EU

Policy Guide

The Energy Efficiency Directive Energy Savings Obligation and Energy Poverty Alleviation

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SOCIALWATT

ENSMOV
TOWARDS BETTER ENERGY EFFICIENCY POLICIES

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ENSMOV Project

ENSMOV is an EU-funded project aiming to support public authorities and key stakeholders in 14 Member States represented by its consortium (Austria, Belgium, Bulgaria, Croatia, France, Germany, Greece, Hungary, Italy, Lithuania, Netherlands, Poland, Romania and the UK- and beyond addressing all 28 Member States and accession countries) to monitor, revise, improve and complement the design and implementation of their national energy efficiency policies by developing resources on practical and strategic issues arising from the EED energy savings obligation (ESO) ENSMOV follows on from two other very influential projects that have helped to shape Member State policies to address ESO requirements of the EED – IEE ENSPOL (www.enspol.eu) and H2020 MULTEE (https://multee.eu/).

ENSMOV has the following strategic objectives that will deliver impacts beyond the duration of the project: a) To ensure that energy efficiency policies do not only promise, but also realize a major, long term contribution to the energy, environmental, economic and security goals of the EU and Member States under the Energy Union; and b) To sustain an active platform and community for knowledge exchange of best practices in policy development and implementation of EED ESO policies, strengthening cooperation and improving the dialogue between national policymakers and stakeholders across the EU beyond the project period.

SocialWatt project

SocialWatt is an EU-funded project that aims to develop and provide utilities and energy suppliers with appropriate tools for effectively engaging with their customers and working together towards alleviating energy poverty.

SocialWatt seeks to enable utilities, energy companies and obligated parties under the energy savings obligation (ESO) of the Energy Efficiency Directive across Europe to develop, adopt, test and spread innovative energy poverty schemes.

In particular, SocialWatt contributes to the following three main pillars:

- Supporting utilities and energy suppliers to contribute to the fight against energy poverty through the use of decision-support tools.
- Bridging the gap between energy companies and social services by promoting collaboration and implementing knowledge transfer and capacity building activities that focus on the development of schemes that invest in renewable energy sources/energy efficiency and alleviate energy poverty.
- Implementing and replicating innovative schemes to alleviate energy poverty.

Introduction

The energy savings obligation (ESO) in the Energy Efficiency Directive (EED) requires EU Member States to achieve energy savings through national policy measures. The ESO is Article 7 of the current EED and Article 8 of the proposed recast Directive, published in July 2021. The ESO is the most significant energy efficiency measure in the European policy package, contributing around 50% of the overall EED energy efficiency target.

The EU Commission's proposed recast of the EED introduces a requirement for a share of the energy savings to be achieved among energy poor households.

This policy brief provides an overview of the new requirement and explains how the shares are calculated for each Member State. It then focusses on the policy measure that contributes the most to the aggregate achievement of the ESO target, the Energy Efficiency Obligation Schemes (EEOSs), which contribute 35% of savings (EU Commission, 2020). The briefing shares lessons from countries where EEOSs are used to alleviate energy poverty. The target audience is national public authorities, energy and social policy experts and advocates.

Energy poverty in Europe

Energy poverty is broadly understood as the inability of households to maintain adequate levels of energy services at an affordable cost.

The European Commission estimates that between 50 million and 125 million European citizens are unable to afford proper thermal comfort indoors (EPEE, 2009), but the effects of COVID and the recent gas price spikes will have increased these numbers.

> The EED proposal introduces the first European definition of 'energy poverty' - "a household's lack of access to essential energy services that underpin a decent standard of living and health, including adequate warmth, cooling, lighting, and energy to power appliances, in the relevant national context, existing social policy and other relevant policies."

To date, the majority of policies used by Member States to address energy poverty are measures to increase income or subsidise the energy bill (SocialWatt, 2019 and STEP, 2019). However, reducing energy use long term, through targeted energy efficiency measures is the most sustainable long-term solution to energy poverty. Targeting the energy saving measures triggered by the ESO in the EED could therefore be an effective method to address energy poverty.

The Energy Savings Obligation and Energy Poverty

The EU Commission's proposal for a recast of the EED requires that:

Member States shall achieve a share of the required amount of cumulative end-use energy savings ***among people affected by energy poverty, vulnerable customers and, where applicable, people living in social housing****.*

It sets out that the share of energy savings shall be at least equal to (see Annexe 1):

- the proportion of households in energy poverty as assessed in the National Energy and Climate Plan (NECP)
- or, where the NECP does not present these figures, the average of three indicators is used:

- Inability to keep home adequately warm
- Arrears on utility bills
- Share of expenditure on energy in households' total consumption.

