

Special Report

# EU action on Ecodesign and Energy Labelling: important contribution to greater energy efficiency reduced by significant delays and non-compliance



EUROPEAN  
COURT  
OF AUDITORS

# Contents

	Paragraph
<b>Executive summary</b>	I-XII
<b>Introduction</b>	01-19
Why energy efficiency matters	01-06
The role of Ecodesign and Energy Labelling	07-15
The role of market surveillance	16-19
<b>Audit scope and approach</b>	20-23
<b>Observations</b>	24-73
Management of the regulatory process	24-54
The Commission prioritised the product groups with the highest energy-saving potential	24-27
Significant delays in the regulatory process reduced the effectiveness of the policy	28-37
The Commission is taking steps to improve the energy labels	38-42
The Commission increased the focus on resource efficiency but has not delivered the circular economy toolbox	43-45
Ecodesign impact accounting overestimates the impact of the policy although there have been recent improvements	46-54
Market surveillance	55-73
Manufacturers and retailers' non-compliance with the Energy Labelling and Ecodesign legislation reduces the benefits of the policy	55-59
The EU has provided tools to support Market Surveillance Authorities that have had limited impact for Ecodesign and Energy Labelling	60-70
EU-funded market surveillance projects are useful but provide a temporary solution for a recurring need	71-73
<b>Conclusions and recommendations</b>	74-80

**Glossary**

**Replies of the Commission**

**Audit team**

**Timeline**

## Executive summary

**I** Faced with the crucial challenge of preventing and mitigating climate change, EU leaders have committed to save 20 % of the EU energy consumption by 2020, and 32.5 % by 2030 (compared to projected levels as established in 2007). Increasing energy efficiency of products is one of the key instruments to achieve these targets. Products that are designed to be more efficient can help to reduce greenhouse gas emissions and bring significant financial savings for businesses and households.

**II** The Ecodesign legislation works by setting minimum energy efficiency and environmental requirements for household and industrial products. EU energy labels provide information to consumers on the products' energy consumption and environmental performance, and help them make informed decisions.

**III** In this audit, we assessed whether the EU's actions on Ecodesign and Energy Labelling contributed effectively to reaching its energy efficiency and environmental objectives. We examined whether the Commission managed the regulatory process well and adequately monitored and reported the results achieved. We also examined whether the Commission had overseen and supported market surveillance activities effectively and whether EU-funded projects had led to sustainable improvements in market surveillance.

**IV** We concluded that EU actions contributed effectively to reaching the objectives of the Ecodesign and Energy Labelling policy, but that effectiveness was reduced by significant delays in the regulatory process and non-compliance by manufacturers and retailers.

**V** The policy covers most of the products with the highest energy-saving potential. The Commission used sound and transparent methodologies to decide which products to regulate, so that the policy would have maximum impact.

**VI** However, we found that the process to establish product-specific regulations is lengthy, and the Commission could have avoided some delays. In addition, the Commission's decision to adopt measures as a package meant that product groups that are ready to be regulated are delayed even longer. This reduced the impact of the policy, as the product design requirements do not always reflect technological progress. Moreover, energy labels no longer always help consumers to differentiate between products.

**VII** The way the Commission integrated circular economy concepts such as reparability and recyclability in the Ecodesign and Energy Labelling policy has been ad hoc. However, we noted that recently adopted product regulations showed that the Commission had paid more attention to these aspects.

**VIII** Every year, the Commission reports on the results of Ecodesign and Energy Labelling policy, providing stakeholders and policy-makers with useful information. We found that the current methodology applied for the impact accounting is incomplete, as it does not take into account the impact of non-compliance with the regulations, implementation delays and the difference between real-life energy consumption and theoretical consumption.

**IX** Effective market surveillance should play a critical role in ensuring that products sold in the EU comply with Ecodesign requirements and that consumers benefit from accurate energy labels. It is the role of the Member States to check that products sold comply with the legislation. The data available shows, however, that non-compliance by manufacturers and retailers remains a significant issue.

**X** The Commission facilitates cooperation between Market Surveillance Authorities. The Information and Communication System on Market Surveillance, operated by the Commission, should enable cooperation by allowing authorities to share inspection results. We found that some functional limitations in the database reduced its effectiveness. The Commission is setting up a product database, which will, among other things, facilitate market surveillance, but this is behind schedule.

**XI** The EU-funded projects aimed at improving market surveillance have delivered results, but they have only provided a temporary solution for a recurring need.

**XII** Our report makes recommendations to the Commission aimed at improving the impact of the Ecodesign and Energy Labelling policy. Our recommendations cover improvements to the regulatory process to deliver more timely and impactful product-specific regulations; improvements in the way the impact of the policy is measured and reported and actions to facilitate exchange of information between Market Surveillance Authorities and improve compliance with the policy.

# Introduction

## Why energy efficiency matters

**01** In 2007, faced with the crucial challenge of preventing and mitigating climate change, EU leaders set three targets to be attained by 2020<sup>1</sup>:

- a 20 % cut in greenhouse gas emissions (from 1990 levels);
- a 20 % increase in energy efficiency (compared to projected levels as established in 2007);
- an increase in the proportion of total energy consumption from renewable sources to 20 %.

**02** Improving energy efficiency will reduce greenhouse gas emissions and help fight climate change, provide significant financial savings for businesses and households, improve air quality, and help the EU to reduce its dependence on fossil fuels.

**03** The Commission's most recent assessment on the progress made by Member States towards the energy efficiency targets<sup>2</sup> shows that the EU 2020 target is unlikely to be met. Energy consumption rose between 2014 and 2017. The Commission assessment suggests that key factors were economic growth, low-oil prices, weather conditions, and the slow implementation of energy efficiency measures in some Member States. The report concludes that "there is a need to step up efforts not only to reach the 2020 targets but also to set the right basis for the subsequent decade when an even higher level of ambition will be required".

<sup>1</sup> [Commission's website on the 2020 objectives](#). See also ECA special report 18/2019 - EU greenhouse gas emissions: Well reported, but better insight needed into future reductions.

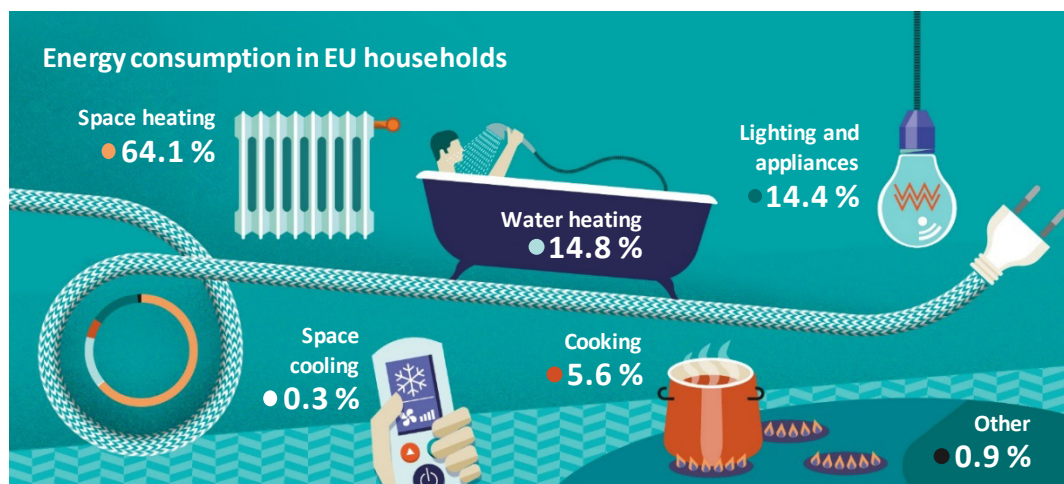
<sup>2</sup> [2018 assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive, as required by Article 24\(3\) of the Energy Efficiency Directive 2012/27/EU, COM\(2019\) 224 final, 2019.](#)

**04** In December 2018<sup>3</sup>, the amended Energy Efficiency Directive set the energy efficiency target for 2030 to a 32.5 % increase compared to projections established in 2007. To achieve this ambitious target, it is important to adopt decisive measures that will lower energy consumption.

**05** Improvements in energy efficiency may cover a wide range of sectors and areas, such as designing and renovating buildings to conserve energy, improving means of transport, industrial production, and designing and using better products. The Commission estimates<sup>4</sup> that the Ecodesign and Energy Labelling policy will contribute around half of the 2020 energy efficiency target.

**06** According to Eurostat data from 2017<sup>5</sup>, household energy consumption represents around a quarter (27.2 %) of final energy consumption in Europe. Most of the energy consumed by households (82.5 %) comes from non-renewable sources. Energy labels cover mostly the household sector. *Figure 1* below shows that the main area of household energy consumption is heating and hot water, followed by lighting and appliances, and cooking.

**Figure 1 – Energy consumption in EU households**



Source: Eurostat, 2017.

<sup>3</sup> Directive EU/2018/2002.

<sup>4</sup> Communication from the Commission, Ecodesign Working Plan 2016-2019, COM(2016)773.

<sup>5</sup> Eurostat data, 2017.

## The role of Ecodesign and Energy Labelling

**07 Ecodesign** is the integration of environmental aspects into product design. Its aim is to improve the environmental performance of a product throughout its life cycle. The Ecodesign legislation works by setting energy efficiency and other requirements for product design, therefore improving environmental performance. Products that do not meet these requirements cannot be sold in the EU, thus removing the worst-performing products from the market.

**08 EU energy labels** show how an appliance ranks on a scale from A to G according to its energy consumption. They estimate the annual energy consumed by each product and rank similar products according to their energy efficiency class. This allows consumers to make informed decisions.

**09** Ecodesign and energy labels are complementary. They share the policy objectives of:

- increasing product energy efficiency and environmental protection;
- promoting the free movement of energy-related products in the EU;
- providing consumers with information enabling them to choose more efficient products.

**10** In the early 1990s, the Commission developed energy-performance requirements for heaters and refrigerators, then for fluorescent lighting in 1999. The first Ecodesign Directive, adopted in 2005<sup>6</sup>, covered all energy-using products. The current Directive<sup>7</sup> further expanded the scope of energy-related products, by including products with an indirect impact on energy-consumption.

