

Eligible Energy Saving Measures

EEO Toolkit Section 7

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Energy Saving Measures and Eligibility for meeting EED target covering:

- Measuring methodologies
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- Handling non-standard energy measures

N.B. cannot be guaranteed to mirror the Commission's thinking in all cases

Measuring Methodologies

Annex V of EED defines in the opening paragraph the three principle methodologies permitted:

- **Deemed Energy Savings** from the results of previously independently monitored energy improvements in similar installations
- **Metered Savings** with corrections for factors such as additionality, occupancy, production levels and the weather which may affect consumption
- **Scaled Savings** where engineering estimates of savings are used

Any questions?

Likely Eligible Energy Efficiency Measures

Energy savings being proposed must be a direct result of individual actions undertaken as a result of an energy efficiency policy measure of a Member State. Article 2 defines “policy measure” as:

Policy measure means a regulatory, financial, fiscal, voluntary or information provision instrument formally established and implemented in a Member State to create a supportive framework, requirement or incentive for market actors to provide and purchase energy services and to undertake other energy efficiency improvement measures.

Individual action means an action that leads to verifiable and measureable or estimable, energy efficiency improvements and is undertaken as a result of a policy measure.

EE Measure Eligibility Criteria -1

- Any EEO clearly meets the above requirements.
- It is more difficult to demonstrate eligibility where the main objective is not to achieve energy savings, but which may result in a reduction in energy consumption.
- Can measures such as feed in tariffs or financial incentives for renewable energy qualify as “energy savings measures” since they increase cost of energy and hence reduce energy consumption through the energy price demand elasticity? **NO!**

EE Measure Eligibility Criteria – 2

- However, some renewable energy sources will contribute to a reduction of delivered energy
- For example, solar water heating replaces either fossil fuel or electricity in providing hot water
- There is clearly a reduction in the energy delivered to the premises for hot water
- But electricity generation from renewable energy sources has no end use energy savings as it is replacing source of electricity supply

Potentially Eligible Measures – 1

Measure	Points for consideration
Retrofit Insulation	Only count energy savings if at the time of installation it is above EPBD requirements for cost optimal refurbishment
Efficient Heating & Controls (small scale)	Savings reduced after Ecodesign transposition date to only those that exceed minimum requirements
Solar Water Heating	Check source of any subsidy to establish the primary policy objective
Heat Pumps in Buildings	Greater end use energy savings from fossil fuel heating systems (remember Ecodesign)
Efficient HVAC equipment	Any ecodesign minimum performance standards?
Regular maintenance of boiler systems	Primarily for smaller sized boilers (EPBD Article 14)
Efficient products and appliances	Savings reduced after Ecodesign transposition date to only those that exceed minimum requirements

Potentially Eligible Measures – 2

Measure	Points for consideration
National minimum standards	Savings reduced after Ecodesign transposition date
Lighting	Energy savings only for the part superior to EU Ecodesign values
Replacement of motor, drives, compressors & pumps	Energy savings only for the part superior to any EU Ecodesign values
Industrial combustion and cooling	Consider any EU Ecodesign minimum performance standards
Hybrid vehicles	Compare energy consumption of hybrid vehicle with the petrol or diesel version
Pure electric vehicles	Ensure energy saving determinations are for similar sized vehicles
Ecodriving	Lifetime of the energy savings?

Measures Restricted to Article 7.2 Exemptions

Some measures are likely to be only eligible to count towards the EED target as part of the Article 7.2 exemptions and thus form one of the options collectively capped at 25% of the overall target.

New Measure	Points for consideration
Cogeneration	No end use energy savings as replacing source of electricity and heat supply
District Heating schemes	No end use energy savings as replacing source of heat supply

Potentially Ineligible Measures

Measure	Points for consideration
Electricity generation from renewable energy	No end use energy savings as replacing source of electricity supply
Heat production from combustion of renewable energy sources e.g. wood, biomass	No end use energy savings as replacing source of heat supply
Electrification of rail transport, new Metro system etc.	Generally not an energy efficiency policy
Training of energy auditors	Required by Article 16 of EED
Awareness raising campaign	Difficult to determine energy savings explicitly; avoid overlap with EPCs

