COMMUNICATION FROM THE COMMISSION

Ecodesign Working Plan 2016-2019

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1.   INTRODUCTION

The EU has a number of legislative instruments which translate the EU energy and climate policy goals[1] into various strands of action. Ecodesign, complemented by energy labelling rules, supports the Commission's overarching priority to strengthen Europe's competitiveness and boost job creation and economic growth; it ensures a level playing field in the internal market, drives investment and innovation in a sustainable manner, and saves money for consumers while reducing CO_2 emissions. It contributes to the Energy Union and 2030 energy efficiency target, the commonly-agreed climate goals and to the objective of a Deeper and Fairer Internal Market. The Ecodesign and energy labelling framework has been one of the most effective policy instruments at EU level to promote energy efficiency, estimated to contribute around half of the energy savings target for 2020. The Ecodesign and Energy Labelling legislative framework has the dual purpose of ensuring that more energy-efficient products come to the market (through ecodesign) while encouraging and empowering consumers to buy the most efficient products based on useful information (through energy labelling). By doing so, it reduces the energy consumption of consumers and businesses, and thereby their energy and utilities bills. Furthermore, it safeguards the internal market and prevents unnecessary costs for business and consumers due to divergent national requirements.

By 2020 this framework is estimated to deliver energy savings of around 175 Mtoe per year in primary energy, more than the annual primary energy consumption of Italy. For consumers, this translates into €490 savings per household per year on energy bills. Moreover, this policy is estimated to deliver approximately €55 billion per year extra revenue for industry, wholesale and retail sectors, part of which could translate into up to 800 000 direct additional jobs in the sectors concerned. As such, it also contributes to energy security by reducing the import of energy into the EU by the equivalent of 1.3 billion barrels of oil each year and by reducing CO_2 emissions by 320 million tonnes annually[2].

The moderation of energy demand is one of the 5 dimensions of the Energy Union Framework Strategy[3]. An ambitious and efficient ecodesign and energy labelling policy will remain indispensable to help achieve the priorities the Commission has set out for the Energy Union and it will help reach the climate policy goals agreed at COP21 in Paris in December 2015.

This Ecodesign Working Plan contributes to the Commission's new initiative on the Circular Economy[4], which promotes a transition towards a more circular economy in the EU through a series of measures covering the whole lifecycle of products and materials. There is an increasing need, and political priority, to improve resource efficiency in the EU. Product design is a key aspect in this respect, as it can have significant impacts across the product life cycle e.g. in making a product more durable, easier to repair, reuse or recycle. The Ecodesign directive already covers all significant environmental impacts along the life-cycle of products

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[1] 2020 Climate and Energy Strategy: COM(2010) 639 final; 2030 Climate and Energy Strategy: COM(2014) 15 final
[2] Ecodesign Impact Accounting Study, VHK, 2014
[3] COM(2015) 80 final
[4] EU Action Plan on a Circular Economy COM (2015) 614/2 adopted on 2.12.2015

but the focus so far has been on energy efficiency improvements. In future, Ecodesign should make a much more significant contribution to the circular economy, for example by more systematically tackling material efficiency issues such as durability and recyclability.

This Working Plan sets out the Commission's working priorities under the ecodesign and energy labelling framework for 2016-2019. Building on work undertaken on the basis of the first two Working Plans, the new Working Plan presents ongoing work and upcoming reviews of existing product-specific measures; it identifies additional product groups to be further examined (through studies, stakeholder consultation and impact assessment) with a view to inform possible Commission proposals for ecodesign and/or energy labelling requirements; and it sets out how ecodesign will contribute better to circular economy objectives. Taken together, fresh measures from new products in this Ecodesign Working Plan, in addition to reviews of existing measures, have an estimated potential to deliver a total in excess of 600 TWh (or 50 Mtoe) of annual primary energy savings in 2030. This is comparable to the annual primary energy consumption of Sweden, and is also equivalent to reducing CO_2 emissions by approximately 100 million tonnes per year in 2030.

2. THE ROLE OF THE ECODESIGN WORKING PLAN

Both the Ecodesign and Energy Labelling Directive are framework directives. They lay down the conditions and criteria for adopting implementing measures which set out binding requirements specific to each product group[5]. Priorities for product groups to be investigated under this framework are established through regular Working Plans as foreseen in Article 16(1) of the Ecodesign Directive, which specifies that the Commission shall publish "*a working plan setting out, for the three following years, an indicative list of energy-related product groups which will be considered priorities for the undertaking of preparatory studies and eventual adoption of implementing measures*".

