



european  
council for an  
energy efficient  
economy

# Understanding the Energy Efficiency Directive

## Steering through the maze #6: A guide from eceee



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### **About the European Council for an Energy Efficient Economy (eceee)**

**eceee**, the European Council for an Energy Efficient Economy, is the largest non-profit, membership-based energy efficiency NGO in Europe. The goal of eceee is to promote energy efficiency through co-operation and information exchange.

To facilitate this, eceee provides evidence-based knowledge, analysis and information. eceee provides an information service through its web site and news service, arranges conferences and workshops and takes active part in the European energy efficiency policy discussions.

One of eceee's principal events is the five-day Summer Study held in June every odd year which attracts more than 450 participants from governments, industry, research institutes and citizen organisations. Since 2012, eceee arranges a three-day Industrial Summer Study held in June every even year.

For more information about eceee, see [www.eceee.org](http://www.eceee.org)



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## Introduction

The Energy Efficiency Directive (EED) is the most comprehensive directive on energy efficiency in the *acquis communautaire* or European Union Law. It is the latest in a series of EU directives on energy efficiency, having been approved on October 25, 2012.<sup>1</sup> The EED covers all end-use sectors except transport and it also includes improving energy efficiency in the energy transformation sector. Article 1 states:

*This Directive establishes a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union's 2020 20 % headline target on energy efficiency and to pave the way for further energy efficiency improvements beyond that date.*

The EED is ambitious in its scope and in many of its articles. It is meant to fill the gap between existing framework Directives and national/international measures on energy efficiency and the 2020 EU target for energy savings. It covers all sectors except transport, and includes, for the first time in a comprehensive “energy efficiency” directive, co-ordinated measures for supply side efficiency. It is, in effect, one of the most important elements of the EU’s energy efficiency strategy.

*When it was passed by Parliament, rapporteur Claude Turmes said: "This essential legislation is not only crucial for achieving our energy security and climate goals, it will also give a real boost to the economy and create jobs. --- Crucially, it will reduce the sizeable and growing cost of our dependence on energy imports - €488bn in 2011 or 3.9% of GDP - which is particularly stark in crisis-hit countries".*

The EED includes many elements to improve energy efficiency and achieve energy savings. It can be quite complex and even confusing because of the range of aspects it deals with. This report helps guide the reader to a better understanding of the main elements, the background to the directive, links between the different articles, the potential/expected impact and what the upcoming steps will be.

The EED repeals (i.e., replaces) the Cogeneration Directive (2004/8/EC) and the Energy End-Use Efficiency and Energy Services Directive (2006/32/EC).

## The EED today

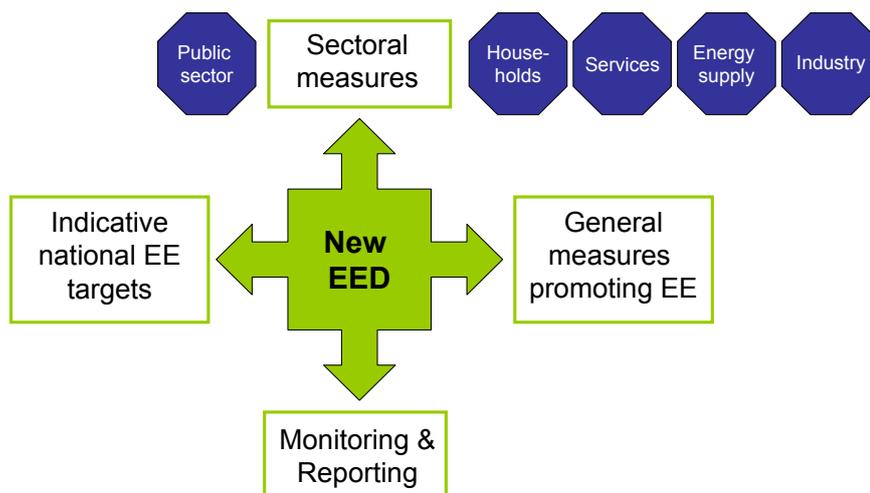
Following its approval, Member States (MS) now have until 5 June 2014 to transpose it into national law. MS are busy to meet that date and get implementation in place. There is every indication that MS realise the challenges ahead and there are great efforts underway to get an early start.

The units within the European Commission responsible for drafting the EED have also given priority to proper implementation. They have done this not only by close contact with the EED Committee, and many bi-lateral contacts with Member States, but by drafting, adopting and disseminating a series of detailed Guidance Documents on how to transpose and implement the directive. (See below.) Also, as will be shown below, organisations such as the Brussels-based Coalition for Energy Savings (in which ecee is a member) has a major initiative to monitor and support implementation, *including a Guidebook for Strong Implementation*. In addition to the EED Committee, MS have their own grouping, EED Concerted Action that is discussed below, to share best practice and collectively improve implementation.

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<sup>1</sup> The Energy Efficiency Directive (EED) was approved on October 25, 2012 and entered into force on December 4, 2012. See Annex 1 of this report for list of energy efficiency directives.

## Snapshot of key features of the EED



Source: DG ENER

### A Quick overview of the main elements of the Energy Efficiency Directive

The important features of the EED are listed below. The Directive is important because it has a direct connection with the EU energy savings targets. National energy efficiency targets reflect increasing ambition, lead to new actions to reach national energy saving potentials in 2020 and beyond and contribute a fair share to the EU 20% target.<sup>2</sup> The overall EU target of 1474 Mtoe and indicative national targets as set out in Art. 3.<sup>3</sup>

The EED is also linked to other EU energy efficiency directives in many areas. For instance, the EED sets ambition levels for building renovations and thus links to and complements the Energy Performance of Buildings Directive. And within the EED, there are links, such as that between Art. 4 on national building renovation strategies and Art. 7 on energy supplier obligations.

