



Stakeholders' Views on the Ecodesign Directive

An assessment of the successes and shortcomings

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Abstract

The Ecodesign Directive (ED) provides consistent EU-wide rules for improving the environmental performance of products, such as household appliances, information and communication technologies or engineering. This report summarises the responses of 27 stakeholders who were interviewed to obtain their assessment of the implementation of the ED, particularly the successes and shortcomings, the results and the processes and the Directive's contribution to encouraging the circular economy. The objective was to gather the views of both EU-level and Member State experts and stakeholders on the following questions:

- To what extent has the Directive met its objectives?
- What are the main obstacles in the implementation?
- How does the ED interact with other policies?
- How does the Directive contribute to the circular economy?



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Executive Summary

The purpose of this Briefing Paper is to assist Members of the European Parliament (MEPs) via interviews and a literature review in their consideration of the implementation of the Ecodesign Directive (ED) (2009/125/EC).

The document summarises the responses of 27 stakeholders who were interviewed to obtain their assessment of the implementation of the ED, particularly the successes and shortcomings, the results and the processes, and the contribution of the Directive to encouraging the circular economy. The objective was to gather the views of both EU-level and Member State experts and stakeholders over a two-month period. The Research Paper focuses on the following questions:

- To what extent has the Directive met its objectives?
- What are the main obstacles in the implementation?
- How does the ED interact with other policies?
- How does the Directive contribute to the circular economy?

The Briefing Paper gathers expert and stakeholder opinions on successes in and failures of as well as challenges to the implementation of the ED and the underlying reasons. To do this, the Research Team collected information and suggestions from a range of stakeholders. The report summarises their opinion and positions on the topic.

Interviews have been carried out with EU-level and national stakeholders. Experts from the following member states were interviewed: Belgium, Denmark, Germany, the United Kingdom, Poland, Portugal and Finland. These interviews are complemented by a literature review of available studies, reports and position papers.

The research team has tried to involve a broad group of stakeholders so as to allow as many perspectives as possible to be represented. The Research Paper, however, is not representative in a statistical sense.

Key EU-wide findings

- Stakeholders from NGOs, academia and industry are in agreement that the Ecodesign Directive (ED) in combination with the Energy Labelling Directive has been successful in regards to its energy efficiency objectives.
- The majority of stakeholders specified three main obstacles in the implementation of the ED:
 1. *The lack of political support at the EU level for the progress and implementation of the Ecodesign Directive.* According to the interviewed experts, the main reasons for this lack of support were concerns over negative publicity directed towards the Directive and the EU.
 2. *The slow pace of the regulatory processes.* It was generally agreed that it takes too much time to bring a regulation into force. This is particularly the case for some product groups whose markets are evolving quickly as a result of rapid technological advancements.
 3. *To varying degrees, the inadequacy of market surveillance within member states, which is considered a key factor for the success of the Directive.* It is estimated that 10% to 25% of products on the market regulated under the Directive do not comply with its requirements. With non-compliant products on the market, manufacturers are less motivated to innovate. Additionally, shortcomings in market surveillance can lead to competitiveness issues when products enter the market from outside the EU do not conform to eco-design requirements.

- Many stakeholders claim that double regulation on products is currently not an issue, but as more material efficiency requirements are included in the ED, there is a risk that double regulation could become a problem. Double regulation might occur in different ways. For example, it can occur when the scope of different regulations overlap, i.e. one aspect of a product is regulated under several different pieces of legislation. It can also occur when a product is regulated twice under the ED. The latter instance refers to regulating a component of a product as well as the system it is built into (for example, regulating the motor in a washing machine as well as the washing machine itself).
- There were differences of opinion concerning the enhancement of circular economy parameters into the requirements of the Ecodesign Directive. On the one hand, some participants claimed that since the Directive has been successful in improving energy efficiency, more emphasis should be on material efficiency requirements under the ED. On the other hand, a number of stakeholders claimed that the Directive is already extremely encompassing and that there are certain barriers to including material efficiency requirements. A general conclusion was that any circular economy parameter would need to be identified as having substantial improvement potential and would be enforceable and hence feasibly verifiable by market surveillance authorities.

Key member state findings

- Market surveillance is considered key for a successful implementation of the ED. There are several challenges related to market surveillance, however, which are generally common across all member states. Such challenges can refer to costs, standards, testing methods, testing facilities, as well as lack of coordination between member states. The ED addresses a large variety of products, some of which are very costly and difficult to monitor for compliance. A number of stakeholders expressed concern over the lack of clear standards, including guidance on testing methods and the exact metrics to be used. The difficulty lies in setting effective ED standards and testing requirements that do not pose significant compliance costs.
- Some stakeholders mentioned the potential benefits of auditing manufacturers' production processes, as a means to ensure compliance at the production stage, but this is not possible for imported goods. A suggestion was made that it could be more efficient and cost effective to allow for third-party-led verifications by certified experts at production level.
- Authorities responsible for market surveillance raised a number of concerns regarding non-EU imports and products sold online. It is difficult to obtain information on how products have been assembled and the nature of many components.
- The limited administrative capacity in some smaller member states poses an additional challenge for ED implementation and market surveillance. Lack of human and financial resources and testing facilities are particularly challenging for Central and South East Europe member states.
- Increased cooperation on market surveillance across member states is needed, with the development of the database as a central information-sharing tool. Currently, the general ICSMS market surveillance database (Information and Communication System on Market Surveillance – www.icsms.org) is used in some (but not all) member states, but it was designed for product safety and consumer protection rather than for energy performance. A new database for the ED is being developed. The obligation to record results in the database is

limited to non-compliant products. A number of stakeholders recommend inputting all information, i.e. including for compliant products, to avoid unnecessary testing in other member states, and expanding the information on testing methods used.

- In addition to a database, sharing of certain testing facilities may also be useful. However, issues related to transport burdens and uncertainty on cost-sharing need to be taken into account.
- Inclusion of circular economy requirements into the Ecodesign Directive, although potentially important, raises concerns about additional sets of requirements, additional compliance and enforcement burdens for member state authorities, as well as new stakeholders involved along the value chain. The following elements should be considered: a) inclusion could be gradual, starting with products already included in the ED in order to allow for the development of expertise; b) clear yet flexible standards should be set to avoid stifling innovation; c) realistic opportunities should be made available for applying the new measures, which must be verifiable and enforceable, and d) the potential must be proportional to the costs. Alternatives to prescriptive standards, such as producer responsibility schemes, can be considered provided that they can be monitored.

Chapter 1. Introduction and Background

1.1 Objectives

This Briefing Paper provides a qualitative review of the implementation of the Ecodesign Directive (ED) (2009/125/EC), supported where possible by quantitative data. The objective is to assess the successes and shortcomings of the implementation of the Directive by reviewing the existing literature and gathering opinions of selected stakeholders at EU level as well as of member states representatives. The paper focuses on i) the extent to which the objectives of the Directive have been met, ii) the main obstacles in the implementation, iii) interactions with other policies or schemes and iv) its contribution to the circular economy.

Interviews have been carried out with EU-level and national stakeholders, with representatives of the following member states: Belgium, Germany, the United Kingdom, Poland, Portugal, Denmark and Finland. These interviews were supplemented and complemented by earlier studies, reports and position papers.

The report is organised as follows:

- **Chapter 1** outlines the report's objectives and methodology.
- **Chapter 2** provides the background to the Ecodesign Directive, including the regulatory processes, responsibilities of the European Commission and the current impacts of its implementation.
- **Chapter 3** reports the EU-wide messages from the literature and interviews, and provides more detailed member state findings.
- **Chapter 4** provides key policy recommendations.
- Annex 1 lists the names and organisations of the experts and government representatives who participated in the study and wished to be acknowledged.
- Annex 2 reproduces the questions submitted to EU-level and member state stakeholders.

1.2 Methodology

This Briefing Paper provides stakeholders' views on the state of the implementation of the ED.

After a literature review, the paper presents the results from interviews with experts both from an EU-wide and from a member state viewpoint. Each interviewee was also asked to suggest key literature, as well as other key stakeholders.

Interviews were conducted with stakeholders representing industry, NGOs, selected EU member states' national and regional government agencies and academics. The following member states were selected in accordance with the Terms of Reference: Belgium, Denmark, Finland, Germany, Poland, Portugal and the United Kingdom. Stakeholders were selected based on their expertise on this topic, as demonstrated by papers they had written, or through recommendations from other interviewees. Contacts for member state representatives were acquired through one interviewee who was a member of the Ecodesign Regulatory Committee, described later in the report. Interviews were carried out through teleconferencing or in person whenever possible, focusing on three sets of broad related questions, used in different combinations according to the background and expertise of the interviewees (see Annex 2), and aimed at obtaining an overview of the stakeholders' opinions and experience. Interviews were conducted in a semi-structured fashion, in order to allow freedom for interviewees to focus on

the topics of the most interest to them and to enable the researchers to identify and follow-up on new messages.

The interviewees are listed in Annex 1, unless they requested to remain anonymous. No statements are attributed to any specific respondent in the text itself.

The research team interviewed 27 experts. Seven industry representatives, four NGO representatives, eleven government representatives and two academics. The research team tried to involve all major interests to ensure different perspectives and balance. The Briefing Paper is not representative in a statistical sense.

1.3 The Ecodesign Directive

The Ecodesign Directive was adopted in 2005 (2005/32/EC) for energy-using products and was later expanded to cover energy-related products (2009/125/EC). It establishes a framework for setting mandatory design requirements for energy-related products sold on the EU market. The core objectives are to encourage manufacturers to design products that are more environmentally friendly by eliminating the least-performing products from the market. As a framework directive, it fixes the overarching legal framework, which opens the ground for specific regulations providing mandatory requirements prescribed for different product groups, called 'implementing measures'. Within the scope of the Directive is the continuous improvement of the environmental impact of products, achieved through reviews and updates to existing regulations, setting stricter energy performance requirements along with other environmental aspects (Hinchliffe and Akkerman, 2017).

Regulations linked to the ecodesign legislation are horizontal or vertical. Horizontal regulations target one aspect across many product groups, whereas a vertical regulation is specific to an individual product group. By the end of 2016, 40 product groups were bounded by the ED with 28 Regulations adopted. Additionally, three voluntary agreements have been recognised as alternatives to ecodesign regulations in the industry sectors; complex set-top boxes, games consoles and imaging equipment.

