



JRC SCIENCE FOR POLICY REPORT

# Assessment of the Second National Energy Efficiency Action Plans under the Energy Efficiency Directive

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#### **Assessment of the Second National Energy Efficiency Action Plans under the Energy Efficiency Directive**

The report assesses the Second National Energy Efficiency Action Plans submitted by Member States in 2017 (NEEAP 2017) in compliance with Article 24 of the Energy Efficiency Directive (Directive 2012/27/EU). The Energy Efficiency Directive introduced the requirement to set indicative targets for 2020 and binding measures in various sectors of the economy at national level. The report provides an updated overview of the national energy efficiency targets in 2020 and the progress made based on latest available data. Progress made in planned or implemented end-use and supply level measures is also discussed.

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## Executive summary

### *Policy context*

The National Energy Efficiency Action Plans (NEEAPs) represent one of the most comprehensive energy policy planning strategies, providing an overview on how EU Member States intend to meet their energy efficiency targets and generate energy savings in various sectors of the economy. Member States have had a long experience in drafting NEEAPs as these were first introduced in 2007 with the adoption of the Energy Services Directive 2006/32/EC (ESD). The current NEEAPs, NEEAP 2017, represents the second round of NEEAPs one under the Directive 2012/27/EU (Energy Efficiency Directive, EED), and fourth round of NEEAPs overall<sup>1</sup>. The EED, which is a key part of the EU's overall climate and energy legislative package, requires EU Member States to adopt energy consumption, savings or intensity targets by 2020 and implement policy measures that improve energy efficiency at all stages of the energy chain from production to final consumption. In the future the NEEAPs will be replaced by the Integrated Energy and Climate Plans. In moving towards the upcoming Energy and Climate Plans, the assessment of NEEAPs offers important insights on how to ensure a smooth transition towards the new reporting framework as well as valuable lessons on how Member States can continue to strengthen their energy efficiency policy strategies, while ensuring minimum reporting quality.

### *Main findings*

The EED does not prescribe a specific methodology to be used in defining the national indicative energy efficiency targets. Member States were free to determine their own national contributions towards the 2020 EU target. Some Member States opted for a methodology based on energy savings (Italy, Ireland, Croatia, Cyprus, Malta, Lithuania and the Netherlands), a few in terms of energy intensity or productivity (Germany and Sweden) and all others in terms of absolute consumption level. While the national approaches adopted by most countries imply that the energy consumption in 2020 is fixed, this consideration does not always apply to countries which set their targets in terms of savings or intensity/productivity or in cases where the baseline is updated at regular intervals. A total of 10 Member States have communicated updates in their NEEAPs 2017, leading to minor updates in the collective target contributions by Member States towards the EU target: primary energy was revised from 1526 to 1527 Mtoe and final energy from 1077 to 1080 Mtoe. This translates to primary energy reduction of 17.6% with respect to the PRIMES 2007 reference scenario (that is, 2.4% off the EU target) and final energy contributions reduction of 20.5% (i.e. 0.5% more ambitious than the EU target). Despite the fact that the national contributions set by Member States are not enough to reach the EU target, the 2015 data show that the EU28 consumption levels are just slightly above the primary energy target by 48 Mtoe (3%) and below the final energy target of 2020 by 2 Mtoe (-0.2%).

The NEEAPs contain information on a plethora of energy efficiency policies and measures. While the majority of the measures presented in the NEEAPs are existing measures, the EED has created a push for new or stronger energy efficiency measures, such as mandatory audits (Article 8), development of new energy efficiency schemes or alternative measures (Article 7) and action plans for public buildings (Article 5). Moreover, new or updated policy measures in the area of financing, information exchange, regulations as well as transport-related measures have been identified. In many cases the impact of policies has been expressed in terms of achieved and/or expected energy savings. Given that the energy savings generated by each measure has not always been quantified in the NEEAPs, the evaluation of the ambition of the overall national policy framework against the national targets is not possible in a quantitative

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<sup>1</sup> <https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive/national-energy-efficiency-action-plans>

way. For certain cases, the share of the savings to be achieved in 2020 by each sector or policy measure is presented, demonstrating how each sector or measure contributes towards the achievement of the target.

### ***Related and future JRC work***

While the NEEAP is a key reporting tool and homogeneous reporting in terms of structure has been achieved, a more systematic approach towards reporting of targets and policy measures is generally recommended in the future. There is currently significant heterogeneity with respect to the content of the current NEEAPs (e.g. description of policy measures is in general provided with varying degree of detail). In addition, the strategic character of energy efficiency policies is still heterogeneous among the Member States, even if NEEAPs 2017 show positive developments towards more comprehensive set of measures. Some NEEAPs remain rather lists of measures by sector, which sometimes seem to have been developed over time without necessarily striking for consistency or comprehensiveness.

A harmonised approach which also covers how targets, savings and measures are to be reported is especially relevant in the context of the new Integrated Energy and Climate Plans (NECPs) under the proposed Energy Governance Regulation. Given that energy efficiency will constitute one of the 5 dimensions of the new NECPs, a structured framework which ensures a harmonised reporting and the provision of minimum set of information across all Member States is of crucial importance. In the new Proposal for a Regulation on the Governance of the Energy Union published by the Commission, the establishment of such a reporting platform is indeed envisaged and is expected to streamline all reporting obligations in the area of energy and climate in an integrated way (Commission, 2016/0375 (COD)). The e-reporting platform to collect national data will further facilitate this implementation monitoring process and at the same time create a more efficient system of reporting while reducing administrative burden for national experts. The issue of data gaps in current reporting formats could also be addressed by ensuring that the platform requests a mandatory set of minimum information to be reported by each Member State. Data consistency and other checks can also be embedded in the platform to ensure sufficient data quality.

### ***Quick guide***

The National Energy Efficiency Action Plans outline the energy efficiency targets set by each Member State in compliance with the Directive 2012/27/EU (Energy Efficiency Directive, EED) and detail how the requirements of various articles of the Directive are met, including insights on the progress made so far. The NEEAPs offer a very useful experience sharing opportunity between Member States, which makes, for example, possible for a Member State to identify good practices by other countries in a particular field and find out about similar policies across national borders. The review of the implementation of the Energy Efficiency Directive has also pointed out some important implementation lessons as we move forward to the revised EED and new timeline to 2030 (Commission, 2016/0376 (COD)). The positive experience gained in the EU through the NEEAPs and lessons learned could be also used by other jurisdictions outside Europe to help prepare national energy efficiency strategies.

# 1 Introduction

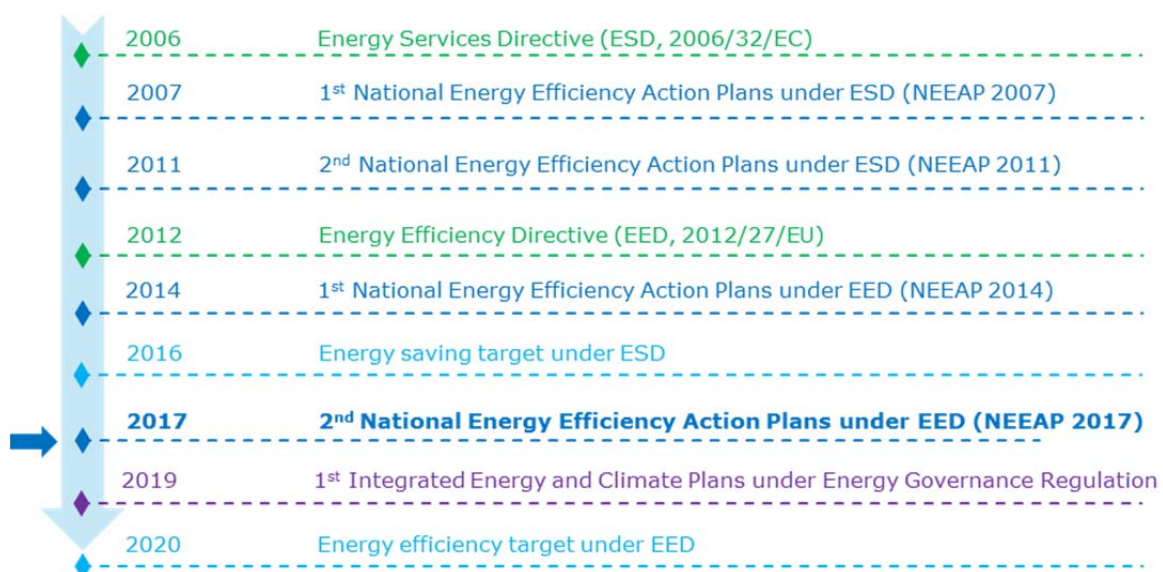
The Energy Efficiency Directive (Directive 2012/27/EU, the EED or the Directive), adopted in 2012, laid down the foundation for more actions to be taken in order to put the EU on track. The Directive, which is a key part of the EU's overall climate and energy legislative package, requires EU Member States to set indicative national energy efficiency targets and legally binding measures to help the EU reach its 20% energy efficiency target by 2020. In particular, all EU Member States are required to implement policy measures that improve energy efficiency at all stages of the energy chain from production to final consumption.

In compliance with the Directive's requirements, Member States are required to present the progress and efforts made in the so-called National Energy Efficiency Action Plans (NEEAPs) every three years, starting from 2014. The NEEAPs are regarded as strategic national policy documents, placing energy efficiency at the heart of energy policy. They outline the energy efficiency targets set by each Member State and detail actions put in place to ensure that energy savings are generated in all sectors of the economy. Member States have had a long experience in drafting NEEAPs as these were first introduced in 2007 with the adoption of the Energy Services Directive 2006/32/EC (ESD). The first NEEAPs under the EED were submitted in 2014 (hereafter NEEAP 2014), replacing the final round of the NEEAPs under the ESD due to the overlap in the submission dates. It is expected that the current round of NEEAPs (NEEAP 2017) will be the final one, as in the future these will be replaced by the proposed Integrated Energy and Climate Plans.

As per the Directive's requirements, the European Commission's responsibilities include evaluating the plans and assessing the extent to which Member States have made progress towards the achievement of the national indicative energy efficiency targets and towards the implementation of the Energy Efficiency Directive in general. As with the analysis of previous NEEAPs, the Joint Research Centre has undertaken the task of evaluating the second National Energy Efficiency Action Plans of the EED (NEEAP 2017) and the results of this work are presented in this Report.

The structure of the Report is as follows. Chapter 2 presents the updated 2020 targets and discusses the progress made so far. Chapter 3 provides an overview of policies measures at end-use and energy supply levels, highlighting new elements identified in this round of NEEAPs. Conclusions and recommendations are drawn in Chapter 4.

**Figure 1. Timeline of NEEAPs**



## 2 Energy efficiency targets

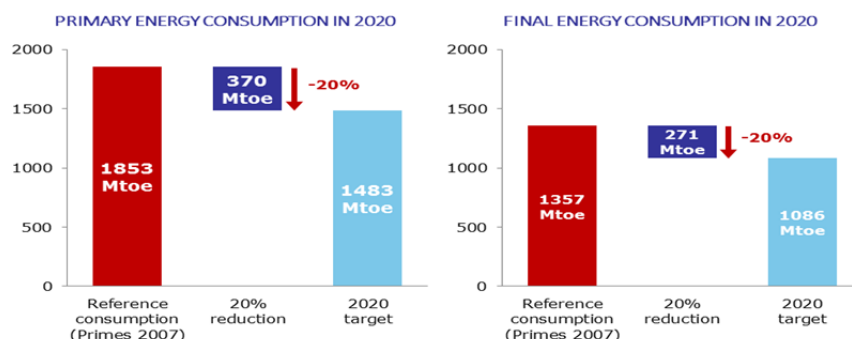
In accordance with Article 3, Member States had to set indicative energy efficiency targets –based on either primary or final energy savings, primary or final energy consumption or energy intensity— in view of reaching the overall EU target of 20% reduction in primary or final energy consumption by 2020 (see Figure 2). Based on previous notifications made by Member States in 2013-2016<sup>2</sup>, the collective MS target efforts summed to 1526 Mtoe in terms of primary energy –corresponding to a reduction of 17.6% at EU level compared to PRIMES 2007 reference scenario— and 1086 Mtoe in terms of final energy (corresponding to a reduction of 20.6%).

With the NEEAP 2017 submissions, some Member States notified revisions to their target or expected 2020 consumption values and the sum of indicative absolute energy consumption in 2020 now stands at 1527 Mtoe in terms of primary energy and 1080 Mtoe in terms of final energy. While this means that there are no significant changes to the national target efforts collectively, the national contributions are still not on par with the EU target set in Article 3: the sum of primary energy consumption levels in 2020 correspond to a **reduction of 17.6%** with respect to the PRIMES 2007 reference scenario; that is, the collective national primary energy efforts are 2.4% off the EU target. On the other hand, the aggregated national final energy contributions stand at **20.5% reduction** (0.5% more ambitious than the EU target).

Table 1 summarises the breakdown of the indicative final and primary energy consumption values in 2020 by Member State as presented in the latest NEEAPs. Given the target setting options of absolute energy consumption, energy savings and energy intensity, the Table 1 values are best referred to as national "contributions" towards the EU target. This is to account for the fact the targets of some countries are expressed in savings or intensity, and thus must be translated into *expected* (or, in other words, *projected*) absolute consumption in 2020. These may be subject to periodical revisions. For all other countries, the Table 1 contributions indeed reflect their national targets.

In total, 10 Member States revised their previously set consumption levels in 2020: Czech Republic, Ireland, Spain, Cyprus, Malta made "upward" revisions – in other words consumption levels for 2020 are now set at a higher level than before, while Croatia, Italy, Denmark, Sweden, Lithuania and the Netherlands revised their values downwards. The reasons behind these revisions are summarised in Section 2.2. For countries without any specific target notifications in their NEEAPs 2017, it was assumed that no changes to their targets have been made.

**Figure 2. EU28 target as stipulated in Annex of Council Directive 2013/12/EU of 13 May 2013 adapting Directive 2012/27/EU by reason of the accession of the Republic of Croatia**



<sup>2</sup> These included the original notifications given by Member States to comply with Article 24(1) in 2013 and follow up notifications to the European Commission up until 2016.



**Table 1. Updated target or expected national contributions towards the EU 2020 target reported in NEEAPs 2017**

MS	Primary Energy Consumption in 2020 [Mtoe]		Final Energy Consumption in 2020 [Mtoe]	
	Source: Various* (up to 2016)	Source: NEEAP 2017	Source: Various* (up to 2016)	Source: NEEAP 2017
BE	43.7	"	32.5	"
BG	16.9	"	8.6	"
CZ	39.6	44.3	25.3	"
DK	17.4	17.2 <sup>†</sup>	14.4	" <sup>†</sup>
DE	276.6	"	194.3	"
EE	6.5	"	2.8	"
IE	13.9	14.9	11.7	12.8
EL	24.7	"	18.4	"
ES	119.8	122.6	80.1	87.2
FR	219.9	"	131.4	"
HR	11.1	10.71	7	6.96
IT	158	153.6	124	118.0
CY	2.2	2.2	1.8	1.9
LV	5.4	"	4.5	"
LT	6.5	No info	4.3	4.2
LU	4.5	"	4.2	"
HU	24.1	"	14.4	"
MT	0.7	0.823	0.5	0.634
NL	60.7	58.2	52.2	No info
AT	31.5	"	25.1	"
PL	96.4	"	71.6	"
PT	22.5	"	17.4	No info
RO	43.0	"	30.3	"
SI	7.1	"	5.1	"
SK	16.4	"	9.2	"
FI	35.9	"	26.7	"
SE	43.4	No info	30.3	No info
UK	177.6	No info	129.2	"
<b>Sum of indicative targets EU28</b>	<b>1526</b>	<b>1527.1</b>	<b>1077</b>	<b>1079.6</b>
<b>EU28 target 2020</b>	<b>1483</b>		<b>1086</b>	

\* : Various sources: Notifications by Member States in 2013, NEEAPs 2014, Annual Reports or separate notifications to the European Commission in 2015 and 2016

" : Same as before, no updates to the target are reported in NEEAPs 2017

<sup>†</sup> : In its Annual Report 2018, Denmark notified a revised primary energy target equivalent to 16.89 Mtoe and final energy target of 14.7 Mtoe. As this analysis focuses on the NEEAP 2017, the 2017 values for Denmark are presented in this table.

Note: no target changes have been assumed for countries without any specific target notifications in their NEEAPs. These cases are referred to as "not disclosed"

## 2.1 Setting of national targets

The EED does not prescribe a specific methodology to be used in defining the national indicative energy efficiency targets. In accordance with the EED Article 3, Member States are only required to take into account that the Union's 2020 energy consumption has to be no more than 1 483 Mtoe of primary energy or no more than 1086 Mtoe of final

energy in 2020 (Article 3(1)(a)). Member States were therefore free to determine their own national contributions towards the EU target, both in terms of ambition level and methodological approach.

Some Member States opted for a target in terms of energy savings (Italy, Ireland, Croatia, Cyprus, Malta, Lithuania and the Netherlands), a few in terms of energy intensity or productivity (Germany<sup>3</sup> and Sweden) and all others in terms of absolute consumption level<sup>4</sup>. While the national approaches adopted by most countries imply that the energy consumption in 2020 is fixed, this consideration does not always apply to countries which set their targets in terms of savings or intensity/productivity or in cases where the baseline is updated at regular intervals. If the target was expressed in energy savings or intensity/productivity, the respective Member State translated its target in expected primary and final energy consumption levels in 2020, as per the EED requirements. For comparability purposes, the expected absolute consumption levels of this group of countries were considered as the contribution to the EU-wide target. In cases where both *target* and *expected*<sup>5</sup> energy consumption levels in 2020 were provided, the target consumption are considered only here – the expected consumption levels are discussed separately in Section 2.4.

An overview of how Member States set their 2020 national indicative targets in accordance with the EED Article 3 is given in Table 2. This consists of information on the choice of baseline/reference scenario (Primes, national or no use of reference scenario), year of modelling, as well as the percentage consumption reduction in 2020 as derived from information included in the NEEAPs<sup>6</sup>. Information on whether the 2020 consumption is fixed (or not) is also given in the table.

The national approaches to set energy efficiency targets are grouped according to the methodology used and discussed in more detail below.

### ***Baseline scenario approach (1, 2)***

Similar to the methodological approach outlined in EED Article 3 for setting the 2020 EU target, many Member States calculated their targets by applying a percentage reduction (e.g. -20%) to 2020 projected BAU<sup>7</sup> energy consumption levels derived using a baseline scenario. The BAU (Business As Usual) consumption levels correspond to a projected baseline. This takes into account future economic and energy forecasts and is typically built on policies and measures implemented in Member States before the adoption of the EED. This scenario is sometimes referred to as "frozen-policy scenario".

Belgium, Czech Republic, Luxembourg, Romania, Portugal and Slovakia applied a percentage reduction to the BAU value of the baseline scenario to derive the target, while some Member States evaluated their target by considering an energy efficiency (or policy) scenario which was identified using a cost-effective saving potential study or a scenario based on the consideration of additional policy measures. This approach was adopted by various Member States including Austria, Bulgaria, Estonia, Italy, Denmark<sup>8</sup>,

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<sup>3</sup> While the German target does not strictly fall under the category of energy intensity/productivity target, Germany derived its 2020 absolute consumption target by assuming an average yearly energy productivity increase rate of 2.1% from 2008 to 2020 and an average yearly GDP increase of 1.1%. Given the recorded primary energy consumption of 314.3 Mtoe, the above assumptions lead to a target of 276.6 Mtoe in 2020. Energy productivity is defined as GDP over primary energy consumption.

<sup>4</sup> While some countries notified their target both in savings and absolute consumption, the target is assumed to be in terms of absolute consumption if both baseline consumption and savings in 2020 are fixed.

<sup>5</sup> *Expected* and *target* consumption levels did not necessarily coincide

<sup>6</sup> This represents the percentage difference between the baseline and target values for the year 2020 and is provided for countries which included *both* baseline and target absolute consumption (or savings) in 2020 in their NEEAPs

<sup>7</sup> BAU (Business As Usual), Baseline and Reference scenarios are used interchangeably in this report

<sup>8</sup> Denmark used a baseline scenario, which considers a number of general economic, technological and energy-market-related assumptions including instruments and measures from the latest energy agreement of March 2012. While the Danish NEEAP stated that this baseline scenario represents the 'frozen policy'

Cyprus, Greece, France, Italy, Latvia, Lithuania and Poland. The Netherlands is also believed to have followed this approach, but more clarification is necessary to verify the exact approach used to set the Dutch Article 3 target.

For most countries, the energy consumption levels stipulated in Table 1 are fixed: once the energy efficiency target is defined, no subsequent changes are made despite possible future revisions in economic projections. Indeed, this is the approach adopted to define the EU-wide target. On the other hand, some countries adopted a dynamic approach, which takes into account changes in future economic forecasts over time and adapt their baselines or targets accordingly. This included Denmark, Spain, France, Croatia, Italy, Cyprus and Hungary. In other cases, the changes can be due to statistical revisions (e.g. Croatia) or the adoption of a new national policy framework (France<sup>9</sup>).

For the calculation of the national targets, some Member States used the PRIMES model (e.g. Belgium, Bulgaria, Spain) while all others derived their own baselines based on national or international models. The latter includes France with the Med-Pro<sup>10</sup> and POLES<sup>11</sup> models and Greece with the TIMES<sup>12</sup>, WASP IV<sup>13</sup> and COST mathematical models.

Greece, France, Malta, Slovenia and the Netherlands did not provide enough information to make a comparison between baseline and target consumption levels in 2020.

### ***ESD approach (3)***

The extension of ESD approach—that is, the calculation of energy savings based on application of a percentage reduction to the average historical energy consumption over a predefined period<sup>14</sup>—was adopted by Ireland and Croatia. In Croatia, the final energy saving target for 2020 was set at 22.76 PJ, corresponding to 10% of average final energy consumption between 2001 and 2005. The indicative national energy efficiency target expressed as the absolute amount of final energy consumption in 2020 is 291.3 PJ (6.96 Mtoe). The achievement of these targets is monitored pursuant to the ESD requirements and the Croatia Ordinance on the methodology for monitoring, measuring and verifying energy savings (OG 71/2015), applying top-down and bottom-up methods.

In setting its national target, Ireland also adopted the ESD target approach. The Irish target was calculated as 20% of the average unadjusted final energy consumption in 2001–2005, expressed as 'primary energy equivalent'<sup>15</sup>. The indicative national energy efficiency target was established in the Government's 2007 Energy White Paper and further detailed in Ireland's first NEEAP as 31,925 GWh of primary energy savings. The Sustainable Energy Authority of Ireland (SEAI) also produces an annual energy forecast (baseline<sup>16</sup>) to inform debate on future energy trends, particularly as they relate to national and EU policies on energy efficiency, renewable energy, climate change, air quality and security of energy supply.

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scenario, the 2020 projections derived by this baseline scenario reflect the Article 3 target notified by the Danish authorities.

<sup>9</sup> France adopted the Law on Energy Transition and Green Growth in 2015.

<sup>10</sup> <https://www.enerdata.net/solutions/medpro-medee-model.html>

<sup>11</sup> POLES is used and developed by Enerdata in collaboration with the European Commission's JRC IPTS and University of Grenoble-CNRS (EDDEN laboratory) <https://www.enerdata.net/solutions/poles-model.html>

<sup>12</sup> The TIMES (The Integrated MARKAL-EFOM System) model generator was developed as part of the IEA-ETSAP (Energy Technology Systems Analysis Program) <https://iea-etsap.org/index.php/etsap-tools/model-generators/times>

<sup>13</sup> <https://www.energyplan.eu/othertools/national/wasp/>

<sup>14</sup> <http://www.evaluate-energy-savings.eu/emeees/en/publications/reports.php>

<sup>15</sup> The final energy consumption is converted to primary energy equivalent by multiplying the electricity component by a factor (then assumed to be 2.5) to reflect the average electricity generation efficiency during the reference period (assumed to be 40%) and adding it to the remainder of the final energy consumption,

<sup>16</sup> The difference between the baseline and the NEEAP target is not equivalent to the 31,925 GWh savings since much of the work completed is included in the baseline.