#### Renovation of buildings (Art. 4 and Art. 5)

- The EED requires MS in Art. 4 to establish a long-term strategy for investment in the renovation of residential and commercial buildings with the aim of improving their energy efficiency, including with deep renovations. This article is unique in the EED in the sense that it extends beyond 2020, although no exact timeline is set out in the directive.
- Public bodies, specifically, will be required in Art.5 to lead by example in ensuring that 3% of the total floor areas of heated or cooled buildings owned and occupied by central government are renovated each year to meet national minimum energy performance requirements (or take other cost-effective measures in other eligible buildings). Inventories of central government buildings must be established, and they should be in line with overall building sector requirements set out in Art. 4 of the EED.

<sup>2</sup> MSs are required to set indicative national energy efficiency targets that are aligned with the EU target. The targets must be expressed in both primary and final energy consumption by 2020 in order for the Commission to be able to assess and compare them with the EU target. MS were to have communicated their targets to the Commission by 30 April 2013.

<sup>3</sup> This target has increased to 1483 Mtoe since Croatia became the 28<sup>th</sup> member of the EU.



### ***Energy suppliers and regulatory authorities (Art. 7, Art. 15 and Annex V)***

- Each MS is required in Art. 7 to set up an energy efficiency obligation scheme to ensure that certain energy distributors or retail energy sales companies achieve a cumulative annual end-use energy savings target of 1.5% – with some allowable adjustments – between 2014 and the end of 2020 (or take other alternative policy measures to achieve equivalent energy savings).
- The EED requires MS in Art. 15 to ensure that national energy regulatory authorities pay due regard to energy efficiency in carrying out their regulatory tasks.

### ***Energy audits, qualification, accreditation and certification schemes, training and education (Art. 8, Art.16, Art. 17 and Annex VI)***

- Each MS is required in Art. 8 to promote high quality cost effective energy audits to all final customers and all large enterprises will be subject to mandatory independent energy audits to be carried out and reported at least every four years. Small and medium sized enterprises are thus exempt from regular mandatory audits, as are large enterprises implementing an energy audit as part of a voluntary agreement recognised by the MS, or as part of a recognised and relevant environmental management system, including using international and EU standards that meet the criteria in Annex VI.
- If MS consider their national level of technical competence and reliability in energy efficiency is insufficient, they will be required by Art. 16 and Art. 17 to ensure that training and education, as well as certification, accreditation and/or equivalent schemes are available for providers of audits, as well as of providers of energy services, managers and installers of energy-related building elements, by December 2014.

### ***Promotion of cogeneration and district heating and cooling (Art. 14 and Annexes I, II VIII, and IX)***

- By 2015 MS are required by Art. 14 to carry out and notify the European Commission about their comprehensive assessment of the potential for high efficiency cogeneration (the generation of electricity and useful heat jointly) and efficient district heating and cooling. Annexes I, II, VIII and IX provide the calculation methodology and other guidance.
- MS are required to implement policies that encourage taking into account at both local and regional levels the potential for efficient heating and cooling systems, to take measures to ensure development of such infrastructure, based on cost benefit analysis to identify the most resource and cost efficient solutions to meet heating and cooling needs.

### ***Removing other barriers to energy efficiency, including financial (Art. 19 and Art. 20)***

- Where appropriate, MS are required by Art. 19 to take measures to remove remaining regulatory and non-regulatory barriers to energy efficiency. These can include providing incentives, repealing or amending legal or regulatory provisions, or adopting efficiency guidelines. These measures can address such barriers as split incentives for landlords and tenants, as well as split public purchasing structures for investment and maintenance, and public procurement practices in general;
- MS are required in Art. 20 to facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures. Contributing to these funds can be used as a means of fulfilling some requirements set out in Art. 5 and in Art. 7.

### ***Monitoring MS progress (Art. 3, Art. 24 and Annex XIV)***

- To ensure ambitious implementation and coherence with the above measures, each MS is obliged by Art. 3 to set an indicative national energy efficiency target and to report to the Commission annually on progress towards these targets.
- With a view to achieving such targets, from 2013, by 30 April each year MS are required to report on their progress achieved, and by 30 April 2014 they are required to submit National Energy Efficiency Action Plans (which they were also required to prepare under the 2006 Energy Services Directive).

### ***Other measures***

The EED also contains several other measures including:

- An obligation in Art. 6 and Annex III on the public sector to purchase energy efficient products, services and buildings;
- Improvements to metering and billing information in Art. 9, Art. 10, Art. 11, Art. 12 and Annex VII); and
- A requirement in Art. 18 to promote the energy services market, in addition to the effects from Art. 7 on promoting this market.

### **Description of the Directive in more detail**

The following section provides more detail on specific elements of the EED in order for the reader to better understand the intricacies and synergies of the articles of the Directive.

#### ***Targets***

The overall EU target of 1474 Mtoe<sup>4</sup> and indicative national targets as set out in **Art. 3** are an important aspect of the EED because the Directive is a leading element in achieving the EU's 2020 target for a 20% energy savings, and the targets serve as an overall benchmark and incentive to ensure as ambitious an implementation of the EED as possible.

There are three different types of targets in the EED. **Art. 1** states that the “Directive establishes a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union’s 2020 20 % headline target on energy efficiency.”

**Art. 3** requires each Member State to set an indicative target. The article states that “Each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity.

In **Art. 7** for the Energy Efficiency Obligation, there is a requirement for annual savings. “That target shall be at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of 1.5 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume, averaged over the most recent three-year period prior to 1 January 2013.”

See **Annex 2** in the present document for the latest targets set by MS.

