA EED, which is financed under the Intelligent Energy Europe Programme of the European Commission, helps countries learn from each other and build on successful approaches when implementing the Directive.

This report summarises work carried out between January 2013 and October 2016 by the CA EED on consumer information programmes, training and certification of professionals.

The objective of the work was to share experiences and present best practice from existing certification and qualification schemes as well as policies and strategies to promote behavioural change. All participating Member States (MS) of the Concerted Action contributed to the work, which helped to build understanding of the challenges related to implementation of the consumer information and professional certification provisions of the Energy Efficiency Directive (EED).

In addition, external experts from research institutes, business and international organisations were invited to present relevant findings.

# 2 Energy audits: obligations, minimum criteria and qualification, accreditation and certification schemes

CA EED participants discussed the issue of how to guarantee the high quality of energy audits. A large majority of the participants found that accreditation or similar schemes are a must to obtain high quality. One recommendation is that Member States that have not yet done so should look into the issue of certification/accreditation/qualification of energy auditors and other energy service providers.

Under the EED, there are provisions related to certification, accreditation or qualification schemes for providers of, inter alia, energy services and energy audits. There is therefore a close link to the requirement for large enterprises to undergo regular energy audits; this is the reason why a joint working group was held with the CA EED theme "Energy services and ESCOs, energy auditing, solving administrative barriers".

According to the Energy Efficiency Directive, energy audits can be carried out by qualified and/or accredited experts according to qualification criteria. The audits may be carried out by in-house experts or energy auditors, provided that the Member State concerned has put in place a scheme to assure and check their quality. There is a further option whereby audits are implemented and supervised by independent authorities under national legislation.

Energy auditors are one of the categories of energy service providers that fall under the requirements on certification in Article 16 of the Directive. This article states that, in a case where a Member State finds the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 31 December 2014, certification and/or accreditation schemes and/or equivalent qualification schemes are being set up.

Audits are carried out in most Member States by qualified or accredited/certified experts; the option of audits implemented or supervised by independent authorities under national legislation is less common.

A variety of methods have been adopted to assure the quality of energy audits. Auditor training, guidelines, tools and templates are widespread and accreditation/certification procedures are also used by a large number of Member States.

Most MS have an existing scheme or programme for qualification and/or certification of energy auditors. For those MS that are planning to launch a qualification and/or certification scheme, there is a clear need for new or improved systems for training of energy auditors, especially in the building and transport sectors.

The conclusions based on the input from CA EED participants were:

- Audits are to a large extent available in the household, building and industry sectors.
- Audits are less common in logistics (transport), energy and agriculture. This may be a symptom of a general lack of consideration of the potential benefits of ad hoc energy audits in these sectors or of the specificity of these sectors.
- In most MS, audits are being carried out by qualified or accredited/certified experts.
- It is less common for audits to be implemented or supervised by independent authorities under national legislation.
- The quality of energy audits is guaranteed through a wide range of measures including auditor training, auditing guidelines, tools and templates for auditors, random checks and sanctions for non-conformity.
- Accreditation/certification procedures are used in approximately 2/3 of MS for assuring the high quality of audits.

## Recommendation

Member States should consider certification, maybe combined with other methods (e.g., quality controls), to ensure the high quality of energy audits.

## Good practice examples

### Energy auditing scheme in the Czech Republic

An energy auditing scheme in the Czech Republic, introduced in 2001, which has led to more than 350 energy auditors and more than 1500 energy audits being prepared annually. The Ministry of Industry and Trade (MIT) is the certification body for energy auditors, and the Association of Energy Auditors together with the Czech Chamber of Certified Architects, Engineers and Technicians are responsible for the education and training of energy auditors.

http://ca-eed.eu/private-area/themes/consumer-information-ct6/The-energy-audit-programme-Czech-Republic

### Energy audits in energy intensive facilities in Portugal

A mandatory system for energy audits in energy intensive facilities in Portugal, with minimum requirements for the auditors. The minimum requirements for the auditors include a degree in engineering, appropriate professional experience and availability of equipment for measurement and control. Appropriate professional experience is at least 5 years of experience in installations whose energy consumption is higher than 500 toe/year, or 3 years of specific experience in energy auditing and consulting, or at least 2 years of relevant professional experience in energy auditing and consulting and possession of a specialist skill.

http://ca-eed.eu/private-area/themes/consumer-information-ct6/Energy-audit-obligations-Portugal

# 3 Policies and national strategies to promote behavioural change

The purpose of this topic was to exchange experiences related to Member States' policies and national strategies to promote behavioural change. There was an exchange of information on planned measures as well as an exchange of experiences of existing measures on behavioural change, and of information campaigns linked to the roll-out of smart meters.

According to EED Article 12, Member States shall promote the efficient use of energy by small energy customers, including domestic customers. Member States are free to choose one or more instruments from a range of measures to fulfil this requirement and the measures may be part of a national strategy. In addition, EED Article 17 states that 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.

The purpose of this topic was to present insights into how MS intend to implement Article 12, and to present examples of successful experiences and existing measures in MS that fall within the scope of Article 12.

CA participants indicated that most Member States intend to implement the first option in Article 12 – "a range of instruments and policies to promote behavioural change" - and to a large extent they will extend existing measures and programmes. According to the CA questionnaire on that topic, only 11 MS aim to develop a new national strategy to fulfil the requirements in the Directive, while most MS plan to use information measures, subsidies and fiscal incentives.

There are many examples of existing measures in MS, which indicates that there is a lot going on in the field of energy efficiency in the EU Member States. Most countries are ambitious when trying to reach the EU 2020 goals and the list of (more or less) successful projects, policies or instruments is long.

Lessons learnt from the presentations and discussions at the plenary meeting are: that achieving a behavioural change requires deep insight into consumers, and that it is also essential to communicate the right message.