The EED would therefore require Member States to calculate their national 'ringfence' of the energy savings and to target these energy savings to a target group of households.

As currently drafted, NECPs do not provide a suitable source of data to define the ringfence. More than half NECPs do not currently assess the level of energy poverty in the country. Of those that do, the vast majority adopt more than one indicator. This is in line with best practice as the complex issue of energy poverty is best evaluated using a range of indicators. These different data sets point to different experiences or dimensions of energy poverty so should not be averaged to create one number (Bouzarovski et al. 2020).

In the absence of relevant energy poverty numbers in the NECPs, the three indicators identified in the Directive are to be used. The average of these indicators produce a range of ringfences from a low of 2.6% for Sweden to a high of 22.9% in Bulgaria. The Annexe provides more information on the indicators, the national data for each indicator and the calculated ringfences for each Member State.

The Directive defines the target group to benefit from the ringfenced savings quite broadly as *people affected by energy poverty, vulnerable customers and, where applicable, people living in social housing*. This leaves considerable scope for Member States to define which individuals and groups will be targeted. Member States will do this through setting eligibility criteria for support within EEOSs and alternative measures. It also allows countries that have not formally defined energy poverty to identify a nationally suitable target group.

Experience delivering energy poverty alleviation through EEOS

Six Member States plus the UK already make or made provision in the past for energy poor households within their EEOS (ENSMOV, 2020).

The majority use uplifts to the value of energy savings when they are achieved in energy poor households to incentivise delivery within this group. A saving in an energy poor household is worth between 10% and 100% more than in another household or sector (see table below).

Summary of the use of uplifts

Country	Uplift (energy savings x)
Austria	1.5 (households affected by energy poverty)
Croatia	1.2 (vulnerable households) 1.1 (geographical areas with development needs) Can be applied in combination for a maximum of 1.3
Cyprus	1.5 (energy poor households)
Greece	1.4 (actions tackling energy poverty)
France	2 (very low-income households*) White Certificates are also available for accompanying programmes that help to identify households in need of support, based on the level of expenditure incurred.

* from 2022 the uplift will no longer apply because the ringfence will apply to the very low-income group.

A smaller number of countries guarantee a minimum level of savings achieved in energy poor households through use of a ringfence.

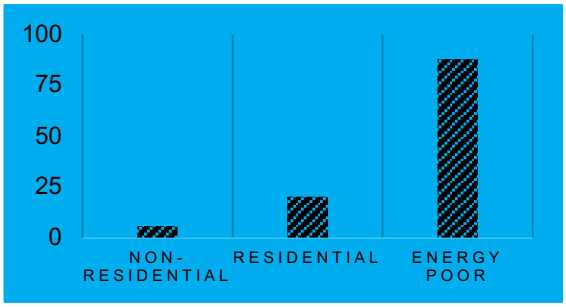
Evidence from the countries relying only on uplifts illustrates that these are insufficient to

guarantee desired policy outcomes. In Austria, the uplift was in place between 2015 and 2020. Only 0.66% of savings have been achieved in the target energy poor group (Austrian Energy Agency, 2020).

Experience from the SocialWatt project also reveals that savings in energy poor households, even with uplifts, cannot compete on a cost effectiveness basis with savings in the rest of the residential sector, or the commercial and industrial sectors (SocialWatt, 2021). This is due to the higher cost to obligated parties of achieving savings in energy poor households, as the households themselves cannot contribute in a significant way to the cost of the measures. It is also due to the higher cost of administration of energy poverty programmes, as obligated parties must find and check the eligibility of households and these households may need higher levels of engagement and support.

By way of illustration, the buyout price for energy savings in the energy poverty sector within the Irish EEOS is 15 times higher than that for savings in the non-residential sector, and over four times higher than savings in the wider residential sector.

Buyout prices in the Irish EEOS (Euro cents/KWh)



The buyout price is set by the Irish government and reflects the costs to the government of delivering energy savings in each sector through alternative measures (ENSMOV 2020).

To guarantee EEOSs prioritise savings for energy poor households three countries - Ireland, France and the UK - ringfence a proportion of the total savings target that must be delivered within target household groups.

