Preparatory study to gather evidence on ways to empower consumers to play an active role in the green transition

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Glossary

Circular economy – 'alternative to a traditional linear economy (make, use, dispose) that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, extracting the maximum value from them whilst in use, then recovering and regenerating products and materials at the end of each service life'[1].

Circularity – 'basic principle of the circular economy by which all resources and energy are renewable and regenerative, all durable resources are endlessly cycled back into supply chains, and waste does not exist'[2].

Climate change – 'change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods'[3].

Climate-neutral – 'where the activities of an individual, an organisation, a city or a country, for instance, result in a net-zero climate impact from greenhouse gas emissions'[4].

Comparison tools – all digital content and applications developed to be used by consumers primarily to compare products and services online, irrespective of the device used (e.g. laptop, smartphone, tablet) or the parameter(s) on which the comparison is based (e.g. price, quality, user reviews, sustainability).[5]

Consumer – a natural person who in a contract or transaction acts for purposes which are outside his trade, business or profession.

Consumer detriment – a measure of harm that consumers may experience when market outcomes fall short of their potential. Consumer detriment can be structural or personal.[6]

Consumer surplus – difference between the price consumers are willing to pay for a product (based on the information available) and the price for which they purchase is.

Digital Information tool – 'a digital tool designed to promote more sustainable products by providing information to consumers on the performance of products with respect to environmental, social or ethical aspects'

Durable good – 'a good that can be used repeatedly or continuously over a period of considerably more than one year and has a substantially higher purchasers' price than semi-durable goods and non-durable goods'[7].

Durability – 'a measure of the optimum life cycle of a product; the ability of products to maintain their functions and performances over their life-cycle; the lifetime up to the point where it is no longer economically viable to repair broken down parts. Durability of products is also a part of the voluntary EU Ecolabel, with requirements such as

[1] Interactive Terminology for Europe (IATE), COM-EN, based on Commission Communication: A new Circular Economy Action Plan – For a cleaner and more competitive Europe, COM(2020) 98 final and Ellen Macarthur Foundation, What is the circular economy?
[2] IATE, EESC/COR-EN, based on US Chamber of Commerce Foundation > About Circularity: https://www.uschamberfoundation.org/circular-economy-toolbox/about-circularity
[3] IATE, based on United Nations Framework Convention on Climate Change, 2011 Factsheet: Climate change science - the status of climate change science today
[4] IATE, Council-EN, based on Institute for Advanced Sustainability Studies (IASS), Long-term climate goals: decarbonisation, carbon neutrality, and climate neutrality, 2015.
[5] https://ec.europa.eu/info/sites/info/files/key_principles_for_comparison_tools_en.pdf
[6] European Commission, 2015. Better Regulation Toolbox [SWD (2015) 111].
[7] Eurostat, Organisation for Economic Co-operation and Development (OECD), *Eurostat-OECD Methodological Manual on Purchasing Power Parities*, Publications Office of the European Union, Luxembourg, 2012.

resistance to use and deterioration of materials considered. Such requirements are indirectly linked to durability, and each is specific to the product in question'[8].

Ecological debt – 'the sum of annual ecological deficits'[9].

Eco-design – 'the integration of environmental aspects into the product development process, by balancing ecological and economic requirements. Eco-design considers environmental aspects at all stages of the product development process, striving for products which make the lowest possible environmental impact throughout the product life-cycle'[10].

Ecological footprint – 'a measure of how much area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates, using prevailing technology and resource management practices. The ecological footprint is usually measured in global hectares. Because trade is global, an individual or country's footprint includes land or sea from all over the world. Without further specification, ecological footprint generally refers to the ecological footprint of consumption'[11].

Ecological deficit – 'the difference between the biocapacity and Ecological Footprint of a region or country. An ecological deficit occurs when the Footprint of a population exceeds the biocapacity of the area available to that population. Conversely, an ecological reserve exists when the biocapacity of a region exceeds its population's Footprint. If there is a regional or national ecological deficit, it means that the region is importing biocapacity through trade or liquidating regional ecological assets or emitting wastes into a global common such as the atmosphere'[12].

Ecotoxicity – 'quality of some substances or preparations which present or may present immediate or delayed risks for one or more sectors of the environment'[13].

Eutrophication – 'process where enrichment of the water body by nutrients leads to excessive development of certain types of algae and plants, disturbing the aquatic ecosystem and becoming a threat to animal and human health'[14].

Environmental sustainability – 'condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor diminishing biological diversity'[15].

Environmental claims – 'the practice of suggesting or otherwise creating the impression (in a commercial communication, marketing or advertising) that a good or a service has a positive or no impact on the environment or is less damaging to the environment than competing goods or services.[16].

EU Ecolabel – 'label awarded by a competent authority in a Member State to a product which has a reduced environmental impact during its life-cycle compared with other products in the same product group and which meets the requirements of the EU-eco-labelling scheme'[17].

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[8] European Commission, The durability of products, 2015.
[9] Glossary, Ecological Footprint Network, http://www.footprintnetwork.org/en/index.php/GFN/page/glossary/
[10] European Environment Agency (EEA) Glossary, https://www.eea.europa.eu/help/glossary/eea-glossary/eco-design
[11] Glossary. Ecological Footprint Network, http://www.footprintnetwork.org/en/index.php/GFN/page/glossary/
[12] Glossary, Ecological Footprint Network, http://www.footprintnetwork.org/en/index.php/GFN/page/glossary/
[13] EEA Glossary, https://www.eea.europa.eu/help/glossary/semide-emwis-thesaurus/ecotoxicity
[14] IATE COM-Terminology Coordination, based on: World Health Organization (WHO) Regional Office for Europe & European Commission, Eutrophication and health, European Communities, 2002.
[15] IATE Council-EN, based on Morelli, J., 'Environmental sustainability: a definition for environmental professionals', *Journal of Environmental Sustainability*, 2011, Vol. 1, Issue 1, p. 5.
[16] IATE, based on EEA, Environmental Terminology Discovery Service, http://glossary.eea.europa.eu/terminology/concept_html?term=life%20cycle%20assessment
[17] IATE, based on Regulation (EC) No 66/2010 on the EU Ecolabel CELEX:32010R0066/EN.

Green transition – the overarching objective established by the European Commission through its 2019 Communication on the European Green Deal, which sets out, among others, the EU's commitment to 'transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use'[18].

Greenhouse gas – 'a gas that contributes to the natural greenhouse effect. The Kyoto Protocol covers a basket of six greenhouse gases produced by human activities: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride'[19].

Greenwashing – 'disinformation disseminated by an organisation, etc., so as to present an environmentally responsible public image; or a public image of environmental responsibility promulgated by or for an organisation, etc., but perceived as being unfounded or intentionally misleading'[20].