A recommendation to MS is that, when designing an information campaign, the message must be very carefully chosen and adapted to the specific target group. There might be a lack of interest in energy consumption amongst the target group for Article 12 (households, SMEs and organisations); this must be taken into account and the message should try to spur curiosity rather than to provoke guilt.

It is difficult to prove the causal relationship between an information campaign and behavioural change. This topic is also relevant to EED Article 7 and how to account for the savings from soft measures.

Only a handful Member States plan to implement option b) in Article 12 – "ways and means to engage consumers and consumer organisations during the roll-out of smart meters". However, there was significant interest in this topic at the plenary meeting and it seems that many MS find this option interesting and consider it a possible area for action in the future.

Smart meters can create energy savings for households but there is a risk that smart meters and related services raise most interest among people with high levels of experimentalism and expertise. The business case for "smart" energy services might take longer to mature.

A recommendation is that Member States should follow the example of countries that have chosen to link information measures to the roll-out of smart meters and plan for communications whilst planning for roll-out.

Several barriers to behavioural change were identified during the plenary session; these are listed below:

- Awareness
- Lack of interest
- Lack of money
- Limited financial resources
- Different messages for different target groups
- SMEs have other interests than energy efficiency
- Hard to get the right balance between local and national actions
- Pricing structure/fixed tariffs
- Evaluation – measuring impacts

## Good practice examples

**MKB [SME] Green Deal in the Netherlands:**

Green Deal supports initiatives making progress towards a sustainable economy by identifying and solving barriers and by generating awareness for the potential of energy efficiency in SMEs. The voluntary scheme has been very successful and the only drawback was that the programme became oversubscribed.

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/mkb-sme-green-deal-netherlands

**Energy efficiency improvements in Norway:**

In Norway, Enova is responsible for an Energy fund which is financed by a levy on the electricity grid tariff and through allocations from the state budget. Through the fund there are measures aimed at small energy customers such as:

- Support scheme for private households
- Support scheme for SMEs
- Support scheme for building owners
- Advisory and information work

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/Energy-efficiency-improvement-measures-Norway2

**Supporting efficient use of energy in Poland by the NFEP&WM:**

In Poland, a national fund supports several programmes aimed at increased energy efficiency. Education and promotion of energy efficiency towards enterprises, NGOs, local authorities, universities and other actors are part of the programme.

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/supporting-efficient-use-of-energy-by-the-national-fund-for-environmental-protection-and-water-management-nfep-wm-poland

# 4 Designing measures for behavioural change

The purpose of this topic was to provide insights related to the design of measures for behavioural change based on research in the field, ongoing work in the EU and international organisations and experiences in Member States. In addition, the issue of measuring energy savings from soft measures was discussed in a joint working group with "National Energy Efficiency Action Plans" and "Energy Efficiency Obligation Schemes".

The purpose of this topic was to provide insights into the design of measures for behavioural change related to EED Articles 12 and 17, based on a brief literature study of existing research and work in an international forum.

The report that was prepared within the topic concentrates on a brief literature study of relevant research and programmes in the field of designing measures for behavioural change. The report does not offer an exhaustive nor scientifically complete study of the field. However, it gives some ideas and insights to policy makers in energy who do not deal with behavioural issues on a daily basis.

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/Designing-measures-for-behavioural-change-Literature-study

Behavioural measures, often seen as soft measures, seem to be challenging - even complex - to plan and evaluate, and the results are often difficult to quantify in kWh of energy savings.

Recognising the importance of social context and social practices is a must in order to successfully design and implement behavioural measures. Different approaches and viewpoints (such as sociological, physiological, economical) are needed in this work.

When designing projects primarily affecting behaviour change, the planning phase is crucial. It is important to understand the whole system, what the key problem is and which factors will make things happen.

### Evaluation is a learning process

A concern related to the implementation of the Energy Efficiency Directive is how to measure savings in energy units from measures for behavioural change. Only about one third of Member States have calculated the savings from soft measures.

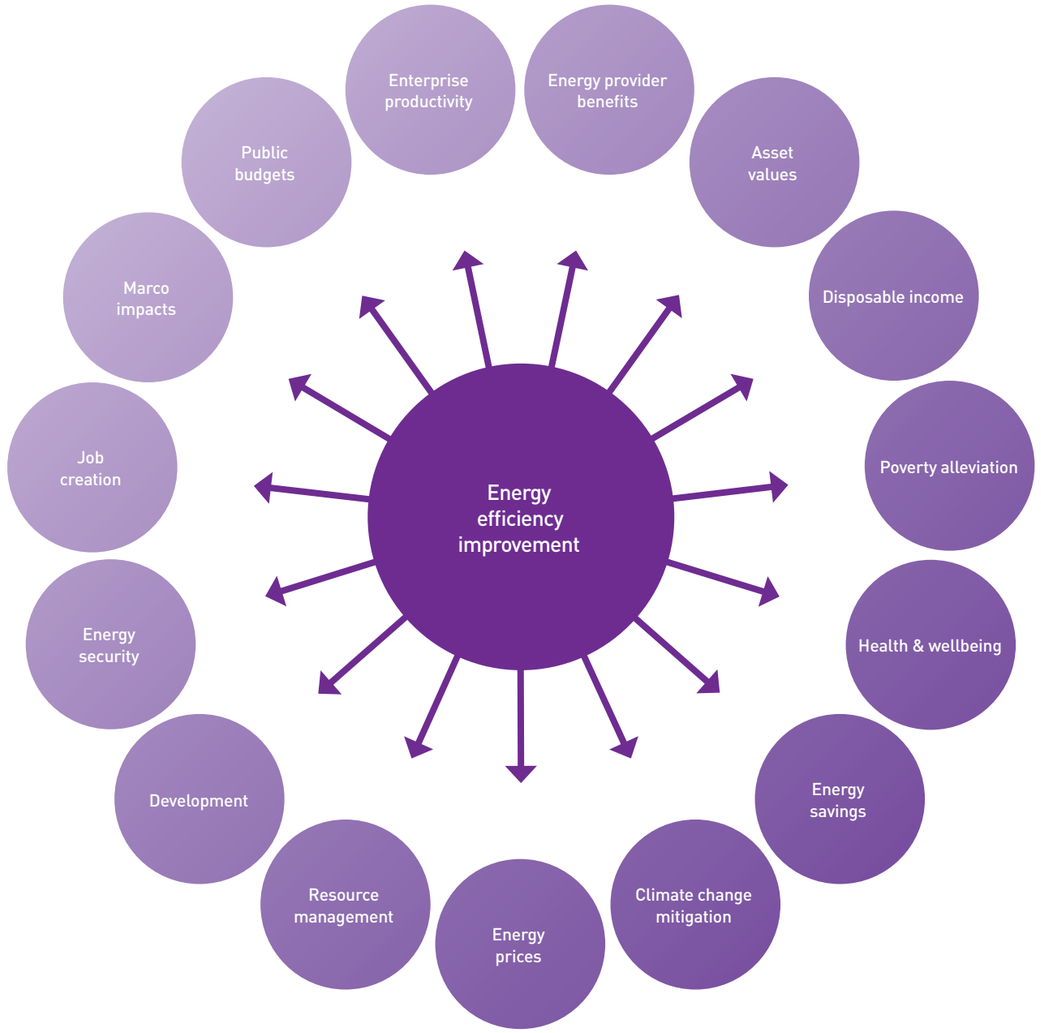
As regards other ways of evaluating measures for behavioural change, only eight Member States indicated that they have evaluated measures for behavioural change in qualitative ways. It was concluded in the discussion that it is important to perform qualitative analysis of measures for behavioural change, but that the task is not easy and that evaluation is a continuous learning process. The evaluation must be an integral part of the design of a measure.