**Table 2. Approaches used by Member States to set their targets under EED Article 3**

	Primary (P) or final (F)?	Savings (S) or Absolute consumption	% consumption reduction in 2020			Baseline scenario			Fixed consumption in 2020 <sup>A?</sup>	Methodological approach <sup>1-4</sup>
			%		With respect to	Used?	Model	Model year		
			Primary	Final						
BE	P	S/A	-18.0%		BAU 2020	Yes	Primes	2007	Yes	1
BG	P/F	S/A	-8.6%	-7.7%	BAU 2020	Yes	Primes	2013	Yes	2
CZ	F	A		-20.0%	BAU 2020	Yes	Primes	2007	Yes <sup>B</sup>	1
DK	P/F	A	-14.5%	-7.2%	HEC 2006	Yes	National	2017	No	2
DE	P	A	-12.0%	-12.0%	HEC 2008	No			Yes	4
EE	F	A		-13.1%	BAU 2020	Yes	National	2011	Yes	2
IE	P	S	-20.0%		HEC 2001-05	Yes	National	2007	No	3
EL	P/F	A			BAU 2020	Unclear	International	Unclear	Yes	2
ES	P	A	-24.7%	-28.9%	BAU 2020	Yes	Primes	2007	No	Unclear
FR	P/F	A			BAU 2020	Yes	Med-Pro/POLES	2015	Yes	2
HR	F	S		-10.0%	HEC 2001-05	Yes	National	Unclear	No	3
IT	P/F	S	-26.4%	-27.5%	BAU 2020	Yes	National <sup>C</sup>	2017	No	2
CY	P	S/A	-15.0%	-10.3%	BAU 2020	Yes	National	2017	No	2
LV	P	S/A	-11.1%	-9.2%	BAU 2020	Yes	National	2012	Yes	2
LT	F	S		-15.1%	BAU 2020	Yes	National	2015	No	2
LU	F	A	-20%	-20%	BAU 2020	Yes	National <sup>C</sup>	2015	Yes	1
HU	P/F	A	-8.4%	-9.5%	BAU 2020	Yes	National	2015	No	2
MT	P	S			Unclear	Yes	Unclear	2017	No	Unclear
NL	P	S			BAU 2020	Yes	National	2016	No	2
AT	P/F	A		-15.3%	BAU 2020	Yes	National	2009	No	2
PL	P	S/A	-12.4%		BAU 2020	Yes	Primes	2007	Yes	2
PT	P	S/A	-25.0%		BAU 2020	Yes	Primes	2007	Yes	1
RO	P	S/A	-18.9%		BAU 2020	Yes	Primes	2007	Yes	1
SI	P	A			N/A	Yes	National	2014	Yes	Unclear
SK	P/F	A	-20.0%	-31.0%	BAU 2020	Yes	Primes	2007	Yes	1
FI	F	A		-10.7%	BAU 2020	Yes	National	2008	Yes	Unclear
SE	P		-20.0%		HEI 2008	No			Yes	4
UK	F	A	-18.1%	-19.7%	BAU 2020	Yes	National	2012	Yes	Unclear

**Legend:**

- 1 Baseline scenario approach with application of a % reduction
- 2 Baseline scenario approach with energy efficiency/policy scenario
- 3 Definition of % reduction compared to a historical indicator such as Historical Energy Consumption or Intensity
- 4 Use of energy intensity or productivity
- BAU Business as usual (baseline)
- HEC Historical Energy Consumption
- HEI Historical Energy Intensity
- <sup>A</sup> This refers to either absolute primary or final energy consumption in 2020
- <sup>B</sup> Even though the target is static, there has been a PEC target change due to methodological difference explained in Section 2.2
- <sup>C</sup> While it used PRIMES 2007 to calculate the target, it uses a national baseline scenario to track target progress

#### ***Energy intensity/productivity (4)***

Sweden was the only country that chose to adopt an energy intensity target. In particular, Sweden adopted its 2020 energy efficiency target in 2009 which was defined as a primary energy intensity reduction of 20% from 2008 levels by 2020, i.e. the energy supplied per unit of GDP in fixed prices must be reduced by 20% in 2020 compared to 2008 levels.

It should also be noted that while Germany set a primary energy consumption target<sup>17</sup>, the German target is based on the principal assumption that macroeconomic energy productivity<sup>18</sup> will increase by an average 2.1 % a year between 2008 and 2020 and gross domestic product (GDP) by 1.1 %. This would lead a reduction in energy consumption from 314.3 Mtoe in 2008 to in 2020 and from 220.7 Mtoe in 2008 to 194.3 Mtoe in 2020 in terms of final energy.

## **2.2 Updates on national contributions towards the 2020 EU target**

As shown in Table 1 and Table 2, several Member States<sup>19</sup> updated their 2020 contributions in the NEEAPs submitted in 2017. The updates stemmed from various modelling revisions recently carried out – the main explanations behind these revisions, as given in the NEEAPs, are outlined below.

### **Croatia**

New projections of final and primary energy consumption were prepared in 2016, which were harmonised with the recent Low Carbon Development Strategy of the Republic of Croatia by 2030 with an outlook to 2050. The projections included data on energy consumption from revised energy balances following a survey carried in 2015. This survey led to a correction of consumption of biomass energy for the period between 1990 and 2015. The updated national contributions pursuant to Article 3 of the Energy Efficiency Directive (EED) are very minor: from 293.04 (7.00 PJ) to 291.3 PJ (6.96 Mtoe) in final energy consumption in 2020 and from 466.69 PJ (11.1 Mtoe) to 448.5 PJ (10.71 Mtoe) in primary energy.

### **Czech Republic**

The Czech Republic updated its expected 2020 primary energy consumption value from 39.6 Mtoe to 44.3 Mtoe. The updated value was calculated by converting the final energy consumption target of 25.3 Mtoe (1060 PJ) to primary energy by applying a primary energy coefficient factor of 1.75. The primary energy coefficient factor was not explicitly given in the NEEAP 2014. It should be also noted that while the Czech Republic originally considered the IEA methodology for the preparation of its energy balance (which would have meant that the final energy consumption target would have been 1020 PJ), it later opted for the Eurostat methodology, leading to a final energy target of 1060 PJ.

### **Cyprus**

While the primary energy savings target remains as before (375 ktoe savings), the Cypriot targets were revised in 2017 as a result of updates in both reference and energy efficiency scenarios. These updates represent changes in the overall macroeconomic outlook in the country (that is, economic slowdown as a result of the March 2013 events was not as severe as originally predicted and faster recovery took place) as well as regulatory conditions with regards to energy sector. The revisions are minor: the 2020

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<sup>17</sup> The German NEEAP also mentioned a more ambitious 20% primary energy consumption reduction with respect to 2008 which has been set as part of its Energy Concept policy. On the other hand, the target set to meet the EED Article 3 provisions is equivalent to a 12% reduction in the primary energy consumption of 2020 (=276.6 Mtoe) compared to 2008 consumption (=314.4 Mtoe).

<sup>18</sup> Energy productivity is defined as the ratio of output (usually measured in GDP) divided by energy consumption

<sup>19</sup> In Austria, the final energy consumption target was adjusted from 1100 PJ to 1050 PJ – this was however already notified by the Austrian authorities to the European Commission before the submission of the NEEAP 2017 and therefore is not discussed here.

consumption increased from 2201 ktoe to 2233 ktoe in primary energy and from 1782 ktoe to 1916 ktoe in final energy.

### **Denmark**

The latest primary and final energy consumption targets in 2020 are derived from the most recent baseline energy consumption projections published by the Danish Energy Agency in March 2017. The projections are based on a 'frozen policy' scenario<sup>20</sup> in which instruments and measures from the latest energy agreement of March 2012 are included and at the same time represent the 2020 target for Denmark in compliance with EED Article 3. The revisions are very minor, however no further explanations have been provided in the NEEAP.

### **Italy**

Italy has set a fixed target of 20.05 Mtoe of primary energy savings and 15.50 Mtoe of final energy savings in 2020<sup>21</sup> compared to a BAU scenario. The business as usual (BAU) scenario considered in the NEEAP corresponds to a scenario where all measures currently supporting energy efficiency improvements are switched off in 2011. An updated baseline scenario for Italy with a 2030 horizon and thereby new final and primary consumption projections were prepared in 2017. These were calculated using the TIMES model, and the assumptions related to economic growth, population and fuels prices were made consistent to those used in the PRIMES 2016 Reference scenario<sup>22</sup>. Based on these new revisions, the expected energy consumption in 2020 was lowered from 158 Mtoe to 153.6 Mtoe in primary energy (corresponding to a 3% drop) and from 124 Mtoe to 118.0 Mtoe in final energy (corresponding to a 5% drop).

### **Ireland**

While the Irish primary energy saving target of 31,925 GWh in 2020 (set in 2009) remains the same, the "baseline" and the "policy scenario" energy consumption levels in 2020 have been significantly revised. The primary energy has been raised from 167,821 GWh to 175,636 GWh for the baseline scenario and from 157,110 GWh to 173,326 GWh for the energy efficiency scenario. A 10% increase in the expected final energy consumption in 2020 is therefore noted. The trends to 2020 are influenced by macro-economic variables (changes in projected energy prices, GDP growth rates etc.) together with the estimated impact of energy efficiency policies and measures. It should be noted that the difference between the baseline and the policy scenario is not equivalent to the target savings of 2020 since much of the work completed is included in the revised baseline.

### **Lithuania**

Lithuania updated its baseline scenario in its latest NEEAP from 5018 ktoe to 4903 ktoe in terms of final energy. The revisions are due to new GDP growth forecasts in 2015 (population forecasts remain as before). Given the Lithuanian energy efficiency target of 740 ktoe of final energy savings by 2020, the revised expected final energy consumption in 2020 now amounts to 4163 ktoe. No information is provided on the impact of these revisions in terms of primary energy.

### **Malta**

Malta revised its 2020 contributions from 0.726 Mtoe to 0.822 Mtoe in terms of primary energy and 0.547 Mtoe to 0.634 Mtoe in terms of final energy. Given that the reference scenario for 2020 is not disclosed, it is not possible to examine the revision in more

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<sup>20</sup> It is not clear why the Danish energy efficiency target was chosen to correspond to the frozen policy scenario projections

<sup>21</sup> Compared to the information included in the annual report submitted in April 2013 (see EED Article 24), expected savings in the tertiary sector have been reduced, whereas expected savings in the industry sector have been increased. Estimates for the total primary and final energy savings expected in 2020 have nevertheless remained unchanged. Reasons for these changes are not explained.

<sup>22</sup> <http://www.enea.it/it/seguici/pubblicazioni/edizioni-enea/2017/decarbonizzazione-economia-italiana>

detail. The NEEAP 2017 stated that the country has not lowered its ambition; instead the methodology outlined in the NEEAP 2014 was associated with an "increased" potential primary energy savings, which led Malta to commit to a larger energy savings target.

### **Netherlands**

The Netherlands has set a target of 482 PJ of final *cumulative* energy savings and 671 PJ of primary cumulative energy savings. No target changes have been communicated in the NEEAP 2017 although the primary energy consumption estimate in 2020 has been revised from 2541 in the NEEAP 2014 to 2438 PJ. No information was found on the final energy consumption.

### **Spain**

Spain raised its 2020 energy consumption target from 119.9 Mtoe to 122.6 Mtoe in primary energy and from 80.1 Mtoe to 87.2 Mtoe in final energy, corresponding to an increase of 2% and 9%, respectively. The revision was justified by the Spanish authorities by the necessity to take into account the most recent macroeconomic forecasts, which have been updated to reflect previous conservative macroeconomic predictions. Specifically, gross domestic product (GDP) grew in 2015 by 3.2 %, well above the 1.4 % of the previous year, confirming recovery of the drive the country had sustained before the beginning of the financial crisis in 2008. The Spanish NEEAP also mentioned that the targets for primary and final energy consumption presented may be reviewed in the next Annual report or in the new National Energy Climate Action Plan, in order to accommodate future macroeconomic trends.

### **Sweden**

Since the European Commission changed its instructions on GDP reporting, the time series for calculating the Swedish target was adjusted to enable a uniform series. This means that Swedish target—which is based on primary energy intensity—has now been adjusted from 131Wh/SEK to 125 Wh/SEK in 2020 as the historical energy intensity for the base year of 2008 has been changed from 164 to 156 Wh/SEK, reflecting these reporting changes (the Swedish target corresponds to a 20% energy intensity reduction). These changes are already reflected in the pre-NEEAP 2017 values shown for Sweden in Table 1 as these were notified before 2016. As no updates on the expected GDP have been provided in the Swedish NEEAP 2017, it is not possible to derive the expected primary energy consumption in 2020, so it has been assumed that both primary and final energy consumption values in 2020 remained as before.

## **2.3 Target ambition**

Given the variation of assumptions and input parameters used by Member States to define their national reference scenarios (see Section 2.1), direct comparability of the percentage consumption reduction in 2020 (see Table 2) across the EU cannot be made. To create a common benchmark and examine the ambition level of the national contributions on a "level playing field", a comparison of the national energy consumption levels presented in Table 1 is made with: (1) the national projected 2020 baseline consumption as set by the PRIMES 2007 model and (2) national historical consumption levels in 2005 based on Eurostat data. The first enables a comparison of the national effort with the planned EU effort distributed evenly across Member States; that is, comparison with the proportional contribution to the pursuit of the EU target. The limitation of this approach is the distortion of percentage reduction for countries whose reference scenarios are considerably different from the PRIMES projections. The comparison with 2005 historical consumption levels, on the other hand, enables a comparison of the energy consumption target against a fixed historical benchmark. It should be noted that neither approach takes into account past efforts of improving energy efficiency; this will inevitably result in less ambitious percentage reduction for countries with historically energy efficient economies.

**Table 3. Comparison of EE national contributions presented in Table 1 with the projected primary and final energy consumption levels estimated by PRIMES 2007 baseline model in 2020 and historical 2005 consumption data**

	PEC reduction against ...		FEC reduction against ...	
	PRIMES 2007 projections	Historical 2005 data	PRIMES 2007 projections	Historical 2005 data
BE	-18%	-15%	-18%	-11%
BG	-22%	-11%	-33%	-16%
CZ	-3%	+4%	-20%	-4%
DK	-14%	-11%	-14%	-7%
DE	-8%	-13%	-15%	-11%
EE	+16%	+21%	-26%	-1%
IE	-20%	+1%	-15%	+1%
EL	-31%	-19%	-29%	-12%
ES	-25%	-10%	-29%	-11%
FR	-20%	-16%	-25%	-18%
HR	-3%	+18%	-30%	-4%
IT	-26%	-15%	-27%	-14%
CY	-19%	-9%	-11%	+5%
LV	-21%	+20%	-27%	+12%
LT	-33%	-19%	-34%	-11%
LU	-20%	-6%	-20%	-5%
HU	-19%	-5%	-34%	-21%
MT	-11%	-14%	-12%	+66%
NL	-23%	-15%	-9%	-4%
AT	-13%	-3%	-21%	-10%
PL	-12%	+10%	-8%	+22%
PT	-25%	-10%	-25%	-8%
RO	-14%	+17%	-16%	+23%
SI	-19%	+2%	-24%	+5%
SK	-19%	-8%	-32%	-20%
FI	-4%	+8%	-4%	+6%
SE	-22%	-11%	-21%	-10%
UK	-17%	-20%	-18%	-15%

**Note:** The above percentage reductions depict either: the difference between the PRIMES 2007 (reference scenario) consumption values in 2020 and 2020 target values set by each Member State (see Table 1) divided by the PRIMES 2007 values or the difference between the average historical consumption in 2005 and 2020 target divided by the average historical consumption in 2005. Negative values translate to energy savings; that is, target consumption is lower than reference scenario consumption. Conversely, positive values mean that target consumption is larger than the reference value.

Table 3 shows the percentage reduction in 2020 derived by comparing the primary and final energy consumption levels of Table 1 against the national BAU values estimated by



the Primes 2007 model and historical 2005 consumption data. The results vary greatly, and in certain cases they are positive: in these cases the 2020 consumption is expected to be larger than the reference value. According to the Primes 2007 comparison, the percentage reduction ranges from -33% to +16% in terms of primary energy and from -34% -4% to in terms of final energy. The wide range highlights the methodological differences between the approach adopted by Member States in calculating the BAU values and PRIMES modelling. In terms of final energy, around two thirds of Member States are associated with reduction of at least -20% compared to Primes 2007 BAU levels, while this number drops to less than a half for primary energy. According to this analysis, the most ambitious reduction (in % vs. PRIMES2007) are expected in Lithuania, Greece, Ireland, Portugal and Spain (in terms of primary energy) and Spain, Hungary, Slovakia, Bulgaria and Lithuania (in terms of final energy). Estonia will increase its primary energy consumption by 16% in 2020 while reducing its final consumption by -26% in the same year. This peculiarity is attributed to the fact that primary to final energy ratio (=2.29<sup>23</sup>) considered by Estonia is disproportionately large compared to according to the Primes 2007 modelling one (=1.45).

The historical comparison depicts a different picture from the PRIMES 2007 analysis. The percentage reduction results are generally lower; the aggregated percentage energy consumption reduction stand at -10.9% in primary energy and -9.5%<sup>24</sup> in final energy compared to 2005 historical consumption levels. The 2005 historical analysis also reveals wide ranges at MS level: from -20% to +21% in primary energy and -21% to +66% in final energy. For 11 Member States, the 2020 primary energy consumption target is higher than the 2005 historical consumption. This can be mainly attributed to the substantial economic growth experienced by several EU Member States over the last decade. Similar observations can also be drawn in terms of the final energy results as the 2020 final energy consumption target is higher than the 2005 historical consumption in 12 Member States. This group mainly includes Baltic and Central/Eastern European Member States but also Austria, Finland, Luxembourg and Ireland. Based on this analysis, the top 5 countries in terms of 2020 ambition are the UK, Lithuania, Greece, Netherlands, and Belgium in terms of primary energy terms and Slovakia, France, Hungary, the UK, Belgium in final energy.

## 2.4 Progress towards the targets

Based on the latest Eurostat data, the EU primary and final energy consumption in 2016 was 1543 Mtoe and 1108 Mtoe, respectively. This means that despite the fact that the national contributions set by Member States are not enough to reach the EU target (see Table 1), the latest actual data show that the EU28 consumption levels are just slightly above the primary and final energy target by 60 Mtoe (4%) and 22 Mtoe (2%), respectively. The **gap between the 2016 consumption levels and consumption in 2020** (Table 1) at Member State level<sup>25</sup> is shown in Figure 3: in 2016 19 Member States already reached or were below their 2020 targets in terms of primary energy and 17 Member States in terms of final energy. These countries must continue on-going efforts to ensure consumption levels remain below their 2020 targets. Romania, Poland, and Spain registered the largest absolute drop in primary and final energy consumption with respect to their 2020 targets. In relative terms, Romania, Croatia, and Latvia had the largest drops with respect to their primary energy consumption level in 2020 (-27%, -25%, and -21%, respectively) and Romania, Latvia, Greece and Ireland with respect to their final energy consumption level in 2020 (-27%, -15%, -9% and -9%, respectively).

On the other end of the spectrum, intensified policy efforts are necessary to bring down the consumption levels in the remaining Member States from now until 2020. The 2016

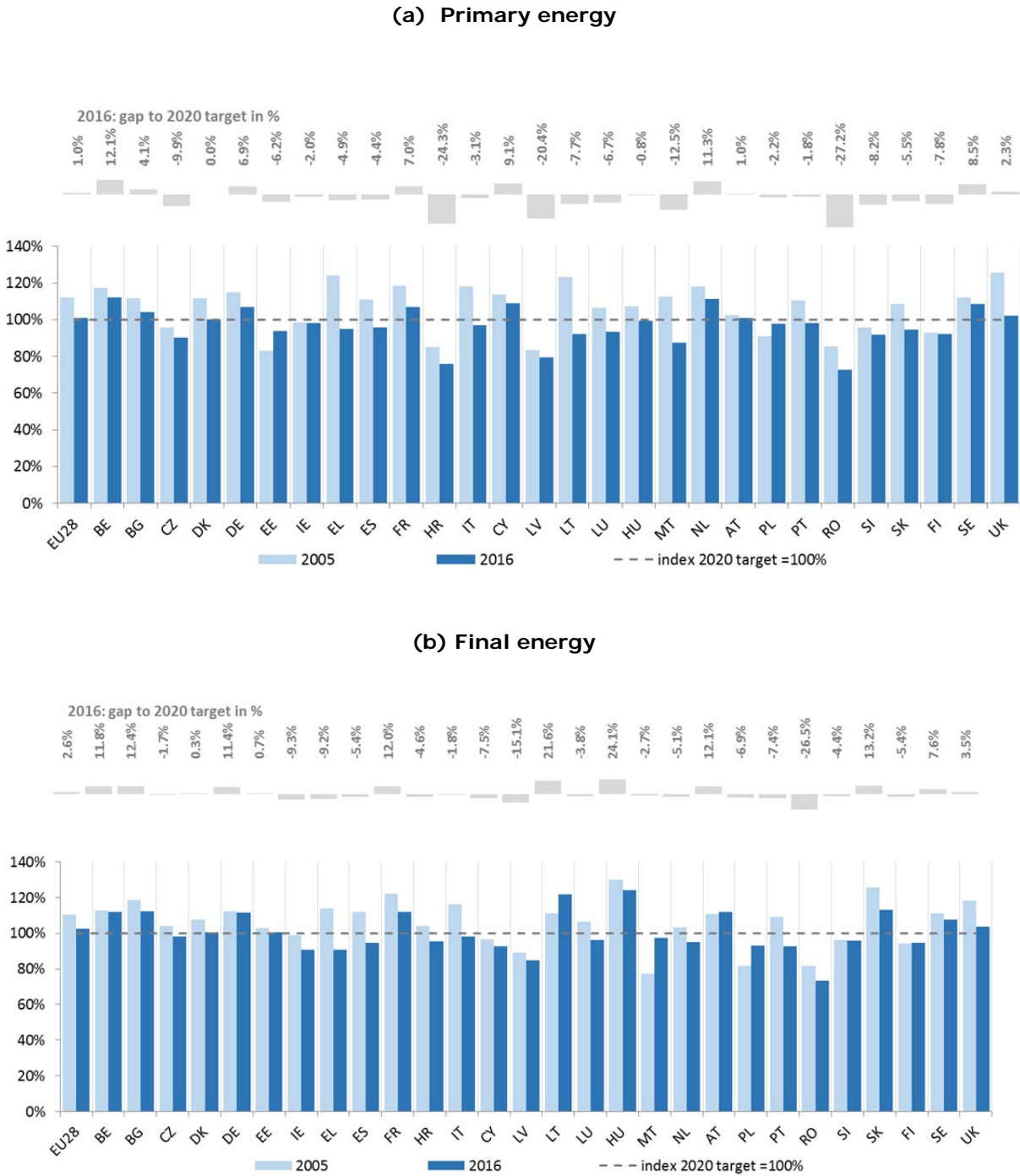
<sup>23</sup> Lithuanian primary to final energy ratio = 6.5/2.8 = 2.29

<sup>24</sup> As shown in Section 2, the collective national efforts amount to -17.6% of primary and -20.5% and final energy reduction compared to the PRIMES 2007 reference values.

<sup>25</sup> As presented in Table 1

energy consumption levels in Belgium, Bulgaria, Germany, France, Austria, Sweden and the UK were above both primary and final energy consumption in 2020 of these countries. Lithuania, Hungary, Slovakia were above their target only in terms of final energy, while Cyprus and the Netherlands in terms of primary energy. In relative terms, Belgium, Netherlands, Sweden and Cyprus are associated with largest primary energy target gap —2016 consumption levels were above their respective 2020 values by 12%, 11%, 8% and 8%, respectively— while Hungary, Lithuania, Slovakia and Bulgaria had the largest final energy gap, with a gap of 24%, 23%, 13% and 12% respectively.

**Figure 3. Energy consumption trends (2005-2015) and comparison of current efforts with national contributions outlined in Table 1 (adapted and updated from Zangheri et al (2017))**



Further insights on the progress made by Member States towards the consumption levels shown in Table 1 can be supported through complementary information given in the NEEAPs. As per the reporting requirement laid out in EED Article 24(2), Annex XIV Part 2.2, Member States were required to update their 2020 projected consumption levels. The breakdown of the historical and 2020 projected final energy consumption by sector in each Member State is presented in **Figure 4**. The projected values<sup>26</sup> are extracted from the NEEAPs 2017 and plotted alongside the respective 2020 consumption levels (see Table 1) and historical Eurostat data in 2005 and 2015. These projected values are estimated by energy and emission forecast studies deployed at national level, some of which get updated on a regular basis to reflect changes in future developments, particularly those relating to the economy. Ireland, Italy, Luxembourg and the Netherlands regularly publish updated energy consumption baselines which take into account both updated policy and economy developments. In addition, Denmark, Germany, Cyprus, Belgium, Sweden, France, Luxembourg and Romania revised their previously-notified projected consumption levels. Ireland, Germany, Cyprus, France and the UK revised upwards their projections, while Denmark, the Netherlands, Italy, Luxembourg and Romania downwards.

The projected 2020 values of Belgium, Germany, France, Sweden and the UK reported in the NEEAPs 2017 are above the national Article 3 target set by each country respectively: this implies that under current conditions and projections, it is unlikely that these countries will reach their Article 3 targets in 2020. **France** stated that the primary energy consumption target will almost be achieved in 2020 and the 2020 target for final energy will be achieved in 2021. The latter is based on the assumption that progress in terms of energy efficiency will be linear and takes into account the results presented for 2018 and 2023. In **Germany**, while current projections show that expected primary energy consumption in 2020 will be 273.8 Mtoe (which is slightly below the target of 276.6 Mtoe), final energy consumption is expected to be above the target as current estimates indicate expected final energy consumption amounting to 211.6 Mtoe; previous notification in NEEAP 2014 corresponded to 191.8 Mtoe (the 2020 German target is 194.3 Mtoe).

Romania and Luxembourg, on the other hand, have notified expected consumption levels which are below their 2020 targets. In Luxembourg, the effects of the measures were assessed against the baseline forecast in 2015 with final energy consumption forecast of 46 449 GWh in 2020, meaning that the energy efficiency target of 49 292 GWh (final energy) will be clearly achieved in 2020. In Italy, the latest baseline calculations forecasted consumption under current policies of 118 Mtoe of final energy in 2020 and 154 Mtoe of primary energy, down 26 % compared with 2007 forecasts (as reported in the Italian NEEAP). The Energy Balance Prognosis for 2017-2020 in Romania estimated final energy consumption levels of 24.95 Mtoe, which are well below the national target of 30.32 Mtoe.