#### ***Long-term renovation strategy***

**Art. 4** states that MS shall establish a long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private, and including deep renovations, although without defining the concept.

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<sup>4</sup> With Croatia becoming the 28<sup>th</sup> member of the EU, the target has now increased to 1483 Mtoe according to Commission sources.

This is quite an important requirement if implemented according to the spirit and not simply the letter of the article. Organisations such as the Buildings Performance Institute Europe (BPIE) have provided some guidance on how best to address these strategies.<sup>5</sup>

This strategy is to encompass:

- a. an overview of the national building stock based, as appropriate, on statistical sampling;
- b. identification of cost-effective approaches to renovations relevant to the building type and climatic zone;
- c. policies and measures to stimulate cost-effective deep renovations of buildings, including staged deep renovations;
- d. a forward-looking perspective to guide investment decisions of individuals, the construction industry and financial institutions; and
- e. an evidence-based estimate of expected energy savings and wider benefits.

It is clear that the legal interpretation of this article can vary widely. It is possible, in fact, to fulfil the requirements of the article if a MS carries out a number of studies, followed by an information campaign designed to remove the remaining economic and non-economic barriers, allowing the market to do the rest. This would be a lost opportunity, because recent savings potential studies show very high cost-effective savings potentials, of over 60% by 2030 (residential) and 80% by 2050.<sup>6</sup>

#### ***Exemplary role of public sector buildings***

**Art. 5** in the EED sets a 3% annual renovation target for public buildings owned and occupied by its central government from the beginning of 2014 onwards. Central government buildings must be renovated to meet at least the national minimum energy performance requirements set in application of **Art. 4** of the Energy Performance of Buildings Directive (EPBD).

The 3% rate shall be calculated on the total floor area of buildings with a total useful floor area over 500 m<sup>2</sup> and, as of 9 July 2015, over 250 m<sup>2</sup> owned and occupied by central government.

This is an important start to push for an ambitious total programme of renovations. It allows central governments to set a good example to roll out ambitious renovations throughout the entire building sector, and to test different technical and business models.

There will be a number of difficulties because central governments need to establish an inventory of their buildings. By 31 December 2013, MS must establish and make publicly available an inventory of heated and/or cooled central government buildings with a total useful floor area over 500 m<sup>2</sup> and, as of 9 July 2015, over 250 m<sup>2</sup>, excluding buildings exempted because they are officially protected for specific reasons or buildings owned by the armed forces or central government and serving national defence purposes. The inventory shall contain the floor area in m<sup>2</sup>; and the energy performance of each building or relevant energy data. In spite of the limited number of buildings covered by the requirement, it is still a challenge for the MS.

**Annex III** in the EED contains additional information on public procurement, while **Annex XIII** sets out minimum criteria for public sector energy performance contracting (EPC).

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<sup>5</sup> For more information, go to [http://bpie.eu/renovation\\_strategy.html](http://bpie.eu/renovation_strategy.html)

<sup>6</sup> Fraunhofer Institute, Concrete Paths of the European Union to the 2°C Scenario, 2012 and Ecofys, Renovation Tracks for Europe up to 2050 - Building renovation in Europe - what are the choices? 10.2012.

### ***Public procurement***

**Art. 6** and **Annex III** of the EED establish requirements for the public sector to follow for the purchase of high performing energy-efficiency products, services and buildings.

**Art. 6** also requires central governments to set an example for other purchasers through the purchase of products, services and buildings with high energy-efficiency performance insofar as it is consistent with cost-effectiveness criteria, economical feasibility, wider sustainability, technical suitability and sufficient competition. The article also encourages MSs to apply these public purchase requirements to other public bodies, including at the regional and local levels. EPCs as described in Annex XIII are also pertinent here.

It is clear that the newly adopted cost-optimal calculation methodology, with life cycle cost analysis and the inclusion of macro- and other co-benefits of energy efficiency investments should be applied here.

### ***Energy efficiency obligations***

**Art. 7** and **Annex V** concern energy efficiency obligations (EEO), with the intention to boost the market for energy efficiency services. MSs may, however, opt for alternative mechanisms and measures including energy taxation schemes, Energy Efficiency Funds, regulations and standards or other efficiency-promoting tools that exceed EU norms. These are described systematically and in considerable detail in Annex V.

Energy efficiency obligations were included in the 2006 Energy Services Directive but only a few MS actually implemented them. Some MS have had such obligations since the 1990s. According to reports received from the MS, there will be a number of new obligations started in MS as a result of the EED.

Under the EED, there is a specific target for energy savings. The target, according to **Art. 7**, shall be at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of 1.5% of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume, averaged over the most recent three-year period prior to 1 January 2013.

It is interesting to note that the 1.5% annual savings target (with exemptions that might reduce this figure by up to 25%) can be fulfilled (1) by an obligation placed on the energy suppliers or distribution companies, (2) by a number of other, existing “alternative” non-utility measures that continue to deliver “new” energy savings during the period 2014 -2020, or (3) by a mixture of an energy supplier/distributor obligation and alternative programmes and measures, provided they deliver the 1.5% annual savings. This flexibility makes this article *de facto* a binding savings target, and the criteria in Annex V help to calculate and count energy savings. In the on-going debate about a binding 2030 energy savings target at EU level, with effort sharing, Art. 7 should be used as an example that such targets are possible, and already in use.

A weakness in this otherwise effective article is the “sunset clause “ that ends the obligation and target abruptly at the end of 2020. This acts as a disincentive for long-term investments such as building renovations, which have a lifetime of 30 or more years.