This new Working Plan builds on the work that has been done since mid-2005 for the product groups listed in Article 16(2) of the 2005 Ecodesign Directive[6] (transitional period) and on the first two Working Plans for the periods 2009-2011[7] and 2012-2014[8].

3. STATE OF PLAY

3.1. Implementing measures adopted

As a result of the referred prioritisation of work, the Commission launched preparatory studies, which have resulted in the adoption of 28 Ecodesign Regulations, 16 Energy Labelling Delegated Regulations and 3 recognised Voluntary Agreements.

Furthermore, around 40 standardisation mandates were launched for these product groups. A list of existing harmonised standards supporting Ecodesign Regulations is available at the Europa website[9].

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[5] For an overview of existing implementing measures, see:
https://ec.europa.eu/energy/sites/ener/files/documents/list_of_enegy_labelling_measures.pdf
https://ec.europa.eu/energy/sites/ener/files/documents/list_of_ecodesign_measures.pdf
[6] OJ L 191, 22.7.2005, p. 29–58
[7] Communication from the Commission to the Council and the European Parliament - Establishment of the working plan for 2009-2011 under the Ecodesign Directive (COM/2008/0660 final)
[8] http://ec.europa.eu/enterprise/policies/sustainable-business/documents/eco-design/working-plan/files/comm-swd-2012-434-ecodesign_en.pdf

3.2   Ongoing work

Work on a number of the identified priority product groups is still ongoing at the time of adoption of this Working Plan and is in different stages of development. The table below presents an overview of the ongoing work, as well as the anticipated savings, where available.[10]

Together with this working plan, the Commission is adopting the following measures with an estimated energy saving potential of over 100 TWh per year of primary energy saved in 2030:

- An ecodesign measure for air heating and cooling products[11]
- An ecodesign[12] and an energy labelling[13] measure on verification tolerances to improve product testing and reduce the scope for cheating
- A Recommendation for self-regulation[14] providing guidance to support industry in the pursuit of voluntary agreements as an alternative to regulation.

Further work is under way, as presented in the table below:

Measure	Status	Anticipated Primary Energy savings in 2030[15] (where availaible; in TWh per year)
Commercial refrigeration	Consultation forum took place on 2.7.2014 Impact assessment finalised	48
Compressors	Consultation forum took place on 29.09.14 Impact assessment ongoing	5
Windows	Consultation forum took place on 30.09.15 Impact assessment ongoing	40 (only energy labelling requirements)

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[9] http://ec.europa.eu/growth/tools-databases/mandates/

[10] In line with existing impact assessment practice for Ecodesign product groups, an overall EU-wide electricity power plant generation conversion efficiency level of 40% is assumed (i.e., 2.5 Mtoe of Primary Energy input fuel [gas, oil, coal, etc] is needed for every 1 Mtoe of electricity generated, and for which the end-consumer will be billed).

[11] Commission Regulation implementing Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products, with regard to ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units. [C(2016) 7769 final]

[12] Commission Regulation amending Regulations (EC) No 1275/2008, (EC) No 107/2009, (EC) No 278/2009, (EC) No 640/2009, (EC) No 641/2009, (EC) No 642/2009, (EC) No 643/2009, (EU) No 1015/2010, (EU) No 1016/2010, (EU) No 327/2011, (EU) No 206/2012, (EU) No 547/2012, (EU) No 932/2012, (EU) No 617/2013, (EU) No 666/2013, (EU) No 813/2013, (EU) No 814/2013, (EU) No 66/2014, (EU) No 548/2014, (EU) No 1253/2014, (EU) 2015/1095, (EU) 2015/1185, (EU) 2015/1188, (EU) 2015/1189 and (EU) 2016/XXX [C(2016) 7769 final] with regard to the use of tolerances in verification procedures. [C(2016)7767final]

[13] Commission Delegated Regulation amending Delegated Regulations (EU) No 1059/2010, (EU) No 1060/2010, (EU) No 1061/2010, (EU) No 1062/2010, (EU) No 626/2011, (EU) No 392/2012, (EU) No 874/2012, (EU) No 665/2013, (EU) No 811/2013, (EU) No 812/2013, (EU) No 65/2014, (EU) No 1254/2014, (EU) 2015/1094, (EU) 2015/1186 and (EU) 2015/1187 with regard to the use of tolerances in verification procedures. [C(2016)7765 final]

[14] Commission Recommendation on guidelines for self-regulation measures concluded by industry under Directive 2009/125/EC of the European Parliament and of the Council. [C(2016)7770 final]

[15] Except for Water-related products, for which both 2025 and 2030 saving figures are included.