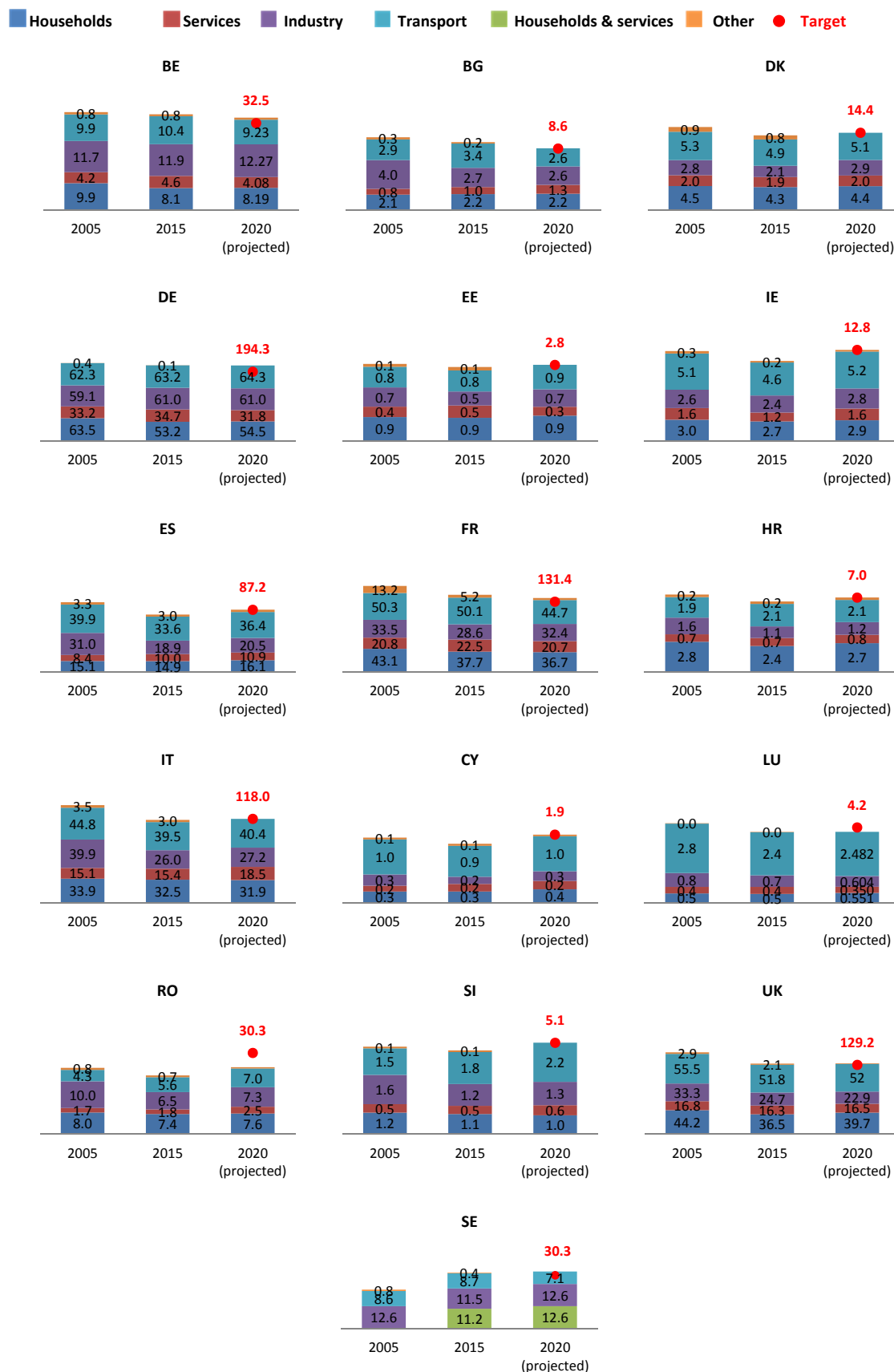
All other countries depicted in Figure 6 (that is, Bulgaria, Denmark, Estonia, Italy<sup>27</sup>, Croatia and Slovenia) notified final energy consumption projections which match their 2020 consumption values (Table 1).

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<sup>26</sup> The Czech Republic, Greece, Latvia, Lithuania, Hungary, Malta, Austria, Poland, Portugal, Slovakia and Finland did not provide the final energy consumption breakdown in their NEEAPs. The Netherlands provided the sectoral breakdown only in primary energy.

<sup>27</sup> As explained in Section 2.2, Italy updated its baseline scenario in 2017, which resulted in lowered final and primary consumption projections for 2020. The aggregated final energy consumption projection shown in Figure 5 is identical to the one indicated in Table 1.

**Figure 4. Breakdown of historical (2005, 2015), target and projected (2020) final energy consumption by sector (Source: Eurostat for historical data and NEEAPs 2017 for projections)**



## 2.5 Energy saving obligations under Article 7

The NEEAPs also contain information on the implementation status towards Article 7 provisions. In total, 6 Member States notified updates to their previously set savings requirements: Belgium (Brussels and Flanders regions only), the Czech Republic, Ireland, Hungary, Malta and Finland. Changes in the implementation approach followed by Member States are also noted. In addition to energy efficiency obligation scheme (EEOS), Bulgaria now plans to reach its savings requirement through alternative policy measures, while Greece recently introduced an EEOS (2017) alongside its alternative policy measures. The latter include individual energy saving targets for owners of industrial systems, and government and municipal buildings as well as a national programme for energy efficiency of multi-family residential buildings. Only Denmark, Poland and Luxembourg have implemented their Article 7 obligations exclusively through the implementation of an energy efficiency obligation scheme, while 12 Member States will use a combination of EEOSs and alternative policy measures and 13 Member States will use only alternative policy measures<sup>28</sup>. An overview of Article 7 based on information given in the NEEAP 2017 including the targeted is given in Table 8.

### Revised Article 7 saving obligations presented in NEEAPs 2017

Belgium (Brussels and Flanders regions only), the Czech Republic, Ireland, Hungary, Malta and Finland notified changes to their Article 7 cumulative energy saving requirements for the period 2014-2020 in their NEEAPs 2017. In most cases, these revisions stem from **updates in energy statistics** in recent years affecting the calculation baseline.

The targets have been revised as follows:

- In Brussels, the cumulative savings requirements was increased from 445 ktoe (5178 GWh) to 461 (5356 GWh) as a result of updated data on the amount of energy sold in 2012 – one of years considered to estimate the reference average annual energy sales for the savings requirements calculation.
- In Flanders, following a historical revision of the energy balance sheet communicated to the Flemish Government in February 2014, the cumulative target now stands at 4106 ktoe (47.750 TWh) instead of the previously notified 4243 ktoe (49.346 TWh) savings.
- The Czech Republic target now stands at 4882 ktoe (204.39 PJ), as opposed to 4564 ktoe (191.10 PJ) previously notified. This change is based on a switch from IEA to Eurostat energy balances in 2015 as well as the Eurostat revision of Czech energy consumption data dated January 2017.
- Malta revised upwards its Article 7 savings requirement from 56.4 ktoe (655.5 GWh) to 66.6 ktoe (774 GWh) due to increases in energy consumption over the years 2010-2012.
- Finland revised its savings requirement due to an error of interpretation made in a definition related to the energy statistics - this change had a marginal impact on the savings amount (+0.5%).

Revisions were also made by Hungary (142.3 PJ to 167.5 PJ) and Ireland (from 30 844 GWh to 31 958 GWh), however no explanation on these changes were provided in the respective NEEAPs.

<sup>28</sup> The implementation of the energy efficiency obligation scheme in Croatia has been postponed according to the Croatian NEEAP and it will begin as soon as the Energy Efficiency Act has been amended. Latvia has started a pilot scheme in May 2017 on electricity retail companies.

## 2.6 Other national energy efficiency goals

In accordance with EED Annex XIV Part 2(1), Member States were required to report on other existing efficiency targets addressing the whole economy or specific sectors. The following additional energy efficiency goals have been identified in the NEEAPs 2017. The selected targets go beyond the requirements prescribed in existing EU Directives (e.g. nZEB buildings under the EPBD, central government renovations under Article 5 of the EED, etc.).

### Austria

Austria has published an overall transport plan with the aim to create a more social, safer, more environmentally friendly and more efficient transport system by 2025. A target has been set to achieve a 19% reduction in CO<sub>2</sub> emissions compared to 2010 and reduce energy consumption in the transport sector from 240 PJ to 210 PJ by 2025. This will be achieved by the implementation of measures on modern infrastructure, public transport, security, planning/systematisation/networking, technology & innovation, removing of barriers, environmental protection & resource efficiency and international measures. Measures are therefore planned in the following areas:

- electro-mobility
- relocation of transport
- true cost of transport
- reduction of congestion
- noise protection
- spatial planning 2025 target for the transport sector

### France

The Law on Energy Transition and Green Growth adopted in 2015 has set objectives for mid (2030) and long term (2050):

- reducing by 40% GHG emissions in 2030 vs. 1990, and by 75% in 2050 vs. 1990 (which is then enforced by multi-year carbon budgets);
- reducing final energy consumption by 20% in 2030 vs. 2012, and by 50% in 2050 vs. 2012;
- reducing primary energy consumption of fossil fuels by 30% in 2030 vs. 2012;
- reaching an average energy performance equivalent to the "Low Consumption Buildings" for the whole dwelling stock by 2050.

### Germany

The Federal Government's national energy concept includes the ambitious target of reducing primary energy consumption by 20 % by 2020 and by 50 % by 2050 (in both cases compared to 2008). It also provides for an annual average increase of 2.1 % in final energy productivity and a reduction of 20 % in final energy consumption for heat and a reduction of 10 % in electricity consumption and final energy consumption in the transport sector by 2020 compared to 2008.

### Ireland

Ireland has set a 33% target for the public sector to demonstrate an exemplar leadership role on energy efficiency and climate action. It has been determined using the same methodology as for the national target but using final demand only for the public sector. It was calculated as equating to 3,240 GWh (primary energy) savings for the last NEEAP based on the best estimates available at that time. As a result of the detailed energy monitoring and reporting system put in place to underpin the public sector programme a more detailed and accurate picture of public sector energy use is now possible and detailed in the Annual Report 2016 on Public Sector Energy Efficiency Performance.

Based on the most recent data available (end 2015) public sector bodies reported 21% improved efficiency – amounting to 2,422 Gwh (annual primary energy savings).

### **The Netherlands**

The Energy Agreement adopted in September 2013 set the mid and long term objectives to achieve 80-95% reduction in CO<sub>2</sub> emissions by 2050, and at least a 40% CO<sub>2</sub> reduction in 2030. On a sectoral level, it also set the following goals for existing buildings:

- 300,000 existing buildings per year to improve by at least two energy label steps;
- average social rental property to achieve label B, while 80% of private rental to achieve minimum label C in 2020;
- at least an average energy label A for buildings in 2030.

### **Sweden**

The Swedish governing parties (Social Democrats, Green Party, Moderate Party, Centre Party and Christian Democrats) entered into an agreement that, by 2030, Sweden would reduce energy intensity (i.e., primary energy consumption per unit of GDP) by 50% compared to 2005.

### **United Kingdom**

The Climate Change Act 2008 requires the UK to reduce greenhouse gas emissions by at least 80% from 1990 levels by 2050. The Act also requires the Government to set legally binding five-year caps on emissions ('carbon budgets') twelve years in advance. The Fifth Carbon Budget has now been set and UK is looking ahead to its plan to reduce emissions through the 2020s.

### 3 Energy efficiency policies and measures

Various policy measures are reported in the NEEAPs targeting each sector of the economy, individually or in a horizontal manner. An overview of the main policies and measures in this round of reporting is depicted in Table 4. This includes both existing measures – that is, measures that have already been mentioned in previous NEEAPs – and new measures. Reported measures fell under one or more different policy types: regulations, standards, funds, financial & fiscal measures (including taxation and incentives), market-based instruments and measures on information, knowledge & advice as well as education, qualification & training. Other measures included voluntary agreements, initiatives, plans, roadmaps, competitions, public investments, market surveillance etc. Measures targeted all sectors of the economy: residential, services, industry, transport and energy supply sector. Some measures, e.g. fuel/electricity taxes, information campaigns or energy efficiency obligation schemes, are applied horizontally<sup>29</sup> and these are bundled under the category "cross-sectoral". Other measures focused specifically on the public sector. Whilst this is not a requirement of the EED, some Member States reported measures covering the agriculture sector. This includes the Netherlands, Finland, Czech Republic, Denmark, Bulgaria, Hungary, Sweden, France, Spain<sup>30</sup> and Belgium.

It is important to stress that the overview of policy measures presented in Table 4 is not exhaustive. Reporting on policy measures is not currently harmonised; this makes it difficult to ensure minimum level of information reported on policy measures in the NEEAPs. In some cases, basic information such as targeted sectors, type of policy, expected impact, implementation/enforcement date are missing. Typically, reporting is more comprehensive for measures linked to financial incentives or regulations as opposed to information campaign measures or education/qualification-related measures. Moreover, the link between each measure and implementing EED article is not always clear – an exception to this are Articles 4, 5 and 7, where specific reporting requirements exist. While it may appear from Table 4 that in some countries there is a more comprehensive policy package than others, this doesn't mean that measures in a specific area are not in place for other countries; this simply depends on the level of reporting detail and clarity in each NEEAP. In the future, a more harmonised approach is recommended to ensure better reporting across all countries, articles of Directives and types of measures.

Below, all main measures are discussed by sector, focusing mainly on new measures or updated developments notified in the latest NEEAPs.

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<sup>29</sup> It should be noted that the energy efficiency obligation schemes of the UK and Malta are restricted to the residential sector only.

<sup>30</sup> Measures included in the Spanish NEEAP also cover fisheries.



**Table 4. Overview of main policy measures identified in the NEEAP 2017**

MS	Regulations, standards & other legislative measures								Funds, financial & fiscal measures (incl. taxation)								Market-based instruments (e.g. EEOS)						Information, knowledge & advice						Education, qualification & training						Other measures (e.g. voluntary agreements)						Relevant EED Articles
	RSD	SRV	IND	TRN	AGR	SPP	CRS	PBL	RSD	SRV	IND	TRN	AGR	SPP	CRS	PBL	RSD	SRV	IND	TRN	AGR	SPP	CRS	PBL	RSD	SRV	IND	TRN	AGR	SPP	CRS	PBL	RSD	SRV	IND	TRN	AGR	SPP	CRS	PBL	
BE	X	X	X	X		X	X	X	X	X	X	X	X	X			X	X	X	X	X			X	X					X	X	X	X	X			4,6,7,8,14,15,18,19,20				
BG			X				X	X	X	X	X										X																4,7,8				
CZ	X	X	X					X	X	X	X	X	X	X					X	X		X		X			X	X		X							4,5,6,7,8,12,17,18				
DK			X	X			X	X	X		X				X				X	X		X			X												4, 6, 7, 8, 12, 17, 19				
DE	X	X	X				X		X	X	X	X			X								X								X	X					4,7				
EE	X	X	X					X	X	X						X								X													5, 7, 8, 16				
IE	X	X	X	X				X																																	
EL	X	X		X			X	X	X	X	X				X	X	X					X		X	X		X	X	X		X					X	4,5,7,14,18,19,20				
ES								X	X	X	X				X	X				X	X		X					X									4, 7, 12, 17				
FR	X	X	X				X	X	X		X				X		X	X	X			X									X	X					4,5,7,8,19,20,Other				
HR							X	X								X							X														4,5				
IT		X		X			X	X	X	X	X				X	X						X									X	X	X				5,7,18,20,Other				
CY	X	X						X	X	X	X				X										X									X			4, 5, 7				
LV								X	X	X																											4,5				
LT	X	X	X				X	X				X					X		X				X														4,5,7, Other				
LU	X										X					X	X	X	X															X							
HU	X	X						X	X	X	X				X	X							X		X									X			4,5,7,8,16				
MT								X	X		X					X														X	X	X					7				
NL	X	X	X	X	X			X	X	X	X	X	X						X	X		X					X		X	X	X	X	X								
AT	X							X	X	X	X				X	X					X		X				X	X	X	X							4,5,7,8,12,16,17,18,19				
PL				X				X	X	X	X	X	X		X				X	X	X		X									X					4,5,6,7,8,12,14,17,Other				
PT	X	X	X	X		X		X	X		X								X	X	X									X	X	X	X				5, 7, 8, 9-11, 14, 16, 18				
RO	X	X	X			X	X	X	X	X	X				X	X		X				X								X	X	X	X				4,5,7,8,14,18, Other				
SI	X	X	X				X	X	X	X	X			X	X	X						X	X	X	X	X		X	X	X	X					4,5,6,7,8,10,11,14,19,20,Other					
SK	X	X	X				X		X	X			X										X		X	X			X		X					4,5,7,8,9,12,16,17					
FI	X	X					X		X	X	X	X	X										X		X	X			X	X	X	X				4,7, Other					
SE		X	X			X		X	X	X									X	X	X	X				X	X									7,8,9-11, 12, 14, 15, 17, 20					
UK	X	X	X	X				X	X	X	X					X															X	X	X				7				

RSV: Residential; SRV: Services; IND: Industry; TRN: Transport; AGR: Agriculture; SPP: Supply; CRS: Cross-sectoral; PBL: Public. Please note that the overview of measures presented in this table is non-exhaustive. The table completeness depends on the reporting quality of policy measures in the NEEAPs which is currently not harmonised at EU level (see discussion above).

### 3.1 Cross-sectoral measures

The set-up of a cross-sectoral policy framework on energy efficiency is found in many Member States. Given that many of the barriers to energy efficiency affect all sectors, the scope of various types of policies can be extended to multiple sectors. As mentioned above, measures which are applied horizontally such as fuel/electricity taxes are bundled under the category "cross-sectoral" – some of the main measures identified in the NEEAPs are discussed in more detail below.

#### 3.1.1 Energy and carbon taxes

Taxation on fuels and electricity is a measure used by several Member States, which, inter-alia, aim to curb the environmental impacts of energy consumption and improve cost-effectiveness of energy efficiency investments, including the promotion of more efficient use of energy through behavioural change. Austria, Denmark, Estonia, Germany, the Netherlands, Ireland, Finland, France, Spain and Sweden have all reported this measure. In 1995, Austria introduced taxes for electricity, natural gas and mineral oils which are higher than the tax rates by the EU Energy Tax Directive (2003/96/EC) and are responsible for generating around a third of the Article 7 savings. Germany has also had a long experience with energy taxes, which have been in place for many years (around 15 years) and were last updated in 2006. The Dutch taxes on electricity and natural gas since 2004, is depended on a customer's energy consumption. Higher taxes on electricity and natural gas for non-ETS industry apply in the Netherlands. Taxes on energy have also been introduced in Denmark, to give end-users a greater incentive to make energy savings. Ireland has had a carbon tax on fuels (currently at €20 per tonne) for heating and transport since 2008 which inter-alia cover the residential and services sectors. In Sweden, both energy and carbon taxes exist. In Estonia, energy taxes include excise taxes and value added taxes on electricity, natural gas and other fuels. In France, a new carbon component has been added to the existing energy taxation from 2014, with a progressive increase to reach 56 €/tCO<sub>2</sub> in 2020 and 100 €/tCO<sub>2</sub> in 2030.

Cases where taxation is exempted are also identified. In Germany, while energy taxes apply to all sectors, the manufacturing industry can benefit from "peak equalisation" if they can show that they have a certified energy management system or environmental management. This scheme allows undertakings in manufacturing industry to claim relief on up to 90 % of their energy and electricity tax, and to safeguard their international competitiveness. In Finland, energy-intensive industry and the agricultural sector benefit from partial energy tax refunds. In France, the new carbon component of the domestic consumption taxes on energy products (taxes intérieures de consommation sur les produits énergétiques – TICPEs<sup>31</sup>) does not apply to energy-intensive companies covered by the EU ETS.

Taxes on transport fuels are discussed in Section 3.2.3.

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<sup>31</sup> These apply to the consumption of energy products falling within the scope of Directive 2003/96/EC on the taxation of energy

**Table 5. Overview of energy and carbon taxes**

	Energy/carbon	Type	Enforced	Sectors	Article 7 contribution?
AT	Energy	Gas, fuel oils, electricity, fossil fuels	1995	Households, transport, industry, services, agriculture	Yes
EE	Energy	Electricity, gas, other fuels	2008	All	Yes
DE	Energy	Electricity, gas, heating oil, LPG	1999	All	Yes
NL	Energy	Electricity, gas	1995	All end users under EED scope	No
FI	Energy	Electricity, heat, gas, fuels	1994	All	No
SE	Energy/carbon	Electricity, fuels	1950s	All	Yes
FR	Carbon	Fossil fuels	2014	All except energy-intensive companies covered by EU ETS	No
ES	Energy/environment	Fossil fuels, nuclear fuel, electricity	2013	All	Yes

### 3.1.2 Energy Efficiency Obligation Schemes

Energy efficiency obligation schemes are implemented by 15 Member States: Bulgaria, Denmark, Luxembourg, Poland, Ireland, Greece, Spain, France, Croatia<sup>32</sup>, Italy, Latvia, Malta, Austria, Slovenia and the UK. The obligation schemes, which are set on energy distributors, retailers, network operators or suppliers, typically target all sectors of the economy (except for Malta and UK, where the EEOs is focused on the residential sector). An overview of the obligated parties, fuel covered by these parties and sectors targeted in the schemes is presented in Table 6.

**Table 6. Obligated parties and sectors covered by Energy Efficiency Obligation Schemes**

	Introduced in	Obligated parties	Fuel commercialised or distributed by obligated parties	Sectoral coverage (sectors where actions can be implemented)
BG	2008	Suppliers, transmission enterprises, traders whose energy sales exceed thresholds set by regulation	Electricity, gas, heat, liquid fuels, solid fuels	All sectors except transport
DK	2006	Grid companies, distributors, oil sector	Electricity, gas, heat, heating oil	All sectors except transport
LU	2015	Suppliers	Electricity, gas	Residential, Services, Industry, Transport
PL	2013	Suppliers	Electricity, heat, gas	All
IE	2014	Suppliers with annual sales > 600 GWh	All	All
EL	2017	Suppliers and retailers whose market share is higher than 1% and representing in total at least the 95% of the sold energy for each fuel separately	Electricity, gas and oil products (LPG, gasoline, diesel and heavy fuel oil)	All sectors
ES	2014	Retailers and wholesalers	Electricity, gas, petroleum product, lpg	Industry, SMEs, transport, buildings
FR	2006	Sellers whose energy sales exceed thresholds set by regulation	Electricity, gas, fuel oil, fuel	All except consumption covered by the EU ETS
HR	Not implemented yet	Suppliers	Electricity, gas, oil and petroleum products	All sectors

<sup>32</sup> The implementation of the energy efficiency obligation scheme in Croatia has not started yet. Latvia has started a pilot scheme on electricity retail companies in May 2017.

IT	2005	Distributors with more than 50 000 minimum number domestic customers set by regulation	Electricity, gas	All sectors
LV	2017	Retailers with annual energy sales > 10 GWh	Electricity	All sectors
MT		Enemalta Corporation	Electricity	Residential
AT	2015	Suppliers selling more than 25 GWh/year	All	All
SI	2015	Suppliers	Electricity, heat, gas, liquid and solid fuels	All sectors, including ETS sector
UK	1994	Suppliers with minimum number domestic customers set by regulation	Electricity, gas	Residential

**Table 7. Article 7 overview based on information given in the NEEAP 2017**

MS	Policy measures										
	EOS	Alternative measures	Sectors								
			RSD	SRV	IND	TRN	AGR	SPP	CRS	PBL	
BE <sup>B</sup>	NO	YES	X	X	X	X			X		X
BE <sup>F</sup>	NO	YES	X	X	X	X					
BE <sup>W</sup>	NO	YES	X	X	X	X				X	X
BG	YES	YES	X						X	X	X
CZ	NO	YES	X	X	X	X					
DK	YES	NO	X	X	X	X				X	X
DE	NO	YES	X	X	X	X	X			X	X
EE	*	YES	X	X	X	X	X			X	X
IE	YES	YES	X	X	X	X				X	
EL	YES	YES	X	X		X				X	X
ES	YES	YES	X	X	X	X	X			X	X
FR	YES	YES	X	X	X	X	X				
HR	YES	YES	X	X	X	X			X	X	X
IT	YES	YES	X	X	X	X				X	X
CY	NO	YES	X	X						X	X
LV	YES	YES	X	X	X					X	X
LT	NO	YES	X		X					X	X
LU	YES	NO	X	X	X	X	X			X	X
HU	NO	YES	X	X		X					X
MT	YES	YES	X	X	X	X					
NL	NO	YES	X	X	X						
AT	YES	YES	X	X	X	X	X	X		X	X
PL	YES	NO	X	X	X	X	X	X		X	X
PT	NO	YES			X	X					X
RO	NO	YES	X		X	X			X		X
SI	YES	YES	X	X	X	X				X	X
SK	NO	YES	X	X	X	X				X	X

<b>FI</b>	NO	YES	X	X	X	X			X	
<b>SE</b>	NO	YES	X	X	X	X			X	X
<b>UK</b>	YES	YES	X	X	X	X			X	X

\*The development of an EEOS in Estonia is under discussion

RSV: Residential; SRV: Services; IND: Industry; TRN: Transport; AGR: Agriculture; SPP: Supply; CRS: Cross-sectoral; PBL: Public.

