CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

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Concerted Action Energy
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8

Energy efficiency obligation schemes, monitoring impacts of eligible measures

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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) in all EU Member States as well as Norway. By providing a trusted forum for exchange of experiences and collaboration, the CA EED helps countries learn from each other, avoid pitfalls and build on successful approaches when implementing the Directive. The CA EED benefits therefore from a strong European network and a wealth of information gathered and lessons learned.

This report summarises work carried out between January 2013 and October 2016 by the CA EED on "Energy efficiency obligation schemes: monitoring impacts of eligible measures". This relates to Article 7 and Annex V of the Energy Efficiency Directive (EED). The objective of the work on Article 7 was to give participants a clearer picture of the implementation options available to their countries and help them learn from existing solutions on some of the technicalities of Article 7.

Article 7 of the EED requires Member States (MS) to set up an energy efficiency obligation scheme for energy suppliers and/or distributors that achieves yearly end-use energy savings of 1.5%. As an alternative, Member States can implement other policy measures that lead to the same amount of savings as an obligation scheme. Combinations of these two implementation options are also permissible. The common methods and principles for calculating the impact of energy efficiency obligation schemes or other policy measures are defined in Annex V of the EED.

Participants from all Member States plus Norway, provided input; this has led to an excellent overview of implementation plans and the challenges associated with implementing Article 7. The information gathered in the course of the first five Plenary Meetings of the CA EED also helped to highlight different ways in which implementation of Article 7 is planned in Member States.

The areas addressed comprise:

- Implementation options and plans for Article 7
- Monitoring and verification of energy savings at low administrative costs
- Measuring energy savings from soft measures and energy taxes
- Tackling double counting in Article 7 implementation
- Monitoring and verification for EE measures in MS
- Methods for the calculation of energy savings
- Methods for the calculation of energy savings in the transport sector
- New policy instruments triggered by Article 7

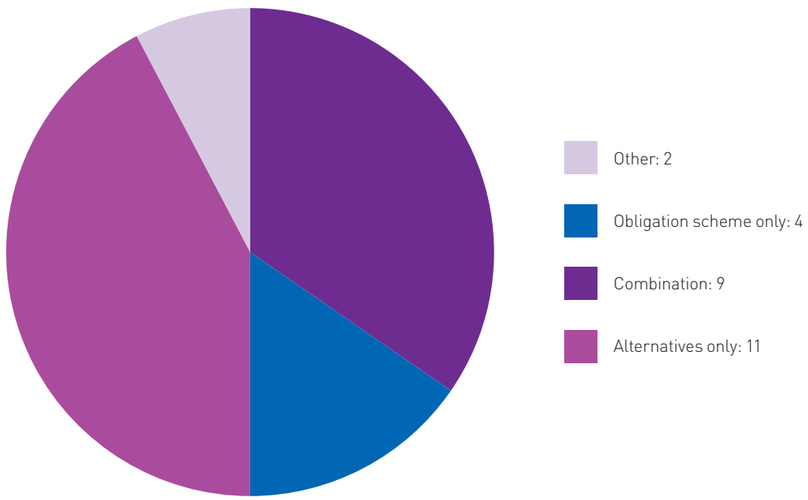
2 Implementation options and plans for Article 7

The CA EED meetings gave participants an overview of the Article 7 implementation plans of other Member States. This helped them to obtain a clearer picture of what their options are with respect to Article 7.

There is a wide variety of Article 7 implementation plans across MS. The main options available to MS are:

- Introduction of an energy efficiency obligation scheme.
- A combination of an energy efficiency obligation scheme and alternative policy measures (including setting up an energy efficiency fund).
- The use of alternative policy measures only.

According to the CA EED questionnaire from the beginning of 2014, 11 MS plan to implement Article 7 with alternative measures, 9 with a combination of energy efficiency obligations and alternative measures, and 4 through an energy efficiency obligation only. 2 MS did not report any plans to the European Commission until the beginning of 2014 and another 2 Member States did not provide information to this topic of the CA EED. A summary of Member States' implementation plans is shown in the pie chart below.



A study of the European Parliamentary Research Service from spring 2016 (see link below) shows that 11 MS still plan to implement Article 7 with alternative measures and 4 through an energy efficiency obligation only. The number of MS combining an EEO with alternative measures has increased from 9 to 12.

