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**COMMISSION STAFF WORKING DOCUMENT**

**Guidance for National Energy Efficiency Action Plans**

*Accompanying the document*

**COMMISSION IMPLEMENTING DECISION**

**establishing a template for National Energy Efficiency Action Plans under Directive  
2012/27/EU of the European Parliament and the Council**

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## READERS GUIDE

The European Union is committed to saving 20% of the primary energy consumption by 2020 compared to a business-as-usual scenario. The EU "Europe 2020 Strategy" for jobs and smart, sustainable and inclusive growth includes energy efficiency among its headline targets. As a suitable means to address the triple challenge of the current economic crisis, energy dependency and climate change, energy efficiency is increasingly becoming an area of emphasis on the EU's policy agenda.

At the same time, National Energy Efficiency Action Plans (NEEAPs) submitted by Member States in the second reporting period under the Energy Services Directive (2006/32/EC - ESD) suggested that the European Union is currently not on track to achieving its 20% by 2020 energy efficiency target.

To remedy this problem, steps were undertaken to update the Union's legal framework for energy efficiency. A new Energy Efficiency Directive (2012/27/EU - EED) has been put in place to pursue the overall objective of the energy efficiency target of reducing by 20% the Union's primary energy consumption by 2020, and of making further energy efficiency improvements after 2020.

The EED adopted by the European Parliament and the Council on 25 October 2012 has become the central tool in energy efficiency policy of the Union. The EED brings forward legally binding measures to step up Member States' efforts to use energy more efficiently at all stages of the energy chain – from the transformation of energy and its distribution to its final consumption. Measures among others include the requirement to establish energy efficiency obligations schemes (or equivalent alternative measures), the 3% annual renovation obligation of central government buildings, the promotion of energy audits, the promotion of efficient heating and cooling, and measures to enable and develop demand response. Entered into force on 4 December 2012, the new EED will repeal the ESD and the Cogeneration Directive (2004/8/EC) as of 5 June 2014. Progress against the 9% by 2016 indicative energy savings target set under the ESD is to be reported by the Member States under the EED as part of the NEEAP due in 2014.

For many Member States the 2014 NEEAP will be the third NEEAP after two action plans submitted in 2007 and 2011 as part of reporting requirements under the ESD. The NEEAP due in 2014 will be the first report under the EED. To ensure continuity with the ESD it is aimed to partly build on information on energy efficiency measures included by Member States in their previous NEEAPs.

The deadline for submitting the NEEAP is 30 April 2014 and every three years thereafter, whilst the general transposition deadline for the EED is 5 June 2014. The Member States, in addition to already implemented measures, should also report on planned or proposed measures as known by the time of the NEEAP reporting. In other words, where Member States have not yet implemented certain measures required by the EED, they are required to report on their plans for these measures. For example, under Annex XIV of the EED part

2.3.8 the Member States must give the internet link to the list of available energy service providers, but if the website does not yet exist, information should be given about the plan to create the website.





The Template and the Guidance for the Template for the NEEAP are intended to aid Member States in the preparation of their reports, to ensure that these are comprehensive policy documents and that all compulsory reporting obligations are covered. The Commission Implementing Decision C(2013) 2882 final establishing a Template for the NEEAP lists the elements which under the EED are mandatory to report on in the NEEAP, although the actual format of the reporting remains non-binding. This Guidance for the NEEAP provides additional advice on those elements which must be included in the NEEAP, as well on other reporting obligations required by the EED (e.g. the annual reports), and recommends adding complementary information to make the NEEAPs more comprehensive. For example, mandatory reporting under the Energy Performance of Buildings Directive (2010/31/EU - EPBD) has also been integrated into the NEEAP Guidance.

As both the EED and the Energy Statistics Regulation (Regulation (EC) No 1099/2008) include reporting requirements, reporting under them should be coherent where applicable. This coherence should be both numerical and methodological.

The Guidance for the NEEAP is built up of sections that can be used to construct the NEEAP. Free text or own tables and/or graphs can be used to explain or complement different parts of the NEEAP. References to Articles of the EED are provided for guidance. Hints are devised to guide Member States through the less straightforward instructions of the Template.

Although the use of the Guidance for the Template is not obligatory, it is strongly recommended.

The following pictograms help navigation:

-  - Indicates reporting obligations under the EED. The NEEAP must address all items identified with this symbol.
-  - Indicates reporting obligations, with the opportunity to provide an update on progress regarding the relevant measures. The Member State must address items identified with this symbol but not necessarily within the timeframe of the NEEAP.
-  - Indicates that it is recommended to provide information. The requested information, while not obligatory will help provide a clearer overview of energy efficiency progress in the Member State.
-  - Indicates a guidance with important information to remember or consider. The information provided is to assist the Member State in completing the NEEAP.

**Abbreviations:**

BU =	bottom-up
CBA =	Cost Benefit Analysis
CHP =	Combined Heat and Power
DSO =	Distribution System Operator
EED =	Energy Efficiency Directive (Directive 2012/27/EU)
EENF =	Energy Efficiency National Fund
EPBD =	Energy Performance of Buildings Directive (Directive 2010/31/EU)
EPC =	Energy Performance Contract
ESCO =	Energy Services Company
ESD =	Energy Services Directive (Directive 2006/32/EC)
EU =	European Union
GHG =	Greenhouse Gas
HVAC =	Heating, Ventilation and Air Conditioning
LPG =	Liquid Petroleum Gas
NEEAP =	National Energy Efficiency Action Plan
nZEB =	nearly Zero Energy Building
PV =	Photovoltaic
RES =	Renewable Energy
SME =	Small- and Medium-size Enterprise
TSO =	Transmission System Operator

## 1. INTRODUCTION

*This chapter is an introduction to the NEEAP, where the Member State can highlight the major findings and give background information for the Plan.*



1. Please provide a brief introduction outlining the national policy context (*EED Article 3(1)*).

### **Guidance 1:**

*The section should provide an overview of energy use in the Member State.*

*This chapter serves as an introduction to the NEEAP where the Member State may provide background information on the national policy context and national circumstances affecting primary energy demand and final energy end-use. These might include for example:*

- *Macroeconomic factors*
- *Impact of the economic crisis*
- *Changes in energy consumption*
- *Changes in energy imports and exports*
- *Structural changes*
- *Developments in other sectors (e.g. renewables, nuclear energy, carbon and capture storage, etc.)*

*Please focus on recent trends, developments and policy changes that have had a major impact on the implementation of the NEEAP and energy efficiency in general.*

*The Member State may consider providing information on existing national strategies and action plans in climate and energy policy, which provides the wider policy framework for the NEEAP.*

*This should include an account of basic macroeconomic factors to provide a context for changes in energy consumption.*

## 2. OVERVIEW OF NATIONAL ENERGY TARGETS AND ACHIEVED SAVINGS

*In this chapter please provide an overview of national energy targets (as set out in Article 3 of the EED), including primary 2020 and any other important energy efficiency targets (2016 ESD, nZEB, CHP, etc.) and, where applicable, also the progress towards achieving these targets.*

### 2.1. Overview national 2020 energy efficiency targets

*In this section the Member State need to clearly state what national energy efficiency target has been set in response to the requirements of the EED.*



1. Please state the indicative national energy efficiency target for 2020 as required by Article 3(1) of the EED (*EED Article 3(1), Annex XIV Part 2.1.*).



#### **Guidance 2:**

*According to the Directive, the target may be based on either primary or final energy consumption, primary or final energy savings, or energy intensity. It is important that the target be clearly expressed. It needs to represent a national commitment. It cannot, for instance, be simply a forecast of energy use or of energy savings in a scenario of increased energy efficiency. The target needs to apply to the whole economy of the Member State, including energy supply, distribution and end-use and incorporating the activities listed in Annex I of Directive 2003/87/EC.*



2. Please indicate expected impact of the target on primary and final energy consumption in 2020 (*EED Article 3(1), Annex XIV Part 2.2.(a)*).



#### **Guidance 3:**

*Please note that the explanation of the impact of the national 2020 target must be notified already in the annual report due by 30/4/2013. However, explaining the target in the 2014 NEEAP first will strengthen the clarity NEEAP on what it is aimed to achieve. The Member State should indicate how the overall 2020 target will impact energy consumption in 2020.*

- *If the national target is expressed as a level of primary energy consumption, please give the expected final energy consumption value in 2020.*
- *If the national target is expressed as energy savings or as energy intensity, please explain its expected impact in terms of the targeted absolute level of primary and final energy consumption in 2020.*
- *If the national target is expressed as a level of final energy consumption, please give the expected primary energy consumption value in 2020.*
- *Please show how the impact on energy consumption has been calculated. If the calculation of the impact had already been explained in a separate national report, it is possible to give an internet link to the underlying data and projections.*
- *Please indicate which conversion factor(s) was/were used when converting final energy savings into primary energy equivalent savings or vice versa.*



- For all cases in this section please include the expected GDP in 2020 taken into account in setting the national 2020 target



3. Explain briefly the rationale for the 2020 target (EED Annex XIV Part 2.2.(a)).

**Guidance 4**

This needs to be notified already in the in the annual report due by 30/4/2013. However, repeating or expanding the rationale for the target in the NEEAP could provide a useful context for the policy measures to be included in chapter 3 of the NEEAP template.

The Member State should explain how the target figure was calculated. For instance:

- How has the target been calculated and on the basis of which data?
- How does it take into account the EU's 2020 energy consumption targets given in the EED?
- To what extent does achieving the target depend on implementation of particular measures?
- Is it a milestone towards a longer-term national target?
- What could be an estimated range of sector-related reductions in consumption in relation to the overall 2020 national target?



4. In accordance with Article 24(2) of the EED please provide an estimate of overall primary energy consumption and consumption by sectors in 2020 (EED Article 24(2)).

**Guidance 5**

As well as providing an estimate of an overall primary energy consumption in 2020 and the primary energy consumption in sectors indicated in Part 1 of Annex XIV, the Member State should, insofar as is possible, provide a breakdown of the estimated energy consumption figures as given in Table 1 below.