## 3.2 Policies and measures targeting specific sectors

A discussion of policies and measures, targeting specific sectors of the economy are discussed below. These are classified by type of sector (residential, services, industry, transport, agriculture and public sectors) and include regulatory, financial and fiscal, information & awareness, qualification, training and quality assurance, market-based, voluntary agreements, infrastructure investments and other measures. The main policies and measures identified in each country are also listed in the Annex.

### 3.2.1 The residential and services sectors

The residential and service sectors benefit from a wide range of policy measures. **Regulatory measures** were mostly composed of requirements related to the Energy Performance of Buildings Directive and Eco-design regulations. Examples include minimum energy performance requirements for new/existing buildings, inspections of water boilers and air conditioning systems and energy efficiency standards for appliances & equipment. Such measures were mentioned by Denmark, Ireland, France, Cyprus, Luxembourg, Hungary, the Netherlands, Slovakia and Finland. A few regulatory measures enacted with the aim to address the issue of split incentives were also mentioned: the Housing Valuation System in the Netherlands now appraises energy performance – on the basis of the energy label – to promote energy efficiency investments, while a new bill was adopted on 17 May 2016 stipulating that landlords renovating their properties at nearly zero- energy or zero-energy levels can charge an energy performance surcharge to their tenants so as to earn back part of their investment costs. France also removed some legal barriers in relation to split incentives by amending the rules on decisions on work in the Construction and Housing Code and enabling financial contribution by tenants after owners carry out energy efficiency upgrades. In France, the Law No 2015-992 of 17 August 2015 on the energy transition in support of green growth (LTECV) sets ambitious objectives for the building sector, including the requirement that all buildings are renovated at 'low consumption standards' by 2050. The Law also stipulates the requirement that energy efficiency upgrades of 500,000 homes must be carried out per year starting in 2017 –at least half of which must be low-income households– and the requirement that all private residential buildings with primary energy consumption of more than 330 kWh/m<sup>2</sup> must undergo energy efficiency upgrades by 2025. It also includes more stringent obligations regarding upgrading work in the non-residential sector every 10 years. Specific regulatory measures for the services sector include the Luxembourgish scheme on improvement of lighting in non-residential buildings, introducing specific energy efficiency requirements for lighting in new non-residential buildings and the Dutch Environmental Management Act for non-residential buildings which places a legal obligation to take energy efficiency measures with a payback time of less than 5 years in large or medium-sized companies with energy consumption of more than 50 000 kWh and 25 000 m<sup>3</sup> gas as well as offices, healthcare institutions and schools.

All Member States have reported **financial and fiscal measures** supporting energy efficiency improvements in the residential and service sectors. These included grants, low-interest loans and fiscal incentives. Some new measures include the national programme for energy efficiency of multi-family buildings in Bulgaria, providing both financial and organisational support to homeowner associations registered under the Condominium Management Act for energy efficiency upgrades of the buildings they live in. In Germany, two new measures were identified: the Heating Optimisation Funding

Programme, which provides funding for low-investment measures to optimise existing heating systems and the initiative 'EnEff.Building.2050' which provides funding for model projects demonstrating ambitious energy concepts for buildings/districts with the aim to encourage their widespread adoption. Ireland has recently launched two pilot schemes: the expansion of the Warmer Homes scheme to homes of private tenants who are in receipt of the Housing Assistance Payment and the Deep Retrofit Pilot Scheme, a new scheme to provide financial support (50% funding of the total capital costs and project management (including design) costs) for substantial upgrades in buildings that achieve an BER level of A3 (<50 kWh/m<sup>2</sup>) or a minimum uplift of 150 kWh/m<sup>2</sup> yearly, equivalent to zero energy requirements or a significant reduction in the energy required within a building. The rate of funding is up to 95% for voluntary housing association homes and energy poverty households. With the Federal Act, Austria brought about the establishment of a housing construction investment bank (WBIB). The housing construction investment bank is intended to provide commercial and non-profit property developers with long-term and inexpensive loans to be used for financing affordable living space. The WBIB passes on the funds, on market terms, to non-profit and commercial property developers for the construction of housing. The funds allow rental and owner-occupied properties to be built. The main focus is on new-builds but the creation of new housing by way of renovations is also made possible. As of 1 January 2016, several new subsidy schemes were opened in the Netherlands ranging from support for renewable energy and energy saving in sports facilities to the acquisition of solar water heaters, heat pumps, biomass boilers and pellet stoves for households and commercial users. Other measures include the new Slovakian Single-family Building Insulation Support Programme announced in 2016, with an allocated budget EUR 30 million and I save I upgrade Scheme in Cyprus.

Various measures on **information and awareness-raising** have been mentioned for residential and service sectors. In France, 450 Renovation Information Service Points (PRIS) have been set in the country with the aim to help owners make decisions through the implementation of a national one-stop approach and a local network for the energy renovation of private dwellings. This is a genuine local public service, which provides independent technical, financial, fiscal and regulatory information and gives advice, free of charge and objectively, to the enquiring home-owner on the design of the energy renovation project. Since 2016, the 'Deutschland macht's effizient [Germany Makes It Efficient]' campaign has provided information on energy efficiency potentials and sources of funding to those involved in the energy transition, with a particular focus on the buildings sector. In Ireland, the Technical Bureau was set up in 2017, with the objective to provide tailored advice and support to schools and the Department of Education and Science and identify/take advantage of opportunities to reduce energy use and improve energy performance in school building fabric. The Netherlands launched the Energy Saving Expertise Centre in 2015 and its new 'Save energy now' campaign in October 2016. The latter focuses on homeowners of a label C or lower residence who are considering energy-saving measures but have not yet implemented them because of, for example, the expense, the investigation required or the mess created.

Various Member States have mentioned on-going or planned efforts related to **energy poverty**. Table 8 summarises direct and indirect references identified in the NEEAPs in relation to actions addressing energy poverty issues at national level. Direct references include specific policies and measures targeting low-income households, while indirect references may refer to general strategies or initiatives which may also concern the social housing sector; however no specific measures are enacted through these latter strategies/initiatives. Many of the measures concern financial incentives targeting segments of the population considered under energy poverty line, low-income households or social housing units. Some countries introduced specific actions targeting energy poverty under their energy efficiency obligation schemes, while other set up dedicated awareness raising and advisory services.

France and Ireland have numerous measures aimed at alleviating energy poverty. In France, fuel poverty is addressed through actions of the National housing agency and its

'Habiter mieux' (Living better) programme. France has also created a new obligation under its energy savings certificates scheme specifically aimed at combating fuel poverty. Actions funded by this scheme will be implemented among low-income households. A Fuel poverty observatory was also set up in France with the aim to better measure fuel poverty situations and monitor public and private financial aid granted to disadvantaged households together with actions under local or national initiatives.

Under the Government's Strategy to Combat Energy Poverty and the Healthy Ireland Framework, the Irish authorities have set up the Warmth and Wellbeing scheme, a pilot initiative with the objective to validate, in an Irish context, the international evidence that suggests making homes warmer and more energy efficient can have a positive effect on the health and wellbeing of people in energy poverty who are also living with a chronic respiratory condition such as COPD & Asthma. Ireland has also the Social Housing Investment Programme, local authorities are allocated capital funding each year in respect of a range of measures to improve the standard and overall quality of their social housing stock including retrofit measures aimed at improving energy efficiency.

In Austria, a bonus factor is included in the energy efficiency obligation scheme whereby savings achieved in low-income households are weighted with a factor of 1.5. In addition, energy suppliers must make an information and advice centre available, including the provision of energy advice related to energy poverty. Other examples of dedicated regional/local programmes in Austria include the energy advice scheme in Vienna, and electricity-saving project for low-income households in the districts of Braunau, Freistadt & Linz-Land. The Netherlands has put in place the Energy Saving Agreement for the Social Rental Sector, setting the objective for the housing association sector to achieve an energy label B (equivalent to energy index 1.25) on average by 2020. Other examples include the PLAGS SISP programme in the Brussels Capital Region, Subsidies for implementation of individual energy efficiency measures in vulnerable households in Croatia, JESSICA programmes in Lithuania and Czech Republic, personalised advisory services for EE for households with low income in Luxembourg, etc. Italy and France have in place social bonus or discounts on energy bills for low income families.

**Table 8. References to energy poverty identified in NEEAP 2017**

MS	Type of reference (Direct/In-direct)	Details on measures for addressing energy poverty
BE	Direct	<ul style="list-style-type: none"> <li>• Pilot projects with social roof insulation projects using a collective approach, mainly with social housing associations (Flanders)</li> <li>• PLAGS SISP programme, coordinated by the Housing Company of the Brussels Capital Region, with the aim of continuing the momentum launched within the social housing sector by Bruxelles-Environnement in 2011</li> </ul>
BG	-	-
CZ	Direct	<ul style="list-style-type: none"> <li>• JESSICA Programme, inter-alia, targeting housing cooperatives and municipalities, cities and non-profit organisations specialising in social housing.</li> </ul>
DK	Indirect	<ul style="list-style-type: none"> <li>• Initiative to promote energy renovation of social housing under the Energy Renovation of Buildings Strategy (Annex C of NEEAP)</li> </ul>
DE	Indirect	<ul style="list-style-type: none"> <li>• Special Energy and Climate Fund (under which the Energy Efficiency National Fund falls) aims to increase spending under programmes promoting an environmentally friendly, reliable and affordable energy supply and climate protection</li> <li>• Electricity-saving checks for low-income households (caritas)</li> </ul>
EE	-	-
IE	Direct	<ul style="list-style-type: none"> <li>• Social Housing Investment Programme</li> <li>• Housing Aid for Older People</li> <li>• Warmth and Wellbeing Pilot Scheme</li> <li>• Design Guidelines for Social Housing</li> <li>• Social Housing Upgrades (DHPCLG)</li> </ul>
EL	Direct	The 'Saving at home II' programme and the scheme to replace oil boilers with gas boilers are focused on providing financial incentives to "low-income owners".

<b>ES</b>	-	-
<b>FR</b>	Direct	<ul style="list-style-type: none"> <li>• Energy savings certificates scheme with supplementary targets specifically aimed at combating fuel poverty</li> <li>• Energy vouchers</li> <li>• Social Housing eco-loan</li> <li>• EEOS for social housing providers</li> <li>• Fuel Poverty Observatory ONPE</li> <li>• 'Habiter mieux' (Living better) renovation programme</li> <li>• PRISs (Renovation information service points)</li> </ul>
<b>HR</b>	Direct	Subsidies for implementation of individual energy efficiency measures in vulnerable households
<b>IT</b>	Direct	<ul style="list-style-type: none"> <li>• Tax credit scheme applicable when upgrading the energy efficiency of existing buildings available also to social housing IACP (Istituti Autonomi Case Popolari)</li> <li>• Social bonus or discount on the energy bills (electricity, gas, water) for low income families.</li> </ul>
<b>CY</b>	Direct	<ul style="list-style-type: none"> <li>• Ministerial Decree includes energy poverty measures for vulnerable groups such as (a) reduced prices on electricity tariffs, (b) financial incentives for participating in a scheme for installing a the net-metering Photovoltaic system with a capacity of up to 3kW, (c) financial incentives for upgrading the energy efficiency of their houses, and (d) uninterrupted supply of electricity, during critical periods for those vulnerable consumers that continuous power supply is essential for reasons related to their health</li> <li>• Energy Efficiency in Low Income Housing in the Mediterranean' (ELI-MED)</li> </ul>
<b>LV</b>	Direct	• Energy efficiency improvement in social housing (activity 3.4.4.2.0, a European Structural Funds programme
<b>LT</b>	Direct	• 'JESSICA Holding Fund' of Operational Programme for Promoting Cohesion administrated by the Ministry of the Environment (2007-2013) supporting renovations of public sector buildings and social housing in multi-apartment buildings
<b>LU</b>	Direct	<ul style="list-style-type: none"> <li>• Personalised advisory services for EE for households with low income and subsidies (EE equipment) provided by Myenergy/KLIMABANK facility</li> <li>• Interest free loans to households with low income</li> </ul>
<b>HU</b>	Direct	<ul style="list-style-type: none"> <li>• Some sub-programmes of the Warmth at Home Programme were explicitly announced for low-income social groups, including programmes to replace appliances for retired persons and large families</li> <li>• A targeted energy savings information programme is under planning, with a particular focus on households subject to energy deprivation in disadvantaged areas</li> </ul>
<b>MT</b>	Direct	<ul style="list-style-type: none"> <li>• Energy Efficiency for vulnerable households, a measure contributing towards Article 7, aims to replace appliances in a number of vulnerable households annually (Energy &amp; Water Agency visits vulnerable households to raise awareness on energy usage and provide energy saving tips)</li> <li>• Energy Efficiency in Low Income Houses in MED Grant Scheme</li> </ul>
<b>NL</b>	Direct	<ul style="list-style-type: none"> <li>• Energy Saving Agreement for the Social Rental Sector with the objective for the housing association sector to achieve an energy label B by 2020.</li> <li>• Revised Housing Valuation System to include energy label</li> <li>• Government subsidy (€ 400 million) for investments in energy-efficiency for social housing landlords</li> </ul>
<b>AT</b>	Direct	<ul style="list-style-type: none"> <li>• Savings achieved in low-income households are weighted with a factor of 1.5 under the EEOS.</li> <li>• Energy advice and financial support for EE actions is provided by the City of Vienna for low-income households.</li> <li>• Upper Austria scheme (Braunau, Freistadt and Linz) to provide low income households with energy-efficient appliances (grants up to €250) and free energy advice (+ an "emergency assistance package").</li> </ul>
<b>PL</b>	Indirect	• Some regional Operational Programmes support projects that combat energy poverty
<b>PT</b>	-	-
<b>RO</b>	Direct	PA 9 - Supporting the economic and social regeneration of disadvantaged communities in the urban area
<b>SI</b>	Direct	Various measures to reduce energy poverty in households such as AERO project, aid for the efficient use of household energy for vulnerable population groups, subsidies in 500 low-income households.
<b>SK</b>	Indirect	• Decision not to implement an EEO scheme due to fear of increase in energy prices, and consequently in fuel poverty



<b>FI</b>	Direct	<ul style="list-style-type: none"> <li>• Energy subsidies for detached houses addressing low-income private householders</li> <li>• Social housing (interest subsidy loans for the renovation of rental and right-of-occupancy dwellings)</li> <li>• Replacing oil heating with less expensive heating systems</li> </ul>
<b>SE</b>	Direct	<ul style="list-style-type: none"> <li>• Financial support was established in 2016 for renovation of rental accommodation in socio-economically vulnerable areas and to make that accommodation more energy-efficient</li> </ul>
<b>UK</b>	Direct	<ul style="list-style-type: none"> <li>• Government’s commitment to insulate one million more homes between 2015 and 2020 in support of its commitment to tackle fuel poverty through the Energy Company Obligation</li> <li>• Home Energy Efficiency Programmes for Scotland: Area Based Schemes designed to target fuel poor areas to provide energy efficiency measures to a large number of Scottish households and help reduce fuel poverty.</li> </ul>

### 3.2.2 Industry and SMEs

All Member States have enacted new or revised existing legislation that puts into effect the mandatory requirement of energy audits in enterprises that are not SMEs. According to the EED, the definition of micro, small and medium-sized enterprises is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million. Most Member States adopted the definition used in the EED. An overview of the number of non-SMEs, total number of energy audits, number of energy audits in non-SMEs, potential energy savings identified and existence of voluntary agreements is provided in Table 11.

**Table 9. Transposition of energy audit obligation into national law**

<b>MS</b>	<b>Transposing legislation</b>	<b>Entry to force</b>
<b>BE-BRU</b>	Ordinance of 18 December 2015 modifying the ordinance of 2 May 2013 bearing the Brussels Code of Air, Climate and Energy Control	2016?
<b>BE-WAL</b>	N/A	2016
<b>BE-FLA</b>	Amendment to environmental permit regulation (Sections 4.9.2 and 4.9.3) of VLAREM II.	N/A
<b>BG</b>	Energy Efficiency Act 2015	2016
<b>CZ</b>	Energy Management Act, Act No 318/2012, Act No 103/2015	2015
<b>DK</b>	Act No 345 of 8 April 2014	2014
<b>DE</b>	Act on energy services and other energy efficiency measures (amendment)	2015
<b>EE</b>	Energy Sector Organisation Act ('ESOA')	2016
<b>IE</b>	S.I. No. 426 of 2014	2014
<b>EL</b>	Law 4342/2015 (Government Gazette, Series I, No 143, 9.11.2015)	
<b>ES</b>	Royal Decree 56/2016 of 12 February 2016	2016
<b>FR</b>	Energy Code	
<b>HR</b>	Energy Efficiency Act (OG 127/14)	
<b>IT</b>	Article 8(1) and (3) of Legislative Decree No 102/2014	2015
<b>CY</b>	Article 5(6)(c) of Law 149(I)/2015	2015
<b>LV</b>	Energy Efficiency Law	
<b>LT</b>	N/A	
<b>LU</b>	Law of 5 July 2016 amending the amended Law of 5 August 1993 on the rational use of energy. ( <a href="http://www.legilux.public.lu/eli/etat/leg/loi/2016/07/05/n2/jo">www.legilux.public.lu/eli/etat/leg/loi/2016/07/05/n2/jo</a> )	2016
<b>HU</b>	Act LVII of 2015 on energy efficiency, Decrees No 122/2015 and No 26/2015	2015
<b>MT</b>	N/A	
<b>NL</b>	Temporary Regulation Implementing Articles 8 and 14 of the Energy Efficiency Directive	N/A
<b>AT</b>	Federal Energy Efficiency Act	2014
<b>PL</b>	Act of 20 May 2016 on energy efficiency (Journal of Laws, item 831)	2016
<b>PT</b>	SGCIE regulation – Intensive Energy Consumption Management System	N/A
<b>RO</b>	Article 9 of Law No 121/2014 on energy efficiency	2014
<b>SI</b>	N/A	2017
<b>SK</b>	Act No 476/2008 on efficiency in the use of energy (the Energy Efficiency Act) and amending Act No 555/2005 on the energy performance of buildings and amending certain laws, as amended by Act No 17/2007.	2009
<b>FI</b>	Energy Efficiency Act	2015
<b>SE</b>	Act (2014:266) on energy audits of large companies	2014
<b>UK</b>	Energy Savings Opportunity Scheme Regulation 2014	2015

**Voluntary agreements** are a common policy instrument for the industry sector. In some cases they are combined with fiscal measures. In total, 10 Member States have established such agreements with industrial actors, with the aim to engage various enterprises in energy efficiency measures. This includes Belgium (Flanders), Denmark, Croatia, Finland, Ireland, Luxembourg, the Netherlands, Portugal, Sweden and the UK. In Denmark, the Danish Energy Agency entered into energy efficiency agreements with large, energy-intensive enterprises in 1996. With the agreement to roll-back the security of supply tax (FSA) and to grant reductions in the PSO tax from July, electricity-intensive enterprises can receive grants for their PSO payments in return for entering into a 3-year energy efficiency agreement with the Danish Energy Agency. Through the agreement, these enterprises are required to develop, implement and maintain an energy management system. Long-term agreements with industry, transport, agriculture and services sectors have also been in place in the Netherlands since 1992. The companies entering to an agreement must produce energy efficiency plans, implement them and report on progress, including annual energy consumption monitoring. Companies that enter into Long-Term Agreement 3 (LTA3) must set up an energy management system. In Finland, medium-sized industrial companies and energy intensive industries can enter into an agreement, which allows them to receive subsidies of up to 25% of the investment costs of energy-efficient measures. In projects involving ESCOs, subsidies can go up to 30% of the costs.

In Ireland, over 3000 Irish SMEs are engaged in voluntary agreements, receiving strategic support, training funding and advice for energy projects. In Sweden, the Programme for improving energy efficiency (PFE) is one of the main measures towards the improvement of energy efficiency in the industry sector. The PFE has been in place since 2004 and targets energy intensive industrial companies. Through an agreement with the Swedish Energy Agency, a company can receive a five year electricity tax exemption, by fulfilling certain requirements, including carrying out an energy audit and implementing an energy management system<sup>33</sup>. In Croatia, Industrial Energy Efficiency Network (IEEN) to be implemented in 2017-2025 includes a series of activities, aimed at promoting energy efficiency in industry such as establishing a list of experts competent for the field of energy efficiency in the commercial sector, proposing pilot projects, promoting best practice projects, education and training and implementing/monitoring plans.

In Czech Republic, the Ministry of Industry and Trade intends to develop voluntary agreements with entities and associations in industry as a flexible tool for meeting energy efficiency targets without having to introduce additional legislative or other regulatory measures. Slovakia also has similar plans, under which industrial enterprises commit themselves to energy-saving targets. Such voluntary agreements with large industrial enterprises are expected to contribute significantly to energy savings.

Various **financial incentives** are offered to industry actors. Some long-standing measures include, the Energy Audits programme in Finland, launched in 1992, which granted EUR 1.2-3.4 million per year between 2003 and 2015, with an average of EUR 1.7 million per year. However since the entry into force of the EED, subsidies are no longer available for large companies, given that audits are mandatory. Subsidies for energy audits have also been implemented in France, Wallonia, Greece and Lithuania.

In Croatia, two new measures were introduced in the NEEAP: a grant scheme for the manufacturing industry focusing on the promotion of energy efficiency and a second grant scheme on the development of infrastructure for renewable energy sources in industrial production, (including the transition from conventional to alternative energy sources such as solar collectors, heat pumps, highly efficient co-generation, transition to more efficient fuels). In Portugal the SGCIE programme (Management System of

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<sup>33</sup> However, the European Commission noted that the tax reduction was contrary to the State aid rules and for that reason PFE is gradually being phased out by 2017, though in such a way that participating companies have time to complete their commitments.

Intensive Energy Consumption) has the objective to promote energy efficiency and monitor energy consumption for intensive consuming installations (>500 toe/year). These installations have to perform, on a periodic basis, energy audits that reflect the uses of energy and promote the increase of energy efficiency, including the use of renewable energy sources. SGCIE also concerns the elaboration of a Plan for the Rationalization of the energy consumption.

In Belgium (Flanders), grants through the Ecology Grant Plus and Strategic Ecology Aid programmes are offered to enterprises as of 2012 to encourage a more energy efficient organization of their production processes. In addition, since 2012, green guarantees have been available for entrepreneurs to finance energy saving investments with a maximum payback time of 10 years. Grant support through the Accelerated Capital Allowance is also provided for energy efficient equipment in Ireland. For the Latvian industry, a grant scheme for renovation of industrial buildings and industrial processes, using Structural funds and Climate Change Financial Instrument funds is included in the NEEAP. For the 2014-2020 period, € 32.56 million of structural funds have been allocated to facilitate the efficient use of energy and reduce energy consumption in the manufacturing industry. France also offers subsidised loans for energy efficiency investments, in particular for SMEs. In Denmark, a fund of DKK 3.75 billion has been allocated from 2013 to 2020 to support enterprises, in the form of grants, for projects aimed at the replacement of fossil fuels with renewable energy sources or the switch to district heating.

Measures with specific focus on SMEs include the Wallonia subsidy programme (Accord de branches PME/TPE) which provides financial support to SMEs and very small enterprises for the realization of investments aimed at improving energy efficiency following energy audit recommendations. In Poland, the Polish Sustainable Energy Financing Facility has a credit line of EUR 150 million, addressed to SMEs willing to invest in new, sustainable energy technologies and equipment reducing energy consumption, or to produce renewable energy. The facility which is implemented with the support of the EBPRD, offers loans or leasing-based funding of up to EUR 1 million, which can be obtained from banks and leasing institutions participating in the Programme.

In Greece, financial incentives are available to micro, small and medium-sized enterprises from all of manufacturing, handicraft, trade, services, tourism and shipping sectors since 2018. These support interventions in the building envelope, upgrades of internal electrical installations and power distribution systems, installation of energy management systems, etc. The action is funded by the European Regional Development Fund and National Resources, through the Operational Programme 'Competitiveness, Entrepreneurship, Innovation' (OP-CEI) 2014-2020. The total budget of the action amounts to EUR 64.06 million and the total public expenditure amounts to EUR 32.3 million.

In Slovakia, the Operational Programme Environmental Quality (2014-2020) is geared towards the support of preparations for energy audits at SMEs and the implementation of measures deriving from those energy audits. A grant scheme in the competence of the Ministry of Economy will continue to support preparations for energy audits at SMEs in the Bratislava Region, while a similar scheme is also planned to support the implementation of measures deriving from energy audits for SMEs in the Bratislava Region. In Ireland, an SME support programme aims to increase energy efficiency in SMEs through providing advice, mentoring and training to participating SMEs. Under the programme, pilot schemes are also developed with a view to stimulating implementation of energy efficiency measures.

In the Netherlands, also the SME Innovation Incentives in Top Sectors (MIT scheme) does not focus specifically on energy efficiency but can be used in respect of innovations for energy efficiency. The Ministry of Economic Affairs uses the MIT scheme for Horticulture and Propagation Materials to encourage SMEs to cooperate and innovate within this sector and the Ministry of Economic Affairs uses the to encourage SMEs to cooperate and innovate within the foodstuffs industry.