Further analysis and more recent information on MS plans and notifications to implement Article 7 can be found here:

- Notifications on the website of DG ENER: https://ec.europa.eu/energy/en/topics/energy-efficiency-directive/obligation-schemes-and-alternative-measures
- Study of the European Parliamentary Research Service: http://www.europarl.europa.eu/RegData/etudes/STUD/2016/579327/EPRS_STU(2016)579327_EN.pdf
- Study commissioned by the European Commission: http://www.cedelft.eu/publicatie/study_evaluating_the_national_policy_measures_and_methodologies_to_implement_article_7_of_the_energy_efficiency_directive/1620
- Study by the Coalition for Energy Savings: http://energycoalition.eu/sites/default/files/20150520%20Coalition%20for%20Energy%20Savings%20-%20Article%205%20analysis%20Report.pdf

The reported plans of Member States reflect the importance of alternative measures in meeting the required savings target. Between the first and the third meeting of the CA EED, Article 7 implementation plans became increasingly concrete.

There are a lot of different alternative measures planned to achieve the energy saving target in Member States. These range from subsidy schemes to audit schemes and energy taxes. Most implementing bodies reported a mix of measures to comply with the requirements of Article 7.

Budgetary constraints, the tight implementation timeline and securing political agreement on the measures are seen as the main challenges in the decision process for Article 7 implementation. In the near future, CA participants see the following important challenges to implementation:

- Final political decisions on measures, finalisation of necessary legislation
- Financing of the necessary energy efficiency measures
- Technical issues concerning monitoring and reporting of Article 7
- Setting up new schemes
- Adaptation of existing schemes

One session within this topic was devoted to the concepts of "demonstrably material" and "additionality". When calculating savings according to Article 7, Member States must take these two concepts into account. During the discussions at the CA EED, 3 CA Member States' representatives presented their approaches towards "demonstrably material" and "additionality". In the group discussions, two starting points for incorporating these concepts into MS' approaches were noted:

- Existing energy efficiency obligation schemes already include concepts of "demonstrably material" and "additionality".
- Existing subsidy schemes in many MS also implicitly feature similar concepts.

The meetings of the CA EED clearly demonstrated the Member States' interest in Article 7 of the EED, but also revealed a pressing need for more information.

Good practice example

France

In the **French** energy efficiency obligation scheme, the concept of "demonstrably material" is currently tackled as follows. The bill serves as proof that an energy efficiency measure was implemented. The obligated party should have had a "leading role" in the delivery of the measure, i.e. must have contributed to the energy saving (directly or indirectly). The incentives that can count as a contribution include financial incentives, advice and extended guarantees. The contribution to the energy saving must have been individualised and intended for the final consumer and the contribution must have been made before execution of the energy efficiency measure. The "leading role" played by the obligated party must be documented in writing by certificates from installers and consumers.

3 Monitoring and verification of energy savings at low administrative costs

This topic looked at the administrative aspects of energy efficiency schemes for which energy savings are calculated and monitored. Member States provided each other with existing examples that may be transferable to Article 7 implementation.

The discussion covered existing examples of monitoring and verification for energy efficiency schemes in the following categories:

- Obligation schemes
- Voluntary agreements
- Subsidy schemes and funds
- Tax incentives

For all examples discussed, the main responsibility for monitoring, control and verification lies with the public authority that administers the scheme. However, involving obligated parties / contract partners / receivers of support in this process as much as possible can reduce administrative costs. Standardised report procedures and reporting templates (e.g. via an online interface) support the involvement of additional actors in monitoring, control and verification.

Standardised report procedures and reporting templates reduce administrative burdens but require a clear definition of eligible measures and evaluation and documentation requirements. It has to be kept in mind that the definition of minimal technical and administrative requirements has to balance the need for accuracy with administrative costs.

The calculation of energy savings is a crucial element in the implementation of Article 7 of the EED. Savings can be calculated based on standard values or can be specific for each individual measure. One important element that helps to reduce administrative burdens is to use default evaluation values for standard measures (especially in households) and to use the deemed savings approach in all possible cases.

The systems put in place to check and verify energy savings differ between the Member States' approaches. Approaches which can help to reduce administrative burdens in this field include performing checks on paper files instead of on site as much as possible and, rather than attempting to check 100% of measures, checking a significantly large share on a random basis. A further step for simplification is the introduction of a paperless process.

Many CA participants point to the importance of automation of the monitoring process. Member States either already have such solutions in place or are planning to implement them.