Machine tools and welding equipment	Consultation forum took place on 6.05.14

Impact assessment ongoing | 9

(VA on metal working machine tools; regulation on welding equipment) |
| **Professional washing machines, dryers and dishwashers** | Consultation forum took place on 29.11.13

Standardisation work ongoing. | 4 |
| **Enterprise servers, data storage and ancillary equipment** | Preparatory study finished in 08.15 | Up to 43 for full product requirements

Important resource-saving potential |
| **Water-related products** | Preparatory study finished in 12.14 (not yet published) | Up to 70 (and 1900 Mm^3 of abstracted water) in 2025; up to 17 (and 700 Mm^3 of abstracted water) in 2030

(only energy labelling requirements) |
Smart appliances	Preparatory study ongoing	
Lighting controls/systems	Preparatory study ongoing	
Industrial and laboratory furnaces and ovens	Consultation forum took place on 16.05.14. ED/EL Regulations will not be proposed for the time being (*)	
Power Cables	ED/EL Regulations will not be proposed for the time being (*)	
Steam boilers	ED/EL Regulations will not be proposed for the time being (*)	

(*) The outcome of the preparatory studies suggested that Ecodesign (ED) and Energy Labelling (EL) were not the most appropriate regulatory options to address energy efficiency for these products, and that other regulatory instruments were already capturing at least part of the existing energy saving potential.

3.3. Reviews

Most Ecodesign and Energy Labelling implementing measures adopted so far have review clauses which are due in the coming years. The following table presents a consolidated overview of the Regulations which are due for review up to and including 2019, with an indication of the potential energy saving and the significance of the resource saving potential, where available.

During these reviews the Commission will examine how aspects relevant to the circular economy, such as resource efficiency, reparability, recyclability and durability can be assessed and taken on board when revising the existing measures.

Measure	Status	Anticipated Primary Energy savings in 2030 (where available; in TWh per year)
Televisions (review) and electronic displays	Consultation forum took place on 10.12.14 Inter-Service Consultation closed. WTO notification ongoing	83 Important resource-saving potential
External power supplies	Consultation forum took place on 29.04.15. Intention is to align with new US rules.	6
Electric motors	Review study finalised in July 2014 Impact assessment ongoing	75
Fans	Review study finalised in March 2015 Impact assessment ongoing	25
Lighting products	Review study finalised in December 2015 Impact assessment ongoing	125
Domestic refrigerators and freezers	Review ongoing	13 Important resource-saving potential
Dishwashers and washing machines including combined washer-driers	Reviews ongoing	11 Important resource-saving potential
Standby and off mode electric power consumption of electrical and electronic household and office equipment	Review ongoing	
Water pumps	Review ongoing	
Water heaters and hot water storage tanks	Review by September 2016 of certain requirements.	
Vacuum cleaners	Review by September 2016 of specific durability requirements	
Computers and computer servers	Review ongoing	Important resource-saving potential
Circulators	Review ongoing	
Air conditioners and comfort fans	Review by April 2017	
Transformers	Review by June 2017	
Tumble driers	Review by May/November 2017	Important resource-saving potential
Vacuum cleaners	Review by August 2018	

Solid fuel boilers	Review by August 2018 of specific requirement for third party certification	
Solid fuel local space heaters	Review by August 2018 of specific requirement for third party certification	
Space and water heaters	Review by September 2018	
Local space heaters	Review by January 2019	
Ventilation units	Review by December 2019	

4. INDICATIVE LIST OF NEW PRODUCT GROUPS FOR THE WORKING PLAN 2016-2019

In preparation for this Working Plan, the Commission launched a study to identify any further energy-related product groups that had significant savings potential and had not been included in the transitional period or in the previous working plans. This draft Working Plan was subsequently revisited in the light of the Circular Economy Action Plan.