Life-Cycle Assessment (LCA) – 'a process of evaluating the effects that a product has on the environment over the entire period of its life thereby increasing resource-use efficiency and decreasing liabilities. It can be used to study the environmental impact of either a product or the function the product is designed to perform. LCA is commonly referred to as a "cradle-to-grave" analysis. LCA's key elements are: (1) identify and quantify the environmental loads involved, e.g. the energy and raw materials consumed, the emissions and wastes generated; (2) evaluate the potential environmental impacts of these loads; and (3) assess the options available for reducing these environmental impacts'[21].

Lifespan label – 'label indicating a product's guaranteed minimum lifespan'[22].

Non-durable goods – 'good bought by consumers that tends to last for less than a year. Common examples are food and clothing. The notable thing about nondurable goods is that consumers tend to continue buying them regardless of the ups and downs of the business cycle'[23].

Particulate matter – 'sum of all microscopic solid and liquid particles, of human and natural origin, that remain suspended in a liquid or gaseous medium, such as air or water, for some time'[24].

Premature obsolescence – 'when a product fails prematurely or lasts for a shorter period of time than consumers can reasonably expect'[25].

Planned obsolescence (of products or technology) – 'is described as the intentional production of goods and services with short economic lives, stimulating consumers to repeat purchases too frequently'[26].

Repair Café – freely accessible gatherings that revolve around repairing (together). At the Repair Café, tools and materials are available to carry out all possible repairs, while

[18] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions - The European Green Deal, COM/2019/640 final.
[19] EEA Glossary, https://www.eea.europa.eu/help/glossary/eea-glossary/greenhouse-gas
[20] IATE, based on the Oxford English Dictionary.
[21] EEA Glossary, https://www.eea.europa.eu/help/glossary/eea-glossary/life-cycle-assessment
[22] IATE, EP-Terminology Coordination, based on European Economic and Social Committee (EESC) The influence of lifespan labelling on consumers, 2016.
[23] EEA Glossary, https://www.eea.europa.eu/help/glossary/gemet-environmental-thesaurus/non-durable-goods
[24] IATE, Council-EN, based on Green Facts Glossary, http://www.greenfacts.org/glossary/pqrs/particulate-matter.htm
[25] IATE, COM-SV based on The European consumer organisation (BEUC), Premature obsolescence when products fail too quickly, Factsheet, 2020.
[26] European Parliament, Planned obsolescence: Exploring the issue, Briefing, 2016.

expert volunteers with repair knowledge and skills in all kinds of areas are also present[27].

Sustainability – an all-encompassing objective achieved through Sustainable Development, which stands for meeting the needs of present generations without jeopardising the ability of future generations to meet their own needs – in other words, a better quality of life for everyone, now and for generations to come. Sustainable development is a fundamental objective of the European Union (EU), laid down in Article 3(3) of the Treaty on European Union (TEU)[28].

Sustainability Label – 'any trust mark, quality mark or equivalent that aims to set apart and promote a product, a process or a business with reference to environmental, social or ethical aspects'.

Social sustainability – 'is one of three key pillars, alongside environmental sustainability and economic sustainability in most conceptualisations of sustainable development […] The key elements of social sustainability are social progress, improving welfare and living conditions, social cohesion, and competitive social market economy in general, and advancing Europe's social model in a sustainable way for present and future generations'[29].

Abbreviations

ADR – Alternative Dispute Resolution

ANSI - American National Standards Institute

BEUC – European Consumer Organisation

BV-OECO - Belgische Vereniging voor Onderzoek en Expertise voor Consumentenorganisaties (Belgian Association for Research and Expertise for Consumer Organisations)

CATI (survey) – Computer-assisted telephone interviewing

CBA – Cost-benefit analysis

CEAP - Circular Economy Action Plan

CPC - Consumer Protection Cooperation Regulation (Regulation 2017/2394)

CRD - Consumer Rights Directive (Directive 2011/83/EU)

DCD - Digital Content Directive (Directive (EU) 2019/770)

ECC – European Consumer Centre

EEB – European Environmental Bureau

EEA – European Environment Agency

EESC - European Economic and Social Committee

ETC/WMGE - European Topic Centre on Waste and Materials in a Green Economy

FTE – Full-Time Equivalent

GPP – Green Public Procurement

IATE – Interactive Terminology for Europe

[27] https://www.repaircafe.org/over/
[28] European Commission, Sustainable Development, https://ec.europa.eu/environment/eussd/
[29] European Parliament, Social sustainability – concepts and benchmarks, 2020, https://www.europarl.europa.eu/RegData/etudes/STUD/2020/648782/IPOL_STU(2020)648782_EN.pdf

ISO - International Organization for Standardization

JRC – the EU's Joint Research Centre

LCA – Life-Cycle Assessment

OEFSR - Organisation Environmental Footprint Sector Rules

OPC – Open Public Consultation

PEFCR - Product Environmental Footprint Category Rules

PEF/OEF - Product Environmental Footprint/Organisation Environmental Footprint

PROMPT – Premature Obsolescence Multi-stakeholder Product Testing Programme

SGD – Sale of Goods Directive (Directive (EU) 2019/771)

SMEs - Small and medium-sized enterprises

SPI - Sustainable Product Initiative

TCC – Total Cost of Consumption

TFEU - Treaty on the Functioning of the European Union

UCPD - Unfair Commercial Practices Directive (Directive 2005/29/EC)

UNEP - United Nations Environment Programme

WEEE - Waste Electrical and Electronic Equipment

Abstract

This preparatory study provided evidence for the European Commission's "Initiative on empowering consumers for the green transition" that aims to improve consumer information and to strengthen consumer protection against commercial practices that run counter to Green Deal and CEAP objectives, as well as for other future policy developments relevant for consumers in the field of green transition.

The study identified main problems currently preventing consumers from adopting more environmentally sustainable consumption behaviours and participating in the green transition. Two were analysed in-depth through research and consultations: (1) Consumers lack information to contribute to the green transition; and (2) Consumers are at times faced with untrustworthy practices preventing them from contributing to the green transition.

The study compiled a long list of possible measures, identified through a mapping of initiatives at national level as well as extensive consultations. Subsequently each measure was either discarded or retained for further analysis based on its expected feasibility, enforceability, coherence, effectiveness and efficiency. A reduced set of measures for each sub-problem was analysed in-depth against 16 sub-criteria and compared both qualitatively and by using a Multi-Criteria Analysis. The impacts of the options that were (partially) monetisable were compared using a cost-benefit analysis.

Executive summary

Introduction

The world's ecological debt has increased steadily and strongly since the 1900s, with the global consumption of material resources growing fourteen-fold over the period 1900-2015. It is currently projected to more than double by 2050.