The Directive acts together with other laws. In particular, it was designed to directly interact with the Energy Labelling Directive (2010/30/EU) in a push–pull dynamic (European Commission, n.d.). The Ecodesign Directive allows the European Commission to set the minimum performance standards, influencing product innovation and 'pushing' the market away from the worst environmentally performing products (Molenbroek et al., 2014). The Energy Label classifies products in an A to G scale, in accordance with a product's efficiency level, thereby providing consumers with a choice and 'pulling' market demand towards more efficient products and subsequently influencing product innovation. Notwithstanding the wider objectives within the Ecodesign Directive, both Directives have the combined goal of saving energy and contributing to meeting the EU energy efficiency target of 20% by 2020.

The responsibilities of the European Commission include monitoring the implementation progress at national level, in addition to overseeing the market surveillance conducted in the member states. As part of the review process, the European Commission systematically monitors and reports on the impact of the Ecodesign and Energy labelling measures through its Ecodesign Impact Accounting study (Aarts et al., 2016). The products included in this study represented approximately 53% of total EU-28 gross energy consumption in 2010. It is projected that by 2020, the primary energy savings due to the combination of the Ecodesign Directive and the Energy Labelling Directive will be 18% for the average

product, compared to the business-as-usual scenario. This is equivalent to 7% lower greenhouse gas emissions in the EU, based on 2010 figures. By 2030, primary energy savings are predicted to be 30% for the average product, compared to the business-as-usual scenario, resulting in 11% less greenhouse gas emissions. While this calculation assumes all products on the market to be in conformance with the Directive, it is recognised that an estimated 10-25% of products on the market do not comply with ecodesign and energy labelling requirements. As such, this is calculated as an approximate energy savings loss of 10%.

In addition to reducing CO₂ emissions and encouraging resource efficiency requirements, a number of additional positive impacts stimulated by the legislation are expected. The measures under the ecodesign framework are expected to trigger several product improvements that will allow consumers to reduce electricity consumption and save on their electricity bills. According to the Ecodesign Impact Accounting report (European Commission, 2016c) it has been estimated that EU consumers will be able to save up to €112bn by 2020. This would translate into €490 savings per year per household on their energy bills. Furthermore, the ED is expected to generate €55bn in revenue per year for industry, producing up to 800,000 additional jobs. The Directive is expected to have a significant overall positive effect on economic growth, investment and innovation (Aarts et al., 2016; European Commission, 2016c).

The European Commission's three-year Working Plan¹ sets out working priorities under the framework and lists priority product groups that are to be analysed for their ecodesign potential. According to Article 15, the development of regulations follow a process that involves stakeholders and starts with a preparatory study, which includes a technical analysis. The preparatory study assesses whether and which ecodesign requirements are appropriate for each priority product group, with particular attention given to energy efficiency potentials. Following completion of the preparatory study of a particular product group, a Working Document is submitted to the Consultation Forum for comments. This is a forum made up of 30 stakeholders, including business federations, NGOs and consumer organisations. The Regulatory Committee, composed of EU member state representatives, then vote on the draft implementing measures before the draft regulation is submitted to the European Parliament and Council for scrutiny (European Commission, n.d.).

The focus has previously been on improving energy efficiency. In the most recent Working Plan for 2016-19, however, the European Commission states that it will strengthen the contribution of the Directive to the circular economy for new product groups and in reviews of existing product groups. Similarly, in the Circular Economy Action Plan (European Commission, 2015), the European Commission emphasises the importance of the circular economy in future product design requirements under the ED by promoting not only energy-efficiency, but also the reparability, durability, upgradability and recyclability of products. To do this, a circular economy 'toolbox' is being developed as guidance for the inclusion of circular economy principles for new and existing product groups. The intention is to enable the improvement potential of material efficiency in products, as requirements in regulations, to be investigated and implemented in a more systematic way.

To move to a more systematic adoption of circular economy requirements, around 40 standardisation mandates have been launched for the product groups. These standardisation mandates, requisitioned by the European Commission to the European standardisation organisations, are for the development

¹ The most recent plan was adopted in November 2016, as part of the Clean Energy for All Europeans package.

of standards on the durability, recyclability and reusability of certain products, together with the development of horizontal standards (European Commission, 2017). The objective of these standards is to provide design recommendations, which could improve the efficiency of raw material use and help to close the loopholes in the circular economy.

Chapter 2. EU-wide findings

2.1 Literature review

This chapter reviews the relevant literature that deals with the four research questions addressed in this report.

2.1.1 To what extent are the objectives of the Directive met, with particular attention to energy efficiency?

The combination of the Ecodesign and Energy Label frameworks forms the backbone of product efficiency policy in the EU (Hinchliffe and Akkerman, 2017). Together they are seen to be the most effective set of policy instruments for promoting energy efficiency and are estimated to contribute to achieving one-half of the energy efficiency 2020 target (European Commission, 2016c) and one-quarter of the emissions reduction 2020 target (European Commission, n.d.).

The objective of the Directive is to maximise the environmental benefits through improved product design for energy-related products. Quantitative values for energy savings or carbon reductions are not prescribed within the Directive. The success or failure of the ED – in combination with the ELD – can be highlighted by the total energy savings of the product groups. Data from Hausgeräte GmbH, the largest home appliance manufacturer in Europe, suggest substantial energy-efficiency improvements at the product level (BSH, 2017). According to the same source, for example, the energy consumption of tumble dryers manufactured by the BSH group has been decreased on average by 75% over the period 2001-16; over the same period, the energy consumption of electric ovens has been reduced by 43%, refrigerators by 55%, freezers by 69% and washing machines by 68%. (See chapter 1 for information on the overall expected energy and carbon savings from the ED and ELD.)

2.1.2 What are the main obstacles inhibiting implementation of the Directive (e.g. rules, measures, procedures, costs)?

Lack of political support

Despite the positive results of the ED to date, there is rising opposition against the introduction of additional regulation by the European Commission. The concern is that once the low hanging fruits are picked, further reductions cannot be realistically achieved in a cost-effective way. It is claimed that the present political situation in Europe is not supportive of ambitious implementing measures. And even when economic and social benefits may outweigh the costs, European environmental regulation can be attacked by public opinion. ECOS et al. (2015) notes that the potential impact of the 'populist' press affects the regulatory processes, as well as the transparency and sequencing of the policy steps, which in turn creates an uncertain environment for industry.

Some of the opposition by interested parties is based on the fear of double regulation, as some products overlap the scope of several policy instruments, such as the ED and the EPBD. Molenbroek et al. (2014,

p. 40) note that 'from a regulatory perspective however, such overlaps do not automatically mean that there is double regulation or that the policies are necessarily incoherent'.

In addition to these barriers, it is claimed that the European Commission may not have the capacity to follow up the Directive, due to shortages of staff and lack of support on the political side, as expressed in an interview conducted and published by Euractiv (Tolbaru, 2015).

Regulatory and implementation process

There were several concerns in relation to the regulatory processes, particularly the long lead times. In 2014, Coolproducts laid out a number of concerns and made recommendations to improve this process on matters ranging from time management, to transparency and accuracy. It also suggested improvements in setting calendars, milestones and indicators for new implementing measures and reviews in working plans. One of the concerns expressed is the ability of the implementing measures to keep up with the realities of the market. ECOS et al. (2017) also highlight the issues of long lead times, particularly the procedural rigidity, e.g. the case of electronic displays. The procedures for Ecodesign and Energy Labelling have been described as 'running after the market' (p. 1), i.e. the technology develops faster than the legislation can keep up with. The Directive seems to fail in challenging the *status quo* with targets that anticipate new technologies becoming mainstream.

Market surveillance

Clear and consistent conformity assessment and market surveillance procedures are reflected as important cornerstones to ensure the functioning of the internal market (DigitalEurope, 2016). On that basis, insufficient market surveillance is recognised as being one of the primary obstacles to the implementation of the Ecodesign Directive (ECOS, n.d). It has been estimated that 10-25% of products on the market regulated by the Directive do not comply with ecodesign and energy labelling requirements, with more needing to be done to reduce this percentage (European Commission, 2016c). With non-compliant products on the market, manufacturers are less motivated to innovate (Coolproducts, 2014).

A number of European Commission-funded projects, such as the Ecopliant Project and EEpliant Project, work specifically on the challenges of market surveillance for ecodesign requirements in the EU. Best practice guidelines for coordinated and effective ecodesign market surveillance have been initially developed by Ecopliant (2015) and then updated by the EEpliant (2017) project team. It is argued in the updated best practice guidelines that market surveillance authorities lack coordination, funding and resource capacities at EU and national levels. A key recommendation in the literature to respond to this situation is better coordination and collaboration between member states (EEpliant, 2017). Harmonised standards are welcomed by industry to support market surveillance authorities to and provide clear and consistent testing methods that are considered as important for information obligations as they are for technical thresholds (DigitalEurope, 2016).

Including more requirements within regulations, such as those related to material efficiency, could potentially intensify the problem with market surveillance. This point is discussed further in section 2.1.4 on how the Ecodesign Directive contributes to the circular economy.

2.1.3 *How does the Ecodesign Directive interact with other policies, legislation, schemes, measures, product policy instruments, etc.?*

The literature acknowledges that many instruments interact with the Ecodesign framework. These instruments cover some or all of the product groups addressed by the Ecodesign Directive and are generally seen to be complementary. The following table provides an overview.