The policy measures that may be used to fulfil the savings target in **Art. 7** may include, but are not restricted to, the following policy measures or combinations thereof, under the following conditions:

- a. energy or CO<sub>2</sub> taxes that have the effect of reducing end-use energy consumption; and are above existing minimum EU taxation requirements;
- b. financing schemes and instruments or fiscal incentives that reduce end-use energy consumption through energy efficient technology or techniques;
- c. regulations or voluntary agreements, provided they are recognised by the MS;

- d. standards and norms, including building codes that aim at improving the energy efficiency of products, buildings and services, provided they exceed the minimum requirements in the MS as required by EU legislation, including Eco-design and EPBD, the later using the cost-optimal level;
- e. energy labelling schemes, with the exception of those that are mandatory and applicable in the MS under Union law;
- f. training and education, including energy advisory programmes, provided they actually lead to reduced end-use consumption through the use of energy efficient techniques and technology.

Therefore, MS to fulfil this article, may opt to take other policy measures to achieve energy savings among final customers, provided those policy measures meet the same criteria as for those not opting out and the annual energy savings should be equivalent. The Directive states that “Provided that equivalence is maintained, Member States may combine obligation schemes with alternative policy measures, including national energy efficiency programmes,” as described above.

### ***Energy audits and energy management systems***

**Art. 8** of the EED describes the requirement for MS to promote high-quality energy audits to all final consumers. Large enterprises are subject to regular, high-quality energy audits at least every four years, starting 5 December 2015 at the latest. The EED also requires MS to promote and encourage the use of energy audits in all enterprises, even small and medium-sized enterprises (SMEs), households and other small end users. This includes MS developing programmes to encourage SMEs to undergo energy audits and implementation of the recommendations resulting from these audits. In addition, MS are to establish advice and awareness-raising programmes to inform households of the benefits of energy audits. **Annex VI** sets minimum quality criteria for energy audits and energy management schemes.

### ***Metering***

**Art. 9** states that MS shall ensure that, insofar as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings, final customers for electricity, natural gas, district heating, district cooling and domestic hot water are provided with competitively priced individual meters that accurately reflect the final customer’s actual energy consumption and that provide information on actual time of use. In essence, these are smart meters. Also, if requested by the consumer, then article requires that two-way meters for putting electricity back on the grid must be made available. **Art. 11** sets out consumer protection guidelines for costs and access to information related to metering and billing.

### ***Billing information***

**Art. 10** states that where final customers do not have smart meters as referred to in Directives 2009/72/EC and 2009/73/EC, MS shall ensure, by 31 December 2014, that billing information is accurate and based on actual consumption for all the sectors covered by this Directive, including energy distributors, distribution system operators and retail energy sales companies, where this is technically possible and economically justified. **Annex VII** provides details on minimum billing requirements.

### ***Efficiency of energy supply***

There is a separate section of the Directive that deals with the efficiency of energy supply. This was not included in the 2006 Energy Services Directive.

### ***Promotion of efficiency in heating and cooling***

**Art. 14** deals with the promotion of efficiency in heating and cooling. Previously, the Combined Heat and Power (CHP) Directive (2004/8/EC) addressed cogeneration, although now, because of the EED, that Directive will be repealed on 5 June 2014.

First of all, by 31 December 2015, MS are to carry out a comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling. Also, MS shall adopt policies to encourage those technologies. The Commission provides additional details for the assessment of high efficiency cogeneration and for undertaking cost-benefit analyses. These are found in **Annexes I, II, VIII, IX and X**, and also provide the calculation methodology and other guidance.

### ***Energy transformation, transmission and distribution***

**Art. 15** addresses efficiency aspects of the transformation, transmission and distribution of gas and electricity, including the operation of energy markets.

Includes demand response. MS shall ensure that national energy regulatory authorities, through the development of network tariffs and regulations, within the framework of Directive 2009/72/EC and taking into account the costs and benefits of each measure, provide incentives for grid operators to make available system services to network users permitting them to implement energy efficiency improvement measures in the context of the continuing deployment of smart grids. **Annex XII** provides additional details on obligations for transmission system operators (TSOs) and distribution system operators (DSOs) to carry out efficient and practical measures to ensure lower costs and grid access to distributed generators and to cogeneration producers. **Annex XI** provides details on setting tariffs that promote energy efficiency rather than promoting higher consumption.

MS shall ensure that by 30 June 2015:

- a. an assessment is undertaken of the energy efficiency potentials of their gas and electricity infrastructure, in particular regarding transmission, distribution, load management and interoperability, and connection to energy generating installations, including access possibilities for micro energy generators; and
- b. concrete measures and investments are identified for the introduction of cost-effective energy efficiency improvements in the network infrastructure, with a timetable for their introduction.

### **Obligations of member states**

This is an ambitious and demanding Directive, at least in theory, meaning that MS have many obligations in order to fulfil its requirements and to realise that an ambitious implementation is both cost effective and lies in the best interests of their countries and their citizens. As shown above, for example, there is a need to prepare a renovation strategy; there is a need to prepare National Energy Efficiency Action Plans (NEEAPs) on a regular basis; there is a need to report on targets; if MS want to change a specific programme option, then they must explain it to the Commission.

**Annex 2** in this Maze document details the full range of obligations by Article. These obligations place a significant burden on MS but they also place an important obligation on the European Commission to monitor and review on a regular basis. This will clearly increase the quantity and quality of the dialogue between MSs and the Commission, bi-laterally, as well as through the EED Committee, through Concerted Actions and many other fora.

