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Ecodesign directive

Guide for business

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Laboratório Nacional de Energia e Geologia, I. P.

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Business Support on Your Doorstep

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The Enterprise Europe Network

Enterprise Europe Network is a network of services supporting businesses to innovate and compete in Europe.

Composed of more than 600 contact points across 60 countries, the network offers a set of local services, which support SMEs with their international ambitions through the identification of strategic partners for innovation and sustainable development of its business.

Launched under the Framework Programme for Competitiveness and Innovation of the EU, it is the successor of the previous Community networks of Euro Info Centres and Innovation Relay Centres and offers an approach based on the integration of expertise, a one-stop service bringing together tools and EU programs that support SMEs.

The Enterprise Europe Network in Portugal

In Portugal, the Enterprise Europe Network has been delivered since 15 January 2015 by the Portuguese Enterprise Europe Network consortium, composed of twelve public and civic entities, distributed regionally throughout the country, including Azores and Madeira islands. This consortium will continue to deliver the Enterprise Europe Network until 2020.

The Enterprise Europe Network consortium in Portugal, includes the following partners:

IAPMEI – Agência para a Competitividade e Inovação, I.P., consortium lead partner;
ACIF - Associação Comercial e Industrial do Funchal – Câmara de Comércio e Indústria da Madeira;
AEP – Associação Empresarial de Portugal;
AIDA – Associação Industrial do Distrito de Aveiro;
AIMINHO – Associação Empresarial;
AIP – Associação Industrial Portuguesa;
ANI – Agência Nacional de Inovação;
CCDR Algarve – Comissão de Coordenação e Desenvolvimento Regional do Algarve;
CCIPD – Câmara do Comércio e Indústria de Ponta Delgada;
CEC – Conselho Empresarial do Centro/Câmara de Comércio e Indústria do Centro;
INESC PORTO – Instituto de Engenharia de Sistemas e Computadores do Porto;
LNEG - Laboratório Nacional de Energia e Geologia I.P. .

Available services

Through the Network, entrepreneurs can easily access a set of services that can help enhance their innovation strategies and investment in new markets inside and outside Europe:

- Information and advice;
- Simplified access to information about legislation, new policy measures, projects and funding programs in the EU for SMEs;
- Support in the internationalization of business;
- Help identifiying business contacts abroad for companies wishing to expand their activities at both European and international level;
- Support for innovation and technology partnerships.

Support to SMEs in commercialising research outcomes, along with connections to related developments in other countries.

Fostering cooperation in Europe
Dissemination of business opportunities to support the identification of potential partnerships for production, or to transfer technology, which encourages cooperation and international business activity.

The network in europe
Contacts regarding the entities that compose the Enterprise Europe Network can be consulted on website http://een.ec.europa.eu/

Ecodesign

Introduction to ecodesign

Ecodesign is the systematic integration of environmental considerations into the design process of products (both goods and services). The main purpose of ecodesign is to develop products leading to sustainability by reducing their environmental impacts throughout the entire life cycle, taking also into account other conventional product and customer requirements, such as functionality, quality, safety, cost, manufacturability, ergonomics and aesthetics.

All products have some impact on the environment, which may occur at any or all stages of the product's life cycle, from raw material extraction to the manufacturing processes, distribution, use and end-of-life. The life cycle impacts may range from slight to significant; they may be short-term or long-term; and they may occur at the local, regional or global level.

Integrating environmental considerations from the early phases of the product development process is the most effective way of introducing changes that positively affect all life cycle stages.

It is estimated that over 80% of all product related environmental impacts are determined by design, so ecodesign is a very promising approach to sustainable consumption and production, which has been applied in numerous products of many economic sectors [InEDIC 2011].

