POLICY BRIEF

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Cost recovery mechanisms of EEO schemes

Energy Saving Policies and Energy Efficiency Obligation Scheme

ENSPOL

ENSPOL is an EU-funded project targeting the effective and proper implementation of Article 7 of the Energy Efficiency Directive in all Member States and beyond. Major objective of ENSPOL is the establishment, revision and implementation of robust Energy Efficiency Obligation Schemes or alternative policy measures to each Member State. At the same time the project envisages the provision of appropriately refined information and supportive strategic tools to all targeted stakeholders. The project is coordinated by the research organization Joint Implementation Network.

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Cost recovery mechanisms of EEO schemes

Summary:

The cost recovery mechanisms and options of EEO schemes are determining factors for the public acceptance and the efficiency of such schemes. There is a great variety of cost recovery options in the EU, and also abroad, where experience is gained and different options apply to different circumstances. The parameters that influence that decision (which has to be flexible and easy to adapt in case market standards change over the time) are: obligated party (suppliers and/or distributors), obligation on all or selected energy carriers, openness of the market (expressed in number of companies) and expectations for newcomers, links of the EEO scheme to either funding mechanism (such as a certificate market) or other tools (such as subsidies, tenders and others), and availability of low cost energy saving options.

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1 Introduction

In the wide range of Energy Efficiency Obligation (EEO) schemes in the EU and especially in countries that plan to start an EEO scheme, one of the debated questions is the cost recovery mechanisms. In general, there is a broad range to costs related to the functioning of the schemes (from transaction to administrative and to investment costs) incurred by the obligated parties (either energy suppliers or distributors) depending on the type of scheme. The EEO Schemes vary in how these costs are recovered and who pays them. The cost recovery consists of the financial contribution from the obligated party under an EEO to the total investment cost of a technology or action, and the remaining contribution that is often paid by the entity that benefits from this technology or action. The rate between these two cost components determines the efficiency of the overall EEO scheme. The incentives behind the EEO scheme, which can often be linked to a price mechanism (in the form of exchangeable certificates or regulation) or left free in the market provide various options to designing the EEO schemes. For instance, under regulated markets, in the presence of regulated energy providers or distributors, it is often the case that regulators provide mechanisms that enable energy providers to recover the costs of meeting their energy savings targets but also provide compensation for their reduced energy sales as a result of the target fulfilment (through an energy tariff threshold). In the case of non-regulated markets, mainly when obligations fall under the energy retailers, the two possible ways of cost reimbursement are either a) via adapting their behaviour in the market for carrying out investments and passing their costs to their consumers through their energy bills, who benefit from these investments, and b) via covering part of them through governmental funding schemes, either budgetary appropriations or price surcharges imposed on the market. There are also cases, which under the current energy poverty strategies of the EU Member States could shape the cost recovery options differently, especially when EEO schemes target low income customers, where costs cannot be carried out to consumers.

2 Cost recovery mechanisms in the EU

The EU Member States that are making use of EEOs or have opted to develop and launch such schemes present a variety of options for cost recovery. Almost half the MS with an existing or planned EEO have left that cost recovery option open to the market, meaning that energy suppliers can decide upon their business model the rate of contribution to the investments from their customers, while six MS have introduced or are planning a regulation upon the cost recovery in the form of setting energy tariffs. The table below summarizes the cost recovery mechanisms in the EEO (existing and planned ones in the EU, source Broc 2015[1]).