The European Commission recognises that climate change and environmental degradation constitute existential threats to Europe and the world. To overcome these challenges, the Commission published the European Green Deal, an action plan to boost the efficient use of resources by moving to a clean, circular economy, and to restore biodiversity and reduce pollution. The Green Deal aims to make the EU's economy sustainable, with the Union to become the first climate-neutral bloc in the world by 2050. Among the numerous measures envisaged by the European Green Deal, some specifically aim to encourage businesses to offer - and to allow consumers to choose - reusable, durable and reparable products. More specifically, the Green Deal foresees a new consumer law initiative – the "Initiative on empowering consumers for the green transition" to improve consumer information and strengthen consumer protection against commercial practices that run counter to Green Deal and CEAP objectives.

This preparatory study was carried out between January 2020 and July 2021, and contributed to establishing an evidence base for this Initiative and other future policy developments relevant for consumers in the field of green transition. The main objective was to analyse existing problems and their scale, as well as their consequences if left unmitigated. It then identified and examined different EU-level measures to address these problems by assessing their effectiveness, efficiency and coherence.

The main study tasks were the following:

- **Identification of the extent of the problem** informed by various research activities, including a comprehensive review of relevant documentation, literature and of the results of the feedback to the Inception Impact Assessment and of an Open Public Consultation (OPC), a mystery shopping exercise and extensive stakeholder consultations. The latter comprised: a consumer survey of more than 11,500 consumers; semi-structured interviews and two surveys (including a computer-assisted telephone interviewing (CATI) survey) with producers and retailers (both large companies and SMEs), and semi-structured interviews and workshops with trade, business, and professional associations representing producers and retailers and also the repair sector; consumer organisations and groups; non-governmental organisations (including representing social, environmental and other interests); certification and labelling schemes; local, national, and international public authorities; researchers and academics; other public or mixed entities; and Commission expert groups.
- **Mapping possible solutions/policy measures** which included the identification and assessment of more than 340 initiatives at national level (in place in the 27 EU Member States (EU-27), as well as the United Kingdom (UK), the United States (US), New Zealand, and South Korea) that are specifically aimed at facilitating/ increasing consumers' participation in the transition towards a greener or more circular economy. In addition, relevant multi-national initiatives were also analysed.
- **Identification of possible policy measures**. The process for policy development started with the identification and development of relevant policy objectives, followed by the drafting of a broad list of potentially interesting measures in the context of the European Commission's initiative examined by this study. The selection of policy measures for further investigation looked into their expected feasibility, effectiveness, efficiency and coherence and drew on expert input and was guided by the European Commission, DG Justice and Consumers.
- **Policy appraisal.** The impacts of the measures / options selected for in-depth analysis were assessed against 16 key criteria and then compared following the

Better Regulation Guidelines. The expected impacts were monetised whenever possible. However, that was not possible for all impacts, due to methodological challenges and insufficient quantitative evidence. Therefore, in order not to make judgements based only on a sub-set of impacts (those monetisable), a cost-benefit analysis (CBA) was carried out and integrated in a MCA where the monetisable impacts were complemented by and compared with intangible impacts (scored in a scale from 0 to 10) to make a fully-fledged comparison.

Limitations

Main limitations encountered in this study relate to i) a very broad scope both in terms of problems and products to be covered, ii) limited availability of data for some product categories (e.g., non-energy using products) and business practices (e.g., prevalence of intentional obsolescence), iii) limited responsiveness to the stakeholder consultation also as a result of the Covid-19 situation and the timing of the study (consultations over the 2020 summer period), iv) methodological challenges in monetising intangible impacts.

The response rate in the stakeholder consultation was lower than originally envisaged. In particular the industry survey had a low response rate, despite a number of reminders and extensions to the survey period. The data on potential costs of measures was therefore mostly obtained from a limited number of producers and retailers through interviews.

The limited availability of data mostly impacted the assessment of some measures for a wider scope of products (i.e., energy-using and non-energy using products) and the precise quantification of the benefits and costs of the measures.

One of the options (option 1.3.E) was identified and selected to be analysed in depth at a later stage by European Commission's DG Justice and Consumers. The study had insufficient evidence to allow for a proper assessment and had to rely on the assessment and scores proposed by the European Commission's DG Justice and Consumers.

The two main problem areas

This study covered four problems preventing consumers from adopting more sustainable consumption behaviours: Problem 1. Consumers lack reliable information to make environmentally sustainable purchases; Problem 2. Consumers face misleading practices in relation to sustainable purchases; Problem 3. Difficulties in repairing products; and Problem 4. Challenges related to reusing and sharing products. The first two problems are related to the European Commission's initiative Empowering Consumers for the Green Transition and are analysed in detail and described in the main body of the report, while the other two were analysed in less detail and described in annex 16.

Problem 1 relates to consumers, when comparing products and making purchase decisions, often lacking reliable information on products' environmental characteristics, lifespan and repair options. Without this information, consumers cannot properly consider the total cost of consumption or sustainability aspects when deciding which products to purchase. This lack of information has several consequences: potential consumer detriment and frustration; sub-optimal offer of products with superior environmental characteristics, longer lifespans and higher repair potential; and non-realised reduction of negative environmental and climate impacts of consumption.

Results obtained from the consumer survey are in line with the results of the OPC and evidence from literature, and show that consumers consider the lack of information on the environmental sustainability of products (29%) and the lack of information about products' reparability (27%) as important obstacles preventing them from adopting more sustainable consumption behaviours. Fewer respondents (17%) viewed the lack of information about products' expected lifespan as an important impediment, although a higher proportion (30%) acknowledged the usefulness of receiving information about

a product's guaranteed lifespan, followed by information on a product's life-cycle environmental and climate footprint (30%), and information vouching for the sustainability of a product (26%).

This problem encompasses three sub-problems. **Sub-problem 1.1:** Information about the environmental characteristics of products is not sufficiently and consistently available for all products across the EU. When information is available, companies present it in different ways, from vague (see sub-problem 2.2 below) to based on multiple methods and/or assumptions, complicating consumers' understanding or ability to readily compare. Having this information consistently for all products is important for about 85% of consumers, who report that they want to purchase products that are environmentally friendly. The fact that this information is not consistently available in a comparable way for all products prevents consumers from taking the environmental characteristics of products into account in their decision-making process. This is expected to lead to sub-optimal purchase decisions, both from the perspective of the individual and society, with consequences for the market and for the environment. **Sub-problem 1.2:** Evidence shows that information on the expected lifespan of goods (years of life, hours of use, number of cycles, etc.) is not made widely available to consumers and that the duration of commercial guarantees (which can be considered as a proxy for the "guaranteed lifespan") often does not go much beyond the legal guarantee. Evidence indicates that consumers would be interested in receiving information about the lifespan of goods and that a significant share of consumers is interested in purchasing products with longer lifespans and is willing to pay extra for that. The fact that information on lifespan is not consistently available in a readily comparable way for all goods, prevents consumers from taking the lifespan of goods into account in their decision-making process. This is expected to lead to sub-optimal purchase choices from the perspective of the individual (consumers purchasing goods with higher effective total cost of consumption than similar alternatives) and from the perspective of society. **Sub-problem 1.3:** Information on the availability of repair services, spare parts and repair manuals of goods, as well as on the software update/upgrade policy[30], is not made widely available to consumers at the point of sale. Once again, evidence indicates that consumers are interested in receiving this information and that some would be willing to repair broken goods instead of replacing them (provided the repair costs are not too high) and to pay extra to have products with better reparability. Failure to provide this information to consumers can lead to non-optimal individual choices, with consumers unknowingly purchasing goods that are potentially more difficult to repair or that have worse software update/upgrade policies than the available alternatives. Replacing instead of repairing goods is also a non-optimal choice from society's perspective.