Advantages of Deemed Energy Savings

- Deemed savings offer certainty of the energy savings that the energy company will receive provided the measure is correctly installed; makes marketing to customers easier
- The approach also offers easier administration for both the energy company and the administrator
- Ideal for measures capable of mass application
- Finally, all these benefits translate into lower costs for end users than would otherwise have been the case

Deemed Energy Saving List of Measures

- **France** publishes a list of eligible measures - around 300- along with their deemed energy saving formulae
- values are established by the ATEE (Association Technique Energie Environment);
- stakeholder process is conducted by ATEE in conjunction with ADEME (the French Environment and Energy Management Agency) and all the key EEO stakeholders or their trade bodies
- three climate regions are required due to the spread in weather and annual temperatures
- Ten standard operations indicated make up 2/3rd of the French energy saving certificates

French Top Ten EEO Measures

Sector	Standard operation	% of total savings
Residential	Individual-unit condensing boiler	15.29%
Residential	Attic or roof insulation	9.63%
Residential	Wall insulation	7.21%
Residential	Collective-unit conde	6.28%
Residential	Independent wood-burning heating devices	5.87%
Tertiary	Attic or roof insulation	4.88%
Residential	Individual low temperature boiler	4.57%
Residential	Window with insulating glass	4.33%
Residential	Collective-Unit condensing boiler with a contract guaranteed energy efficiency	3.84%
Industry	Asynchronous motor	3.81%

Deemed Energy Saving List of Measures

- **British** Energy Regulator, Ofgem, publishes on its website a list of eligible measures and the energy/CO₂ savings expected from them
- Residential deemed lifetime CO₂ savings are deduced from the annual energy savings and lifetimes of the energy efficiency measure
- For many residential measures, these CO₂ lifetime savings are shown by house type and number of bedrooms (as a proxy for area)
- For the period 2008-12, over 95% of the energy saving in GB came from the top ten measures and only 29 measures were used in that period

Top Ten List of British EEO Measures

Energy Efficiency Measure	Total number of measures installed	Reduction in CO2 (t)	% of total CO2
Cavity wall insulation	2,568,870	65,793,377	27.7%
Professional loft insulation	3,897,324	61,114,833	25.8%
CFLs	303,952,610	43,706,936	18.4%
DIY loft insulation	2,821,275	26,092,330	11.0%
Shower regulators	9,653,441	9,894,974	4.2%
Fuel switching	108,516	6,066,026	2.6%
Window glazing over Building Regulations (square metres)	34,590,263	4,441,122	1.9%
TVs	30,482,662	3,830,164	1.6%
Standby savers	4,926,715	3,382,104	1.4%
Real time displays	2,999,981	2,901,249	1.2%

Handling Non-Standard Energy Measures

- Deemed energy savings are popular but they do not meet all situations
- For a new technology with high replication potential but does not have an independent estimate of the energy savings – 2 options on how to handle?
- First the energy company (sometimes in conjunction with the product manufacturer) will pay for deemed energy savings to be independently verified. This may involve field trials.
- Second, the energy company can install the new technologies as part of their EEO activity and get the energy savings independently verified & subsequently accredited

Final Thoughts

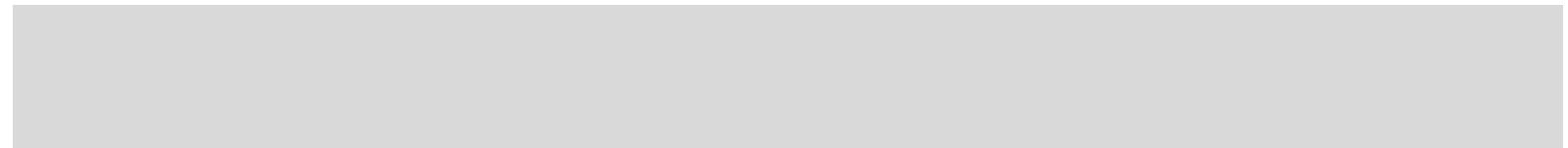
- EEOs have robust M&V built in before they start – helps with eligibility of energy savings for EED
- Many measures are possible but the advantages of guaranteed energy savings, easier marketing and mass replicability have proven to be a popular route to delivering energy saving targets
- In practice, energy savings are dominated by a “top ten” measures carried out by energy companies
- At start of an EEO, jointly identify with obligated energy companies the most likely EE measures to be implemented and focus on deemed or scaled energy procedures for those; expand the list with time

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