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Guidance note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC

Article 7: Energy efficiency obligation schemes

Accompanying the document

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ARTICLE 7: ENERGY EFFICIENCY OBLIGATION SCHEMES

A. INTRODUCTION

1. Article 7 of the Energy Efficiency Directive[1] (hereafter 'the EED' or 'the Directive') can be implemented by having in place or establishing one or a combination of the following policy measures: (i) energy efficiency obligation schemes or (ii) alternative policy measures.

   In doing so, certain steps need to be followed by each Member State:

   1. Establish the total **quantity** of energy savings that has to be achieved and its spread over the obligation period (see Section B);
   2. Decide whether to **use energy efficiency obligation schemes** or **alternative policy measures**, or both, and, while designing the schemes or measures, ensure that certain criteria are met (see Section C);
   3. Establish which **sectors** and **individual actions** are to be targeted so that the required amount of energy savings is achieved (see Section D);Establish how energy savings from individual actions are to be **calculated** (see section E);
   4. Ensure **control, verification, monitoring and transparency** of the scheme or alternative policy measures (see Section F); and
   5. **Report** and **publish** the results (see Section G).

2. There are differences in some of these steps depending on the policy measure(s) to be used. These differences, when applicable, are indicated in the text.

3. The document also includes a list of various reports and studies in Section H, which could support the setting of national policy measures. This list is indicative, of guiding nature and non-exhaustive.

4. This note aims to provide guidance to Member States on how to apply Article 7 of the EED. The note states the views of the Commission, does not alter the legal effects of the Directive and is without prejudice to the binding interpretation of Article 7 as provided by the Court of Justice.

B. HOW TO CALCULATE THE REQUIRED AMOUNT OF ENERGY SAVINGS?

5. The quantity of energy savings that is to be achieved over the seven-year obligation period (1 January 2014 to 31 December 2020) is calculated in the same way regardless of the methods that will be used to achieve it. To this end, the following questions are relevant:

   1. Which datasets are to be used in the calculation?
   2. How is the overall amount of energy savings to be achieved over the seven-year obligation period to be calculated?

[1] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, OJ L 315, 14.11.2012, p. 1.

3. How do the energy savings required have to be spread over the seven-year obligation period?
4. Which options from Article 7, paragraph 2, can be used and to what extent?

B1. Which datasets are to be used in the calculation?

6. Article 7, paragraph 1 states:

> *'Each Member State shall set up an energy efficiency obligation scheme. That scheme shall ensure that energy distributors and/or retail energy sales companies that are designated as obligated parties under paragraph 4 operating in each Member State's territory achieve a cumulative end-use energy savings target by 31 December 2020, without prejudice to paragraph 2.*
>
> *That target shall be at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of 1,5 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume, averaged over the most recent three-year period prior to 1 January 2013. The sales of energy, by volume, used in transport may be partially or fully excluded from this calculation…'.*

7. It follows that to calculate the overall amount of savings required, the average of the annual energy sales, by volume, to final customers of all energy distributors or all retail energy sales companies for the three years before 1 January 2013, *i.e.* for 2010, 2011 and 2012 needs first to be calculated. Energy sales for the transport sector can be partially or fully excluded from this calculation. To establish the statistical datasets to be used, the following definitions in Article 2 should be considered:

> *'(20) 'energy distributor' means a natural or legal person, including a distribution system operator, responsible for transporting energy with a view to its delivery to final customers or to distribution stations that sell energy to final customers;*
>
> *(21) 'distribution system operator' means 'distribution system operator' as defined in Directive 2009/72/EC and Directive 2009/73/EC respectively;*
>
> *(22) 'retail energy sales company' means a natural or legal person who sells energy to final customers;*
>
> *(23) 'final customer' means a natural or legal person who purchases energy for own end use;'.*

Thus the Directive prescribes that **all** final energy (with the possible exception of energy used in the transport sector) that is sold to a natural or legal person is included in the calculations. By contrast, energy volumes transformed on site and used for own-use, and those that are used for the production of other energy forms for non-energy use, are excluded. The definitions include both grid-bound and off-grid energy (e.g. heating oil, biomass for heating). For grid-bound electricity the text does not make a distinction between electricity passed thought the low-, medium- or high- voltage network. All these are to be included as far as there is a purchase. These data are collected by Eurostat according to Regulation (EC) No 1099/2008.

8. In terms of statistical datasets to be used in the calculation of the required amount of savings, the Commission services consider that the Eurostat categories "Final energy consumption" (Code B_101700) and possibly partially or fully excluding "Final energy consumption – transport" (Code B_101900) contain the elements that are required in Article 7, paragraph 1 (see the box below). Using Eurostat categories would mean that any possible double counting is avoided.

Relevant Eurostat definitions

Final energy consumption (Code B_101700) covers energy supplied to the final consumer's door for all energy uses. It is the sum of final energy consumption – industry (Code B_101800), final energy consumption - transport (Code B_101900) and final energy consumption - household, commerce etc. (Code B_102000).

Final energy consumption – industry (Code B_101800) covers the consumption in all industrial sectors with the exception of the "Energy sector" (see Code B_101300). The fuel quantities transformed in the electrical power stations of industrial auto-producers and the quantities of coke transformed into blast-furnace gas are not entered under overall industrial consumption but under transformation input, (see Codes B_101022, Input to auto-producers thermal power stations and Code B_101006, Input to blast-furnace plants).

Final energy consumption – transport (Code B_101900) covers the consumption in all types of transportation, i.e.*, rail, road, air transport and inland navigation.*

Final energy consumption – households, commerce, etc. (Code B_102000) covers quantities consumed by private households (Code B_102010), services (Code B_102035), agriculture/forestry (Code B_102030), fishing (Code B_102040) and non-specified (Code B_102040).

In addition, for information final non-energy consumption (Code B_101600) covers the use of energy products for non-energy purposes. It is the sum of final non-energy consumption in the chemical industry (Code B_101601) and in non-chemical industries (Code B_101602).

9. In this way, for instance, the following categories are automatically excluded from the calculation:

- Final non-energy consumption (Code B_101600);
- Input to auto-producers thermal power stations (Code B_101022);
- Input to blast-furnace plants (Code B_101006);
- Electricity used for purposes of balancing of energy system that has not occurred at final energy user level.

10. The use of electricity for electric cars and energy generated by households for their own use can be excluded from this calculation. However, Member States would need to develop a methodology and justify this in the notification to the Commission (as described in Annex V, part 4, point (c)).