Criteria for prodct design. Source: InEDIC 2011

The importance of ecodesign

The implementation of environmental requirements into product development is important both from an environmental as well as a business perspective. A direct and tangible benefit is the reduction of environmental impacts related to the consumption of materials, energy and water (i.e. inputs) and the generation of waste and emissions (i.e. undesired outputs). In addition to environmental improvement, there are other possible benefits deriving from ecodesign:

- Reduce the company's cost;
- Reduce end users' cost;
- Increase product quality;
- Pursue innovation;
- |Achieve better compliance with environmental legislation;
- Meet customers' demand.

In addition they can improve theirs and their products' image. In order to optimize these results, ecodesign initiatives should be part of the business strategy, rather than being restricted to the environmental "corner" of the company. The challenge is to find solutions that are more environmentally sustainable, make business sense in the short and long run and better satisfy customers' and consumers' needs and expectations.

There is growing interest in customers, users and manufacturers in the environmental aspects and impacts of products and processes. This interest is reflected in the discussions between business, consumers, government and NGOs with regard to sustainable development, expressed through international agreements, trade regulations, national and international legislation, and voluntary initiatives.

This interest is also reflected in the economics of various market segments that are recognizing and benefiting from these new approaches to product design, resulting in improved resource efficiency and processes, increased product differentiation potential, reduced regulatory burden and with its potential liabilities, and amplified cost savings. Moreover, globalization of markets and changes in procurement, manufacturing and distribution practices influence the supply chain of every product and therefore have an impact on the environment [InEDIC 2011].

Despite the fact that the ecodesign methodology has emerged and has been developing since the 1970s, there are still some barriers for its implementation. These include:

- Difficulty understanding ecodesign by most client/users;
- Inability of producers to perceive product impacts;
- Inability of stakeholders to perceive product impacts;
- Inaccurate (increased) financial investment estimations for the implementation of the ecodesign methodology;
- Lack of time for the implementation of ecodesign;
- Unwillingness to change current production and consumption habits;
- Lack of training and know-how on environmental aspects and ecodesign;
- Lack of environmental studies;
- Misconception that implementation increases the cost of human resources;
- Technical difficulty adapting and adjusting for new developments;
- Difficulty creating interdisciplinary teams.

Life cycle approach

The concept of the product life cycle is at the heart of ecodesign. Each of the life cycle stages has environmental aspects (inputs and outputs) and associated impacts (such as climate change, resource depletion, toxicity, air, water and soil pollution, etc). The term "life cycle thinking" refers to the integrated approach that has to be applied with the aim of designing more environmentally compatible products, often requiring the involvement of other elements of the value chain besides the producer: suppliers, distributors, retailers, waste managers, etc.

Consideration of the entire life cycle of the product aims to ensure that:

- No materials are arbitrarily excluded;
- All the environmental characteristics of a product are taken into account;
- Focus is not only on the product itself, but also on the system in which the product will perform;
- Environmental impacts are not shifted from one life cycle phase to another or from one medium (air, water, soil) to another.

To this end, it is necessary to apply specific methods and tools based on scientific know-how. Life cycle assessment will help identify the most significant impacts within the product life cycle and therefore choose the most suitable strategies for product improvement. It helps to define the direction of design decisions, encouraging measures at the product life cycle points where they are likely to result in greatest benefits to the environment and the business [InEDIC 2011].

In the Ecodesign manual InEDIC 2011 and Design for Sustainability manual SInnDesign 2015, developed under the international projects InEDIC 2009-11 and SInnDesign 2013-15, respectively, enterprises can find more information on ecodesign and design for sustainability methodologies and tools to apply in practice for the development of more sustainable products and services.

Drivers for ecodesign

It is important to investigate the reasons behind the ecodesign project and the expectations of all interested parties, from clients to producers. Companies can reduce theirs and their end users' costs, increase the product quality, pursue innovation and comply better with environmental legislation as well as with customers' demands.

Main motivation factors for ecodesign projects in a company:

- Environmental improvement;
- Policies, legislation and standardization;
- Company environmental policy and environmental management systems;
- Social environment;
- Product innovation, differentiation;
- Product quality;
- Product cost reduction;
- Available technologies;
- Company image;
- Customer demand;
- Future trends;
- New project challenge, motivation of employees.

