

Title of the measure:	EU 63	Recast Ecodesign Directive for Energy-related Products (ErP) 2009/125/EC
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General description

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). The Commission document COM(2008) 399 contained the proposal for a directive establishing a framework for the setting of ecodesign requirements for energy related products.

The “ErP” creates a framework for the constitution of requirements to an ecologic design of products that are related to energy. It replaces the directive 2005/32/EC from 6 July 2005, better known as “Energy-using Products” (EuP). The “EuP” which had to be transformed into national law by the member states until 11 August 2007 was related to energy efficiency and environmental compatibility of electronic devices only. The subsequent directive, “ErP”, includes besides products that actively need electricity those which are relevant for energy consumption and influence energy efficiency such as insulating materials. It had to be translated into national law until 20 November 2010.

The directive specifies the following issues:

- It is to enable the harmonization of national measures between the laws and administrative measures of the EU member states in relation to the ecodesign of energy-related products to avoid barriers to trade and unfair competition within the European Union.
- Energy-related products cause important environmental impacts, such as being responsible for a huge part of the consumption of natural resources. Within the Community market, there exist a lot of products providing pretty much the same functional features while having very different degrees of environmental impact. In means of a sustainable development major sources of negative environmental impacts are to be identified, continuous improvement in the overall environmental impact of those products is to be encouraged and transfer of pollution is to be avoided, when this improvement does not contain excessive costs.
- The directive applies for products which use, generate, transfer, or measure energy, certain energy-related products, including products used in construction such as windows, insulation materials, or some water-using products such as shower heads or taps could also contribute to significant energy savings during use.

Placement of Products in Market and in Service

Member states are obliged to ensure that products that are covered by implementation measures can only have access to the market and/or put into service if they fully comply with those measures and bear the CE marking. In case the manufacturer of a product is not established within the Community, he is obliged to ensure that they product placed on market or put into the service must comply with this directive and he must also keep and make the EC declaration of conformity and related documents available.

Marking and EC Declaration of Conformity

Member states are obliged that a CE marking should be affixed before a product covered by implementing measures is placed on the market and/or put into service. Additionally, an EC declaration of conformity should be issued whereby the manufacturer makes sure and declares that the product complies with all the relevant provisions of the applicable preventing measure.

Free Movement of Products

Member states should not restrict or prohibit the market placement or putting into service of a product which complies with all the relevant requirements of the applicable implementing measure and holds the

CE marking on basis of ecodesign requirements which are related to the ecodesign parameters referred to in Annex I.

Product Safeguard

If a product bearing CE and is used in accordance with its intended use does not comply with all the relevant provisions of the applicable implementing measure, the manufacturer of the product should be obliged to make the product conform with the provisions of the applicable implementing measure and to end the infringements under conditions defined by the member state.

Conformity Assessment and Harmonized Standards

Manufacturer or its authorized representative should ensure that an assessment of the product's conformity is carried out with all the relevant provisions of the applicable implementing measure before placing a product which is covered by implementing measures in to market and/or putting in to the service. The procedures for the conformity assessment shall be stated by the implementing measures and may be left to manufacturers the option between the internal design control specified in Annex IV and the management system set out in Annex V.

Impact Assessment

Impact assessments of the directive accompanies the Commission proposals for regulation with regards to ecodesign requirements for respective products.

- SEC(2010) 1354 and SEC(2010) 1353 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for household washing machines. According to SEC(2010) 1353, three options were assessed;

BaU: Business-as-Usual scenario, i.e. continuation of current policy measures at EU level (current labelling scheme only) and no further action at EU level;

Sub-option A:

- Introduction of minimum energy efficiency requirements, i.e. $EEI < 68$ in 2011 and $EEI < 59$ in 2015,
- Introduction of a minimum washing performance requirement, i.e. $Wp > 1.03$ in 2011 ($Wp > 1.00$ for machines of max. 3 kg load capacity).
- Introduction of maximum water consumption requirements (litres/cycle, depending on rated load capacity) in 2011 and 2015 (based on part load);

Sub-option B:

- Introduction of minimum energy efficiency requirements, i.e. $EEI < 68$ in 2011 and $EEI < 59$ in 2013,
- Introduction of a minimum washing performance requirement, i.e. $Wp > 1.03$ in 2011 ($Wp > 1.00$ for machines of max. 3 kg load capacity),
- Introduction of maximum water consumption requirements (litres/cycle, depending on rated load capacity) in 2011 and 2015 (based on part load).