11. Other national data sources can also be used, including data from energy providers, as far as these contain the same elements and lead to similar quantities. The use of alternative statistical sources and any difference of the resulting quantities needs to be explained and justified in the notification to the Commission (as described in Annex V, part 4, point (c)).

12. If the data for 2012 are not available when the Member States must notify the Commission on Article 7 is to be submitted (*i.e.* end 2013), expert estimations can be used and justified in the notification to the Commission (as described in Annex V, part 4, point (c)). However, if at the time when the official data are available there are significant discrepancies between the estimated and real numbers, then the amount of savings required would need to be readjusted to the real recorded numbers.

B2. How to calculate the overall amount of energy savings to be achieved over the seven-year obligation period

13. The next step is to multiply by 1.5% the average figure established for 2010, 2011 and 2012 so as to calculate the 'new' yearly amount to be saved. In addition, under the concept of lifetimes in Annex V, part 2, point (e), each individual energy-saving action is considered to deliver savings not only in the year of implementation, but in also in future years up to 2020. For this reason, the required amount of savings has to be 'cumulated' year-on-year (if not, one year's actions could be considered enough to fulfil the entire requirement). The overall amount to be reached over the whole period is therefore a sum of the following cumulative percentages: 2014 – 1.5%; 2015 – 3%; 2016 – 4.5%; 2017 – 6%; 2018 – 7.5%; 2019 – 9%; 2020 – 10.5%.

14. For example, a Member State could have an energy use of 102 million tons of oil equivalent (Mtoe) in 2010, 98 Mtoe in 2011 and 100 Mtoe in 2012 – giving an average of 100 Mtoe for the three years before 1 January 2013.

The total amount of savings required in this Member State in relation to 2014 through the implementation of Article 7 would therefore be (100 x 1.5% x 1 year) = 1.5 Mtoe. The total amount required in relation to 2015 would be (100 x 1.5% x 2 years) = a cumulative 3 Mtoe. Similar calculations can be performed for each of the subsequent years, up to 2020 in relation to which the total amount required would be (100 x 1.5% x 7 years) = 10.5 Mtoe. This implies that the total amount of energy savings required over the whole seven-year period would be 42.0 Mtoe, *i.e.*:

Year	Energy savings [Mtoe]							Total
2014	1.5							1.5
2015	1.5	1.5						3.0
2016	1.5	1.5	1.5					4.5
2017	1.5	1.5	1.5	1.5				6.0
2018	1.5	1.5	1.5	1.5	1.5			7.5
2019	1.5	1.5	1.5	1.5	1.5	1.5		9.0
2020	1.5	1.5	1.5	1.5	1.5	1.5	1.5	10.5
Total	**42.0 Mtoe**							

B3. How to spread the energy savings required over the seven-year obligation period

15. If energy efficiency obligation schemes are used, there is no obligation to report how the effort is spread over the obligation period, as the last sentence of Article 7, paragraph 1, states only that:

> *'Member States shall decide how the calculated quantity of new savings referred to in the second subparagraph is to be phased over the period'.*

However, Member States should establish how the savings are to be phased over the period. For example, one Member State might choose a linear increase of the savings over time; another might decide to start later but to require higher savings towards the middle/end of the period.

16. If alternative policy measures (under Article 7(9)) and/or national energy efficiency fund (under Article 20(6)) are used, at least two intermediate periods need to be introduced, as required in Article 7(10) (a):

> *'Without prejudice to paragraph 11, the criteria for the policy measures taken pursuant to the second subparagraph of paragraph 9 and Article 20(6) shall be as follows:*
>
> *(a) the policy measures provide for at least two intermediate periods by 31 December 2020 and lead to the achievement of the level of ambition set out in paragraph 1;'*

The length of these periods and savings to be achieved are to be reported as required in Annex V, part 4, points (c) and (d):

> *'4. Notification of methodology*
>
> *Member States shall by 5 December 2013 notify the Commission of their proposed detailed methodology for operation of the energy efficiency obligation schemes and for the purposes of Article 7(9) and Article 20(6). Except in the case of taxes, such notification shall include details of: …..*
>
> *(c) the level of the energy saving target or expected savings to be achieved over the whole and intermediate periods'.*

There are no requirements for how long these intermediate periods should be and what levels of savings must be achieved.

B4. What possibilities from Article 7, paragraph 2 can be used and to what extent

17. Article 7, paragraphs 2 and 3, states that:

> *'2. Subject to paragraph 3, each Member State may:*

(a) carry out the calculation required by the second subparagraph of paragraph 1 using values of 1 % in 2014 and 2015; 1,25 % in 2016 and 2017; and 1,5 % in 2018, 2019 and 2020;

(b) exclude from the calculation all or part of the sales, by volume, of energy used in industrial activities listed in Annex I to Directive 2003/87/EC;

(c) allow energy savings achieved in the energy transformation, distribution and transmission sectors, including efficient district heating and cooling infrastructure, as a result of the implementation of the requirements set out in Article 14(4), Article 14(5)(b) and Article 15(1) to (6) and (9) to be counted towards the amount of energy savings required under paragraph 1; and

(d) count energy savings resulting from individual actions newly implemented since 31 December 2008 that continue to have an impact in 2020 and that can be measured and verified, towards the amount of energy savings referred to in paragraph 1.

3. The application of paragraph 2 shall not lead to a reduction of more than 25 % of the amount of energy savings referred to in paragraph 1. Member States making use of paragraph 2 shall notify that fact to the Commission by 5 June 2014, including the elements listed under paragraph 2 to be applied and a calculation showing their impact on the amount of energy savings referred to in paragraph 1'.

It follows that there are certain possibilities that allow for certain national circumstances to be taken into account and can lead to a lower amount of end-use energy savings required to be achieved over the seven-year period.

18. The following four possibilities are included in the text:

a. Calculation based on a lower annual saving rate;
b. Full or partial ETS industry exclusion;
c. Counting certain energy savings from energy transformation and transmission sectors; and/or
d. Early actions after end-2008 that still deliver savings in 2020.

Possibilities (a) and (b) are related to the overall amount of energy savings to be achieved – see the examples below.

The latter two possibilities – (c) and (d) – are related to the question of which energy savings can be counted towards the achievement of the required amount of energy savings.