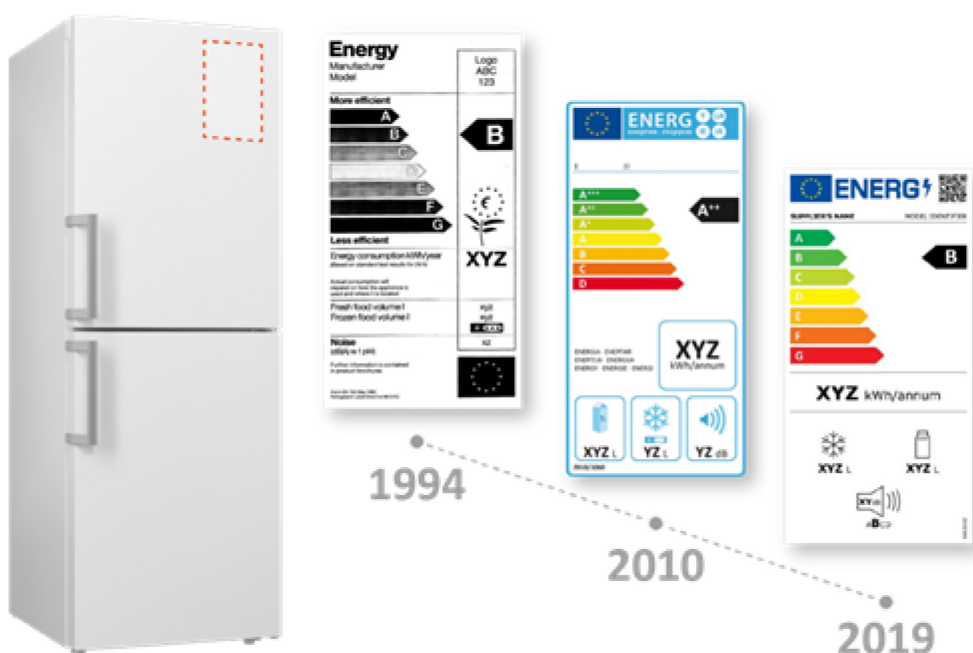
<sup>6</sup> Directive 2005/32/EC.

<sup>7</sup> Directive 2009/125/EC.



**11** The Council of the European Communities adopted the first EU energy-labelling Directive in 1992<sup>8</sup>, covering the main household appliances. The first EU-wide labels were introduced for refrigerators in 1994, rating the energy efficiency class of each model on a scale from A to G. Since then, the energy consumption of refrigerators has decreased by more than 60 %<sup>9</sup>. In 2010, the Commission introduced the “A+”, “A++”, and “A+++” energy classes, which it discontinued in the newly adopted label in 2019 (see paragraph 41). **Figure 2** shows the evolution of the EU energy label for refrigerators.

**Figure 2 – Evolution of the EU energy label for refrigerators**



Source: ECA.

<sup>8</sup> Directive 92/75/EEC.

<sup>9</sup> Preparatory review study, 2016.

**12** The World Energy Council has recognised the EU Ecodesign and Energy Labelling policy as successful<sup>10</sup>. Consumers are familiar with energy labels, with 85 % of Europeans recognising and using the energy label when making a purchase<sup>11</sup>. The policy has widespread support from manufacturers, consumers and environmental organisations<sup>12</sup>. Specifically:

- improved product design that can lead to higher sale prices, and consequently greater returns and an increased market share for manufacturers that innovate, as inefficient products are removed from the EU market. The Commission estimates that this will create around 1 million jobs by 2030<sup>13</sup>;
- businesses benefit from lower operational costs when using products that are more efficient;
- consumers using products that are more efficient benefit from lower energy bills, which offset the higher upfront cost.

**13** Ecodesign and Energy Labelling requirements primarily focus on energy efficiency, but they can also cover other characteristics. For example, the legislation set limits on water consumption for washing machines, durability requirements for lighting products and vacuum cleaners, and provide information regarding disassembly and recycling of vacuum cleaners, circulators and imaging equipment. Many product labels include pictograms that give information on the products' characteristics, performance and environmental impact, such as water consumption or noise emitted (see [Figure 3](#)).

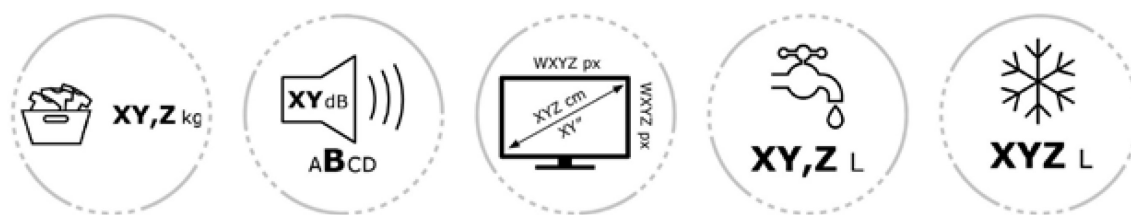
<sup>10</sup> Energy Efficiency Policies around the World: Review and Evaluation, p. 48, World Energy Council 2008.

<sup>11</sup> Study on the impact of the energy label – and potential changes to it – on consumer understanding and on purchase decisions. LE London Economics and IPSOS, October 2014.

<sup>12</sup> Joint Industry letter on Ecodesign, May 2018; Open letter to President Juncker from 55 NGOs, September 2018.

<sup>13</sup> EIA overview report 2018, January 2019.

**Figure 3 – Pictograms on energy labels providing information on characteristics, performance and environmental impact**



Source: ECA.

**14** The Ecodesign and Energy Labelling rules cover 14 product groups while 11 others are only covered by Ecodesign requirements (see [Figure 4](#)). There are also horizontal measures covering the off mode and standby power consumption of electrical and electronic products.

**Figure 4 – Products covered by Ecodesign and energy labels**

14 product groups covered by Ecodesign and labelling requirements	11 product groups only covered by Ecodesign requirements
<ul style="list-style-type: none"> <li>•dishwashers</li> <li>•washing machines</li> <li>•tumble dryers</li> <li>•refrigerators</li> <li>•professional and commercial refrigeration</li> <li>•lamps</li> <li>•electronic displays</li> <li>•domestic cooking appliances</li> <li>•heaters</li> <li>•water heaters</li> <li>•local space heaters</li> <li>•solid fuel boilers</li> <li>•air conditioners</li> <li>•residential ventilation units</li> </ul>	<ul style="list-style-type: none"> <li>•simple set-top boxes</li> <li>•external power supplies</li> <li>•electric motors</li> <li>•circulators</li> <li>•industrial fans</li> <li>•water pumps</li> <li>•power transformers</li> <li>•welding equipment</li> <li>•air heating products</li> <li>•computers and servers</li> <li>•online data-storage products</li> </ul>

Source: ECA.

**15** Following the adoption of the EU Circular Economy Action Plan in 2015<sup>14</sup>, the Commission announced in 2016 its intention to contribute more to the circular economy by making products more durable and easier to repair, reuse or recycle. In a circular economy, the value of products and materials is maintained for as long as possible; resource use and waste are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used repeatedly to create further value.

## The role of market surveillance

**16** The Ecodesign and Energy Labelling legislation benefits consumers and the environment if products sold in the EU meet the Ecodesign and energy labelling requirements, and if sellers display accurate energy labels properly to inform consumers.

**17** Suppliers of products sold in the EU must provide a declaration of conformity and affix the “CE” marking<sup>15</sup> to the product. The marking does not prove that a third party or the authorities have tested the product independently. It shows that the manufacturer considers that its product complies with all applicable regulations and is fit for legal sale. Manufacturers are responsible for ensuring that the energy label they provide to sellers is accurate.

<sup>14</sup> COM (2015) 614/2.

<sup>15</sup> The abbreviation historically stands for “Conformité Européenne”.

**Figure 5 – CE marking on a television**



Source: ECA.

**18** Market surveillance in the EU covers 33 sectors, including Ecodesign and Energy Labelling. Member States are responsible for market surveillance on their territory. Each Member State must designate a Market Surveillance Authority (MSA) and provide it with sufficient power and resources to fulfil its obligations. To ensure compliance of products sold in their country, MSAs must perform appropriate checks on an adequate scale.

**19** The Commission supports and fosters cooperation between MSAs by organising meetings, providing guidance and trainings, and operating two databases. The EU budget provides funding (€15 million between 2009 and 2018) to projects aimed at helping to improve market surveillance activities in the EU for the Ecodesign and Energy Labelling sector.

## Audit scope and approach

**20** This report assesses whether the EU's actions on Ecodesign and Energy Labelling contribute effectively to reaching its energy efficiency and environmental objectives. We decided to look at this policy area because it has a crucial role in achieving the energy efficiency targets set by the EU and, with the adoption of a new legislative package in 2019, there is increasing interest by the public and stakeholders in this area. We examined whether the Commission managed the regulatory process well and adequately monitored and reported the results achieved. We also examined whether the Commission had overseen and supported MSA activities, focusing on the operation of the two EU-level databases, and whether EU-funded projects had led to sustainable improvements in market surveillance.

**21** To assess whether the Commission had proposed implementing measures in line with policy objectives, we selected three product groups as case studies:

- central heating combi-boilers and space heaters;
- household refrigeration (refrigerators and freezers);
- electronic displays (televisions and monitors).

We selected these product groups based on their primary energy consumption and the estimated savings of the Ecodesign and Energy Labelling measures adopted, with the aim of covering both heating products and typical household appliances.

**22** We visited Directorate-General Energy (DG ENER), Directorate-General Internal Market, Industry, Entrepreneurship and SMEs (DG GROW) and the Executive Agency for Small and Medium-sized Enterprises (EASME). To assess the impact and sustainability of EU-funded projects to improve market surveillance, we performed a desk review of nine projects and analysed their results. We also visited the MSAs responsible for Ecodesign and Energy Labelling in France, Luxembourg, Poland and Sweden, which took part in some of these projects. We selected these Member States as they represent a diverse mix of market sizes, while considering geographical balance. In order to consult the stakeholders representing the consumers, the environment, and the industry, we also carried out interviews with the European Consumers Organisation (BEUC), the European Association for the Coordination of Consumer Representation in Standardisation aisbl (ANEC), the European Environmental Bureau (EEB) and Home Appliance Europe (APPLiA).