The study made a quantitative estimation of the energy saving potential resulting from improvements in the overall energy efficiency for each product group. Additionally, from a circular economy perspective, a qualitative assessment of other environmental impacts[16] mentioned in the Ecodesign Directive was made, as well as an assessment of the existing regulatory coverage of these environmental impacts. The final reports for the different tasks in the study are available on a dedicated website[17].

The Commission consulted the Consultation Forum, as required by Article 18 of the Ecodesign Directive, to take into account comments from the Member States' representatives and stakeholders when establishing this working plan and the indicative list of product groups[18].

The energy saving potential of the remaining energy-related products identified by the study is for some products is lower than for those identified in previous working plans. Therefore, in parallel with the review of existing Regulations, the Commission will be launching dedicated studies for those products from the above-mentioned study that have the largest savings potentials:

- Building Automation and Control Systems
- Electric kettles
- Hand dryers
- Lifts
- Solar panels and inverters
- Refrigerated containers
- High-pressure cleaners[19]

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[16] Including water consumption in use phase; consumables (e.g. detergents); presence of critical raw materials, flame retardants, plasticizers (phthalates), or other toxic substances; presence of F-gases; radiation; safety (fuel leakage, vibrations, etc.); health (hygiene, noise levels, etc.); durability (reusability, upgradability, reparability, etc.); end-of-life (recyclability, recycled content); and direct emissions to air, water, and soil.

[17] See: http://www.ecodesign-wp3.eu/documents

[18] Ecodesign Consultation Forum held on 28.10.2015

[19] It is envisaged that solely energy labelling may be retained from the available policy options, as the energy saving potential does not seem to justify an ecodesign option.

The above identified product groups will be subject to preparatory studies that investigate in more detail the potential for environmental improvement, including aspects relevant to the circular economy as laid out in chapter 5, and provide the elements for the identification of policy options in the subsequent impact assessments.

In the preparation of possible implementing measures laying down ecodesign or energy labelling requirements for the energy-related products mentioned above, the Commission is bound by the criteria laid out in Article 15.5 of the Directive. Furthermore, care will be taken to avoid any possible overlap with existing EU Regulations already applying to these products. In particular, no Ecodesign measure will be proposed for Building Automated Control Systems, if it is considered that the energy saving potential in buildings can be better captured via changes in the Energy Performance of Buildings Directive and/or the Energy Efficiency Directive. In order to avoid unnecessary regulation, no Ecodesign measure will be proposed if the major part of the energy savings potential in lifts is already captured through other Ecodesign regulations on their components, such as the regulation on electric motors.

Given their specificity, a separate track is proposed for **ICT products** (not included in the product groups above), that will also fully take into account their circular economy potential, which is particularly relevant in the case of mobile/smart phones.

For ICT products it has proven very difficult to make a reliable estimate of their energy savings potential, given the uncertainty about future market developments. Moreover, for the fast moving ICT product sectors, questions have arisen as to the suitability of the ecodesign/energy labelling process (which takes on average around 4 years) for establishing minimum energy and resource efficiency criteria. At the same time, the voluntary agreements that have been recognised for some electronic product groups (i.e. imaging equipment, game consoles and complex set-top boxes) as alternatives to regulatory measures, have not always proven to be faster in achieving the objectives of ecodesign. Also, the EU-US Energy Star Agreement, under which both jurisdictions set the same voluntary efficiency requirements for office equipment, will have to be reviewed prior to its expiry in 2018. Finally, the increased connectivity of products – whether in the home or in industry – and the advent of smart appliances as well as their impact on overall system efficiency, requires careful consideration.

In view of this, the Commission will launch a more in-depth assessment of the following ICT products with a view to their possible inclusion in the ecodesign working plan:

- gateways (home network equipment)
- mobile/smart phones
- base stations

This will allow determining the best policy approach for improving their energy efficiency and wider circular economy aspects. Signage displays and wireless chargers will be taken up in the ongoing work on the revision of the existing implementing ecodesign measures for televisions and external power supplies respectively.

5.   CONTRIBUTION TO THE CIRCULAR ECONOMY

The possibility to repair, remanufacture or recycle a product and its components and materials depends in large part on the initial design of the product. It is therefore crucial that these aspects are taken into account when investigating possible Ecodesign implementing measures. The focus has so far has been on improving the energy efficiency of products even if resource efficiency provisions have been part of the Directive since its original adoption in 2005, and were introduced for some product groups with criteria concerning e.g. water use and durability.