As examples:

- If a Member State used only the possibility provided in Article 7(2) (a), of carrying out the calculation with lower rates (1.0% for 2014 and 2015, 1.25% for 2016 and 2017, and 1.5% for 2018, 2019 and 2020), then the overall amount of savings to be reached over the period is the sum of the following cumulative percentages: for 2014 – 1.0%, 2015 – 2.0%, 2016 – 3.25%, 2017 – 4.5%, 2018 – 6.0%, 2019 – 7.5%, 2020 – 9.0%. Continuing with the example used in section B2 above, the amount of savings required over the seven-year period would be 33.25 Mtoe (and not 42.0 Mtoe).

- If a Member State used only the possibility provided in Article 7(2)(b), and fully or partially exclude EU Emissions Trading Scheme (ETS) industry from the calculation under Article 7(1), then the Member State would need to establish what volumes of delivered or retailed energy are used for these industrial activities. This calculation takes as its starting point the energy that is used for the activities listed under Annex I of the ETS Directive[2] and that is accounted for under the Eurostat definition of final energy consumption (Code B_101700). From this amount must be deducted the energy used for the three '*energy activities*' that are listed in Annex I of the ETS Directive: combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations); mineral oil refineries; and coke ovens and the energy used in aviation[3]. Next, the Member State will need to exclude this calculated amount of final energy partially or fully from the calculation, ensuring that the result after the deduction is no lower than 75% of what would have it been as calculated under section B2 (*i.e.,* in the example given there, the reduction could not be of more than 10.5 Mtoe and the required amount of savings must be no less than 31.5 Mtoe).

- If a Member State used only the possibility provided in Article 7(2)(c), and count certain energy savings from energy transformation and transmission sectors towards the required amount of savings to be reached over the period, then this amount must not be more than 25% - thus, in the example in section B2, not more than 10.5 Mtoe (the individual actions allowed under point (c) are analysed in section D2 below).

- If a Member State used only the possibility provided in Article 7(2)(d), and counted 'early action' towards the required amount of savings to be reached over the period, then it could count savings from individual actions carried out after the end of 2008 that still continue to deliver energy savings in 2020. This amount must not be more than 25% thus, in the example in section B2, not more than 10.5 Mtoe.

19. There is no limitation on Member States' choice or combination of these four possibilities except that, according to Article 7(3), all the selected possibilities taken together must amount to no more than 25% of the savings required under Article 7(1).

For example, a Member State might reduce the required amount of savings to be achieved by 5.25 Mtoe because of partial exclusion of ETS industries and require savings of 36.75 Mtoe over the period. It might at the same time decide to count up to 5.25 Mtoe savings from individual actions after the end of 2008 that still continue to deliver energy savings in 2020.

[2] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community as amended by Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 and amending Council Directive 96/61/EC, OJ L 275, 25.10.2003, p. 32.

[3] Alternatively to establish the quantities of energy use in the non-ETS industries, the reported final energy use figure for the corresponding industrial sector could be multiplied by ETS / non-ETS ratio of greenhouse gas emissions as reported in the greenhouse gas inventories.

C. WHAT POLICY INSTRUMENTS AND WHAT CRITERIA?

20. The following questions need to be considered when establishing which policy measures are to be used to comply with the requirements of Article 7:

1. What policy measures or combinations are to be applied?
2. What criteria should be fulfilled in the design of the policy measures?
3. Is double counting of energy savings allowed for the purposes of Article 7?

C1. What policy measures or combinations are to be applied?

21. Article 7 sets out that the required amount of energy savings is achieved through national energy efficiency obligation schemes or other "policy measures". These policy measures need to be designed to achieve *'end-use energy savings'* which are *'among final customers'* (as set out in Article 7(1) and (9); and are defined as *'a regulatory, financial, fiscal, voluntary or information provision instrument formally established and implemented in a Member State to create a supportive framework, requirement or incentive for market actors to provide and purchase energy services and to undertake other energy efficiency improvement measures'* (Article 2,(18)).

This wording excludes policy measures that are primarily intended to support policy objectives other than energy efficiency or energy services as well as policies that trigger end-use savings that are not achieved among final consumers.

Examples of such policy measures would be construction of new roads to ease traffic congestion, various energy grid networks charges, or feed-in tariffs.

22. As regards the choice of policy measures, the Directive speaks of energy efficiency obligation schemes (described in Article 7(1) to (8)) or 'other' policy measures (described in Article 7(9) to (11) and Article 20(6)).

Article 7(9) first and second paragraphs state that any combinations of policy measures are possible provided 'equivalence' is maintained.

23. The **energy efficiency obligation schemes**, are mandatory schemes, established by a Member State, that place an obligation on energy providers to achieve savings amongst final consumers. Requirements relevant to the establishment and operation of obligation schemes are found in Article 2, definitions 14, 18 to 22, and 24; Article 7(1), (4) to 8; and Annex V, parts 1, 2 and 4. Relevant provisions are also found in Article 18 (3). The energy providers subject to obligations under these schemes are '*obligated parties*' and are to be designated by each Member State, on the basis of objective and non-discriminatory criteria, amongst the energy distributors and/or retail energy sales companies operating on its territory (Article 7(4). Transport fuel distributors or transport fuel retailers operating on a Member State's territory may also be included, irrespective of whether the energy used in the transport sector is included in the calculation in Article 7(1) and irrespective of whether individual actions in the transport sector are allowed to be counted within the schemes.

As explained in section B3, Member States must establish how the calculated amount of energy savings is to be phased over the obligation period.

To allow obligated parties flexibility in how they reach the required savings, Member States may permit them to obtain energy savings from energy service providers or third parties, provided there is in place a process of approving these savings (Article 7, (7)(b)).

Energy efficiency obligation schemes can also be used to promote social aims, such as tackling energy poverty (Article 7(7) (a)).

Member States may allow, following Article 20(6), parties obligated under an energy efficiency obligation scheme to fulfil their obligations by contributing to the Energy Efficiency National Fund. The contributed amount should be equal to the investments which obligated parties would otherwise have to make to achieve the amount of savings they would be required to achieve.