Finally, clear and transparent rules that are adequately communicated to all actors are a prerequisite for lowering the administrative burden in monitoring all kinds of energy efficiency schemes.

4 Measuring energy savings from soft measures and energy taxes

The calculation of energy savings from energy efficiency measures is a key aspect of Article 7 of the EED. Discussions on soft measures and energy taxes helped participants to exchange experiences and learn about possible approaches.

Article 7 of the EED requires MS to set up an energy efficiency obligation scheme for energy suppliers and/or distributors that achieves yearly savings of 1.5% of the annual energy sales to final customers. As an alternative, MS can implement other policy measures that lead to the same amount of savings as an obligation scheme. MS can also use a combination of energy efficiency obligation schemes and other policy measures to reach the target. The examples of acceptable alternative measures mentioned in Article 7 (9) of the EED include soft measures and energy and CO_2 taxes that have the effect of reducing end-use energy consumption.

Measuring the impact of soft measures in energy units proved to be a challenge for all Member States during the roll-out of the Energy Services Directive (ESD). Behavioural measures are eligible Article 7 measures and, in Annex V, one of the methods for calculating energy savings is dedicated to so-called "soft measures", meaning behavioural measures related, for example, to consumers' responses to advice, training, information campaigns, labelling or certification schemes, or smart metering.

Slightly under half of the MS had included soft measures in the Article 7 notification report required by 5th December 2013. Soft measures included in the Article 7 notification reports covered a broad range, including energy advice, energy audits, energy management, education, training, information campaigns, smart meter deployment and capacity building with networks. The most common methods used to calculate savings for these measures were deemed and surveyed savings, as well as savings based on studies or small scale trials. Some CA EED representatives reported that in their countries they had not yet defined a clear method to calculate savings for soft measures.

In some MS, energy and CO_2 taxes are also seen as an important trigger to reduce energy consumption and incentivise more efficient use of energy.

The discussions at the CA EED gave participants an overview of other Member States' plans to report savings from the application of energy and CO_2 taxes as part of the implementation of Article 7 of the EED. While only 4 Member States reported energy savings from energy and CO_2 taxes in the 2nd NEEAPs in 2011, 10 Member States are planning to calculate such savings for Article 7 implementation. Further countries are not ruling out the possibility of reporting savings from energy and CO_2 taxes, even though this measure was not part of their 5th December 2013 notification report.

From discussions within the CA EED, it became apparent that the main challenge concerning the use of energy and CO_2 taxes for Article 7 implementation is the development of a sound energy savings calculation methodology. However, there are some countries that have made some progress with developing calculation methodologies.

Good practice examples

Ireland

Ireland launched the "SME programme" in 2007 to deliver advice and training services to business. The principal driver for the programme is that energy costs are threatening competitiveness in the SME sector with potentially consequent impacts on employment and growth prospects. At the core of the programme are energy advisors who provide one-to-one support and mentoring to SMEs, motivate clients to take action and provide relevant information to point clients in the right direction. All programme data from 2007 to 2013 is saved in a database. This includes data on 3000 companies; analysis of this data shows that, in the first three months of participation in the programme, companies achieved energy savings of 5%. More information can be found at: http://www.seai.ie/Publications/Statistics_Publications/Energy_Forecasts_for_Ireland/Economic_Analysis_of_Residential_and_Small-Business_Energy_Efficiency_Improvements.pdf

Sweden

Sweden developed a methodology for calculating energy savings from energy taxes based on their long tradition of using energy taxes as an instrument of energy efficiency policy.

Additional information on the Swedish approach can be found in the Annex of the Article 7 notification from 5th December 2013 of Sweden that is available on DG ENER website: http://ec.europa.eu/energy/efficiency/eed/doc/article7/2013_se_eed_article7_en.pdf

5 Tackling Double Counting in Article 7 Implementation

Double counting of energy savings resulting from policy measures or individual actions under Article 7 is a pertinent issue relevant to most Member States. Only a few Member States indicate that they do not see much risk of double counting occurring when implementing policy measures and accounting their savings under Article 7.

In general, double counting can occur with individual or between different policy measures. 18 out of 25 Member States indicate that they would use more than one policy measure to implement Article 7. This clearly increases the risk of double counting, since the more measures that are implemented, the higher the risk of double counting.