[1] http://atee.fr/c2e/third-european-workshop-meeting-white-certificates-club

Country	Cost recovery (or funding) mechanism
Explanations	*are obligated parties allowed to recover their expenses due to the scheme? (and how?)*
Austria	Liberalized energy market and suppliers can recover costs through increasing energy prices
Bulgaria	Not defined yet, which is likely one of the main reasons of the low achievements so far
Croatia	Cost recovery with regulated price of energy distribution which will take into account additional costs due to the scheme (possibly industries will be exempted from increase of prices)
Denmark	The cost is recovered by supplement to revenue cap (power, gas) or by inclusion in tariff (district heating), with the exception of oil companies that cannot carry costs to consumers
Estonia	not defined yet (would likely be through energy tariffs, under supervision of the Competition Authority that regulates the energy markets)
France	Liberalized energy market and suppliers can recover costs through increasing energy prices. Special rules applied for the energy suppliers with regulated energy prices.
Ireland	Liberalized energy market and suppliers can recover costs through increasing energy prices
Italy	Tariff reimbursement for obligated parties depends on previous years market values (since 2013, previously on standard fuel price mix trend). Cost for savings measures in electricity/gas can be included in regulated operator's tariff, whereas this is not possible for transport measures. The Adjustment is under discussion to allow inclusion in gas tariff, or to recycle costs into the transport sector.
Latvia	There is a provision to increase energy tariffs for cost recovery
Lithuania	Not yet defined
Luxembourg	Liberalized energy market and suppliers can recover costs through increasing energy prices. To avoid distortion between energy types, non-obligated suppliers may have to pay a special tax. The obligation is defined as a mission of public service. This allows the scheme to be partly funded by the public budget.
Malta	The cost recovery option is through the electricity tariffs increase
Poland	Liberalized energy market and suppliers can recover costs through increasing energy prices
Slovenia	Liberalized energy market and suppliers can recover costs through increasing energy prices
Spain	Liberalized energy market and suppliers can recover costs through increasing energy prices
UK	Liberalized energy market and suppliers can recover costs through increasing energy prices

3 Cost recovery options in existing EU EEO schemes

In five MS, where there is substantial experience in EEO schemes, the cost recovery options that have been preferred differ substantially and the key message is that flexibility in the design of EEOs is required, in order to adapt these cost recovery mechanisms based on the market status each period.

3.1 France

In the French EEO scheme, the obligated parties were energy suppliers of electricity, natural gas, home heating oil, district heating and cooling, LPG for heating, which, despite their diverse group were are selling electricity and gas at regulated prices (by the French government). The opening of the market from the energy market liberalization though, has included in the EEO scheme new electricity and gas suppliers next to the incumbent ones. These new suppliers have smaller but increasing market shares because of their pricing policy that is below the regulated prices. Despite the absence of public information on their costs, from a 2013 assessment the average obligated parties costs were 0.4cE/kWh cumac, 75% of which was for incentives for energy efficiency actions and the 25% for administrative costs, even though much higher for some of them. The market experience shows that energy suppliers pass their costs directly to consumers (and the figures from the fuel oil showed that energy efficiency from certificates represented a 0.027 E per liter of diesel at the pump in 2016, compared to a 0.04 E increase due to the carbon tax. Still, the issue remains as the new energy suppliers do not wish to increase their prices as they sell below the regulated price. For the incumbent suppliers, the costs are partly covered through a tax on energy bills, where certificates represent 1% of the electricity price for households and 0.5% of the gas price. The important part in the French scheme is that the cost recovery options should be carefully designed depending on the market parties, whether they are existing or new, and on the degree of liberalization of the market.

3.2 Italy

In the Italian EEO scheme, the electricity and natural gas distributors with more than 50,000 customers are required to achieve energy savings (expressed in toe). The obligated parties have access to the certificate market, alongside with their controlled companies, as well as non-obliged distributors, ESCOs and companies or organisations having an energy manager or an ISO 50001 certified energy management system in place. The cost recovery mechanism is left to the carrying over to the electricity and gas customers' bills linked to the energy efficiency trading market. More specifically, this cost is defined by the authority considering the yearly trading market. In 2014 the contribution to the cost was 105.83 E/toe, which increased to 114.83 E/toe in 2015. Considering the rate contribution of 105.83 E/toe, the total economic burden on fulfilling the 2014 target was 617 mEuro for obligated parties. This correlation between the trading market exchange prices of the individual sessions and the definitive tariff contribution is a transparent means for cost recovery, which takes into account the shadow prices of energy efficiency investments (in the form of certificate market prices).