**Table 10. Overview of energy audits (source: NEEAP 2017)**

MS	Number of non-SMEs	Total Number of Energy Audits	Number of Energy Audits in non-SMEs	Potential Energy Savings identified	Voluntary Agreements (Yes/No)
BE-BRU	N/A	N/A	266		
BE-WAL	N/A	7,000	N/A		
BE-FLA	N/A		N/A		
BG	N/A	281	N/A	112.9 GWh/year	No
CZ	N/A	19269	N/A	N/A	No
DK	500 -700		560		
DE	50 000	60 000	50 000	N/A	Yes
EE	270	N/A	N/A	N/A	No
IE	N/A	N/A	309	N/A	Yes
EL	N/A	N/A	N/A	N/A	No
ES	2659	15476	N/A	N/A	No
FR	4567	2747	N/A	20-30%	No
HR	N/A	8	8	N/A	No
IT	N/A	15152	5319	1.5 Mtoe	No
CY	N/A	65	10	N/A	No
LV	234	44	36	N/A	Unclear
LT	380	287	N/A	N/A	No
LU	100-150	N/A	N/A	N/A	Yes
HU	1194	1095	759	N/A	Yes
MT	96	1100	64		Yes
NL	4770	N/A	726	N/A	Yes
AT	N/A	N/A	1276	N/A	No
PL	N/A	N/A	N/A	N/A	No
PT	1100	N/A	1208	N/A	No
RO	N/A	N/A	256	144 818 toe (2016)	No
SI	N/A	N/A	N/A	N/A	No
SK	614	839	629	N/A	Yes
FI	N/A	N/A	N/A	N/A	Yes
SE	1100	N/A	N/A	N/A	Yes
UK	7300	6800	5800	N/A	No

Support is also available through **fiscal measures**. Through the Energy Investment Allowance programme, Dutch companies are allowed to deduct 41.5% of energy efficiency investment costs from their taxable profits. In Flanders, opportunities to reduce the taxable profit of companies are also offered to companies as of 2013 with an increased investment allowance for energy saving investments. Corporate and dividend tax relief for energy efficiency investments is a new measure in Hungary.

Energy savings in the industry sector are also achieved through **market-based instruments**. In Italy, the white certificate scheme plays an important role for improving the energy efficiency of industry. In particular, all the energy savings claimed in the NEEAP for energy efficiency improvement measures in the industry sector are generated by actions implemented under Italy's existing white certificate scheme. The UK has the CRC Energy Efficiency Scheme (CRC), which is a mandatory scheme aimed at improving energy efficiency and cutting emissions in large, but non-energy intensive, public and private sector energy users<sup>34</sup>. The Danish EEOS includes energy savings in enterprises covered by the emissions trading system (ETS). In addition to Denmark and Italy,

<sup>34</sup> This scheme, however, will be closed in 2019, as confirmed on the government website (<https://www.gov.uk/government/collections/crc-energy-efficiency-scheme>).

actions in industry are eligible to most of the EEOs: Austria, Bulgaria, Denmark, France, Greece, Ireland, Latvia, Luxemburg, Poland, Slovenia and Spain.

The European Union Emission Trading Scheme, EU ETS (Directive 2003/87/EC) is another market instrument mentioned in some NEEAPs. For example, the national implementation of the EU ETS is one of the key measures recalled in the French strategy for energy efficiency in industry. France uses the revenues of the allowances auctioning to finance measures in the area of building renovation. In Germany, auction revenues in Germany flow directly into the Energy and Climate Fund (EKF). It should be mentioned that low price of carbon for the EU ETS might have put at risk some schemes in which the funding was partly relying on the revenues from the auction of the emission allowances.

### 3.2.3 Transport

Various measures targeting both the private and public transport sectors are reported in the NEEAPs. These measures include support for low-emission vehicles, measures to shift the transport towards cleaner modes (modal shift), measures to promote electromobility, actions to promote behaviour change (e.g. through eco-driving training) and efficiency improvements/upgrades in the public transport fleet. Many of the measures mentioned in the NEEAPs submitted in 2017 are a continuation of existing policies already in place, while others are new. Various transport-related measures stem from existing EU regulations: e.g. Regulation (EU) No 333/2014 on CO<sub>2</sub> emissions from new passenger cars and Directive 2014/94/EU on the deployment of alternative fuels infrastructure. Emission performance standards for new light commercial vehicles and passenger cars were mentioned by Finland, France, Italy, Ireland, Portugal and the UK, while alternative fuels infrastructure by Italy, Ireland and Croatia.

**Transport plans and strategies**, laying out an umbrella framework with long-term strategic objectives and measures covering the transport sector are also reported in the NEEAPs. Existing transport plans and strategies include the Overall transport plan for Austria which sets a target of reducing CO<sub>2</sub> emissions by 19% and energy consumption by 12.5% by 2025 compared to 2010, the Mobility and Fuel Strategy (MKS) in Germany, the Mobility Regional Plan in Brussels, Finland's Environmental Strategy for Transport 2013-2020 and Estonia's Transport Development Plan 2014-2020. Planned or new strategies were also identified. In the Czech Republic, the 2015 National Action Plan for Clean Mobility lays down requirements for the construction of filling and charging stations between 2020 and 2030. In Slovakia, a new transport development plan to 2030 was adopted in 2017. In Cyprus, new traffic studies concerning various cities are expected to be launched in the form of an Integrated Urban Transport Plan, with emphasis on public transport. Malta opened up consultations for a National Master Plan, which will set out the framework and overall priorities to guide air, sea and land transport sector investments.

Various measures targeting **upgrades in the public transport** are identified. The Brussels region plans to gradually introduce electric buses as of 2019 with the aim to reach an entirely electric bus fleet in 2030, while the Flanders plan to invest in alternative fuel (hybrid, electric, hydrogen, etc.) public buses. Latvia also mentions upgrades of the public transport fleet while electric or hybrid buses are mentioned in Austria, UK and Slovakia. Rail infrastructure investments including electrification are mentioned by Bulgaria, Czech Republic, Denmark, Latvia, and UK, while metro extension by Bulgaria, Czech Republic, Denmark, Greece and Italy. As part of road infrastructure improvements, the introduction/extension of special lanes for buses and bicycles are undertaken by Bulgaria, Spain, Hungary, Malta, Ireland, Denmark, UK, Slovakia and Belgium. Efforts to improve modal shift are mentioned in various countries, including France, Ireland, Latvia and Slovakia.

Actions aimed at **promoting modal shift in personal mobility and freight transport** towards modes which consume less energy are also included in various NEEAPs. The set-up of new intermodal connections for passengers in Sofia was reported in the Bulgarian

NEEAP, while Spain reports about an aid programme for modal shift and more efficient use of transport modes that provides incentives to promote energy efficiency and CO<sub>2</sub> emission reduction projects. In France, modal shift encouragement at the national level is mainly achieved through the long-term improvement of rail networks, together with the continuation of other infrastructure projects, which include high-speed railway lines. At the local level, modal shift is one of the main objectives of the Urban Mobility Plans to be implemented by local authorities. Improvement of inter-modality in goods transport is covered under the national transport plan for Austria. In Ireland modal shift is promoted through the provision of funding for infrastructure, behavioural change programmes and through taxation incentives such as the Cycle to Work Scheme and the Tax-saver Scheme. Under the Irish Capital Plan, €100 million has been committed to Smarter Travel Programmes and carbon reduction measures. These aim to improve access to private car alternatives through the availability of public transport links and routes that are cycle and walking-friendly. In Belgium, fiscal incentives for company employees and administrations of public services are available, aiming at stimulating bicycle use for home-work commuting. Flanders plans to increase the share of inland shipping in the modal shift, with support measures for pallet transport, among other things.

**Trainings to vehicle drivers for fuel-efficient driving** are mentioned by Bulgaria, Austria, Czech Republic, Denmark, the Netherlands, Croatia, Spain, Finland, France, Ireland and Belgium. In Austria, fuel-saving, energy-efficient driving style is promoted by the Klimaaktiv mobile programme. Spain made eco-driving a compulsory part of training and evaluation of new drivers applying for a driver's licence as of 1 January 2014. This measure has been one of the main energy savings measures in terms of energy savings reported by Spain for the implementation of the EED Article 7 in 2014 and 2015. In the Czech Republic, promotion of eco-driving of cars is done through the introduction of regular free training and creation of an eco-driving manual, while eco-driving training for lorry and bus drivers is also organised through training principles and practical eco-driving lessons, mandatory for drivers of C1, C1+E, C, C+E, D1, D1+E, D or D+E group vehicles. Mandatory training courses for professional drivers which include 'green driving' are also provided in Denmark. In the Netherlands, the New Driving (HNR) 3.0 programme targets car users, learner drivers and intermediary organisations such as fleet managers, driving schools and sector organisations. In Croatia, the National Eco-driving Campaign provides trainings to drivers of passenger cars, bus drivers, drivers of freight and commercial vehicles.

**Promotion of electro-mobility** and specifically electric vehicles is provided in different forms. This includes special incentives for electric vehicles, public investments supporting the growth of recharging station networks and access to information on electro-mobility. Various measures are reported by Greece, Denmark, Austria, Croatia, Spain, Slovakia, Hungary, France, Latvia, Ireland and the UK.

Under the Provincial environmental fund of the province of Styria, Austria, new funding opportunities are available for electric vehicles since 2016, including cargo/folding bikes, e-bikes and e-charging stations. The development of infrastructure through, inter-alia, the provision of e-charging stations and plug-in spots is promoted in Croatia through its Development of alternative fuels infrastructure programme. In Spain, the 2014 MOVELE Programme formed part of Spain's Comprehensive Electric Vehicle Stimulus Strategy for 2010-2014, which consisted of a series of measures to provide strong incentives for the introduction of electric vehicles, support of electric vehicle technology mass-production and R&D, and development of electricity infrastructure to provide charging facilities. This programme was extended to 2015. To support the development of electro-mobility in France, it is planned to roll out one million recharging points for electric vehicles (private and public) by 2020. As mentioned in the French NEEAP, financial incentives for electric vehicles have been the main reason behind the recent development of electric mobility in France. In Hungary, measures supporting the growth of electric cars range from free parking provisions, VAT refund as well as registration/motor vehicle tax relief. In Ireland, a zero emissions band for electric vehicles was introduced for motor tax purposes only and in Flanders electric vehicles and vehicles powered by hydrogen are exempt from CO<sub>2</sub>

emission taxes from January 2016. Slovakia launched a new grant scheme for electric passenger vehicles in transport, offering EUR 5 000 grant per vehicle to natural persons.

### **3.2.4 Agriculture**

Whilst this is not a requirement of the EED, some Member States (Belgium, Bulgaria, the Netherlands, Finland, Czech Republic, Denmark, France, Hungary, Spain and Sweden) reported measures covering the agriculture sector.

In Bulgaria, the Rural Development Programme 2014-2020 —financed by the European Agricultural Fund for Rural Development— promotes interventions under Priority 5 'Promoting resource efficiency and supporting the shift towards a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors', such as energy-saving technologies worth EUR 217 million in the production and processing of agricultural products and their marketing as well as measures (EUR 150 million) for production of energy from RES for own consumption from the processing of by-products, wastes, residues and other raw materials in bioenergy.

Reduction in energy intensity in agricultural production in Czech Republic is achieved through various grant-based measures targeting renovation of buildings, purchase of new energy-efficient technologies, modernisation of ventilation, including recuperation of heat and cold, installation of efficient lighting, use of cogeneration in the local production of electricity and heat, use of energy-efficient road/non-road transport and machines and control systems as well as ICT systems. These measures contribute to the generation of the EED Article 7 savings. The Netherlands puts an important focus on the agricultural sector through the implementation of various measures. In addition to energy taxes and voluntary agreements which also extend to the agricultural sector, there are two subsidy programmes within the greenhouse cultivation sector to promote the development of energy-efficient measures and efficient energy systems. To regulate CO<sub>2</sub> emissions for greenhouse cultivations, a CO<sub>2</sub> equalisation system has been set up for this sector. The introduction of a market price for CO<sub>2</sub> encourages companies to invest in saving energy and the ceiling for the system is set by the government. As part of long-term agreement on greenhouse cultivation, a goal of newly constructed greenhouses at climate-neutral level by 2020 has been set. The target is a maximum of 6.2 Mt of CO<sub>2</sub> emissions in 2020, to be achieved by means of far-reaching energy saving measures and the use of sustainable energy.

In Spain, various lines of action have been identified for energy savings in the agriculture and fisheries sector including incentives to farmers who take advantage of the RENOVE tractor plan, improvements in pump performance and adjustments of pump power to load variations, as well as migration from sprinkler systems to localised irrigation systems, renovation of existing farm systems, including heat generators and air-conditioning, lighting and pumping systems, and the conversion of the coastal fleet envisaged in the National Strategic Plan for Fisheries.

Finland has also a number of measures in place targeting the agriculture sector. These include the investment subsidy scheme towards building heating plants for farms, grants towards fresh grain silos in farms which eliminate the need to dry animal feed before storage, investment subsidies for building unheated livestock sheds and building heat recovery systems for liquid manure gutters on pig farms (cowsheds), subsidies for administrative costs of re-parcelling and any modification works required as a result of re-parcelling, such as arterial and subsoil drainage and construction of access roads and energy guidance provided in 2010–2015 under the Farm Energy Programme.

France has various aid schemes for investments in the agricultural and agri-food sectors, with calls for projects running over three years that involve innovation and competitiveness in the agricultural/agri-food sectors and the modernisation of greenhouses. France has also in place the Green Environment Plan (encouraging energy savings in greenhouses through environmentally-focused investment aid), the Energy Performance Plan For Agricultural Holdings (providing advice to agricultural professionals

on energy savings, production of renewable energy and reduction of greenhouse gas emissions) and the Livestock Building Modernisation Plan which provides financing for projects to reduce energy consumption and develop renewable energies in livestock buildings.

### 3.2.5 Public sector

Energy efficiency in the public sector is supported by various measures targeting energy efficiency improvements in public buildings, infrastructure and transport.

In terms of the public building sector, Bulgaria, Estonia, Greece, Spain, Hungary, Italy, Lithuania, Luxembourg, Latvia and Slovenia opted to renovate 3% of their central government stock every year in line with the EED Article 5's default approach (EED Article 5(1)-(5)). The remaining countries chose to meet the EED Article 5's requirements using the alternative approach (EED Article 5(6)), through a mixture of renovation, behavioural change and other measures. An overview of the measures implemented to meet EED Article 5 requirements in the public sector is presented in Table 11. France and Germany have their own national roadmaps specifically designed for the public sector. France produced a national roadmap for the energy transition of state buildings by the State's Property Directorate, while Germany has published a national Energy Efficiency Renovation Roadmap for Federal Government Properties with a view to achieve an almost climate neutral building stock by 2050. In Ireland, the public sector has been charged with taking an exemplar role on energy efficiency with a 33% energy efficiency target (see Section 2.6).

Many Member States chose measures focusing on **behaviour change**. These include information campaigns (Ireland, France, Croatia, Austria, Finland) and measures focusing on systematic energy management (Ireland, France, Croatia, Austria and Finland). In Ireland, the Optimising Power @ Work energy efficiency campaign is based on 3 core principles: technology (installing energy metering), specialist resources (providing energy specialists) and staff engagement (working closely with the staff in the facility). Finland has the so-called "user electricity projects" whereby guidance is provided to the property manager and operation of installed automated system is checked. Finland also notified a system of penalties and bonuses included in contracts with property management companies covering 75% of all central government properties, in which one of the components is thermal energy savings. In Croatia, a measure to introduce, implement and verify systematic energy management is applied in the public administration, where the submission of bills and meter readings is a legal obligation for all users under the national information system for energy management. Other measures include energy screening and night rounds in Denmark and installation of automatic controls in the Netherlands.

**Floor area optimisation** measures such as demolition, disposal/replacement of existing buildings or reorganisation/reduction of occupied space are opted by a few Member States. In Wallonia, replacement of buildings with more efficient ones or relocation of staff are to be considered in cases where renovation is deemed too expensive. In Denmark measures such as "moving over to energy efficient construction" and "optimising land use" are indicated, while the French NEEAP notified the reduction of the surface area occupied by state services as one of their Article 5 measures. Space efficiency including re-assignment, sale or demolition of unneeded spaces is included in the list of measures in Finland.

Based on the information found in the NEEAPs, **renovations of public buildings** are undertaken by Belgium, Czech Republic, Germany, France, Croatia, Cyprus, the Netherlands, Slovakia, Finland and the UK. It should be stressed that these Member States did not choose the default approach under Article 5(1). The depth and scale of renovations to be undertaken often remains unclear from the information provided in the NEEAPs. Work on the building envelope is mentioned by France and Denmark, while Austria has stated in the past that it will undertake comprehensive renovations. The use of ESCO models, including energy performance contracting are currently considered by



various Member States including the Czech Republic, Denmark, Cyprus, Croatia, Austria and the UK. In Austria, the market for energy services has been supported since 2001 by the comprehensive Federal Property Contracting programme for the renovation of more than 200 federal buildings. As part of this programme, more than 600 buildings have been optimised and modernised in terms of energy efficiency, which makes the contracting programme one of Europe's largest contracting authorities for energy performance contracts.

The development of **energy efficiency action plans** across the public sector is promoted in various Member States including Belgium, Greece, Italy, Austria and Hungary. The purpose of such plans is to explore the energy efficiency opportunities that can be achieved in harmony with the operation of the given buildings as well as to raise awareness among building users. In Brussels-Capital Region of Belgium, the programme PLAGE – Plan Local d'Action pour la Gestion Énergétique – has targeted real estate owners responsible for public sector buildings since 2011, obliging them to reduce energy consumption by implementing a Local Action Plan for Energy Management. In Greece, Law 4342/2015 on the exemplary role of buildings belonging to public bodies transposed into Greek law Article 5(12) of the EED, which provides that, under the responsibility of the Heads of Regional Units and Mayors for the buildings within their area of competence, an energy efficiency plan should be produced, containing specific energy saving and energy efficiency improvement objectives and actions. The plan should be reviewed every two years. In Flanders, an obligation to annually reduce by 2.09% the energy consumption in all segments of Flemish central government buildings has been established for the period 2017-2020 following the approval of an energy efficiency action plan by the Flemish Government in 2016. A similar obligation exists also in Wallonia, where each central government building is put under the obligation of developing an action plan to annually renovate at least 3% of their surface not achieving the cost optimal energy performance levels in force in the area where they have been constructed. In Austria, regional and local authorities are also committed to improve their buildings, where 373 municipalities have produced an official energy efficiency action plan. In Italy, an action plan for the environmental sustainability of all public administrations (PAN GPP) has been adopted with the aim of stimulating green public procurement practices. This action plan is based on the minimum environmental criteria (CAM) established for some product categories including energy end-use technologies purchased by public administrations. More recently Hungary introduced a new requirement in its Energy Efficiency Act whereby from 1 January 2017, an energy savings action plan must be prepared every five years in public service buildings owned and used by public institutions.

**Table 11. Measures implemented to meet EED Article 5 requirements in the public sector (for countries opting for the default approach, grey fields indicate non-applicable)**

	Default renovations	Information campaigns	Energy management	Other or general behaviour change measures	Renovations	ESCO/EPC	Floor area optimisation	Other measures
BE					X		X	New constructions
BG	X							
CZ				X	X	X		
DK				X		X	X	
DE					X			Energy Efficiency Renovation Roadmap for State-Owned Properties
EE	X							
IE		X	X	X				
EL	X							
ES	X							
FR			X	X	X		X	National roadmap for the energy transition of state buildings
HR			X		X	X		
IT	X							
CY				X	X	X		
LV	X							
LT	X							
LU	X							
HU	X							
MT								Energy audits
NL				X	X			New constructions
AT			X		X	X	X	
PL		X			X			
PT		X	X		X			Energy Efficiency Barometer
RO	X							
SI	X							
SK					X			
FI		X	X	X	X		X	Green leases, System of penalties and bonuses
SE								Measures are not described
UK					X	X		Greening Government Commitments, Carbon Management Plan, Climate Change Strategy

## 4 Summary and conclusions

The NEEAPs submitted by Member States under the EED typically represent the most comprehensive national strategies on energy efficiency at national level, laying out adopted targets and an inventory of policies and measures, as well as their expected energy savings. The EED offers a good framework that complements other EU directives, including the Energy Performance of Buildings Directive (Directives 2010/31/EU, 2002/91/EC), Ecodesign and Energy Labelling Directives (Directives 2009/125/EC, 2005/32/EC, 2010/30/EU), Regulation (EU) No 333/2014 on CO<sub>2</sub> emissions from new passenger cars, Internal Market for Electricity (2009/72/EC) and Gas (2009/73/EC) Directives and the Emission Trading Scheme (Directive 2003/87/EC). The previous experience gained through the submission of NEEAPs under the Energy Services Directive 2006/32/EC (ESD)<sup>35</sup> has provided a strong foundation upon which Member States have continued to develop and strengthen their energy efficiency policy strategies. In addition, the publication of the NEEAP template resulted in more homogeneous reporting among Member States compared to past NEEAPs submitted under the ESD.

The collective target contributions by Member States towards the EU primary and final energy consumption target of 1483 Mtoe and 1086 Mtoe, respectively, has been updated from 1526 Mtoe<sup>36</sup> to 1527 Mtoe in terms of primary energy and from 1077 Mtoe to 1080 Mtoe in final energy. These minor updates stem from revisions notified in the latest NEEAPs by around a third of the Member States: Czech Republic, Ireland, Spain, Cyprus and Malta made upward revisions, while Croatia, Italy, Denmark, Sweden, Lithuania and the Netherlands revised their targets downwards. The reasons behind these revisions range from updates in macro-economic parameters (e.g. changes in projected energy prices, GDP growth rates etc.) to changes in statistical reporting. The collective national targets now correspond to 17.6% of primary and 20.5% and final energy reduction, respectively.

While the collective effort from Member States does not match the EU-wide target in primary energy, the EU28 primary energy consumption was 1543 Mtoe in 2016, just 4% above the primary target (equivalent to a gap of 61 Mtoe). In final energy, the 2016 EU consumption was 1108 Mtoe (2% above the target). Despite these encouraging results, it should be stressed that the EU consumption has been on a rising trend since 2014: for 2 consecutive years, an upward trend is noted. As with the 2015 data, the newest 2016 data<sup>37</sup> reveal a widening gap between the 2016 EU energy consumption and Article 3 target, with primary energy consumption being 4% above the EU target and final energy exceeding the corresponding target for the first time since 2014. A few countries confirmed these trends in their NEEAPs: in addition to the upward revisions made by Czech Republic, Ireland, Spain, Cyprus and Malta discussed above, current projections show that expected primary energy consumption in 2020 will be above the national targets in Belgium, Germany (only in final energy), France, Sweden and the UK. On the other hand, Italy, Romania and Luxembourg notified lowered their expected or target energy consumption levels for 2020 in their NEEAP 2017.

The NEEAPs contain information on a plethora of energy efficiency policies and measures. While some of the measures presented in the NEEAPs are successful longstanding measures which were in place before the EED entry into force, the EED has also been a driver of new measures in many Member States, such as energy efficiency obligation schemes, mandatory energy audits, etc. Moreover, new or updated policy measures in the area of financing, information exchange, regulations as well as transport-related measures have been identified. It is clear that some provisions included in the EED have created a push for more or stronger energy efficiency measures, such as mandatory

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<sup>35</sup> In compliance with the ESD, the first and second ESD NEEAP were due in 2007 (a year after the entry into force of the ESD) and 2011

<sup>36</sup> As previously notified by Member States in the period 2013-2016 (see Table 1)

<sup>37</sup> <http://ec.europa.eu/eurostat/documents/2995521/8643581/8-05022018-BP-EN.pdf/1338cf55-5c91-4179-a6ca-808675e40bbd>

audits (Article 8), development of new energy efficiency schemes or alternative measures (Article 7) and action plans for public buildings (Article 5).

In many cases the impact of policies has been expressed in terms of achieved and/or expected energy savings. Given that the energy savings generated by each measure have not always been quantified in the NEEAPs, the evaluation of the ambition of the overall national policy framework against the national targets is not possible in a quantitative way. For certain cases, the share of the savings to be achieved in 2020 by each sector or policy measure is presented, demonstrating how each sector or measure contributes towards the achievement of the target.

The strategic character of energy efficiency policies is still heterogeneous among the Member States, even if NEEAPs 2017 show positive developments towards more comprehensive set of measures. Some NEEAPs remain rather lists of measures by sector, which sometimes seem to have been developed over time without necessarily striking for consistency or comprehensiveness. Typical information in the description of policy measures included the policy type, implementation timeframe, sectors targeted and short descriptions. An increased number of financial data – e.g. amount of investments related to the EE programmes or policies – was in general noted. This constitutes very important information as it enables a better understanding of the magnitude of a measure and actual commitment from the Member State, but also from other stakeholders. Many of the measures were not directly associated with specific articles in the NEEAPs; this makes it difficult to assess the exact link of various EED articles with the reported policy measures and thereby their impact.

While the NEEAP is a key reporting tool, presenting a good overview of the energy efficiency measures implemented in each Member State and associated energy savings already achieved and expected in the future, a more systematic approach towards reporting of targets and policy measures is generally recommended in the future. Whilst homogeneous reporting in terms of structure has been achieved through previous efforts, there is significant heterogeneity with respect to the content of the current NEEAPs, as explained above. For example, the description of policy measures is in general provided with varying degree of detail.