With this new working plan, the Commission will explore the possibility of establishing more product-specific and/or horizontal requirements in areas such as durability (e.g. minimum life-time of products or critical components), reparability (e.g. availability of spare parts and repair manuals, design for repair), upgradeability, design for disassembly (e.g. easy removal of certain components), information (e.g. marking of plastic parts) and ease of reuse and recycling (e.g. avoiding incompatible plastics), greenhouse gas and other emissions, and to further establish the scientific basis for developing corresponding criteria that meet the requirements of the Ecodesign Directive. This will be undertaken both for new product groups identified in chapter 4 as well as for upcoming reviews of existing product-specific measures listed in chapter 3 taking into consideration the estimated benefits and costs of proposed measures as well as Annex II of the Directive, according to which the requirements to improve the environmental performance of products need to avoid significant losses of performance or usefulness for consumers. Furthermore, any requirement needs to be verifiable and enforceable.

In particular, the margin for improvement in developing material efficiency requirements in product Regulations should be investigated in a more systematic way. For this purpose, the Commission will develop a circular economy 'toolbox' for ecodesign, for example in the form of guidance for inclusion of resource and material efficiency aspects for new product groups and for the revision of existing implementing measures. Based on an in-depth analysis, such a toolbox would provide concrete examples of how these aspects could be taken up in product-specific or horizontal requirements.

The Commission will also improve the methodological basis for a more systematic adoption of requirements related to material efficiency in product Regulations, both new and due for review. To this end a standardisation request to the European Standardisation Organisations on material efficiency aspects has been adopted[20]. The scope of this request covers, primarily, the following aspects:

- Extending product lifetime
- Ability to re-use components or recycle materials from products at end-of-life
- Use of re-used components and/or recycled materials in products

The standards to be prepared in accordance with the referred standardisation request will be general in nature and will help in the development of product-specific and/or horizontal standards, which would support eventual requirements related to material efficiency aspects, such as reparability or recyclability.

The ongoing work on the Product Environmental Footprint will also contribute to this objective.

6. **MARKET SURVEILLANCE AND INTERNATIONAL COOPERATION**

It is estimated that 10%-25% of products on the market do not comply with ecodesign and energy labelling requirements. As a result, around 10% of envisaged energy savings are being lost. In absolute terms, this corresponds to about 17 Mtoe of primary energy per year. It is also misleading for consumers, who may face higher energy bills. Member States are responsible for market surveillance and, while there have been significant improvements in enforcement activities of the last years, more needs to be done to reduce the number of non-compliant products on the EU market.

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[20] Commission Decision C(2015) 9096 adopted on 17.12.2015.

To improve enforcement, the Commission already facilitates cooperation between national market surveillance authorities through the Administrative Cooperation ('ADCO') groups on ecodesign and on energy labelling. Moreover, the Commission supports dedicated joint surveillance projects, such as the EU funded project 'EEpliant', and will continue to do so in future. The Commission Regulations on verifications tolerances, mentioned under point 3.2, as well as the Commission's proposal for a Regulation on energy labelling, currently subject to inter-institutional negotiations,[21] will also improve enforcement.

The European Union is one of the world leaders in the development of minimum energy efficiency requirements and energy labelling for products. Many other countries follow similar approaches and our regulations and the A-G label layout are influential internationally. Moreover, the EU plays an important role in international standardisation. These efforts are important for European businesses, as they support a more uniform global playing field, reduce compliance costs and create opportunities abroad.

Therefore, the Commission will continue to engage with other jurisdictions to strive for more global convergence in standards, test methods and, if possible, minimum requirements, for example through international standardisation, product-specific agreements, or as part of bilateral trade deals.

7.   OUTLOOK

The Commission plans to work on the following priorities in the coming years:

(1)   Finalise ongoing regulatory work on products identified in previous working plans

(2)   Undertake the review of existing measures identified in chapter 3

(3)   Start preparatory studies for the product groups identified in chapter 4

(4)   Strengthen the contribution of the Ecodesign Directive to a more circular economy

(5)   Facilitate enhanced cooperation between Member States on market surveillance to achieve a better enforcement of existing Regulations

(6)   Strengthen cooperation with international partners to facilitate further convergence of test and measurement methods, and, if possible, minimum energy performance requirements.

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[21] COM(2015) 341 final