24. The 'other' or 'alternative' policy measures could take different forms. The following possibilities are mentioned in Article 7(9) and in Article 20(6) (the list is not exhaustive):

- **Energy or CO_2 taxes**
  These are taxes established by a Member State that have the effect of reducing end-use energy consumption. Requirements relevant to this measure are found in Article 2 (17), (18) and (19), Article 7(9) to(11) and Annex V, parts 3 and 4. The party under these schemes is an '*implementing public authority*', which *'is a body governed by public law which is responsible for the carrying out or monitoring of energy or carbon taxation, financial schemes and instruments, fiscal incentives, standards and norms, energy labelling schemes, training or education'*

- **Financing schemes and instruments, and fiscal incentives**
  These are policy measures established by a Member State that lead through a monetary and fiscal incentive to the application of energy-efficient technology or techniques and have the effect of reducing end-use energy consumption. Requirements relevant to their establishment and implementation are found in Article 2(15),(17) and (19), Article 7(9) to (11) and Annex V, parts 1, 2 and 4. The monitoring of this policy measure must be carried out by an '*implementing public authority*' or '*entrusted party*'. An '*entrusted party*' is a legal entity with delegated power from a government or other public body to develop, manage or operate a financing scheme on behalf of the government or other public body. In case of the financing schemes or instruments the funding ought to come either only from public sources (European or national) or from a combination of both public (European or national) and private (e.g. banks, investment funds, pension funds) sources explicitly targeting the realisation of individual actions that lead to end-use energy savings[4].

- **Energy Efficiency National Fund**

[4] In terms of European funding, it is to be noted that Member States shall devote at least 20% of the European Regional Development Fund allocation for 2014-2020 in more developed regions, 15% in transition regions and 10 to 12% in less developed regions, to renewable energy and energy efficiency.

This can be any fund established by a Member State with the purpose of supporting national energy efficiency initiatives. Requirements relevant to the establishment and operation of these funds are found in Article 2 (15),(17) and (19), Article 7(9) to (11), Article 20(6) and Annex V, parts 1, 2 and 4. The monitoring of this policy measure must be carried out by an '*implementing public authority*' or '*entrusted party*'. To count for the purposes of Article 7, the funding ought to come either only from public sources (European or national) or from a combination of both public (European or national) and private (e.g. banks, investment funds, pension funds, obligated parties) sources explicitly targeting the realisation of individual actions that lead to end-use energy savings[5].

- **Regulations and voluntary agreements**
  These are policy measures established by a Member State that lead to the application of energy-efficient technology or techniques and have the effect of reducing end-use energy consumption. These could be legally binding measures that impose specific energy efficiency technologies or techniques or voluntary agreements where actors - industry or local authorities - commit to certain actions. Requirements relevant to the establishment and operation of these policy measures are found in Article 2(16) and (18) to (19), Article 7(9) to (11) and Annex V, parts 1, 2 and 4. Those participating in these policy instruments are called '*participating parties*' and include *'enterprises or public bodies that have committed themselves to reaching certain objectives under a voluntary agreement, or are covered by a national regulatory policy instrument'*.

- **Standards and norms**
  These are policy measures (such as building codes, minimum performance requirements for processes) established by a Member State that aim to improve the energy efficiency of, for example, products, services, buildings and vehicles. Standards and norms that are '*mandatory and applicable in Member States under Union law'* do not count; this is explained further in points 34 and 36 below. Requirements relevant to this measure are found in Article 2(17), (18) and (19), Article 7(9) to (11) and Annex V, parts 1, 2 and 4. The parties under these schemes are '*implementing public authority*'.

- **Energy labelling schemes**
  These are labelling schemes established by a Member State, with the exception of those that are mandatory and applicable in that Member States under Union law (e.g. savings coming from the pure introduction of an Energy Label as required under Energy Labelling Directive[6] cannot be counted[7]). Requirements relevant to their establishment and implementation are found in Article 2(17),(18) and (19), Article 7(9) to (11) and Annex V, parts 1, 2 and 4. It should be noted that careful consideration of the impact of such labels is required so as to establish the link between the label and the individual actions attributable to it.

[5] Ibid 4.

[6] Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products, OJ L 153, 18.6.2010, p. 1.

[7] Energy labelling of products based on the Energy Labelling Directive can be used as an element of the other alternative policy measures (e.g. financing or fiscal incentives, energy efficiency obligations, voluntary agreements). The impact of these alternative policy measures is to be counted following the requirements of Article 7 and Annex V.

- **Training and education, including energy advisory programmes**
  These are policy measures established by a Member State that lead to the application of energy-efficient technology or techniques and have the effect of reducing end-use energy consumption through, for example, training programmes for energy auditors, education programmes for energy managers or energy advisory programmes for households. Requirements regarding their establishment and implementation are found in Article 2, (17), (18) and (19), Article 7(9) to (11) and Annex V, parts 1, 2 and 4. The monitoring of this policy measure must be carried out by an '*implementing public authority*'. It should be noted that careful consideration of the impact of such measures is required so to establish the link between the training or education activity and the individual actions attributable to it.

- **Other alternative policy measures**
  The list provided in Article 7(9) is not exhaustive and other policy measures may be applied. However, following the requirements of the third sentence of the last subparagraph of paragraph 9, Member States must explain in their notification to the Commission how an equivalent level of savings, monitoring and verification is achieved.

25. To reduce the administrative burden and provide for a comprehensive policy framework a Member State may group all individual policy measures to implement Article 7 into a comprehensive national energy efficiency programme (Article 7(9) and recital 23).

26. Any combination of the policy instruments mentioned above may be used. Because of the diverse nature of the challenges for the different end-use sectors, there could be different policy instruments that target each of these sectors. For example, a Member State could achieve part of the required savings through a new or existing energy efficiency obligation scheme; part through new or existing financial policy instruments for the residential sector; part through agreements with industrial sectors; part through fiscal policies (such as CO_2 taxes); and part through the implementation of the energy audit provisions in Article 8; and part through local programmes for the promotion of more efficient urban transport. The impact of all these measures would need to be quantified as described in the various sections of this note.

C2. What criteria should be fulfilled in the design of the policy measures?

27. The concrete design of the policy measures to comply with Article 7 is to be established by Member States in compliance with the basic requirements and criteria set out in Article 7 and Annex V. These are summarised in the table below.