EU policy	Description of interactions
<p>Energy Labelling Directive</p>	<p>The interaction between the Energy Labelling and the Ecodesign Directives is identified by the European Commission and is described previously in chapter 2 of this Briefing Paper. Both Directives appear to be well coordinated, although a Norden study (Dalhammar et al., 2014) suggests there is potential for improvement. It revealed that when setting requirements for certain product groups, different approaches have been applied for the Energy Labelling Directive and the Ecodesign Directive.</p>
<p>Energy Performance of Buildings Directive (EPBD) (European Commission, 2010)</p>	<p>There is a direct link between the EPBD and the ED. Under Recital 12 of the EPBD, the Ecodesign Directive is directly referenced:</p> <p><i>'When setting energy performance requirements for technical building systems, Member States should use, where available and appropriate, harmonised instruments, in particular testing and calculation methods and energy efficiency classes developed under measures implementing Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (1) and Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy- related products (2), with a view to ensuring coherence with related initiatives and minimise, to the extent possible, potential fragmentation of the market.'</i></p> <p>In addition, the updated proposal (COM(2016) 765 final) to amend the EPBD (2010/31/EU) states that the evaluation carried out in advance of the EPBD review concluded that the policy is consistent with other pieces of EU legislation. It goes on to state that 'consistency is ensured on a case-by-case basis during the process of developing specific ecodesign and/or energy labelling implementing measures, bearing in mind the requirements of the EPBD'.</p> <p>Danfoss (2017) suggests that the link between the EPBD and ED is essential, which is in accord with the updated proposal of the EPBD described above. Previously, regulations have mostly focused on the performance of single products, although according to Danfoss (2017), energy savings can be enhanced by taking the approach of evaluating</p>

	<p>energy savings in the entire system, in parallel with the individual product level. CECED, EHI, Digital Europe and EPEE (CECED et al., 2015) concur and recognise that regulating components in a product as well as the product itself endangers freedom to innovate as it imposes constraints that add costs. This argument is further discussed in the paragraphs following this table as well as in chapter 3, section II, 3 of this Briefing Report.</p>
WEEE Directive	<p>The WEEE Directive fundamentally ensures the recovery and recycling of waste electrical and electronic equipment through collection schemes. It specifies national targets for the collection and recycling of used electronics, covering the end-of-life phase of a product's life-cycle, while the Ecodesign Directive covers the use phase (Molenbroek, et al., 2014, and the Voluntary Agreement on WEEE, n.d.). Hence, it is acknowledged that the two Directives are complementary in their coverage (Molenbroek et al., 2014).</p> <p>Two studies (Dalhammar et al., 2014 and Bundgaard, 2016) suggest that the Ecodesign Directive could further complement the rules in the WEEE Directive. One recommendation is to set requirements in the Ecodesign Directive for the easy dismantling of substances and components that should be removed according to the WEEE Directive. A further suggestion is that the harmonised standards currently being developed under the codesign and energy labelling framework should be consistent with the WEEE legislation (Bundgaard, 2016).</p>
RoHS Directive	<p>The RoHS Directive improves recyclability of electrical equipment by restricting hazardous substances. Similar to the WEEE Directive, the RoHS Directive and the Ecodesign Directive are regarded as complementary as they cover different life-cycle phases. The RoHS Directive covers the manufacturing phase, while the ED addresses the use phase of products (Molenbroek, et al., 2014).</p>
REACH Regulation	<p>This regulation was adopted to improve the protection of human health and the environment from risks posed by chemicals. Although currently the links between these Directives are considered weak, one study (Dalhammar et al., 2014) suggested that the Ecodesign Directive could complement the rules within the REACH Regulation in order to contribute to cleaner material streams, through information disclosure.</p>
Energy Star Regulation	<p>The Energy Star Programme is a voluntary energy labelling scheme for office equipment, including computers, servers, displays, imaging equipment and UPSs. Originated in the US in 1992, the EU agreed to take part in 2001 for all office equipment not covered in the Energy Labelling</p>

	Directive. It therefore interacts with the Ecodesign Directive by driving the market towards more energy efficient products.
EU Ecolabel Regulation	The Ecolabel Regulation is a voluntary labelling scheme for products beyond just energy-related ones. Dalhammar et al. (2014) find a lack of coordination between the Ecodesign Directive and the Ecolabel when setting energy efficiency standards (Dalhammar et al., 2014). Product definitions and calculation methods used in both policies should be harmonised according to Bundgaard (2016). It is thought that voluntary instruments, such as the EU Ecolabel scheme, can support the integration of resource efficiency requirements in the Ecodesign Directive (Bundgaard, 2016).
EU guidelines on green public procurement	Dalhammar et al. (2014) claims there is a poor interplay between EU guidelines on GPP and the Ecodesign Directive. It was previously discussed that benchmarks identified in preparatory studies could be used in GPP, but Dalhammar et al. revealed that there seemed to be few examples of this actually happening.

From the literature the general perception is that most policies that interact with the ED are complementary, since they address different life-cycle stages, impacts and actors (Molenbroek et al., 2014). Nevertheless, Dalhammar et al. (2014) state that there is a risk of double regulation, particularly when introducing material efficiency requirements.

Double regulation can also take the form of regulating products twice under the Ecodesign framework. This is where a component of a product is regulated as well as the system it is built into, for example, the motor in a washing machine is regulated as well as the washing machine itself. CECED et al. (2015) conclude that parts for products that are already regulated by ecodesign should be excluded from ecodesign measures and that the European Commission should avoid double regulation that would add burden, increase costs and hinder innovation.

2.1.4 How does the Ecodesign Directive contribute to the circular economy/resource efficiency and where can it be improved?

According to Annex I of the Ecodesign Directive, resource efficiency aspects² are among the parameters that need to be taken into account when preparing ecodesign requirements. However, although it is legally possible to take into account such parameters, the focus so far has been on energy efficiency (Tecchio et al., 2017; Bundgaard et al., 2017). Two key publications have evaluated the integration of material efficiency in the Ecodesign Directive. The first, produced by Ardente & Mathieux (2012),

² For example, possibilities for reuse, recycling and recovery of materials.

analysed methods for assessing circular economy aspects under the Ecodesign Directive. The second was prepared by the Bio Intelligence Service (2013), which looked at strengthening material efficiency in MEErP (Methodology for the Ecodesign of Energy-related Products) and the EcoReport Tool. The MEErP is a methodology on how to conduct the preparatory studies, and the EcoReport Tool is a life cycle assessment tool translates the characteristics of products into environmental impact indicators (Bundgaard et al., 2015).

Two main arguments can be found in the literature. The first proposes that more emphasis should be on material efficiency in requirements under the Ecodesign Directive. The second advocates that there are barriers to enhancing the material efficiency requirements. These are discussed in the following paragraphs.

A number of studies conclude that the Ecodesign Directive should focus more on resource efficiency, including materials efficiency. This would also provide consumers with additional benefits, such as improved durability and reparability of products in addition to energy efficiency (Coolproducts, 2014). In order for resource efficiency requirements to be included in the Ecodesign Directive, they must be identified in the preparatory study as having substantial improvement potential. Therefore, Bundgaard et al. (2017) recommended to broaden the scope of the MEErP and the EcoReport tool and to give more consideration to resource efficiency elements. This would require that the EcoReport Tool includes resource efficiency parameters and that the MEErP incorporates material efficiency details in the preparatory studies, when appropriate, for a product group (Bundgaard et al., 2015). That is, these aspects should only be considered after an assessment of the environmental impact shows that indeed there is significant improvement potential. Ultimately, when the improvement potential of energy-efficiency in some product groups is limited due to previous improvements, other resource efficiency features might then have a greater potential for improvement; this will only be acknowledged if the scope of the EcoReport tool and MEErP is expanded.

On the other hand, the feasibility of including resource efficiency requirements in the Ecodesign Directive is also a concern due to issues of cost-effectiveness and enforcement (Danfoss, 2017). Since requirements set within regulations under the Directive are mandatory, they must be enforceable and therefore measurable. If they are not measurable, preferably at the product level, market surveillance organisations are unable to assess compliance of particular products with the requirements. This can lead to competitiveness issues whereby some manufacturers conform to EU law while others do not.

Standards

Standards can support the introduction of material efficiency requirements into the Ecodesign Directive (Bundgaard et al., 2017) by defining the requirements and guidelines for testing, measurement and verification procedures (Tecchio et al., 2017). So far, there has been limited integration of circular economy requirements into the regulations under the framework Ecodesign Directive. Among the key explanations for this is the lack of standards (Tecchio et al., 2017). It has also been argued that although standards are essential for introducing resource efficiency design requirements in the Ecodesign Directive, they should be carefully designed in order not to hinder innovation (see Bundgaard, 2016; Tecchio et al., 2017). Standards are currently being developed through a standardisation mandate issued by the European Commission with an adoption deadline fixed at 31 March 2019.

2.2 Findings from interviews with experts: EU-wide

This section presents and discusses the main EU-wide findings from interviews.

2.2.1 *To what extent have the objectives of the Directive been met, with particular attention to energy efficiency?*

There was a consensus among the interviewed stakeholders that the objectives of the Ecodesign framework Directive, from an energy efficiency point of view, have been met well with tangible results. According to the interviewed stakeholders, the Directive is one of the most successful energy efficiency policies at EU-level. This view is based on increasingly more product groups being regulated under the Directive with evidence that the energy efficiency of existing product groups is constantly increasing. One stakeholder mentioned that the EU was previously lagging behind Japan and the US in relation to the energy efficiency of products, but since the directive became effective, the EU has caught up. At the same time, a number of interviewed stakeholders acknowledge that the effectiveness varies between product groups, depending on natural market development and the potential for energy savings. Some products have almost reached their energy savings thresholds, while other products still have a long way to go. Products with the largest potential for energy savings should receive the most attention.

Industry representatives are generally supportive of the Directive. It was mentioned, however, that much of the efficiency gains for certain product groups are already taking place naturally by the market pulling more efficient technologies, with apparently less effect from the Ecodesign Directive. This is particularly the case for business-to-business products. Reasons for this are twofold. Firstly, energy is a cost; businesses attempt to reduce capital expenditure by purchasing more energy efficient products. Secondly, many businesses have a responsibility to their stakeholders to become more environmentally friendly and this is often illustrated by their product purchases. These developments seem to have supported in a shift towards more efficient products. It was recommended by an industry representative that political objectives within the Directive, including in the implementing measures, must be balanced with changes in global markets; any clash could prevent innovation.

Article 1 of the Directive states that the framework 'contributes to sustainable development by increasing energy efficiency and the level of protection of the environment, while at the same time increasing the security of the energy supply'. It is broadly accepted by all interviewed stakeholders that the first objective in this article is being met. The second and third are perceived to have received less attention. The latter could be met indirectly through increasing energy efficiency, subsequently increasing the security of energy supply in the EU. With regard to the second objective, it was communicated by a number of interviewed stakeholders that more focus could be directed towards increasing the level of protection of the environment beyond energy efficiency.

Many of those interviewed indicated that there were also wider benefits to be gained from the Directive than meeting the objectives alone. It has stimulated a lively negotiating dialogue between the European Commission, member state representatives, industry and NGOs. Networks have formed and barriers to more cooperation between stakeholders are gradually being overcome to shape a positive impression of the Directive, counterbalancing the recent negative views towards the legislation.

The Ecodesign Impact Accounting report has quantified the energy efficiency savings, the contribution towards the energy efficiency 2020 target and average energy efficiency savings per product. It was recognised by a number of stakeholders that the results assume that products adhere to the

requirements of the regulation and that products are used by consumers in accordance with their design. This is not always the case, however, and the calculations therefore might be less accurate than first thought.

There is general agreement for the European Commission to continue to include more product groups, prioritising the products with the most significant environmental potential.

2.2.2 What are the main obstacles in implementing the Directive (e.g. rules, measures, procedures, costs)?

Three key obstacles in the implementation were discussed with the majority of interviewed stakeholders: the slow regulatory processes, market surveillance concerns and a lack of political support, which in turn influences the regulatory processes and market surveillance.