**23** The results of the audit could feed into the preparation of the next three-year Ecodesign Working Plan for the period after 2020 and could influence how the Commission manages the legislative process and how it supports market surveillance activities carried out by the Member States.

# Observations

## Management of the regulatory process

### The Commission prioritised the product groups with the highest energy-saving potential

**24** The Ecodesign Directive and the Energy Labelling Regulation set up a general framework defining the policy objectives and the roles and responsibilities of the Commission, market surveillance authorities, manufacturers, traders, etc. Under this framework, the Commission has the power to adopt implementing measures setting out Ecodesign and Energy Labelling requirements for specific product groups. According to the Ecodesign Directive, the Commission should select product groups to regulate based on three criteria: volume of sales, current environmental impact, and potential for improvement<sup>16</sup>.

**25** We examined whether the Commission prioritised product groups with the highest potential energy savings for its 2016-2019 Working Plan. The Commission pre-screened more than 100 product groups, and analysed 16 of them. The Commission then ranked the products according to their energy-saving potential. The ranking also provided a qualitative assessment of other environmental factors such as water consumption, inclusion of critical raw materials, durability and recyclability.

**26** In 2016, the Commission announced it would investigate the possibility of setting requirements for Information and Communications Technology (ICT) products separately (such as smartphones and home networking equipment). This is due to the fast-moving nature of this sector and difficulties in estimating potential energy savings. The Commission plans to start this work by the end of 2019.

**27** We found that the existing implementing measures (covering more than 30 product groups) covered most of the products with the highest energy-saving potential. These include products accounting for the greatest household energy consumption and more than half of energy consumption in the industrial and services sectors<sup>17</sup>.

<sup>16</sup> Article 15(2) of Directive 2009/125/EC.

<sup>17</sup> Ecodesign Impact Accounting – Overview report 2018, p. 8, VHK, January 2019.



## Significant delays in the regulatory process reduced the effectiveness of the policy

**28** When the Commission adopts implementing measures, the timeliness of the regulatory process is a key factor in policy success. As technology improves and products become more efficient, Ecodesign and labelling requirements may become outdated and the policy no longer has an impact.

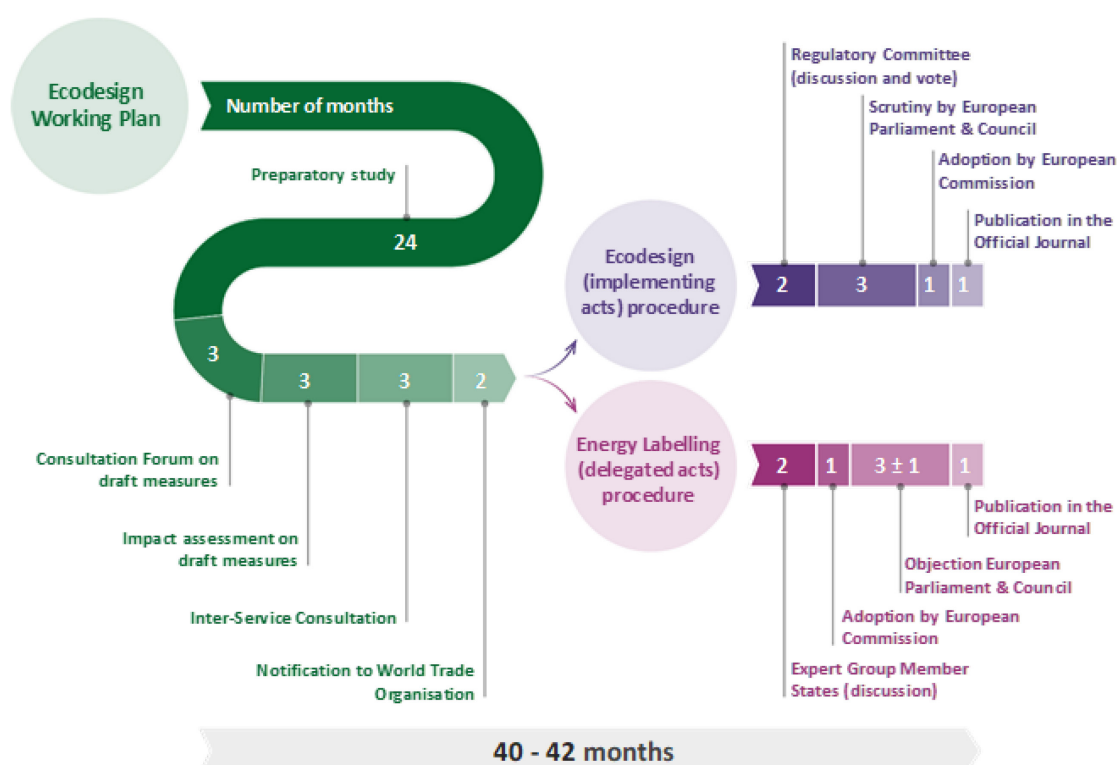
**29** For the past few years, in many product groups, technological progress has meant that minimum energy efficiency requirements have become obsolete and that most or all product models have been in the top three energy classes. On one hand, this demonstrates that products available on the market are more energy-efficient than before and that the policy has had a positive impact. On the other hand, when all products available are in the top energy classes, it is more difficult for consumers to differentiate between the best and worst performing products and there is less incentive for manufacturers to innovate. We examined the regulatory process for the three product groups selected: electronic displays, refrigerators, and heaters.

**30** In 2015, following unfavourable media coverage of the policy, fuelled by attacks on perceived EU over-regulation and a well-publicised court case concerning vacuum cleaners<sup>18</sup>, the Commission decided to freeze temporarily the regulatory process in order to review the adequacy of the policy as a whole. This delayed the work on new product groups that were regarded as a priority (i.e. building automation and control systems, electric kettles, hand dryers, lifts, solar panels and inverters, refrigerated containers, and high-pressure cleaners), as well as the review of existing measures, by almost two years. This was however not the only reason for delays, as explained in the next paragraphs.

<sup>18</sup> [Case T-544/13 Dyson Ltd v European Commission, final judgment 8 November 2018](#). A manufacturer of bagless vacuum cleaners sought the annulment of Commission Delegated Regulation (EU) No 665/2013 on the grounds that it misled consumers about the energy efficiency of vacuum cleaners because the testing standards referred to in the regulation were not adequate. The Court annulled the regulation.

**31** Developing energy efficiency measures is a complex and lengthy process (see [Figure 6](#)), which requires thorough consultations with stakeholders<sup>19</sup>. The Commission has estimated that a standard regulatory process for a product group takes around three and a half years<sup>20</sup>. The process begins from the time the preparatory study starts until the time the implementing or delegated act is published in the Official Journal.

**Figure 6 – Theoretical regulatory process for adopting implementing measures under the Ecodesign and energy-labelling framework**



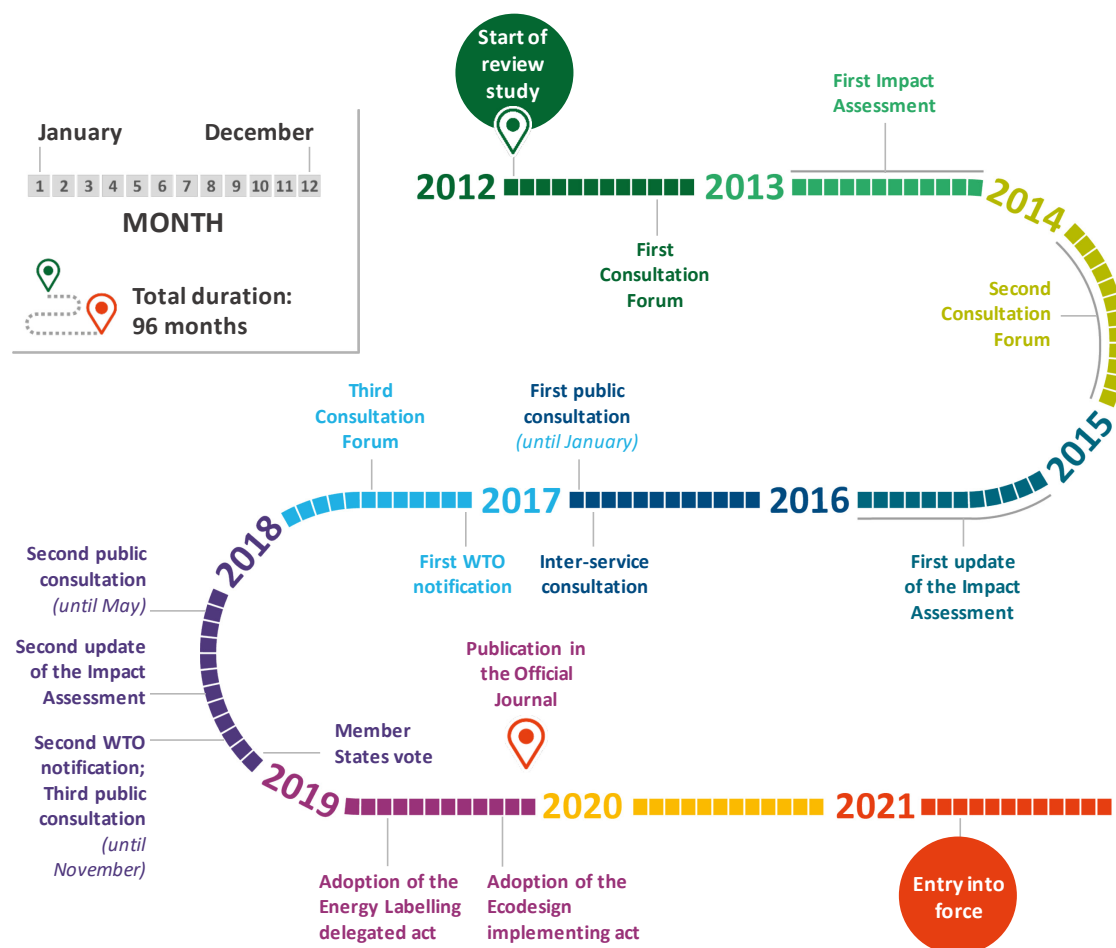
Source: ECA, based on information from the European Commission.

**32** We found that for the three product groups analysed, the process took significantly longer than three and a half years. [Figure 7](#) provides an example of the actual regulatory process for reviewing the requirements for electronic displays.