To identify double counting, the majority of MS (16) intend to set-up a database to collect information on measures in order to enable them to monitor, control and verify energy savings. However, a database cannot be considered a universal solution to eliminate the risk of double counting of energy savings. It needs to be equipped with a technical function that checks whether one single measure has been reported twice or not. To facilitate this process, measures have to be earmarked with a special means of identification such as ID codes, and this approach has to be applied by all parties reporting measures to the monitoring and verification system. A database, even when equipped with functionalities to identify double counting, has to be combined with expert knowledge and staff that assess once again that no single measure that has been through the technical selection process is reported twice. Discussions in the course of the CA also revealed that many MS currently have more than one database in place that contains information on policy measures and (subsidised) energy efficiency measures. It is recommended that these databases are consolidated or interlinked so that all the information on implemented energy efficiency measures is stored in one central database, with the information being administered by one independent body. Such a process requires clear rules or guidelines that are well known and accepted by all affected parties, and that are laid down in an official document, if not stipulated in a legal act.

In 6 MS a legal basis for clear rules for monitoring, control and verification will be (additionally) set (note: the rules for monitoring, control and verification have to be defined in an official document, but not necessarily in a legislative act). Having clear rules or guidelines in place also applies to MS that do not opt for a database as their monitoring and verification system. To attribute the savings of one or more different policy measures to different institutions that may have subsidised one and the same measure or individual action, it is indispensable and requested by the EED to have such rules or guidelines in place in order to avoid savings being reported more than once by each of the different funding institutions.

For the allocation of energy savings to different policy measures, just over a third of MS (11) will count savings for one policy measure only, in 8 MS energy savings will be shared between the policy measures according to an estimated distribution, and in 6 MS shared according to a known distribution.

As stated above, double counting can also occur when only one policy measure is being implemented and several actors (e.g. funding institutions) claim the savings for the same measure. The approaches for identifying double counting in these cases vary a great deal, but there are several that are more commonly chosen by MS than others. On the one hand, MS want to identify possible double counting by setting up a database where the necessary information on implemented measures is collected. On the other hand, MS intend to separate measures by type or sector or to set measures with clear boundaries in order to avoid double counting. In MS that have a White Certificates Trading System in place, the identification of possible double counting is granted by the system itself. Approaches mentioned for allocating savings of one

measure between different actors include: to apply an estimated or known distribution of the savings among actors; split the savings according to the financial support provided by different actors; to count savings only once and attribute them to only one actor, and to implement a good verification system.

Nevertheless, challenges for overcoming the issue of double counting remain; in particular, in collecting detailed data and information on measures to enable the identification of double counting, and in knowing the motivation for an action and therefore where the effect of the action shall be allocated. Furthermore, 5 MS foresee a challenge in avoiding double counting due to the lack of clear rules and guidelines for the monitoring, control and verification process. The task of identifying the target group and actors within the range of one measure is proving challenging for 4 MS.

To conclude, it is recommended that MS assess the most appropriate means to monitor and verify energy savings in order to ensure that the risk of double counting energy savings can be easily identified and eliminated. The means chosen may depend on the size of the MS and its administrative structure, as well as on the number of policy measures chosen for the implementation of Article 7 and their potential risk of overlapping. Furthermore, monitoring and verification of energy savings and identification of potential double counting always has to go hand in hand with well-established and well-accepted rules or guidelines to lay down the process for reporting energy efficiency measures and their resulting energy savings. Having one independent monitoring body per MS which collects all the necessary information on energy efficiency measures and individual actions from the reporting parties, and which makes provisions to reduce the risk of double counting, is deemed to be the most appropriate solution for a successful monitoring and verification process.

Good practice example

Croatia

Croatia is currently developing a system for monitoring, measuring and verification of energy savings (SMIV). The Authority acts as the central body for data collection, analysis and reporting of achieved energy savings in all sectors of energy consumption at the national level and governs, maintains and continuously improves the SMIV. It assesses the effect of implemented programmes and measures related to energy efficiency.

The savings achieved (in kWh, CO_2 and per sector) through the implementation of the energy efficiency measures from the National Energy Efficiency Action Plan (NEEAP) will be measured through the SMIV. The system will be used by all governmental bodies, companies that implement energy efficiency service contracts and bodies that co-finance energy efficiency measures. Consequently, all the energy savings achieved by these parties are measured and reported through the SMIV. The monitoring and verification platform itself is a web tool that is administered by one national administrator that collects information on all implemented energy efficiency projects in Croatia.

