

II REACHING THE TARGETS

Part II details the main elements of the EED, providing a background for each of the subject areas, the requirements of the EED and recommendations for effective implementation and monitoring. Because many subject areas are covered by more than one article, each is treated separately here. Part II starts by reviewing Energy Efficiency Obligations, then follows with the public sector and energy audits, and ends with a discussion of supply side efficiency and demand response.

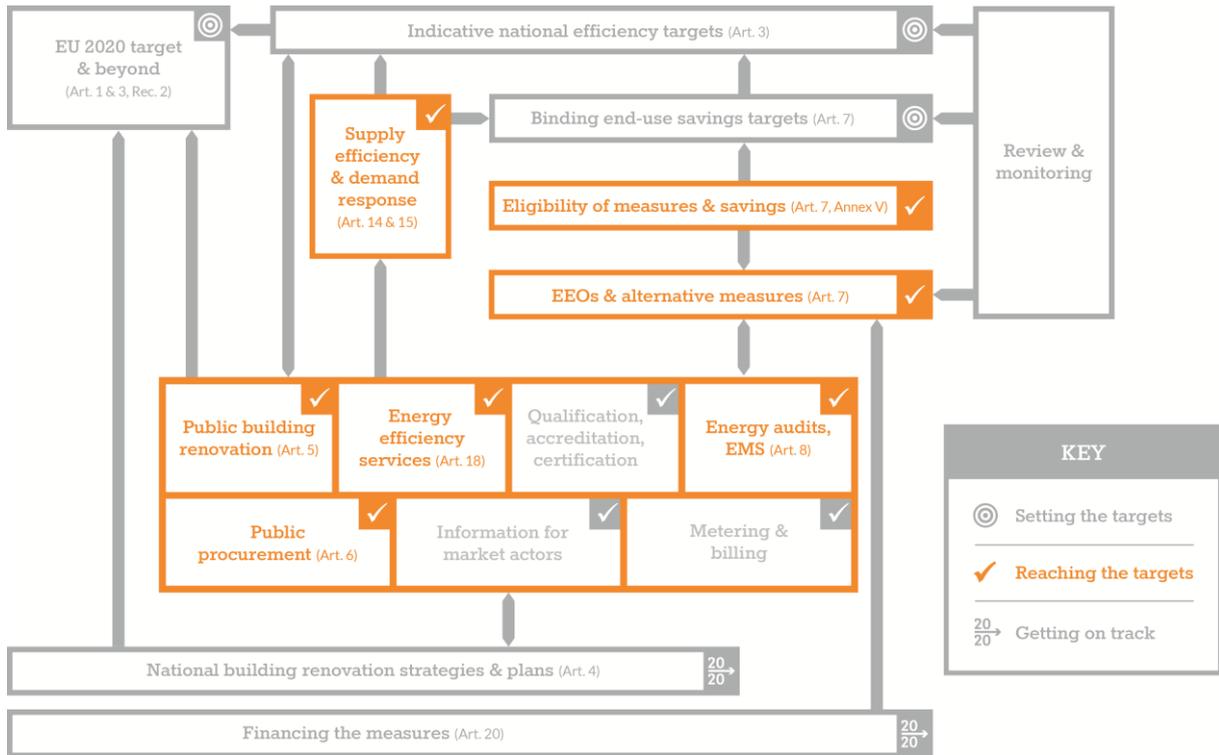


Figure 16 – Guidebook Overview Map: Reaching targets and objectives

II.2 Energy efficiency obligation schemes & alternatives (Article 7)