Problem 2 relates to many consumers currently being confronted with commercial practices that confuse and/or misinform and/or even mislead them about the sustainability (including lifespan) of products. This generates consumer mistrust and decreases consumer interest in purchasing more sustainable products. Three main categories of misleading commercial practices were identified in various studies and corroborated by the results of the OPC, the consumer survey carried out in the context of this study, and targeted consultation with public authorities. **Sub-problem 2.1.** Premature obsolescence: development of goods (particularly durable consumer goods) that (a) fail early (goods are purposely designed not to last as long as the average consumer would expect), or (b) fail due to poor manufacturing, choice of materials, etc. The failure of products – earlier than reasonably expected – is a growing concern for consumers, consumer organisations and NGOs. Although evidence is often anecdotal and difficult to find in scientific literature, available studies suggest that certain consumer goods are not designed to last long and/or have a shorter lifetime than in the past. This problem affected between 10.5% and 13.9% of consumers surveyed

[30] When identifying potential measures to address the various sub-problems, this specific issue (i.e., software updates/upgrades) was tackled by a measure that addressed sub-problem 1.2.

(depending on the threshold used to define early failure - i.e., failure 60%, 75% or 90% earlier than the reasonable expected lifespan). Even if premature obsolescence (planned or not) is practised by only a few companies or for some type of goods (as indicated by industry associations), it can have a major impact on consumers, the market and the environment, namely: (a) consumer detriment as consumers pay more than they would be willing to pay for the 'effective' lifespan of goods with premature obsolescence and they suffer personal detriment related to the need to repair and/or replace the goods earlier than they could reasonably have expected when they purchased the good; (b) uneven or lack of a level playing field and harm to the single market as products with planned and premature obsolescence may be cheaper to produce and can compete with other goods on price, as consumers are not aware of the effective differences in the lifespan/quality of goods; and (c) environmental impacts as the need to replace products more frequently and reduced potential for circularity (re-sale and reuse). **Sub-problem 2.2.** Consumers are faced with the misleading practice of making unclear or poorly substantiated green claims and are increasingly confused and distrustful of those claims. Some recent studies and reports have indicated that the number of environmental claims in advertisements and on products is high and possibly increasing, at least in certain EU countries. This misleading commercial practice exploits information failure, as consumers have imperfect information and less information (i.e. asymmetric information) than providers (producers, sellers…) on the environmental impacts of products. This inequality distorts the market and directly leads to consumer detriment, an uneven or absent level playing field that undermines the proper functioning of the Single Market, and negative environmental and climate impacts. **Sub-problem 2.3** An increase in the practice of using sustainability labels and digital information tools that signal/inform consumers about different environmental, social or ethical aspects of products, which adopt different operational approaches, and are subject to different levels of scrutiny (e.g. self-setting or reliance on a third-party attestation procedure, independence and thoroughness of the monitoring and auditing procedure). Evidence shows that the co-existence of labels with different levels of transparency, reliability and clarity that consumers struggle to interpret, compare and verify can negatively affect purchase decisions, create consumer confusion and reduce consumer trust (and thus effectiveness of such schemes). Consequently, the proliferation of labels hampers the effectiveness of sustainability labels in guiding consumers towards more sustainable consumption, harming competition, possibly discouraging sustainability efforts, and leading to avoidable environmental impacts.

The evolution of these issues will depend on the interaction between various forces. Recent trends show that a growing number of Member States have introduced, or will introduce, legislation to deal with some of the sub-problems described. While these legislative initiatives might help reduce some of the consequences of those problems, they will also lead to non-uniform rules across the EU, exacerbating problems with competition and the level playing field in the Single Market, and limiting cross-border enforcement. Two EU-level initiatives – the Substantiating Green Claims Initiative and the Sustainable Product Initiative – are in assessment and development that - if implemented - will help to minimise the extent of some of the sub-problems for some product categories. Notwithstanding, given the current legal context, all problems are expected to persist across the EU in the near future.

Overview of policy options

Following the Better Regulation Guidelines, the most promising measures/options to address the various problems and sub-problems were identified. These measures were then assessed and retained or discarded following iterative assessment steps incorporating stakeholder feedback and expert judgement on their feasibility, relevance, effectiveness and coherence in the context of the European Commission's initiative on "Empowering consumers for the green transition". Most measures described below were those retained after this process. Those discarded in the context of this initiative may be potentially interesting in the context of other initiatives, for example initiatives that

adopt a product-specific approach or that aim to impose obligations on manufacturers (instead of on traders/sellers).

The appraisal of the policy options included a qualitative and quantitative assessment of the effectiveness, efficiency and coherence of each option. The monetisation of costs (administrative burdens, substantive compliance costs and enforcement costs) and benefits (consumer detriment and surplus and climate change) was carried out for most of measures considered (but in the case of measures in the context of problem 1 and sub-problem 2.1 only for the limited sub-sector of goods - large household appliances, small household appliances, ICT, and other electronic products). A multi-criteria analysis (using the 'non-linear/non-compensatory approach' described in Tool #63 of the Better Regulation Guidelines[31]) was carried out to compare the ranking of options within each sub-problem.

Policy option 0 consists of the baseline scenario, where no intervention in the context of the European Commission initiative is taken and the identified problems remain (mostly) unchanged in the next 15 years or more.

Sub-problem 1.1: None of the options identified to address sub-problem 1.1 was retained for further analysis, as their added value could not be demonstrated in the context of the European Commission's initiative.

Sub-problem 1.2: Option A. Obligation on sellers to inform consumers about the expected lifespan of products, with sellers free to decide on the exact method to assess the expected lifespan of the products (so no common guidelines and assumptions would be defined). **Option B.** Obligation to inform consumers of the existence (or absence) and length of a producer's commercial guarantee for durability. **Option C.** Obligation to inform consumers of the existence (or absence) of a producer's commercial guarantee for durability and the period of time during which free software updates will be provided by manufacturers. The overall comparison of the options using a MCA shows that in all scenarios considered, the ranking of options with the highest score is: option C, option B, baseline, option A. The results of the sensitivity analysis show that the ranking of options with the highest score remains unchanged in all scenarios of weights tested.