A harmonised approach which also covers on how targets, savings and measures are to be reported is especially relevant in the context of the new Integrated Energy and Climate Plans (NECPs) under the proposed Energy Governance Regulation. Given that energy efficiency will constitute one of the 5 dimensions of the new NECPs, a structured framework which ensures a harmonised reporting and the provision of minimum set of information across all Member States is of crucial importance. In the new Proposal for a Regulation on the Governance of the Energy Union published by the Commission, the establishment of such a reporting platform is indeed envisaged and is expected to streamline all reporting obligations in the area of energy and climate in an integrated way (Commission, 2016/0375 (COD)). The e-reporting platform to collect national data will further facilitate this implementation monitoring process and at the same time create a more efficient system of reporting while reducing administrative burden for national experts. The issue of data gaps in current reporting formats could also be addressed by ensuring that the platform requests a mandatory set of minimum information to be reported by each Member State. Data consistency and other checks can also be embedded in the platform to ensure sufficient data quality.

## **Target and policy measure reporting recommendations**

Based on the NEEAP assessment, the JRC has developed a template with aim to harmonise the information collected on energy efficiency in future reporting activities.

The minimum information to be collected is structured as follows:

### **1. Targets**

#### 1.1 Target definition

1.1.1 Primary and final energy consumption in target and base years

1.1.2 Primary and final energy savings (% , absolute) in target year

#### 1.2 Target methodology

1.2.1 Model(s) used

1.2.2 Short description of baseline scenario and its main assumptions (macro-economy, population, energy projections, EE policies etc.)

1.2.3 If applicable, short description of energy efficiency scenario and main assumptions

#### 1.3 Target updates

1.3.1 If target is not static, explanation of dynamic parameters in target definition

1.3.2 Revision frequency (e.g. every 2 years)

#### 1.4 Target progress and monitoring

1.4.1 Explanation of method used to monitor progress towards target and periodicity of monitoring

1.4.2 List of policy measures contributing towards the target with quantified impact

### **2. Policy measures**

2.1 Policy name and relevant websites

2.2 Policy type, target sectors and beneficiaries

2.3 Legal basis (Relevant article of EU Directive or regulation)

2.4 Implementation status and period

2.5 Implementation body

2.6 Short measure descriptions

2.7 Funding sources and budget

2.8 Impact assessment

2.8.1 Expected/achieved energy savings

2.8.2 Other benefits

2.9 Calculation methodology

2.10 Monitoring and verification

Harmonised documentation guidelines, discussed and agreed with the Member States, would be an important step towards better reporting. The JRC has developed a template that can be used to report targets as well as policy measures related to energy efficiency in a harmonised way. The latter consists of basic information on policy measure type, target sector(s), target beneficiaries and legal basis, information on the implementation status, impact assessment, monitoring and verification. The template allows the user to select answers from drop-down lists, allowing the collection of information in a

harmonised and structured way. This is expected to ease the burden on Member States, which would generally welcome more guidelines from the European Commission on how to improve their reporting and make their reporting more efficient, but also enable a more elaborated analysis on policies and measures from the Commission's side.

The review of the implementation of the Energy Efficiency Directive has also pointed out some important implementation lessons as we move forward to the revised EED and new timeline to 2030 (Commission, 2016/0376 (COD)). The positive experience gained in the EU through the NEEAPs and lessons learned could be also used by other jurisdictions outside Europe to help prepare national energy efficiency strategies. Most importantly, NEEAPs offer a very useful experience sharing opportunity between Member States, which makes, for example, possible for a Member State to identify good practices by other countries in a particular field and find out about similar policies across national borders.

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## **Annex**

### **Country summaries**

Country summaries are presented in the section below. Each country summary consists of:

(a) an overview of how satisfactorily the various elements of the NEEAP template have been addressed by each Member State

(b) a catalogue of the main policy measures (policy name, type and targeted sectors) identified in each NEEAP.

Point (a) is based on the results of an assessment of whether the various NEEAP template elements have been sufficiently addressed. To facilitate the comparison of the results, a scoring system was adopted: 0 points were allocated for missing information, 0.5 points for partly addressed/unclear information and 1 for adequately sufficient information. For each section of the template, the following colour code system was used to depict the level of completion of each section of the template:

- Green: Average score > 75%
- Yellow: 25% > Average score > 75%
- Red: Average score < 25%

## Austria

### Template completion

*Use of Template 2013/242/EU*

#### **2 OVERVIEW OF TARGETS AND SAVINGS**

##### **2.1 National energy efficiency targets (Art. 3)**

*2.1.1 Indicative national energy efficiency target for 2020*

*2.1.2 Expected impact of the target on overall primary and final energy consumption*

*2.1.3 Primary energy consumption in 2020*

##### **2.2 Additional energy efficiency targets**

##### **2.3 Primary energy savings**

##### **2.4 Final energy savings**

#### **3 POLICY MEASURES IMPLEMENTING EED**

##### **3.1 Horizontal measures**

*3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

*3.1.2 Energy audits and management systems (Art. 8)*

*3.1.3 Metering and billing (Art. 9, 10 & 11)*

*3.1.4 Consumer information and programmes and training (Art. 12 & 17)*

*3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)*

*3.1.6 Energy Services (Art. 18)*

*3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

##### **3.2 Energy efficiency in buildings**

*3.2.1 Building renovation strategy (Art. 4)*

*3.2.2 Other energy efficiency in buildings sector*

*3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target*

##### **3.3 Energy efficiency in public bodies**

*3.3.1. Central government buildings (Art. 5)*

*3.3.2 Buildings of other public bodies (Art. 5)*

*3.3.3 Purchasing by public bodies (Art. 6)*

##### **3.4 Other end use energy efficiency measures including in industry and transport**

##### **3.5 Promotion of efficient heating and cooling (Art. 14)**

*3.5.1 Comprehensive assessment*

*3.5.2 Other measures addressing efficient heating and cooling*

##### **3.6 Energy transformation, transmission, distribution and demand response (Art. 15)**

*3.6.1 Energy efficiency criteria in network tariffs and regulation*

*3.6.2. Facilitate and promote demand response*

*3.6.3 Energy efficiency in network design and regulation*

## Austria

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Amendment to the Non-Profit Housing Act (WGG) to tackle the split incentive	Residential	EED Art. 19
Funds, financial & fiscal measures		
Austrian Federal Government's Renovation Offensive	Buildings	EED Art. 4, 7; EPBD
Energy taxes	Cross-sectoral	EED Art. 7
Green electricity subsidies from the Federal Government	Cross-sectoral	EED Art. 7
Regional subsidies for energy efficiency in residential buildings	Residential	EED Art. 4, 7; EPBD
Establishment of a housing construction investment bank	Residential	EPBD -
Climate and Energy Fund (KLI.EN)	Services Industry Transport Public	EED Art. 7
HGV toll	Transport	EED Art. 7
Subsidies for electromobility in Lower Austria	Transport	Other EED-related measures
Subsidies for electromobility in Styria	Transport	Other EED-related measures
City Energy Efficiency Programme (CEEP) of Vienna	Buildings Cross-sectoral	EED Art. 4; EPBD
Domestic Environmental Support scheme (UFI) and regional programmes	Industry Services	EED Art. 4, 7; EPBD
Klimaaktiv mobile programme	Transport	EED Art. 7
Information, knowledge & advice		
Energy audits for households, municipalities and enterprises	Cross-sectoral	EED Art. 8
Umbrella klimaaktiv programme	Cross-sectoral	EED Art. 12 & 17
Klimaaktiv energy-efficient enterprises	Industry Services	Other EED-related measures
Education, qualification & training		
Energy Performance Contracting Eco-label + online public registry for energy services providers + model contracts for Energy Performance Contracting	Buildings	EED Art. 18
ARGE-EBA (inter-regional organisation) training and qualification programme for energy advisers	Cross-sectoral	EED Art. 16
Regional training and qualification schemes	Cross-sectoral	EED Art. 16
Other		
Federal Property Contracting programme for the renovation of Federal buildings	Public	EED Art. 5 EED Art. 18

# Belgium

## Flanders

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Belgium (Flanders)

### Policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Efficient energy use/public service obligations on the electricity distribution network operators	Cross-sectoral	Other
Efficient energy use/public service obligations on the electricity distribution network operators	Cross-sectoral	EED Art. 7
Premiums distributed by electricity network operators under public service obligations	Cross-sectoral	EED Art. 4
Insulation standards and energy performance and indoor climate requirements (EPB)	Buildings	Other
Obligation to annually reduce by 2.09% the primary energy consumption in all segments of Flemish central government buildings	Public	EED Art. 5
Flemish Housing Code	Residential	EED Art. 19
Minimum energy performance requirements for residential buildings	Buildings	EED Art. 4
Minimum energy performance requirements for non-residential buildings	Buildings	EED Art. 4
Obligation to annually reduce by 2.09% the primary energy consumption in all segments of Flemish central government buildings	Public	EED Art. 4
Obligation for buildings larger than 1,000 m <sup>2</sup> to undergo a feasibility study for CHP installation	Industry	EED Art. 14
obligations for industrial companies participating in energy policy agreements to undergo a feasibility study for CHP installation and heat and cooling networks	Industry	EED Art. 14
Funds, financial & fiscal measures		
Subsidies for energy saving measures in greenhouse horticulture	Agriculture	Other
Distance-based road charging for heavy goods vehicles	Transport	EED Art. 7
0% interest loans for vulnerable families	Residential	EED Art. 18
Energy efficiency fund (EEF) for public-private partnership on EE	Industry Services	EED Art. 18
Energy Fund	Industry Services	EED Art. 20
Climate Fund	Buildings Transport	EED Art. 20
Low interest loans for vulnerable families and additional premiums for actions targeting social housing	Residential	EED Art. 4
VAT discounts for energy renovations of old houses	Residential	EED Art. 4
Discounts on property taxes	Residential	EED Art. 4
Lower gift tax on properties in case of future energy renovations	Residential	EED Art. 4
Tax deductions for those who lend money for renovations	Buildings	EED Art. 4
Reductions in the tax for the attribution of property rights of vacant or inhabited buildings	Buildings	EED Art. 4
Ecology Premium Plus and Strategic Ecology Support	Industry	EED (General)
Energy Efficiency investment tax deductions	Industry	EED (General)
Road taxation system based on kilometres travelled for passengers and freight transport	Transport	EED (General)
Road taxation system based on kilometres travelled for passengers and freight transport	Transport	EED (General)
Support scheme for the use of waste heat by district heating	Industry	EED Art. 14

Market-based instruments		
Tariff mechanisms based on quarter hourly measurement data	Industry Services	EED Art. 15
Information, knowledge & advice		
Stimulation of quality controlled heat and power production (CHP) via a system of heat and power certificates	Industry	Other
Free of charge energy scans for vulnerable families	Residential	EED Art. 18
Implementation of energy performance certificates	Buildings	EED Art. 4
Eco-driving training for private cars and buses drivers	Transport	EED (General)
Stimulation of quality controlled heat and power production (CHP) via a system of heat and power certificates	Industry	EED Art. 14
Education, qualification & training		
New quality system for the insulation of buildings external walls	Buildings	EED Art. 6
Other measures		
Stimulation of pilot projects fostering the large scale implementation of major renovation through exemplary projects	Buildings	EED Art. 4
Purchase of public hybrid or alternative fuels buses and stimulation of hybrid and low-emission cars uptake by taxi companies	Transport	EED (General)
Audit and benchmark covenant with energy-intensive non-ETS companies	Industry	Other
Stimulation of photovoltaic solar panels via a reversing meter and a system of green power certificates, preceded by subsidies	Industry	Other
Policy measures that control mobility demand and improve the environmental performance of transport	Transport	Other
Energy policy agreement with companies operating in ETS and non ETS sectors	Industry	EED Art. 7
Sectoral voluntary agreements with industrial SMEs	Industry	EED (General)

**Belgium**  
Brussels-Capital Region

*Use of Template 2013/242/EU*

**2 OVERVIEW OF TARGETS AND SAVINGS**

**2.1 National energy efficiency targets (Art. 3)**

2.1.1 *Indicative national energy efficiency target for 2020*

N/A

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

N/A

2.1.3 *Primary energy consumption in 2020*

N/A

**2.2 Additional energy efficiency targets**

**2.3 Primary energy savings**

**2.4 Final energy savings**

**3 POLICY MEASURES IMPLEMENTING EED**

**3.1 Horizontal measures**

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9 , 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

**3.2 Energy efficiency in buildings**

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

**3.3 Energy efficiency in public bodies**

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

**3.4 Other end use energy efficiency measures including in industry and transport**

**3.5 Promotion of efficient heating and cooling (Art. 14)**

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

**3.6 Energy transformation, transmission, distribution and demand response (Art. 15)**

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*



## Belgium (Brussels-Capital Region)

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Voitures partagées	Transport	EED Art. 7
ESCO - NRClick	Services	EED Art. 4, 7
PEB-Chaudière	Residential; Services	EED (General); EED Art. 7
Audit	Services; Industry	EED Art. 8
NZEB - PEB 2015	Services; Residential	EED Art. 4, 7
DROIT MAZOUT	Supply	EED Art. 7
PDE	Transport	EED Art. 7
Funds, financial & fiscal measures		
Primes		EED Art. 4, 7
PLAGE SISP	Residential	EED Art. 7
Information, knowledge & advice		
Information campaign on energy and climate		EED Art. 4
Home Grade	Residential	EED (General); EED Art. 4, 7
Other		
BATEX	Services	EED (General); EED Art. 4
Citydev	Residential; Services; Transport	EED Art. 7
Transport	Transport	EED (General)
PLAGE volontaire	Services; Industry	EED (General); EED Art. 4
STIB	Transport	EED Art. 7

## Belgium Wallonia

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Belgium (Wallonia)

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Eclairage public hors EPURE	Services	EED (General)
Contrat de gestion SRWT	Transport	EED (General); Other
Energy efficiency on public buses (Contract de Gestion TEC 2013-2020)	Transport	EED (General); EED Art. 7
Temporary interruption of public lighting on road networks	Services	EED (General); EED Art. 7
Réglementation thermique des bâtiments	Residential Services	EED (General); EED Art. 4
Funds, financial & fiscal measures		
Incitants financiers aux investissements URE Bâtiments	Buildings	EED (General); EED Art. 4, 7
Subsides aux investissements URE Bâtiments secteur public	Buildings	EED (General); EED Art. 4, 7
Subsides à la cogénération	Supply	EED (General)
Subsides à la cogénération dans le secteur public (UREBA)	Supply	EED (General)
Certificats verts pour l'électricité renouvelable et la cogénération haut rendement	Supply	EED (General)
Subsides à l'investissement Industrie (hors bâtiment)	Industry	EED (General); Other
Eclairage public (y compris EPURE) + Feux tricolores	Services	EED (General); EED Art. 7
Incitants financiers ou financements dédiés au transport	Transport	EED (General); Other
Programme PIVERT for the renovation of social houses	Residential	EED (General); EED Art. 7
Programme MEBAR	Residential	EED (General); EED Art. 7
Programme PAPE	Residential	EED (General); EED Art. 7
Kilometric tax for heavy good vehicles (HGVs)	Transport	EED (General); EED Art. 7
Subsidies SMEs and very small enterprises (accord de branches PME/TPE)	Services; Industry	EED (General); EED Art. 7
Zero interest loans	Services	EED (General); EED Art. 7
Information, knowledge & advice		
Formation et information - Bâtiments (Facilitateur)	Residential Services	EED (General); EED Art. 4
Formation et information - Transport	Transport	EED (General); Other
Formation et information - Bâtiments (Mesures sociales)	Residential	EED (General); EED Art. 4, 7
Informations URE dans le bâtiment public (Mesures sociales)		EED (General); EED Art. 4, 7
Other measures		
Mesures d'économies pour les transports dans le secteur public (hors SRWT)	Transport	EED (General); Other

Accords de branche hors ETS (Accords de branche)	Industry	EED (General); Other
Accords de branche hors ETS (PME)	Industry	EED (General); Other
Accords de branche ETS - First generation	Industry	EED (General)
Accords de branche ETS - Second generation	Industry	EED (General)
LEDs with dimmers for public lighting	Services	EED (General); EED Art. 7
Premiums for SME and large enterprises	Services; Industry	EED (General); EED Art. 7

## Bulgaria

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

**Bulgaria**  
Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Individual energy saving targets for owners of industrial systems, and government and municipal buildings	Public Industry	EED Art. 7 Alternative measures
Funds, financial & fiscal measures		
National programme for energy efficiency of multi-family buildings	Residential	EED Art. 4
Increasing the share of public electric transport - railway, trolley, tram transport, metro	Transport	National Climate Change Action Plan
Energy Efficiency and Renewable Sources Fund		
Operational Programme 'Innovation and Competitiveness 2014-2020' (OPIC)	Industry	
Operational programme 'Regional Development' 2014-2020	Public Residential	
National Trust Ecofund - Investment programme for climate	Cross-sectoral	
Rural Development Programme 2014-2020	Agriculture Industry	
Operational programme 'Transport and Transport Infrastructure' 2014-2020	Transport	
Financial mechanism of the European Economic Area 2014-2021	Supply Residential Industry	
Energy efficiency credit programme for households	Residential	
Market-based instruments		
Energy Efficiency Obligation scheme for energy traders	Supply	EED Art. 7 EEOS

## Croatia

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

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3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

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3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

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3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Croatia

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Establishing an integrated information system for monitoring energy efficiency implementation	Cross-sectoral	
Legislative adaptation to the provision on the deployment of alternative fuels infrastructure	Transport	
Energy efficiency in manufacturing industries	Industry	
Building regulations and implementation	Buildings	EPBD
Systematic energy management in the public sector	Public	EED Art. 5 / EED (General)
Funds, financial & fiscal measures		
Energy renovation of family homes	Residential	EED Art. 4
Energy renovation of multifamily housing	Residential	EED Art. 4
Energy renovation of public sector buildings 2016-2020	Public	EED Art. 5
Programme for combating energy poverty	Cross-sectoral Residential	EED Art. 19 - 20
Fostering integral renovation of multifamily housing	Buildings	
Increasing energy efficiency and use of RES in the private service sector (tourism and trade)	Buildings	
Programme of energy renovation of family homes 2014 -2020	Buildings	
Programme of energy renovation of public sector buildings 2014-2015	Public	EED Art. 5
Programme of energy renovation of public sector buildings 2016-2020	Public	
'Energy Efficient Public Lighting' Programme	Public	
Improving energy efficiency in industrial production plants	Industry	
Financial incentives for energy efficient vehicles	Transport	
Introduction of a special motor vehicle tax based on CO2 emissions	Transport	
Information, knowledge & advice		
Informative billing (Energy diagnosis)	Cross-sectoral	
Info campaigns and promotion of energy services	Cross-sectoral	EED Art. 12 & 17
Systematic energy management in the public sector	Public	
Fostering integrated and intelligent transport and development of alternative fuels infrastructure on a local and regional level	Transport	
Education, qualification & training		
Education in the field of energy efficiency	Cross-sectoral	EED Art. 16
Capacity building for combating energy poverty	Cross-sectoral	EED Art. 12 & 17
Eco-driving training	Transport	
Other measures		
Development of alternative fuels infrastructure	Transport	
Improving efficiency by reducing the energy consumption of hydroelectric power plants (HPP), thermal power plants (TPP), and combined heat and power plants (CHPP) within the HEP Group	Supply	
ELEN strategic project for the HEP Group	Transport	



Increasing the number of nearly zero energy buildings	Buildings	
Detailed mapping of the energy system	Supply	
Green' public procurement	Public	
Industrial Energy Efficiency Network (IEEN)	Industry	
Energy renovation of buildings and replacement of lighting within the HEP Group	Buildings	
Improving efficiency by revitalising the existing hydroelectric power plants within the HEP Group	Supply	
Reduction of specific heat consumption of turbine 210 MW TE PLOMIN	Supply	
Installation of new measurements of temperature and energy losses	Supply	
Improving energy efficiency in researching and production of oil	Supply	
Improving energy efficiency in oil refining	Supply	
Replacements and reconstructions of the hot water and steam network	Supply	
Measures for managing the energy power plants and short- and long-term development of the transport network	Supply	
Reducing losses in the electric power distribution network	Supply	
Energy efficiency in the natural gas transmission system	Supply	

## Cyprus

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)

#### 3.2 Energy efficiency in buildings

3.2.1 Building renovation strategy (Art. 4)

3.2.2 Other energy efficiency in buildings sector

3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target

#### 3.3 Energy efficiency in public bodies

3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Cyprus

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Minimum requirements for the energy performance of new and existing buildings	Buildings	EPBD
Replacement of Household Appliances (Clothes Washers, air conditioners, Refrigerators, etc.)	Residential	Ecodesign directive provisions
Funds, financial & fiscal measures		
Grants scheme to encourage energy savings and use of RES (end use) in the residential sector	Residential Services Public Industry	EPBD
Grant Scheme for installing Photovoltaics using the NET-METERING method	Residential	EED Art. 7
Vehicle Scrapping Plan	Transport	Other
Vehicle Grant Schemes	Transport	Other
Distribution of free fluorescent lamps	Residential Services Buildings	Other
Grant scheme "Save & Upgrade"	Residential Services	EED Art. 7
Solar water heaters replacement scheme	Residential	EPBD
Other measures		
Horizontal measures (information campaigns, organisation of workshops, etc.) to attain the target referred to in Article 7 of the Directive	Cross-sectoral	EED Art. 7
Horizontal measures to implement Article 5	Public Services	EED Art. 5
Installing Photovoltaics using the NET-METERING method without a grant	Residential	Other
Green Public Procurement Plan	Public	EED Art. 6
Transport (Transport Action Plan, fuel taxation)	Public Transport	Other

## Czech Republic

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

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#### 3.2 Energy efficiency in buildings

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3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

**Czech Republic**  
Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Alternative measures for increasing energy efficiency in Czech industry and in municipalities and regions	Industry Services	EED Art. 7
Strategic Framework for Sustainable Development	Services Residential	EED Art. 7
Funds, financial & fiscal measures		
New Green Savings Programme 2013 (Ministry of the Environment)	Residential	EED Art. 4, 7, 12 & 17
Regeneration of pre-fabricated concrete buildings – PANEL, NEW PANEL (Ministry of Regional Development) and PANEL 2013+ Programmes	Residential	EED Art. 4, 7, 12 & 17
Green Savings Programme (Ministry of the Environment)	Residential Services	EED Art. 7
JESSICA Programme (Ministry of Regional Development)	Residential	EED Art. 5, 7
Integrated Regional Operational Programme (Ministry of Regional Development)	Residential	EED Art. 6, 7, 12 & 17
Joint Boiler Replacement Scheme (Ministry of the Environment)	Residential	EED Art. 4, 7
Operational Programme Environment 2014-2020 (Ministry of the Environment) (Priority Axis 2 – SO 2.1)	Services Residential Industry	EED Art. 4, 7, 12 & 17
Operational Programme Environment 2007-2013 (Ministry of the Environment)	Services	EED Art. 4, 5, 7
Operational Programme Environment 2014-2020 (Ministry of the Environment) (Priority Axis 5 – SO 5.1)	Services Residential Industry	EED Art. 4, 5, 7
OP Prague Growth Pole – buildings section (City of Prague)	Services Transport	EED Art. 7
Operational Programme Enterprise and Innovation 2007-2013 (Ministry of Industry and Trade)	Industry Services	EED Art. 4, 7, 8
Operational Programme Enterprise and Innovation for Competitiveness 2014-2020 (Ministry of Industry and Trade)	Industry Services	EED Art. 4, 7, 8
ENERG Programme (Czech-Moravian Guarantee and Development Bank)	Industry Services	EED Art. 7
Operational Programme Transport (Ministry of Transport)	Transport	EED Art. 7
Support for the installation of cogeneration units	Residential Services Supply	EED Art. 7
Energy Savings Fund	Residential Services Industry	EED Art. 7
Programmes supporting research and development	Industry Services	EED Art. 7
Summary of measures to increase the energy efficiency of	Agriculture	EED Art. 7

agricultural plants		
New Green Savings Programme 2014-2020 (Ministry of the Environment)	Residential Services	EED Art. 4, 7, 12 & 17
Support for the construction sector in the Czech Republic is improving energy efficiency and environmental protection in line with the EU 2020 environmental strategy	Residential Industry Services	EED Art. 7
Information, knowledge & advice		
State programme to promote energy savings (EFEKT 2) (Ministry of Industry and Trade)	Services Residential Supply	EED Art. 7, 8, 18
Reasonable Energy Savings Programme (Ministry of Industry and Trade)	Residential Services Supply	EED Art. 7, 12 & 17
State programmes to promote energy savings and the use of renewable energy sources (EFEKT) (Ministry of Industry and Trade)	Residential Services Supply	EED Art. 7, 8, 18
Other measures		
Promoting the eco-driving of cars	Transport	EED Art. 7, 12 & 17
Organisation of eco-driving training for lorry and bus drivers	Transport	EED Art. 7, 12 & 17