Policy measure Criteria to be met by the policy measure	*Relevant articles*	EE obligation schemes	Energy and CO_2 taxes	Regulations or voluntary agreements	Financing schemes & fiscal instruments, standards and norms, energy label., training and education
Relevant articles		*A7 (1)*	*A7 (9) (a)*	*A7 (9) (c)*	*A7 (9) (b), (d), (e), (f) and A20(6)*
Lead to the achievement of the level of ambition set out in A7 (1)	*A7 (1) and (10) (a)*	√	√	√	√
Provide for at least 2 intermediate periods	*A7 (10) (a)*	X	√	√	√
Clearly defined responsibility of: Obligated party (OP), Entrusted Party (EP), Participating party (PP), Implementing Public Authority (IPA)	*A7 (4), (10) (b)*	√ OP	√ IPA	√ PP	√ IPA or EP
Savings determined in a transparent manner	*A7 (4), (10) (c)*	√	√	√	√
Savings expressed in final or primary energy using Annex IV conversion factors	*A7 (10) (d)*	√	√	√	√
Savings calculated based on Annex V points (1) and (2)	*A7 (10) (e)*	√	X	√	√
Savings calculated based on Annex V point (3)	*A7 (10) (f)*	X	√	X	X
Annual report by PP, unless not feasible	*A7 (10) (g)*	X	X	√	X
Data to be provided by OP, if required	*A7 (8)*	√	X	X	X
Monitoring of the results	*A7 (6), (10) (h)*	√	√	√	√
Control system	*A7 (6), (10) (i)*	√	√	√	√
Data on annual trends published annually	*A7 (8), (10) (j)*	√	√	√	√

Note: √ - indicates that the criterion is required for the particular policy measure, X – indicates that the criterion is not required for the particular policy measure. "A" means Article.

C3. Is double counting of energy savings allowed for the purposes of Article 7?

28. The combination of several policy measures may result in the realisation of a single individual action. Article 7(12) is explicit that, in this case, no double counting of energy savings coming from this individual action is to be made.:

> *'12. Member States shall ensure that when the impact of policy measures or individual actions overlaps, no double counting of energy savings is made'.*

The method to ensure this is to be decided at national level and must be reported in accordance with Annex V, part 4, point (f) on calculation methodology.

D. WHICH SECTORS AND INDIVIDUAL ACTIONS ARE TO BE TARGETED

29. In establishing from which sectors and from which individual actions carried out as a result of policy measures energy savings can be counted, the following questions may arise:

1. Are there limitations as regards the choice of sectors?
2. From which individual actions can savings be counted?
3. When should the individual actions take place?

D1. Are there limitations as regards the choice of sectors?

30. Article 7 aims to trigger energy savings at energy *'end-use'* (paragraph 1, second sentence) and there are no limitations as to which final energy use sectors can be targeted with the national policy measures put in place to implement this Article. Savings from policy measures in the transport sector and ETS industries may be counted, even if these sectors' energy use has been excluded from the calculation of the overall amount of energy savings as described in section B1 of this note.

31. In addition to end-use energy savings, some Member States may, as described in section B4 above, decide to target - within the 25% limit set out in Article 7(2) and (3) - certain 'supply side' savings from the energy transformation, distribution and transmission sectors, including efficient district heating and cooling infrastructure (for details see point 38 below).

D2. From which individual actions can savings be counted?

32. To quantify the impact of policy measures, only energy savings that are a result of real 'individual actions' that result from the implementation of these policy measures are to be taken into account. Savings can be counted from any individual actions that (i) save energy and (ii) are undertaken as a result of a policy measure of a Member State. This follows from the following definitions in Article 2:

> *'(18) 'policy measure' means a regulatory, financial, fiscal, voluntary or information provision instrument formally established and implemented in a Member State to create a supportive framework, requirement or incentive for market actors to provide and purchase energy services and to undertake other energy efficiency improvement measures;*

(19) 'individual action' means an action that leads to verifiable, and measurable or estimable, energy efficiency improvements and is undertaken as a result of a policy measure;'

33. Annex V, part 2, point (c) states that in order to be taken into account,

"(c) the activities of the obligated, participating or entrusted party must be demonstrably material to the achievement of the claimed savings;".

It follows from this 'materiality test' that the automatic rolling out of EU legislation, or autonomous improvements because of, for example, market forces or technological developments, cannot be taken into account. Member States may not count actions that would have happened anyway. The activities of the national public sector parties that are implementing the policy measure must be *'material'* to the carrying out of the action. The term *'material'* means that the party in question must have contributed to the realisation of the specific individual action in question, and that the subsidy or involvement of the obligated, participating or entrusted party must not have had what is clearly only a minimal effect in the end user's decision to undertake the energy efficiency investment. The term *'demonstrably'* means that the Member State must be able to show that this is so.

34. In addition to this materiality test, Annex V, part 2, point (a) and part 3, point (a) set out that in some cases, only savings that go beyond the minimum requirements originating from EU legislation can count. This is relevant for individual actions that are a result of energy efficiency obligation schemes, alternative policy measures and a national energy efficiency fund, are related to, for example, the following EU laws :

- For products – the requirements established by implementing measures under the Ecodesign Directive[8];
- For new passenger cars and light commercial vehicles – the emission performance standards established by Regulations 443/2009[9] and 510/2011[10];
- For taxes – the minimum levels of taxation applicable to fuels as required in Council Directive 2003/96/EC on restructuring the Community framework for the taxation of energy products and electricity[11] or in Council Directive 2006/112/EC on the common system of value added tax[12].

When these legal texts are modified or new implementing measures are adopted the new levels will apply.

[8] Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast), OJ L 285, 31.10.2009, p. 10.

[9] Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO2 emissions from light-duty vehicles, OJ L 140, 5.6.2009, p. 1.

[10] Regulation (EU) No 510/2011 of the European Parliament and of the Council of 11 May 2011 setting emission performance standards for new light commercial vehicles as part of the Union's integrated approach to reduce CO_2 emissions from light-duty vehicles, OJ L 145, 31.5.2011, p. 1.

[11] Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity, OJ L 283, 31.10.2003, p. 51.

[12] Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, OJ L347, 11.12.2006, p. 1.

35. By contrast, where the required energy performance is determined by national policy choices which are not a result of mandatory and applicable EU requirements, then for the individual actions that are a result of these policy measures all of the resulting energy savings can be attributed to these individual actions.

36. In addition to the limitations referred to in point 34, the Directive imposes additional limitations as regards the possibility to count savings from certain alternative policy measures. For alternative policy measures (other than taxation), these – as set out in Article 7(9)(d) and (e) – are:

'(d) standards and norms that aim at improving the energy efficiency of products and services, including buildings and vehicles, except where these are mandatory and applicable in Member States under Union law;

(e) energy labelling schemes, with the exception of those that are mandatory and applicable in the Member States under Union law;'

The qualification related to '*mandatory and applicable in Member States under Union law*' means that, when concrete energy performance levels or labelling schemes are laid down in EU legislation, then the energy savings stemming from individual actions that result from automatic transposition of these levels cannot be counted as an alternative policy measure. It is only if the nationally established levels are more ambitious than those required at EU level – as far as this is legally possible – that the difference between the mandatory EU levels and the concretely established levels can be counted.