**Table 1. Estimates of key national energy production and consumption figures in 2020**

<i>Estimate of energy consumption in 2020</i>	<i>Units</i>
Total primary energy consumption in 2020	
Electricity transformation input (thermal power generation)	
Electricity generation output (thermal power generation)	
CHP transformation input	
CHP transformation output – thermal	
CHP transformation output – electrical	
Energy distribution losses (all fuels)	
Total final energy consumption	
Final energy consumption – Industry	
Final energy consumption - Transport	
Final energy consumption - Households	
Final energy consumption - Services	

## 2.2. Additional energy efficiency targets

*In this section the Member State should state what other important national energy efficiency targets, whether addressing the whole economy or specific sectors, have been set.*



1. Please list any additional national targets related to energy efficiency (EED Annex XIV Part 2.1.).

### **Guidance 6**

*In this section, Member State should include information about any other existing national targets related to energy efficiency, including additional targets that may apply to individual sectors (e.g. defence sector, housing, transport), end-use technologies, fuel types and national targets for time frames other than those defined in the EED.*



2. Please identify a national intermediate target for nearly zero energy buildings for 2015 in accordance with recast EPBD Articles 9(1) and 9(3b) for new buildings (EPBD Article 9(1), Article 9(3b)).



### **Guidance 7**

*Table 2 below can be used to declare nZEB targets. Also indicate such a target for existing buildings, if such a target exists. Please also provide the national definition in line with Article 9(2) of the EPBD.*

**Table 2. National targets for nearly Zero Energy Buildings**

	<i>Existing buildings – target as a percentage of total renovated buildings</i>	<i>New buildings – target as a percentage of total newly constructed buildings</i>
2015		
2020		100%

## 2.3. Overview of primary energy savings

Please provide an overview of the primary energy savings achieved by the time of reporting and estimations of expected savings for 2020 (EED Article 3(1), Article 24(2), Annex XIV Part 2.2.(a)).



### **Guidance 8**

*EED addresses quantification of energy savings in three different contexts:*

- 1) *For the purposes of ESD (EED Article 27(1), EED Annex XIV Part 2.2.(b))*
- 2) *For the purposes of EED Art. 7 (EED Annex V)*
- 3) *For the purposes of general quantification of primary energy savings (EED Annex XIV Part 2.2.(a))*

*Ad1) The first type of quantification of final savings is required in order to follow progress towards the 2016 national target for final energy savings set by ESD. It is required only for the NEEAPs of 2014 and 2017. There is no harmonised methodology, although a framework for quantifying expected and achieved final energy savings was defined in ESD.*

Commission recommendations on measurement and verification methods in the framework of Directive 2006/32/EC may be used. Member States may decide to continue using the methods they chose for the 2011 NEEAP. Alternatively, EED in Annex XIV Part 2.2.(b) first paragraph permits some simplification: "if calculation/estimation of savings per measure is not available, sector level energy reduction shall be shown due to (the combination of) measures". Please note also that in the NEEAP in 2014 and 2017 it is necessary to explain the measurement and verification methodology used by the Member State.

Ad2) The rules for the reporting on savings achieved to fulfil the cumulative end-use energy savings target established under EED Article 7 are strictly defined in EED Annex V and are based on quantification of individual actions that have been realised as a result of the application of policy measures (energy efficiency obligation schemes or alternatives). This information must be provided in the annual report (EED Annex XIV Part 1.(e)). However, as there is a general requirement for NEEAPs to provide information on the main measures and their related savings (EED Annex XIV Part 2.2. first paragraph), information on eligible cumulative savings by the time of the reporting (for which the data is available) will need to be reported as from the 2017 NEEAP. Using the 2014 NEEAPs for reporting on savings achieved in the context of EED Article 7 is not required.

Ad3) The obligation to provide general information on primary energy savings refers to policy measures that Member States have introduced/will be introducing to implement EED. In the 2014 NEEAP there is no strict obligation to report on already achieved savings as the deadline for the implementation of EED measures is after the deadline for the submission of the 2014 NEEAP. Reporting on achieved primary energy savings in the 2014 NEEAP is nevertheless recommended where the data are available. Please note that from the 2017 NEEAP, reporting on achieved primary energy savings will in any case be necessary. In addition, an estimation of expected primary energy savings for 2020 must already be included in the 2014 NEEAP. There is no harmonised methodology to calculate primary energy savings. Member States should explain the methodology they decide to apply.

**Table 3. Example of a table: overview of the estimates of primary and final energy savings (example for the NEEAP of 2014)**

	Primary energy savings (PJ, GWh or ktoe)	Final energy savings (PJ, GWh or ktoe)
2012 - Achieved		
2016 - Forecast		
2020 - Forecast		



**Guidance 9**

In the 2014 NEEAP, reporting on primary energy savings arising from measures implementing EED is recommended whenever such data is available. The 2017 NEEAP and the subsequent NEEAPs must include information on achieved primary energy savings.

*Already in the 2014 NEEAP it is mandatory to include estimates of expected primary energy savings in 2020 for every package of measures/actions. It is recommended to report on aggregated savings under chapter 2.3 and under relevant parts of chapter 3 (e.g. in relation to specific sectors or at the end of each major grouping of reported measures or when describing single major measures).*

*Table 3 provides an example for the presentation of an overview of the aggregated estimates for primary and final energy savings.*

*Member State should include some paragraphs explaining how the achieved and expected savings were quantified. The calculation methodology is not prescribed in the EED; the method used by the Member State should be documented. If the descriptions of the methods used would take more than a page, it is recommended to include a separate Annex to the NEEAP.*

*Double-counting of savings resulting from the measures/groups of measures included in the NEEAP must be avoided.*

## 2.4. Overview of final energy savings



- 1 For the purposes of Directive 2006/32/EC, in the first and the second NEEAP, please provide information on the achieved final energy savings and forecast savings in energy end-use by 2016 as defined by Directive 2006/32/EC (EED Article 27(1), Annex XIV Part 2.2.(b), second paragraph).



- 2 For the purposes of Directive 2006/32/EC, in the first and the second NEEAP, it is necessary provide description of the measurement and/or calculation methodology used for the calculation of the final energy savings.



### **Guidance 10**

*According to Article 27(1) of the EED, Member States are required to fulfil the requirements of Articles 4(1) to 4(4) of the ESD concerning a general savings target of 9% in energy end-use by 2016. In the 2014 and 2017 NEEAP, please explain how achieved and forecast end-use savings given in Table 3 compare with the 9% indicative target from the ESD and the end-use savings forecast from the 2011 NEEAP.*

*If calculation/estimation of savings per measure is not available, sector level energy reduction due to a combination of measures must be shown.*

*If the descriptions of the methods used to calculate final energy savings would take more than a page, it is recommended to include them in a separate Annex to the NEEAP.*

### 3. POLICY MEASURES IMPLEMENTING EED

*This section is aimed at bringing together information on all important energy efficiency measures adopted or planned to be adopted in the Member State. In accordance with EED Annex XIV, this section of the NEEAP should describe the main policy measures implementing EED and contributing toward the national 2020 targets for energy efficiency. It should also include some specific information required to be reported under some specific EED obligations.*

#### 3.1. Horizontal measures

##### 3.1.1. Energy efficiency obligation scheme and alternative policy measures (Article 7)



1. Please provide information on the overall amount of energy savings that will be required over the obligation period in order to meet the target set in accordance with Article 7(1), and, if applicable, on how the possibilities listed in Article 7(2) and (3) are used (EED Article 7, Annex XIV Part 2.2.(a)).



#### **Guidance 11**

*The Member State is required to provide information on the required amount of energy savings. The deadline for notifying this information is 5 December 2013. This is an important element of the description of one of the key EED measures and as such should be repeated in the NEEAP.*

*The NEEAP should include information on how this amount is calculated and which Eurostat dataset is used for this purpose (including a justification in the cases where national sources are used and expert estimations are made if data are not available) and on whether the final energy used in the transport sector has been partially or fully excluded from the calculation.*

*The NEEAP should also include in an Annex the datasets used for the calculation (e.g. a breakdown of the final energy used by sector for 2010, 2011 and 2012). If Article 7(2)(b) is applied, then this Annex should also contain datasets of the final energy use in industrial activities listed in Annex I to Directive 2003/87/EC that has been excluded from the calculation.*

*The NEEAP should include information on whether the possibilities provided in Article 7(2) are used and, if so, which ones and how the requirements of Article 7(3) are met.*



2. Please provide a description of the national energy efficiency obligation scheme as referred to in Article 7(1) (EED Article 7, Annex XIV Part 2.3.2).



**Guidance 12**

*A description of the existing or planned energy efficiency obligations scheme, if there is one, should be provided in the NEEAP. The document should present summary information on the design of the scheme, including obligated parties, target sectors, eligible categories of measures, and how monitoring and verification are ensured. The NEEAP should also include an extensive section or a separate annex to the NEEAP with further details based on EED Annex V, Part 4, first paragraph, points (a) to (e) and (i) to (l).*



3. Please provide a description of the alternative policy measures adopted in application of Article 7(9) and Article 20(6) including information on how their equivalence is ensured (EED Article 7, Annex XIV Part 2.3.2.).



**Guidance 13**

*If the Member State uses alternative policy measures, the NEEAP should provide a list of the alternative measures and a description of each. The document should present summary information on the design of each policy, including parties covered, target sectors, eligible categories of measures, and how monitoring and verification are ensured. The NEEAP should also include in an Annex further details based on Annex V 4., first paragraph points (a) to (e) and (i) to (l), and second paragraph points (a) to (d). This section of the NEEAP must also explain:*

- *How the listed measures will achieve an equivalent level of savings?*
- *How the criteria provided in Article 7(10) are met?*

*The Member State may use a combination of alternative policy measures and may also combine them with energy efficiency obligation schemes but must ensure that no double counting of savings occurs.*



4. Please provide information on the methodology used to determine energy savings and their lifetimes of individual actions realised as a result of the energy efficiency obligation schemes or alternative policy measures and national coefficients chosen accordingly (EED Article 7, Annex V; Annex XIV Part 3.2.). Furthermore, where applicable, provide information on other methods used to take into account lifetime of energy savings than the one provided in Annex V 2.(e) and how it is ensured that it leads to the at least the same total quantity of savings (EED Annex V 2.(e)).



**Guidance 14**

*Member States are required to explain how the savings for each individual action or types of individual actions are to be calculated, including measurement approaches (i.e. deemed savings, metered savings, scaled savings or surveyed saving), lifetime of savings, and how the additionality requirements of Article 7(9)(d) and (e) and Annex V 2.(a) are met. If another method than the one provided for in Annex V 2.(e) is used to assign a lifetime to energy savings, a description needs to be added on how it is ensured that this*

method leads to the at least the same total quantity of savings (EED Annex V 2.(e)). In particular, Annex V 2.(e) requires Member States, when using another methods, to 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.

An explanation of how double-counting of energy savings attributed to other related policy measures or individual actions is avoided should also be provided.