Finding ways of evaluating soft measures that are not solely focused on the calculation of energy savings is important for the continued success of the different measures and programmes; to improve the quality, justify continued funding, and disseminate the results. Sharing experiences on the planning and evaluation of soft measures is important.

### Focus on multiple benefits from energy efficiency

When designing a measure for behavioural change it is important to identify and recognise the multiple benefits of energy efficiency such as health, wellbeing, convenience and other aspects

Figure 1: Energy Efficiency Generates Variety of Benefits (IEA 2014)



These aspects were raised by the IEA as well as several examples of successful measures from both EU and non-EU countries.

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/Scaling-Up-EE-through-Behaviour-Change-IEA

### Keep the message simple

It is important to keep the message simple and to clearly identify the target group and what the drivers and motivating factors for this target group are.

### Use existing tools

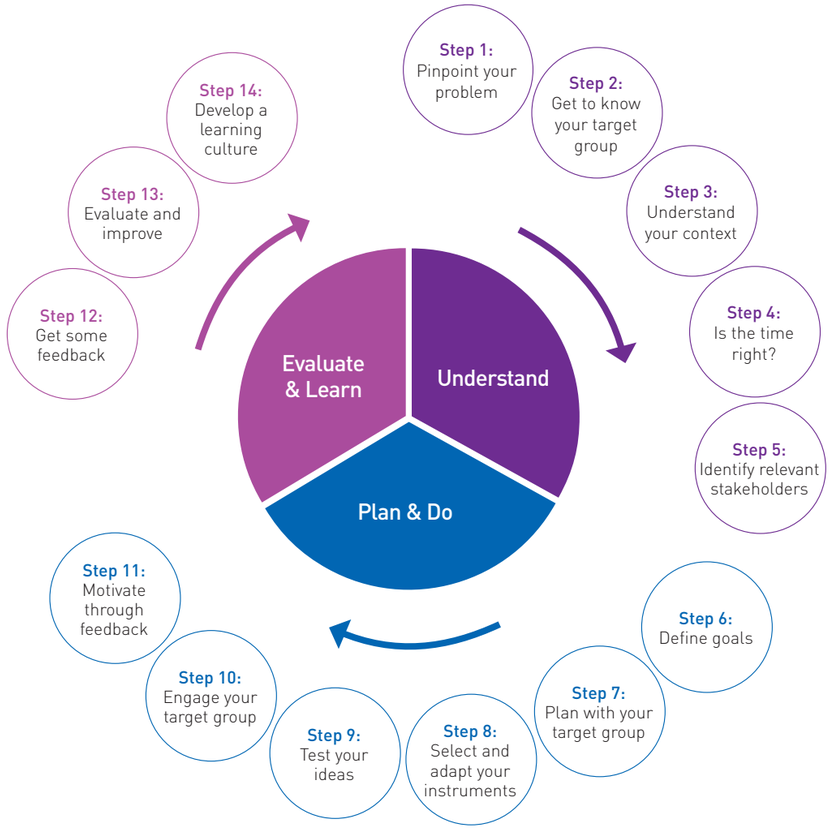
Different tools are available for programme managers in the field of designing measures for behavioural change, and managers are encouraged to put them into use with an open-minded attitude.

One example of such a tool is the "Changing behaviour toolkit". The toolkit offers a step-by-step guide with advice and tools for preparing, designing and evaluating energy saving projects. The toolkit contains three parts:

- Understand
- Plan & Do
- Evaluate & Learn

Correspondingly, the three parts contain several steps:

**Figure 2: The toolkit offers the step-by-step guide advice and tools for preparing, designing and evaluating your energy saving project http://mechanisms.energychange.info**




## Good practice example

**Croatia:**

Croatia presented experiences from an information campaign for promoting energy efficiency, which targeted all citizens. The aim of the campaign was to raise awareness and drive behavioural change towards more energy efficient choices and decisions. The campaign was run in the period 2007-2010; it was extended until 2013 but with reduced intensity. It was a part of the huge project "Removing barriers to energy efficiency in Croatia" led by UNDP. There were no energy savings assigned to the campaign, but subsequent yearly public opinion polls were performed (with the same questions asked each time). The results of these polls indicated that the campaign has achieved its aims – energy efficiency has become a 'hot' topic in the public discourse and the level of citizens' awareness has increased.