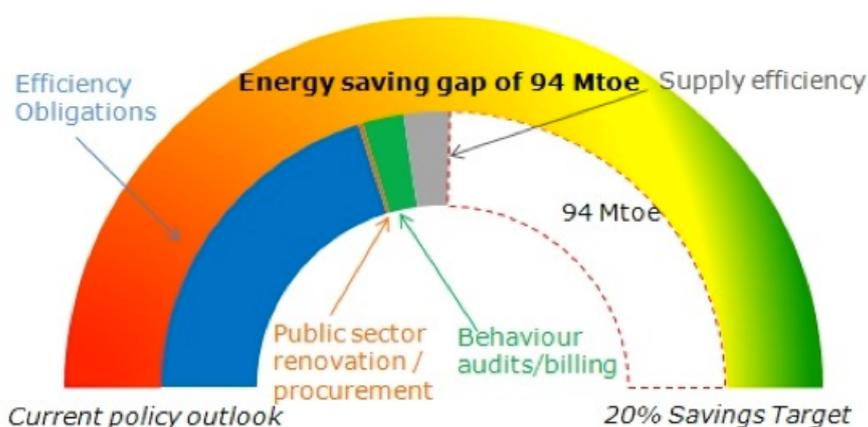
### **The likely impact**

The EED is designed to help close the energy savings gap to meet the 2020 energy savings target. When the proposal for the Directive came out, Europe was on track to miss its energy saving target by more than half, leaving a gap of about 190 Mtoe in

2020. When the EED was agreed upon, it was estimated that the EED would now achieve about 14-15% of the 2020 target.

Even more recently, there have been preliminary indications that the EED could achieve over 17%, perhaps 17.5%. If the gap appears to be closing when the June 2014 review is carried out, this will have implications on what the Commission must deliver in the way of new proposals. There is a possibility that instead of concentrating on 2020, the focus may shift more to 2030, if the mandate in the EED can be interpreted somewhat more broadly. This would very likely be a considerable advantage for MS as well as for industry and private investors, all of whom have longer planning horizons.

The Coalition for Energy Savings provided its “gapometer” to show where we are according to the most recent official information.



The Coalition states that the “lion's share of savings come from the 1.5% annual savings under the efficiency obligations schemes, which can be reduced by 25% general flexibility for early actions and other cases. This represents nearly a doubling of savings compared to the existing 1% annual savings target under the Energy Services Directive.”

### Ensuring good implementation

There are a couple of major efforts underway to help ensure effective implementation.

As mentioned above, Member States work together through a project funded by the European Commission entitled Concerted Action EED (CA EED).<sup>7</sup> The objectives of the CA EED are to:

- Enhance and structure the sharing of information and experiences from national implementation whilst promoting good practice concepts in activities to improve and strengthen Member State implementation of the EED;
- Create favourable conditions for an accelerated degree of convergence of national procedures in EED related matters and
- Complement the work of the Committee on the EED.

The work of the CA EED is structured around eight Core Themes covering the key requirements of the EED:

- National Energy Efficiency Action Plans and annual reports and measuring progress in energy efficiency;
- Public Sector – public buildings and public purchasing;
- Metering and billing, demand response and grid issues;
- Funds and Financing for energy efficiency;

<sup>7</sup> <http://www.esd-ca.eu/home>



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- Energy services and ESCOs, energy auditing, solving administrative barriers;
- Consumer information programmes, training and certification of professionals;
- Efficiency in Energy Supply, high efficiency CHP and heating/cooling; and
- Energy efficiency obligation schemes, monitoring impacts of eligible measures.

The Coalition for Energy Savings, of which eceee is a member organisation, has provided a detailed guide to good implementation. The Coalition's *Guidebook for Strong Implementation* breaks down the Directive into main themes and legal requirements, as well as develops a list of good practices for a strong, ambitious and complete implementation of the legislation. The Guide is designed to not only empower stakeholders to champion a successful implementation of the EED, but also drive home the importance of energy savings in building a more sustainable and competitive Europe. The Guide is available on the Coalition website.<sup>8</sup>

Third, the eceee Summer Studies have had many papers related to the development and analysis of the EED. **Annex 4** in the present document lists the relevant papers presented at the 2012 eceee Summer Study.

### **Next steps**

eceee will be following how the implementation process evolves to see how MS meet their obligations. In 2014, eceee will be holding its second industrial Summer Study where there are expected to be papers related to elements related to the EED.

The Commission has provided detailed guidance on many of the individual Articles. The guidance documents are available on the DG ENER [website](#).

This Maze document will be revised as the process continues.

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<sup>8</sup> <http://energycoalition.eu/guidebook-strong-implementation-0>



## **Annex 1 – Energy Efficiency Directives in force**

### ***Energy Efficiency***

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

### ***Energy Labelling of Domestic Appliances***

Council Directive 92/75/EEC of 22 September 1992 on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances and its amendments and implementing measures ("Energy Labelling Directive") repealed by:

Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products (recast)

### ***Ecodesign of Energy-related Products***

Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005, as amended by Directive 2008/28/EC of the European Parliament and of the Council of 11 March 2008, establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council ("Ecodesign Directive"), replaced by Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast)

### ***Energy Performance of Buildings***

Directive 2002/91 of the European Parliament and of the Council of 16 December

2002 on the energy performance of buildings and its amendments repealed by its recast Directive:

Directive 2010/31 of the European Parliament and of the Council of 17 May 2010 on the energy performance of buildings and its amendments (the recast Directive entered into force in July 2010, but the repeal of the current Directive took place on 1/02/2012)

### ***Repealed Directives***

End-use Efficiency & Energy Services – Now repealed.

Directive 2006/32 of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive

93/76/EEC ("The Energy Services Directive").

### ***Cogeneration - Combined Heat and Power (CHP) – Now repealed.***

Directive 2004/8/EC of the European Parliament and of the Council of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels.