When there are other alternative policies (such as financing, fiscal, voluntary agreements) that accelerate the uptake of, for example, more efficient products, buildings, vehicles, or services, then the full credit of the savings coming from the individual action can be counted for all but for those listed in Annex V, part 2, point (a), and part 3, point (a). For them the levels set out as a result of the implementation of the EU legislation listed in Annex V, part 2, point (a), and part 3, point (a), apply as minimum starting points for calculation of the energy savings from all individual actions.

37. There are no limitations on the type of end-use energy saving measures that can be counted.

38. By contrast, only limited savings from individual actions that save energy in energy generation, transformation and transmission can be counted. First, the amount of energy savings coming from such measures is limited by Article 7 (3) (as explained in section B4). Second, these individual actions must result from the implementation of the requirements in Article 14(4), Article 14(5)(b) and Article 15(1) to (6) and (9) of the Directive. In summary, supply-side energy savings can be counted within the '25% bundle', if they come from individual actions realised as a result of:

- Policy measures by Member States to develop efficient district heating and cooling infrastructure and/or to accommodate the development of high-efficiency cogeneration and the use of heating and cooling from waste heat and renewable energy sources;
- The energy savings achieved when following a cost-benefit analysis a conversion is carried out, during a substantial refurbishment, to high-efficiency cogeneration of an

existing thermal electricity generation installation with a total thermal input exceeding 20 MW;

- Policy measures by Member States to increase the efficiency of transmission and distribution; or
- Policy measures by Member States that encourage operators of installations undertaking the combustion of fuels with total rated thermal input of 50 MW or more to improve their annual average net operational rates.

D3. When should the individual actions take place?

39. As "*new*" savings are required, not everything that Member States have done at any time in the field of end-use energy efficiency can count for the purposes of Article 7. The Article contains rules to define when actions need to take place in order to be counted towards the energy savings required.

40. Two broad approaches could have been taken:

(a) The requirements of the Article could have had to be fulfilled by new policy measures. Savings from policy measures that existed before a given cut-off date could have been excluded; or

(b) The requirements of the Article could have had to be fulfilled by new individual actions. Savings from individual actions undertaken after the cut-off date could have been counted, even if the policy measure that had given rise to the actions – for example, a funding scheme – had been introduced before that date.

The text takes the second approach, *i.e.* savings from individual actions carried out within the obligation period (after 1 January 2014 and until 31 December 2020) can be counted, even if the policy measure that gave rise to the actions was introduced before that date.

For example, if a Member State established a funding scheme for window replacements in 2005, which continues to be in place in 2014, financing 100 000 window replacements per year, the savings from individual actions – windows replaced – in 2014 and onwards can be counted. If this Member States has decided to use the possibilities of Article 7(2)(d) (see section B4 above), savings from windows replaced from end-2008 until end-2013 can also be counted.

41. Article 7, paragraph 7, point (c) states that:

'7. 'Within the energy efficiency obligation scheme, Member States may:

[….]

(c) allow obligated parties to count savings obtained in a given year as if they had instead been obtained in any of the four previous or three following years'.

This provision, in the case of energy efficiency obligation schemes, stipulates that Member States may give additional flexibility to obligated parties to count, towards the required amount of energy savings they have to achieve, energy savings from individual actions obtained four years before or three years after the year in which they are actually realised.

In considering this provision, Member States should bear in mind that the temporal scope for this Article is established in its first paragraph, under which obligated parties must achieve an energy efficiency target equivalent to new savings of 1.5% each year from January 2014 to 31 December 2020. A limited derogation to this temporal scope is provided in Article 7(2) and (3), and the legislator has made this subject to specific conditions being satisfied such as a cap of 25% and prior notification to the Commission.

E. HOW TO CALCULATE THE ENERGY SAVINGS FROM EACH INDIVIDUAL ACTION?

42. The methodology for Article 7 has to answer the following questions:

1. What quantity of energy saving can be attributed to each action?
2. How should the "lifetime" of energy efficiency improvements be accounted for?

E1. What quantity of energy savings can be attributed to each action?

43. The rules on what quantity of energy savings can be attributed to each individual action are to be established by Member States in accordance with the framework set in Article 7 and Annex V.

44. For all policy measures (including those stemming from energy efficiency obligation schemes and all alternative policy measures except taxation) the principles in Annex V, parts 1 and 2, must be followed. In part 1, four methods for calculating the savings for different types of action are mentioned: '*deemed savings*' (standard values for each measure), '*metered savings*' (before-and-after measurement), '*scaled savings*' (based on engineering estimates) and '*surveyed savings*' (based on consumer response). When applying these four methods the levels that are set out in Annex V, part 2, points (b) and (c) need to be respected.

For energy efficiency obligations, deemed and scaled savings have to date been the most commonly used methodologies.

Member States will need to determine the eligible energy efficiency measures for which there are independently proven or well established energy saving norms. For these measures, deemed or engineering savings can be used. It is recommended that Member States publish information on how the deemed or scaled savings are determined and what quantity of savings is attributed to different individual measures and to ensure that this information is openly accessible. In particular the scaled savings ought to be defined on the *'basis of nationally established methodologies and benchmarks by qualified or accredited experts that are independent of the obligated, participating or entrusted parties involved'*. Other measures will have to have their energy savings metered or surveyed to determine their values.

45. For policy measures that are taxes, the principles in Annex V, part 3, point (a) need to be followed. To calculate energy savings from taxes, elasticities of demand with respect to price are to be used to estimate how the price increases caused by the tax only (*i.e.* not from inflation or other policies) would lead to changes in consumers' behaviour.

For fiscal incentives which, for example, provide tax reduction to consumers if they apply certain energy savings measure or are part of a voluntary agreement, the rules set out in Annex V, parts 1 and 2 apply.

46. If several types of policy measures are used in combination, e.g. an energy efficiency obligation scheme and fiscal incentives or fiscal incentives, training and education and labelling, double counting must be avoided and it must be clear which of the achieved savings are to be attributed to each of these measures, as stated in Article 7(12).

E2. How should the "lifetime" of energy efficiency improvements be accounted for?