If applicable, the NEEAP should include information on how it is ensured that the energy savings resulting from the use of Article 7(2)(c) and (d) are in compliance with the calculation requirements provided in Annex V. In addition, if applicable, it should be explained how it is ensured that only individual actions that continue to have impact in 2020 are counted for Article 7(2)(c).

The NEEAP should also include a section or a separate Annex with details on how energy savings and their lifetimes are to be calculated based on Annex V 4. first paragraph points (f) and (g), and second paragraph point (e) and concrete values for the main type of measures if available. The national coefficients chosen in accordance with Annex IV must be reported although when necessary it can be done in a separate Annex to the NEEAP.



5. Where applicable, please present published energy savings achieved as a result of the implementation of the energy efficiency obligation scheme and alternative policy measures (EED Article 7 (6),(8) and (10), Annex XIV Part 2.2.(a)).



**Guidance 15**

As Member States are required by the Directive to achieve energy savings through energy efficiency obligation scheme or alternative policy measures from 2014 onwards, there is no requirement to report on achieved savings in the NEEAP due for 30 April 2014.

Nonetheless, several Member States already have a number of relevant policies in place and could use this medium for reporting savings achieved in 2013 if these figures are available. For every subsequent NEEAP the Member State should provide data on the annual energy savings achieved by the policy measure(s) from the start of the obligation period as required in Article 7(8) and Article 7(10), points (g) and (j).

3.1.2. [Energy audits and management systems \(Article 8\)](#)



Please provide an overview of measures planned or already undertaken to promote energy audits and energy management systems, including information on the numbers of energy audits carried out, specifying those carried out in large enterprises, with an indication of the total number of large companies in the Member State territory and the number of companies to which Article 8(5) is applicable (EED Annex XIV Part 2.3.3.).



**Guidance 16**

The EED obliges Member States to promote high quality, effective and independent energy audits. It also obliges large enterprises to carry out energy audits at least every four years. The NEEAP must report on:

- *the number of energy audits carried out in the period covered by the NEEAP (EED Annex XIV Part 2.3.3.(a));*
- *the number of energy audits carried out in large enterprises in the period (EED Annex XIV Part 2.3.3.(b));*
- *the number of large enterprises carrying out energy audits as part of voluntary agreements programmes (EED Annex XIV Part 2.3.3.(c)).*

*Additionally the NEEAP may address:*

- *an overview of how the Member State has promoted the availability to all final customers of energy audit programmes (EED Article 8(2), Article 8(3), Article 8(4));*
- *how the scope of the obligation for large enterprises to carry out energy audits has been established at national level (Article 8(4));*
- *how it is ensured that large enterprises carry out regular energy audits –including where relevant under voluntary agreements- at least every four years, with a first energy audit at the latest by 2015 (EED Article 8(4), Article 8(5), Article 8(6));*
- *what minimum criteria for energy audits have been established on the basis of Annex VI of the Directive and how compliance with these minimum criteria is ensured (EED Article 8(1));*
- *whether a feasibility assessment of a connection to a district heating or cooling network is required as part of an energy audit (EED Article 8(7));*
- *how it is ensured that enterprises exempted from carrying out energy audits implement an energy or environmental management system (i) certified by an independent body according to the relevant European and International Standards and (ii) which includes an energy audit on the basis of the minimum criteria based on Annex VI (EED Article 8(6));*
- *a description of the quality assurance and control scheme that is in place, and an explanation of how the quality of energy auditors and energy audits –including audits carried out under voluntary agreements- is assured;*
- *a description of how quality control of in-house experts or energy auditors is ensured;*
- *details of training programmes available for the qualification of energy auditors and an indication of whether the Member State has cooperated with other Member States on the recognition of qualification or equivalent schemes (EED Article 8(3), Article 16(1));*
- *details of programmes available to encourage SMEs to undergo energy audits and to implement the recommendations from these audits (EED Article 8(3))*
- *information on how the Member State facilitated the exchange of best practice relating to energy management systems in SMEs (EED Article 8(3));*
- *details of support schemes developed to support energy audits and/or the implementation of the resulting recommendations;*
- *descriptions of programmes that the Member State has developed to raise awareness among households of the benefits of energy audits through the appropriate advice services (EED Article 8(3)).*



### 3.1.3. Metering and billing (Articles 9-11)

*Ensuring that accurate and timely metering and billing information is provided to the final customers can significantly influence positive behavioural changes in relation to reducing energy wasting and developing a more rational use of energy sources, such as electricity, natural gas, heating, cooling and domestic hot water. Where final consumers do not have smart meters Member States must ensure, by 31 December 2014, that billing information is accurate, based on actual consumption and provided with a minimum frequency set in Annex VII. Where and to the extent where Member States are implementing intelligent metering systems, EED clarifies some obligations for establishing minimum functionalities of the meters and the obligations imposed on market participants as regards the provision of billing information based on actual consumption. The Directive extends the original ESD requirement for the provision of individual meters to end users of heating/cooling in multi-apartment and multi-unit buildings supplied from a common source not necessarily being district heating/cooling systems. However, a number of provisions are subject to technical feasibility and cost-effectiveness, which Member States should clarify to allow final customers and other market participants to know their rights and obligations in time to enable them to take action before the deadlines set in the EED.*

Please provide information on measures adopted or planned in metering and billing, (EED Article 9, Article 10, Article 11, Annex XIV Part 2.2.).



#### **Guidance 17**

- Please indicate planned and existing measures/action to ensure that at the time of installation of smart meters final customers are given advice and information about meter reading management and monitoring of energy consumption (e.g. training courses for installers). Please provide an estimate of the number of final customers who already received such advice and information.
- Please provide short information on the progress with the roll-out of smart metering to explain applicability of the provisions in Article 9(2).
- Please provide information on existing rules and criteria for local market actors to establish technical feasibility and cost-efficiency for the provision of accurate metering (Article 9(1) and (3) and billing information (Article 10(1)).
- Please indicate any measures to ensure fair, transparent and accurate accounting of individual consumption of heating/cooling in multi-apartment and multi-purpose buildings as described in Article 9(3) of EED (EED Article 9(3)). It could for example include any support schemes for housing cooperatives and similar organisations of end-users to install accurate heat/cool/hot water metering.
- Please inform about the (range of) frequencies with which billing and billing information based on actual consumption is provided to the final customers (electricity, gas, heating/cooling, domestic hot water) (EED Annex VII 1.1.).
- Although not required by EED, it would be useful for Member States to include information on the range of minimum frequencies of billing information based on

*actual consumption to be provided to final customers where smart meters are available and any rules on that for smart meters to be implemented in the future*

- *Please inform about minimum frequencies for the provision of complementary information on actual consumption (Article 10(2)). Please provide information on existing/planned measures ensuring easy access of costumers to complementary information on actual consumption (EED Article 10(2), Annex VII 1.2.).*
- *Please provide an estimate for the number and percentage of final customers who opted for electronic billing or requested more frequent provision of billing information (Annex VII 1.1.).*
- *Please provide information on any existing or planned measures on metering and billing going beyond the requirements of EED that may help final customers save energy.*

#### 3.1.4. Consumer information programmes and training (Articles 12, 17).



Please provide information on measures adopted or planned to promote and facilitate efficient use of energy by SMEs and domestic customers (EED Article 12, Article 17 Annex XIV Part 2.2.).



##### **Guidance 18**

- *Please provide information on measures promoting behavioural change among small energy consumers (EED Article 12(2)).*
- *Please provide information on technical assistance activities and information programmes targeted at improving energy efficiency at SMEs (EED Article 12(1), Article 17(4)).*
- *Please provide information on communication and information measures facilitating the engagement of consumers and consumer organisations during the possible roll-out of smart meters (EED Article 12(2)).*
- *Provide an overview of how information on available energy efficiency mechanisms and financial and legal frameworks is disseminated among relevant market actors (EED Article 17(1)).*
- *Provide an overview of provision of information to banks and other financial institutions on possibilities of participating, including through the creation of public/private partnerships, in the financing of energy efficiency improvement measures (EED Article 17(1)).*
- *Provide an overview of how appropriate conditions are established for market operators to provide adequate and targeted information and advice on energy efficiency to energy consumers (EED Article 17(2)).*
- *Provide an overview of suitable information, awareness-raising and training initiatives to inform citizens of the benefits and practicalities of taking energy efficiency improvement measures (EED Article 17(4)).*



### 3.1.5. [Availability of qualification, accreditation and certification schemes \(Article 16\)](#)



Please provide information on existing or planned certification or accreditation schemes or equivalent qualification schemes (including, if applicable, training programmes) for providers of energy services, energy audits, energy managers and installers of energy-related building elements as defined in Article 2(9) of Directive 2010/31/EU (EED Article 16, Annex XIV Part 2.3.7.).



#### **Guidance 19**

- *Please provide information on existing or planned qualification, accreditation and certification schemes facilitating the fulfilment of obligations under Article 16 (EED Article 16(1)).*
- *Please provide information on how the (in)sufficiency of the national level of technical competence, objectivity and reliability of the qualification, accreditation and certification schemes. If possible, please provide information on the results of the evaluation of the needs in this respect including suitable training programmes for energy services providers, energy auditors, energy managers and installers of energy-related building elements as defined in Article 2(9) of Directive 2010/31/EU (EED Article 16(1)).*
- *Please provide information on how transparency to consumers, as well as reliability and contribution to national energy efficiency objectives are ensured, when certification and accreditation schemes and training programmes are made publicly available (EED Article 16(3)).*

### 3.1.6. [Energy Services \(Article 18\)](#)



1. Please provide information on measures adopted or planned to be adopted for the promotion of energy services. The description should include a hyperlink to the list of available energy service providers and their qualifications (EED Annex XIV Part 2.3.8).



#### **Guidance 20**

- *Please provide information on published model contracts for energy service providers and the information on best practices for energy performance contracting (EED Article 18(1d)).*
- *Please indicate how national point(s) of contact which will provide consumers with information on energy services are publicised (EED Article 18(2a)).*
- *Which measures have been taken to remove regulatory or non-regulatory barriers impeding the uptake of energy performance contracting? (EED Article 18 (2b))*
- *Did the Member State install or assign the role of an independent mechanism, such as an ombudsman, to ensure the handling of complaints on energy service contracts? (EED Article 18(2c))*
- *What steps have been undertaken to enable independent market intermediaries to play a role in stimulating market development ofn the demand and supply sides? (EED Article 18(2d))*
- *What steps have been undertaken to ensure that energy distributors, distribution system operators and retail energy sales companies refrain from any activities that*

*may impede the demand for and delivery of energy services, or hinder the development of markets for such services? (EED Article 18(3))*



2. Please provide a qualitative review of the national market for energy services describing the current status and outlining future market developments (*EED Article 18(1e)*).