Sub-problem 1.3: Option A. Provision of updated, user-friendly repair and user manuals; **Option B.** Provision of information on the spare parts available and length of that availability; **Option C.** Provision of information on availability of repair services; **Option D**. Reparability Scoring Index; and **Option E** Provision of Repair Scoring Index, or other relevant repair information on a where applicable/available basis (this measure was identified and assessed by the European Commission's DG Justice and Consumers at a later stage in the study). The comparison of the options using a MCA shows that in the default scenario the ranking of options with the highest score is the following: option E, option B, option D, baseline, option C. The results of the sensitivity analysis found that the ranking remains unchanged for half of the scenarios considered.

Sub-problem 2.1: Option A. Information on accumulated evidence of recorded early failures of products present in the market, and **Option B.** Ban on certain identified practices associated with premature obsolescence. The comparison of the options using a MCA shows that in all scenarios considered the ranking of options with the highest score is the following: option B, option A, baseline.

Sub-problem 2.2: Option A. Ban on unsubstantiated general statements on the environmental performance of products; **Option B.** Prohibition on environmental claims that do not fulfil a minimum set of criteria; and **Option C.** Combination of option A and option B. The comparison of the options using a MCA shows that in the default scenario the ranking of options with the highest score is: option C, option A, option B, baseline.

[31] Available at: https://ec.europa.eu/info/files/better-regulation-toolbox-63_en

The ranking of options remains unchanged for all the scenarios considered in the sensitivity analysis, including the worst-case scenario.

Sub-problem 2.3: Option A. EU-led voluntary initiative to develop minimum criteria on sustainability labels and digital information tools; **Option B.** Introduction of minimum requirements in EU law to be respected by the sustainability labels and digital information tools, with ex-post enforcement from consumer protection bodies; and **Option C.** Introduction of mandatory ex-ante conformity assessments by an EU body for sustainability labels and digital information tools. The comparison of the options using a MCA shows that in the ranking, the highest score in all scenarios, including the default scenario and the worst-case scenario is: option B, option C, baseline, option A.

1 Introduction

This document constitutes the Final Report prepared in the context of the '*Preparatory study to gather evidence on ways to empower consumers to play an active role in the green transition'*. This report has been prepared by ICF, in collaboration with Milieu, BioInnovation, Next Energy Consumer and Ecologic.

The main report focuses on the problems and solutions directly related to the European Commission's legal initiative 'Empowering consumers for the green transition'[32]. Annex 16 provides a brief analysis of the evidence gathered on other obstacles preventing consumers from participating in the green transition, together with possible solutions.

1.1 Background

The world's ecological debt has increased steadily and strongly since the 1900s, with the global consumption of material resources growing fourteen-fold over the period 1900-2015[33]. It is currently projected to more than double by 2050.

The EU contributes significantly to the world's growing environmental pressures. A recent report by the Joint Research Centre (JRC)[34] assessed the environmental impacts of EU consumption across different domains (climate change, ecotoxicity, etc.). Results show that the environmental impact of the consumption of an average EU citizen is 'outside the safe operating space for humanity' for several important areas - climate change, particulate matter, resource use (fossils fuels, minerals and metals), freshwater eutrophication, and human toxicity. Other evidence suggests that were all people globally to consume at the same rate as an average European consumer, we would need a planet around three times the size of Earth[35].

The European Commission recognises that climate change and environmental degradation constitute existential threats to Europe and the world[36]. To overcome these challenges, the Commission published the European Green Deal, an action plan to boost the efficient use of resources by moving to a clean, circular economy, and to restore biodiversity and reduce pollution[37]. The Green Deal aims to make the EU's economy sustainable, with the Union to become the first climate-neutral bloc in the world by 2050.

Among the numerous initiatives envisaged by the European Green Deal, some specifically aim to encourage businesses to offer - and to allow consumers to choose - reusable, durable and reparable products[38]. More specifically, the Green Deal[39], the Circular Economy Action Plan[40] and the New Consumer Agenda[41] foresee a new consumer law initiative that will[42]:

[32] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12467-Empowering-the-consumer-for-the-green-transition
[33] European Commission, Towards a Sustainable Europe by 2030', COM (2019)22 Reflection Paper, https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf
[34] JRC, *Consumer and consumption footprint: The assessment of the environmental impacts of consumption in the European Union*, 2019, https://ec.europa.eu/jrc/en/publication/indicators-and-assessment-environmental-impact-eu-consumption
[35] https://www.weforum.org/agenda/2019/05/europeans-are-living-beyond-earth-s-means/ ; http://www.wwf.eu/?uNewsID=346835 ; https://www.footprintnetwork.org
[36] COM(2019)640 final, 11 December 2019.
[37] COM(2019)640 final, 11 December 2019.
[38] European Commission, European Green Deal, 2019, https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf
[39] COM(2019)640 final, 11 December 2019.
[40] COM(2020)98 final, 11 March 2020.
[41] COM(2020)696 final, 13 November 2020.
[42] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12467-Empowering-the-consumer-for-the-green-transition

- ensure that consumers obtain reliable and useful information on products (e.g. lifespan, repair options);
- prevent overstated environmental information (or 'greenwashing'), as well as the sale of products with a covertly shortened lifespan; and
- set minimum requirements for sustainability labels and digital information tools.

1.2 Purpose of this study

The New Consumer Agenda is poised to better inform, empower and protect consumers so that they can more easily and actively participate in the green transition.

An important objective of this preparatory study was to establish an evidence base for future policy developments relevant for consumers in the field of green transition. More specifically:

1. Current obstacles to the active and large-scale participation of consumers in the green transition;
2. Current market practices to support the active participation of consumers in the green transition;
3. Existing national and/or regional public and private initiatives that are currently supporting consumers' (effective) participation in the green transition;
4. Successful existing or prospective practices empowering consumers to make informed choices and play an active role in the green transition by:

- promoting the durability of products;
- promoting an easy and consumer-friendly repair of products;
- preventing early or 'planned' product failures (premature or planned obsolescence);
- preventing misleading and unfounded environmental claims on products (greenwashing); and
- promoting clear and reliable information on environmental performance of products.

Technical support was provided to prepare the Impact Assessment of the legal initiative Empowering Consumers for the Green Transition. This included:

- Analysis of the feasibility to scale the initiatives/practices identified at national and multinational level through desk research and stakeholder consultations;
- Selection of the most promising policy measures at EU-level to address the problems;
- Assessment of the legal, social, environmental and economic impacts of each measure to help to identify/prioritise initiatives that could be implemented at EU level.