These drivers can come from the business itself (internal drivers) or from its surroundings (external drivers). These factors define the business objectives and consequently the level of ambition and innovation of the ecodesign process in your company.

Ecodesign strategies

In the development of design solutions that potentially enable the reduction of environmental impacts, it is necessary to rethink the product and its function as a whole, taking into account the whole life cycle, from the extraction of raw materials, to the end-of-life of the product.

For this purpose, ecodesign "strategies" or "principles" have been developed. There are different categories, but eight common and widely adopted ecodesign strategies are:

- Develop new concepts
- Select lower impact materials
- Reduce the use of materials
- Reduce the environmental impact of production
- Promote environmentally friendly packaging and logistics
- Reduce the environmental impact in the use phase
- Increase product durability
- Optimize the end-of-life system

These generic strategies can be deployed with different criteria or measures. The ecodesign strategies and criteria can also be used as a checklist to qualitatively evaluate the environmental profile of a product.

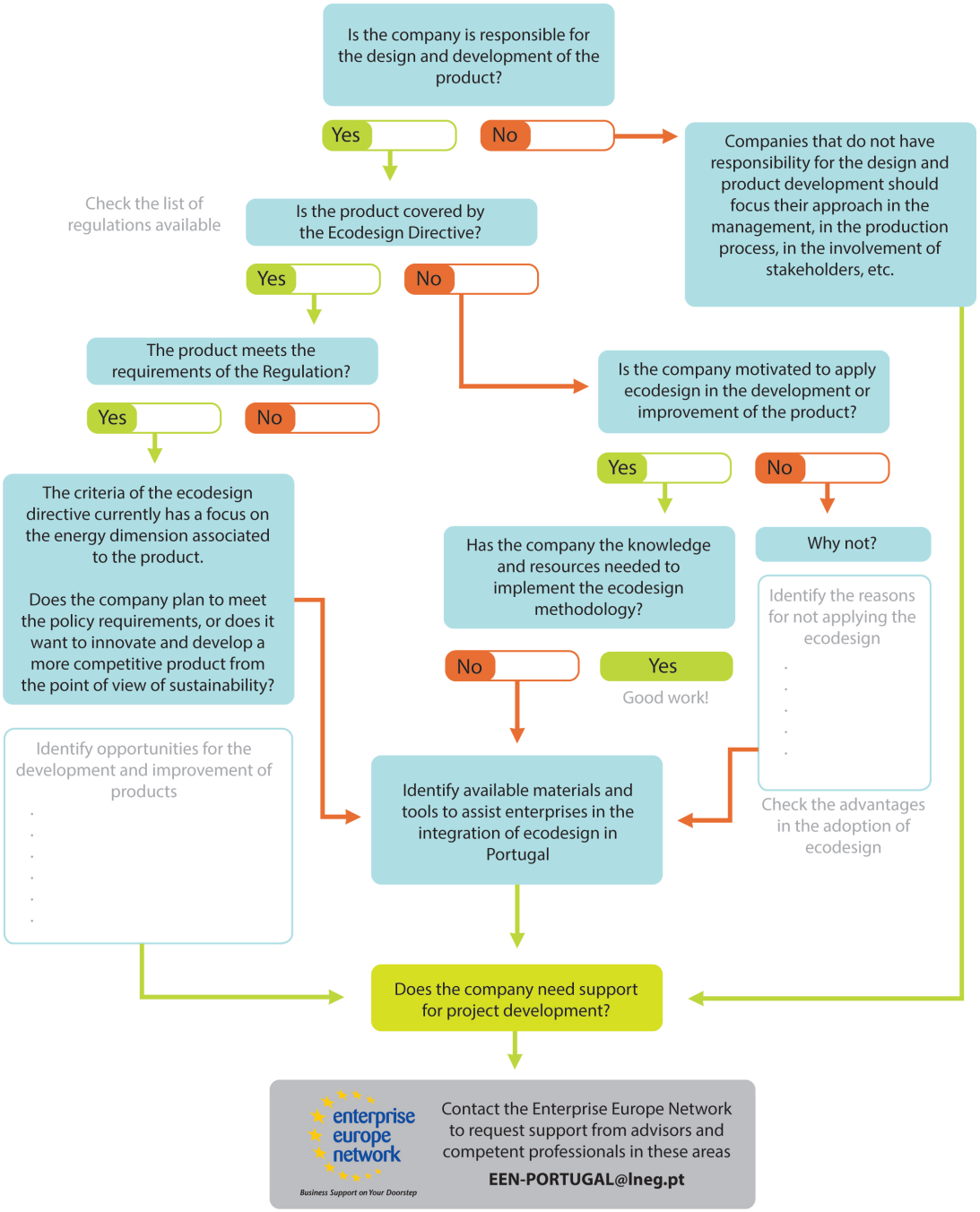
Although they provide guidance based on best practice in the industry, the ecodesign team should not be limited to the recommendations presented here; on the contrary, they should be able to innovate and find other ideas and solutions.