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/information-campaign-croatia

# 5 Availability of qualification, accreditation and certification schemes

The participants discussed the challenges relating to the implementation of EED article 16, and the discussions were focused around four topics: Cross-border collaboration, Consumer awareness, How to attract energy professionals and Training.

According to the Energy Efficiency Directive (EED) article 16, where a Member State (MS) considers that the national level of technical competence, objectivity and reliability is insufficient it shall ensure that certification, accreditation or equivalent qualification schemes are available for providers of energy services, energy auditors, energy managers and installers of energy-related building elements.

According to a survey among MS, for most categories of energy professionals (providers of energy performance contracting, energy auditors, energy managers, energy advisers, installers of energy-related building elements, maintenance and support, and providers of energy statistics) the national level of competence, objectivity and reliability is considered sufficient.

Several MS have qualification/accreditation and certification schemes in place across a range of areas, the most common being for energy auditors (13 MS), followed by providers of energy services (10 MS). Person certification is more common than company certification although in several countries the qualification/certification could be applied to either a person or a company. For providers of energy services it is often the company, an ESCO, that is qualified/certified/accredited.

7 MS were currently cooperating (or are planning to cooperate) with other MS as regards the recognition of their qualification/accreditation/certification scheme. This is most important for small countries, and most MS seek to cooperate with neighbouring countries.

A majority of those MS who have or are planning to introduce a scheme are also planning to have measures to inform citizens about the availability of these schemes.

A discussion about the challenges related to Article 16 among the participants led to the following recommendations:

### Cross-border collaboration

- **Need for a National Contact Point (NCP)**

  There might be a need for a central contact point at national level because the requirements are found in different directives, which are typically are handled by different ministries.

- **Work on understanding the requirements in different countries**

  The first step in cross-border collaboration is to understand the requirements in other countries, in order to be able to compare them to the requirements in their own country

### Consumer awareness

- **Registers of experts**

  It is important for consumers to be able to easily find the certified/accredited/qualified experts.

- **Targeted information campaigns**

  The target group is not homogenous and therefore the message must be adapted to different target groups in order to be effective.

### Attract energy professionals

- **"Obligation plays the role of attraction"**

  If certification is mandatory in order to perform certain tasks, i.e energy audits according to EED article 8, clearly this is a strong incentive for professionals to become certified.

- **Access to financial incentives is an important carrot**

  If access to financial incentives, such as soft loans or similar, is dependant on the use of certified experts this is an important incentive for energy professionals to become certified.

### Training

- **Investigate the needs for training of energy service providers**

  In what areas (buildings, transport, other) are the needs for training most important?

- **Develop auditor training related to transport**

  Transport is included in audits of large companies, however training on these topics have not been well developed yet

Good practices were presented from Slovakia and France. Slovakia presented a case study of implementing art.16, covering training, consumer awareness, how to attract energy professionals and cross-border collaboration.

See http://ca-eed.eu/private-area/themes/consumer-information-ct6/MS-Best-practices-Slovakia2

France presented an example of a certification scheme, the RGE label. This is a voluntary scheme that addresses several types of professionals: installers of renewable energy equipment, energy efficiency work in buildings/renovation, studies etc.

See also http://ca-eed.eu/private-area/themes/consumer-information-ct6/Example-of-a-certification-scheme-RGE-quality-label-France2

In addition, a discussion on the links to the EPBD and RED directives took place, with a view to develop an understanding of the possibilities of a coordinated approach across the directives.

It was concluded that there is a certain overlap between the directives, where certification in the EPBD, and to some extent the RED, covers a subset of the energy professions that can be certified under the EED. From the point of view of an energy expert who could cover several professions (e.g. energy certification of buildings, energy audits, inspection of heating systems, and installation of energy-related building elements or small-scale renewable installations) it is recommended that MS take a coordinated approach to the requirements in different directives, to avoid professionals having to meet overlapping requirements.

# 6 Smart meters and consumer engagement

Consumer engagement and acceptance is a critical success factor for the roll-out of smart meters and the EED requires that appropriate advice and information shall be given to customers at the time of installation of smart meters.

In most MS the Distribution System Operator (DSO) is responsible for the roll-out of smart meters and is thus the primary link to the consumer for installation of the smart meter. The DSOs are therefore strategically important for the consumer engagement on smart meters. According to a survey, in 9 MS the government or another authority is providing guidance to the DSO's on how they shall inform consumers at the time of installation of smart meters. In many countries, the obligation for DSOs to inform consumers about energy efficiency during the roll-out is required by law.
Once in place, interactive smart meters can allow users to control and manage their individual consumption patterns, providing incentives for efficient energy use through behavioural change. Some studies have estimated the average savings to be around 3% for electricity and 1.7% for gas. According to a survey, 11 MS had pilot studies or similar where actual savings from smart meters had been measured.

**Here are some of the main take-aways from the discussions among the participants:**

- The implementation of smart meters is still in an early stage in most of the MS. This explains, for instance, the fact that an engagement strategy of consumers for roll-out of smart meters exist only in 6 MS so far.
- It is important to inform and teach consumers about the benefits of smart meters and the effective utilisation of the metering system, and the energy saving potentials. Besides this, consumers have to be aware of their rights concerning privacy.
- Showing average savings of up to 6% for electricity and 7% for gas in a pilot study carried out in the Netherlands, in-home displays appear to be the most important factor and a crucial 'stepping stone' in kick-starting active consumer interest and engagement for accessing energy information.
- There are many new and innovative services based on smart meter data, examples from Slovakia, France and Italy were discussed among the participants. The three mentioned examples, along with examples of experiences of the roll-out of smart meters from the UK, Finland, Latvia, the Netherlands, Malta and Australia, can be found here.

A recommendation is that in order for the roll-out to become as successful as possible – in order for all consumers independent of age, level of education and level of interest to be engaged in their energy consumption - the market should offer solutions that are easy to understand, easy to set up and cost effective. The market is evolving in the right direction however all MS should learn more from each other.