47. Having decided what amount of energy savings is to be attributed to each individual action, the next step is to establish over what period this action will continue to deliver energy savings. Article 7 focuses on the quantity of savings that must be achieved by 2020 and the text of Annex V, part 2, point (e) states that:

> *'(e) calculation of energy savings shall take into account the lifetime of savings. This may be done by counting the savings each individual action will achieve between its implementation date and 31 December 2020. Alternatively, Member States may adopt another method that is estimated to achieve at least the same total quantity of savings. When using other methods, Member States shall ensure that the total amount of energy savings calculated with these other methods does not exceed the amount of energy savings that would have been the result of their calculation when counting the savings each individual action will achieve between its implementation date and 31 December 2020. Member States shall describe in detail in their first National Energy Efficiency Action Plan according to Annex XIV to this Directive, which other methods they have used and which provisions have been made to ensure this binding calculation requirement;'*

Therefore, a Member State may choose to attribute to each individual action the 'real' savings that this action will achieve between the year of its implementation and 2020. This method is called hereafter the "straightforward" method.

48. Alternatively, and in particular to promote long-term energy efficiency improvements, Member States may deviate from this method - provided that their choice still leads to the required quantity of energy savings, calculated as described in points 52 to 55 below, actually being achieved by 2020.

49. To illustrate the 'straightforward' method, an individual action – say a window replacement – could be envisaged that saves 1 tonne of oil equivalent (toe) of energy consumption per year, and that goes on delivering this saving year after year. Under the straightforward method, if the action is carried out in 2014, it will save 1 toe in 2014 and 1 toe in each subsequent year up to 2020, for a total of 7 toe. If the action is carried out in 2015, it will save 1 toe each year from 2015 to 2020, for a total of 6 toe. If it is carried out in 2020, it will contribute to the requirement only during that single year, for a total of 1 toe.

50. By contrast, a shorter-lived action – e.g. an information campaign – may save 1 toe in the year of implementation and nothing thereafter. Again, under the 'straightforward' method whatever the year of implementation between 2014 and 2020, its contribution will be 1 toe. It should be noted that Member States need to ensure that the overall amount of energy savings as

explained in Section B2 is reached. For example, if a Member State introduces predominantly individual actions with short-term lifetimes at the beginning of the seven-year obligation period, then it would need to do additional measures so to reach the required savings.

51. The 'straightforward' method clearly fulfils the condition that the calculation method must lead to the required quantity of savings actually being achieved by 2020. But it has two disadvantages. First, as shown in point 49, this method can give different values to the same action, depending on the year it is implemented. Second, because it aims to calculate savings up to 2020, it allows a maximum of 7 years' worth of savings to be taken into account – yet some actions deliver savings over a much longer period (new windows, for example, can last 25 years). The straightforward method may not give enough incentive for these long-lived actions.

52. Member States that have savings schemes in place have addressed this problem in different ways – all more complicated than the 'straightforward' approach.

53. One alternative to the 'straightforward method' is to give each action an 'index value' that reflects its expected lifetime. Under this method, an information campaign could be given an 'index value' of 0.25, while a window replacement could be given an 'index value' of 6. If each of these actions saves 1 toe per year, then the saving attributed to an information campaign would be (1 x 0.25) = 0.25 toe. The saving attributed to a window replacement, whatever the year of implementation, would be (1 x 6) = 6 toe. A Member State using this method must ensure that the result is not higher than the one given by the 'straightforward' approach[13].

54. A second alternative is to 'cap' the lifetimes attributed to individual actions. For example, a 'cap' of 5 years could be chosen. Under this method, the saving attributed to an information campaign would be 1 toe. The saving attributed to a window replacement, whatever the year of implementation, would be (1 x 5) = 5 toe. Again, a Member State using this method must ensure that the result is not higher that one given by the "straightforward" approach.

55. A third alternative is to use full lifetimes, but to 'discount' future-year savings. For example, a discount rate of 10% per year could be chosen. Under this method, the saving attributed to an information campaign would be 1 toe. The saving attributed to an individual action with a lifetime of 4 years, saving 1 toe each year, would be:

[13] Imagine a Member State has to save 35 Mtoe over the period and expects to achieve this by 1 information campaign per year delivering, e.g. 1 million actions (the effectiveness of each action is 1 toe as demonstrated by a survey), and 1 million windows replacements per year (the deemed value of each is estimated to be 1 toe).
Under the 'straightforward method', each of the information campaigns would deliver 1 Mtoe in the year in which it is conducted or 7 Mtoe in total for the seven campaigns over the 7 years by 2020. The 1 million window replacements will deliver savings equal to 7 Mtoe for the 1 million windows replaced the first year, 6 Mtoe for the 1 million windows replaced the second year, 5 Mtoe for the third, 4 Mtoe for the fourth, 3 Mtoe for the fifth, 2 Mtoe for the sixth, 1 Mtoe for the seventh, or in total 28 Mtoe by 2020. The savings from information campaigns and windows replacements thus give 7 Mtoe plus 28 Mtoe or in total 35 Mtoe.

Under the 'index value' method, a Member State might choose to apply an index value of 0.25 for information campaigns and 4.75 for window replacements. The information campaigns would then count as delivering 0.25 Mtoe in the year in which they are conducted, or 1.75 Mtoe in total for the seven campaigns over the 7 years by 2020. The 7 million window replacements done over the period will deliver savings of 7 Mtoe multiplied by the factor of 4.75, giving 33.25 Mtoe. The savings from information campaigns and window replacements would then be counted as 1.75 Mtoe plus 33.25 Mtoe or in total 35 Mtoe.

Year 1		1.0 toe
Year 2	(1.0 x 0.9) =	0.9
Year 3	(0.9x0.9) =	0.81
Year 4	(0.81x0.9) =	0.73
Total		3.44 toe

The saving attributed to a window replacement with a lifetime of 25 years, whatever the year of implementation, would be 9.28 toe. Again, a Member State using this method must ensure that the result is not higher than the one given by the 'straightforward' approach.

F. WHAT MEASUREMENT, CONTROL, QUALITY, MONITORING AND VERIFICATION REQUIREMENTS?

56. Proper measurement, control, quality, monitoring and verification of savings is to be ensured following the provisions of Article 7, paragraphs 6 and 10:

'6. Member States shall ensure that the savings stemming from paragraphs 1, 2 and 9 of this Article and Article 20(6) are calculated in accordance with points (1) and (2) of Annex V. They shall put in place measurement, control and verification systems under which at least a statistically significant proportion and representative sample of the energy efficiency improvement measures put in place by the obligated parties is verified. That measurement, control and verification shall be conducted independently of the obligated parties.