3.3 The UK

IN the UK scheme, the energy suppliers are obliged to report their costs to Ofgem (regulator), but costs per company are

confidential and data is published in aggregate only. These costs relate only to the obligated parties, and do not include any co-funding of efficiency measures by householders, or the cost to government and the energy regulator of administering and regulating the EEO system.

The administration costs (as opposed to delivery of measures) represented around 3% of total costs to obligated parties (2008-2012). Still, there are no official figures on additional costs to customers (who pay part of the measures). In an ex ante estimation, the consumer contribution could be around 30% of the cost (with a 0.625 E per kWh). This practically signifies that although there is no price regulation and tariff contribution in a liberalized market, the design features and the existence of low cost options do not burden substantially the consumer as an outcome of a cost recovery mechanism where suppliers can pass the costs to consumers. As an example, the average cost per residential customer for both electricity and gas during 2008-2012 was 50 E (which was 20% lower than expected). This mainly originates from the fact the obliged parties targeted at relatively low cost energy efficiency measures, which can keep their costs (and their consumers cost contribution) low. This cost recovery mechanism has worked over these years given the fact hence of the availability of low cost saving options within the liberalized energy supply market.

3.4 Denmark

In Denmark where until now the energy distributors were the obligated parties under the EEO scheme, the companies have a strong incentive in contacting the consumers on a regular basis to make them invest in energy savings. This keeps the costs of the scheme at a very low level. According to the official evaluation of the EEO carried out by the independent consultancy EA Energianalyse on behalf of the Danish Energy Agency in 2012, investment costs in households were 1.2 €/kWh (9 kr./kWh) while other sectors had an average investment cost of 0.11 €/kWh (0.80 kr./kWh). The surcharge on the energy prices has been estimated by the DEA for 2013-2015 as (in c€/kWh) 0.23 for electricity, 0.17 for gas, 0.2 for district heating and 0.04 for oil.

3.5 Flanders (Belgium)

In the Flemish scheme, which is no longer in place, the obligated parties were energy distributors. These distributors were mandated to submit an annual budget for compliance with their energy saving obligation, which must be approved by the federal regulator in charge of electricity tariffs. The Cost recovery mechanism through tariff regulation was based upon approved annual action plans for compliance by the authority.

4 Lessons from outside the EU

Based on ACEEE[2], Regulatory Assistance Project (IEA/DSM Task XXII Best Practices in designing and implementing energy efficiency obligation schemes)[3] and EC IEE ENSPOL project[4], there are various means of cost recovery in schemes all around the world. Given that EEOs have existed in some forms in several countries (such as the US), there are experiences on differences of such cost recovery mechanisms. The most known ones are presented below:

US MINESOTTA: Utilities have minimum spending requirements per statute of 1.5 percent of gross operating revenues from in-state services for electricity utilities, 0.5 percent for natural gas utilities, and two percent for any utility that operates a nuclear-powered generator in Minnesota.

Programme costs, including incentives and operating costs, are recovered through a cost recovery charge, which is determined as part of rate-setting. If actual costs differ from the amount recovered, the utility can adjust its rates subject to Public Utility Commission review.

US TEXAS: Utilities are able to recover program costs using an Energy Efficiency Cost Recovery Factor that is determined through base rates or by filing a cost recovery rate schedule in tariffs.566 The Public Utility Commission of Texas can also approve an energy charge or a monthly customer charge for the Energy Efficiency Cost Recovery Factor. The Factor is calculated to allow the utility to earn revenues equal to the energy efficiency costs, net of energy efficiency costs included in base rates, the energy efficiency performance bonus earned for the prior year, and any adjustment for past over- or under-recovery of energy efficiency revenues. Costs are recovered from the customer classes that receive energy efficiency services under each program.