The report concludes that sub-option B delivers better savings without negative impact on other variables. It is estimated that by 2020 absolute savings of 1.2 to 1.5 TWh/yr can be achieved compared with the Business as Usual scenario. By 2025, savings are expected to increase to 2.2 to 2.7 TWh/yr. Calculated in terms of 'net present value' (EUR 2005), consumer expenditure i.e. annual purchase and running costs for the EU27 population, is expected to drop from around

€13.2bn today to €12.3bn in 2020 and approximately €11.7bn in 2025 (mainly due to the increased efficiency of the installed base, BaU scenario).

- SEC(2010) 1356 and SEC(2010) 1357 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for household dishwashers. According to SEC(2010) 1357, three options are assessed;
BaU: Business as Usual or Baseline scenario i.e. continuation of current policy measures at EU level and no further action at EU level;
Sub-option A:
 - Introduction of minimum energy efficiency requirements in two stages, i.e. $EEI < 71$ in 2011 and $EEI < 63$ in 2016,
 - Introduction of a minimum cleaning performance requirement, i.e. $Cp < 1.12$ in 2011,
 - Introduction of minimum drying performance requirements, i.e. $Dp < 1.08$ in 2013 for machines with 8 place settings and higher, and $Dp < 0.86$ for machines up to 7 place settings;Sub-option B:
 - Introduction of minimum energy efficiency requirements in three stages, i.e. $EEI < 71$ in 2011 for all dishwashers (except for dishwashers with 10 ps and width ≤ 45 cm: $EEI < 80$), $EEI < 63$ in 2013 for dishwashers with a rated capacity ≥ 10 ps (except dishwashers with 10 ps and width ≤ 45 cm: $EEI < 71$) and $EEI < 63$ for 8-10ps dishwashers with width ≤ 45 cm as of 2016,
 - Introduction of a minimum cleaning performance requirement, i.e. $Cp < 1.12$ in 2011,
 - Introduction of minimum drying performance requirements, i.e. $Dp < 1.08$ in 2013 for dishwashers with 8 place settings and higher, and $Dp < 0.86$ for dishwashers up to 7 place settings.The report concludes that Sub-option B is to deliver better savings. The achievable cost-effective energy savings potential is about 1.7 to 2.0 TWh in 2020 compared to the BaU scenario, increasing to 3.2 to 3.5 TWh in 2025. Calculated in terms of 'net present value' (EUR 2005), consumer expenditure i.e. annual purchase and running costs for the EU27 population will increase from around €8bn today to €10bn in 2020 and approximately €11bn in 2025 (chiefly due to increased penetration).
- SEC(2011) 384 and SEC(2011) 385 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for fans within a 125 W to 500 kW power range. According to SEC(2011) 385 following 4 options were assessed;
 1. efficiency levels based on the preparatory study;
 2. efficiency values based on proposals by the fan manufacturing industry;
 3. efficiency values proposed by environmental NGOs;
 4. efficiency values based on sub-option 1 unless superseded by levels in sub-options 2 for the first tier and sub-option 3 for the second tier (a compromise of the most ambitious yet still realistic levels in the three sub-options).

Assessment reveals that if the cost-effective potentials to improve the electricity consumption of fans are quickly realized, they may lead to electricity savings of 54 TWh and CO₂ savings of 25 Mt annually within the Community by 2020.

- SWD(2012) 419 and SWD(2012) 418 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment. SEC(2012) 418 assessed options ‘label only’, ‘minimum requirement only’ and a combination of both and revealed following results;