## Denmark

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Denmark

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Mandatory energy audit for large industry	Industry	EED Art. 8
Public sector procurement	Public	EED Art. 6
Energy efficient appliances and equipment	Cross-sectoral	Ecodesign directive
Building energy performance requirement regulations (envelope and windows)	Buildings Residential	EED Art. 4/EPBD
Introduction of voluntary energy classes for existing buildings	Buildings Residential	EED Art. 4/EPBD
Upgrade of energy requirements for new buildings	Buildings	EED Art. 4/EPBD
Funds, financial & fiscal measures		
Incentives for energy improvements to rented properties	Buildings Residential	EED Art. 4, 19
Industry voluntary agreement scheme	Industry	EED Art. 7
Energy efficiency in transport (several measures: tax incentives, emission limits, public transport, eco-driving)	Transport	
Market-based instruments		
EEOs	Cross-sectoral	EED Art. 7
Information, knowledge & advice		
BadreBolig	Buildings	EED Art. 12 & 17
Building Energy Performance Certificate	Buildings	EED Art. 12 & 17
promotion of installation of HPs (informative campaign)	Buildings	EED Art. 12 & 17
Digital tools at SparEnergy.dk	Buildings	EED Art. 12 & 17
Promotion of ESCOs <a href="http://www.sparengi.dk">www.sparengi.dk</a>	Cross-sectoral	EED Art. 18
Better Home	Buildings	EED Art. 12 & 17
Knowledge Centre for Energy Savings	Cross-sectoral Buildings	EED Art. 12 & 17



## Estonia

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

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#### 3.2 Energy efficiency in buildings

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3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

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#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

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3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Estonia

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Large Industries Obligatory audits	Industry	EED Art. 8
Implementation of EED Art.5 (only list of building provided)	Public Buildings	EED Art. 5
Funds, financial & fiscal measures		
Reconstruction of central and local government buildings	Public Buildings	
Reconstruction of "buildings of public expenditure bodies"	Public	
Financing (preferential loans, guarantees) for the reconstruction of apartment blocks	Residential	
Energy and CO2 taxes (excise duty and VAT)	Cross-sectoral	EED Art. 3, 7
Tax exemption for reinvested corporate profit	Industry	
Financing for EE investment in industry (no details)		EED Art. 3, 7
Financing of renovation of public buildings		
Financing for the renovation of street lighting	Public	EED Art. 7
Resource efficiency in industry/services	Industry Services	EED Art. 7
Reorganisation of special welfare institution	Public	EED Art. 7
Institutional development programme for research and development institutions and higher education institutions	Public	EED Art. 7
Investment support for primary health centres in infrastructure nodes	Public	EED Art. 7
Modernisation of sustainable schools	Public	EED Art. 7
Education, qualification & training		
Training and Certification of building professional and auditors		EED Art. 16

## Germany

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

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#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Germany

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Energy Saving Regulation (for new & existing buildings)	Buildings	EED Art. 7
Renewable Energies Heat Act	Cross-sectoral	EED Art. 7
Energy audit obligation for non-SMEs	Industry	Other
Funds, financial & fiscal measures		
Energy and electricity tax	Cross-sectoral	EED Art. 7
Air traffic surcharge	Transport	EED Art. 7
Market Incentive Programme for Renewable Energies in the Heating Market	Residential Services Industry	Other
KfW CO2 Building Renovation Programme: - KfW Energy-Efficient Renovation - KfW Energy-Efficient Construction	Buildings	Other
Investment promotion in companies: - KfW Energy Efficiency Programme/KfW Environmental Programme - Efficiency Fund: Energy-Efficient Cross-Cutting Technologies/Energy-Efficient and Climate-Friendly Production Processes - Market Incentive Programme, KfW portion (Renewable Energies Premium)	Services	Other
Competitive tendering model (STEP up!)	Industry Services	Other
Heating Optimisation Funding Programme	Buildings	EED Art. 4
Initiative 'EnEff.Building.2050'	Buildings	EED Art. 4
Funding programme for fourth-generation heat networks	Buildings	EED Art. 4
Emissions trading	Industry	EED Art. 7
Information, knowledge & advice		
Federal Government advice programmes: - On-site energy advice (Federal Office for Economic Affairs and Export Control) - Energy advice provided by consumer advice centres (Federation of German Consumer Organisations [Verbraucherzentrale Bundesverband, vzbv]) - Energy checks (Federation of German Consumer Organisations) - Electricity-saving checks for low-income households (caritas) - Energy advice for SMEs (KfW)	Residential Services Industry	Other
National efficiency label for heating systems	Cross-sectoral	Other
'Deutschland macht's effizient [Germany Makes It Efficient]' campaign	Buildings	EED Art. 4
Other measures		
'Solar Construction/Energy-Efficient City	Buildings	EED Art. 4
National Action Plan on Energy Efficiency	Cross-sectoral	EED Art. 4
Tailored Renovation Roadmap	Buildings	EED Art. 4
'Energy Efficiency Networks' initiative	Industry	Other

'Waste Heat Utilisation' initiative	Industry	Other
Support for contracting (including indemnity bond)	Cross-sectoral	Other

## Greece

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

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3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Greece

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Energy managers and action plans in State and general public buildings	Public	EED Art. 5, 7
Compulsory replacement of all low energy efficiency light fittings in the public sector	Public	EED Art. 5
Energy managers in public sector and general government buildings	Public	EED Art. 5
Compulsory quotas of vehicles with greater energy efficiency in the fleets of the public services and of public bodies	Transport	Other EED
Introduction of electric vehicles and electric vehicle recharging points	Transport	Other EED
Eco-labelling – Energy label for cars	Transport	Other EED
Promotion of economical, safe and eco-driving	Transport	Other EED
Replacing old light trucks in the public and private sectors	Transport	EED Art. 7
Replacing old private passenger vehicles	Transport	EED Art. 7
Regulation on Energy Performance of Buildings (KENAK)	Buildings	EED Art. 4/EPBD
Mandatory installation of solar thermal systems in new residential and tertiary buildings	Buildings	EPBD
Funds, financial & fiscal measures		
Operational Programme ESD	Cross-sectoral	EED Art. 5, 7
Offset of fines on illegal buildings	Buildings	EED Art. 7
"Saving at home II" programme (energy upgrading of residential buildings)	Residential	EED Art. 4, 7
Energy upgrading of public buildings	Public	EED Art. 5, 7
Energy upgrading of commercial buildings through energy service companies	Services	EED Art. 7, 18
Energy upgrading of street lighting (low-interest loans for local authorities, co-funded by the European Investment Bank)	Public	EED Art. 7, 19, 20
Energy upgrading of pumping equipment (installing more energy-efficient equipment in the pumping stations managed by local authorities)	Public	EED Art. 7
Private investment aid scheme for regional and economic development (for EE and RES projects as well as district heating and cooling systems)	Industry Services	EED Art. 19, 20
Energy upgrading of social housing buildings - 'Green pilot urban neighbourhood' programme	Residential	EED Art. 4
Strengthening SMEs active in manufacturing, tourism and trade - services	Industry Services	EED Art. 4
Replacement of oil-fired heating systems with gas-fired ones in dwellings	Residential	EED Art. 4
Energy savings interventions on public buildings	Public	EED Art. 5
Interventions to improve energy efficiency in school buildings	Public	EED Art. 5
Holding Fund under the name 'Infrastructure Fund - Projects for the energy upgrade of public buildings, and for power production	Public Supply	EED Art. 5 EED Art. 14

and distribution from RES		
Relocation of enterprises to industrial-business zones and business parks	Industry	Other EED
Innovative Entrepreneurship, Supply Chain, Food, Drinks (business loans with favourable terms)	Industry	Other EED
Green Business	Industry	Other EED
Programme 'Modern manufacturing' (subsidies for SMEs of strategic priority sectors)	Industry	Other EED
Linking of vehicle taxation to energy efficiency and CO2 emissions	Transport	Other EED
Incentives for the replacement of private vehicles and the promotion of the use of energy-efficient vehicles (vehicles fuelled by biofuels and hybrid vehicles)	Transport	Other EED
Promotion of efficient district heating systems (funding for extensions of district heating networks and the construction of a thermal power plant)	Supply	EED Art. 14
Promotion of heating and cooling systems from RES and heat cogeneration for self-consumption (for companies)	Supply	EED Art. 14
'Saving at home' programme	Residential	EED Art. 4, 7, EPBD
'Save' programme for local government organisations	PublicTransport	EED Art. 7
'Save II' programme for local government organisations	Public	EED Art. 7
Energy efficiency and demonstration projects in SMEs and supporting measures	IndustryServices	EED Art. 4, 7
Market based instruments		
Obligation schemes	Cross-sectoral	EED Art. 7
Information, knowledge & advice		
Energy Efficiency Certificates for Buildings (issued outside the other measures reported for art.7)	Buildings	EED Art. 7
Energy management system (ISO 50001) in bodies of the public sector and general government agencies	Public	EED Art. 5, 7
Other measures		
Athens metro extension	Transport	EED Art. 7
Transport infrastructure projects	Transport	Other EED
Developing smart energy metering systems	Cross-sectoral	EED Art. 7
Reshaping of the public transport system	Transport	Other EED
Elaboration of urban mobility plans	Transport	Other EED



## Finland

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Finland

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
KETO-3-TEM Energy audits	Cross-sectoral	EED Art. 7
KETO-7-YM Energy efficiency regulations for renovations and start-up assistance for renovation work	Buildings	EPBD
KETO-8-YM Energy efficiency regulations for new development	Buildings	EPBD
HO-13-TEM Ecodesign Directive and equipment group-specific energy efficiency requirements	Cross-sectoral	Other EED-related measures
02 Funds, financial & fiscal measures		
KETO-2-VM/LVM Transport fuel taxation/road traffic	Transport	EED Art. 7
KETO-5-TEM Heat pumps for detached, semi-detached and terraced houses	Residential	EPBD -
KETO-6-MMM Investments in heating plants	Agriculture	EED Art. 7
LI-03-LVM Promoting public transport	Transport	Other EED-related measures
Information, knowledge & advice		
HO-08-TEM/YM/LVM Energy advice for consumers	Cross-sectoral	Other EED-related measures
HO-12-YM Promotion of energy efficiency in civil engineering	Cross-sectoral	Other EED-related measures
HO-05-OKM Sustainable development certification schemes for educational institutions	Public	Other EED-related measures
HO-06-OKM Environmental education for young people	Public	Other EED-related measures
Other measures		
VA-01-VM Increasing the efficiency of space utilisation in central government	Buildings	EED Art. 4
KETO-1-TEM Energy efficiency agreements	Cross-sectoral	EED Art. 7
KETO-4-TEM Energy efficiency agreements/Energy Services Action Plan and Höylä III – Customers	Supply	EED Art. 7
RA-06-TEM Energy labelling of windows	Buildings	EED Art. 4

## France

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## France

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Removal of obstacles to renovation (splitting of incentives )	Buildings	EED Art. 19
2012 Thermal Regulations for new buildings	Residential	EPBD
Thermal Regulations for existing buildings	Buildings Residential Services	EPBD
Implementation of LTECV obligation. Renovation of existing buildings	Buildings Residential Services	EED Art. 4
Obligations for periodic energy audits	Industry	EED Art. 8
Reducing energy consumption of the State building stock	Public	EED Art. 5
Funds, financial & fiscal measures		
Sustainable development tax-credit-Energy transition scheme (CIDD-CITE)	Buildings Services	EED Art. 7
VAT at reduced rate for renovation work	Buildings	EED Art. 7
Interest Free eco-loan (eco-PTZ)	Buildings	EED Art. 7
Exemption from property tax on developed properties	Buildings	EED Art. 7
Sustainable development passbook account (LDD)	Buildings	EED Art. 7
Social Housing eco-loan	Buildings	EED Art. 7
Living better programme	Buildings	EED Art. 7
Bicycle kilometrage allowance created by LTECV	Transport	Other
Improving performance of new vehicles (bonus-penalty scheme and European regulations)	Transport	Other
Investing for the Future programme (Vehicles and Transport for the future)	Transport	Other
Investing for the future programme	Cross-sectoral	EED Art. 20
Market-based instruments		
Obligations to purchase low-emission vehicles by the State and local authorities.	Transport	EED (General)
Energy savings certificates in Industry	Industry	EED Art. 7
ENERGY savings certificate scheme	Cross-sectoral	EED Art. 7
Information, knowledge & advice		
Label to encourage the emergence of more energy efficient renovated buildings	Buildings	Energy labelling directive provisions
Other measures		
Implementation of the support measures for the development of electric vehicles or plug-in hybrid electric vehicles	Transport	Other
Development of urban cable transport	Transport	Other
Encouraging the modal shift: High speed railways	Transport	Other
Inland Waterway Transport	Transport	Other

Renovation of 500000 housing units per year by 2017 (half of which occupied by low-income households)	Buildings	EPBD
Development of high efficiency cogeneration and efficient district heating and cooling networks	Buildings	General EED
Map of national territory of heating and cooling demand and supply	Buildings	General EED

## Hungary

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Hungary

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Mandatory energy savings action plans in public buildings	Public	EED Art. 5, 7
Obligation for energy-intensive companies to employ an energy specialist	Industry	EED Art. 7, 8, 16
Energy efficiency regulations for buildings (planned measure)	Buildings	EED Art. 4, 7 EPBD
Funds, financial & fiscal measures		
Warmth at Home Programme (WAH) (funded from carbon credits)	Residential	EED Art. 4, 7 EPBD
Operational programmes with energy efficiency as primary objective	Cross-sectoral	EED Art. 4, 7 EPBD
Other operational programmes contributing to energy efficiency improvements	Cross-sectoral	EED Art. 4, 7 EPBD
energy efficiency bonus for housing construction or extension with energy performance better than building codes	Residential	EED Art. 7 EPBD
energy rationalisation tenders for buildings under the management of the Ministry of Interior	Public	EED Art. 5, 7
Swiss-Hungarian Cooperation Programme	Residential	EED Art. 4, 7 EPBD
Norwegian Financing Mechanism and EEA Financing Mechanism	Industry	EED Art. 7
Discounted electricity price to finance energy efficiency investments in central public buildings (thanks to the "revenue" of a solar power plant)	Public	EED Art. 5, 7
Subsidies for energy efficiency investments granted by special decision for public buildings	Public	EED Art. 5, 7
Home savings scheme (soft loan + state aid proportional to annual energy savings reported for a period of 4 to 10 years)	Residential	EED Art. 4, 7 EPBD
Road tolls (toll charged for using motorways, national roads and main roads in proportion to the distance travelled)	Transport	EED Art. 7
Corporate and dividend tax relief for energy efficiency investments	Industry Services	EED Art. 7
Support for electric mobility (Jedlik Ányos Plan, and related Economic Greening System (EGS) tenders)	Transport	EED Art. 7
Energy efficiency projects within the Modern Cities Programme	Buildings	EED Art. 4, 7
Public transport developments (Transport Operational Programme)	Transport	EED Art. 7
Information, knowledge & advice		
Campaigns promoting non-motorised transport (development of biking)	Transport	EED Art. 7
National Energy Network (consulting network for SMEs and municipalities)	Cross-sectoral	EED Art. 7, 8, 12 & 17

## Ireland

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*



## Ireland

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
2011 Part L Conservation of Fuel and Energy in Dwellings	Residential	EED Art. 7 EPBD
Nearly Zero Energy Buildings (NZEB) Building Regulations Part L 2017 – Buildings Other Than Dwellings	Residential	EPBD
2018 Part L Conservation of Fuel and Energy in Dwellings.	Residential	EPBD
Energy Efficiency Boiler Regulation	Residential	EED Art. 4, 7
Domestic Lighting	Residential	Ecodesign
Smart Meter Rollout	Residential Services Industry	EED Art. 7, 9, 10-11
Improved Fuel Economy of Private Car Fleet (EU Regulation)	Transport	General EED, EED Art. 19
Improved Fuel Economy of Light Commercial Vehicles (EU Regulation)	Transport	General EED
Carbon Tax (transport)	Transport	General EED
Energy Efficiency in Electricity Transmission and Distribution	Supply	EED Art. 15
Funds, financial & fiscal measures		
Better Energy Homes (BEH) Scheme	Residential	General EED
Better Energy Warmer Homes Scheme (BEWH)	Residential	General EED
Warmer Homes Expansion – Pilot for tenants in receipt of HAP	Residential	EED Art. 4
Better Energy Communities (BEC) Scheme	Residential	General EED
Warmth and Wellbeing Pilot Scheme	Residential	EED Art. 4, General EED
Deep Retrofit Pilot Scheme	Residential	EED Art. 4
Social Housing Upgrades (DHPCLG)	Residential	EED Art. 4, General EED
Green Procurement & ACA (“Triple E” List)	Services Industry	EED Art. 6, 7
Electric Vehicle Deployment	Transport	EED Art. 12 & 17, 19
Renewable Energy Feed-in-Tariff (REFIT) 3	Residential Services Industry	General EED
Vehicle Registration Tax (VRT) and Annual Motor Tax (AMT) Rebalancing	Transport	EED Art. 19
Energy Efficiency in Power Generation	Supply	EED Art. 15
Market-based instruments		
Energy Efficiency Obligation Scheme	Residential Services Industry	EED Art. 7
Information, knowledge & advice05 Education, qualification & training		
Technical Bureau	Residential Services	General EED, EED Art. 6
SME Support	Services Industry	EED Art. 7, 8, 12 & 17

Public Transport Efficiency	Transport	EED Art. 19
Other measures		
Behavioural Economics Unit	Residential Services Industry	General EED
Large Industry Energy Network	Services Industry	EED Art. 7, 8, 16
Aviation Efficiency	Transport	General EED

# Italy

Use of Template 2013/242/EU

## 2 OVERVIEW OF TARGETS AND SAVINGS

### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

### 2.2 Additional energy efficiency targets

### 2.3 Primary energy savings

### 2.4 Final energy savings

## 3 POLICY MEASURES IMPLEMENTING EED

### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)

### 3.2 Energy efficiency in buildings

3.2.1 Building renovation strategy (Art. 4)

3.2.2 Other energy efficiency in buildings sector

3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target

### 3.3 Energy efficiency in public bodies

3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

### 3.4 Other end use energy efficiency measures including in industry and transport

### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Italy

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Programma di riqualificazione energetica della Pubblica Amministrazione centrale (PREPAC)	Public	EED Art. 5
Energy audits and energy management	Cross-sectoral Industry Services Public	EED Art. 8
Regolamento CE 443/2009	Transport	Other EED-related measures
Regolamento CE 510/2011	Transport	Other EED-related measures
Funds, financial & fiscal measures		
Detrazioni Fiscali (Tax credit) - Alternative measure 1	Cross-sectoral Residential Services	EED Art. 7
Conto Termico - Alternative measure 2	Cross-sectoral Residential Services	EED Art. 7
Energy Efficiency Fund	Cross-sectoral Public Industry Services	EED Art. 20
Kyoto Fund for energy efficiency in public school buildings	Public Buildings	EED Art. 20
Plafond Casa	Residential	EED Art. 20
Eco-incentivi 2007-2009	Transport	Other EED-related measures
Market-based instruments		
Certificati Bianchi	Cross-sectoral	EED Art. 7 EEOs
Other measures		
ESCOs Servizio Integrato Energia	Cross-sectoral Buildings Industry Services	EED Art. 18
High speed trains	Transport	Other EED-related measures

## Latvia

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)

#### 3.2 Energy efficiency in buildings

3.2.1 Building renovation strategy (Art. 4)

3.2.2 Other energy efficiency in buildings sector

3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target

#### 3.3 Energy efficiency in public bodies

3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

**Latvia**

## Main policy measures

Policy measure	Sector(s)	Legal basis
Funds, financial & fiscal measures		
Energy efficiency improvement in residential buildings	Residential	EED Art. 4
Energy efficiency improvement in municipal buildings	Services	EED Art. 5
CCFI-15 Tender Complex solutions for greenhouse gas emission reduction and CCFI-6 Tender Complex solutions for greenhouse gas emission reduction in production buildings	Industry	Other
Project Installing smart electricity meters implemented under CCFI- 14 Tender	Residential	Other

## Lithuania

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

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3.3.2 *Buildings of other public bodies (Art. 5)*

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#### 3.4 Other end use energy efficiency measures including in industry and transport

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#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Lithuania

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Renovation of multi-apartment buildings	Residential	EED Art. 4
Renovation of municipal building	Public Buildings	EED Art. 5
EE Improvement of public buildings	Public Buildings	EED Art. 5
Energy audits at industrial enterprises	Cross-sectoral Industry Services	EED Art. 7
Boiler replacement in households	Residential	EED Art. 7
Funds, financial & fiscal measures		
Taxes and excise duties on fuel	Transport	Other EED-related measures
Energy Efficiency Fund	Cross-sectoral	General EED
EU Structural Funds	Cross-sectoral	General EED
Market-based instruments		
Energy savings agreements with energy undertakings	Industry	EED Art. 7
Energy agreements with energy suppliers on consumer education and consultation	Cross-sectoral	EED Art. 7



## Luxembourg

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Luxembourg

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Housing construction in accordance with the EE Regulation	Residential	EED Art 4
Non-residential construction in accordance with the Energy Efficiency Regulation	Services	EED Art 4
Renovation of non-residential buildings in accordance with the Energy Efficiency Regulation	Services	EED Art 4
Non-residential construction in accordance with the stricter Energy Efficiency Regulation	Services	EED Art 4
Lighting in non-residential construction in accordance with the Energy Efficiency Regulation	Services	EED Art 4
Funds, financial & fiscal measures		
Increase of fuel taxes for motor vehicles	Transport	Other
Promotion of EE house construction	Residential	EED Art 4
Promotion of energy renovation of residential buildings	Residential	EED Art 4
Promotion of solar systems and heat pumps in residential buildings	Residential	Other
CO2 motor vehicle tax	Transport	Other
Market-based instruments		
Energy Efficiency Obligation Scheme	Residential Services Transport Industry	EED Art 7
Other measures		
Voluntary agreement	Industry	EED Art 8

## Malta

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

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3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

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3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

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#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Malta

### Main policy measures

Policy measure	Sector(s)	Legal basis
Funds, financial & fiscal measures		
RSB-1a Incentive Scheme for Building Envelope Improvement (Double Glazing)	Buildings Residential	EED Art. 7
RSB-1b Incentive Scheme for Building Envelope Improvement (Roof Insulation)	Buildings Residential	EED Art. 7
RSB-2 Energy Efficiency in Low Income Houses in MED Grant Scheme	Buildings Residential	EED Art. 7
RSB-3 Scheme for the Installation of Heat Pumps (Domestic)	Buildings Residential	EED Art. 7
RSB-4 Energy Efficiency for vulnerable groups	Buildings Residential	EED Art. 7
TR-1 Grant Scheme to Improve Vehicle Fleet Efficiency	Transport	EED Art. 7
TR-2 Grant Scheme to Improve Vehicle Fleet Efficiency	Transport	EED Art. 7
PS-8 Energy Efficiency Support Scheme		EED Art. 7
Market-based instruments		
EMC-2 The Progressiveness of the Domestic Residential Household Tariff System	Residential	EED Art. 7
EMC-3 The Incentive towards Energy Efficiency in the Tariff Structure (Eco-reduction)	Residential	EED Art. 7
Other measures		
P-1 Street Lighting Retrofitting (Gozo)	Public	EED Art. 7
P-2 Street Lighting Retrofitting (All Malta) - ERDF	Public	EED Art. 7
P-3 Street Lighting Retrofitting (All Malta) - PPP	Public	EED Art. 7
PB-1 Retrofitting of Energy Efficient Measures in Public Schools	Public	EED Art. 7
PB-2 Retrofitting of Energy Efficient Measures at St. Vincent De Paul – Rehabilitation Centre & Old Peoples’ Home	Public	EED Art. 7
PB-3 Retrofitting of Energy Efficient Measures at Malta Police Force Buildings	Public	EED Art. 7
PB-10 Tal-Qroqq National Pool Complex - Energy Efficiency Project	Public Buildings	EED Art. 7
PB-11 Lighting for Reduced Carbon Footprint	Public Buildings	EED Art. 7
PB-12 Energy Efficiency at MFSA offices	Public Buildings	EED Art. 7
WSC-1 Reduction of Power Requirements in the Transfer and Distribution of Water through Various Pipelines	Public Industry	EED Art. 7
WSC-2 Reduction of Power Requirements through the Use of Variable Speed Drives for Groundwater Abstraction Pumps	Public Industry	EED Art. 7
WSC-3 Upgrading of RO High Pressure Pumps and Energy Recovery Systems	Public Industry	EED Art. 7
WSC-4 Reduction of Power Requirements through Replacement of RO Auxiliary Pumps	Public Industry	EED Art. 7
WSC-5 Replacing Desalinated RO Water by Groundwater	Public Industry	EED Art. 7
WSC-6 Reducing Electricity Consumption through the Elimination of Seawater Infiltration in the Sewage Collection Network	Public Industry	EED Art. 7
WSC-7 Upgrading the Quality of Treated Sewage Effluent to Replace Desalinated RO Water for Non- potable Uses	Public Industry	EED Art. 7
WS-1 Rendering Plant (Autoclave) for Animal Waste in the Civil Abattoir	Public Industry	EED Art. 7
Energy Efficiency Partnership Initiative	Services Industry	EED Art. 7

P-4 Energy Efficiency Measures in ICT	Public	EED Art. 7
RE-1 Solar Water Heaters		EED Art. 7
RE-2 PV generation self-consumption		EED Art. 7