**Guidance 21**

*The Member State are required to provide a review of the current and future developments of the energy services market.*

- *It is recommended that this review should:*
  - *establish the size and maturity of the market (e.g. estimate of the number of energy service contracts and energy performance contracts; estimate of the number/value of energy performance contracts signed by the public authorities, etc.);*
  - *identify the sectors in which energy service providers are most active and the types of services provided;*
  - *describe the prevalence of ESCOs (e.g. estimates of the total value of ESCO energy saving projects, total value of possible energy efficiency projects in the non-residential sector, etc.);*
  - *assess the size and types of companies providing services;*
  - *identify significant barriers to the growth of the market.*
- *The review should provide an assessment of how energy services are likely to develop in future (e.g. estimated growth rate, employment, areas of activity, etc.). A review of future developments could describe planned measures to grow the energy services market, including measures that specifically address the barriers identified.*



**3.1.7. Other energy efficiency measures of a horizontal nature (Articles 19 and 20)**



1. Please indicate which appropriate other energy efficiency measures have been undertaken or are planned to be adopted to implement Article 19. In particular, please provide the list of appropriate measures undertaken to remove regulatory and non-regulatory barriers to energy efficiency (e.g. split incentives in multi-owner properties; and public purchasing and annual budgeting and accounting of public bodies) (*EED Annex XIV Part 2.3.9.*).



**Guidance 22**

*Please indicate which, if any, measures were deemed necessary and which measures (e.g. regulatory provisions, guidelines, communications, simplification of administrative procedures) have been undertaken or are planned to be undertaken to:*

- *remove split incentives between the owner and the tenant of the building or between owners (EED Article 19(1a));*
- *ensure that individual public bodies are not deterred from making investments in improving energy efficiency and using energy performance contracting (EED Article 19(1b)).*



2. Please indicate whether the Member State has set up or is planning to set up an Energy Efficiency National Fund (*EED Article 20*).



#### **Guidance 23**

- *If such a Fund has been established or is planned to be established, please indicate briefly the main areas of intervention for the Fund.*
- *Please indicate any major interactions with other policy measures (e.g. energy savings obligation schemes, EU Cohesion Policy Funds, etc.).*
- *Does the Member State allow for obligations regarding the renovation of central government buildings (Article 5(1)) to be fulfilled by an annual contribution to the EENF of an amount equal to the investments required to achieve those obligations? (EED Article 20(5))*
- *Does the Member State allow for obliged parties of energy efficiency obligation schemes (EED Article 7(1)) to fulfil their obligation by an annual contribution to the EENF of an amount equal to the investments required to achieve those obligations? (EED Article 20(6))*
- *To what extent is the Member State using revenues from annual emission allocations for the development of innovative financing mechanisms to give practical effect to the objectives of Article 5 regarding the improvement of the energy performance of buildings? (EED Article 20(7))*

#### **3.1.8. [Savings arising from horizontal measures](#)**



Please provide a breakdown of primary and final energy savings achieved and savings expected up to 2020 (EED Article 24(2), Annex XIV Part 2.2.(a) and (b)).



#### **Guidance 24**

*The EED requires the Member State to declare savings achieved through measures and to explain how the savings figures were determined. Achieved and forecast savings for all horizontal measures may be presented here. The Template is structured in such a way that savings may be described separately for each sector. The Member State may choose to describe in a separate dedicated section 2.3 and 2.4 or even in a possible annex on measurement and verification methods (see advice under section 2.3 and 2.4). It is recognised that quantifying savings associated with many horizontal measures may be difficult and that for some it may not be possible to directly assess savings. However, in the estimated energy savings related to the horizontal measures may in certain cases be attributed and reported on in other section(s) in relation to interlinked specific sector-related (groups of) measures (e.g. expected/achieved energy savings arising from legislative measures to remove split incentives may be reported under savings arising from certain group(s) of policy measures addressing buildings). In any case, it is crucial to avoid any double counting with other e.g. sector-specific policy measures.*

*Reporting on primary energy savings achieved due to the implementation of EED measures in the 2014 NEEAP is not mandatory. However, it will become mandatory for 2017 NEEAPs and the subsequent NEEAPs. For horizontal measures for which savings can be assessed:*

- *For the NEEAP in 2014 it would mean providing information on primary energy savings expected up to 2020 as a result of policy measure or by groups of measures implementing EED. Where possible, also the achieved primary energy savings up to 2012 may be reported (EED Annex XIV Part 2.2.(a)).*

- *With regard to the fulfilment of the final energy saving target set by Directive 2006/32/EC, the NEEAP in 2014 must also include information on final energy savings achieved up to 2012 and expected until 2016 (EED Annex XIV, Part 2.2.(b)). When these policy measures will continue to have an impact on the overall 2020 national energy efficiency target it is recommended to estimate the expected final energy savings also for 2020.*
- *Where available, information on other impacts/benefits of the measures (greenhouse gas emissions, improved air quality, job creation, etc.) should be included here unless already included in the earlier sub-chapters.*



### 3.1.9. Financing of horizontal measures

If such information is not already provided in the description of specific measures, please provide an overview of the financing of the main groups of specific horizontal measures (e.g. metering and billing; consumer information programmes and training; availability of qualification, accreditation and certification schemes; and other energy efficiency measures of horizontal nature).

Where applicable, the measure-specific information should indicate the amount of planned financing from the EU Structural and Cohesion Funds and other amounts of co-financing coming from state budget.

## 3.2. Energy efficiency measures in buildings

### 3.2.1. Addressing the requirements of the recast EPBD (2010/31/EU)

*This section relates to the reporting requirements of the EPBD (2010/31/EU). It is not mandatory but strongly recommended that the Member State uses the NEEAP to integrate information on its progress towards fulfilling the obligations of the EPBD together with information on any other important policy measures addressing energy efficiency in buildings.*



1. Please present a calculation of cost optimal levels of minimum energy performance (EPBD Article 5(2)).

#### **Guidance 25**

*Presentation of cost optimal calculations is a reporting requirement of the EPBD but the Member State may use the NEEAP to present calculations. Member States are required to report to the Commission all input data and assumptions used for those calculations and the results of those calculations. If the Member State plans to present this information in the NEEAP, the voluntary template which is included in Annex III of Commission Delegated Regulation (EU) No 244/2012 of 16 January 2012 is strongly recommended. According to the EPBD, the first report on cost-optimality must already have been submitted and so cannot be presented as part of the first NEEAP. However, subsequent reports on cost-optimality may be reported as part of the subsequent NEEAPs.*

**Guidance 26**

*Member States are recommended to include their National Plan for Nearly Zero-Energy Buildings as an Annex to their NEEAP (see Annex C).*



2. In accordance with the requirements of Article 10(2) of the EPBD, please provide a list of measures and instruments to support EPBD objectives (EPBD Article 10(2)).

**Guidance 27**

*The EPBD requires that Member States provide a description of all existing and, if appropriate, proposed measures and instruments, including those of a financial nature, other than those required by the EPBD, which promote its objectives. The Member State may use the NEEAP to provide an updated list. The reporting deadline for the updated list under the EPBD is 30 June 2014, which allows Member States to use the NEEAP for this purpose.*



3. Alternative measures for heating and air conditioning systems (EPBD Article 14(4), Article 15(4)).

**Guidance 28**

*Instead of establishing a regular inspection of heating and air conditioning systems, Member States may opt for alternative measures, the impact of which must be equivalent to mandatory inspection. The alternative measures may be documented in the NEEAP. Where Member States choose to apply alternative measures, they must provide a detailed impact analysis of the alternative measures, in which they must:*

- *present a hypothetical regular inspections scheme complying with EPBD Article 14 (1) to 14(3) and/or Article 15(1) to 15(3);*
- *describe the alternative measures that are taken to ensure the provision of advice to users concerning the replacement of boilers and/or air conditioning systems, other modifications to these systems and alternative solutions to assess the efficiency and appropriate size of the boiler and/or air conditioning system, (EPBD Article 14(4), Article 15(4));*
- *present a reliable methodology and reliable data to assess the overall impact (at least in units of energy) of both scenarios ('hypothetical regular inspections' and 'alternative measures'). Each data set should be supported by appropriate reference(s) and a sensitivity analysis of each assumption should be undertaken to make sure that the equivalence provides a reliable result (EPBD Article 14(4), Article 15(4));*
- *present the results of the assessment of both scenarios, showing that the overall impact of the 'alternative measures' is at least the same as the overall impact of the 'hypothetical regular inspection scheme' (EPBD Article 14(4), Article 15(4)).*

*The reporting deadline for the second report on the alternative measure under the EPBD is 30 June 2014, which allows Member States to use the NEEAP for this purpose.*

### 3.2.2. [Building renovation strategy \(Article 4\)](#)



Please provide information on the national building renovation strategy (EED Article 4).

#### **Guidance 29**

*The EED requires that a long-term strategy for mobilising investment in the renovation of buildings is included in the NEEAP. The Member State may use this section to present a short overview of the strategy while including its actual building renovation strategy as Annex B to the NEEAP.*

*The first version of this strategy must be included in the 2014 NEEAP and updated in each subsequent NEEAP.*

### 3.2.3. [Additional measures addressing energy efficiency in buildings and appliances](#)



Please provide details on additional measures addressing energy efficiency in residential and non-residential buildings as well as those that promote the use of energy efficient appliances and equipment in buildings, (EED Article 24(2), Annex XIV Part 2.2.(a)).

#### **Guidance 30**

*The EED requires the Member State to provide details on all measures that help implement the main elements of the Directive. Section 3 of this Template is so structured that Member States can present these measures according to sector. If the Member State chooses to organise the descriptions of measures in this manner, this section may be used to illustrate measures addressing energy efficiency in buildings and appliances which are not described elsewhere in the NEEAP.*

### 3.2.4. [Savings arising from measures addressing energy efficiency in buildings](#)



Please provide a breakdown of final and primary energy savings achieved so far by measure or by groups of measures and savings expected up to 2020 (EED Article 24(2), Annex XIV, Part 2.2.(a)).