## Annex 2 – Targets reported by MSs

Under Article 24, paragraph 11, of the Energy Efficiency Directive the "Commission shall make the reports referred to in paragraphs 1 and 2 publicly available". These are the targets provided on the DG ENER website as of September 20, 2013.<sup>9</sup>

EU Member State	Article 3 indicative national energy efficiency target for 2020	Absolute level of energy consumption in 2020 [Mtoe]		Annual 2013 report and NRP
		Primary	Final	
<b>Austria</b>	Final energy consumption of 1100 PJ	31.5	26.3	<ul style="list-style-type: none"> <li><a href="#">DE/EN</a> [4 MB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Belgium</b>	18% reduction in primary energy consumption by 2020 relative to the Primes 2007 baseline (53.3 Mtoe)	43.7	32.5	<ul style="list-style-type: none"> <li><a href="#">EN</a> [469 KB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Bulgaria</b>	Increase of energy efficiency by 25% until 2020 (5 Mtoe primary energy savings in 2020) and 50% energy intensity reduction by 2020 compared to 2005 levels	15.8	9.16	<ul style="list-style-type: none"> <li><a href="#">BG</a> [3 MB]  / <a href="#">EN</a> [229 KB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Cyprus</b>	0.463 Mtoe energy savings in 2020 (14.4% reduction in 2020 compared to a reference scenario)	2.8	2.2	<ul style="list-style-type: none"> <li><a href="#">CY/EN</a> [671 KB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Czech Republic</b>	Ajouter la phrase suivante : 47,84 PJ (13,29 TWh) savings of final energy consumption*	39.6	24.4	<ul style="list-style-type: none"> <li><a href="#">CZ/EN</a> [271 KB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Denmark</b>	Primary energy consumption of 744.4 PJ (17.781 Mtoe) in 2020	17.8	14.8	<ul style="list-style-type: none"> <li><a href="#">DK/EN</a> [305 KB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Estonia</b>	Stabilisation of final energy consumption in 2020 at the level of 2010	6.5	2.8	<ul style="list-style-type: none"> <li><a href="#">ET/EN</a> [747 KB] </li> <li><a href="#">NRP</a></li> </ul>
<b>Finland</b>	310 TWh of final energy consumption in 2020	35.9	26.7	<ul style="list-style-type: none"> <li><a href="#">FI/EN</a> [4 MB] </li> <li><a href="#">NRP</a></li> </ul>

<sup>9</sup> [http://ec.europa.eu/energy/efficiency/eed/reporting\\_en.htm](http://ec.europa.eu/energy/efficiency/eed/reporting_en.htm)



<b>France</b>	17.4% reduction of final energy consumption in 2020 compared to a baseline	<b>236.3</b>	<b>131.4</b>	<ul style="list-style-type: none"> <li>• <a href="#">FR/EN</a>  [48 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Germany</b>	Annual improvement of energy intensity (energy productivity) by 2.1% pa on average until 2020	<b>276.6</b>	<b>194.3</b>	<ul style="list-style-type: none"> <li>• <a href="#">DE/EN</a>  [75 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Greece</b>	Final energy consumption level of 20.5 Mtoe	<b>27.1</b>	<b>20.5</b>	<ul style="list-style-type: none"> <li>• <a href="#">EL/EN</a>  [840 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Hungary</b>	1113 PJ primary energy consumption in 2020 (236 PJ savings compared to business-as-usual), resulting in 760 PJ final energy consumption	<b>26.6</b>	<b>18.2</b>	<ul style="list-style-type: none"> <li>• <a href="#">HU/EN</a>  [155 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Ireland</b>	20% energy savings in 2020 along with a public sector energy saving target of 33%	<b>13.9</b>	<b>11.7</b>	<ul style="list-style-type: none"> <li>• <a href="#">EN</a>  [365 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Italy</b>	20 Mtoe primary energy reduction by 2020, 15 Mtoe final energy reduction by 2020	<b>158.0</b>	<b>126.0</b>	<ul style="list-style-type: none"> <li>• <a href="#">IT/EN</a>  [2 MB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Lithuania</b>	17% reduction in final energy use compared to 2009 level (reduction of 740 ktoe)	-	<b>5.4</b>	<ul style="list-style-type: none"> <li>• <a href="#">LT/EN</a>  [480 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Luxembourg</b>	Preliminary target value for 2020 of 49,292 GWh or 4,239.2 ktoe final energy	<b>4.482</b>	<b>4.239</b>	<ul style="list-style-type: none"> <li>• <a href="#">LU</a>  [279 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Latvia</b>	Primary energy savings in 2020 of 0.670 Mtoe (28 PJ)	<b>5.37</b>	<b>4.47</b>	<ul style="list-style-type: none"> <li>• <a href="#">LV</a>  [474 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Malta</b>	22% energy or 237.019 toe savings target by 2020	<b>0.825</b>	<b>0.493</b>	<ul style="list-style-type: none"> <li>• <a href="#">EN</a>  [713 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Netherlands</b>	1.5% energy savings per year(partial)	<b>60.7</b>	<b>52.2</b>	<ul style="list-style-type: none"> <li>• <a href="#">NL/EN</a>  [103 KB]</li> <li>• <a href="#">NRP</a></li> </ul>