[…]

10. Without prejudice to paragraph 11, the criteria for the policy measures taken pursuant to the second subparagraph of paragraph 9 and Article 20(6) shall be as follows:

[…]

(h) monitoring of the results is ensured and appropriate measures are envisaged if the progress is not satisfactory;

(i) a control system is put in place that also includes independent verification of a statistically significant proportion of the energy efficiency improvement measures;'

and of Annex V, part 2:

'2. In determining the energy saving for an energy efficiency measure for the purposes of Article 7(1) and (2), and points (b), (c), (d), (e) and (f) of Article 7(9), and Article 20(6) the following principles shall apply:

[…]

(g) in promoting the uptake of energy efficiency measures, Member States shall ensure that quality standards for products, services and installation of measures are

maintained. Where such standards do not exist, Member States shall work with obligated, participating or entrusted parties to introduce them."

57. The following relevant elements are required to be reported in accordance with Annex V, part 4,

' *(i) quality standards;*

(j) monitoring and verification protocols and how the independence of these from the obligated, participating or entrusted parties is ensured;

(k) audit protocols'.

58. Member States have to lay down rules on effective, proportionate and dissuasive penalties applicable in case of non-compliance with the national provisions adopted pursuant to Articles 7 and 18(3) and must take the necessary measures to ensure that they are implemented.

G. WHAT REPORTING REQUIREMENTS?

59. Article 7 and Annex V require that:

- By 5 December 2013, each Member State has to report:

  1. The amount of energy savings to be achieved over the obligation period and how this is to be calculated. This may include an explanation of whether the possibilities in Article 7(2) are to be used.

  2. Their proposed detailed methodology for the operation of energy efficiency obligation schemes and, for the purposes of Article 7(9) and Article 20(6). This report has to be based on the details provided in Annex V, part 4.

  3. The policy measures that Member States plan to adopt for the purposes of Article 7(9) last subparagraph, and Article 20(6), following the framework provided in Annex V, point 4, and showing how they would achieve the required amount of savings. In the case of the policy measures referred to in the second subparagraph of paragraph 9 and in Article 20(6) this notification must demonstrate how the criteria in Article 7(10) are met. In the case of policy measures other than those referred to in the second subparagraph or in Article 20(6) the Member State must explain how an equivalent level of savings, monitoring and verification is achieved.

  The Commission may make suggestions for modifications in the three months following notification.

  In both cases the Member State can send planned or proposed policy measures and methodology, or 'finalised' versions.

- **By 30 April 2014 and every three years thereafter as part of its National Energy Efficiency Action Plans, each Member State has to report:**

A number of issues as provided in the Commission implementing decision of 22 May 2013 (2013/242/EU) establishing a template for National Energy Efficiency Action Plans and the related guidance document (SWD(2013) 180).

- **By 5 June 2014, each Member State has to report:**

  Article 28 of the EED sets out the general transposition deadline of 5 June 2014, by when Member States must formally notify the legislation by which they transpose the Directive into national law. Therefore, each Member State needs to send all finalised measures for the transposition of Article 7 and Article 20(6) by that date.

  In addition, if a Member State makes use of the exceptions under Article 7(2), it must notify that fact to the Commission by 5 June 2014 and how this is taken into account in the notified legislative framework. This should include which of the possibilities listed under Article 7(2) are to be applied and how the requirements of Annex V on the calculation of energy savings and of Article 7(3) on maximum reduction possible are met. A calculation showing their impact on the amount of energy savings referred to in Article 7(1) should also be included.

  If a Member State decides to modify the policy framework implementing Article 7 after its June 2014 notification, it should ensure that a coherent policy framework, which safeguards meeting the overall target of Article 7, is retained and safeguarded and that all related changes are notified to the Commission.

- **Notification methods:**

  Member States should notify their legal provisions transposing the Directive into national law using the 'NIF' database. To ensure an efficient transfer of information the use of the 'NIF' database for the other notifications required under the Directive, such as Article 7(3) and (9) and Annex V (4) is to be encouraged.

60. Each Member State must also:

- For energy efficiency obligation schemes – publish, **once a year starting from 2014 where data are available**, the energy savings achieved by each obligated party, or each sub-category of obligated party, and in total under the scheme, as required under Article 7(6); and

- For alternative policies – publish **annually starting from 2014 where data are available**, data on the annual trend of energy savings, as required under Article 7(10)(f).

61. For participating and obligated parties the following requirements are set out:

- Participating parties – they must provide **on an annual basis** a report of the energy savings achieved, unless not feasible and made publicly available, as required under Article 7(10)(g);

- Obligated parties – they must provide, at a Member State's request which may not be more than once per year, specific (aggregate) information on their final consumers, as required under Article 7(8).

H. LIST OF STUDIES AND PAPERS

62. The following studies provide additional non-mandatory guidance on energy efficiency obligation schemes and alternative policies:

Eoin Lees. 2012. Energy efficiency obligations - the EU experience. Cited at: http://www.eceee.org/press/2012/energy-efficiency-obligations-the-EU-experience/resolveuid/bf45556b241774005c8e990bb7ce36ca

Joint European Commission and eceee seminar on Energy Efficiency Obligations. 2011. Seminar materials available at: http://www.eceee.org/eceee_events/energy-efficiency-obligations

Joint Research Centre (JRC). 2010. Voluntary agreements in the fields of Energy Efficiency and emission reduction: review and analysis of the experience in member states of the European Union. Cited at: http://ec.europa.eu/energy/efficiency/studies/doc/2010_05_jrc_va_study.pdf

JRC. 2010. Financing Energy Efficiency: Forging the Link between Financing and Project Implementation. Cited at: http://ec.europa.eu/energy/efficiency/doc/financing_energy_efficiency.pdf

JRC. 2009. Energy Saving obligations and tradable white certificates. Cited at: http://ec.europa.eu/energy/efficiency/studies/doc/2009_12_jrc_white_certificates.pdf

63. On monitoring and verification of energy savings the following reports may be useful:

eceee and RAP. 2012. Determining Energy Savings for Energy Efficiency Obligation Schemes. Cited at: http://www.eceee.org/EED/Rap-ESO-report

Energy Efficiency Programs," Proceedings of the 2010 International Energy Program Evaluation Conference, Paris, France: IEPEC. Cited at: http://www.iepec.org/2010PapersTOC/2010TOC.htm

Energy Efficiency Services Club (ClubS2E). Energy Efficiency Services Measurement and Verification Guide 2009 (in French). Cited at: http://www.clubs2e.org/Content/Default.asp?PageiD=285

International Performance Measurement and Verification Protocol (IPMVP). 2012. Cited at: http://www.evo-world.org/index.php

Vine, E., N. Hall, K. Keating. M. Kushler and R. Prahl. 2010. "Emerging Issues in the Evaluation of Energy Efficiency Programmes