Lack of political support

Many interviewed stakeholders expressed the view that there has been a lack of political support for the progress and implementation of the Ecodesign Directive. Stakeholders felt this was associated with a fear of bad publicity towards the Directive and more notably, the EU, which is also reflected in the rise of populist political sentiment. The European Commission is therefore cautious when increasing the regulatory requirements of any product, since one key narrative of this populism is associated with the 'strict' regulation of the EU. Another narrative is that the EU is wasting time on technical aspects when it should be focusing on the bigger crises, such as migration. In response to this, interviewed stakeholders mentioned that the European Commission has been apprehensive about including particular product groups that might provoke further the negative opinion towards the EU.

In connection with the apparent lack of political support, a number of interviewed stakeholders suggested that the lack of support has resulted in a lack of expertise and technical knowledge on the part of the European Commission and while executing preparatory studies. Many stakeholders agreed that there is a shortage of staff at the European Commission working on this topic and the question of staff expertise is accentuated when staff are shifted from one topic to another relatively quickly. The expertise they have acquired on highly technical subjects is all too often lost. Many of the points are very technical, and it was felt that the quality of the studies and consultants has also declined, industry representatives struggle to get technical arguments across due to the lack of expertise on part of the consultants. One industry representative claimed that companies put a lot of effort into preparing detailed technical information for stakeholder consultations, but are not met with the same level of preparation nor expertise from consultants and NGOs. As a result, the European Commission may overestimate energy savings potentials and reach wrong conclusions.

The horizontal approach to some regulations has resulted in the regulation of some products on the basis of studies prepared for different products. One example cited by an industry representative was Lot 26 for 'networked standby losses of energy-using products', which covers many products. It was argued that some requirements are unreasonable for all products regulated by Lot 26.

Slow regulatory processes

Most of the stakeholders interviewed commented that the slow regulatory process is an issue for the effectiveness of the Directive. The general perception is that too much time is required to bring a regulation into force. This is particularly the case for product groups whose markets are evolving quickly

with fast technological advancements. Theoretically, it should take 18 months to 2 years to complete a preparatory study, a further year for a regulation to be agreed upon and then 18 months before it becomes effective. In practice, however, the political process takes much longer than one year for the regulation to be agreed upon for most product groups. The slow regulatory processes can result in lost energy efficiency savings, the implementation of less ambitious requirements and delays by years in realising the energy savings to be gained.

Interviewed stakeholders acknowledged that each product group is very technical, and that therefore it can take time to reach an agreement. Although the consensus approach has its benefits when setting product group requirements, it can also be very time consuming, particularly for those product groups with fast technology advancements.

It is uncertain if this issue will be exacerbated by the latest deadlines included within the recently adopted Energy Labelling Regulation³ that repeals the Energy Labelling Directive (2010/30/EU). This was a concern expressed by some of the stakeholders. The European Commission is now obliged to meet the legislative time limits to change the energy efficiency scale for product groups within the newly adopted Energy Labelling Regulation, with no obligation to meet any form of legislative deadlines under the Ecodesign Directive. One can therefore anticipate that the European Commission will prioritise delegated acts that it has an obligation to adopt by a certain date, potentially delaying decisions on ecodesign requirements.

Exacerbating these delays are the collegial decisions required on all ecodesign regulations. Negative press has caused delays and disruption in the regulatory processes and has led to a new level of politisation by having the Commission President requesting that the choice of products subjected to Ecodesign Regulation should be led at the level of the College of Commissioners⁴ (European Commission, 2016a). This adds delays to the long regulatory processes, but also the risk of a political interpretation of technical options. Some interviewed stakeholders recognised this as constituting a huge bottleneck to regulatory developments.

A number of recommendations were provided by stakeholders to improve on these issues. For a faster, more efficient process and to simplify criteria setting, a more systematic approach could be adopted with additional products grouped together. A second point made by some experts was that, similar to the new time-limits included in Article 11 of the Energy Labelling Regulation, a timeline or time-limit as to when a regulation must be agreed upon could be introduced into the Ecodesign framework. Another expert suggested using learning curve projections applied to those product groups where technological advancements and market developments are happening at a rapid speed. On the other hand, stakeholders from industry opposed this suggestion, contending that technological advancements are simply too difficult to predict and that this approach would subsequently fail.

³ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R1369&from=EN>

⁴ Minutes of the 2165th meeting of the Commission: 'The President closed the policy debate by concluding that the College would review in the autumn the choice of products whose ecodesign could be regulated in the form of a package grouping together all the products concerned. He stressed the need to have collegial decisions on all ecodesign regulation issues and to review the process at Commission department level in order to prevent any non-collegial decisions being taken in the future'.

Market surveillance

The majority of interviewed stakeholders agreed that market surveillance is currently not satisfactorily performed throughout the EU, yet it is considered a key factor for the success of the Directive. The risk for manufacturers to break the requirements set in the regulations is too low, leading to the sale of many products on the EU market that are not compliant with EU law. This causes problems for the competitiveness of EU industry; if the majority of EU products conform to EU rules within the requirements of the Ecodesign Regulations, but a number of imported products do not, this could adversely affect EU industry. Adding to this, one industry representative mentioned that larger brands have a greater incentive to make their products conform to the ED requirements since there is a brand to uphold, while smaller brands and private labels have less incentive to meet the requirements, which creates further competitiveness issues. In response, all stakeholders recognise that enforcement is essential and needs to be improved to create a level playing field for manufacturers of products on the EU market that are addressed by the Directive.

The limited human and material resources in member states was a common reason given by stakeholders for the lack of market surveillance. Each member state is performing its own product tests. This can be very expensive and requires knowledge of each product group as well as facilities where these tests can be carried out. It is inefficient for each of the 28 member states to have its own testing facilities and expertise on every product group. Adding to the problem is the fact that the level of surveillance differs from one member state to another, with some performing very little market surveillance, if at all. Other issues, or in some cases crises, are seen to more deserving of funding or attention, with market surveillance being side-lined, particularly in those member states with less financial resources. Many interviewed stakeholders agreed that more coordination between member states is necessary to improve the surveillance of products regulated under the framework as well as to ensure that the same rules apply in each country for a functioning single market.

To encourage the coordination between member states, stakeholders presented a range of solutions. In the recently updated Energy Labelling Directive, a product database will operate from 2019 that will enable market surveillance authorities to enforce labelling requirements and ensure that efficiency calculations declared by manufacturers are correct. Information about all products within the Energy Labelling Directive covers approximately half of the products in the product groups addressed by the ED, this database therefore may alleviate some of the market surveillance issues that member states face. It was suggested that if this database is a success, it should later be expanded to include all product groups and related requirements under the ED. Adding to this, several stakeholders proposed that market surveillance should be performed more centrally with one EU market surveillance agency overseeing activities in all member states, or that all surveillance activities should be performed internally. The concentration of testing facilities and expertise would make the entire process more efficient. It was recognised, however, that this might be politically difficult since it would reduce the power exercised by the member states. An important initial step could be more coordination between member state market surveillance organisations.

More details related to market surveillance are discussed for individual member states in section III of this chapter.

2.2.3 *How does the Ecodesign Directive interact with other policies, legislation, schemes, measures, product policy instruments, etc.?*

Many policies were mentioned that have been observed to interact with the Ecodesign Directive. Most interviewed stakeholders expressed the view that it is important for the Directive to interact with other schemes, but without too much overlap.

- **Energy Labelling Directive:** The Ecodesign Directive has been designed to intentionally interact with the Energy Labelling Directive as a complementary instruments. Interviewed stakeholders did not go into great detail regarding this directive since the links are already so well-defined.
- **Energy Efficiency in Buildings Directive:** This Directive was discussed by most stakeholders as a policy that interacts with the Ecodesign Directive. Most of the products covered within the product groups regulated under the Ecodesign Directive are used in buildings, some directly built into buildings, showing the clear relationship between the two directives. A number of stakeholders mentioned that the Ecodesign Directive, in partnership with the Energy Labelling Directive, focuses on products alone. It could also focus on the correct use of products or take a systematic approach when entire systems are assessed.
- **Ambient Air Quality Directive:** Boilers and other similar technologies are regulated under the Ecodesign Directive and have specific requirements with regard to energy efficiency. As a result, the Ecodesign Directive can reduce air pollution in towns and contribute to meeting obligations under the air quality legislation.
- Industry stakeholders are concerned that there is a potential for certain features of products to be regulated twice by existing EU directives such as **WEEE**, **RoHS** and **REACH**. This is particularly important for aspects associated with the circular economy covered in these directives.
- Another concern by industry representatives is that chemicals are already covered under the **RoHS Directive**; therefore, rather than manufacturers checking two or even three different pieces of legislation for chemicals, all rules should be included in one piece of legislation. It was suggested that any stricter regulation on chemicals should be covered under the RoHS Directive and not spread out over several directives. It also means that suppliers might be less inclined to meet certain requirements.
- **Ecolabel:** This is a voluntary label that highlights the 10-20% best performing products in the market, from an environmental point of view. It works as a benchmark to deliver codesign requirements.
- **Guarantee Directive** and **Consumer protection legislation:** links to the durability of products, which is increasingly covered by Ecodesign requirements.

2.2.4 *How does the Ecodesign Directive contribute to the circular economy/ resource efficiency and where can it be improved?*

Interviewed stakeholders agreed that less attention has been given in the regulations to material efficiency compared to energy efficiency, but the contribution to non-energy related aspects falls within the scope of the Directive. Although these aspects have not received much attention in the past, discussions are now focusing on the repair, recyclability and durability of products. In response, several different views were expressed on the inclusion of non-energy related aspects in the Directive with three key positions apparent among stakeholders.

Position 1: Limit the Ecodesign to energy efficiency requirements only

The position of a number of stakeholders is that the Directive lists too many objectives and it should be limited to energy efficiency requirements only. Focusing on one aspect would ensure that the goals are achieved and it could then be more effective, from an energy efficiency point of view. To include the design of a product for its entire life-cycle would require a different policy and process compared to the ones in place at the moment. Non-energy-related requirements are and can continue to be included in other policies that are more specific to circular economy aims. Secondly, the cost of surveillance, particularly for some products, would become very expensive if more parameters are included. Member states might be inclined to forgo testing some products or parameters.

Nevertheless, even with an exclusive focus on energy, some stakeholders note that energy consumption should be measured rather than energy efficiency, as gains in efficiency often result in new larger products, thereby reducing the positive impact on consumption.