Summary of impacts

	Lbl only	Min only	Lbl+Min I	Lbl+Min II
<i>Versus Baseline</i>				
TWh saving in 2020	4.9	2.3	5.4	24.7
TWh saving in 2025	7.8	5.6	7.8	28.4
Accumulative TWh saving 2011-2020	25.8	7.1	32.2	89.3
Accumulative TWh saving 2011-2025	58.8	29.1	65.2	225.8
Mt CO ₂ saving in 2020	1.9	0.9	2.1	9.5
Mt CO ₂ saving in 2025	2.8	2.0	2.8	10.3
Accum. Mt CO ₂ saving 2011-2020	10.2	2.9	12.8	35.1
Accum. Mt CO ₂ saving 2011-2025	22.4	11.0	25.0	85.6
El. costs saving in 2020 (in bln. Euro)	0.7	0.4	0.8	3.8
El. costs saving in 2025 (in bln. Euro)	1.2	0.9	1.2	4.3
Accum. el.costs saving 2011-2020 (bln Euro)	3.9	1.1	4.9	13.6
Accum. el.costs saving 2011-2025 (bln.Euro)	9.0	4.4	10.0	34.5
Extra purchase cost in 2020 (in bln. Euro)	0.2	1.7	0.2	2.5
Extra purchase cost in 2025 (in bln. Euro)	0.3	1.6	0.3	-0.1
Accum.extra purch. cost 2011-'20 (bln.Euro)	1.1	12.5	6.4	27.1
Accum. extra purch. cost 2011-'25 (bln. Euro)	2.6	20.4	7.8	25.9
Total cost saving in 2020 (in bln. Euro)	0.5	-1.3	0.6	1.3
Total cost saving in 2025 (in bln. Euro)	0.9	-0.8	0.9	4.4
Accum. costs saving 2011-2020 (bln. Euro)	2.8	-11.4	-1.5	-13.5
Accum. costs saving 2011-2025 (bln. Euro)	6.4	-16.0	2.2	8.6

Combined minimum requirement/ labeling sub-options offer the best savings and the strongest reduction in CO₂.

- SWD(2012) 289 and SWD(2012) 290 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for household tumble driers. SEC(2012) 290 assesses following policy options;
 - Revision of the energy label only (see ‘label option’ on the graph).
 - Revision of the energy label together with adoption of ecodesign requirements (**MEPS + Label**). Two options for ecodesign requirements were analysed, both calling for the removal of class D to G in a first stage. For the second stage,
 - the first option considers the removal of all driers in class C (see ‘option 1’ on the graph),
 - the second option considers the removal of condenser driers in class C but not vented driers (see ‘option 2’ on the graph).

The report concludes that the cost-effective annual energy-savings potential achievable is around

3.3 to 3.7 TWh/a in 2020 compared to the BaU scenario, increasing to 8.6 to 9.5 TWh in 2030; due to market inertia.

- SWD(2012) 178 and SWD(2012) 179 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for Water pumps. SEC(2012) 179 assesses following options;

Sub-option 1. Cut-off level 10 % by 2013 and 30 % by 2014;

Sub-option 2. Cut-off level 10 % by 2013 and 40 % by 2014;

Sub-option 3. Cut-off level 20 % by 2013 and 50 % by 2014;

Sub-option 4. Cut-off level 40 % by 2013 and 70 % by 2015.

Report estimates that by 2020, the annual electricity consumption of pumps will be reduced by 2.8 TWh compared to a business-as-usual scenario and with annual electricity savings reaching 4.2 TWh by 2025. CO₂ emissions will be reduced by 1.3 Mtoe.

- SWD(2013) 219 and SWD(2013) 218 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for Computers and computer servers. SEC(2013) 218 assesses following options;
 - Sub-option 1: ecodesign requirements becoming effective essentially in one stage 18 months after entry into force of the Regulation. Minimum requirements limited in scope and providing TEC allowances corresponding to approx. ENERGY STAR v.5.0 levels + 30%-45%. Exclusion of thin clients, workstations and servers, and high-end computers from the scope;
 - Sub-option 2: ecodesign requirements becoming effective essentially in two stages 6 months (levels based on ENERGY STAR 4.0) and 18 months (levels based on ENERGY STAR 5.0) after entry into force of the Regulation.;
 - Sub-option 3: ecodesign requirements becoming effective essentially in one stage 12 months after the entry into force of the Regulation. Minimum requirements based on ENERGY STAR 5.0. Limited scope of requirements for servers, thin clients and workstations.