#### **Guidance 31**

*The EED requires the Member State to declare primary and final energy savings achieved through policy measures and to explain how the savings figures were determined. Achieved and forecast savings for the building sector may be presented here. The Template is structured in such a way that savings may be described separately for each sector. The Member State may choose to describe the savings in sections 2.3 and 2.4 or in a separate annex to the NEEAP.*

- *It is recommended to provide for all measures addressing energy efficiency in buildings and appliances a breakdown of savings achieved by measure or by groups of measures up to 2012 and savings expected up to 2020 (EED Annex XIV Part 2.2.(a) and (b)).*
- *Where available, information on other impacts/benefits of the measures (greenhouse gas emissions, improved air quality, job creation, etc.) should be included here unless already included in the earlier sub-chapters (EED Annex XIV Part 2.2.(a)).*



### 3.2.5. Financing of energy efficiency measures in buildings



If such information is not already provided in the description of specific measures, where available, please provide an overview of the financing of the main groups of specific measures addressing energy efficiency in buildings.

Where applicable, the measure-specific information should clearly indicate the amount of planned financing from the EU Structural and Cohesion Funds and other amounts of co-financing coming from state budget.

## 3.3. Energy efficiency measures in public bodies (Articles 5 and 6)

### 3.3.1. Central government buildings (Article 5)

*Member States must ensure that, as from 2014, 3% of the total floor area of heated and/or cooled buildings owned and occupied by their central government is renovated each year to meet at least the minimum energy performance requirements set out in the recast EPBD. The 3% rate is to be calculated on the total floor area of buildings with a useful floor area over 500 m<sup>2</sup> that do not meet the national minimum energy performance requirements. That threshold will be lowered to 250 m<sup>2</sup> as of 9<sup>th</sup> July 2015.*

1. Please provide information on the published inventory of heated and cooled central government buildings (EED Article 5(5)).



#### **Guidance 32**

*In the 2014 NEEAP please provide information on the inventory of heated and cooled central government buildings with a total useful floor area over 500 m<sup>2</sup>. According to the EED this information needs to be publicly available by 31 December 2013 (EED Article 5(5)).*

*The inventory must contain:*

- *the floor area in m<sup>2</sup>; and*
- *the energy performance of each building or relevant energy data.*

*If Member States, decide to opt for an alternative approach referred to in Article 5(6), which is to express the target in terms of energy saved and not the surface area, then the public inventory is not legally required but still strongly recommended to establish and use such an inventory as it would ensure full equivalence of the alternative approach with the general obligation to renovate central government buildings established in Article 5(1).*

*The fact of establishing the publicly available inventory must in any case be reported in the NEEAP (e.g. by including a link to an internet website).*

2. Please provide details of the calculation for the renovation obligation (EED Article 5(1-4)).



#### **Guidance 33**

- *Please indicate the total floor area of all heated and/or cooled buildings owned and occupied by central government with a useful floor area of over 500m<sup>2</sup> that do not meet national minimum energy performance requirements on 1 January 2014. 3% of*

*this value should be stated as the renovation obligation for central government buildings in 2014 (EED Article 5(1)).*

- *If the Member State has chosen to extend the renovation obligation to include other administrative departments below central government or other public bodies as well, please indicate the total floor area of these additional buildings, and state the additional renovation obligation that is accounted for by this extension.*
- *Please state whether the Member State has chosen to consider the building as a whole, including building envelope, equipment, operation and maintenance (EED Article 5(1)).*
- *Please state whether central government buildings with the lowest energy performance are prioritised when energy efficiency measures are undertaken (EED Article 5(1)).*
- *Please indicate if the Member State has decided not to apply the renovation requirements to certain categories of buildings as allowed for in Article 5(2).*
- *Please indicate if the Member State plans to count towards the renovation obligation for 2014 an excess of renovations from the three previous or three following years, as allowed for by Article 5(3). If so, please quantify these excess renovations and indicate in which years they were, or will be, completed (EED Article 5(3)).*
- *When calculating renovation obligation the Member State can count the replacement of old buildings with new buildings and the removal of buildings due to more intensive use of existing buildings in the previous two years, in accordance with Article 5(4). If applicable, please provide information on the extent to which such changes in building stock help fulfil the renovation obligation (EED Article 5(4)).*



3. Where applicable, please inform about the alternative approach to achieving savings equivalent to the fulfilment of the renovation obligation as allowed for in Article 5(6).



**Guidance 34**

*The Member State has the possibility of opting for an alternative approach to achieve savings equivalent to the fulfilment of the renovation obligation, as set out in Article 5(6). If the Member State is opting for an alternative approach, please provide the following information:*

- *detailed descriptions of the alternative measures that achieve at least the equivalent savings, including measures for deep renovations and measures for behavioural change of occupants;*
- *calculations of savings achieved by each of the alternative measures;*
- *appropriate standard values for the energy consumption of reference central government buildings before and after renovation and according to estimates of the surface of their stock.*

*Using the appropriate standard values, please estimate the energy savings that paragraphs 1 to 5 of Article 5 of the EED would generate, and show that these savings are no greater than those achieved by the alternative measures.*

### 3.3.2. [Buildings of other public bodies \(Article 5\)](#)

Article 5(7) of the Directive requires that public bodies that are not part of central government should be encouraged to demonstrate their exemplary role in buildings energy efficiency.



1. In accordance with Article 5(7), please provide information on undertaken/planned measures demonstrating the exemplary role in buildings energy efficiency of public bodies that are not part of the central government (*Annex XIV Part 2.2. first paragraph*).



2. Please provide a list of public bodies having developed an energy efficiency action plan (freestanding or as part of broader climate or environmental plans) (*EED Annex XIV, Part 2.3.1.*).



#### **Guidance 35**

- Please identify how non-central government public bodies, including regional governments, local governments, and social-housing bodies governed by public law are encouraged to:
  - i) adopt energy efficiency plans (*EED Article 5(7a)*);
  - ii) put in place energy management systems, including energy audits (*EED Article 5(7b)*);
  - iii) use ESCOs and energy performance contracting where appropriate (*EED Article 5(7c)*).
- Provide a list of public bodies having developed an energy efficiency action plan, freestanding or as part of broader climate or environmental plans.
- Assess to what extent these plans contain specific energy saving and efficiency objectives and actions, with a view to following the exemplary role of central government buildings.
- Provide an overview of the use of energy management systems, including energy audits, in public bodies.
- Provide an overview of the status of the ESCO market and energy performance contracting in connection to financing renovations of buildings of public bodies.

### 3.3.3. [Purchasing by public bodies \(Article 6\)](#)

Article 6 of the Directive requires that central governments purchase products, services and buildings with high-energy efficiency performance and that all public bodies should be encouraged to do likewise. Energy efficiency requirements for purchasing products, services and buildings by central government are laid down in Annex III of the Directive. Annex III establishes connections with the Labelling (2010/30/EU) and Eco-design (2009/125/EC) Directives; the Agreement between the Government of the United States of America and the European Community on the coordination of labelling programmes for office equipment; and Community regulation on the labelling of tyres with respect to fuel efficiency.



1. Please provide information on steps taken to ensure that central government purchases products, services and buildings with high-energy efficiency performance (*EED Article*

6(1)), and on measures undertaken or planned to encourage other public bodies to do likewise (EED Article 6(3)).



**Guidance 36**

- Please explain how the Member State ensures that central government purchases only products, services and buildings with high energy efficiency performance, insofar as this is consistent with cost-effectiveness, economic feasibility, wider sustainability, technical suitability, as well as sufficient competition (EED Article 6(1)).
- Please provide information on steps undertaken to encourage public bodies, including at the regional and local level, to follow the exemplary role of central government in purchasing only products, services and buildings with high energy efficiency performance (EED Article 6(3)).
- Please provide information on steps undertaken to encourage public bodies to assess the possibility of concluding long term energy performance contracts that provide long-term energy savings, when they are tendering service contracts with significant energy content (EED Article 6(3)).

3.3.4. [Savings arising from measures in central government and other public bodies](#)



Please provide, for all measures addressing energy efficiency in central government and in all other public bodies, a breakdown of achieved savings and savings expected up to 2020 by measure or by groups of measures (EED Article 24(2), Annex XIV Part 2.2.(a) and (b)).



**Guidance 37**

The EED requires Member State to declare savings achieved through measures and to explain how the savings figures were determined. In this section Member States are encouraged to present the total contribution of the public sector to national energy efficiency achievements. Achieved and forecast savings for the public sector may be presented here. The Template is structured such that savings may be described separately for each sector. Alternatively, Member State may choose to describe primary and final energy savings in detail under sections 2.3 and 2.4 respectively, or in a separate dedicated annex to the NEEAP.

- In the NEEAP in 2014 it is recommended to provide information on primary energy savings expected up to 2020 as a result of policy measure or by groups of measures implementing EED provisions addressing the exemplary role of the public sector. Where applicable, the achieved primary energy savings up to 2012 may also be reported (EED Annex XIV Part 2.2.(a)).
- With regard to the fulfilment of the final energy saving target set by Directive 2006/32/EC, the NEEAP in 2014 must also include information on final energy savings achieved up to 2012 and expected until 2016 (EED Annex XIV Part 2.2.(b)). When these policy measures will continue to have an impact on the overall 2020 national energy efficiency target, Member States may wish to include estimates of the expected final energy savings also for 2020 (EED Annex XIV Part 2.2.(b)).

- Where available, information on other impacts/benefits of the measures (greenhouse gas emissions, improved air quality, job creation, etc.) should be included here unless already included in the earlier sub-chapters (EED Annex XIV Part 2.2.(a)).

### 3.3.5. Financing of energy efficiency measures in public bodies



Where available please provide information on the financing of specific energy efficiency measures in public bodies. The measure-specific information should differentiate between the amount of financing received from EU Structural and Cohesion Funds and the amount of co-financing coming from state funds. Where available, please provide measure-specific information also on private financing and financing by the state other than the mentioned co-financing (e.g. financing from ESCOs).

## 3.4. Energy efficiency measures in industry

### 3.4.1. Main policy measures addressing energy efficiency in industry



Provide details on all measures addressing energy efficiency in industry (EED Article 24(2), Annex XIV Part 2.2.)



#### **Guidance 38**

The EED requires the Member State to provide details on all measures that help implement the main elements of the Directive. Section 3 of this NEEAP Guidance is so structured that Member States can present these measures according to sector. If the Member State chooses to organise the descriptions of measures in this manner, this section may be used to describe measures that address energy efficiency in industry. The NEEAP should also provide information about any specific measures that are tailored to promote greater energy efficiency among SMEs.

### 3.4.2. Savings arising from industry measures



Please provide a breakdown of savings achieved and savings expected up to 2020 by measure or by groups of measures (EED Article 24(2), Annex XIV Part 2.2.(a) and (b)).