MS are conscious that smart meters alone will not reduce energy consumption, hence the need for additional functionalities that allow the final user to communicate with energy providers and manage their consumption. Only through this interaction will it be possible to realise the full potential of this technology.

As concern over the privacy and security of data gathered through smart meters is consistent amongst all MS, various measures in order to mitigate security and data breaches are being explored. At this moment of smart meter roll-out, it is important to involve all stakeholders to ensure necessary efforts to avoid undesirable situations due to the lack of experience in this specific area.

The Commission has produced specific guidance on data protection and privacy in the form of the Commission Recommendation 2014/724/EU of 10 October 2014 on the Data Protection Impact Assessment Template for Smart Grid and Smart Metering Systems. The Commission recommended inter alia that during a 2-year test phase Member States cooperate with industry, civil society stakeholders and national data protection authorities to stimulate and support the dissemination and use of the Data Protection Impact Assessment Template for Smart Grid and Smart Metering Systems ('DPIA Template')

### Concluding remarks

Certification, accreditation and qualification of energy service providers is an area which is under development in the Member States and where the CA EED can bring added value by sharing best practices from existing certification, accreditation and qualification schemes as well as on relevant training programmes.

The design and evaluation of measures for behavioural change for small energy consumers such as households and SMEs is a complex topic which goes beyond the field of energy efficiency because it involves findings from sociology, psychology and other disciplines. The CA EED has an added value in helping Member States navigate these fields by providing examples of tools for the design of measures and by facilitating the exchange of experiences between Member States.

The roll-out of smart meters for electricity and gas in the EU presents new opportunities for consumer engagement in the field of energy and the CA EED can contribute by sharing experiences of the roll-out and of the development of innovative services based on smart meter data.

# 7 EED Art. 17 Information to banks and financial institutions

The participants discussed barriers to the financing of energy efficiency, such as lack of proper communication, weak marketing of financial instruments and a lack of awareness of the financing options available. Further exchange at a national and European level would help banks and policy makers take complimentary actions, bridge differing perspectives and overcome some of these barriers.

The issue of financing energy efficiency is very important for the implementation of the EED and for the achievement of the EU 2020 and 2030 goals on energy and climate. The European Commission has estimated that the financing need for energy efficiency is Ð100bn per year with the majority of the investment needing to come from the private sector. However there are a number of EU funding sources that can help trigger energy projects and these represent a significant proportion of the public funding available in a number of EU Member States. In order to use the EU funds as efficiently as possible, the use of financial instruments is recommended: it is important that banks and financial institutions take part in the development of these.

In relation to the EED, more discussion between policy makers and banks on the national level on ways to stimulate the energy efficiency market would help both parties achieve their goals for the financing of energy efficiency. In many MS there has been an intense dialogue with banks and financial institutions during the development of the national strategies for energy efficient renovation, according to EED Art. 4. However this dialogue could probably benefit from being more long-term more structured and also oriented towards other parts of the EED.

## Barriers to financing of energy efficiency

The "world of energy efficiency" and the "world of financing" in many MS are rather separate; energy experts and financing experts use different language and terminology and have rather few occasions to discuss topics of mutual interest. The Energy Efficiency Financial Institutions Group (EEFIG) has successfully gathered experts from both fields at an EU level and this is important work to build upon further.

Investments in energy efficiency are often fragmented, small scale and difficult to compare between MS which means that investors cannot always identify the business case. For instance in relation to buildings, it is not always clear to what extent an investment in energy efficiency can contribute to an increased property value while the future savings are not always taken into account. The lack of standardised performance data and the lack of commonly accepted risk assessment methods have the effect that energy efficiency investments are often regarded by investors as high risk although the risks in reality are often low.

One way to overcome barriers related to the financing of energy efficiency projects could be to aggregate energy efficiency investments to reduce transaction costs e.g. through project development assistance to de-risk the investments; through standardisation and benchmarking while also moving to a more market-based culture; through innovative financial instruments and new business models.

At the Plenary meeting in Luxemburg 2015, the European Investment Bank (EIB) presented the possibilities for financing energy efficiency investments through the European Fund for Strategic Investments (EFSI) and the support available through the Investment Advisory Hub. The EIB questioned whether there are enough projects out there and whether the issue is bringing money to the projects or rather projects to the money.

## Best practice and recommendations

**According to EED Art. 17 "Information and training", MS 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;
- encourage the provision of information to banks and other financial institutions on the possibilities of participating, including through the creation of public/private partnerships, in the financing of energy efficiency improvement measures.

In relation to Art. 17 the question is, what sort of information would help banks and financial institutions increase their lending activity in the field of energy efficiency?

According to a survey in 2015, most MS already provide information to banks and financial institutions, or plan to do so. The main information channels used are seminars, workshops, personal contacts or the internet.

An example was highlighted from France where CDC (Public bank Caisse des Dépôts et Consignation) is closely involved in energy efficiency financing both through its new programme '5E' and through the specific CDC Climat unit. In the UK, energy efficiency financing is addressed in the National Energy Efficiency Strategy.

In Finland, the main lessons learnt from communicating with banks and financial institutions are that customers – in particular SMEs – need neutral information on different financing possibilities (i.e. grants, subsidies, etc.).

See also http://www.ca-eed.eu/themes/consumer-information-ct6/experiences-on-eed-related-financing-information-and-dissemination-finland

In Ireland several pilot projects on energy efficiency financing for households have been carried out, with the purpose of increasing the rate of energy efficiency investments.

See also http://www.ca-eed.eu/themes/consumer-information-ct6/home-retrofit-planning-for-the-future-ireland

Financing in the public sector is often a challenge, and innovative solutions for supporting climate-friendly investments by Swedish municipalities were presented by Kommuninvest.

See also http://www.ca-eed.eu/themes/consumer-information-ct6/supporting-climate-friendly-investments-by-swedish-municipalities-sweden

This national approach, including the application of green loans and more recently green bonds, has been inspired by, for example, KfW in Germany.