Impact assessment reveals following results;

	Accumulated electricity consumption (TWh)	Accumulated electricity savings (TWh)	Accumulated electricity cost savings ¹² (billion EURO)	Accumulated avoided CO ₂ emissions ¹³ (Mt)
No policy (Baseline 1)	1197	-	-	-
Business-as-usual/current policy (Baseline 2)	928	270	43.2	125
Sub-option 1	860	338	54	157
Sub-option 2	832	365	58.4	170
Sub-option 3	835	362	57.9	168

- SWD(2013) 240 and SWD(2013) 241 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for Vacuum Cleaners. SWD(2013) 241 assess following options;
 Sub-option 1: sets an absolute limit to electric power consumption of 1000 W in 2014, followed by a tier-two level of 750 W in 2017.
 Sub-option 2: uses a metric of cleaning performance and energy consumption that gives a very high importance to cleaning performance, i.e. allowing very high power consumption levels as long as the cleaning performance was good enough.
 Sub-option 3: combines the two approaches above. It sets minimum ecodesign requirements based on energy label classes and power caps, but at a more moderate level, and it proposes an energy labelling scheme.

Impact assessment results are as follows;

Savings EU-27 for sub-options 1, 2 and 3 versus BAU in 2020 and 2025

<i>Versus Baseline BAU</i>	Sub-option 1		Sub-option 2		Sub-option 3		BAU (levels)	
	2020	2025	2020	2025	2020	2025	2020	2025
Electricity saving (TWh/yr)	22,4	29,6	5,2	10,8	18,8	27,4	29,7	37,7
Mt CO ₂ saving/yr	7,7	7,6	1,2	0,8	6,4	6,8	11,3	13,6
Electricity costs saving (bln. Euro/yr)	3,8	5,0	0,9	1,8	3,2	4,6	5,8	7,1
Extra purchase cost (bln. Euro)	4,1	4,5	1,4	2,0	4,1	4,5	20,6	22,7
Total extra expenditure (bln. Euro)	0,4	-0,4	0,5	0,9	1,0	-0,4	29,0	32,6

- SWD(2013) 295 and SWD(2013) 294 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for water heaters and hot water storage tanks. SWD(2013) 294 assess four different scenarios;
 - Business as Usual (BaU)
 - minimum energy efficiency performance standards (Min Only)
 - minimum energy efficiency performance standards with product labelling (Min+Lbl)

- minimum energy efficiency performance standards with product labelling, combined with the EPBD (Min+Lbl+EPBD). three sub-scenarios (NOx scenarios) based on the Min+Lbl+EPBD scenario were modelled

Results of impact assessment are as follows;

MAIN IMPACTS			Scenarios 2020						
			1	2	3	4	5a*	5b*	5c*
Impacts (as Article 15(4)(e) of 2009/125/EC)			BAU	Min Only	Min+Lbl	Min+Lbl+EPBD	Min+Lbl+EPBD+NO _x		
Environment									
EU totals	ENERGY (primary)	PJ/annum	2 243	1 969	1 840	1 802	1 790		
	GHG	Mt CO ₂ eq/annum	129	114	106	104	103		

- SWD(2013) 297 and SWD(2013) 296 deals with the impact assessment in relation to the Commission regulation with regards to ecodesign requirements for space heaters and combination heaters. SWD(2013) 296 assesses following options;
 - Business as Usual (BaU)
 - minimum energy efficiency performance standards (Min Only)
 - minimum energy efficiency performance standards with product labeling combined with EPBD (Min+Lbl)
 - minimum energy efficiency performance standards with product labelling, combined with the EPBD (Min+Lbl-Small). three sub-scenarios (NOx scenarios) based on the Min+Lbl+EPBD scenario were modelled

Impact assessment results are as follows;

MAIN IMPACTS			Scenarios 2020							
			Base	1	2	3	4	5a*	5b*	5c*
(as Article 15(4)(e) of 2009/125/EC)			2005	BAU	Min Only	Min+Lbl	Min+Lbl-Small	Min+Lbl+NO _x		
ENVIRONMENT										
EU totals	ENERGY (primary)	PJ/annum	12 089	10 688	9 678	8 761	8 804	8 761		
	GHG	Mt CO ₂ eq/annum	698	617	558	506	508	506		

Historical data

Previous Directives: Council Directive 92/42/EEC, Directive 96/57/EC and Directive 2000/55/EC of the European Parliament and of the Council.

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