Position 2: Limit the Ecodesign Directive to energy-related products but include circular economy aspects

The majority of interviewed stakeholders expressed the view that the objectives of the directive are adequate as they now stand and that circular economy requirements should slowly start to become regulated. Product groups, however, should be limited to energy-related products only. Two reasons were cited for this stance. First, the Directive is very encompassing and in order to ensure that it is well managed, product groups should remain limited to energy-related products. There is still scope for new energy-related product groups to be regulated under the framework Directive as well as capacity to improve those product groups that are already regulated. Secondly, there are different challenges for non-energy-related products and therefore including them would require a different scope and additional regulatory processes. In fact, these products should be regulated through separate pieces of legislation. Furthermore, any widening of the scope may hamper the process and reduce momentum.

Nevertheless, the ED is a mandatory policy providing minimum requirements to access the market. Accordingly, interviewed stakeholders emphasised that requirements must be enforceable and hence, measurable; otherwise a competitiveness issue could develop in which some manufacturers conform to the requirements and others do not. The circular economy aspects within Annex 1 of the Directive have not been effectively taken up precisely because of this issue. Concrete measures of the durability of many products are difficult to establish because the testing period takes too much time in relation to the speed of technology progress. Considering this concern, one stakeholder mentioned that not all circular economy aspects can be solved by the Ecodesign Directive and so, the framework must be coupled with other policies.

Currently, the ED regulates durability requirements on vacuum cleaners and lighting, as the first product groups to include circular economy requirements. Many interviewed stakeholders agree that the ED is a good framework in which to consider circular economy aspects, but it needs to be pursued in an intelligent way to avoid conflicts with other legislation and double regulation. One industry stakeholder explored the option of developing material efficiency requirements first through market pull techniques, such as durability information on products, and later by regulations, in much the same way that energy efficiency requirements were initially developed. A number of stakeholders agreed that information requirements should be included on product labels, to provide consumers with a choice.

Position 3: Expand the Ecodesign product groups to non-energy-related products

Since the Directive has been such a success for energy efficiency, a few stakeholders suggested expanding products regulated by the Directive to non-energy-related products. An approach to achieve this could be to first allow non-energy-related product industries to form voluntary agreements with the European Commission, similar to those voluntary agreements already in place. With non-mandatory agreements, the Commission and industry could coordinate and learn what is required for mandatory regulations. The view was that once non-energy-related product groups are regulated under the Directive, product groups could then not only be selected on their energy savings potential but also on their entire resource savings potential.

For this to happen, it was stated that expertise on product groups would need to be developed. Expansion of expertise is needed both in member states and in the European Commission. Different DGs will need to coordinate and cooperate and those policy officers involved should be given more time to deepen their specific expertise on products. Member states would be able to provide more resources and expertise to the European Commission while the Commission would need to contribute more finances to the member states to do this.

Chapter 3. Member state findings*

3.1 Findings from interviews with experts: Member states

3.1.1 General observations

EU member states vary both in the organisational structure of implementation of the Ecodesign Directive and in the resources they are able to make available (human and financial resources, and testing facilities).

Smaller member states have generally less staff working on the ED portfolio in public administration, with the exception of Scandinavian countries, where more emphasis is placed on environmental issues. In some cases, there may be only one person working not only on the ED portfolio, but on other portfolios as well, such as for example energy labelling.

Central and South-East European (C&SEE) member states have generally more difficulty following the ED portfolio. Barriers include amongst others financial resources and language (for example lack of translation during meetings). Some support and capacity building may be considered for these countries. Market surveillance presents difficulties for all countries, but particularly for C&SEE. Apart from those already mentioned, the challenges also include the proximity to the EU outer border, with increased possibilities of smuggling of non-compliant products, such as incandescent bulbs. Financial hardship at the household level (in C&SEE but not only) also affects the behaviour of consumers, who may prefer a cheap inefficient product over a more expensive compliant one.

3.1.2 Germany

Organisational structure of the implementation of the ED in Germany

- Energy efficiency portfolio: Federal Ministry for Economic Affairs and Energy
- Circular economy portfolio: Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
- Market surveillance: Federal States (Länder)

Background and benefits

German stakeholders interviewed consider the ED to be a success story in terms of energy efficiency, as the objectives are being met for both households and businesses. Success has been made possible by the fact that the Directive has received widespread acceptance by stakeholders, i.e. policy-makers at all levels of governments, consumers, environmental organisations and producers. Such consensus is mostly due to the extensive consultation process foreseen in the ED.

* *Note:* The countries discussed in this section are not handled in alphabetical order, but rather in the order in which the interviews and report drafting were carried out, as certain concerns were common across all member states and are therefore not fully repeated in order to lighten the text and keep the messages concise. Certain messages are also present in the EU-wide section, but they may also be repeated below as reflecting the opinions of the member states' interviewees.

As Germany has a very strong manufacturing base, the ED has a higher priority than in other member states. Much attention has therefore been given to the consultation process, which strived to be inclusive and to capture the positions of smaller stakeholder groups (e.g. smaller companies that may have difficulties to be heard in Brussels). This process has greatly helped in facilitating implementation. A national policy priority is also to move closer to actual consumer behaviour in order to make the policy more effective. Attention is furthermore given to the opportunities offered by digitalisation.

From a German viewpoint, the level of ambition on energy efficiency could be improved. But this is compensated for by improvements brought by the ED to the single market, e.g. promoting harmonisation, striving towards a common goal and the creation of a level playing field.

The Länder Market surveillance authorities in Germany are very active. Product groups are distributed across Länder, which survey the products assigned to them and then communicate through the system of 'Länderausschuss', a committee that exchanges experiences and coordinate action for the coming year. The products surveyed are entered into the ICSMS (EC internet-supported information and communication system for the pan-European market surveillance⁵) (according to Art. 18 of Regulation 765). This system was initially developed in Germany for product safety and was subsequently adopted by the European Commission and adapted to other sectors.

Challenges and recommendations

Slow progress

- Progress was very slow in 2016, due to a standstill in the Commission dedicated to reassessing the ED in the aftermath of the press onslaught, inspired in part by the pro-Brexit campaign, but also out of concerns about overregulation. Work is resuming, and the European Commission is now acutely aware of the risk of overregulation. The idea is to concentrate on products with the biggest energy efficiency potential.
- As mentioned above, consultation is an inclusive and beneficial instrument that contributes to the acceptance of the ED, but the process is very long and could be shortened. When product technology changes on a yearly basis (e.g. ICT), the ED would not work.

Market surveillance

Market surveillance authorities face a number of challenges such as:

- Determining 'how much checking is enough': In Germany, the Product Safety Regulation establishes a minimum surveillance requirement. This requirement does not exist in the ED nor in the EED or the Energy Labelling Directives. Having a minimum requirement established by law is helpful.
- There is a lack of harmonisation across the methods.
- Costs are high and increasing with the introduction of new regulations (for example durability tests towards circular economy objectives). It is important that requirements can be tested in a cost-effective manner and that the results are repeatable and reproducible in watertight fashion in the event they are presented in court.
- Market surveillance of products traded online is particularly complex – dealers are often located outside the EU.

⁵ See webgate.ec.europa.eu/icsms/.

- The ICSMS is a good tool but it needs to be better adapted to other sectors, as it is still mainly focused on product safety requirements. The European Commission is presently working on this with the assistance of the specific AdCos (Administrative Cooperation Groups). Caution needs to be taken to avoid making it overspecialised, because in different regions there may be similar but slightly different products on the market. The problem of course is even greater at the European level.
- The ICSMS is presently not adequate to meet the needs, nor is it used by all member states.
- Better communication across member states' respective surveillance authorities would be useful (more so than a centralised authority, as fieldwork and presence on the ground remain essential).
- Problems may arise when the manufacturers are located outside the EU. Better cooperation with customs may be of help.

Inclusion of circular economy requirements

- Circular economy in the ED should be encouraged, but further work on norms and impacts of requirements is needed.
- The same standards should be applied to circular economy as have been applied to energy efficiency.
- Testing should be feasible at a reasonable cost and the results should be repeatable and able to be reproduced in a watertight fashion in the event they are presented in court. Some requirements are very difficult to test, and workable compromises need to be identified.
- This should be done in a technology-neutral manner in order not to inhibit innovation.
- Inclusion of new products should be evaluated on a case-by-case basis, to identify trade-offs and synergies.

3.1.3 United Kingdom

Organisational structure of the implementation of the ED in the UK

- Energy efficiency portfolio: Department for Business, Energy & Industrial Strategy (BEIS)
- Circular economy portfolio: Department for Environment, Food and Rural Affairs (DEFRA)
- Market surveillance: Regulatory Delivery (MoU with BEIS)

Background and benefits

Implementation of the Ecodesign Directive in the UK was initially located in the Department for Environment, Food and Rural Affairs (DEFRA), but was transferred in 2012 to the Department of Energy & Climate Change (DECC) (now the Department for Business, Energy & Industrial Strategy, BEIS). BEIS only handles the energy efficiency part of the ecodesign portfolio while circular economy and resource efficiency are still located in DEFRA.

Market surveillance is carried out by the Regulatory Delivery office, with whom BEIS has a Memorandum of Understanding. Regulatory Delivery test products' efficiency, based on a workplan for 12 to 18 months. Regulatory Delivery also addresses complaints from industry and consumers.

Energy efficiency has been addressed first as the most readily achievable goal, but the Ecodesign Directive is seen as having the potential of delivering from the manufacturing stage up to end-of-life (e.g. recycling) both for energy- and non-energy-related products. Energy efficiency objectives have been well met, but more ambition can be envisaged for the five to six main products used in households, by stepping-up gradually. Emphasis should be put on ambitious yet achievable targets, taking into account how targets would affect individual member states, i.e. considering countries' characteristics, such as for example emphasis on heating or cooling.

The relationship with industry in the UK has improved. The introduction of ecodesign requirements is no longer perceived as a battle, but as an issue to be worked on in collaboration. In general, it is perceived as positive since it takes inefficient products off the market, meaning cheap inefficient products cannot be imported and creates a level-playing field.

Challenges and recommendations

Timescale of the process and out-of-date data

The process length is an issue: From background study to regulation coming into force, it takes five years on average. Regulation is therefore often based on three- to four-year-old data.

This has already started to improve due to better cooperation between experts carrying out the studies, industry and member states. It is also essential to have manufacturers and trade associations on board to facilitate the implementation of new regulation. As a result, there might be a quicker progress for the introduction of new product groups involving the same stakeholders who were previously consulted. For example, the introduction of new ICT products such as smart phones may not be delayed as much as entirely new product groups, as computers are already covered.

A new cause of delays, however, may follow from the decision at a 2016 College of Commissioners meeting, where President Juncker confirmed his support for the Ecodesign Directive, but requested approval procedures by the European Commission.

A suggestion could be to have a similar provision as Article 11 of the new regulation on energy labelling, which provides a time limit.