<sup>19</sup> See ECA special report 14/2019 “‘Have your say!’: Commission’s public consultations engage citizens, but fall short of outreach activities”.

<sup>20</sup> New energy efficiency labels explained, European Commission, 2019.

**Figure 7 – Actual regulatory process for adopting Ecodesign and energy-labelling implementing measures for electronic displays**



Source: ECA.

**33** We found that the actual regulatory process was twice as long as the theoretical process for the product groups analysed, lasting eight years for electronic displays, seven years for heaters and six years for refrigerators. The Commission repeated some key steps, for example, it held:

- for electronic displays: three consultation forum meetings and three public consultations; the Commission notified the World Trade Organization (WTO) twice of the proposed Ecodesign measures, and updated the Impact Assessment study twice;
- for refrigerators: two consultation forum meetings and three public consultations;
- for heaters: three consultation forum meetings and two inter-service consultations.

**34** Unlike preparatory studies, review studies concern existing product group regulations that will be updated. They do not follow a standardised procedure or approach, such as a common structure and criteria, meaning that the depth of the analysis carried out varies across product groups. The initial review studies for electronic displays and refrigerators did not include the information that the Commission needed to develop a legislative proposal. It therefore commissioned additional studies for these product groups, lengthening the regulatory process by four years.

**35** In 2016, the Commission decided to adopt several implementing measures as a single package<sup>21</sup>, meaning that it would adopt regulations on several product groups at once. According to the Commission, this approach helps to communicate on the overall impact of multiple product groups and better demonstrate that the policy delivers significant results. However, we found that it led to delays for those product groups that are ready earlier, until the full package is ready to be adopted, leading to further delays in an already lengthy process.

**36** Several stakeholders and policy experts pointed out that delays mean that opportunities were missed to exploit the significant potential for energy savings and reduce environmental impact<sup>22</sup>. In addition, when the Commission adopts regulations after a long delay, there is a risk that the requirements are outdated. For example:

- for heaters: the 2013 Ecodesign measure required a minimum energy efficiency level of 86 % for the most common type of heaters as of 2015. This was already the average declared efficiency level of all space heaters sold in 2013 in the EU;
- for televisions: the Ecodesign requirements adopted in 2009 were based on obsolete data and did little to improve energy efficiency. The evaluation of the Ecodesign Directive<sup>23</sup> shows that most products already met the 2012 requirements in 2010.

<sup>21</sup> Commission's website on Ecodesign.

<sup>22</sup> Save the Ecodesign energy-labelling package. Joint letter to the European Commission; Joint Industry Letter on Ecodesign; The Ecodesign Directive (2009/125/EC) European Implementation Assessment, European Parliamentary Research Service, November 2017.

<sup>23</sup> COM(2015) 345 final.

**37** For the most recent review of regulations for electronic displays and refrigerators, we found that the Commission took this issue into account and updated the market data multiple times during the regulatory process. Nonetheless, for these two product groups, the time elapsed between the moment when the Commission analysed the last dataset and the date of entry into force of the new requirements was three and five years, respectively.

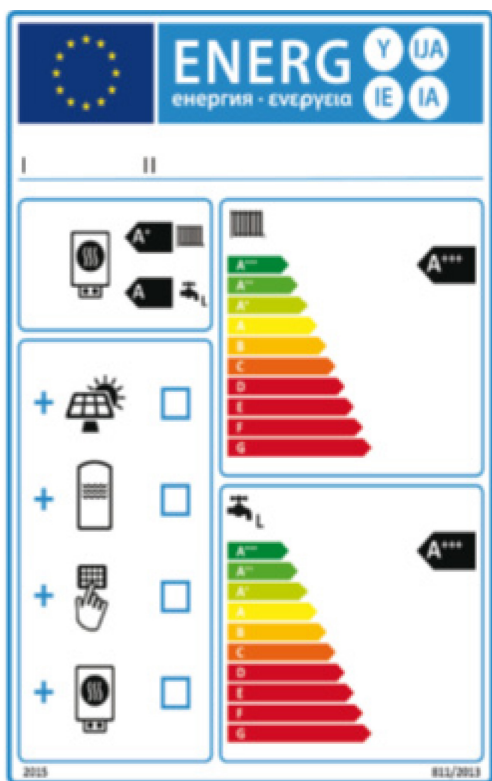
### **The Commission is taking steps to improve the energy labels**

**38** All products covered by the relevant regulations in the EU must have energy labels displayed. As their purpose is to enable consumers to make better-informed decisions, it is important that the labels are understandable.

**39** As an example, the energy labels for heaters demonstrate the need for clarity. The Commission did not carry out a study on consumer understanding before adopting the energy labels in 2013. [Figure 8](#) shows the current design of an energy label for a heating system that can be confusing to consumers. A 2016 study on energy labels<sup>24</sup> found that less than one third of respondents could understand all the information provided on the label.

<sup>24</sup> Elke Dünnhoff: “Comprehensibility of the Energy Label for space heaters and water heaters and of the new Efficiency Label for old space heaters in Germany. Results of two focus groups and a representative consumer survey”, Mainz, 14 December 2016.

**Figure 8 – Example of a label often misunderstood or unclear to consumers (heating systems)**



Source: Regulation (EU) No 811/2013.

**40** In its report on the review of the former energy labelling Directive 2010/30/EU<sup>25</sup>, which has been replaced by the new Energy Labelling Regulation, the Commission recognised that some elements of the labels for several product groups were difficult to understand. To address this weakness, the Commission decided to carry out consumer testing when developing product-specific energy labels, to check that any pictograms and the entire label were comprehensible. For product groups such as heaters (as seen in [Figure 8](#) above), possible changes will only be visible to consumers after a new implementing measure is adopted and enters into force, which may take many years.

<sup>25</sup> Report from the Commission to the European Parliament and the Council - Review of Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication of labelling and standard product information of the consumption of energy and other resources by energy-related products, COM(2015) 345 final.

**41** However, for the new package of measures adopted in March 2019, the Commission carried out consumer understanding studies for the labels of all product groups. The Commission presented the findings to the Member States' experts, who proposed a number of simplifications to the labels before their adoption.

**42** The Commission concluded that the A+, A++ and A+++ classes were less effective than the A to G energy efficiency rating and decided to phase them out. These energy classes will be discontinued over the next few years when new labels are adopted for product groups. This is already the case for the energy labelling measures that will apply from 2021.

### **The Commission increased the focus on resource efficiency but has not delivered the circular economy toolbox**

**43** In 2016, the Commission announced in its Working Plan that it would develop a circular economy toolbox to provide guidance on the inclusion of resource and material efficiency in implementing measures. This requires developing a standardised method for assessing the impact on resource efficiency across multiple product groups and carry out systematic in-depth analyses of circular economy potential during preparatory studies.

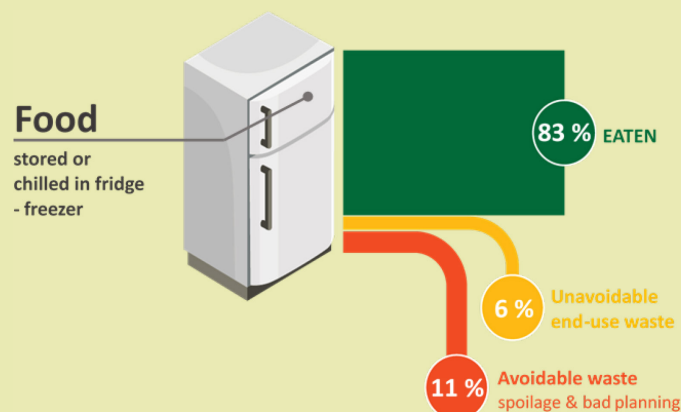
**44** The Commission has taken the first steps towards developing a toolbox. It has begun to develop horizontal material efficiency standards and revise the Methodology for Ecodesign of Energy-related Products (MEErP). We found that the content, depth and scope of existing preparatory and review studies exploring circular economy concepts varied between product groups. This was because these studies did not follow a standardised methodology, and the Commission had to contract out additional studies to gather the necessary information on circular economy issues. This contributed to the delays described in paragraph [33](#).

**45** In its recent proposals, the Commission has increased the focus on resource efficiency. The audit found that the studies carried out to review the legislation on electronic displays and refrigerators considered several environmental aspects other than energy, such as waste management, the presence of critical and rare materials, recyclability, reparability and durability. Based on study findings and a consultation, the Commission has included a number of requirements relating to these aspects in its regulatory proposals (see example in [Box 1](#)).

## Box 1

### Striking a balance between energy efficiency and reducing food waste

Food waste is a global problem that has been in the spotlight in recent years due to its economic and environmental consequences. Around 11 % of the food and drink stored in refrigerators is wasted due to spoilage and bad planning.



Source: ECA, based on VHK study on optimal food storage (2017).

According to a study for households refrigeration, better design could help prevent food waste<sup>26</sup>, as different types of food are best preserved at different temperatures, refrigerators with multiple compartments (such as a cellar and a chiller) can help conserve food longer. The study showed that these types of refrigerators consume at least 20 % more electricity than today's average refrigerator, but found that even a two percentage point reduction in food waste would compensate for the higher energy use.

Based on these findings, the Commission proposed that these refrigerators benefit from a “corrected” energy efficiency rating, better than it would be in reality, in order to promote them. European consumer organisations<sup>27</sup> criticised this decision, arguing that it relied too much on the assumption that consumers would properly sort and store their food. They also criticised the fact that, as the correction factor is not visible to consumers, they would not have accurate information about the additional operating costs before making a purchase.

<sup>26</sup> Preparatory/review study for household refrigeration, VHK, 2016; additional research, VHK, 2017.

<sup>27</sup> ECOS, EEB, Coolproducts, reuse, topten, ifixit Europe, Position on the Commission’s proposals to revise the Ecodesign & Energy Labelling measures on domestic refrigeration, 2018.