The main conclusion is that the most important driver for making energy efficiency investments in buildings is increased comfort – warmer and more comfortable house with less draughts – and that access to financing only plays a minor part in the decision to invest.

At the Plenary Meeting in Luxemburg the following do´s and don'ts were identified for improving communication between the national governments/energy sector and banks and financial institutions:

**Figure 3: Recommendations for improved communication with banks and financial institutions**

| Recommendations to MS for improved communication with banks and financial institutions | |
|---|---|
| **Do's** | **Don'ts** |
| Show concrete examples<br><br>Make energy efficiency a priority<br><br>Show that financing of EE can increase the green image of the bank<br><br>Make banks aware of their importance in financing EE projects<br><br>Work with certified auditors for the evaluation of projects | Don't be too generic in explaining the advantages of EE<br><br>Don't assume high knowledge of EE among banks and financial institutions<br><br>Don't overestimate the savings – be realistic |



# 8 Addressing energy poverty within the context of the EED

Energy poverty is affecting many EU MS: participants discussed the possibilities of addressing energy poverty through the provisions in the EED. Best practice such as the fuel poverty strategy in the UK, the EU-project REACH, the energy poverty observatory in Greece and the ELIH MED project in Italy were presented.

Energy poverty, a situation where a household cannot afford to heat or cool their dwelling due to a combination of low income, poor energy performance of the dwelling and high energy prices, is affecting a majority of EU Member States. According to a questionnaire in 2016 to which 26 Member States responded, all Member States except Finland, Malta, Norway, Sweden and the Netherlands are affected by energy poverty.

The number of energy poor households is alarming in some countries. Lithuania estimates that around 20% of its population is energy poor, in Croatia the estimate is as high as 30%. The inability to adequately heat their homes can have a wide range of other significant impacts on the lives of the energy poor such as on health, wellbeing and social inclusion. UK has estimated that energy poverty causes several thousand excess winter deaths every year and has also identified important implications of the social nature, such as children in cold homes struggling to do their homework.

The number of energy poor households / people is estimated in different ways from one country to another. This shows that there is no common understanding of energy poverty across the EU and most countries do not make a clear distinction between energy poor households and vulnerable consumers.

The responsibility to tackle energy poverty is clearly defined in most countries, although it is spread over several actors, including actors at national, regional and local level. The Ministry for Social Affairs is the body that was mentioned by most Member States. Coordination of initiatives to tackle energy poverty therefore is important and this issue was raised at the discussions at the Plenary meeting in the Hague. Many MS pointed out the need for better coordination among actors and across levels.

European legislation such as the Energy Efficiency Directive, the Energy Performance of Buildings Directive and the internal market legislation for electricity and gas can be instrumental in the fight against energy poverty by addressing parts of the causes of the problem. For example, the Energy Efficiency Directive can support the alleviation of energy poverty by addressing the energy performance of buildings and appliances (Art.5(7)) and the awareness among consumers (Art. 12 and 17(4)), can help promote easy-to-implement saving measures and information on consumption and tariff comparison as well as by targeting measures to energy poor households for instance in the obligation schemes (Art. 7(7)).

### Best practice and recommendations

With regard to best practice on how to address energy poverty, several examples were presented during the Plenary Meeting in The Hague in 2016, including the fuel poverty strategy in the UK, the EU-project REACH project, , the energy poverty observatory in Greece and the ELIH MED project in Italy These examples are promising but the number of best practice projects across the EU seems to be limited while it also appears that common definitions and reliable and comparable data relating to energy poverty are lacking.

In the discussions following the presentations the participants were asked to identify what works and what does not work in addressing energy poverty. The results were as follows:

**Figure 4: Experiences with measures to address energy poverty**

| Experiences of what works well and what does not work as regards energy poverty | |
|---|---|
| **Does work** | **Does not work** |
| Tackle the root of the problem, i.e. energy efficiency of the dwelling<br><br>Basic energy audit of houses, followed by step-by-step renovation, if possible<br><br>The application and enforcement of mandatory minimum standards for roof insulation, windows etc. for private landlords<br><br>Standard 'packages' for energy efficiency improvements<br><br>Public funding for energy efficiency – grants or preferably cheap loans<br><br>National action plan to combat energy poverty (long term strategy) combined with a continuous monitoring of the situation (number of energy poor households for instance)<br><br>Communicate and disseminate best practices, even if they are small scale | It is difficult to target the energy poor households<br><br>A clear definition of energy poverty, taking into account national and regional circumstances, is lacking<br><br>Lack of co-operation on national level (between ministries)<br><br>In multi-apartment buildings, households receiving subsidies for their energy bill may block decisions to renovate the building<br><br>Problem of split incentive for private rental sector<br><br>In some countries the European Regional and Development Fund could be used to a larger extent to combat energy poverty if the Ministries for Social Affairs were more aware if the possibilities<br><br>Renovation of social housing without education/ information for households on energy saving measures |

Many MS are struggling with the issue of energy poverty. Could the provisions in the EED be used more strategically in order to address energy poverty?

Assuming that energy poverty is caused by a combination of low household income, high energy prices and poor energy performance of dwellings and appliances, here are a few recommendations on how to address energy poverty within the context of the EED:

- **Identify**; The first step is to identify the households at risk of energy poverty.
- **Inform**; Lack of awareness, interest and knowledge is often a barrier to energy efficiency improvements
- **Incentivise**; Obviously, energy poor households will in general not have the financial means to invest in energy efficient renovation or new energy efficient products to the extent needed.



# 9 Empowering energy consumers – the role of the EED

The purpose of this topic was to summarise the main findings from the work under CA EED relating to consumer information programmes, training and certification of professionals Information, awareness and behavioural change are important elements in energy efficiency policy. Barriers to energy efficiency in households, SMEs and other organisations are often related to a lack of knowledge or a lack of interest. Lack of time and/or resources can also be barriers.