<b>Poland</b>	13.6 Mtoe primary energy savings in 2020	<b>96.4</b>	<b>70.4</b>	<ul style="list-style-type: none"> <li>• <a href="#">PL/EN</a>  [387 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Portugal</b>	Reduction of primary energy use in 2020 by 25% compared to projections	<b>22.5</b>	<b>17.4</b>	<ul style="list-style-type: none"> <li>• <a href="#">PT/EN</a>  [2 MB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Romania</b>	Reduction of 10 Mtoe (19%) in the primary energy consumption	<b>42.99</b>	<b>30.32</b>	<ul style="list-style-type: none"> <li>• <a href="#">RO</a>  [299 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Spain</b>	20% energy savings to be achieved by 2020	<b>121.6</b>	<b>82.9</b>	<ul style="list-style-type: none"> <li>• <a href="#">ES/EN</a>  [2 MB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Slovakia</b>	3.12 Mtoe of final energy savings for the period 2014-2020	<b>16.2</b>	<b>10.4</b>	<ul style="list-style-type: none"> <li>• SK/EN</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Sweden</b>	Energy use shall be 20% more efficient by 2020 compared with 2008 and a 20% reduction in energy intensity between 2008 and 2020	<b>45.9</b>	<b>30.3</b>	<ul style="list-style-type: none"> <li>• <a href="#">EN</a>  [292 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>Slovenia</b>	10.809 GWh energy savings by 2020	-	-	<ul style="list-style-type: none"> <li>• <a href="#">SL</a>  [318 KB]</li> <li>• <a href="#">NRP</a></li> </ul>
<b>United Kingdom</b>	Final energy consumption in 2020 of 129.2 Mtoe on a net calorific value basis	<b>177.6</b>	<b>157.8</b>	<ul style="list-style-type: none"> <li>• <a href="#">EN</a>  [205 KB]</li> <li>• <a href="#">NRP</a></li> </ul>

### Annex 3 – Overview: Obligations on MS to implement the Energy Efficiency Directive

Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
Energy efficiency targets	Article 3	The targets should have been communicated to the Commission by 30 April 2013 under Article 24.1	Each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity. Member States shall notify those targets to the Commission	By 30 June 2014, the Commission shall assess progress achieved and whether the Union is likely to achieve energy consumption of no more than 1 474 Mtoe of primary energy and/or no more than 1 078 Mtoe of final energy in 2020.
Exemplary role of public bodies' buildings	Article 5	By 1 January 2014	Each Member State shall ensure that, as from 1 January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year to meet at least the minimum energy performance requirements.	Big challenge to undertake inventory of all qualifying buildings together with their energy performance. Then need to develop strategy (including funding) for actual implementation
		by 31 December 2013	Member States opting for the alternative approach shall notify to the Commission, by 31 December 2013, the alternative measures that they plan to adopt, showing how they would achieve an equivalent improvement in the energy performance of the buildings within the central government estate.	
Purchasing by public bodies	Article 6	On-going	Member States shall ensure that central governments purchase only products, services and buildings with high energy-efficiency performance, insofar as that is consistent with cost-effectiveness, economical feasibility, wider sustainability, technical suitability, as well as sufficient competition	Not all MS have implemented this but are working towards it.

Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
Energy efficiency obligation schemes	Article 7	From 1 January 2014	Each Member State shall set up an energy efficiency obligation scheme. That scheme shall ensure that energy distributors and/or retail energy sales companies that are designated as obligated parties under paragraph 4 operating in each Member State's territory achieve a cumulative end-use energy savings target by 31 December 2020	As an alternative to setting up an energy efficiency obligation scheme under paragraph 1, Member States may opt to take other policy measures to achieve energy savings among final customers.  While the EU has promoted EEOs, MS have been reluctant to introduce them. This will be a major challenge in working with energy companies and putting obligations on them.
		5 December 2013	Member States shall notify to the Commission, by 5 December 2013, the policy measures that they plan to adopt for the purposes of the first subparagraph and Article 20(6)	It is the intention of the Commission to post these on their website as they become available.
Energy audits and energy management systems	Article 8	On-going	Member States shall promote the availability to all final customers of high quality energy audits which are cost-effective	No major implementation concerns foreseen
		On-going	Member States shall develop programmes to encourage SMEs to undergo energy audits and the subsequent implementation of the recommendations from these audits.	No major implementation concerns foreseen
		On-going	Member States shall also develop programmes to raise awareness among households about the benefits of such audits through appropriate advice services	No major implementation concerns foreseen

Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
		On-going	Member States shall encourage training programmes for the qualification of energy auditors	No major implementation concerns foreseen
		By 5 December 2015	Member States shall ensure that enterprises that are not SMEs are subject to an energy audit carried out in an independent and cost-effective manner by qualified and/or accredited experts or implemented and supervised by independent authorities under national legislation by 5 December 2015 and at least every four years from the date of the previous energy audit.	This will require some effort for large enterprises that are not already covered by an energy management scheme such as EN ISO 5000, that also includes regular energy audits meeting the minimum criteria set out in Annex VI of the EED.
Metering	Article 9	In multi-apartment and multi-purpose buildings with a central heating/cooling source or supplied from a district heating network or from a central source serving multiple buildings, individual consumption meters shall also be installed by 31 December 2016	Member States shall ensure that, in so far as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings, final customers for electricity, natural gas, district heating, district cooling and domestic hot water are provided with competitively priced individual meters that accurately reflect the final customer's actual energy consumption and that provide information on actual time of use.	Could be a challenge in many Member States. It partly depends on roll out of smart meters already as required under internal market Directives. A number of Member States have already carried this out through their utilities.
Billing Information	Article 10	31 December 2014	Where final customers do not have smart meters as referred to in Directives 2009/72/EC and 2009/73/EC, Member States shall ensure, by 31 December 2014, that billing information is accurate and based on actual consumption	No major implementation concerns foreseen, but consumer protection organisations need to follow this to make sure consumers receive the full benefit.

Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
Cost of access to metering and billing information	Article 11	On-going	Member States shall ensure that final customers receive all their bills and billing information for energy consumption free of charge and that final customers also have access to their consumption data in an appropriate way and free of charge	No major implementation concerns foreseen, but once again, something for consumer protection organisations to follow closely.
Consumer information and empowering programme	Article 12		Member States shall take appropriate measures to promote and facilitate an efficient use of energy by small energy customers, including domestic customers. These measures may be part of a national strategy.	No major implementation concerns foreseen
Penalties	Article 13	Member States shall notify those provisions to the Commission by 5 June 2014 and shall notify it without delay of any subsequent amendment affecting them.	Member States shall lay down the rules on penalties applicable in case of non-compliance with the national provisions adopted pursuant to Articles 7 to 11 and Article 18(3)	No major implementation concerns foreseen, but the Commission will need to follow the effectiveness of the penalties and their proportionality. .
Promotion of efficiency in heating and cooling	Article 14	By 31 December 2015	Member States shall carry out and notify to the Commission a comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling, containing the information set out in Annex VIII. If they have already carried out an equivalent assessment, they shall notify it to the Commission	Challenge if just starting. But work should have been done under previous Cogeneration Directive



Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
			Member States shall adopt policies which encourage the due taking into account at local and regional levels of the potential of using efficient heating and cooling systems	Depends on starting point
			Member States shall carry out a cost-benefit analysis covering their territory based on climate conditions, economic feasibility and technical suitability	No major implementation concerns foreseen
			Member States shall ensure that the origin of electricity produced from high- efficiency cogeneration can be guaranteed according to objective, transparent, and non-discriminatory criteria laid down by each Member State.	No major implementation concerns foreseen
			Member States shall ensure that any available support for cogeneration is subject to the electricity produced originating from high-efficiency cogeneration and the waste heat being effectively used to achieve primary energy savings. Public support to cogeneration and district heating generation and networks shall be subject to State aid rules, where applicable	No major implementation concerns foreseen
Availability of qualification, accreditation and certification schemes	Article 16	by 31 December 2014	Where a Member State considers that the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 31 December 2014, certification and/or accreditation schemes and/or equivalent qualification schemes, including, where necessary, suitable training programmes, become or are available for providers of energy services, energy audits, energy managers and installers of energy-related building	No major implementation concerns foreseen, but Commission will need to check the implementation of this requirement to maintain a high level of ambition and quality. Some Member States have been very bad at ensuring a high level of training and education, while others have been excellent.

Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
Information and training	Article 17	On-going	Member States shall ensure that information on available energy efficiency mechanisms and financial and legal frameworks is transparent and widely disseminated to all relevant market actors, such as consumers, builders, architects, engineers, environmental and energy auditors, and installers of building elements	No major implementation concerns foreseen
Energy services	Article 18	On-going	Member States shall promote the energy services market and access for SMEs to this market	No major implementation concerns foreseen
			Member States shall ensure that energy distributors, distribution system operators and retail energy sales companies refrain from any activities that may impede the demand for and delivery of energy services or other energy efficiency improvement measures, or hinder the development of markets for such services or measures, including foreclosing the market for competitors or abusing dominant positions.	No major implementation concerns foreseen
Other measures to promote energy efficiency	Article 19		Member States shall evaluate and if necessary take appropriate measures to remove regulatory and non-regulatory barriers to energy efficiency, without prejudice to the basic principles of the property and tenancy law of the Member States	No major implementation concerns foreseen
Energy Efficiency National Fund, Financing and Technical Support	Article 20		Member States shall facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures to maximise the benefits of multiple streams of financing.	

Specific Obligations to Member States	Article in Directive	Timetable/ Milestones	Action Required	Comments
			Member States may set up an Energy Efficiency National Fund. The purpose of this fund shall be to support national energy efficiency initiatives.	This could be a major source of financing for energy efficiency if Member States realise all the benefits and put in place functioning models.
Review and monitoring of implementation	Article 24	By 30 April each year as from 2013	Member States shall report on the progress achieved towards national energy efficiency targets	No major implementation concerns foreseen
		By 30 April 2014, and every three years thereafter	Member States shall submit National Energy Efficiency Action Plans	Should not be a major challenge since next NEEAP is the third one prepared.
		before 30 April each year	Member States shall submit to the Commission before 30 April each year statistics on national electricity and heat production from high and low efficiency cogeneration, in accordance with the methodology shown in Annex I	
Transposition	Article 28	5 June 2014	Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 5 June 2014	



## **Annex 4 – eceee 2013 Summer Study papers related to the EED**

There were many papers at the 2013 eceee Summer Study that related to the Energy Efficiency Directive. Papers are available on the eceee [website](#). They are free for eceee members.

Katy Roelich et al, Efficient and service oriented infrastructure operation; the role of the Energy Efficiency Directive in driving change towards Multi-Utility Service Companies

Veronika Czakó, The leading role of the public sector in energy end-use efficiency in the EU: Where do we stand?

Violeta Kogalniceanu et al, Energy efficiency policies in contracting parties of the energy community - an integrative and innovative approach

Dan Stanciaszek, Methodology for developing ambitious strategies for energy renovation of national building stocks

Thomas Madry et al, Take a closer look! Improvement of energy efficiency policies in the framework of the Energy Services Directive

Jean-Sébastien Broc et al, On the way to change of scale: review of NEEAPs' energy efficiency strategies for buildings

Frank Klinckenberg et al, What works and what doesn't: renovation roadmaps for buildings

Paolo Bertoldi et al, The role of NEEAPs, measurement methods and national targets to achieve the EU 2020 energy saving goal

Louiza Papamikrouli et al, Barriers for energy efficient public procurement in south-east Europe – a market perspective

Sirid Sif Bundgaard et al, Spending to save: evaluation of the energy efficiency obligation in Denmark

Demet Suna et al, How to calculate energy savings and costs of energy saving obligations in a harmonized way?