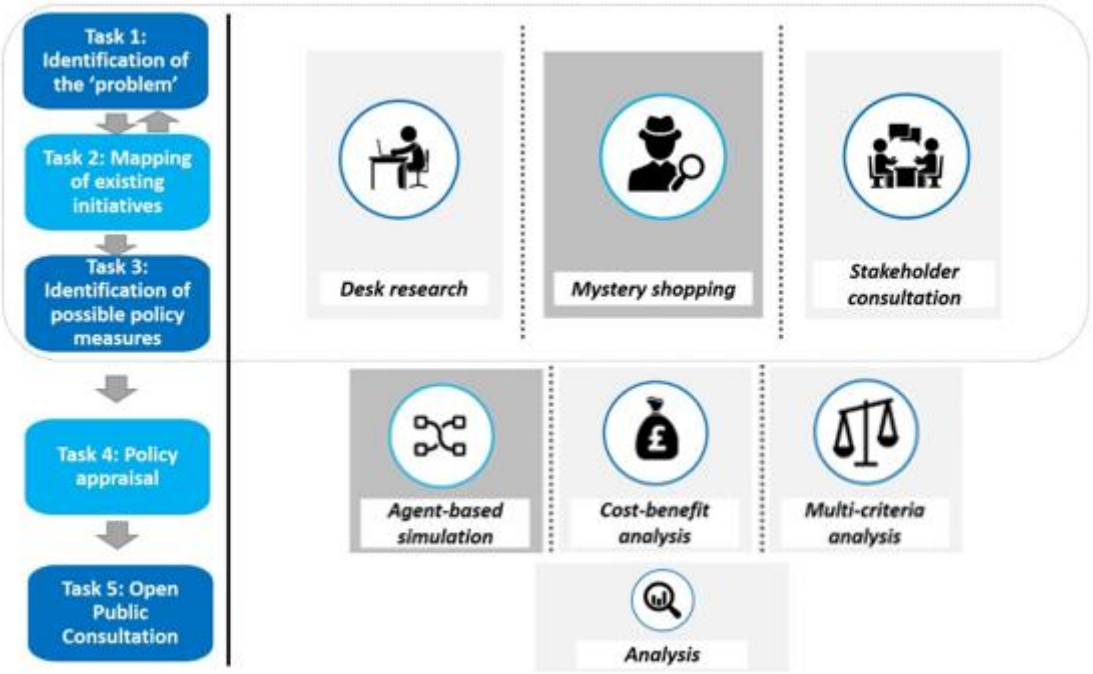
1.3 Study approach

The study comprised five main tasks:

- Task 1 - Identification of the extent of the problem.
- Task 2 - Mapping of existing initiatives.
- Task 3 - Identification of possible policy measures.
- Task 4 - Policy appraisal.
- Task 5 - Analysis of the results of the Open Public Consultation (OPC).

Figure 1 presents the main research activities associated with each phase. This is followed by a brief discussion of each task and the associated research activities.

Figure 1. Overview of project tasks and associated research activities



1.1.1 Task 1: Identification of the extent of the problem

This stage involved the formulation and finalisation of the problem statement, which set out the overall challenge the study sought to address, including a detailed description of the main problem areas underpinning this research.

Two problems were related to the legal initiative Empowering Consumers for the Green Transition and are analysed in detailed in this report:

- **Problem 1**: Lack of reliable information at the point of sale on product sustainability, availability of repair services, spare parts and repair manuals; and on software update/upgrade policies;
- **Problem 2**: Commercial practices that cause confusion and/or breed mistrust.

Two additional problems were also analysed – difficulties in repairing products (problem 3) and challenges related to reusing and sharing products (problem 4) (see Annex 16).

Various research activities informed the problem statement, including:

- A **desk review -** identification and assessment of a variety of secondary sources, including behavioural studies, consumer research, grey literature (position papers, working papers, reports, discussion papers), data and other quantitative evidence, and relevant policy documents. The review was supplemented by additional suggested sources from the stakeholders consulted as part of this research. A full list of sources reviewed is provided in Annex 1.
- A **mystery shopping exercise –** obtained a more in-depth understanding of the amount/quality of information provided to consumers when buying (various) consumer products or services across Europe, particularly in relation to commercial guarantees, durability of products, reparability of products and the environmental impact of products/services. A total of 640 mystery shops were carried out across

Germany, France, Ireland, Italy and Poland. The results of the mystery shopping are described in Annex 9.

- A **stakeholder consultation**, comprising:
  - A **consumer survey** investigated problems currently faced by consumers (as part of their purchase decisions) and current consumption behaviours, including how these behaviours would be expected to change if specific measures were implemented (e.g. provision of information on durability, reparability, environmental impacts). A total of 11,805 responses were gathered from the survey.
  - **Industry interviews and surveys** (including a computer-assisted telephone interviewing (CATI) survey), gathered manufacturers' and retailers' views on the type of (product) information they provide to consumers, as well as their views on the costs, benefits and operational limitations/obstacles associated with possible policy options/measures. The surveys received a total of 164 responses.
  - **In-depth stakeholder interviews** to draw out further views/insights from various stakeholders (survey participants) on: (current) impediments to consumers' transition towards more sustainable consumption behaviours and possible policy options/measures (including their (expected) impacts) to increase consumers' participation in the green transition. A total of 149 interviews were undertaken (mostly by phone).
  - Several **expert workshops** (generally regrouping key members of the study team and relevant study experts), including:
    - One workshop on 13 July 2020 discussing: empowering consumers and their role in the green transition; the extent of the problems consumers currently face (which may be impeding their ability and/or willingness to adopt more sustainable consumption behaviour); examples of effective actions carried out at EU level; and possible future interventions/measures that could help to increase consumers' active participation in the circular economy.
    - A workshop with industry associations on 14 September 2020 to collect their views on how digital means can be used to enhance/ facilitate the provision of product information.
    - A final workshop on 6 October 2020. The workshop gathered 72 participants from all stakeholder groups to elicit views/feedback on the most important problems (faced by consumers) and possible policy measures to empower consumers to make greener/more sustainable consumption choices.
    - A workshop with the Consumer Protection Cooperation (CPC) authorities organised by European Commission DG Justice and Consumers on 14 October 2020.

Views and insights from the stakeholder consultation, together with evidence from the other data collection activities, fed into the refined problem statement.

1.1.2 Task 2: Mapping existing initiatives

This stage comprised the identification and assessment of national initiatives (in place in the 27 EU Member States (EU-27), as well as the United Kingdom (UK), the United States (US), New Zealand, and South Korea) that are specifically aimed at facilitating/ increasing consumers' participation in the transition towards a greener or more circular economy. The study identified 346 initiatives through the data collection activities described above (see Annex 10).