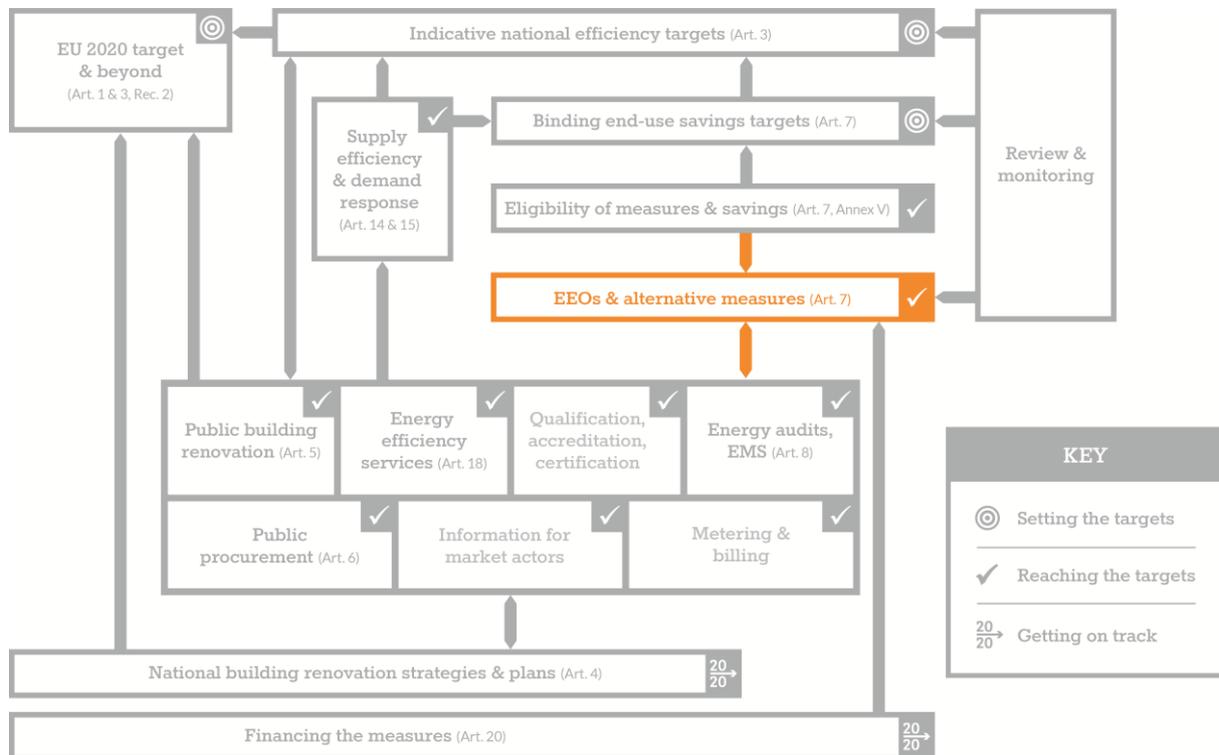


Figure 19 – Guidebook Overview Map: EEOs

II.2.1 Summary

Essential for the EED is the binding energy end-use savings target up to and including the year 2020, as set out in Article 7.1 (see chapter I.5). The subject of chapter II.2 is the vehicle or mechanism through which these savings are delivered. One important mechanism set out in Article 7 is to establish an energy efficiency obligation (EEO), with the intention to boost the market for energy efficiency services. MSs may, however, opt for alternative mechanisms and measures including taxation schemes, Energy Efficiency Funds (see EED Article 20 and chapter III.2 of this guide), regulations and standards or other efficiency-promoting tools that exceed EU norms.

Under an EEO, some part of the company has an obligation to save energy in end-use customers' premises or homes. Financial penalties will be incurred if they fail to deliver those savings. In this way, an actor which has both legitimacy and competence in energy matters and access to end users is clearly tasked with the responsibility to carry out efficiency actions, or to delegate this to a third party.

Such schemes can have a transformative effect on the role and activities of energy companies, as well as opening up an internal market for energy services. If used effectively, EEOs can play a key role in delivering and financing other measures, including the long-term renovation of the building stock (Article 4).

There are many different modalities in the design and operation of an EEO. In any case they all have to ensure target achievement using robust measurement and verification. Good practices include the following:

- MSs should clearly define the roles within the EEO and set the energy savings target for the obliged parties.

- Energy regulators should establish regulatory mechanisms to enable energy providers under an EEO to recover the costs of meeting its targets, if the EEO is placed on a regulated part of the energy company or if the price of energy is regulated.
- EEO administrators should ensure that any obligation introduced will recognise the importance of low-income households both in the way that the costs are passed through and also in ensuring that they are not neglected in actual energy efficiency measures installed.
- MSs must clearly set out how equivalence will be established and that the levy mechanism is transparent to and fair on all obligated parties, if they decide to permit obligated parties to pay into an Energy Efficiency Fund rather than undertake energy savings measures directly.
- MSs should endeavour to achieve the greatest synergies possible between their EEOs and other energy savings policies.

Whether MSs opt for an EEO or an alternative approach, the actions undertaken under it, and therefore expected to count towards meeting the Article 7 target, must meet certain standards of quality and additionality. More details on this can be found in chapter **Erreur ! Source du renvoi introuvable.** and in Annex B. Key recommendations are that:

- In order to engender a long-term perspective for savings delivery under Article 7, the “sunset date” for the 1.5% target, after which no new savings are required, should be removed when the Commission reviews Article 7 in 2016. In the meantime, MSs should ensure that the value of longer-lived measures is fully reflected in the accounting system used.
- Methods for measuring energy savings and ensuring additionality should follow international best practice.
- MSs will need to set up a system to ensure that energy efficiency measures are not claimed twice towards the energy end-use savings target by different delivery partners or double counted where different policy measures are contributing to making the measure happen.