Most importantly, double counting by this system will be avoided through a bylaw that has been passed and which lays down who is responsible for monitoring and verification, what information is needed, when and how the data on energy savings shall be entered into the platform and how these savings are attributed to the implementing parties. It also states the obligation of entering information into the platform. The information submitted is double checked by a SMIV administrator. In addition, the platform will be equipped with an "alarm system", reporting potential risk of double counting of measures or individual actions.

6 Monitoring and verification for EE measures in MS

Reviewing and monitoring the impact of implementation of policies and measures in relation to Article 3 are closely related and intersect with topics around monitoring impacts and verifying energy savings of eligible measures in the framework of Article 7. The aim of the discussions was to gain understanding of the terminology for actions requiring 'monitoring and verification' and 'measurement, control and verification systems' (Article 7(6) and 7 (10)), to get an overview of MS progress and to identify the main challenges for MS in setting up monitoring systems.

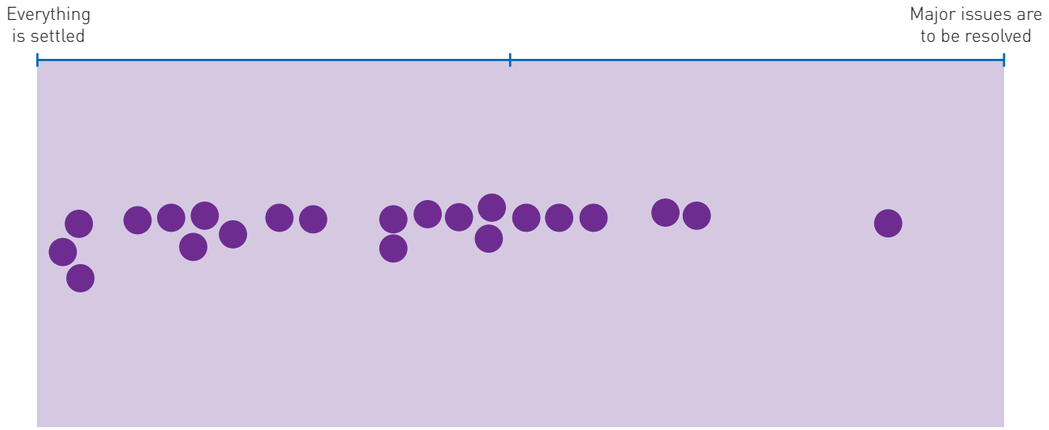
In EED Article 7 different terms are used i.e. 'measurement' for obligation schemes and 'monitoring' for alternative measures. The discussions at the CA revealed that there is no universal interpretation of the terms "monitoring" and "measurement" among MS. About two third of MS (19) see no difference or mostly no difference between the terms. Correspondingly, about one third of MS (10) do see a difference between the terms, the level of effort associated with fulfilling them and whether or not this impacts on the control and verification system to be put in place by MS. Only one MS noted that there is no clear understanding of the terms. Different understandings of the terms can possible influence how MS are implementing Article 7 measurement/ monitoring and verification requirements.

It was also highlighted that different measures need different actions, thus a complete harmonisation of measurement/monitoring, control and verification requirements is not possible. It is, however, important that the methods applied follow a consistent philosophy of approach.

23 out of 27 responding MS are using alternative measures, and 12 MS a combination of obligation schemes and alternative measures. From the analysis performed it is clear that in most MS there is not one single measurement/monitoring and verification system in place, but that it varies depending on the measure. This applies also to those 12 MS who have chosen a combination of an obligation scheme and alternative measures to fulfil Article 7 requirements. Of these, only 5 MS are planning to use the same organisation for monitoring/measurement, verification and control, both for the obligation scheme and alternative measures. It becomes apparent from the analysis that there are differences between MS as regards their approaches to fulfil the monitoring/ measurement, control and verification requirements of Article 7.

In most MS (19) the previous year's energy savings related to Article 7 implementation are expected to be available after April of the following year. This means that energy savings reported in annual reports and NEEAPs for most MS will be available for the year X–2 (X = current year). Only 3 MS using only an obligation scheme, 2 MS using a combination of an obligation scheme and alternative measures and 3 MS using only alternative measures (total 8 MS) reported they would be able to deliver all data on the previous year's energy savings by the end of April of the following year. This shows that most MS will be able to report the results of the year X–2 in annual reports and the NEEAPs, affirming a fact that was discussed and confirmed during the EED negotiations.