1.1.3 Task 3: Identification of possible policy measures

Based on the evidence gathered as part of Tasks 1 and 2, and a finalised problem statement, the study team undertook the identification, development and preliminary selection of EU policy measures considered relevant in the context of the European

Commission's initiative to 'empower consumers to play a more active role in the green transition'.

The process for policy development started with the identification and development of relevant policy objectives, followed by the drafting of a broad list of potentially interesting measures in the context of the European Commission initiative. This exercise drew on European Commission's inception Impact Assessment of possible interventions to empower consumers to play a more active role in the green transition, as well as primary and secondary evidence gathered from the data collection activities. The selection of policy measures for further investigation drew on expert input and was guided by the European Commission. One policy measure selected for analysis was identified at a later stage by the European Commission, DG Justice and Consumers.

1.1.4 Task 4: Policy appraisal

The appraisal of the policy measures selected under Task 3 followed the Better Regulation Guidelines. A combination of approaches was used to assess the impacts associated with each proposed policy measure:

- A partial **cost-benefit analysis (CBA)** allowed for the identification, assessment and quantification (where possible) of costs and benefits associated with each selected policy measure.
- **Multi-criteria analysis (MCA)** provided a non-monetary/qualitative assessment of the proposed policy measures by scoring measures against an agreed set of weighted criteria.

1.1.5 Task 5: Analysis of the final results of the OPC

ICF analysed the results of the OPC. Open to all stakeholders, the OPC asked six questions on the main obstacles and problems that prevent consumers in the EU from having a more active role in the green transition. The OPC was carried out by the Commission between 30 June 2020 and 6 October 2020. It received 315 responses.

1.4 Main limitations of the study

The study had a very broad scope both in terms of problems and products to be covered, with a similarly broad scope of affected consumers, businesses and other stakeholders. Despite the use of various complementary approaches to collect evidence and views from a wide spectrum of stakeholders, the analysis sometimes had to rely on anecdotal evidence, on the extrapolation of data from a sub-set of products, consumers, businesses, and on the views of an expert panel.

The monetisation of impacts involved assigning a monetary value to benefits or losses experienced by stakeholders and has some degree of uncertainty (mitigated by carrying out Monte Carlo simulations[43] and scenario analysis). It should thus be seen as indicative and chiefly useful as a comparison tool.

In spite of all efforts to monetise identified impacts, it was not possible to monetise all impacts in full due to methodological challenges and insufficient quantitative evidence, which is why a multi-criteria analysis was used to compare measures.

For one of option identified selected to be analysed in-depth at a later stage by DG JUST (Option E of sub-problem 1.3) the study had insufficient evidence to allow for assessment and instead relied on the assessment and scores proposed by the European Commission, DG Justice and Consumers.

[43] In a Monte Carlo simulation, the results were calculated 10,000 times, each time using a different set of random values from the probability distribution functions. The results were distributions of possible outcome values (Mooney, C.Z., Monte Carlo simulation, Vol. 116, Sage, 1997).

1.5 Structure of the report

The remainder of this report is structured as follows:

- Section 2: Social, political and legal context
- Section 3: What is the problem and why is it a problem?
- Section 4: Why should the EU act?
- Section 5: What should be achieved?
- Section 6: What are the various policy measures/options to achieve the objectives?
- Section 7: What are the impacts of the policy measures/options?
- Section 8: How do the policy measures/options compare?
- Annexes
  - Annex 1: Reviewed literature
  - Annex 2: Proposed minimum criteria for sustainable labels and digital information tools
  - Annex 3: Legal analysis
  - Annex 4: Briefing notes on specific topics
  - Annex 5: Summary of the assessment of selected labels and digital information tools
  - Annex 6: Overview of the consumer market
  - Annex 7: Stakeholder Consultation Synopsis Report
  - Annex 8: Detailed results of the stakeholder consultations (including a consumer survey and a CATI survey to manufacturers and retailers)
  - Annex 9: Mystery shopping
  - Annex 10: Mapping of national initiatives
  - Annex 11: Multinational initiatives
  - Annex 12: Results of the sensitivity analysis of the MCA
  - Annex 13: Coherence analysis
  - Annex 14: Results of the screening of measures
  - Annex 15: Impact Assessment methodology
  - Annex 16: Summary of evidence on obstacles to repair, reuse and share products and possible solutions.

2 Social, political and legal context

Sustainability (one of whose pillars is environmental sustainability) is one of the concepts at the heart of the EU's goals to ensure the transition towards a greener economy and to achieve a sustainable Europe by 2030[44]. Sustainable development would mean that satisfying the needs of present generations occurs without jeopardising the ability of future generations to meet their own needs. Unfortunately, there is mounting evidence that unsustainable consumption patterns increase pressure on the environment, climate change and the competition for resources[45], and the growth in consumption has resulted in an increased impact on climate and environment[46].

The EU has pledged to be a global trailblazer in the shift towards sustainable development and in fulfilling past and present commitments in the area of environmental protection[47]. It needs to support rigorous implementation of the Paris Climate Agreement and pursue international efforts to achieve long-term commitments. In November 2018, the Commission presented its strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy by 2050[48]. Key climate and energy targets were set progressively in the '2020 climate and energy package' and the '2030 climate and energy framework', with their progress to be tracked through regular monitoring and reporting[49].

In this context, the European Green Deal focuses on the fight against climate change and other environmental objectives in areas such as transport, energy, pollution, agriculture, circular economy, and biodiversity. Among the key actions of the European Green Deal are a new European 'Climate Law' enshrining the 2050 climate neutrality objective[50], and a Circular Economy Action Plan (CEAP)[51].

Transition to a Circular Economy in the EU was first promoted in the European Commission Communication 'Towards a Circular Economy'[52] in 2014, followed by the adoption of the CEAP in 2015. All 54 actions under this Plan have either been delivered or are being implemented. Building on the work done since 2015, the new CEAP aims to make the European economy fit for a green future, strengthen its competitiveness while protecting the environment, and give new rights to consumers[53].

Consumers can be a key driver of green growth, as they can intensify competition and innovation towards greener and more sustainable products and services. Consumer policy can therefore play a vital role in the achievement of the European Commission's goals. In order to empower them to play an active role in the green transition, the Commission included in a consumer law initiative in the CEAP, 'Empowering the

[44] European Commission, Towards a sustainable Europe by 2030, Reflection Paper, COM (2019)22, 2019, https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf
[45] Sala et al., *Indicators and assessment of the environmental impact of EU consumption. Consumption and Consumer Footprint for assessing and monitoring EU policies with Life-Cycle Assessment*. Science for policy report. Publications Office of the European Union, 2019, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC114814/science_for_policy_report_final_on_line.pdf.
[46] JRC, *Consumer and consumption footprint: The assessment of the environmental impacts of consumption in the European Union*, 2019, p. 21, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC114814/science_for_policy_report_final_on_line.pdf.
[47] European Commission, Towards a sustainable Europe by 2030, Reflection Paper, COM (2019)22, 2019. p.31, https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf
[48] European Commission, A clean planet for all - a European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy, COM(2018) 773 final, 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773
[49] European Commission, Climate strategies and targets, n.d., https://ec.europa.eu/clima/policies/strategies_en
[50] European Commission, Proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law), 2020.
[51] European Commission, Circular Economy Action Plan, 2020, https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf
[52] European Commission, Towards a circular economy: A zero waste programme for Europe, 2014, https://ec.europa.eu/environment/circular-economy/pdf/circular-economy-communication.pdf.
[53] European Commission, Changing how we produce and consume: New Circular Economy Action Plan, Press Release, 2020, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_420

consumer for the green transition'. That initiative aims to improve consumer information and strengthen consumer protection against issues such as greenwashing, early obsolescence and product durability, or increase the availability of repair services and spare parts[54].