US PENSYLVANIA: Under the legislation, the EDCs' EE&C plans propose a cost-recovery tariff mechanism to fund the EE&C measures and to ensure recovery of reasonable costs. The EDCs can also recover the costs through a reconcilable adjustment mechanism. The total cost associated with an EDC's energy efficiency and peak demand reduction plan may not exceed 2% of the EDC's total annual revenue as of December 31, 2006.

US ARIZONA: Utilities must submit an annual or biennial implementation plan to detail progress in meeting goals and estimate cost and energy savings for programs over the next two calendar years. Utilities may recover the prudent costs of energy efficiency programs through a DSM tariff and the decision also allows utilities to request the Commission to

[2] http://database.aceee.org/state/energy-efficiency-resource-standards

[3] https://www.raponline.org/document/download/id/5003

[4] http://enspol.eu/sites/default/files/results/D2.2.%20Report%20on%20existing%20EEOs%20outside%20the%20EU.pdf

consider the use of performance incentives to assist in achieving the goals.

US INDIANA: Indiana Administrative Code provides guidelines for demand-side recovery electric utilities, as well as lost-revenue recovery and demand-side management incentives.

CHINA: costs can be funded in three ways: a) through a city utility, collected through electricity tariffs, b) through revenues from differential electricity prices mainly through implementing differential prices for energy-intensive industries; 212, 213 and through other fiscal means, for example, an energy saving and emission reduction special established through the budgets of central and provincial governments. In addition, DSM special funds created and managed by each provincial government will be used to facilitate implementation of the DSM rule.

Korea: The Korea Electric Power Corporation collects a customer charge equal to 3.7 percent of the electricity charge, which funds the Electric Power Infrastructure Fund and investments in DSM. The Korea Gas Corporation and the Korea District Heating Corporation do not include a charge for DSM investments in customers' energy bills. These companies simply invest some part of their total revenues.

Country	Cost recovery
Canada/ Ontario	Collected from all ratepayers based on energy use or contribution to peak demand
China	City utility surcharge, revenue from differential electricity prices, and other funding sources
US Minnesota	Energy efficiency cost-recovery charge determined in rate cases
US New York	System benefits charges, and funding from carbon market
US Texas	Obligated utilities recover program costs through base rates or cost recovery tariffs
Australia NSW	Obligated parties' costs are treated as a cost of doing business
Australia South A	Per-customer amount included in regulated price determination
Australia Victoria	Obligated parties' costs are treated as a cost of doing business
Korea	Through a customer charge for electricity and from energy utility revenues for gas and district heating
US California	Public goods charge and natural gas DSM charge; additional funding through rate cases
US Connecticut	System benefits charges, funding from carbon and capacity markets, plus other funding sources
US Massachusets	System benefits charges, funding from carbon and capacity markets, plus other funding sources
US Vermont	Volumetric wires charge to customers and funding from carbon market
India	Certificate trading and carrying over prices to consumers

5 Issues to consider

There is a clear issue of transparency for the cost recovery mechanisms. For example, in DK and UK, the obligated parties have to report their costs to the public authority. Nevertheless, this requirement is not fully clear, so the data reported by the obligated parties vary significantly in terms of scope (and the types of costs reported such as administration costs, marketing costs, incentives costs, etc.).

Given the variety of cost recovery methods as shown inside and outside the EU, there is no blueprint that can be followed, but each country can adapt its own mechanism. The parameters that influence that decision (which has to be flexible and easy to adapt in case market standards change over the time) are: obligated party (suppliers and/or distributors), obligation on all or selected energy carriers, openness of the market (expressed in number of companies) and expectations for newcomers, links of the EEO scheme to either funding mechanism (such as a certificate market) or other tools (such as subsidies, tenders and others), and availability of low cost energy saving options.