The progress of setting up the measurement/ monitoring systems for Article 7 is quite different in MS. Each dot on the scale below represents a MS. It can however be seen from the overview that the set-up of such schemes is underway in all MS.



The main elements still missing in MS include:

- Basics: e.g. basic national regulation and rules on M&V, the set-up of the monitoring system, financing
- Processes: definition of statistically significant proportion/sample, definition of the control mechanism
- Data collection, reporting: More advanced database, pooling of information, data collection, identification of all measures needed
- Methods: Definition of the baseline, definition of methods (including lifetimes of measures)

Good practice example

Italy

Italy presented its approach for bottom-up monitoring in the framework of the implementation of Article 7. The savings target in relation to Article 7 is planned to be achieved by means of three measures:

- White certificate scheme (EEO)
- Tax deduction for improving the energy efficiency of existing buildings
- Thermal account to promote energy efficiency in public administrations

The three incentive schemes cannot be combined in the framework of Article 7 implementation. Data on implemented projects is processed for each scheme in a respective database. The information from these three databases is used to cross-check projects and savings from the three schemes, and to identify possible double counting.

7 Methods for the calculation of energy savings

Although the EED provides a set of requirements on how to calculate savings in the framework of Article 7, Member States have significant flexibility in selecting the exact calculation methodology they will use, as long as the requirements stipulated in Annex V have been taken into account.

Member States' Article 7 notifications and NEEAPs show that a wide variety of different measures will be used to comply with the requirements of Article 7. These measures include among others EEOs, subsidy schemes, energy taxes, and standards and norms.

Possible different approaches concerning the calculation of energy savings include:

- the choice of the basic measurement methods (deemed, metered, surveyed, scaled) in line with Annex V(1);
- the determination of baselines and the values used for energy efficiency measures (whether the climatic variations have been applied and how the possible effects of free riders have been accounted for) to ensure that additionality and materiality have been taken into account;
- how the lifetime of measures is taken into account.

From the information available in Member States' notifications and NEEAPs as well as Member States' presentations at the CA EED, the following conclusions can be made.

- With regards to the basic calculation methodology, deemed and scaled savings are most frequently used for measures notified under Article 7 of the EED, based on the number of individual measures. The share of the different calculation methodologies in total savings can vary, because large projects are often evaluated using a metered savings approach.
- Member States often restrict methodologies in certain cases, e.g. the calculation of savings in households is restricted to the deemed savings approach.
- Member States identified similar solutions for the same issues when it comes to the calculation of energy savings.
- Member States might have clearly defined rules for the calculation of energy savings; however, the control and verifications of savings claimed from the measures remain an issue.

In summary, the discussions at the CA EED showed that Member States' approaches differ with regards to the determination of baselines, the values chosen for the energy efficiency measures and the provisions for taking into account the lifetime of measures. These facts create challenges with regards to the comparability of Member States' calculations of energy savings.

Good practice example

Luxembourg

Luxembourg recently implemented an Energy Efficiency Obligation scheme. The obligated parties are electricity (28) and gas suppliers (9). Energy savings can be claimed in principle in all sectors with the exception of the transport sector. Obligated parties must mention the type of action undertaken with regard to the end customer, and must confirm that this took place before the implementation of the measure that led to the energy savings. In order to reduce the complexity of the scheme (1) the calculation methods used are restricted to deemed and scaled savings, (2) a catalogue with standardised calculations is published and (3) an excel tool to calculate savings from measures is provided to obligated parties. The basic rule with regards to determining the baseline is as follows: for an exchange of an existing appliance or application the situation before the measure was implemented can be used as the baseline; for a new appliance or application the baseline is set by the minimum legal requirements in place (EU-level and/or nationally).

8 Methods for the calculation of energy savings in the transport sector

Although final energy sales in the transport sector can be excluded from the calculation of the energy savings target according to Article 7(1) of the EED, energy savings from transport measures can be counted towards the savings requirement under Article 7.

Member States' Article 7 notifications and NEEAPs show that a majority of Member States will report measures in the transport sector towards the achievement of their energy savings target defined in Article 7 of the EED.