Summary of use of ringfences

Country	Ringfence
Ireland	5%
France	25% of white certificates. Not equivalent to 25% of the savings target as savings to alleviate energy poverty are subject to uplifts.
UK	100% 15% of this for rural areas

Perhaps most striking, the UK EEOS is now entirely dedicated to energy poverty alleviation. This follows over 25 years of evolution during which all schemes contained either a mandatory or indicative ringfence. The scheme was refocussed entirely on energy poor households, alongside a significant reduction of the overall target, as part of a policy push to reduce green levies on energy bills and to address the negative distributional impacts of the levy (UK HoC Library, 2020). The negative distributional impacts of the EEOS result from the fact that EEOS energy savings are paid for by all energy bill payers via a levy on energy bills. This increases bills disproportionately for low-income households (Sunderland et al., 2020).

The Irish EEOS employs a combination of ringfences in recognition of the cost differentials of savings in different sectors. 20% of the savings must be delivered in the residential sector and a further 5% in energy poor households.

The scheme in France employs a combination of a ringfence to guarantee minimum delivery and uplifts to further direct activity towards specific actions and households.

Targeting energy poor households

Schemes that prioritise energy poor households through an uplift or ringfence define which households are eligible in different ways.

In France households are defined on income status alone. From 2022, only households in the bottom 25% of the income distribution will be eligible for measures qualifying for the very low income ringfence.

In Ireland households are eligible if they are in receipt of specific types of social welfare payments or if they live in areas designated for regeneration.

The UK also primarily uses access to social security benefits as a proxy to identify eligible households. In addition, an area-based ringfence aims to ensure a share of savings are achieved in eligible households in rural areas.

Ireland, France and the UK all have national definitions of energy poverty but not all Member States have such official definitions. This does not prevent prioritisation of eligible groups within the EEOS. For example, in Croatia and Greece, the national definition of 'vulnerable' households is used within the EEOS (SocialWatt, 2021). National definitions have been established due to the Electricity Markets Directive and the Natural Gas Directive that require Member States to define 'vulnerable customers' for the purpose of providing special protections within electricity and gas markets. Most commonly, the definition of vulnerable is based on income status or health status. Socio-economic group or income level, access to or receipt of social or health benefits, disability registration and health conditions that require the use of electricity dependent equipment are common proxies. Age is a further proxy less frequently used (Insight-e, 2015).

Even when national definitions of energy poverty are in place, for practical reasons proxies are almost universally used to define eligibility for energy poverty schemes. Proxies commonly used include:

- "Passport benefits", usually income-based for which a household or individual's low-income status has already been assessed, or based on health or disability. These include for example income support, state retirement pension, disability benefits, carers allowance.
- Age: households with very young children, pregnant mothers or older age members
- Poor energy efficiency rating of the home: as defined by the Energy Performance Certificate
- Location: deprived areas

When proxies are used to define eligibility, the group defined as eligible will always be an imperfect match with the energy poor group under the national definition.

Undertaking a full assessment of energy poverty status in line with a national definition - which can require information on income, energy cost, efficiency of the home and energy need - is very often impossible due to lack of data. Making such an assessment also places too great an administrative burden on programme deliverers. Seeking the multiple sources of verified data is also often considered too intrusive to be carried out 'on the doorstep' or over-burdensome for applicants, creating barriers to the uptake of measures offered.

The SocialWatt project has developed a decision support tool, the SocialWatt Analyser, to help utilities assess energy poverty within their customer base, using a variety of energy poverty definitions (SocialWatt, 2021a). Using

this tool the project has found that utility data, particularly on actual energy consumption, can contribute to better understanding and targeting of energy poverty. However, the lack of accurate date on household income data and dwelling conditions hinders accurate household level assessment (SocialWatt, 2020).

Measures and delivery

The mature EEOSs in the UK, Ireland and France have delivered mainly insulation and heating measures to energy poor households (Ofgem, 2021; ENSMOV, 2020; Ministère de la Transition écologique 2021a). In Ireland and the UK heating controls and fossil gas boilers dominate the heating measures. In France, 51% of the White Certificates from heating measures result from fossil boiler replacements, 42% from heat pumps and 9% from biomass boilers. Measures in all three of these EEOS have largely been delivered as single measures rather than in combination or to form a 'whole house' retrofit.

EEOSs, by fundamental design, seek to deliver the most cost-effective energy savings. This leads to a prioritisation of the most cost-effective single interventions (IEA, 2017). Energy savings measures in the residential sector are often credited with energy saving impact on an ex-ante rather than ex-post basis due to the high cost of performing ex-post evaluation of actual energy saved through relatively small interventions. Typically lists of eligible measures are allocated a 'deemed' energy saving figure based on the characteristics of the measure and the type of home within which it is installed. This drive to seek the most cost-effective measures and the deemed approach contribute to the tendency of EEOS to deliver single measures rather than more complex whole house retrofits.