#### **Guidance 39**

The EED requires the Member State to declare savings achieved through measures and to explain how the savings figures were determined. Achieved and forecast savings for the industry sector may be presented here. The Template is structured in such a way that savings may be described separately for each sector. Alternatively, Member State may choose to describe the savings in more detail in relation to specific measures/groups of measures addressing the industry sector or by including more detailed on industry-related energy savings under sections 2.3 and 2.4 or in a separate annex to the NEEAP.

- It is recommended to provide, for all measures addressing energy efficiency in the industry sector, a breakdown of savings achieved by measure or by groups of measures up to 2012 and savings expected up to 2020 (Annex XIV Part 2.2.(a) and (b)).

- *In the NEEAP in 2014 it is recommended to provide information on primary energy savings expected up to 2020 as a result of policy measure or by groups of measures implementing EED provisions addressing energy efficiency in industry. Where applicable, the achieved primary energy savings up to 2012 may also be reported (EED Annex XIV Part 2.2.(a)).*
- *With regard to the fulfilment of the final energy saving target set by Directive 2006/32/EC, the NEEAP in 2014 must also include information on final energy savings achieved up to 2012 and expected until 2016 (EED Annex XIV Part 2.2.(b)). When these policy measures will continue having an impact on the overall 2020 national energy efficiency target, it is recommended to estimate the expected final energy savings also for 2020 (EED Annex XIV Part 2.2.(b)).*
- *Where available, information on other impacts/benefits of the measures (greenhouse gas emissions, improved air quality, job creation, etc.) should be included here unless already included in the earlier sub-chapters (EED Annex XIV Part 2.2.(a)).*
- *It is recommended to highlight the measures addressing energy efficiency in small and medium enterprises.*

### 3.4.3. Financing of energy efficiency measures in industry



Where available, please provide information on the financing of specific energy efficiency measures in industry. The measure-specific information should differentiate between the amount of financing received from EU Structural and Cohesion Funds and the amount of co-financing coming from the state. Where available, please provide estimates on private financing and financing by the state other than the mentioned co-financing.

## 3.5. Energy efficiency measures in transport

### 3.5.1. Main policy measures addressing energy efficiency in transport



Please provide an overview of policy measures aiming to improve energy efficiency in passenger and freight transport, and the promotion of a modal shift to more sustainable modes of transport (EED Article 24(2), Annex XIV Part 2.2.).



#### **Guidance 40**

*The EED requires the Member State to provide details on all measures that help implement the main elements of the Directive. Section 3 of this Template is so structured that Member States can present these measures according to sector. If the Member State chooses to organise the descriptions of measures in this manner, this section may be used to describe measures that address energy efficiency in transport. The following questions could serve as a guideline:*

- *Are there measures in place to improve energy efficiency in public transport (e.g. changing of vehicle fleets, rationalisation of transport routes)?*
- *Are there measures in place to increase the attractiveness of public transport (e.g. creation of special lanes for public transport, improvement of services, real time*

information at stops, online information on travel schedule, improvement of infrastructure, park and ride and bike and ride schemes)?

- Are there designated low-traffic or low-emission zones established, or congestion charging in place?
- Are there programmes in place promoting eco-driving?
- Is there financial support available for sustainable transport measures (e.g. bike-sharing programmes, development of cycling lanes, public transport including rail)?
- Are there tax incentives in place to improve the fuel efficiency of passenger vehicles and/or freight vehicles?

### 3.5.2. Savings arising from transport measures



Please provide a breakdown of savings achieved and savings expected up to 2020 by measure or by groups of measures (EED Article 24(2), Annex XIV Part 2.2.(a) and (b)).



#### **Guidance 41**

The EED requires the Member State to declare savings achieved through measures and to explain how the savings figures were determined. Achieved and forecast savings for the transport sector may be presented here. The Template is structured in such a way that savings may be described separately for each sector. Alternatively, Member State may choose to describe primary and final energy savings under section 2.3 and 2.4 or in a separate annex to the NEEAP.

- It is recommended to provide for all measures addressing energy efficiency in transport a breakdown of savings achieved by measure or by groups of measures up to 2012 and savings expected up to 2020 (EED Annex XIV Part 2.2.(a) and (b)).
- In the NEEAP in 2014 it is recommended to provide information on primary energy savings expected up to 2020 as a result of policy measure or by groups of measures implementing EED provisions addressing energy efficiency in transport. Where applicable, the achieved primary energy savings up to 2012 may also be reported (EED Annex XIV Part 2.2.(a)).
- With regard to the fulfilment of the final energy saving target set by Directive 2006/32/EC, the NEEAP in 2014 must also include information on final energy savings achieved up to 2012 and expected until 2016 (EED Annex XIV Part 2 (2b)). When these policy measures will continue to have an impact on the overall 2020 national energy efficiency target, it is recommended to estimate the expected final energy savings also for 2020 (EED Annex XIV Part 2.2.(b)).
- Where available, information on other impacts/benefits of the measures (greenhouse gas emissions, improved air quality, job creation, etc.) should be included here unless already included in the earlier sub-chapters (EED Annex XIV Part 2.2.(a)).



### 3.5.3. Financing of energy efficiency measures in transport

Where available, please provide information on the financing of specific energy efficiency measures in transport. The measure-specific information should differentiate between the amount of financing received from EU Structural and Cohesion Funds and the

amount of co-financing coming from state funds. Please provide measure-specific information also on private financing and financing by the state other than the mentioned co-financing.

### 3.6. Promotion of efficient heating and cooling (Article 14)

#### 3.6.1. Comprehensive assessment

*Article 14(1) requires Member States to carry out and report on a comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling by 31 December 2015. The Member State should use the template to report on the comprehensive assessment if already completed, or to report on progress towards completing the comprehensive assessment.*



1. In the 2014 NEEAP please include information about the process, participants and the methodology used for preparing the comprehensive assessment, including a short description of how the country-level cost-benefit analysis is carried out in accordance with Part 1 of Annex IX (EED Article 14(1) and (3), Annex IX.1, Annex XIV Part 2.3.4).



2. In the second and subsequent NEEAPs, please provide an assessment of the progress achieved in implementing the comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling referred to in Article 14(1) and the role of heat market developments in this progress (EED Article 14(2) (EED Article 14(1), Annex XIV Part 2.3.4).



#### **Guidance 42**

*In the 2014 NEEAP, Member States need to include a description of the procedure chosen and the methodology used for carrying out a cost benefit analysis to satisfy the criteria of EED Annex IX. Where applicable, this description should include information on requirements introduced or planned to be introduced by the Member States to require competent local, regional or national authorities or operators of individual installations to carry out the economic and financial analyses. The 2014 NEEAP needs to include information on detailed methodologies and assumptions taken for cost-benefit analyses set in accordance with EED Annex IX.*

*The 2014 NEEAP should also include information on the designated competent authority responsible for carrying out the cost benefit analyses specified in Article 14 of EED.*

*In 2017 NEEAP and the subsequent NEEAPs, the Plan should include information on the number of cost-benefit analyses (CBA) already prepared in the frame of the comprehensive assessment, indicate the geographical scope (regions, cities and other local authorities) and the results of these CBA and how they were reflected in measures, policies and strategies referred to in Article 14(2) and (4) and Annex VIII 1(g).*



3. In the 2014 NEEAP, please provide the identified economic potential for:
  - i. High-efficiency cogeneration (EED Article 14(1), Article 14(3));
  - ii. The efficient district heating and cooling (EED Article 14(1), Article 14(3));



- iii. Other efficient heating and cooling systems (optional, *EED Article 14(2), Article 14(3)*).



**Guidance 43**

*The Member State should identify the potential for efficient high-efficiency cogeneration and efficient district heating and cooling. Member States may use the comprehensive assessment to also identify potentials for other efficient heating and cooling systems, such as individual heating and cooling.*

*If Member States already has got an equivalent assessment required under EED Article 14(1), it may include a short description already in the 2014 NEEAP.*



4. In the 2014 NEEAP and other future NEEAPs please provide a description of measures, strategies and policies, including programmes and plans, at national, regional and local levels to develop the economic potential of high-efficiency cogeneration and efficient district heating and cooling and other efficient heating and cooling systems as well as the use of heating and cooling from waste heat and renewable energy sources, including measures to develop the heat markets (*EED Article 14(2), Article 14(4), Annex VIII 1(g)*).



**Guidance 44**

*The Member State should describe measures and strategies to develop the economic potentials in 3.i. **Error! Reference source not found.** to 3.iii. above, including an explanatory description of the main features and the expected results incorporating, as appropriate, the following:*

- i) CO<sub>2</sub> and other GHG emissions abated*
- ii) Primary energy saved*
- iii) Growth in installed cogeneration capacity and capacity refurbished by fuels and capacity sizes and in absolute and relative terms*
- iv) Growth in heat and electricity production from cogeneration (by fuels and sectors) and in absolute and relative terms*
- v) Quantity of electricity from high-efficiency cogeneration actually fed into the public grid and the average of feed-in price, price support or other support, as applicable*
- vi) Quantity of heat sold to third parties and through district heating and cooling networks broken down by main consumer segments/sectors*
- vii) Length in km of new and refurbished district heating and cooling pipes*
- viii) Number of new areas and consumers connected to district heating and cooling networks (by sectors: households, services and industrial sectors) the rate of growth and the percentage of consumers connected to these networks*
- ix) Number of end-users switching from individual heating and cooling to district heating and cooling*
- x) Number of new micro-CHP and small-scale CHP installed*
- xi) Number of other new efficient heating systems and trends in their market uptake, (e.g. heat-pumps efficient boilers, solar equipment and, new or as replacement of old systems installed either as new installations or as replacement for old systems*

- xii) *Investments needed and foreseen, financing mechanisms and sources, financial incentives and public support planned indicating support from national and EU funds*
- xiii) *Number of companies, in particular SME, professional experts and skilled workers participating in implementation*

*Give a short evaluation / description of the progress already achieved using the indicators in i) to xiii) above with indication whether this corresponds to the planned implementation trajectory.*

### 3.6.2. Individual installations: cost-benefit analysis and results



In the 2014 NEEAP please identify the responsible competent authorities and actors, and explain the process and methodology of the installation level cost-benefit analysis, including district-heating companies and other stakeholders involved (*EED Annex IX Part 1*). In 2017 NEEAP please provide inform shortly about their outcome with some further details (e.g. the number of CBA prepared).