Under the EED, MS shall promote the efficient use of energy by small energy consumers, including domestic consumers. The EED plays a role in empowering energy consumers, for instance through Articles 12 and 17 covering information, awareness raising and other measures relating to behavioural change such as consumer engagement during the roll out of smart meters.[1]

Lack of proper communication and lack of awareness of the financing options available have been identified as barriers to the financing of energy efficiency investments. These barriers, as well as certain aspects of energy poverty, are within the scope of this Core Theme.

Energy services such as energy audits are important to increase knowledge and raise awareness. For households and SMEs, it is important that it is easy to find professional energy service providers for energy audits and other energy services. This is where the certification of energy service providers (EED Art. 16) plays a role.

Articles covered under CT6:

- Policies and strategies for behavioural change (Art. 12)
- Designing and evaluating measures for behavioural change (Art. 7, 12)
- Smart meters and consumer engagement (Art. 9, 12)
- Information to banks and financial institutions (Art. 17, 20)
- Certification of energy service providers (Art. 8, 16)
- Energy poverty (Art. 5, 7, 12, 17)

1 Metering and billing in Art.9-12 is mainly covered in CT3

### Best practice and recommendations

At the Plenary Meeting in Bratislava there was a presentation of the EU project Night Hawks. The aim of the project is to identify easy-to-realise energy efficiency potential through energy checks during closing time – night walks.

A night walk is a check of a building (shop, SME, library, school, etc.) after hours, when the building is unoccupied (i.e. evening, night, weekend, holiday). A night walk is more advanced than general energy advice but less advanced compared to a complete energy audit.

One of the target groups for the project is shopping centres where an energy saving potential ranging from 5% to more than 50% has been identified and where 10% energy savings can be achieved through low cost or free measures. Around 4.5 TWh could be saved in shopping centres across Europe.

One concrete example is the shopping centre Regent Arcade in the Cotswolds (UK) where the estimated cost savings are around Ð20000 through low cost measures identified during night walks.

The project also includes training and capacity building. One concluding remark was that the Night Walks method is easy to replicate in other kinds of businesses and buildings where energy losses are suspected.

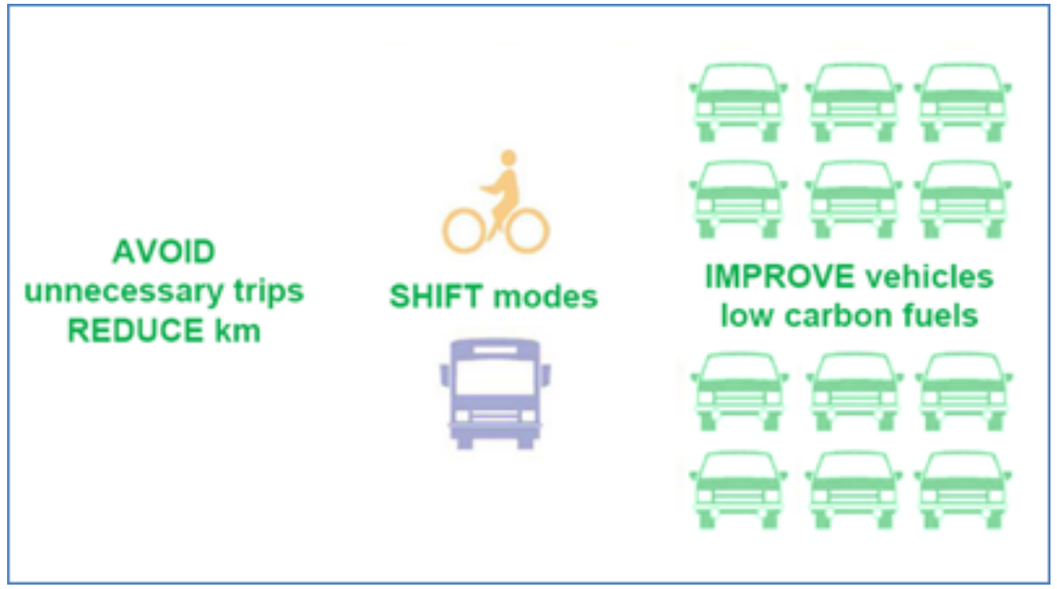
### Main results of IEA's work on policies for behavioural change

At the PM there was also a presentation of the main results of the work on behaviour change that has been carried out at the International Energy Agency (IEA). The focus was on measures for behavioural change in the transport sector, but measures in buildings and industry were also presented and discussed.

The main areas for discussion in IEA's work have been how energy policy should take account of behaviour to increase the uptake of energy efficient technologies and improve the efficient use of energy. The IEA has also looked into how behavioural trends affect energy consumption.

In the transport sector, energy efficiency policies can act at different levels: the first would be to avoid travel, the second to shift to energy efficient modes of transport and the third to improve the energy efficiency of vehicles (see the illustration below – figure 5). This "hierarchy" is important to be aware of in order not to focus policies solely on vehicle efficiency for instance. Policies for behavioural change would typically address the two first levels – avoid and shift modes.

Figure 5: Behavioural change in the transport sector




Several examples of energy efficiency policies for the transport sector were presented, including:

- Vehicle fuel economy labels
- Free parking and access to express lanes for electric vehicles
- Urban planning tools to change consumer preferences and reduce vehicle travel demand
- Increase public transport demand by improving convenience and comfort
- Eco-driving programmes
- Information communication technology (ICT) and improved connectivity
- Dynamic pricing for roads and parking to reduce traffic congestion, fuel consumption, CO2 emissions and air pollution
- In some markets, transport systems may be transformed by 'mobility as a service' (including Uber, car sharing, autonomous vehicles and integrated transport systems).