This approach is out of step with the level of support needed by energy poor households. Households in energy poverty often require a combination of insulation measures, insulation and heating/cooling measures, more efficient energy using products and advice to bring them out of energy poverty and to remove the risk of them falling back into energy poverty as household situations or energy prices change.

To address this the UK has experimented with different designs of the EEOS, including incentivising concentrated delivery in smaller geographical areas and introducing uplifts for when more than one measure is installed in a single home (Citizens Advice Scotland, 2016). Ireland is also currently redesigning the EEOS to move away from the single measures approach. Proposals for the design of the next phase of the scheme (2021-2030) require that interventions will need to bring the home up to a high level of energy efficiency - a standard of B2 or better - as defined using the national Energy Performance Certificate the Building Energy Rating (DECC, 2021) for energy savings to count towards the energy poverty ringfence.

Responding to the challenge of delivering suitable level of support for energy poor households, partners within the SocialWatt project have devised energy poverty action plans that contain a range of measures. These include one-to-one advice, energy audits, white appliance replacements, energy efficiency and heating measures (SocialWatt, 2021).

Partnerships and integrated support

Effective support for energy poor households requires a combination of energy saving measures, partners working together and funding from the EEOS and elsewhere.

SocialWatt partners have formed strategic partnerships to identify and engage with energy poor households, and to deliver schemes. In particular, SocialWatt utilities and energy companies have formed partnerships with local authorities, social services, NGOs and social housing providers to engage energy poor households. These organisations have existing relationships with households and provide a trusted intermediary through which energy savings support can be offered, integrated with established services. Local partners can also be an added source of referrals and passporting of eligibility. Further partnerships with technology providers and retailers support the installation or distribution of measures.

SocialWatt partners have found the design of financing suitable for energy poor households more challenging. The project has explored different financing mechanisms, such as on-bill financing, but the take up of measures has been slow. Therefore, it is important to recognise that for some low-income households taking on any debt is not appropriate. Furthermore, energy poor households are often rationing energy so do not have sufficient energy bill savings from efficiency measures to cover repayments. Energy poor households therefore require very high levels of subsidy to take up measures. For expensive whole house retrofits or multiple measures this can constitute significant up-front investment from the utility.

Experience from France illustrates the value in combining different strands of national and local support to overcome this challenge. The uplift incentive within the EEOS and the combination of EEOS delivery with other national and local funding streams has been effective in ensuring that a significant proportion of savings are delivered amongst the very low-income group. To August 2021 in the current phase of the EEOS (2018-2021) around one third of the energy savings have been delivered in low-income households (Ministère de la Transition écologique, 2021b). This equates to around 50% of the White Certificates, exceeding the 25% ringfence (Ministère de la Transition écologique, 2021a).

France has also seen a convergence of the cost to obligated parties of White Certificates generated in the energy poor group and other sectors. This means that utilities are no longer disincentivised on price from supporting these households. This is in part due to the contribution of complementary schemes, making it easier for utilities to identify energy poor households and less costly to deliver measures. It is also due to the cost of White Certificates in other sectors rising as a result of a higher target, reduced energy savings values for some measures and a reduced low-cost energy savings potential.

Conclusion

The complexity of delivering energy savings measures for energy poor households – the need for multiple different measures, the necessary partnerships and referral networks and the need to combine multiple funding sources – means developing schemes takes time. Short regulatory periods and frequent policy changes are a barrier to effective delivery. In addition, a more complete offer of support for each household can be provided when EEOS are combined with other national and local funding and finance. Therefore, national policymakers should not rely entirely on EEOS support to address energy poverty but put into place a wider enabling framework.

Annexe 1

Art 8(3) as proposed states:

Member States shall achieve a share of the required amount of cumulative end-use energy savings among people affected by energy poverty, vulnerable customers and, where applicable, people living in social housing. This share shall at least equal the proportion of households in energy poverty as assessed in their National Energy and Climate Plan (NECP) established in accordance with Article 3(3)(d) of the Governance Regulation 2018/1999. If a Member State had not notified the share of households in energy poverty as assessed in their National Energy and Climate Plan, the share of the required amount of cumulative end-use energy savings among people affected by energy poverty vulnerable customers and, where applicable, people living in social housing, shall at least equal the arithmetic average share of the following indicators for the year 2019 or, if not available for 2019, for the linear extrapolation of their values for the last three years that are available:

a) Inability to keep home adequately warm (Eurostat, SILC [ilc_mdes01]);

b) Arrears on utility bills (Eurostat, SILC, [ilc_mdes07]); and

c) Structure of consumption expenditure by income quintile and COICOP consumption purpose (Eurostat, HBS, [hbs_str_t223], data for [CP045] Electricity, gas and other fuels).