II.2.2 Background

II.2.2.1 *What they are and how they work*

EEOs on energy retailers (also known as suppliers) or distributors have been used in certain EU countries since the 1990s. To date, there are seven MSs with existing or imminent EEOs¹. The longest running have all been evaluated by their governments and subsequently expanded in recent years. Around €2.5 billion per year is now being spent by energy companies in the EU to deliver energy efficiency under EEOs. This figure still only represents between 1 and 4.5% of the energy bill to customers depending on the MS².

Governments set the overall targets for the EEO and the scheme administrator (a government department, energy agency or energy regulator) shares out the target among the obligated companies. The target for any particular energy company is related to its market share in the volume of energy supplied or distributed by it. The EEO administrator is also responsible for approving the energy companies’ actions or schemes on energy efficiency (including any product specification requirements); determining the energy savings at the completion of each scheme; verifying the claimed energy savings are valid and accurate; and taking enforcement action to ensure compliance with the EEO statutory order.

¹ UK, Italy, Denmark, the Flanders region of Belgium, France, Ireland and Poland.

² [Lees, E., *Energy efficiency obligations – the EU experience*, European Council for an Energy Efficient Economy, 2012, p. 2.](#)

In most MS EEOs, energy companies are not restricted to saving energy from their own customers; they can save energy from any eligible end-use customer. The key steps are to set a target, rules for determining the energy savings and procedures for monitoring and verifying that those measures have in fact been installed. Governments may also highlight or ring-fence any particular social or technological issue to which the MS wishes to give priority.

EEOs can be coupled with various trading options: trading of certified energy savings, trading of eligible measures without formal certification or trading of obligations. There is increasing innovation on how these schemes are developed and a growing body of best practice examples available globally to accelerate the development and deployment process³.

Obligated entities can do the work directly themselves or outsource it to third parties.

EEOs have evolved from operating within vertically integrated electricity monopolies to operating in fully liberalised energy markets. Indeed, with some of the longer running obligations (Denmark, Italy and the UK) there is evidence that the retail arms of energy companies are developing energy service businesses alongside the traditional retail offering⁴. For example, British Gas has publically stated that they expect energy service income to match energy supply (retail) income in a few years⁵.

EEOs offer a number of advantages beyond designating responsibility for ensuring efficiency actions are undertaken, including:

- Satisfying the “polluter pays” principle, as end users ultimately pay for the costs of the EEOs to energy companies (see II.2.2.3);
- Remaining independent of public expenditure, since financing comes ultimately from end users;
- Providing a more stable outlook that is not subject to changing government budgetary decisions;
- Creating a transformative effect on the market for energy services if the EEO design ensures that there is no abuse of market power by energy companies and that the market is open to third parties other than the obligated energy companies to participate; and
- Being a cost-effective solution. For example, the Danish Government has evaluated its various energy efficiency policies and concluded that the Danish EEO is one of the most cost effective⁶.

Energy savings for specific energy actions can of course be directly measured and this happens in the larger energy using processes. However, in the EU, most of the delivered energy savings have come through the use of deemed or *ex ante* savings for specific energy efficiency measures. Such measures (insulation, moving a customer purchase from an A-rated appliance to an A+ appliance, installing a more efficient boiler or heat pump than the market average) have been technically proven to save energy and have been independently measured to establish the actual energy saving values. The power of this approach is that there are many end uses in all sectors which are both widespread and with well-proven energy savings. This deemed energy saving approach has the additional advantage of making monitoring and verification analogous to a financial audit (i.e. a sample of the claimed energy savings by the obligated energy company is independently verified by the EEO administrator to ensure that such an installation took place and is still in use).

Clearly, for the European Commission to have confidence in the energy savings arising from EEOs (or indeed any energy efficiency policy involving the deemed energy saving approach),

³ [Regulatory Assistance Project, Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes, 06.2012.](#)

⁴ [Bang, U., Kick starting the market for energy services by energy efficiency obligations, 2012 \[presentation\].](#)

⁵ [Sam Laidlaw, Chief Executive, Centrica: “The old utility business model is dead”, Centrica, 16.09.2012.](#)

⁶ [Bang, U., Kick starting the market for energy services by energy efficiency obligations, 2012 \[presentation\], p.5.](#)

there needs to be evidence from MSs that they have in place robust and transparent processes to ensure that such deemed savings are proven, independently verified and real.