Standards

Standards are needed, but they should not be too specific. The key challenge is to develop standards that allow for sufficient flexibility to respond to innovation and deliver the same outcome in a more efficient way. Determining such standards is very difficult and a balance is needed between two practical considerations: 1. What can be measured and how easy it is to verify? 2. How to ensure sufficient openness and freedom to allow for innovation?

Market Surveillance

Better cooperation between market surveillance authorities in the EU would be desirable. A number of EU-funded projects such as the FP7 Ecopliant (see literature review in Chapter 2 Section 1.2.3) provides useful best practice guidelines for better coordination, including for example sending products to be tested in another member state.

The introduction of the database under the newly updated Energy Labelling Directive is welcome and should be followed for ecodesign. In particular, the database requires manufacturers to list their equivalent models, which can help avoid double-testing for similar models across member states.

Interaction with other policies in the UK

In the UK, some regulations interact negatively with the Ecodesign Directive, such as:

1. The UK building regulation setting requirements in 2005 for compulsory condenser boilers, which set higher standards than those later introduced by the ED. While a member state can set higher standards than in the Energy Performance of Buildings Directive (EPBD), it cannot do so for the ED because of the single market.⁶
2. The Clean Air Act and Smoke Control Areas (where only fuel on the list of authorised fuels, or smokeless fuels are allowed): The ecodesign measures would make the whole of the UK a smoke control area rather than limit it to the areas determined by the UK legislation.

Inclusion of circular economy requirements

The broad ambitions of the Ecodesign Directive regarding the circular economy are seen as very positive, but introducing the circular economy requirements addressed by the Ecodesign Directive can be very complex. It is still very early in the process and details are not yet known about what the standards may look like or how they could be implemented.

Efforts to include the circular economy can be gradual. First steps can take the form of the recognition of voluntary efforts made by producers to improve the material efficiency of their products. The ED could move beyond energy efficiency whenever limits in terms of energy efficiency are reached on some products. It would also be advisable to look at resource and material efficiency for products already listed in the ED, which would allow for the development of expertise (e.g. calculations, methodology, etc.) before moving on to non-energy-related products at a later stage.

There is a need to carefully balance potential benefits and identify for which products the rate of innovation is so rapid that it would be difficult to create a flexible system, versus those product groups where it makes sense to have such measures. We need to consider the fact that there may be some product groups for which inclusion of circular economy requirements would work better than for others. Different solutions can be envisaged for different product groups, in order to ensure the right approach for each given group. For example, there can be alternatives to prescriptive standards, which may be too rigid, such as producer responsibility schemes. The challenge is deciding which product groups should be covered by which solutions, depending on the innovative scope of the respective processes.

The proposal in the Circular Economy Package about extended producer responsibility could potentially work well for ecodesign. This places the full costs of managing waste onto the producer, so that producers pay attention to end-of-life management from the design stage, for example for recycling options and disassembly. If no action is taken upfront, the producer bears the full costs of recycling and

⁶ Member states need to notify the Commission for any national standards they consider necessary to impose beyond those in the directive and seek approval (Treaty Establishing the European Community Art. 95 (4)(5)(6). The reasoning should be based on scientific evidence on national needs and not be a 'means of arbitrary discrimination or a disguised restriction on trade between Member States and whether or not they shall constitute an obstacle to the functioning of the internal market'.

waste recovery. The proposal contains an additional element called 'modulation', whereby the proportion of costs could be reduced – even to 0 – if the producer could demonstrate that they have taken action to improve e.g. the recyclability or resource efficiency of a product (the scope is quite broad). Several such schemes, with an emphasis on waste management, already exist in the UK. For example, for waste electronics, industry-led upfront solutions are preferred as far as possible, e.g. the producer working in partnership with waste reprocessors in order to design products that may easily be remanufactured.

The critical element to be able to run such schemes is the ability to verify effectively the producers' claims that actions have been taken. A mechanism should be provided to identify and verify such claims, as well as give them recognition within the context of an incentive.

The UK views positively the possibility to consider not only end-of-life, but the whole lifecycle of a product, from material extraction, to product use and finally materials recovery and recycling. Objectives are to enable producers to source the right materials, to design for greater longevity, to enable products to be re-manufactured, and at end-of life enable materials to be recovered in the most efficient way. It is recognised, however, that it may be challenging to implement such measures in practice, although they are a fundamental requirement to effectively deliver the circular economy transformation.

Brexit

Despite present uncertainty, it is thought that commitments to deliver more resource efficiency in the UK economy will not be affected, as the objective is about the economic competitiveness and sustainability. As a result, there should not be a significant impact in terms of the UK ambition to drive this transition.

There is also scope for international activity, as the great majority of materials are imported and there is a need for cooperation on the global supply chain.

3.1.4 Belgium

Organisational structure of the implementation of the ED in Belgium

- **Ecodesign Directive implementation:** DG Environment of the Federal Public Service for Health, Food Chain Safety and Environment
- **Market surveillance:** Fragmented but coordinated by a group composed of surveillance entities

Challenges and recommendations

Delays

At the moment, the 'better regulation' agenda is causing large delays. This is perceived as a political reaction to criticisms, aimed at improving communication and support. However, the already long 5-year ED procedure (from preparatory studies, to stakeholders consultations in member states etc.) is

suffering even greater delays (possibly about 6 months) with the addition of extra consultations and reviews.

Standards and testing requirements

Standards for products testing may differ from real life use. While standardisation organisations try to find average metrics to stay as close as possible to real life use, they sometimes lack the necessary data, which might be difficult to obtain. Testing in standard conditions also offers the necessary advantage of being replicable.

Test standards can sometimes be ambiguous, to such an extent that it might make the difference between a product being accepted as compliant or not. For example, in the case of washing machines, the tests can only be undertaken with dirty dishes because the machines have sensors. But it is unclear how to ensure the appropriate 'dirt conditions' for replicable tests across dishwashers. Another example is found with industrial motors, which when new have tighter bearings and more friction, thus use more energy than in normal conditions during their lifetime. Standards are unclear how to account for this.

Products may be deemed compliant or not compliant by different testing bodies depending on their interpretation of the standards and the 'solutions' applied to problems of measurement.

Although technicians in standardisation organisations are aware of such ambiguities, challenges in the standard setting process may arise. Difficulties have been linked to being too specific, the lack of consensus between technicians at the moment of standard setting and a lack of experts to cover each product. At times, issues may emerge only after standards are applied in practice.

Consumer behaviour

Despite consumers' interest in high end products with AAA labels, especially in richer member states, habit and tradition may sometimes be entrenched. In Belgium, for example, heating oil (mazout) is still used for domestic heating (more so than in other member states). Subsidies for energy efficiency in Belgium are also not particularly generous compared to other member states leading in this area.

While in the long-term increased energy efficiency will benefit everyone, the question initially arises of who bears the costs.

Market surveillance

The ED is not clear or stringent enough regarding market surveillance obligations of member states, and as such creates ambiguity. In order to have a working market surveillance system, there may be a need for a multi-annual Pan-European inspection plan, because no single member state can cover all requirements. A higher level of coordination is therefore necessary. More effort should be placed at present in ensuring the use of the ICSMS database to avoid duplication of testing, which should also be better linked to the eco labelling technical database.

More efforts should be focused on e-commerce to avoid the entry of non-compliant products, for example through the use of web-crawlers to find non-compliant products sold on the EU market.

There is a lack of testing facilities able to handle novel products and large appliances. This creates costly tests and additional transportation costs. One solution would be to introduce production process audits to verify compliance before the product enters the market. Member states could perform the tests or

contract certified testing bodies to perform verification. Third-party verification could be incorporated in the implementing measures, which is presently not the case.

Changes to the legal framework - Lisbonisation

The potential transition to Delegated Acts is perceived as something that could inhibit the timely development of balanced Ecodesign Regulations. A transition to Delegated Acts would not give more power and influence to the EP, but may instead just reduce the power and influence of member states, *de facto* leaving decisions to the Commissioner. Such concentration of power raises worries that member states' concerns may be neglected (e.g. the current stall in Ecodesign on the side of the European Commission). Member states have so far been active contributors, and further changes in the decision process could reduce interest, as well as level of participation and support. On the other hand, there are concerns that the European Parliament may struggle to go through all the technical aspects and be able to balance power with the European Commission.

Inclusion of circular economy requirements

The Ecodesign Directive is seen as having a significant potential to contribute to the transition towards a circular economy. In principle, under the current directive most resource-efficiency parameters of energy-related products can be addressed - provided the parameters can be measured and that there is sufficient impact and potential. Standards for ecodesign requirements on material efficiency aspects have been mandated. Until now focus has been primarily on energy use in the consumption phase. A framework for product design could include extending the longevity of products by taking into account upgradability, durability and reparability, making spare parts available in the long-term at reasonable prices together with repair manuals, increasing the reuse, refurbishment and remanufacture potential of components and products, facilitating the recycling of end-of-life products to gain secondary raw materials, while encouraging the use of recycled materials.

The extension of the ED to circular economy may lead to additional complex policy processes. The European Parliament may then struggle to go through each of the technical aspects, and risk to reopen carefully crafted agreements by the implementing authorities, which reflect capacities at the national level.

Another aspect highlighted is the length of lifecycle and lifetime testing, as by the time the test is over the products may already be obsolete.

There are a number of synergies that the ED could find with the WEEE Directive. This could be achieved with a 'design for recycle' requirements facilitating the recycling process.

3.1.5 Portugal

Organisational structure of the implementation of the ED in Portugal

- Transposition of the Ecodesign Directive: Ministério da Economia
- Energy Efficiency and Ecodesign portfolios: Direção Geral de Energia e Geologia (DGEG) – Ministério da Economia
- Circular Economy portfolio: Ministério do Ambiente (coordination) in cooperation with sectoral Ministries
- Market surveillance: ASAE – Autoridade de Segurança Alimentar e Económica – Ministério da Economia

Background and benefits

In Portugal, the Ecodesign Directive has been transposed into national legislation through 'Decreto-Lei nº 12/2011, de 24 de Janeiro', which addresses eco-design of energy consumption-related products. The Decree-Law (DL) sets onto the national producers the obligation to emit a CE declaration of conformity of its products, and onto national importers the obligation to ensure that imported products similarly conform. Article 16 identifies sanctions for breach. Under the DL, enforcement is undertaken by the Portuguese Market Surveillance Authority ASAE (Autoridade de Segurança Alimentar e Económica). ASAE keeps the European Commission and other EU member states informed of non-compliant products it has identified. (See Diário da República, 2011).