The table below presents the data for each indicator and Member State as well as the average of the three indicators as per the methodology to calculate the ringfence.

	Inability to keep home adequately warm	Arrears on utility bills	Share of expenditure on elec, gas and other fuels	Average of three indicators	NECP**
Indicator	ilc_mdes01	ilc_mdes07	hbs_str_t223		
unit	% pop	% pop	% pop	% pop	% pop
year	2019	2019	2019 extrapolated	2019	
Bulgaria	30.1	27.6	11.5	**23.1**	
Greece	17.9	32.5	7.4	**19.3**	Unable to keep home warm: 23% (2017)
Lithuania	26.7	7.5	8.9	**14.4**	EPOV indicators: Unable to keep home warm: 27.9% (2018) Disproportionate expenditure (2M): 17.1 % (2016) Hidden EP: 14.9 % (2016)

Cyprus	21	10.4	4.1	**11.8**	Proxy of the share of the population being in the "vulnerable customers" category due to criteria (a) and (b) in the scope of EP as defined in Ministerial Order: 2.62% (year not mentioned)
Romania	9.3	13.7	10.1	**11.0**	Bill arrears: 14.4% (2018) Unable to keep home warm: 9.6% (2018)
Croatia	6.6	14.8	9.9	**10.4**	
Portugal	18.9	4.3	7.9	**10.4**	
Latvia	8	8.7	12.0	**9.6**	Unable to keep home warm: 9.8% (2017)
Slovakia	7.8	8.4	11.2	**9.1**	
Hungary	5.4	10.2	11.2	**8.9**	spending more than 25% of income on energy expenses: 9.8% (2016)
Slovenia	2.3	11.2	9.4	**7.6**	
Estonia	2.5	7.2	12.1	**7.3**	
Italy	11.1	4.5	5.6*	**7.1***	National indicator: share of households either with high energy expenditure OR in deprivation: 8.6% (2016)
Poland	4.2	5.8	10.7	**6.9**	
Ireland	4.9	8.9	6.0	**6.6**	
Spain	7.5	6.5	4.9	**6.3**	The four main EPOV indicators (all 2017): Disproportionate expenditure (2M): 17.3% Hidden EP: 11.5% Unable to keep home warm: 8% Bill arrears: 7.4%
Czechia	2.8	1.8	14.0	**6.2**	Reference to the four main EPOV indicators (all 2016)

					Unable to keep home warm: 4.7% Bill arrears: 2.4% Disproportionate expenditure (2M): 10.7% Hidden EP: 8.4%
Malta	7.8	6.5	3.6	**6.0**	Unable to keep home warm: 6.6% (2017)
France	6.2	5.6	4.2	**5.3**	national indicators (and observatory) Kind of low-income high cost: 11.6% of the population Perception of cold: 15% of the population (both for 2017)
Denmark	2.8	3.6	8.0	**4.8**	SILC survey. Indicator about unable to keep home warm: 3% (2018)
Belgium	3.9	4.1	6.2	**4.7**	3 indicators Hidden EP: 4.3% Subjective EP: 4.9% Measured: 14.5% (all 2017)
Finland	1.8	7.8	3.6	**4.4**	
Germany	2.5	2.2	6.9	**3.9**	
Netherlands	3	1.5	5.3	**3.3**	
Austria	1.8	2.4	5.0	**3.1**	3.2% households (2013-14)
Luxembourg	2.4	2.4	4.0	**2.9**	
Sweden	1.9	2.3	3.9	**2.7**	

Source: all data from Eurostat.

* Data not available for 2010 and 2015 for the share of expenditure indicator. Data from single year 2005 has been used. Linear extrapolation to 2019 is not possible.

** In most NECPs, data are presented as a proxy, but are not necessarily endorsed as an official measure of energy poverty. As pointed above, there are overall only two Member States (Austria and Italy) that gave a single official indicator. Other Member States provided official indicators, usually reflecting different dimensions of energy poverty, and without stating an overall figure for the energy poverty rate in the country.

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