The application of ecodesign strategies in products, for idea generation and/or qualitative environmental assessment can be supported by tools such as the InEDIC Ecodesign Checklists 2011 [InEDIC 2011] or the SInnDesign Design for Sustainability Checklists 2015, which include social criteria in the evaluation of the product profile [SInnDesign 2015].

Company's design self-assessment

Companies, particularly in Portugal, given the economic situation of recent years, have experienced difficulties and find themselves reduced in terms of human and financial resources, which hinders the application of new methodologies and design processes. Sometimes there is no time to analyze the company from a holistic point of view and find new and innovative design solutions that encourage the development and success of the company.

It is therefore essential to analyze the company, the process and the product in an innovative way and with a life cycle perspective. One way is to apply the ecodesign methodology starting with a simple self assessment of the company. The figure below presents a simplified structure of review that can be used to encourage companies to adopt sustainability and ecodesign in product development.



The Ecodesign directive

Introduction

There is world-wide demand for more efficient products to reduce energy and resource consumption. The EU legislation on Ecodesign and energy labelling is an effective tool for improving the energy efficiency of products. It helps eliminate the least performing products from the market, significantly contributing to the EU's 2020 energy efficiency objective. It also supports industrial competitiveness and innovation by promoting the better environmental performance of products throughout the Internal Market.

The Ecodesign Directive provides consistent EU-wide rules for improving the environmental performance of products, such as household appliances, information and communication technologies and engineering. The Directive sets out minimum mandatory requirements for the energy efficiency of these products. This helps prevent the creation of barriers to trade, improve product quality and environmental protection. The Energy Labelling Directive may complement those Ecodesign requirements with mandatory labelling requirements.
The Ecodesign Directive also establishes a Consultation Forum to consult stakeholders on the implementation of the Directive. The list of members includes representatives from EU countries, from both industry and public sector. The group is open for observers from candidate and EFTA countries, and from organizations that have a legitimate interest in the discussion.

Source: http://ec.europa.eu/growth/industry/sustainability/ecodesign/index_en.htm

Product-specific regulations

The Ecodesign Directive is implemented in all EU countries, through specific product regulations.

In this document you can find the main information about the available regulations (November 2016). A full document with the regulations and annexes are available online in the following link: https://ec.europa.eu/energy/sites/ener/files/documents/list_of_ecodesign_measures.pdf

Solid fuel boilers
Commission Regulation (EU) 2015/1189 of 28 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel boilers
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.193.01.0100.01.ENG

Local space heaters
Commission Regulation (EU) 2015/1188 of 28 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for local space heaters
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.193.01.0076.01.ENG

Commission Regulation (EU) 2015/1185 of 24 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel local space heaters Impact Assessment
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.193.01.0001.01.ENG

Professional refrigerated storage cabinets
Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.177.01.0019.01.ENG

Ventilation units
Commission Regulation(EU) No 1253/2014 of 7 July 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for ventilation units
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.337.01.0008.01.ENG