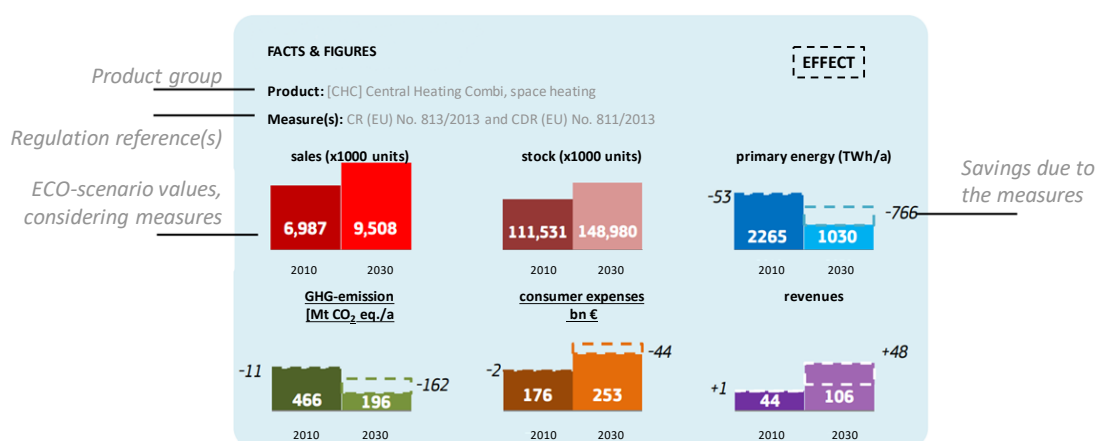


## Ecodesign impact accounting overestimates the impact of the policy although there have been recent improvements

**46** Although it is not a legal requirement, the Commission regularly communicates the results of its Ecodesign and Energy Labelling policy to the public. Since 2013, the Commission has published an Ecodesign Impact Accounting (EIA) report annually, estimating the cumulative results of the Ecodesign and Energy Labelling policy by 2020 and 2030. The EIA develops future projections based on a comparison of two scenarios: a Business as Usual scenario and an ECO scenario. The Business as Usual scenario represents the development of the market without any Ecodesign and Energy labelling measure. The ECO scenario is the scenario elaborated taking into account the policy effect since the beginning for each product group.

**47** Figure 9 shows the way the EIA report presents the results for one product group.

**Figure 9 – Impact accounting for a product group (heaters)**



Source: EIA overview report 2018, VHK for the European Commission.

**48** The 2018 EIA report estimates that the impact of product improvements and energy labels since the 1990s will have a significant benefit in 2020. It estimates that the policy will bring:

- 150 mega tonne oil equivalent of energy saved (9 % of EU total);
- 306 mega tonne CO<sub>2</sub> equivalent less greenhouse gases emissions (7 % of EU total);
- €63 billion net saving for consumers;
- €66 billion in extra revenue for industry, sellers, and installers.

These results are expected to increase by over 60 % by 2030, according to the EIA.

**49** The EIA report states that the estimates presented above should follow three ‘ground rules’: they should be realistic, fit for purpose, and based on existing measures. We found that some assumptions used were likely to overestimate the impact of the Ecodesign and Energy Labelling policy. Specifically:

- the EIA estimates the future impact of the policy, rather than evaluating what has been achieved already. So it also takes into account legislation expected to come into force in the near future. These regulations are accounted for based on the proposed entry-into-force date. If the requirements actually adopted become less stringent or there are delays, the EIA figures are thus overestimated;
- the EIA assumes that the regulation will be fully complied with and that there are no shortcomings in market surveillance. However, the Commission and other stakeholders<sup>28</sup> estimate that non-compliance leads to up to 10 % of energy savings being lost. Our audit also found shortcomings in market surveillance (see paragraphs [55-73](#));
- the EIA uses product technical information provided by manufacturers that is based on relevant harmonised standards rather than real-life consumption data. These standards are not always representative of actual energy-consumption in real-life conditions, as [Box 2](#) explains.

<sup>28</sup> European Commission; CLASP, ECOS, EEB and Topten (2017) Closing the ‘reality gap’ – ensuring a fair energy label for consumers, page 9; Impact Assessment of the compliance & enforcement regime of the Energy-Using Products (EuP) & Energy Labelling Dir., Defra, 2009.

## Box 2

### Shortcomings of EU harmonised standards

An independent report<sup>29</sup> explored the shortcomings of the European harmonised standards used for testing of three product groups: washing machines, televisions, and fridges. It concluded that testing conditions prescribed by the standards differed from real-life use, thus underestimating real-life consumption. For example:

- dishwashers are tested on the most efficient Eco programme, but this programme is used infrequently (18 % of the time);
- televisions are tested with a video clip from 2007 that does not reflect typical home viewing; and
- fridge-freezers are tested without opening the doors and with no food inside.

Based on a small sample of products, the study estimated that dishwashers could consume 6 % to 73 % more energy when used with different programmes, TVs tested with a different video sequence consumed from 6% less to 47 % more energy, refrigerators consumed up to 47 % more energy with door opening every 12 hours.

The report also demonstrated that manufacturers could exploit loopholes in the standards or use circumvention techniques<sup>30</sup> (such as a “cheating devices” to detect that a test is taking place) to obtain better ratings or falsely claim compliance with Ecodesign requirements.

**50** To determine the energy efficiency of appliances, the Ecodesign and energy labelling policy relies on standards developed by standardisation organisations to provide agreed definitions of technical concepts and measurement methods. Once a standard has been issued by a European standardisation organisation and the Commission has published its title and reference in the Official Journal of the European Union, it becomes a “European harmonised standard”, and thus part of EU law.

<sup>29</sup> STEP project – Closing the ‘reality gap’ – ensuring a fair energy label for consumers, CLASP, ECOS, EEB, Topten, June 2017.

<sup>30</sup> See Definition of Circumvention, ANTICSS, 2018.

**51** In the absence of a harmonised standard, older standards, international standards or other relevant methods can be used to measure energy consumption, but this can lead to different results, and the legislation becomes difficult to apply and enforce. This is why harmonised standards, which are reliable, accurate, reproducible, and representative of real-life use are important.

**52** Lastly, the EIA is a prospective study, which seeks to evaluate the future impact of a policy rather than the actual results achieved by a certain date. This makes the accounting process sensitive to certain variations in parameters such as future inflation rates or energy prices. In 2019, the Commission revised its assumptions for future energy prices used for impact accounting. This led to a sharp decrease in the estimated net savings for EU consumers in 2020: the expected annual savings for each household decreased from €473 to €286.

**53** An independent study<sup>31</sup> pointed out that the EIA is based on scenarios and attempted to reconcile energy savings accounted for by impact accounting and the energy savings observed in Germany for some product groups. According to the study, the savings observed in reality were significant, but were lower than the projections of the impact accounting, by a significant margin: 2 to 15 times or 1.7 to 11.6 times, depending on the calculation basis and the product group. While the scope and the methodology of the study may not allow a direct comparison with the figures reported by the EIA, the study shows that there is a risk that the savings are overestimated.

**54** As the EIA is the only source of information on the contribution of the Ecodesign and Energy Labelling policy to the achievement of the 2020 energy efficiency target, overestimating the results risks providing inaccurate input to policy-makers. In the most recent assessment report of the progress made, by 2018, towards the 2020 energy efficiency targets, the Commission no longer reported on the impact of the policy. It is not clear whether it will do so in the upcoming reports.

<sup>31</sup> [Öko-Institut e.V. and ifeu – Institut für Energie- und Umweltforschung Heidelberg \(2017\). Living up to expectations? Monitoring the effects of Ecodesign and energy labelling in Germany, ECEEE, 2017.](#)

## Market surveillance

### Manufacturers and retailers' non-compliance with the Energy Labelling and Ecodesign legislation reduces the benefits of the policy

**55** Market surveillance is an exclusive competence of Member States. They should comply with the EU Market Surveillance Regulation<sup>32</sup>. Market Surveillance Authorities (MSAs) are responsible for ensuring that products sold in their country are compliant. Although some consumer protection NGOs have conducted shop inspections and some product tests, they do not have the authority to enforce the regulation, which is the prerogative of MSAs.

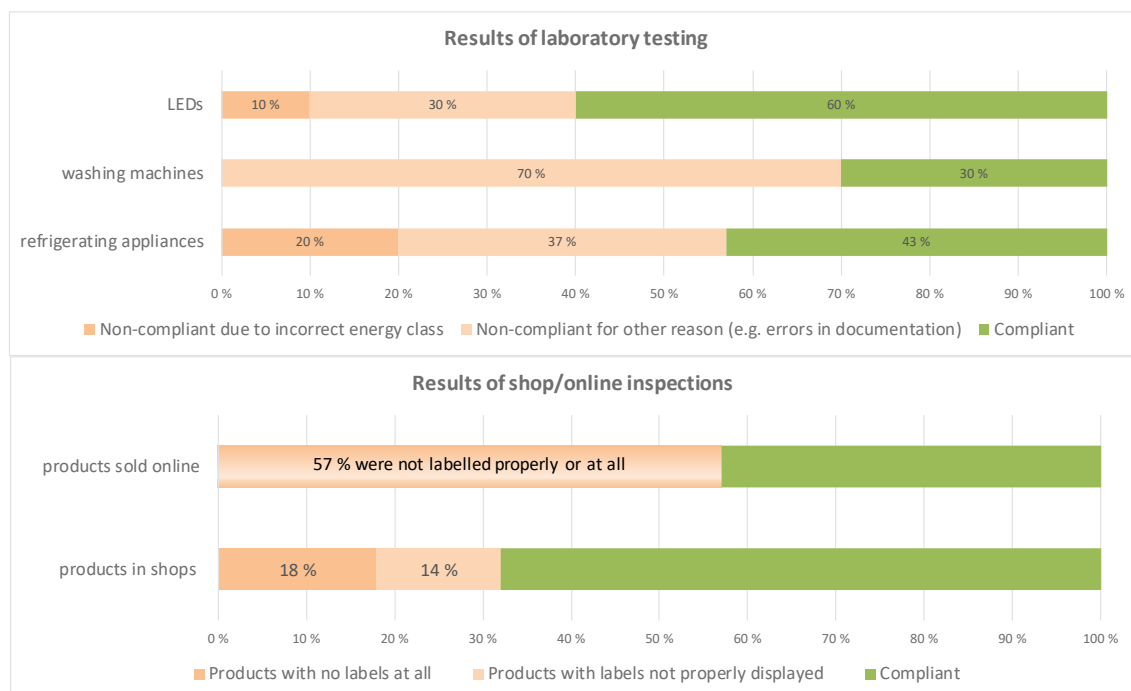
**56** When shops do not properly display energy labels, consumers find it harder to make an informed decision. Incorrect labels may mislead consumers into buying products that consume more energy or have lower performance than claimed. Industry representatives have called for better enforcement of the regulation<sup>33</sup> in order to achieve the benefits of the policy.