#### **Guidance 45**

*When providing the number of CBAs prepared, please indicate the types of installation, the geographical boundaries and the results (positive or negative) of these CBAs. Provide the number of individual authorisations and equivalent permits indicating those where cogeneration and district heating was set as a condition.*

### 3.6.3. Individual installations: exemptions and exempting decisions



Please provide details of the exemptions from the CBA allowed on the basis of Article 14(6) and the ad-hoc exemptions based on Article 14(8), (*EED Article 14(6) and (8)*).



#### **Guidance 46**

*The Member State should give details of the exemptions from the CBA allowed on the basis of Article 14(6) indicating the economic justification and the verification procedures with references to detailed economic background studies and assessment and the competent authorities' the verification procedures.*

*The justification should be specific for each exemption type: i.e. for peak load and back installations generation adequacy and the potential for demand response and the share of renewable energy and cogeneration in overall electricity fuel mix should be provided with the verification procedures; for industrial installation and district heating or cooling installations the thresholds should be defined and explained how they were defined and why they prima facie exclude economic viability.*

*The Member State should also:*

- *provide the number of installations exempted on the basis of Article 14(6) and the type of exemption granted;*
- *provide the number of ad-hoc exemptions based on Article 14(8) and the type of imperative reason.*

### 3.7. Energy transformation, transmission, distribution, and demand response (Article 15)

#### 3.7.1. Energy efficiency criteria in network tariffs and regulations



1. Please describe planned or adopted measures to ensure that incentives in tariffs that are detrimental to the overall efficiency (including energy efficiency) of the generation, transmission, distribution and supply of energy, or might hamper participation of demand response in balancing markets and ancillary services procurement, are removed (EED Article 15(4), Annex XIV Part 2.2 first sentence).



2. Please describe planned or adopted measures to incentivise network operators to improve efficiency through infrastructure design and operation (EED Article 15(4), Annex XIV Part 2.2. first sentence).



3. Please describe planned or adopted measures to ensure that tariffs allow suppliers to improve consumer participation in system efficiency including demand response (EED Article 15(4), Annex XIV Part 2.2. first sentence).



4. Please inform if network tariffs support the development of demand response services (EED Annex XI 3.).



#### **Guidance 47**

*When describing in the NEEAP the energy efficiency criteria in network tariffs and regulations the Member State should address the following points:*

- *Please describe how it is ensured that national energy regulatory authorities pay due regard to energy efficiency when carrying out their regulatory duties (EED Article 15(1)).*
- *Please describe how it is ensured that incentives in tariffs that are detrimental to the overall efficiency (including energy efficiency) of the generation, transmission, distribution and supply of energy are removed (EED Article 15(4)).*
- *How is it ensured that national energy regulatory authorities provide incentives (through the development of network tariffs and regulations) for grid operators to make available system services to network users to take advantage of the potential of smart grids? (EED Article 15(1))*
- *How is it ensured that network tariffs and regulations do not prevent TSOs, DSOs and energy retailers from offering as system services in organised markets measures to:*
  - i) *shift customers' demand from peak to off-peak, and this taking into account the availability of renewable energy, energy from cogeneration and distributed generation;*
  - ii) *induce customers to reduce demand;*
  - iii) *store energy; or*
  - iv) *connect or dispatch electricity from distributed generation (EED Annex XI 2.).*
- *Please explain how, for electricity, it is ensured that network regulations and tariffs fulfil the criteria in Annex XI of the Directive (EED Article 15(1), EED Annex XI).*

- Please explain how it is ensured that network tariffs reflect reductions in network costs from demand management, demand response and distributed generation (EED Article 15(8), EED Annex XI).
- Do network or retail tariffs support dynamic pricing for demand response measures? To what extent do these tariffs (time of use tariffs, critical peak pricing, real time pricing or peak time rebates as listed in Annex XI of the EED) exist in the Member State? (EED Annex XI 3.).

### 3.7.2. Facilitate and promote demand response



Please provide information on measures adopted or planned to enable and develop demand response, including those addressing tariffs to support dynamic pricing (EED Annex XI 3., Annex XIV Part 2.3.6., EED Article 15(4), Article 15(8)).



#### **Guidance 48**

When addressing this requirement the Member State should:

- describe in detail national measures to enable and develop demand response;
- explain how it is ensured that national energy regulatory authorities encourage the participation of demand side resources alongside supply in wholesale and retail markets;
- explain how the Member State has arranged for the technical modalities to promote access and participation of demand response in balancing, reserve and other system services markets.

### 3.7.3. Energy efficiency in network design and operation



1. In the 2014 NEEAP Please report on progress achieved in the assessment of the energy efficiency potential of national gas and electricity infrastructure, as well as adopted and planned measures and investments for the introduction of cost effective energy efficiency improvements in network infrastructure and a timetable for their introduction (EED Article 15(2), Annex XIV Part 2.3.5.).



2. In 2017 NEEAP please include information from the assessment of the energy efficiency potential of gas and electricity infrastructure, in particular relating to transmission and distribution, load management and interoperability, and connection to generating installations including access possibilities for micro generators. The NEEAP needs to describe the measures and investments identified to utilise the energy efficiency potentials of gas and electricity infrastructure (EED Article 15(2), Annex XIV Part 2.3.5.).

### 3.7.4. Savings arising from all energy supply measures



Please provide for all measures addressing energy efficiency in supply, including those to promote the increased use of efficient cogeneration, a breakdown of savings achieved by measure or by groups of measures up to 2012 and savings expected up to 2020 (EED Article 24(2), Annex XIV Part 2.2.(a)).

**Guidance 49**

*The EED requires the Member State to declare savings achieved through measures and to explain how the savings figures were determined. Achieved and forecast savings for energy supply including cogeneration may be presented here. The NEEAP Guidance is structured in such a way that savings may be described separately for each sector. Alternatively, the Member State may choose to include information about achieved and expected primary energy savings also under section 2.3 or in a separate annex to the NEEAP.*

- *In the NEEAP in 2014 Member States should provide for all measures addressing energy efficiency in supply a breakdown of savings expected up to 2020 (EED Annex XIV Part 2.2.(a)).*
- *In the NEEAP in 2014 it is recommended to provide information on primary energy savings expected up to 2020 as a result of policy measure or by groups of measures implementing EED provisions addressing energy saving in energy supply as well as energy transmission and distribution. Where available, the achieved primary energy savings up to 2012 may also be reported (EED Annex XIV Part 2.2.(a)).*
- *Information should be given on the source and quality of information and on the methods used to control and verify the data used (EED Annex XIV Part 2.2.(b)).*
- *Where available, information on other impacts/benefits of the measures (greenhouse gas emissions, improved air quality, job creation, etc.) should be included here unless already included in the earlier sub-chapters (EED Annex XIV Part 2.2.(a)).*

### 3.7.5. Financing of energy supply measures



Where available, please provide information on the financing of specific energy supply measures. The measure-specific information should differentiate between the amount of financing received from EU Structural and Cohesion Funds and the amount of co-financing coming from state funds.

Where available, please provide measure-specific information also on private financing and financing by the state other than the mentioned co-financing.

## ANNEX A ENERGY EFFICIENCY DIRECTIVE ANNUAL REPORT

Article 24(1) requires that from 30th April 2013 Member States submit an annual report providing an overview of progress towards national energy efficiency targets and data that will help the Commission assess overall progress towards the EU's 2020 energy efficiency goals. The Annual Report for 2014 is presented here as an Annex to the NEEAP. Please complete the sections below.

### A1 National energy efficiency target for 2020



1. Please state the national energy efficiency target for 2020 as required by Article 3(1) of the EED (EED Annex XIV Part 1.).



#### **Guidance 50:**

According to the Directive, the target may be based on either primary or final energy consumption, primary or final energy savings, or energy intensity. It is important that the target be clearly expressed and that it represents a national commitment. It should not, for instance, be simply a forecast of energy use or of energy savings in a scenario of increased energy efficiency. The target should apply to the whole economy of the Member State, including energy supply, distribution and end-use and incorporating the activities listed in Annex I of Directive 2003/87/EC. The annual report may also be used to document any additional national targets.

### A.2 Key statistics



2. Please fill out the key statistics listed in the table below (EED Annex XIV Part 1.(a)).

#### **Guidance 51:**

The EED requires that the Member State report all of the figures in the table every year in its annual report. Figures relate to energy consumption in the year that is two years previous to the year of the annual report. For example, in the NEEAP of 2014 the figures will refer to 2012 data.

**Table 4. Estimates of key statistics related to energy consumption in the year before last (year X – 2)**

Estimate of key statistics related to energy consumption	Value (in each case indicate the units used)
Total primary energy consumption	
Total final energy consumption <sup>(1)</sup>	
Final energy consumption - Industry	
Final energy consumption - Transport	
Final energy consumption - Households	
Final energy consumption - Services	
Gross value added- Industry <sup>(2)</sup>	

Gross value added- Services <sup>(2)</sup>	
Average disposable income per household	
Total number of households	
Gross domestic product (GDP) <sup>(2)</sup>	
Electricity generation from thermal power plants	
Electricity generation from combined heat and power plants	
Heat generation from thermal power generation <sup>(5)</sup>	
Heat generation from combined heat and power plants <sup>(6)</sup>	
Fuel input for thermal power plants	
Fuel input for combined heat and power plants <sup>(7)</sup>	
Energy transmission and distribution losses (all fuels) <sup>(8)</sup>	
Total passenger kilometres (pkm) if available	
Total tonne kilometres (tkm) if available <sup>(3)</sup>	
Total kilometres (if pkm and tkm are not available) <sup>(3)</sup>	
Total population	
Heat generation from district heating plants <sup>(4)</sup>	
Fuel input in district heating plants <sup>(4)</sup>	

<sup>(1)</sup> No climate adjustment.

<sup>(2)</sup> In constant prices (in volume) of 2005.

<sup>(3)</sup> Excluding transport in oil pipelines.

<sup>(4)</sup> Useful data to provide a clearer overview of the progress in the Member States, required by Energy Statistics Regulation (Regulation (EC) No 1099/2008).

<sup>(5)</sup> Including waste heat produced in industrial installations.

<sup>(6)</sup> Including waste heat recovered from industrial installations.

<sup>(7)</sup> Useful data to follow the improvements of efficiency of combined heat and power generation

<sup>(8)</sup> Useful reference data particularly for the measures implementing EED Article 15

### A.3 Analysis of energy consumption trends

3. In each case where energy consumption for a sector reported in Table 4 above is stable or is growing please provide an analysis of the reasons for these trends (*EED Annex XIV Part 1.(a)*).