This also applies for the intermediate approach between deeming and directly measuring energy savings from specific actions via the scaled engineering estimate. For example if an industrial scale heat pump is known to save a certain amount of energy at a particular power rating, then engineering estimates can scale those savings to a heat pump with a different power rating in a similar application.

II.2.2.2 Financing options

The obvious costs involved with the installation of energy efficiency measures or the purchase of energy efficient products under an EEO are met by energy companies in the form of subsidies along with contributions from customers, landlords (especially social landlords), local authorities, charities, manufacturers and other actors. Evidence from existing EEOs can help to determine the level of subsidy needed to entice customers to take up efficiency measures, and how much they are likely to be willing to contribute themselves. There is an additional cost to the energy company for marketing, selling, reporting or planning their activities under the obligations.

Costs falling to the energy company are distinguished by the way that they are passed on to the end-use customers. If the EEO is on an energy retailer in a liberalised market, the cost of the EEO simply becomes a cost of business like other environmental requirements and will be passed on to the end customer, with competition ensuring that the energy companies deliver their obligations at the lowest cost possible. In contrast, if the EEO is on a regulated part of the energy company, such as a distributor or any supply price regulations in place, the costs are normally included in the regulated tariff that is charged to the end customers. However, the experience both within Europe and globally shows that over time, the EEO will save money on individual customers' bills and possibly all customers' bills by reducing peak demand and costs to the grid.

In Flanders, France and the UK, for example, requirements have been put in place to ensure that low-income customers are given priority. The UK requires that 40% of the energy company's savings comes from low-income households.

It is usually the role of the energy regulator to establish regulatory mechanisms that enable the energy providers to recover the costs of meeting EEO targets, if appropriate, and to remove perverse financial incentives for increased energy carried or penalties for reduced energy carried when setting the distribution and transmission price controls (refer to chapter II.6 or Article 15.4 of the EED)⁷.

II.2.3 Challenges

The detailed operations of existing and planned EEOs in MSs reflect the local status of the energy market (liberalised or otherwise), the energy efficiency history of the energy companies, climate, energy saving opportunities and culture. The common principle is that some part of the energy provision chain is clearly obligated to deliver energy savings.

Historically in the EU, energy efficiency measures have largely been delivered by energy companies through bilateral contracts between an obligated company and an energy efficiency market actor, such as an insulation company, appliance retailers, manufacturers or heating installers, by outsourcing the delivery of the energy efficiency measures. The Italian and the French EEOs differ in that accredited parties, and not just the obligated energy companies, can earn White Certificates (the name for the energy saving certificate from the EEO administrator) in their own right and that these can be subsequently traded and ultimately bought by the obligated energy companies. Globally, the early EEOs operated in regulated (often integrated)

⁷ [Regulatory Assistance Project, Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes, June 2012.](#)

utilities and required energy savings to be made only in the regulated energy end uses. Nowadays, most EU EEOs permit the saving of any end-use fuel.

The European Commission's assessment of the possibility of establishing an EU White Certificate scheme showed that, in the current situation, such a system would create excessive administrative costs and risk concentrating energy savings in a number of MSs. The Commission concluded that the objective of such a scheme could be better achieved, at this stage, by means of national EEO schemes for energy utilities or other alternative policy measures that achieve the same amount of energy savings.

Perhaps more importantly, the existing EU EEOs have different rules for measuring energy savings and for dealing with the issues of deadweight or free riders (those end users that would have undertaken the efficiency measures even in the absence of the EEO). Greater use of best practices in determining energy savings in this area is clearly essential to achieve the EED objectives as set out in the eceee and RAP report⁸.

There is growing recognition that setting a target for which only the first year's energy savings⁹ from a measure are counted results in undervaluing measures with longer lifetimes. For example, an insulated structure can have a 30- to 40-year lifetime, compared to a ten- to twelve-year lifetime for an appliance. If the target counts first-year energy savings only, the three to four times longer lifetime of insulation is not valued in terms of the total energy savings realised. There will thus be a commercial incentive for the energy company to invest in the shorter lived measures rather than the longer, more cost-effective energy saving measures. To counteract this problem Denmark has introduced weighting factors dependent on the lifetime of the energy efficiency measure, and Italy has introduced lifetime recognition to value longer lived measures. France and the UK consider lifetime energy savings.