**57** Since 2009, EU-funded market surveillance projects have financed shop inspections and laboratory tests to check whether products comply with Ecodesign and Energy Labelling requirements and that their energy class is correct. The projects showed that non-compliance with the legislation is a significant issue. The nature and level of non-compliance varies according to the type of product checked and the inspection method used (projects' findings are shown in [Figure 10](#)). Because these projects often targeted product models that were more likely to be non-compliant, the non-compliance rates presented below cannot be extrapolated to all product groups, or the EU market as a whole.

<sup>32</sup> Regulation (EC) 765/2008.

<sup>33</sup> Joint-industry letter on Ecodesign, 2018.

**Figure 10 – Findings of EU-funded projects**



Source: ECA, based on the relevant EU-funded projects' final reports.

**58** Based on the results of the EU projects and additional data from Member States, the Commission estimated<sup>34</sup> in 2019 that, overall, around 10-25 % of products sold on the market were non-compliant, leading to a decrease in energy savings of around 10 %. The Commission was unable to provide a breakdown of these figures. This would be equivalent to the annual electricity consumptions of Sweden and Hungary combined. The estimated loss in energy saving due to non-compliance is 174.8 TWh/year by 2020, which roughly corresponds to the final electricity consumption of Sweden and Hungary combined, which is 170 TWh/year, based on Eurostat data from 2017. Another study by the Department for Environment, Food, and Rural Affairs (Defra) of the UK in 2011 estimated that impact<sup>35</sup> of non-compliance by manufacturers and retailers on energy savings was 6.2 %, but cautioned that this was a very prudent estimate.

<sup>34</sup> New energy efficiency labels explained, European Commission, 2019.

<sup>35</sup> Impact Assessment of the compliance & enforcement regime of the Energy-Using Products (EuP) & Energy Labelling Dir., Defra, 2009.

**59** Effective enforcement of the regulation could help to reduce such losses. A study by a group of MSAs<sup>36</sup> estimated, based on data collected from 2011 to 2013, that one euro invested in market surveillance led to €13 saved because of improved energy efficiency. It concluded that the return on investment was high enough to confirm that market surveillance could be cost-effective. For example, if market surveillance was performed optimally by all Nordic countries (Iceland, Finland, Norway, Sweden and Denmark), at an additional cost of €2.1 million, it would result in an annual energy saving of 168 GWh, which would save €28 million per year to consumers for the 13 product groups assessed. Another study<sup>37</sup> estimated that the net benefit of a stronger market surveillance system would be around £164 million over a decade in the UK alone. Further studies have shown that market surveillance and testing can be done in a systematic, effective and cost-efficient way<sup>38</sup>.

### **The EU has provided tools to support Market Surveillance Authorities that have had limited impact for Ecodesign and Energy Labelling**

**60** In order to improve the level of compliance with the Ecodesign and Energy Labelling legislation, MSA should conduct effective market surveillance. The market surveillance regulation does not specify what level of market surveillance activities is required, merely that MSAs should perform “appropriate” checks on an “adequate” scale. Member States should establish, implement, and periodically update their market surveillance programmes and should communicate these programmes to the Commission.

<sup>36</sup> The Nordic Ecodesign Effect Project, Estimating benefits of Nordic market surveillance of Ecodesign and energy labelling, Troels Fjordbak Larsen, 2015.

<sup>37</sup> Impact Assessment of the compliance & enforcement regime of the Energy-Using Products (EuP) & Energy Labelling Dir., Defra, 2009.

<sup>38</sup> See, for example: ATLETE I, Appliance Testing for Energy Label Evaluation Publishable result-oriented report, 2011; ATLETE II, Appliance Testing for Washing Machines Energy Label & Ecodesign Evaluation, publishable result-oriented report, 2014.

**61** According to reports submitted to the Commission, the number of products inspected each year ranges from fewer than 20 to more than 100 000 per year per Member State. These figures are difficult to interpret, as the meaning of an “inspection” is broad. Depending on the Member State, an inspection can be either one or a combination of the following checks:

- a visual inspection in a shop or online (e.g. to see if a label is displayed or to see if the product bears the ‘CE’ marking);
- documentary check of a product (e.g. to see if the product information sheet contains the appropriate references to the regulation and the technical information required);
- a laboratory test of a product to check its compliance with Ecodesign requirements, such as its energy consumption and the accuracy of its label.

**62** The different types of inspections serve different purposes. Checking the presence of labels in shops helps to ensure that consumers are properly informed about the performance of the product they wish to purchase. The energy-labelling policy cannot be effective if labels are not displayed. Documentary checks can detect non-compliance with information requirements and identify products that could require laboratory testing. We found that the type and extent of inspections and documentary checks varied greatly across the Member States and authorities we visited, as shown in [Box 3](#).

### **Box 3**

#### **Shop inspections and documentary checks in four Member States**

In France, to check whether labels are properly displayed, the authority responsible for energy labelling inspect hundreds of shops across the country and online. In contrast, the authority responsible for Ecodesign did not conduct any inspections. In Sweden, in recent years, the MSA has focused its checks on the presence of energy labels on products sold online. On the contrary, the Polish MSAs do not conduct any checks online, but inspect around 200 product models every year. In Luxembourg, the MSA has conducted one inspection campaign in various shops across the country and their online shops, but only for washing machines.



**63** In the Commission's view, laboratory testing is the only way to verify whether a product meets energy efficiency and performance requirements, and if an energy label is correct<sup>39</sup>. Testing can be expensive, depending on the product selected and the laboratory used, ranging from hundreds to thousands of euros per product. In many cases, MSAs purchase the product and pay for the laboratory test. To confirm suspected non-compliance, three units of a product must be tested. For expensive products, such as televisions, boilers, or fridges, this can become costly. We found that the number of laboratory tests performed also varied across MSAs we visited, as shown in **Box 4**.

#### **Box 4**

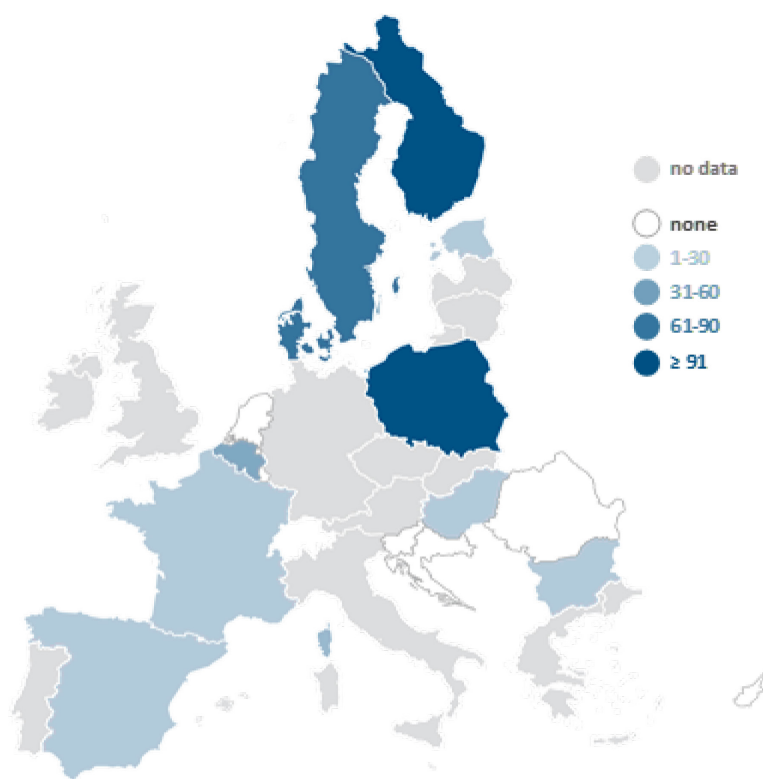
##### **Laboratory tests in four Member States**

The Swedish MSA operates its own in-house laboratory, and tests around 70 products of various types each year. In Poland, the responsible MSA tests in its laboratory annually around 100 TVs, simple set-top boxes, computers, external power supplies, and household and office appliances (only for standby consumption), but no other type of product is routinely tested. In France, the MSA responsible for energy labels checks the energy class of less than 10 products in a laboratory each year. The authority responsible for Ecodesign does not perform any types of laboratory tests. In Luxembourg, the authority started to test products in 2018 and had tested 13 fridges by June 2019.

**64** **Figure 11** shows an overview of laboratory tests performed by MSAs reported to the Commission for 2016.

<sup>39</sup> COM(2015) 345 final.

**Figure 11 – Number of laboratory tests performed by MSAs (based on the latest data reported to the Commission, 2016)**



Source: ECA, based on Member States market surveillance reports.

## 65 The Commission supports MSAs, more specifically it:

- facilitates the organisation of ‘administrative cooperation groups’, a network of MSAs which meet twice a year to share experience and knowledge;
- publishes guidelines and best practice on market surveillance in general and for each product-specific regulation;
- in cooperation with MSAs, issues consolidated frequently asked questions that provide answers to common issues encountered by MSAs for specific products;
- operates two databases to disseminate relevant information, see [Figure 12](#);
- provides funding to projects dedicated to strengthening market surveillance.

**66** The two databases operated by the Commission aim to facilitate cooperation<sup>40</sup> between MSAs and support their activity are described in *Figure 12*.

**Figure 12 – Role of the Information and Communication System on Market Surveillance (ICSMS) and European Product Database for Energy Labelling (EPREL)**

ICSMS	EPREL
<ul style="list-style-type: none"> <li>• <b>The database is operational and allows:</b> <ul style="list-style-type: none"> <li>• MSAs to upload their inspections and laboratory test results;</li> <li>• MSAs to use the inspections and laboratory tests carried out by others to take corrective action against non-compliant products;</li> <li>• MSAs to avoid duplication of work by not testing products that another MSA has already found to be compliant.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>The database is under development and aims to provide:</b> <ul style="list-style-type: none"> <li>• MSAs with product technical information uploaded by manufacturers;</li> <li>• the public with information about products and their energy labels;</li> <li>• the Commission with up-to-date energy efficiency information for products for the purpose of reviewing energy labels.</li> </ul> </li> </ul>

Source: ECA.