**Guidance 52:**

*Note that report on consumption trends in the annual report is only a requirement if there is no reduction in energy consumption in the main sectors of the economy. In sectors where energy consumption is declining no explanation need be provided. The Member State should provide a detailed analysis of reasons such as ineffectiveness of policies in the sector, high economic growth, population changes, structural changes within the sector, low fuel prices, etc. The explanation of trends on key energy statistics referred to in section A2 above may be done in relation to statistics available for the year X-3 and the other preceding years.*

#### A.4 Update on major measures implemented in the previous year



4. Provide an update on all major legislative and non-legislative measures implemented in 2013 that contribute towards 2020 energy efficiency targets (*EED Annex XIV Part 1.(b)*).



**Guidance 53:**

*In all annual reports the Member State must provide details of all major measures implemented in the previous calendar year. These may be legislative or non-legislative. Measures could include, for example, new building codes, introduction of energy efficiency obligations schemes, significant grant schemes or other financial incentives for improving energy performance of buildings or for procurement of energy efficient equipment, measures to promote the use of CHP, measures to address the energy efficiency of electricity supply and distribution, smart grid programmes, etc. The Member State should explain how each measure will contribute to its overall national energy efficiency targets for 2020.*

#### A.5 Central government buildings



5. Please quantify the total floor area of all buildings with a useful floor area over 500m<sup>2</sup> owned and occupied by central government on the 1 January 2014 that did not meet the energy performance requirements detailed in Article 4 of Directive 2010/31/EU (*EED Annex XIV Part 1.(c)*).



6. Please quantify the total floor area of all buildings heated and /or cooled owned and occupied by central government that was renovated in 2013 (*EED Annex XIV Part 1.(d)*).



7. If the Member State has opted for an alternative approach for achieving an equivalent amount of savings, as allowed for by Article 5(6), please provide detailed descriptions of the alternative measures, such as deep renovations and measures for behavioural change of occupants (*EED Annex XIV Part 1.(d)*).



**Guidance 54:**

*Where an alternative approach is used the Member State should explain how it will be ascertained that savings will be achieved that are at least equivalent to those achieved by renovations.*

#### A.6 Energy Efficiency Obligations



8. Please state the savings achieved in 2013 by the national energy efficiency obligations scheme introduced in response to the requirements of Article 6 of the Directive (*EED Annex XIV Part 1.(e)*).



**Guidance 55:**

*As Member States are required by the Directive to achieve energy savings through energy efficiency obligations from 2014 onwards, there is no requirement to report relevant 2013 savings in the 2014 annual report. Nonetheless, several Member States already have obligation schemes in place for a number of years and could use this medium for reporting savings achieved in 2013 if these figures are available.*





9. Please provide a breakdown of the savings recorded for the last calendar year according to type of action undertaken (*EED Annex XIV Part 1.(e)*).



10. If the Member State intends to fulfil the energy savings target for the energy obligations scheme, in part or in full, by undertaking alternative measures as allowed for in Article 6(9), please provide a list of these alternative measures and a description of each (*EED Annex XIV Part 1.(e)*).



**Guidance 56:**

*If alternative measures are used to achieve equivalent savings, please quantify the savings achieved by these measures, and explain how it is determined that these achieve an equivalent level of savings.*

## ANNEX B BUILDING RENOVATION ROADMAPS

*The Directive requires that the Member State includes a building renovation roadmap in the NEEAP. Please include here the long-term strategy of the Member State for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private. As part of the long-term strategy please address the main items listed below.*



1. Provide an overview of the national building stock based, as appropriate, on statistical sampling (EED Article 4(a));



### **Guidance 57:**

- a) *What main building categories have been identified as part of the overview?*
  - i) *Single-family houses*
  - ii) *Apartments/multi-residential dwellings*
  - iii) *Offices*
  - iv) *Educational buildings*
  - v) *Hospitals/health establishments*
  - vi) *Hotels*
  - vii) *Sports facilities*
  - viii) *Warehouses/data centres, etc*
  - ix) *Retail premises (including restaurants)*
  - x) *Other types of energy-consuming buildings*
- b) *What age bands having a material bearing on building energy performance have been identified?*
  - i) *Traditional construction types, including historic/heritage buildings (typically pre-1900)*
  - ii) *Buildings constructed prior to regulations on energy performance (e.g. 1901-1960)*
  - iii) *Early phase building regulations (1961-1990)*
  - iv) *Mid-phase building regulations (1981-2000)*
  - v) *New (2001-2012)*
- c) *What main climatic zones which have a material bearing on building energy performance have been identified?*
- d) *How many combination of building type, age and climatic zone have been identified? On an illustrative basis of 10 building types, 5 age bands and 3 climatic zones, this results in a matrix of up to 150 combinations. However, in practice it is unlikely that a breakdown by age band will be possible or necessary for each non-residential building type, so the number of combinations will be far smaller.*
- e) *What ownership and tenure have been identified in terms of the two elements specified below?*
  - i) *The split by owner – public, private or mixed*

- ii) *The split by tenure – owner occupied, rented, (mixed?)*
- f) *If appropriate, provide a split by location as follows:*
  - i) *Urban*
  - ii) *Suburban*
  - iii) *Rural*
- g) *What energy use and performance characteristics of each building combination have been identified?*
  - i) *Construction type and U-value of main building elements:*
    - (1) *Floor*
    - (2) *Walls*
    - (3) *Windows and External Doors*
    - (4) *Roof*
  - ii) *Air infiltration rate*
  - iii) *Energy systems (In all cases, please identify typical replacement lifecycles):*
    - (1) *HVAC system type/performance level/controls*
    - (2) *Hot water provision*
    - (3) *Lighting systems/controls*
  - iv) *Maintenance regimes (e.g. mandatory annual safety checks/servicing)*
  - v) *Energy use for:*
    - (1) *Heating*
    - (2) *Cooling*
    - (3) *Hot water*
    - (4) *Lighting*
    - (5) *Appliances*
  - vi) *Energy carriers:*
    - (1) *Gas (natural gas or LPG)*
    - (2) *Liquid fuels (oil, etc.)*
    - (3) *Solid fuels (coal, etc.)*
    - (4) *Renewable fuels:*
      - (a) *Solar hot water*
      - (b) *Solar PV*
      - (c) *Wind*
      - (d) *Heat pump (type and Coefficient of Performance)*
      - (e) *Biomass*
      - (f) *Biogas*
      - (g) *Other (specify)*
    - (5) *District heating (identify energy carriers)*



2. Identify cost-effective approaches to renovations relevant to the building type and climatic zone (EED Article 4(b)).

- a) *What technical opportunities for retrofit of energy efficiency measures for each building category have been identified?*

- i) *Fabric measures*
- ii) *Windows*
- iii) *HVAC plant - heating/cooling/hot water*
- iv) *Air infiltration*
- v) *Lighting*
- vi) *Appliances*
- b) *What technical opportunities for retrofit of renewable energy measures have been identified?*
  - i) *Solar hot water*
  - ii) *Solar PV*
  - iii) *Passive solar*
  - iv) *Shading*
  - v) *Wind*
  - vi) *Heat pumps*
  - vii) *Biomass*
  - viii) *Biogas*
- c) *Has the opportunity to connect to a district heating system been considered?*
- d) *What packages of measures that can achieve at significant energy saving, at least up to the prevailing energy performance requirements for new buildings of the same category, have been identified?*
- e) *Has it been determined whether deep renovations should be undertaken as a single package, or staged over a period of time?*
- f) *Has the cost effectiveness of the different packages of measures been determined using cost optimality methodology?*
  - i) *Costs – the total installed cost of renovation measures, less any avoided cost due to end-of-life replacement or by undertaking renovation alongside other building maintenance, new construction or modernisation measures*
  - ii) *Consider the transaction costs, including costs of temporary relocation of occupants*
  - iii) *Have the following benefits (and identify the beneficiary – building owner, building occupier, society at large) been quantified?*
    - (1) *Energy cost savings*
    - (2) *Reduction in Fuel Poverty*
    - (3) *Health benefits*
    - (4) *Increased property value (rental and/or sale value)*
    - (5) *Reduced energy imports/increased energy security*
    - (6) *Employment impact*
    - (7) *Environmental impact (externality value of carbon saving)*
    - (8) *Air quality improvement*
    - (9) *Other social, economic or environmental benefits*
- g) *From the above cost appraisal, have you determined a prioritised set of renovation packages for each building category, and a timeline for implementation?*
  - i) *Have you considered the exemplary role of the public sector (at all tiers of government, as well as public services such as public housing, defence, health and*

education) in leading the drive towards deep renovation, and in exerting influence of citizens and businesses?

ii) Have you considered the appropriateness of targeting the least energy efficient building stock as a priority?

iii) Have you considered different scenarios as to the rate of change of key parameters?



3. Provide information on policies and measures to stimulate cost-effective deep renovations of buildings, including staged deep renovations (EED Article 4(c)).



- a) Give an appraisal of existing measures/policies in the Member State:
- i) Regulatory (EU, national, regional and local)
  - ii) Fiscal (tax incentives, grants, subsidies, loans, etc.)
  - iii) Information campaigns
  - iv) Labelling (EPCs, etc)
  - v) Voluntary agreements
  - vi) Other
- b) Provide an analysis of barriers.
- c) Give an appraisal of relevance of policies used in other territories.
- d) Provide a design of new policy landscape that addresses barriers and enables the delivery of the required ramp up in deep renovation activity, with a particular focus on those measures which need to be introduced within the next 3 years.



4. Demonstrate a forward-looking perspective to guide investment decisions of individuals, the construction industry and financial institutions (EED Article 4(d)).



- a) Quantify total annual investment requirements, mapped out over the period to 2050, in order to deliver the identified renovation opportunities.
- b) Identify existing sources of funding for building energy renovation:
- i) Owners' private equity
  - ii) Public purse (including EU Structural and Innovation Funds)
  - iii) Banks and other sources of private investment (e.g. pension funds)
- c) Analyse barriers to investment.
- d) Identify possible funding sources and mechanisms to meet the identified investment profile.



5. Provide an evidence-based estimate of expected energy savings and wider benefits (EED Article 4(e)).



- a) Has the attractiveness to building owners of their direct benefits been identified?
- b) Have the societal benefits arising from deep renovation been identified?
- c) Have ways in which externalities (e.g. societal benefits from reduced CO<sub>2</sub> emissions, increased energy security, etc.) can be internalised for the benefit of the investor been identified?



**ANNEX C NATIONAL PLAN FOR NEARLY-ZERO ENERGY BUILDINGS**