Finally, to avoid "stop-go" market activity for the energy efficiency industry, it has been good practice to permit the banking of energy savings from one phase of the EEO to the next¹⁰. Some EEOs permit borrowing of energy savings from one phase to the next, meaning they have to deliver both the shortfall from the first phase and the energy savings target of the second phase. Such banking and borrowing is explicitly recognised in EED Article 7.7(c) and should not be confused with the requirements on MSs to deliver the Article 7.1 target from individual actions that take place between 2014 and 2020. This must not be used by MSs *on top* of the 25% exemption bundle. Doing so would significantly reduce the amount of actual new, additional savings realised during the 2014-2020 period and greatly undermine the effectiveness of the Article. In the case of the UK it would reduce the minimum target (after full use of exemptions) by another 2,388 toe to 4,675 toe.

II.2.4 Alternatives to EEOs

It is important to first note that alternative measures will miss out on the previously mentioned transformative effect on energy companies (see chapter II.2.2.1) that is associated with EEOs.

The EED permits delivery of part or all of the target by alternative measures that have the effect of reducing end-use consumption (Article 7.9). These include:

- Energy or carbon taxes;
- Financing instruments or fiscal incentives;
- Regulations or voluntary agreements;

⁸ [Lees, E. and Staniaszek, D., *Determining Energy Savings for Energy Efficiency Obligation Schemes*, European Council for an Energy Efficiency Economy and the Regulatory Assistance Project, 04.2012.](#)

⁹ As was historically the case in Italy until November 2011 and Denmark until January 2011, the savings were counted over a five- to eight-year period depending on the measure.

¹⁰ Before banking was introduced in the UK's EEO, the energy retailers met their targets early and ceased installing insulation measures for the phase ending in 2000. This reduced insulation industry activity by 20% compared to the previous twelve months. As the industry had invested in expected increased activity (doubling of the target) this resulted in redundancies in the insulation industry and took two years to restore activity to the earlier level.

- Standards and norms;
- Labelling schemes, which must be compliant with the EU Labelling Directive 2010/30/EU and conform to the principle in the EU energy label that sets requirements for energy-related products with the highest energy savings potential. Country-specific schemes cannot use the symbol A+ and must deliver savings equivalent to those obtained with an EEO; and
- Training and education.

Article 20 also may allow for the obligations to be fulfilled by annual contributions to the National Energy Efficiency Fund (refer to chapter III.2) of an amount equal to the investments required to achieve those obligations. This option opens up the market to other players and could amass an amount of funds that might attract projects from large actors like cities.

If a fund is established, it is necessary to arrange access to it, clearly outline its use and figure out how to calculate equivalence. A more complete discussion on financing can be found in chapter III.2 of this guide.

Arguably, the obligation to deliver real energy savings within EEOs has been crucial to their success and any funds established should replicate these aspects. The important point is that whatever the policy option chosen, it must follow similar rules when it comes to determining the resulting amount of energy savings.

Irrespective of the alternative method chosen, the energy savings have to be determined in the same rigorous way as for the EEOs to ensure that the energy savings are eligible, correctly identified as counting towards the capped or uncapped parts of the target in Article 7.1 and, for those savings counting towards the uncapped part of that target, represent new and additional energy savings over policies enacted prior to 2014. Examples of how this might be achieved are given throughout this guidebook.

II.2.5 Legal checks and recommendations

Legal checks

1. Check that the distribution and transmission price controls put in place for EEOs are in line with the requirement to remove incentives which are detrimental to energy efficiency (see chapter II.6 and Article 15.4).
2. Check that a system is in place to ensure that energy efficiency measures are not claimed twice by different delivery partners or double counted where different policy measures are contributing to making the measure happen (see EED Annex V.2(d)).
3. Request explanation of how equivalence will be established if obligated parties are permitted to pay into an Energy Efficiency Fund rather than undertake energy savings measures directly (see Article 7.11, 20.6 and EED Annex V).

Good practice recommendations

1. Regardless of where the obligation is placed, ask the administrator and/or energy regulator to ensure that the costs of the EEOs to end-use customers and potential market players are transparent. This will enable a more market-like approach to the actual delivery of energy efficiency and serve as an aid to evaluating the cost effectiveness of EEOs.
2. Ask EEO administrators to ensure that any obligation introduced will recognise the importance of low-income households, both in the way that the costs are passed through and in not neglecting them in the actual energy efficiency measures installed.

3. Encourage MSs to endeavour to achieve the greatest synergies possible between their EEOs and other energy savings policies.
4. EEO administrators should ensure that the value of longer lived energy efficiency measures is fully reflected in the way that the EEO energy savings target is set.