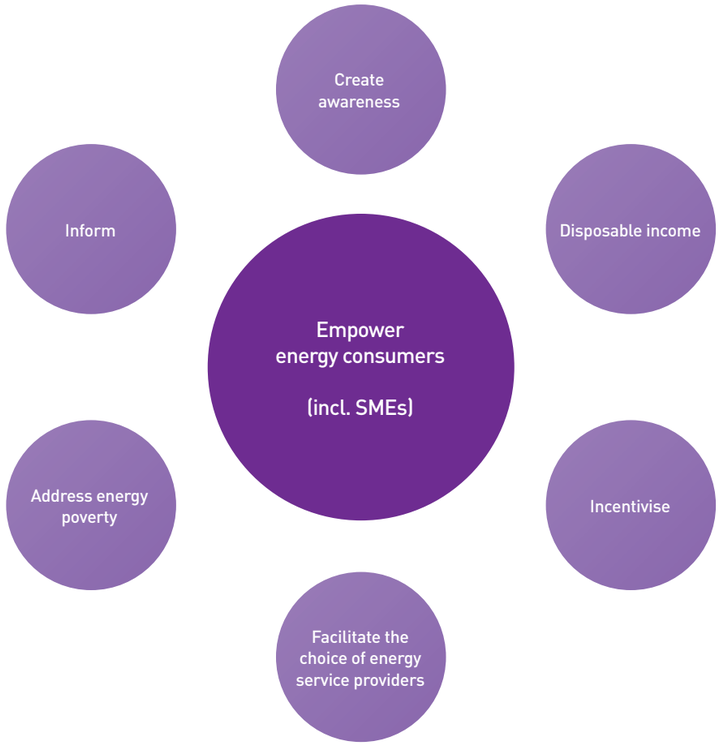
# 10 Concluding remarks

### Summary of conclusions and recommendations for Consumer information programmes, training and certification of professionals

Throughout CA EED, MS have exchanged a large variety of best practices related to consumer aspects of energy efficiency and a collective learning process and capacity building has taken place among the participants. The learning has also included experiences from outside the EU and from the field of research. An overview of existing and planned policy instruments in the field of consumer information has been developed and a discussion related to the design and evaluation of such policies has taken place.

The results achieved within the CA EED have been shared with other CAs, for instance CA EPBD, and with other organisations, such as the IEA and the Joint Research Centre (JRC). The focus has been to share general recommendations and conclusions gathered from the work within the CA EED, without disclosing details of individual MS that fall under the confidentiality agreement. Below is a summary of recommendations that have been given to MS relating to the empowering of energy consumers.

**Figure 6: Topics relating to consumers covered by CA EED**




### Inform, create awareness, engage

- Be aware that there is likely to be a lack of interest in energy consumption in the target group for Article 12 (households, SMEs and organisations) which must be taken into account. The message should try to spur curiosity rather than provoke guilt.
- It is important to keep the message simple and to clearly identify the target group, their drivers and their motivating factors.
- When targeting citizens, it is important to make sure the messenger as well as the message are trustedin order to realise the energy efficiency potential.
- When targeting SMEs, it is essential to "speak the language" of the companies in order to have an impact. MS must use drivers and interests that exist among SMEs in order to trigger energy efficient actions.
- While designing an information campaign the message must be very carefully chosen and adapted to the specific target group.
- Recognizing the importance of social context and social practices is a must in order to successfully design and implement behavioural measures. Different approaches and viewpoints (such as sociological, physiological, economical) are needed in this work.
- The evaluation must be an integral part of the design of a measure. It is important for the continued success of different measures and programmes to find ways of evaluating soft measures that are not solely focused on the calculation of energy savings.
- When designing and evaluating measures for behavioural change, it is important to identify and recognise the multiple benefits of energy efficiency such as health, well-being, convenience, etc.
- Link information measures to the roll out of smart meters, and plan for communication at the same time as planning for the roll-out. Distribution System Operators (DSOs) can play a key role in communicating with consumers during the roll-out.
- It is important to inform and teach consumers about the benefits of smart meters and the effective utilisation of the metering system and the energy saving potential. Consumers also need to be aware of their rights concerning privacy.

The future energy system will not be the same as today's and this will also affect the role of consumers. Based on a study by the Swedish Energy Agency entitled Four Futures, a presentation of four explorative scenarios and a discussion on the role of the consumer in the future energy system was held at the Plenary Meeting in Bratislava.

**Figure 7: Explorative scenarios of the future energy system**

Four Futures – explorative scenarios for the Swedish energy system after 2020

- In Forte (forceful), it is important that society ensures that energy prices are low, especially for industry. Welfare is based on economic growth and the availability of jobs in traditional industry. Secure supply and access to energy is also one of Forte's main priorities.
- Legato (tied together), involves reducing the energy system's environmental impact and helping to resolve a global issue. Important factors here are ecological sustainability and global justice, which characterise its solutions.
- Espressivo (expressive), is very much based on people's own initiatives and consumers who want to have individual solutions and flexibility. Here, green energy is a strong driving force. Decentralisation, small-scale private production and purchasing services are important elements.
- Vivace (lively), has a strong climate focus. Sweden has chosen to become a forerunner in green growth and develops the export market for environmental clean technology and a new bioindustry. This entails an investment in new types of jobs.

Following this discussion, participants identified areas for future cooperation within the Concerted Action with a focus on consumers and consumer information. The following areas were considered the highest priority:

- How to change consumer behaviour through ICT
- Transport/Mobility management
- Prosumers
- Verification of soft measures

This will serve as input to the identification of topics in the coming CA EED 2 project.

**Abbreviations**

| | |
|---|---|
| CA EED | Concerted Action for the Energy Efficiency Directive |
| CT | Core theme |
| DSO | Distribution system operator |
| EPBD | Energy Performance of Buildings Directive |
| EU | European Union |
| IEA | International Energy Agency |
| MS | Member States |
| NCP | National contact point |
| RED | Renewable Energy Directive |
| SME | Small and medium-sized enterprise |
| UNDP | United Nations Development Programme |



For further information please visit **www.ca-eed.eu** or email **caeed@ca-eed.eu**

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