From an analysis of transport measures reported for the implementation of Article 7, the following conclusions can be made:

- Energy efficient vehicles (private and public transport): the highest number of measures and methodologies are reported for this category. Methodologies to calculate energy savings in this category of measures are quite straightforward and similar among MS. Usually the specific consumption of a vehicle (kWh/km) is multiplied with the km travelled to calculate energy consumption before and after the implementation of the measure.
- Increasing the share of public transport: there are some examples of existing and planned methodologies. Examples for calculation methodologies for this category of measures could be of major interest for many MS.
- Increasing the share of non-motorised transport and public sharing systems: only one MS applies calculation methodologies to this kind of measure.
- Behavioural measures: the measures used for Article 7 implementation in MS range from energy taxes and eco-driving schemes to transport management. Calculations of energy savings are based on experiences and evaluations of existing schemes.
- The transport sector is generally associated with high potential for energy savings but the evaluation of programmes and measures prove to be challenging. Reasons for this include:
- The transport sector exhibits more influencing factors (e.g. daily new decision on the means of transport, life style factors) than other sectors and is more complex to tackle; this increases the costs of evaluation.
- System boundaries are not always clear; this increases the risk of double counting.
- Established standardised evaluation procedures and standards are not available. These procedures are more often available for buildings or industrial processes.

Data collection and availability is a challenge for the calculation of transport measures. In addition, the amount of data is potentially large and reliability often questionable. Missing or inaccurate data leads to the need for a lot of assumptions. The definition of a baseline and the rebound effect are difficult to be determined. In many cases analysis must be carried out on a case by case basis. In comparison to measures in the building sector for example, measures in the transport sector are exposed to changing framework conditions (e.g. new residential or commercial areas) and standard, well established methodologies are often not available.

The most important solutions identified to the challenges associated with the calculation of energy savings during CA EED discussions were:

- One way of tackling the complexity of the transport sector is to require measurements of savings in order to be eligible for Article 7;
- Many Member States develop standardised calculation methods; the result is often not a pure deemed savings approach but a mix of bottom-up and top-down calculation combined with modelling;

The limitations to achieving completely standardised calculation methods are illustrated by the fact that the baseline for measures in the transport sector often has to be determined on a case by case basis.

CA EED participants also raised some issues in relation to the eligibility of some transport measures under Article 7. In particular it may be difficult to prove the materiality of new public transport lines as such measures are often part of a business-as-usual development.

Good practice example

Ireland

In **Ireland**, all savings derived from transport measures are based on measured fuel savings. This reliance on measured savings is due to two key factors. Firstly, transport operates in the outdoor environment and is subject to uncontrollable external influences such as weather (wind, rain) and traffic congestion. Secondly, it is often impossible to separate out energy saving measures. For major projects, an evaluation in line with IPMVP (International Performance Measurement and Verification Protocol®) is required. Smaller projects have less detailed measurement and verification requirements. In the Irish obligation scheme, there are nine obligated parties and the oil industry is represented by one body. Most savings in the transport sector so far stem from increased focus on fuel management and eco-driving.

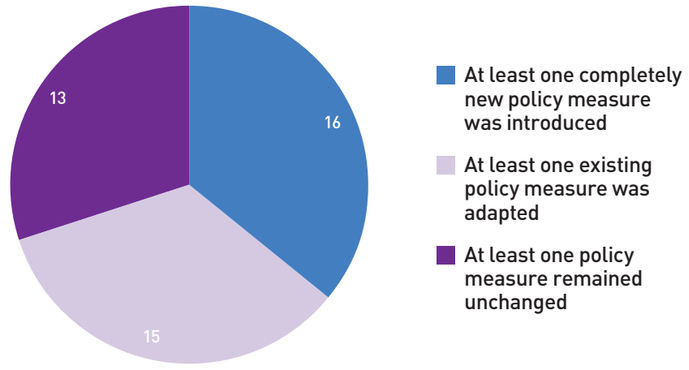
9 New policy instruments triggered by Article 7

The introduction of the EED has triggered additional activities by MS. New policy measures (e.g. new EEOs) have been or are planned to be introduced, but to a large extent existing policy measures are being used or adapted to comply with the requirements of Article 7.

The most important challenges MS faced when implementing Article 7 include:

- Calculation of energy savings
- Mobilisation of additional funds for energy efficiency
- Meeting the requirements of Article 7 for the monitoring and verification of energy efficiency measures

The discussions within CA EED have shown that, in some instances, MS with EEOs in place before the introduction of the EED have also made some modifications to their existing schemes in order to meet the EED requirements. Article 7 triggered both the creation of new policy measures in MS as well as the need to adapt existing measures.