**67** The Commission and the Member States have acknowledged the significant gaps and inconsistencies in the data reported in ICSMS. We identified the following shortcomings:

- **Eight Member States do not input information on their activities in the area of Ecodesign and Energy Labelling.** MSAs will be required to systematically report on their activity using the ICSMS from 2021.
- **Searching for the result of a specific product model is difficult.** Manufacturers often use different product identification numbers in different markets and the database does not indicate the equivalent identification number(s). Therefore, it may not be possible to use test results from an equivalent model because they cannot be identified.
- **MSAs have different practices when reporting their inspection results.** For example, some only input non-compliant models, while others share all their

<sup>40</sup> Article 24 of Regulation (EU) 765/2008 on the principles of cooperation between the Member States and the Commission.

results. Some authorities categorise their inspections in a generic 'Ecodesign' or 'energy-labelling' category rather than the specific product regulation. This makes the results harder to find.

- **There are no predefined fields to distinguish between non-compliance in the documentation and, for example, incorrect energy consumption or incorrect energy class.** Therefore, information on non-compliant products does not allow MSAs to identify the type of non-compliance.
- **The laboratory test reports uploaded by MSAs are not standardised and are available in the original languages with no translation function.** MSAs do not always upload test reports, although they state that a test took place.

**68** Since 2016, the Commission has been working with the Member States on updating how data is reported in the ICSMS for Ecodesign and Energy Labelling. This had not led to any change in the system's design by the time of drafting of this report (autumn 2019).

**69** Each MSA can decide to what extent it will use the information available in the ICSMS to support its activities. The MSA responsible for the surveillance of Ecodesign regulation in France, that we visited, never consulted the information entered by other MSAs in the ICSMS. The other MSAs we visited told us they made infrequent use of the database to investigate or take corrective action for cases of non-compliance detected by other Member States that affected their own market. They also did not use the information to avoid duplication of checks for given products. In some cases, national legislation may prevent MSAs from using the information from others to take corrective action in their market - this was the case for Poland and France (unless as part of an EU campaign).

**70** According to the Energy Labelling Regulation, from 1 January 2019, suppliers should enter information in the EPREL product database whenever they place a unit of a new model on the market. The Commission should have made the database accessible to MSAs and the public<sup>41</sup> but had not done so by the time of the audit.

<sup>41</sup> Article 12 of Regulation (EU) 2017/1369 of the European Parliament and of the Council setting a framework for energy labelling and repealing Directive 2010/30/EU.

## EU-funded market surveillance projects are useful but provide a temporary solution for a recurring need

**71** The Commission concluded in 2015 that there is a low level of market surveillance activity in most Member States<sup>42</sup> and that there was a need to increase cooperation. In the last decade, it has funded ten projects for market surveillance of Ecodesign and Energy Labelling through grants under the Intelligent Energy Europe and Horizon 2020 programmes, with a total budget of €19.5 million and an EU contribution of €15 million. Some of these projects<sup>43</sup> were managed by the market surveillance authorities.

**72** Our analysis confirms the positive results of these projects; they made it possible to finance specific testing campaigns for product groups that are more expensive to test and, in general, which MSAs would not have tested themselves. They addressed the need to increase the number of inspections and laboratory testing while facilitating EU cooperation. In addition, they produced best practice guidelines and training modules, which helped MSAs to develop their knowledge and expertise, including on emerging issues such as circumvention prevention.

**73** Based on the data available on market surveillance activities in the EU, it is not clear that market surveillance activities performed outside EU projects have improved because of the projects. While the available market surveillance programmes are quite succinct, none of the MSAs has reported on changes or improvements to their work following their participation in EU projects, nor an increase in the number of laboratory tests performed outside EU projects. Given the continuous nature of EU funding for these activities since 2012 – as evidenced by the fact that when one project is completed another one follows it – there is a risk that Member States rely on funding at EU level to fulfil their domestic market surveillance responsibilities in this area. The EU projects thus provide a temporary solution for a recurring need.

<sup>42</sup> COM(2015) 345 final.

<sup>43</sup> European Eco-design Compliance Project ([ECOPLIANT](#)), Energy Efficiency Compliant Products ([EEPLIANT I and II](#)), Anti-circumvention of Standards for Better Market Surveillance ([ANTICSS](#)).

## Conclusions and recommendations

**74** We assessed whether the EU's actions on Ecodesign and Energy Labelling contribute to reaching its energy efficiency and environmental objectives. We concluded that the EU actions had contributed effectively to reaching the objectives of the Ecodesign and Energy Labelling policy, but that the effectiveness was reduced by significant delays and non-compliance by manufacturers and retailers.

**75** We found that the implementing measures currently cover most of the products with the highest energy-saving potential, and account for almost all household energy consumption and more than half of the energy consumption in the industrial and services sectors. Furthermore, to prioritise product groups to be regulated or reviewed, the Commission used sound and transparent methodologies (paragraphs [24-27](#)).

**76** The regulatory process is lengthy, which is partly explained by the technical complexity of the regulations and the need to consult stakeholders thoroughly. However, we found that some delays were avoidable. Long delays reduce the impact of the policy as the Ecodesign requirements no longer keep up with technological progress and energy labels no longer help consumers to differentiate between products. Due to the Commission's decision to adopt measures as a package, it no longer adopts product-specific regulations when they are ready (paragraphs [28-37](#)).

**77** We found that the Commission is taking steps to improve the energy labels, however it will take a few years before changes are visible to consumers (paragraphs [38-42](#)). The Commission has included circular economy concepts in its most recent proposals. While the way they are assessed and integrated is still ad hoc, the Commission has begun the process of producing a standard approach for the assessment (paragraphs [43-45](#)).

## Recommendation 1 – Improving the regulatory process

---

To improve the regulatory process, the Commission should:

- (a) define and apply a standard approach for review studies to avoid the need for additional studies;
- (b) develop a standard methodological framework for including the circular economy requirements to be applied during preparatory and review studies so that their findings can be presented early in the consultation process;
- (c) adopt implementing measures when they are ready, rather than when a package is complete;
- (d) in particular for products based on fast-moving technologies such as ICT, more regularly assess market data so as to ensure that energy efficiency requirements and labels that are no longer relevant are swiftly updated.

**Timeframe: December 2021**

**78** Ecodesign Impact Accounting is a transparent exercise, providing stakeholders and policy-makers with useful data on the results of the Ecodesign and energy-labelling policy. However, we found that the current methodology applied for the impact accounting overestimates the result of the policy. The impact of non-compliance is not considered, nor are implementation delays. The impact accounting is based on the difference between two long-term scenarios and is affected by the gaps between real-life energy consumption and sometimes-unrealistic estimates derived from harmonised standards (paragraphs [46-53](#)).

## Recommendation 2 – Improve Impact Accounting

---

The Commission should:

- (a) improve the impact accounting assumptions, notably by accounting for non-compliance, implementation delays and deviations between energy consumption based on harmonised standards and real-life usage;
- (b) assess the scope for evaluating the results of the policy using sample-based methodology to measure actual energy consumption by end users with a view to improving the accuracy of the impact accounting model;

- (c) quantify the policy's contribution to the 2020 energy efficiency target in the assessment report on the progress made by Member States.

**Timeframe: December 2021**

**79** Based on the data available, we found that non-compliance by manufacturers and retailers remains a significant issue. Relatively few product models were tested in laboratories and Member States we visited did not use results from other Member States to implement enforcement measures. As a result, consumers across Europe are not protected equally (paragraphs [55-69](#)).

**80** The important role the Commission plays in facilitating cooperation helps Market Surveillance Authorities perform their duties. The ICSMS database, operated by the Commission, enables cooperation by sharing MSAs inspection results. However, improvements are required to increase its effectiveness. The Commission was late in setting up the EPREL database, which was not yet accessible by MSAs at the time of the audit. The EU-funded projects have delivered results, but it is not clear that they have led to sustainable changes in the way market surveillance is performed (paragraphs [65-73](#)).

### **Recommendation 3 – Facilitating MSA cooperation**

---

To improve market surveillance activities and facilitate exchange of information among MSAs:

The Commission should:

- (a) deliver improvements to the ICSMS to facilitate cooperation between Market Surveillance Authorities, for example by enabling the quick identification of equivalent model numbers by cross-linking it with EPREL;

**Timeframe: December 2020**

- (b) upon request, provide online training to MSAs to promote the use of ICSMS to support their activities;

**Timeframe: December 2020**

- (c) assess the MSAs' uptake of best practice on market surveillance activities identified by EU-funded projects, including carrying-out cost-effective inspections.

**Timeframe: April 2022**



This Report was adopted by Chamber I, headed by Mr Nikolaos Milionis, Member of the Court of Auditors, in Luxembourg at its meeting of 4 December 2019.

*For the Court of Auditors*

Klaus-Heiner Lehne  
*President*

# Glossary

**Durability:** The ability of equipment or material to withstand wear, pressure or damage, and so remain functional without uneconomic maintenance or repair.

**Ecodesign:** Incorporation of environmental aspects into the design of a product to ensure a high degree of environmental performance over its lifetime.

**Ecodesign Impact Accounting:** A methodology for monitoring and reporting the impact of Ecodesign and energy labelling measures on energy consumption, jobs, technological development and industrial revenue.

**Energy class:** One of seven categories (from A to G) indicating a product's energy efficiency.

**Energy efficiency:** The ratio between the output of a system or appliance and the energy consumed.

**Energy label:** Information on energy consumption and energy class, which must accompany the sale of any product covered by an energy labelling measure.

**Market surveillance:** Monitoring and testing by public authorities of the extent to which products comply with applicable legislation, such as Ecodesign and energy labelling requirements.

**Market Surveillance Authorities:** A national body responsible for checking that the products on the market in the Member State comply with applicable legislation, such as Ecodesign and energy labelling requirements.