## Netherlands

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)

#### 3.2 Energy efficiency in buildings

3.2.1 Building renovation strategy (Art. 4)

3.2.2 Other energy efficiency in buildings sector

3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target

#### 3.3 Energy efficiency in public bodies

3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Netherlands

### Main policy measures

Policy measure	Sector(s)
Regulations, standards & other legislative measures	
Internal CO2 equalisation system for the greenhouse cultivation sector	Agriculture
Environmental Management Act	Buildings Industry Transport Agriculture
Tightening up the RC values in the Buildings Decree	Buildings
Changes to the Housing Valuation System	Buildings
The Energy performance surcharge (Energieprestatievergoeding (EPV))	Residential
Energy Performance Inspections	Residential
Tightening of energy-performance standards (EPC)	Buildings
Funds, financial & fiscal measures	
Energy tax and the Sustainable Energy Surcharge	Buildings Industry Transport Agriculture
Energy Investment Allowance (Energie Investeringsaftrek (EIA))	Services Industry
MIA (Environmental Investment Allowance)	Services Industry Agriculture
Green Investments	Agriculture Industry
Subsidy Scheme for Energy Saving (Subsidierегeling Energiebesparing) and sustainable energy for sports facilities	Buildings
Investment Subsidy for Sustainable Energy (Investeringssubsidie Duurzame Energie (ISDE))	Buildings
Reduced VAT rates on labour costs for installing insulation and glass	Buildings
Extending mortgage options for energy saving measures	Buildings
Nationaal Energiebespaarfonds (National Revolving Fund for Energy Saving)	Residential
Energy-saving at Home subsidy scheme (Subsidierегeling Energiebesparing Eigen Huis)	Residential
The STEP subsidy (Incentive scheme for energy performance in the rental sector)	Residential
Market Introduction for Energy Innovations (MEI) subsidy module, Investing in Greenhouses as an Energy Source (EHG) subsidy module, Guaranteed Loans for Agriculture (BL); SME Innovation Incentives in Top Sectors (MIT)	Agriculture
Information, knowledge & advice	
The 'Save energy now' campaign (Energie besparen doe je nu)	Residential
Information campaign on the energy label for homes	Residential
Expertisecentrum Energiebesparing (Energy Saving Expertise Centre)	Buildings
Choose the Best Tyres publicity campaign (Kies de beste band)	Transport
Run your engine differently (Het Nieuwe Draaien)	Transport
The New Driving (HNR) 3.0 programme (Het nieuwe rijden (HNR) 3.0)	Transport
Other measures	
Innovation Programme Greenhouse as Energy Source (KAE)	Transport

Long-term Agreements	Services Industry Transport Agriculture
Green Deal	Cross-sectoral
Energy-efficient new buildings	Buildings
Energy Saving Agreement for the rental sector	Residential
Framework for company-specific (one-on-one) agreements for MEE companies	Industry
Sustainable Logistics (Lean and Green Logistics)	Transport
Sustainable Personal Mobility (Lean and Green Personal mobility)	Transport
Enforcement of the Environmental Management Act for Non-residential Buildings	Buildings
VAMIL (Random Depreciation of Environmental Investments)	Cross-sectoral



## Poland

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9 , 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)

#### 3.2 Energy efficiency in buildings

3.2.1 Building renovation strategy (Art. 4)

3.2.2 Other energy efficiency in buildings sector

3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target

#### 3.3 Energy efficiency in public bodies

3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Poland

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Support for enterprises as regards low-emission and resource-efficient economy. Part 1 – Energy/electricity audit of an enterprise	Industry	EED Art. 8
Funds, financial & fiscal measures		
Thermo-modernisation and Repairs Fund	Residential Buildings Public	EED Art. 4, 5
Green Investment Scheme – GIS. Part 1 – Energy management in public buildings	Public Buildings	EED Art. 5
Operational Programme Infrastructure and Environment 2014-2020	Buildings Residential Public	EED Art. 4, 5
Operational Programme PL04 – “Saving energy and promoting renewable energy sources” under the EEA Financial Mechanism in 2009-2014 (Area No 5 – energy efficiency, and Area No 6 – renewable energy);	Public Buildings	EED Art. 5
Subsidised loans for the construction of energy-efficient houses	Residential Buildings	EED Art. 4
LEMUR - Energy Efficient Public Buildings	Public Buildings Residential	EED Art. 4, 5
Prosumer – co-financing facility for the purchase and assembly of RES micro-installations	Residential Public	EPBD, EED Art. 4
BOCIAN – dispersed, renewable energy sources	Industry Agriculture	EED (Other)
Improvement of air quality. Part 2 – Reduction of energy consumption in the construction sector	Public Buildings	EED Art. 5
Green Investment Scheme – GIS. Part 6 – SOWA project – Energy efficient street lighting	Public	EED (Other)
Financial facility for SMEs (PoISEFF)	Industry	EED (Other)
7. Operational Programme Infrastructure and Environment 2014-2020 (Measure 1.2) – Promoting energy efficiency and use of renewable energy sources in enterprises	Industry	EED (Other)
Operational Programme Infrastructure and Environment 2007-2013 (Measure 7.3) – Urban transport in metropolitan areas, and (Measure 8.3) - Development of intelligent transport systems	Transport Public	EED (Other)
Green Investment Scheme – GIS. Part 7 – GAZELA – Low-emission urban transport	Transport	EED (Other)
Operational Programme Infrastructure and Environment 2014-2020 Measure 6.1 – Developing public transport in cities	Transport Public	EED (Other)
Green Investment Scheme – GIS. Part 2 – GEPARD – Zero-emission public transport	Transport Public	EED (Other)
Renewal of the vehicle (motor vehicles and freight vehicles)	Transport	EED

fleet		(Other)
Operational Programme Infrastructure and Environment 2014-2020 (Measure 1.5) – Efficient distribution of heating and cooling; (Measure 1.7.2 – Efficient distribution of heating and cooling in the Śląskie Province.	Residential Public	EED Art. 14
Operational Programme Infrastructure and Environment 2014-2020 (Measure 1.6) – Promoting the use of high-efficiency cogeneration based on the demand for useful heat. (Measure 1.7.3 – Promoting the use of high-efficiency cogeneration in the Śląskie Province).	Residential Public	EED Art. 14
Supporting projects related to low-emission and resource-efficient economy. Part 3 – Efficient heating and cooling systems	Industry	Other EED-related measures
Market-based instruments		
Energy Efficiency obligation scheme	Supply	EED Art. 7
Obligations to purchase low-emission vehicles by the State and local authorities.	Transport	EED (General)
Information, knowledge & advice		
Information and educational campaigns "Nationwide"	Buildings Public Industry	EED Art. 12 & 17
Other measures		
Support for enterprises as regards low-emission and resource-efficient economy. Part 2 – Improving energy efficiency	Industry	EED Art. 8
Low emission economy Plans (PGN)	Public	EED Art. 6

## Portugal

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Portugal

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Regulation on Commercial Relations in the Electricity Sector and Regulation on Commercial Relations in the natural gas sector	Supply	EED Art. 9, 10-11
Order 231/2013 - Approving of technical and functional requirements of smart meters, rules of information and billing, financing of installation costs	Supply Residential Services	EED Art. 9, 10-11
DL 68/A/2015 - Discipline of cogeneration activity	Supply	EED Art. 14
RGCEST - Regulation on the Energy Consumption Management for the transport Sector	Transport	EED Art. 8, 16
SGCIE - Intensive Energy Consumption Management System	Industry Services	EED Art. 8, 16
ECO.AP	Services Industry Residential	EED Art. 18
Funds, financial & fiscal measures		
Energy Efficiency National Fund	Residential Services Transport	EED Art. 20
Information, knowledge & advice		
Energy Efficiency Barometer	Services Residential Industry	EED Art. 5
Other measures		
Local Energy Agreement	Services	EED Art. 7

## Romania

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall primary and final energy consumption*

2.1.3 *Primary energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

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3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

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3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Romania

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
EE in the industry covered by EU-ETS	Industry	EED Art. 8
Energy audit and energy management	Industry Public Services	EED Art. 8
Purchasing highly efficient equipment in the construction sector	Buildings Public	EED Art. 5
Energy audit and energy management	Buildings	EED Art. 7
Thermal rehabilitation of residential blocks	Residential	EED Art. 7
Thermal rehabilitation of one-family residences	Residential	EED Art. 4
Purchase of highly efficient electrical equipment	Residential	EED Art. 7
Energy audit and energy management	Residential	EED Art. 7
Thermal rehabilitation in government buildings	Public Buildings	EED Art. 5
Purchase of electrical equipment and apparatuses for government buildings	Public	EED Art. 5
Thermal rehabilitation in public buildings (town halls, educational	Public Buildings	EED Art. 5
Development of energy services/ESCO market	Services Cross- sectoral	EED Art. 18
Promotion of high-efficiency cogeneration	Supply	EED Art. 14
Further implementation of the "District heating 2006-2016 - Heat and Comfort" programme	Supply	EED Art. 14
Funds, financial & fiscal measures		
Thermal rehabilitation of buildings (offices, commercial spaces etc.)	Services Buildings	EPBD
Renewal of the vehicle (motor vehicles and freight vehicles) fleet	Transport	EED (Other)
PA 4 Supporting Low Carbon mobility	Transport	EED (Other)
03 Market-based instruments		
Smart Metering	Buildings Residential Services Supply	EED Art. 7
Other measures		
Rehabilitation of public lighting	Public Services	EED (Other)
Modernization of urban public transport	Transport	EED (Other)
Extension of underground transport in	Transport	EED (Other)
Upgrading of rail transport	Transport	EED (Other)
Upgrading of waterborne transport	Transport	EED (Other)
Alternative mobility	Transport	EED (Other)
Purchase of highly efficient equipment for the irrigation system	Agriculture	Other
Renewal of the agricultural machinery fleet	Agriculture	Other

## Slovakia

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall P and final energy consumption*

2.1.3 *P energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 P energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

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3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

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3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

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3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*



## Slovakia

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Requirements specific to existing buildings larger than 1000 m <sup>2</sup> (hydraulic balancing of heat and hot water distribution systems, insulation of hot water distribution systems, and installation of means to measure individual heat and hot water consumption)	Cross-sectoral	EED Art. 4, 9
Mandatory energy audits	Public	EED Art. 7, 8
Major renovation of single-family buildings (including minimum requirements, government premiums for building society savings scheme, and free energy advice)	Residential	EED Art. 4, 7
Major renovation of multifamily buildings (including minimum requirements and free energy advice)	Residential	EED Art. 4, 7
Policy framework for energy services (legislative framework for contracts, qualification and training scheme for service providers, national register of service providers, etc.)	Cross-sectoral	EED Art. 16, 18
Funds, financial & fiscal measures		
Single-family Building Insulation Support Programme (grants for energy renovation)	Residential	EED Art. 4, 7, EPBD
State Housing Development Fund (for the renovation of multifamily buildings)	Residential	EED Art. 4, 7, EPBD
JESSICA schemes for the renovation of multifamily buildings	Residential	EED Art. 4, 7, EPBD
IROP (Integrated Regional Operational Programme, linked to the State Housing Development Fund to provide incentives for the renovation of multifamily buildings)	Industry	EED Art. 4, 7, EPBD
Munseff (for renovation of multifamily buildings)	Residential	EED Art. 4, 7, EPBD
Operational Programme Competitiveness and Economic Growth (grants for projects outside the Bratislava Self-governing Region)	Industry	EED Art. 7
Operational Programme Bratislava Region 2007-2013 (Support for the deployment and use of progressive technologies in SMEs)	Supply	EED Art. 7
Operational Programme Environmental Quality 2014-2020, Priority Axis 4 (projects in industry)	Industry	EED Art. 7, 8
Operational Programme Environmental Quality 2014-2020, Priority Axis 4 (projects for district heating and high-efficiency CHP)	Industry	EED Art. 7, 14, 15
Operational Programme Environmental Quality 2014-2020 (projects in public buildings)	Industry	EED Art. 5, 7
Investment incentives for industrial enterprises	Public	EED Art. 7
Programme for the office buildings of the central administration	Public	EED Art. 5, 7
EkoFond	Public	EED Art. 5, 7
Environmental Fund (for projects in public buildings)	Transport	EED Art. 5, 7
Modernisation of public lighting (through Operational Programmes 2007-2013 and Munseff)	Transport	EED Art. 5, 7
Integrated Regional Operational Programme (IROP) 2014-2020 (for projects in public buildings)	Transport	EED Art. 5, 7
Operational Programmes for the renewal and modernisation of the fleet for regional and local rail transport (Operational Programme		EED Art. 7

Transport 2007-2013 and Operational Programme Integrated Infrastructure 2014-2020)		
Operational Programmes for construction and upgrade of the transport infrastructure (Operational Programme Transport 2007-2013 and Operational Programme Integrated Infrastructure 2014-2020)		EED Art. 7
Support for the development of non-motorised transport, especially cycling (IROP 2014-2020)		EED Art. 7
SlovSEFF II and III (for renovation of multifamily buildings)	Residential	EED Art. 4, 7, EPBD
SlovSEFF II and III (for projects in industry)	Residential	EED Art. 7
New residential buildings to a low-energy standard (better energy performance than the minimum requirements) (due to the government premiums for building society savings scheme and the Living with Energy information campaign)	Buildings	EED Art. 7, EPBD
New residential buildings to a ultra-low-energy standard (better energy performance than the minimum requirements) (due to the government premiums for building society savings scheme and the Living with Energy information campaign)	Buildings	EED Art. 7, EPBD
New residential buildings to a nearly zero-energy standard (better energy performance than the minimum requirements) (due to the government premiums for building society savings scheme and the Living with Energy information campaign)	Buildings	EED Art. 7, EPBD
Operational Programme Research and Innovation 2014-2020	Public	EED Art. 7
Promotion of energy audits for SMEs in the Bratislava Region	Industry	EED Art. 7, 8
Information, knowledge & advice		
“Living with Energy” awareness campaign	Industry	EED Art. 12 & 17
Other measures		
StavEdu and ingREES projects (training programmes for the various types of professionals involved in energy efficiency in buildings)	Industry	EED Art. 4, 16
MSEE IS (energy efficiency monitoring system operated by the Slovak Innovation and Energy Agency)	Industry	Other
Voluntary energy savings agreement	Public	EED Art. 7

## Slovenia

Use of Template 2013/242/EU

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 Indicative national energy efficiency target for 2020

2.1.2 Expected impact of the target on overall primary and final energy consumption

2.1.3 Primary energy consumption in 2020

#### 2.2 Additional energy efficiency targets

#### 2.3 Primary energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 Energy efficiency obligation schemes and alternative policy measures (Art. 7)

3.1.2 Energy audits and management systems (Art. 8)

3.1.3 Metering and billing (Art. 9, 10 & 11)

3.1.4 Consumer information and programmes and training (Art. 12 & 17)

3.1.5 Availability of qualification, accreditation and certification schemes (Art. 16)

3.1.6 Energy Services (Art. 18)

3.1.7 Other energy efficiency measures of horizontal nature (Art. 19 & 20)

#### 3.2 Energy efficiency in buildings

3.2.1 Building renovation strategy (Art. 4)

3.2.2 Other energy efficiency in buildings sector

3.2.2 Energy efficiency improvement measures in buildings in view of achieving EE target

#### 3.3 Energy efficiency in public bodies

3.3.1. Central government buildings (Art. 5)

3.3.2 Buildings of other public bodies (Art. 5)

3.3.3 Purchasing by public bodies (Art. 6)

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 Comprehensive assessment

3.5.2 Other measures addressing efficient heating and cooling

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 Energy efficiency criteria in network tariffs and regulation

3.6.2. Facilitate and promote demand response

3.6.3 Energy efficiency in network design and regulation

## Slovenia

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Implementation of energy audits in large companies	Industry Services	EED Art. 8
Distribution of incentives between owners and tenants in multi-apartment buildings (Table 24)	Residential	EED Art. 19
Amendments and supplements to energy efficiency regulations for buildings	Residential Buildings	EED Art. 4
Public sector energy management	Public Buildings	EED Art. 5
Energy management system In the public sector and incentives	Public Industry	EED Art. 8
Funds, financial & fiscal measures		
Cohesion Fund - Scheme of compulsory end-use energy savings for energy suppliers - Eco Fund loans in Industry	Industry	EED Art. 8
Financial incentives for energy efficiency and the use of RES in residential buildings	Residential Buildings	EED Art. 4
Aid for the efficient use of household energy for vulnerable population groups	Residential Buildings	EED Art. 4
Instruments for financing renovation in buildings with multiple owners	Residential Buildings	EED Art. 4
Promoting sustainable and public passenger transport	Transport	EED (Other)
Promoting sustainable freight transport/ multimodal transport	Transport	EED (Other)
Encouraging the improvement of vehicle efficiency, driving and occupying vehicles and the use of low CO2 emissions	Transport	EED (Other)
Provision of financial resources for the period 2014-2020 for the development of rail transport - 024 Railways (central TEN-T network)	Transport	EED (Other)
Financial incentives from the Eco Fund for sustainable development of DH systems	Supply Buildings	EED Art. 14
Financial incentives for efficient renovation and sustainable construction in the public sector	Public Buildings	EED Art. 6
Non-refundable investment incentives	Supply	EED Art. 15
The Eco Fund	Cross- sectoral	EED Art. 20
Market-based instruments		
Energy Efficiency obligation scheme and an alternative measure Eco Fund	Supply	EED Art. 7 EEOS
Information, knowledge & advice		
Energy Advisory Network for Citizens - ENSVET	Cross- sectoral Residential	EED Art. 10-11
Information and awareness-raising for target publics	Public	EED Art. 10-11
Education, qualification & training		
Promoting training: 8 different type of training addressing: H.1—	Public	EED Art.

potential contractors for the preparation and management of energy contracting projects; J.1—training to increase the volume of green procurement; J.2—training of persons responsible for energy renewal at all levels of project preparation and implementation; J.3—public sector energy management training; G.5 - regular and additional training of ENSVET advisers; G.5—training in the field of EE and RES for managers of multi-apartment buildings; I.4—training for energy management in the industry; P.3—education of drivers and managers of the vehicle fleet	Residential Industry	10-11
Training and certification of energy auditors	Industry Public	EED Art. 10-11
Other measures		
P.4 Promoting non-motorized forms of traffic	Transport	EED (Other)
Green public procurement	Public Buildings	EED Art. 6
Heating and cooling strategy, heat map	Supply Buildings	EED Art. 14
Promotion of optimisation of the operation of energy systems (RE-CO)	Public Buildings	EED Art. 5

## Spain

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall P and final energy consumption*

2.1.3 *P energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 P energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

3.1.4 *Consumer information and programmes and training (Art. 12 & 17)*

3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

3.2.1 *Building renovation strategy (Art. 4)*

3.2.2 *Other energy efficiency in buildings sector*

3.2.2 *Energy efficiency improvement measures in buildings in view of achieving EE target*

#### 3.3 Energy efficiency in public bodies

3.3.1 *Central government buildings (Art. 5)*

3.3.2 *Buildings of other public bodies (Art. 5)*

3.3.3 *Purchasing by public bodies (Art. 6)*

#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

3.5.2 *Other measures addressing efficient heating and cooling*

#### 3.6 Energy transformation, transmission, distribution and demand response (Art. 15)

3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## Spain

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Fiscal measures for Energy Sustainability	Cross-sectoral	EED Art. 7
MOVELE 2014	Transport	EED Art. 7
MOVELE 2015	Transport	EED Art. 7
PIVE 3	Transport	EED Art. 7
PIVE 4	Transport	EED Art. 7
PIVE 5	Transport	EED Art. 7
PIVE 6	Transport	EED Art. 7
PIVE 7	Transport	EED Art. 7
PIVE 8	Transport	EED Art. 7
PAREER - CRECE	Residential	EED Art. 4, 7, EPBD
Fondo JESSICA - FIDAE	Residential Services Transport	EED Art. 7
PIMA Aire Plan	Transport	EED Art. 7
PIMA Sol Plan	Services	EED Art. 7
PIMA Tierra Plan	Agriculture	EED Art. 7
PIMA Transporte Plan	Transport	EED Art. 7
CLIMATE Residential sectors, non-ETS industry and transport	Residential Industry Transport	EED Art. 7
Program for the promotion of industrial competitiveness	Industry Transport Industry	EED Art. 7 EED Art. 8
FNEE: Program efficiency in municipal outdoor lighting	Public	EED Art. 7, 20
FNEE: Efficiency program in SMEs and large companies in the industrial sector	Industry	EED Art. 7, 8, 20
FNEE: Modal change program and more efficient use of modes of transport	Transport	EED Art. 7, 20
FNEE: Communication campaign	Cross-sectoral	EED Art. 7, 20
Programs executed by the Autonomous Communities	Residential Services Transport	EED Art. 7
Information, knowledge & advice		
Communication campaign 2014 "Control your Energy"	Residential	EED Art. 7, 12 & 17
Education, qualification & training		
Efficient driving license scheme	Transport	EED Art. 7

## Sweden

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall P and final energy consumption*

2.1.3 *P energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 P energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

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3.1.6 *Energy Services (Art. 18)*

3.1.7 *Other energy efficiency measures of horizontal nature (Art. 19 & 20)*

#### 3.2 Energy efficiency in buildings

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3.2.2 *Other energy efficiency in buildings sector*

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#### 3.4 Other end use energy efficiency measures including in industry and transport

#### 3.5 Promotion of efficient heating and cooling (Art. 14)

3.5.1 *Comprehensive assessment*

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3.6.1 *Energy efficiency criteria in network tariffs and regulation*

3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*



## Sweden

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
Act on energy audits of large companies (2014:266)	Industry Services	EED Art. 8, 12 & 17
The Electricity Act (SFS– The Swedish Code of Statutes)	Supply	EED Art. 9, 10-11
Funds, financial & fiscal measures		
Carbon taxes	Residential Services Industry	EED Art. 7
Repair, Conversion, Extension (ROT)	Residential	EED Art. 20
Information, knowledge & advice		
Greppa Näringen	Agriculture Industry	EED Art. 8
Municipal climate and energy advice	Residential Services	EED Art. 12 & 17
Market-based instruments		
Energy Markets Inspectorate (EI)	Supply	EED Art. 14, 15
Other measures		
Energy efficiency Council		General EED

## UK

*Use of Template 2013/242/EU*

### 2 OVERVIEW OF TARGETS AND SAVINGS

#### 2.1 National energy efficiency targets (Art. 3)

2.1.1 *Indicative national energy efficiency target for 2020*

2.1.2 *Expected impact of the target on overall P and final energy consumption*

2.1.3 *P energy consumption in 2020*

#### 2.2 Additional energy efficiency targets

#### 2.3 P energy savings

#### 2.4 Final energy savings

### 3 POLICY MEASURES IMPLEMENTING EED

#### 3.1 Horizontal measures

3.1.1 *Energy efficiency obligation schemes and alternative policy measures (Art. 7)*

3.1.2 *Energy audits and management systems (Art. 8)*

3.1.3 *Metering and billing (Art. 9, 10 & 11)*

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3.1.5 *Availability of qualification, accreditation and certification schemes (Art. 16)*

3.1.6 *Energy Services (Art. 18)*

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3.6.2 *Facilitate and promote demand response*

3.6.3 *Energy efficiency in network design and regulation*

## United Kingdom

### Main policy measures

Policy measure	Sector(s)	Legal basis
Regulations, standards & other legislative measures		
CRC Energy Efficiency Scheme	Services Industry	EED Art. 7
Smart metering (Non-domestic)	Residential Services	EED Art. 7
Energy Savings Opportunity Scheme	Services Industry	EED Art. 7, 8
Private Rented Sector Regulation (England & Wales) - domestic	Residential	EED Art. 7
Private Rented Sector Regulation (England & Wales) - non domestic	Services	EED Art. 7
Private and Social Sector Regulation (Scotland)	Residential	EED Art. 7
Building Regulations - domestic (New build)	Residential	EED Art. 7
Building Regulations - domestic (Existing build)	Residential	EED Art. 7
Building Regulations - non-domestic (New build)	Services	EED Art. 7
Building Regulations - non-domestic (Existing build)	Services	EED Art. 7
Regulation of energy-using products	Residential	EED (General)
Regulation of energy-using products	Services Industry	EED (General)
EU new car CO2 target plus complementary measures: 130gCO2/km in 2015 and 95gCO2/km in 2020	Transport	EED (General)
EU new van CO2 target: 147gCO2/km in 2020	Transport	EED (General)
Funds, financial & fiscal measures		
Home Energy Efficient Programmes (Scotland)	Residential	EED Art. 7
Sustainable Energy Programme (Northern Ireland)	Residential	EED Art. 7
Climate Change Levy	Services Industry	EED Art. 7
Salix public sector finance	Services	EED Art. 7
Low Emission Vehicle policies	Transport	EED Art. 7
Market-based instruments		
Carbon Emissions Reduction Target	Residential	EED Art. 7
Community Energy Savings Programme	Residential	EED Art. 7
Energy Company Obligation	Residential	EED Art. 7
Other measures		
Greening Government Commitment	Services	EED Art. 7
Re:Fit	Services	EED Art. 7
Rail electrification	Transport	EED Art. 7
Climate Change Agreements	Services Industry	EED Art. 7
EU Voluntary agreement to 2009	Transport	EED (General)

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