As shown in the figure above 15 of 26 MS implemented at least one new policy measure to meet the requirements of the Article 7 EED. 13 MS had to adapt at least one existing measure. A relatively large share of MS (nearly 62% or 16 countries) were able to use at least one of their existing policies to meet the EED Article 7 requirements.

The most common elements of existing policy measures in MS to be changed order to comply with the EED requirements are the methods for calculating the energy savings achieved as well as the monitoring, verification and control mechanisms. This result confirms the observation of past discussions that technical issues related to implementation of Article 7 are the most challenging for MS.

The overall need to make changes to policy measures in order to comply with the Article 7 requirements in MS was low. This could be due to the fact that there were already strong measures and ambitious national targets in place in MS that only required minor adaptations. In those MS where the need for changes to policy measures was high the most common reasons given were the deviation from the intermediate target, limited availability of public finance or the need for new legislative provisions concerning Article 7 implementation.

Most MS state that the industry and household sector are expected to benefit most from the implementation of Article 7 in terms of energy savings. Many MS also observe that the implementation of Article 7 has helped to create new business models for energy efficiency, including new market entrants / stakeholders involved in the delivery of energy savings. In summary, many MS report that national discussions on the implementation of Article 7 have led to an increased awareness, at least at the political level, concerning the importance of energy efficiency policies.

In many MS, the decision regarding the policy measures used to implement Article 7 was based on prior experiences with existing schemes and also on established traditions of national energy policy. The main focus in MS was to have a look first at existing policy measures and to assess their compliance with Article 7 requirements.

However, it is evident that Article 7 has led to a reassessment of energy efficiency policies in the EU. Two MS conducted background studies to investigate the implementation options available to them. These studies led to different results, primarily due to the different framework conditions in the respective MS. The reasons given for not introducing a new EEO include:

- The analysis showed that the domestic market in a MS is too small for a workable EEO and that an EEO would entail higher costs than most existing alternative measures. This is also due to the fact that most low cost opportunities to increase energy efficiency in this MS have already been realised.
- The analysis showed that the present energy market design is not suited to an EEO (monopoly).
- It was not possible to introduce an EEO for political reasons (e.g. rising energy prices are deemed not acceptable).

A number of MS decided to introduce a new EEO. The reasons given for their decisions include:

- Political pressure to introduce an EEO.
- Encouraging experiences from MS with existing and well-functioning EEOs.
- Alternative measures did not realise the expected energy savings (e.g. due to the lack of sufficient public funding).

Good practice example

Greece

Greece is planning to introduce an EEO scheme at the beginning of 2017. The reasons for the introduction of the EEO are (1) insufficient energy savings generated by alternative measures, (2) limited resources for additional subsidy schemes, (3) the need for the promotion of energy services and (4) the need for the establishment of a new relationship between energy companies and customers. In the Greek scheme, the obligated parties will be energy retail sales companies.

For the monitoring of energy savings, a list of 26 bottom-up methodologies meeting to the requirements of the EED has been developed. The control and verification of measures will be conducted in three phases: (1) plausibility checks, (2) identification of control and verification sample and (3) conduction of in-depth checks (desktop as well as on-site checks).

The options for flexibility for obligated parties include the possibility to count measures of a certain year as if they have been implemented in any of the four previous years and to buyout (100% buyout possible in the first year). Trading is not planned to be allowed for the first phase of the EEO.

10 Concluding remarks

From the discussions at the CA EED it is clear that Article 7 of the EED is a challenging Article to implement. Over the past 40 months, the CA EED has helped Member States to clearly identify their implementation options and learn from planned solutions in other Member States. Presentations on good practices (e.g. on monitoring and verification of energy savings from the different types of measures eligible for Article 7), and the exchange of practical experiences have been particularly important for the practical implementation and were well received by participants.

Abbreviations

Table 1: Country codes for the Member States

Country code	Member State
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

Table 2: Miscellaneous abbreviations

Abbreviation	Full text
CA EED	Concerted Action Energy Efficiency Directive
DG ENER	Directorate-General for Energy
EE	Energy Efficiency
ESD	Energy Services Directive
M&V	Measurement and verification
MS	Member States
NEEAP	National Energy Efficiency Action Plan
SME	Small and medium-sized enterprise

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

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