In Portugal, the ED is perceived as very important, with a significant impact on energy efficiency, especially in combination with the Energy Labelling Directive.

Challenges and recommendations

Difficulty with implementation

The Ecodesign Directive is a very large file, which requires significant resources. As a smaller EU country, Portugal is attempting to fulfil its obligation under the directive and is trying to do its best with its existing resources, although it feels it is challenging to address the extensive scope of the directive.

The database is seen as a key tool to support and facilitate implementation, but the Portuguese representatives do not feel that it can or should substitute for product testing.

Market Surveillance

It was recognised that market surveillance needs to be improved. The backlash from the 2008 financial crisis further hinders the issue of resources for market surveillance authorities. With diverse market surveillance methods across the member states and not enough being done throughout the EU, competitiveness becomes a problem, particularly if EU manufactured products conform to ecodesign requirements but imported products do not.

Standardisation

A better effort at harmonising standards is needed for the system to function properly, both horizontally and vertically.

Inclusion of non-energy related product groups

While the directive primarily focuses on energy efficiency, more requirements are being added. However, it is felt that the ED should not start including new non-energy-related product groups at present, because the scope and process for defining the criteria for these other product groups is very different. This may rather require a different directive.

It would be more important at this stage to concentrate on the inclusion of circular economy requirements in the energy related product groups the directive already covers.

Inclusion of circular economy requirements

The inclusion of circular economy requirements in the energy-related product groups the directive already covers should be encouraged.

- Recyclability is seen as the easiest requirement to implement and enforce, due *inter alia*, to the existence of the well-structured management streams of the WEEE package.
- Other aspects of circular economy such as reparability, durability and recyclability are already envisaged by Ecodesign regulations for both new products and the revision of some existing products. However, it will be very important to give manufacturers the time to adapt.
- Caution should be taken to avoid double-regulation.
- In order to include lifespan requirements, the sourcing of products and materials needs to be taken into account through an adequate supply chain management. Examples can be drawn from the EU ecolabel process, which is based on a life cycle approach. However, ensuring that the relevant requirements are fulfilled across the whole supply chain will imply shared responsibilities.
- The main challenge is that inclusion of circular economy will mean additional sets of requirements, as well as new stakeholders involved along the value chain. Compliance and enforcement action would need to be broadened. Member states are already experiencing in different degrees a shortfall of verification activities, due in part to increased costs of testing.
- Common and globally accepted harmonised standards for enforcement and a robust supply chain management, are therefore key, in addition to other policy measures promoting new business models in line with a lifespan approach.
- The ecodesign workplan 2016-2019 provides a useful toolbox to tackle circular economy.

3.1.6 Finland

Organisational structure of the implementation of the ED in Finland

- Energy efficiency portfolio: Ministry of economic affairs and employment (responsible for the Ecodesign Directive), Ministry of Environment (responsible for eco-design regulations related to the construction products), Energy Authority (responsible for eco-design regulations excluding construction products)
- Circular economy portfolio: Ministry of economic affairs, Ministry of Environment
- Market surveillance: The Finnish Safety and Chemicals Agency TUKES

Background and benefits

The Ecodesign Directive is seen as one of the best energy efficiency policies in the EU. Objectives related to energy efficiency are met very well with the energy efficiency of products constantly increasing. The level of ambitiousness could however be raised.

Other ED objectives are less successful. Article 1 states that '[This Directive] contributes to sustainable development by increasing energy efficiency and the level of protection of the environment, while at the same time increasing the security of the energy supply', but the link is not as straightforward. For example, improving design to make products environmentally friendly requires a different approach. Linking too many objectives may not be efficient, and focusing on the primary objective of energy efficiency may be preferable.

Finland generally does not manufacture products with its economy more geared to business-to-business services. This is because labour costs are generally higher than in countries with a strong manufacturing basis and Finland cannot compete on a product level. Some member states may also protect their industries and a larger share of products might not meet with minimum ecodesign requirements, further weakening Finnish competitiveness.

Industry stakeholders in Finland are generally satisfied with the ED, some would even like to see stricter requirements. This is because the directive is often beneficial in their cases, as inefficient products, mostly produced abroad, are removed from the EU market and leave space for more efficient products produced in Finland.

Challenges and recommendations

Slow progress and out-of-date data

As also mentioned by other stakeholders, the process of the ED is too slow, and the studies used to make decisions are often outdated once implementation starts, especially in product groups with quick-changing technological advancements. Therefore, it is hard to set ambitious requirements if up-to-date information is not available. For example, the study on digital screens was carried out in 2012, while the decisions are being taken in 2017. For some product groups with slower technology advancements this is not a problem.

Delays have increased in the last few years, seemingly as a result of bad press, (e.g. in the pro-Brexit campaign), with questions such as 'is it really necessary to regulate?'

Market surveillance

Market surveillance is a challenge throughout the EU to various degrees. Some member states do not have sufficient resources and do very little, others are active but still to an insufficient degree. Often test results are too slow to match technological progress. At present, the risk to manufacturers to break the rules of Ecodesign is too low.

A suggestion is that market surveillance could be done at EU level. Inefficiencies arise if member states are individually responsible for market surveillance. Such an agency at the EU level could carry out all the testing of products, rather than having testing facilities scattered across 28 (27) countries. The EU agency could also give orders across the EU to remove non-compliant products from the entire EU market, rather than this being done at the member state level. The idea of a market surveillance agency at the EU level is however not supported by all stakeholders interviewed (see previous sections).

Inclusion of circular economy requirements

The Ecodesign Directive lists perhaps too many objectives and it may be preferable if it focused on energy efficiency objectives alone. To include the design of a product for its entire life-cycle would require a different approach to the one in place at the moment.

The European Commission has given mandates to EU standards organisation to provide standards for material efficiency design requirements. However, what would be needed beforehand is an analysis of the barriers to including circular economy requirements. For example, a standard for the transparency of information of product's content could be futile since recyclers generally know the composition of products but choose not to recycle certain materials because there is no economic incentive for it. Recyclability remains theoretical whenever adequate economic incentives are missing. It is therefore key to carry out an analysis of product groups and barriers to circular with the participation of stakeholders from the recycling industry.

3.1.7 Denmark

Organisational structure of the implementation of the ED in Denmark

- Located in Danish Energy Agency

Scope of the Ecodesign Directive

The Ecodesign Directive is a very efficient tool, but could be made even more efficient.

Differences in impact on energy efficiency across products

There has been a high impact on the energy efficiency of many products, but large differences can be noticed in the rate of progress across products. This can be explained by different factors, namely: The different levels of complexity of the products themselves; market data is more difficult to find for some products; rapid technological development may quickly render actions obsolete; and long delays in the timeline.

Differences in impact across objectives and along lifecycle of products

Despite having proven its value, the ED has been less efficient for its environmental objectives. The ED is impactful mainly for improved energy efficiency of the use phase, but less in areas bearing on circular economy and recycling. The European Commission could consider the possibility to create separate tracks that cover production and end-phase of products. Attention would need to be given to not creating conflicts between related directives and regulations.

Introducing non-energy-related products

It may be preferable not to overburden the ED in the first place, but if a decision were taken to introduce non-energy-related products, this should not be at the expense of the obligations in the area of energy that are working well. Some measures can be easily implemented and could be introduced, but this has to be done carefully.

Consistency of product coverage

Some products are found both inside and outside the ED: For example the ED does not cover the transport sector, and as such products used in the transport sector such as electric motors or air conditioning in vehicles are not covered by the ED, but the same or equivalent products in other sectors are.

Inclusion of circular economy requirements

New requirements on circular economy should only be included if: i) there are realistic opportunities to apply them, ii) they are enforceable and iii) the potential is related to the costs.

Resource efficiency needs focus on the whole lifecycle. This requires the suppliers to know the supply chains much better than they do now. Requirements on suppliers would increase dramatically and this has to be understood and handled carefully.

As mentioned by other interviewees, it is important to involve other key stakeholders such as scrapping and recycling companies. The nature of their work however is to process on a daily basis tons of material very quickly. It is not possible in such circumstances to check each product and follow specific rules on their recycling. As a result, there could maybe be solutions for specific elements of broad product categories, e.g. introducing horizontal requirements on certain substances, such as labelling products containing cadmium or colour coding batteries to make them easy to detect and treat. However, too much burden should not be placed on such stakeholders, as for example recycling companies do not have the capacity to maintain websites providing data on all the waste they process. If this were nevertheless considered as an option, some state support may be envisaged.

Other challenges

Delays

As mentioned by other interviewees, long delays have been noted in 2016, partly due to the pooling of products and partly due to hesitation following the criticisms. As concerns the criticisms, communication could have been handled better by phrasing the responses differently, namely not trying to defend mistakes, but rather highlighting that despite some setbacks, clear successes have been achieved.

Standards

The European Commission should make more use of intermediary standards to allow producers to adapt progressively.

The standardisation process has suffered delays, and a suggestion is to start the work on standards in parallel with the regulation process, starting from the study phase. Difficulties are caused by the fact that requirements for some products have been created without sufficient appropriate standards and testing methodology.

Also, standards for horizontal requirements lack clarity.

Attention should be given to the fact that some ED requirements may affect negatively some products and lead to more voluminous or heavy products.

Market surveillance and communication with producers

Horizontal requirements can be too vague. When performing market surveillance on horizontal requirements, producers are often confused about what is covered. More information would therefore need to be conveyed to producers.

As concerns imported components for products, producers abroad mostly do not know about ED regulations. However, national producers are then liable for compliance nevertheless.

Solutions could consist in conveying the information to a broader array of producers, for example through standardisation organisations or trade organisations. We could learn from the energy labelling regulation in this respect.

Testing

There should also be clearer surveillance guidelines regarding testing. In some cases, it does not seem necessary to fulfil all parameters. Test costs are a barrier to implementation, and a way to reduce costs can be not to require a full test, but that it were enough in some cases that one test fails to reject a product.

More emphasis should be placed on developing 'screening tests': If issues arise during the screening test this could be raised well before the full test time is over. While they cannot be used as evidence in courts, Denmark find has found them useful and has used them, because they can help establishing a dialogue with the producer when the results show clear problems. The results allow therefore for a dialogue and seeking solutions.

Instead of tests, auditing of producers' quality systems during production can be introduced. It is often the case that producers do not reveal details on how they reach their declared efficiency values, which testing then reveals to be erroneous. Quality systems in this respect would not allow such behaviour. Some large products, such as big ventilation units cannot be easily tested in the right conditions in laboratories. In these cases, auditing standards at production level would create some guarantee that stated values are conform with requirements. However, it is not possible to enforce this on foreign producers, and the products with imported components would thus still need to be tested.