Power transformers
Commission Regulation (EU) No 548/2014 of 21 May 2014 on implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to small, medium and large power transformers
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.152.01.0001.01.ENG

Domestic cooking appliances
Commission Regulation (EU) No 66/2014 of 14 January 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for domestic ovens, hobs and range hoods
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R0066

Heaters and water heaters
Commission Regulation (EU) No 813/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for space heaters and combination heaters
http://eur-lex.europa.eu/legal-content/EN/TXT/;jsessionid=2mXJTTLp08TFn5lD2qFQcr4QpvDnTKmJjqSJkvRHfDTf5QrVJFGj!-1703313794?uri=CELEX:32013R0813

Commission Regulation (EU) No 814/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for water heaters and hot water storage tanks
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0814

Vacuum cleaners
Commission Regulation (EU) No 666/2013 of 8 July 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for vacuum cleaners
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0666

Computers
Commission Regulation (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0617

Household tumble driers
Commission Regulation (EU) No 932/2012 of 3 October 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household tumble driers
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012R0932

Circulators
Commission Regulation (EU) No 622/2012 of 11 July 2012 amending Regulation (EC) No 641/2009 with regard to ecodesign requirements for glandless standalone circulators and glandless circulatorsintegrated in products
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012R0622

Commission Regulation (EC) No 641/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0641

Water pumps
Commission regulation (EU) No 547/2012 of 25 June 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for water pumps
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012R0547

Air conditioners and comfort fans
Commission Regulation (EU) No 206/2012 of 25 June 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for air conditioners and comfort fans
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012R0206

Industrial fans
Commission Regulation (EU) N°327/2011of 30 March 2011 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for fans driven by motors with an electric input power between 125 W and 500 kW
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011R0327

Household dishwashers
Commission Regulation (EU) No 1016/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household dishwashers
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010R1016

Household washing machines
Commission Regulation (EU) No 1015/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010R1015

Lighting products in the domestic and tertiary sectors
Commission Regulation (EU) 2015/1428 of 25 August 2015 amending Commission Regulation (EC) No 244/2009 with regard to ecodesign requirements for non-directional household lamps, and Commission Regulation (EC) No 245/2009 with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps and repealing Directive 2000/55/EC of the European Parliament and of the Council, and Commission Regulation (EU) No 1194/2012 with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.224.01.0001.01.ENG

Commission Regulation (EC) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, for light emitting diode lamps and related equipment
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012R1194

Commission Regulation (EC) No 859/2009 of 18 September 2009 amending Regulation (EC) No 244/2009 as regards the ecodesign requirements on ultraviolet radiation of non-directional household lamps
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0859

Commission Regulation (EC) No 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0244

Commission Regulation (EU) No 347/2010 of 21 April 2010 amending Commission Regulation (EC) No 245/2009 as regards the ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010R0347

Commission Regulation (EC) No 245/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for highintensity discharge lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0245

Refrigerators and freezers
Commission Regulation (EC) No 643/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for household refrigerating appliances
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0643

Televisions
Commission Regulation (EC) No 642/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0642

Electric motors
Commission Regulation (EU) No 4/2014 of 6 January 2014 amending Regulation (EC) No 640/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for electric motors
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R0004

Commission Regulation (EC) No 640/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for electric motors
http://eur-lex.europa.eu/legal- content/EN/TXT/?uri=CELEX:32009R0640

External power supplies
Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0278

Simple set-top boxes
Commission Regulation (EC) No 107/2009 of 4 February 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for simple set-top boxes
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009R0107

Standby and off mode electric power consumption of household and office equipment and network standby
Commission Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment
http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32008R1275

Commission Regulation (EU) No 801/2013 of 22 August 2013 amending Regulation (EC) No 1275/2008 with regard to ecodesign requirements for standby, off mode electric power consumption of electrical and electronic household and office equipment, and amending Regulation (EC) No 642/2009 with regard to ecodesign requirements for televisions
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0801

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