**Recyclability:** The potential of a waste material to be reprocessed and/or reused.

**Reparability:** The potential of a product to be returned to working order.

## **REPLIES OF THE COMMISSION TO THE SPECIAL REPORT OF THE EUROPEAN COURT OF AUDITORS**

### **“EU ACTION ON ECODESIGN AND ENERGY LABELLING: IMPORTANT CONTRIBUTION TO GREATER ENERGY EFFICIENCY REDUCED BY SIGNIFICANT DELAYS AND NON-COMPLIANCE”**

#### **EXECUTIVE SUMMARY**

I. The Commission acknowledges the important contribution to greater energy efficiency achieved through the EU action on Ecodesign and Energy Labelling, as reported by the European Court of Auditors. The legislation in this field creates benefits for consumers, industry and the environment. Given the important impacts of this policy, the Commission follows a robust regulatory process, including extensive stakeholder consultation, a detailed cost-benefit analysis and political scrutiny. In the last years, different factors have increased the length of this process, which may have led to missed energy savings. At the same time, it is the role of the Member States to check that products sold on their territory comply with the applicable requirements. However, too many non-compliant products are still found on the EU market, thereby reducing the effectiveness of the regulations. The new Regulation (EU) 2019/1020 on market surveillance aims to improve this.

X. The Information and Communication System on Market Surveillance (ICSMS) allows national Market Surveillance Authorities (MSAs) to store inspection results, while the product registration database established under the Energy Labelling framework Regulation requires manufacturers and importers to upload data on the products they place on the Union market.

XI. The Commission considers that EU-funded projects have led to sustainable operational improvements in many MSAs, but recognises that in some instances they provided a temporary solution for a recurring need.

#### **OBSERVATIONS**

34. The Commission considers that the initial review studies contained the necessary information to develop legislative proposals. However, for displays other factors (e.g. related to the revision of the Energy Labelling Directive) necessitated the collection of additional data.

For refrigerators, based on an initial, broad scoping exercise, an in-depth review study was carried out. It was complemented by a dedicated study focusing on food waste, carried out in parallel without causing additional delays.

49. Third indent: While the Commission acknowledges that harmonised standards are not always representative of actual energy-consumption in real-life conditions, continuous efforts to update such standards are undertaken so that they better reflect real life usage. For example in the new standard for dishwashers, the test load has been changed to better reflect consumer use, including plastic items, coffee mugs, stainless pots and glass bowls. In the meantime, the test conditions and procedures have to observe other, equally important, criteria, such as accuracy, reliability and reproducibility. A balance between all the above-mentioned criteria has to be maintained.

Common reply to paragraphs 67 and 68.

The quality of the data (and thus the effectiveness) of ICSMS depends entirely on the market surveillance authorities.

ICSMS has a comprehensive search mechanism allowing searches according to various parameters. Information about equivalent model numbers needs to come from economic operators. They are

required to enter this into European Product Database for Energy Labelling (EPREL) and there will be a link between EPREL and ICSMS.

ICSMS has data fields on various aspects of conformity. Including a field to identify the level of risk ranging from ‘no risk’ to ‘serious risk’, with possibility to provide further related information. The Commission has published a risk assessment methodology, which, amongst others, explains how risk can be assessed for public interests other than safety.

There is an ongoing discussion with the Member States for understanding and refining the nature of the necessary changes to ICSMS as regards Ecodesign and Energy Labelling. However, given the relatively low degree of use of ICSMS for Ecodesign and Energy Labelling, such modifications are not among the current top priorities for ICSMS development.

The fact that test reports are not standardised is due to the different practices in the various authorities. As test reports are typically files and not pre-defined data fields, automatic translation is more complicated.

73. The testimonials in the concerned projects’ reports indicate that many of the involved MSAs make use of the best practices and recommendations formulated within the projects. Testing activities outside EU projects depend on national MSAs budgets.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Recommendation 1 – Improving the regulatory process**

The Commission accepts recommendations (a) and (b).

The Commission has started the revision of the methodology for Ecodesign of Energy-related products (MEErP), with the intention to include these aspects in the revision. The Commission has issued a standardisation request on material efficiency requirements, which is the common basis for developing product-specific standards on circular economy aspects. Some of these standards have already been finalised, while others are expected soon. The 2020-2024 Ecodesign and Energy Labelling Working Plan will elaborate further on circular economy matters.

The Commission does not accept recommendation (c). The Commission chose to adopt Ecodesign and Energy Labelling measures announced under the Ecodesign Working Plan 2016-2019 as a package, to demonstrate and emphasise the overall contribution of such measures to the EU climate, energy and circular economy objectives. The Commission cannot prejudge at this stage what its position would be regarding any future measures.

The Commission accepts recommendation (d). In particular, for Information and Communications Technology (ICT) products, the Commission has launched a study aiming to identify those products for which the current process is adequate and to propose policy options (including possible new policy tools) for other ICT products.

### **Recommendation 2 – Improve Impact Accounting**

The Commission accepts recommendation (a). It will take steps to account for issues of non-compliance and implementation delays in its future impact accounting work. The issue of deviations between energy consumption based on harmonised standards and real-life usage is duly acknowledged and significant efforts are put into developing standards that are closer to real-life usage.

The Commission accepts recommendation (b). In its assessment, the Commission will consider methodological aspects as well as the resource implications of such an evaluation.

The Commission partially accepts recommendation (c). The Commission will investigate the feasibility of undertaking such a quantification, and cannot guarantee that the outcomes of such a feasibility investigation will result in an ability to fulfil the recommendation.

79. This is largely outside the remit of the Commission as market surveillance is a Member State competence. However, the Commission has facilitated the adoption of the new Regulation (EU) 2019/1020 on market surveillance and compliance of products, which aims to improve this, and will support the Regulation's EU Product Compliance Network.

### **Recommendation 3 – Facilitating MSA cooperation**

The Commission accepts recommendation (a). The priority is to fulfil legal obligations arising from Regulations (EU) 2017/1369, 2019/515, and 2019/1020. This includes linking with EPREL.

The Commission accepts recommendation (b). The Commission has the staff and material available for training on ICSMS through a webinar if the relevant authorities have the need for and availability for such training.

The Commission accepts recommendation (c). A possible study on the impact of projects funded under Horizon 2020 in the energy efficiency field has been foreseen in the H2020 Work Programme 2018-2020, which could include such an assessment.

## Audit team

The ECA's special reports set out the results of its audits of EU policies and programmes, or of management-related topics from specific budgetary areas. The ECA selects and designs these audit tasks to be of maximum impact by considering the risks to performance or compliance, the level of income or spending involved, forthcoming developments and political and public interest.

This performance audit was carried out by Audit Chamber I Sustainable use of natural resources, headed by ECA Member Nikolaos Milionis. The audit was led by ECA Member Phil Wynn Owen, supported by Olivier Prigent and Ramona Bortnowschi, Private Office Attachés; Helder Faria Viegas, Principal Manager; Frédéric Soblet, Head of Task; Diana Voinea, deputy Head of Task, and Arfah Chaudry, Nicholas Edwards, Joanna Kokot, Roberto Resegotti, Auditors. Zuzanna Filipski and Mark Smith provided linguistic support.



*From left to right:* Olivier Prigent, Diana Voinea, Nicholas Edwards, Frédéric Soblet, Ramona Bortnowschi, Arfah Chaudry, Phil Wynn Owen.

# Timeline

Event	Date
Adoption of Audit Planning Memorandum (APM) / Start of audit	12.12.2018
Official sending of draft report to Commission (or other auditee)	28.10.2019
Adoption of the final report after the adversarial procedure	4.12.2019
Commission's (or other auditee's) official replies received in all languages	10.1.2020

## COPYRIGHT

© European Union, 2020.

The reuse policy of the European Court of Auditors (ECA) is implemented by the [Decision of the European Court of Auditors No 6-2019](#) on the open data policy and the reuse of documents.

Unless otherwise indicated (e.g. in individual copyright notices), the ECA's content owned by the EU is licensed under the [Creative Commons Attribution 4.0 International \(CC BY 4.0\) licence](#). This means that reuse is allowed, provided appropriate credit is given and changes are indicated. The reuser must not distort the original meaning or message of the documents. The ECA shall not be liable for any consequences of reuse.

You are required to clear additional rights if a specific content depicts identifiable private individuals, f. ex. as on pictures of the ECA's staff or includes third-party works. Where permission is obtained, such permission shall cancel the above-mentioned general permission and shall clearly indicate any restrictions on use.

To use or reproduce content that is not owned by the EU, you may need to seek permission directly from the copyright holders. Software or documents covered by industrial property rights, such as patents, trade marks, registered designs, logos and names, are excluded from the ECA's reuse policy and are not licensed to you.

The European Union's family of institutional Web Sites, within the europa.eu domain, provides links to third-party sites. Since the ECA does not control them, you are encouraged to review their privacy policies.

### Use of European Court of Auditors' logo

The European Court of Auditors logo must not be used without the European Court of Auditors' prior consent.

PDF	ISBN 978-92-847-4104-5	ISSN 1977-5679	doi:10.2865/746225	QJ-AB-19-024-EN-N
HTML	ISBN 978-92-847-4106-9	ISSN 1977-5679	doi:10.2865/8352	QJ-AB-19-024-EN-Q



The Ecodesign legislation works by setting minimum energy efficiency and environmental requirements for household and industrial products. EU energy labels provide information to consumers on the products' energy consumption and environmental performance, and help them make informed decisions.

We found that EU actions contributed effectively to reaching the objectives of the Ecodesign and Energy Labelling policy, but that effectiveness was reduced by significant delays in the regulatory process and non-compliance by manufacturers and retailers.

Our recommendations to the Commission address improvements to the regulatory process and the way the impact of the policy is measured, as well as actions to facilitate exchange of information between Market Surveillance Authorities and to improve compliance with the policy.

ECA special report pursuant to Article 287(4), second subparagraph, TFEU.



EUROPEAN  
COURT  
OF AUDITORS



Publications Office  
of the European Union

#### EUROPEAN COURT OF AUDITORS

12, rue Alcide De Gasperi  
1615 Luxembourg  
LUXEMBOURG

Tel. +352 4398-1

Enquiries: [eca.europa.eu/en/Pages/ContactForm.aspx](https://eca.europa.eu/en/Pages/ContactForm.aspx)

Website: [eca.europa.eu](https://eca.europa.eu)

Twitter: @EUAuditors