Other considerations are the impacts of upgrading software: Energy performance characteristics of a product may change. The question therefore arises of how upgrades should be treated, and whether the products should be retested.

3.1.8 Poland

Organisational structure of the implementation of the ED in Poland

- Ecodesign implementation: Ministry of Energy
- Market surveillance: Office of Electronic Communication (UKE) and Office of Competition and Consumer Protection (UOKIK)

This section focuses mostly on market surveillance, due to the availability of interviewees.

Background

In Poland, market surveillance dealing with the Ecodesign Directive and its executive regulations is carried out by two authorities, the Office of Competition and Consumer Protection (UOKIK) and the Office of Electronic Communications (UKE). Their respective focus depends on the category of products in their area of competence. The head office determines the yearly inspection plans and the product groups to focus on, while regional offices carry out the field work, and decide on the individual products with a focus on those most likely to be non-compliant. The ICSMS database is presently also used in Poland for sharing results. As Germany, Poland has chosen to input all results, i.e. not only the information about non-compliant products. This practice is seen as a useful way to share information with other member states on which products have been tested altogether.

Challenges and recommendations

Costs

Laboratory tests can be very expensive, especially if like in Poland the authority is responsible for more than one EU directive, covering therefore not only Ecodesign and Energy Labelling, but other consumer products, e.g. toys, machinery, personal protective equipment, fireworks, etc. (with a focus on consumers' safety rather than environment).

Range of products covered

The Ecodesign Regulations cover a very wide range of products, including for example specific products for professional use (e.g. small, medium and large power transformers or ventilation units), which aren't easy to find on the market, as usually manufactured on order.

Availability of accredited laboratories and relevant experts

Accessibility of accredited laboratories can be a problem in Poland, and sometimes only foreign laboratories are available. In addition, it can be difficult to find experts to analyse the technical documentation.

UKE however has its own laboratory, and only a minority of products are tested outside.

Testing time

The amount of time needed for testing some parameters can be very long (e.g. a rated lamp lifetime can last nine months if the business operator declares 10,000h).

Risk assessment

The key obstacle encountered is how to properly assess a risk or hazard represented by a product. As all measures taken in the market surveillance system depend on a risk assessment,⁷ the difficulty for the authorities is to determine how to undertake the risk assessment and what constitutes a risk threshold. The interpretation of the requirement may be different across authorities. This issue is often raised by authorities, which find it difficult to identify the methodology and the metrics to apply to different products.

Information sharing through database

Ideally, the database could be used as a learning tool. Useful functionalities on the database could include the possibility to generate reports on products searched; receiving feedback on the data that has been input. Sharing information about standards and testing methods used could potentially also be interesting, leading over time to shared best practices across all authorities.

Foreign and online products

There is no legislation in Poland regarding online sales. As a result, UKE has made a voluntary agreement with one of Poland's main online platforms, Allegro, which allows UKE to monitor specific products, especially potentially dangerous ones.

Customs also operate with MSAs to stop the entry of non-compliant products, and MSA inspectors can attend customs offices on request.

⁷ Reg. 765/2008 specifies that legal measures shall be effective and proportionate and that 'the decision whether or not a product represents a serious risk shall be based on an appropriate risk assessment which takes into account of the nature of the hazard and the likelihood of its occurrence. The feasibility of obtaining higher levels of safety or the availability of other products presenting a lesser degree of risk shall not constitute grounds for considering that a product presents a serious risk'. – Article 20(2) Reg. 765/2008).

Chapter 4. Policy recommendations

- **Continue to include more energy-related product groups.** Since the directive has been very successful with regard to energy efficiency requirements, it is recommended to continue to include more energy-related product groups. Products should be selected on the basis of their ecodesign potential, with the assessment not only limited to their energy efficiency potential. Therefore, the scope of the MEErP should include material efficiency details when appropriate for a product group. These features should only be considered if the environmental impact is assessed and there is significant improvement potential, as well as the requirements being set are enforceable by Market Surveillance Authorities.
- **Improve the long regulatory processes.** Improvements can be made by setting calendars, milestones and indicators for new implementing measures and reviews in working plans. Similar to the the new time limits included in Article 11 of the Energy Labelling Regulation, a timeline or time limit as to when a regulation must be agreed could be introduced into the Ecodesign framework.
- **Assess ways to improve market surveillance in member states.** An option could be to encourage coordination and information exchange between member states.
- **Expand the database to all products addressed by the Ecodesign Directive.** If considered a success after its application in 2019, the database should be expanded to all ecodesign products to allow market surveillance authorities to enforce ecodesign as well as energy labelling requirements. Therefore, once a product has been tested in one member state, all other member states will be aware of the results. The database could also offer functionalities such as the possibility to generate reports on given searches, and serve as a learning tool by requiring the input of information, such as test methods used.
- **Strengthen the link between other policies and the Ecodesign Directive.** To ensure efficiency, strengthen the coordination between the regulatory processes of the Ecodesign Regulations with requirements in other EU legislation, such as the Ecolabel Directive, the REACH Regulation, the RoHS Directive and the WEEE Directive. Secondly, to complement the rules in other directives, such as the WEEE Directive, the regulations under the ED could set design requirements for the easy dismantling of products.
- **Explore ways to regulate non-energy-related products on material efficiency elements.** Considering the success of the directive, the EU should assess ways to introduce circular economy requirements for non-energy-related products. However, there are different challenges for non-energy-related products that should be carefully taken into account. There are several ways forward, for instance requirements could initially be achieved through voluntary agreements, or like energy efficiency requirements, a market pull policy could be introduced, such as a labelling scheme, and then later a market push policy. Either way would allow the Commission and industry to learn what is required when mandatory regulations are introduced later.
- **Explore ways to effectively include material efficiency requirements within the regulations.** These requirements are inherently more complicated than energy efficiency requirements and often need different standards and testing methods. They are, however, necessary to transition to a circular economy. Therefore, ways to effectively include, test and enforce material efficiency requirements within regulations should be studied. Inclusion of such requirements should be done only if i) there are realistic opportunities to apply them, ii) they can be tested, iii) they are enforceable and iv) the potential is related to the costs.

- **Testing methods.** Better guidelines for testing need to be provided. Requirements should not be set before appropriate testing methods have been devised. Shorter 'screening tests' can be used to identify products that would clearly not succeed in further testing phases. Auditing of quality systems during production can be used in certain cases as an alternative to laboratory tests, for example when products are too large to be moved.

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Annexes

Annex 1. List of interviewed stakeholders*

Katarzyna Bednarz, Office of Competition and Consumer Protection (UOKiK), Poland

Valentina Bolognesi, Senior Policy Manager, DigitalEurope

Lars Bruckner, Director, NEC Europe Ltd.

Alix Chambris, Director, EU Public Affairs, Danfoss

Carl Dalhammar, Senior Lecturer and academic, International Institute for Industrial Environmental Economics (IIIEE), Lund University

Lee Davies, Head of resource efficiency and circular economy strategy, UK Department for Environment, Food and Rural Affairs, UK Government

Karl Edsjö, Director, Environmental & EU Affairs, Electrolux

Chloé Fayole, Policy Officer, ECOS

Sylvie Feindt, Policy Director, DigitalEurope

Paula Gomes, Directorate-General for Energy and Geology, Government of Portugal

Bjarke Hansen, Advisor, Engineer, Danish Energy Agency

Tamara Janke, Ministry of Environment, Climate and Energy, German government

Stephan Kolb, Head of Industry Affairs Residential Heating, Danfoss

Kaisa-Reeta Koskinen, Finnish Energy Authority

Carlos Lopes, Senior adviser - Ecodesign and energy labeling, Swedish Energy Agency

Aline Maigret, Ecodesign Project Coordinator, ANEC/BEUC

Matteo Rambaldi, Energy Policy Director, CECED

Arne Remmen, Professor, Alborg University

Mike Rimmer, Home and Local Energy, Department for Business, Energy and Industrial Strategy (BEIS)

Hans-Paul Siderius, Energy Efficiency Expert, Netherlands Enterprise Agency

Bram Soenen, DG Environment of the Federal Public Service for Health, Food Chain Safety and Environment

Christoforos Spiliotopoulos, Senior Policy Officer, ECOS

Dirk Van Orshoven, Independent energy engineer

Bruno Vermoeses, Senior Expert EU Technical Governmental Affairs and Associations, BSH Home Appliances Group

Carsten Wachholz, Senior Policy Officer: Product policy and resource conservation, EEB

*Two additional experts were interviewed (one from a national government agency and one from a market surveillance authority), but they requested anonymity.

Annex 2. Questions for stakeholders

Semi-structured interviews were carried out, which left freedom for interviewees to focus on the topics most of interest to them.

There were three sets of questions. One or more of these sets were used depending on the background of the interviewees (e.g. Sets A and B for stakeholders from national ministries):

- Set A: General questions on the status of implementation of the Ecodesign Directive and barriers that have been encountered, based on the questions set in the Terms of Reference;
- Set B: Additional questions to member states stakeholders;
- Set C: Questions specific to market surveillance authorities.

A. General questions on implementation and barriers

1. Background of the interviewee
2. To what extent are the objectives of the directive met, with particular attention to energy efficiency?
3. With what degree of success have the other objectives been addressed?
4. What are the main obstacles in the implementation? (Open question, with follow-up questions)
5. How does the Ecodesign Directive interact with other policies, legislation, schemes, measures, product policy instruments both at the EU and at the national level?
6. How do you think the directive contributes to the circular economy and do you think this could be improved? If so, how?
7. Could you recommend additional experts or literature?
8. Do you wish to be acknowledged in an Annex or prefer to remain anonymous? (No quotes are attributed to individuals within the text itself)

B. Additional questions specific to Member States stakeholders

1. What is the organisational structure of the implementation of the ED in your country?
2. How have industry stakeholders reacted to the ED requirements?

C. Questions to market surveillance authorities

1. How is market surveillance organised in your country, and whose responsibility is it (e.g. national or regional level)
2. Do you use in-house or external expertise?
3. What is your experience with standards and testing requirements?
4. Is there a role for proactive activities (e.g. information campaigns for manufacturers)
5. How can cooperation with other member states be improved?



ABOUT CEPS

Founded in Brussels in 1983, CEPS is widely recognised as the most experienced and authoritative think tank operating in the European Union today. CEPS acts as a leading forum for debate on EU affairs, distinguished by its strong in-house research capacity and complemented by an extensive network of partner institutes throughout the world.

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- Carry out state-of-the-art policy research leading to innovative solutions to the challenges facing Europe today
- Maintain the highest standards of academic excellence and unqualified independence
- Act as a forum for discussion among all stakeholders in the European policy process
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