This initiative builds on the European Commission's work to strengthen consumer protection rules and the enforcement of consumer rights. Among the consumer policy initiatives that are most relevant to the green transition efforts are the 2016 Guidance document of the Unfair Commercial Practices Directive (2005/29/EC) (UCPD) (which included new chapters on misleading environmental claims and planned obsolescence)[55], the new Deal for Consumers proposals[56], the adoption of the Consumer Sales of Goods Directive 2019/771[57], and the adoption of the revised CPC Regulation 2017/2394[58].

[54] European Commission, Inception Impact Assessment, Ares(2020)3256804, 2020, https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12467-Empowering-the-consumer-for-the-green-transition
[55] European Commission, Guidance on the implementation/application of Directive 2005/29/EC on unfair commercial practices, Staff Working Document, 2016, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016SC0163
[56] European Commission, Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on A New Deal for Consumers, 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1573718927782&uri=CELEX%3A52018DC0183
[57] European Union, Directive (EU) 2019/771 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the sale of goods, amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and repealing Directive 1999/44/EC, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0771&from=EN.
[58] European Union, Regulation (EU) 2017/2394 of the European Parliament and of the Council of 12 December 2017 on cooperation between national authorities responsible for the enforcement of consumer protection laws and repealing Regulation (EC) No 2006/2004, https://eur-lex.europa.eu/eli/reg/2017/2394/oj

3 What is the problem and why is it a problem?

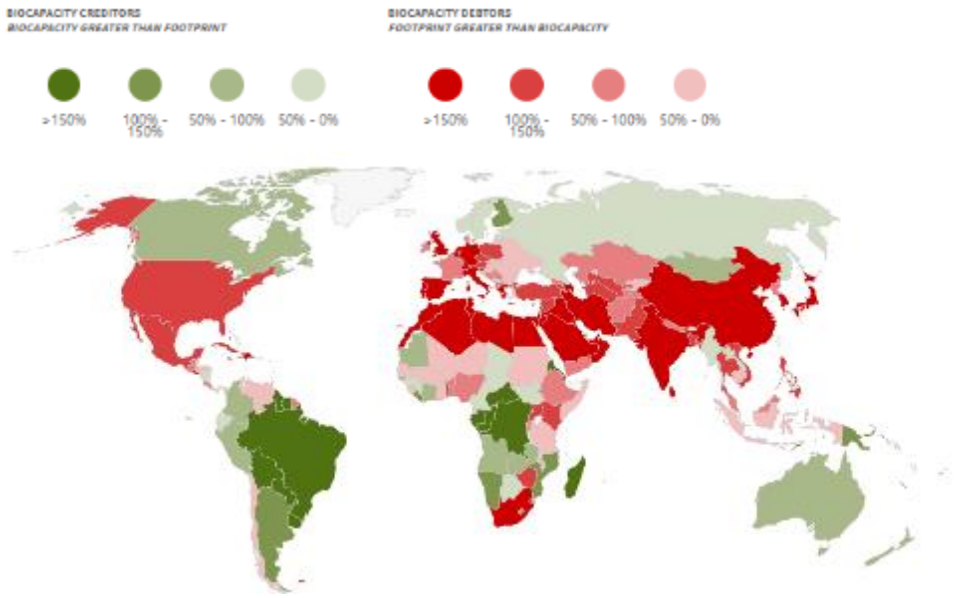
This section starts with a brief overview of the current environmental burden of consumption and trends in sustainable consumption. It then details the two core problems that stem from information failure[59] and prevent consumers from taking a more active role in the green transition, in spite of their growing interest in adopting more sustainable behaviours. This core problems are directly related to the EU initiative 'Empowering the consumer for the green transition'[60].

3.1 The environmental burden of private consumption

According to the European Commission in its reflection paper on achieving a sustainable Europe by 2030, '[t]he most serious sustainability deficit and our greatest challenge is the ecological debt, which we are running up by overusing and depleting our natural resources and thereby threatening our ability to meet the needs of future generations within the limits of our planet.'

The global consumption of material resources increased fourteen-fold between 1900 and 2015 and is projected to more than double between 2015 and 2050[61]. At global level, the ecological deficit increased consistently and steeply until 2014, after which it stabilised at an unsustainable use of the equivalent of 1.7 Earths per year.

Figure 2. Worldwide ecological deficit/reserve in 2016[62]

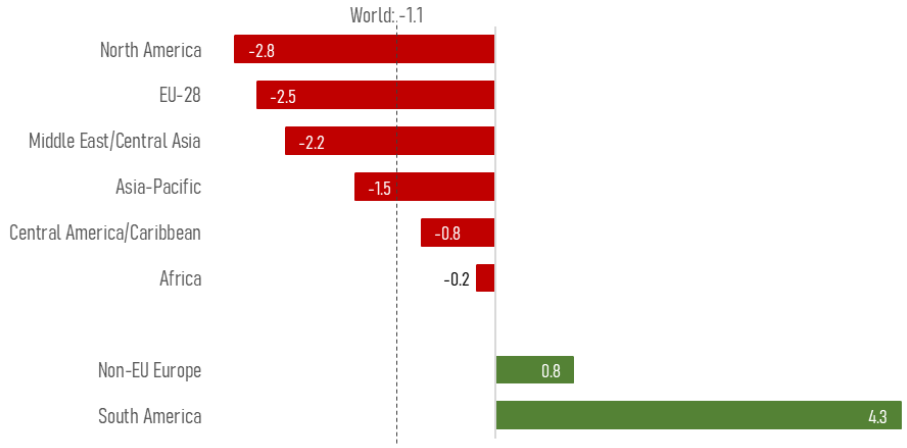


Source: Global Footprint Network, United Nations Development Programme (UNDP), 2016.

[59] Information failure is a significant market failure that occurs when participants in an economic exchange do not have perfect knowledge and/or one of the participants knows more than the others, leading to 'information asymmetry'.
[60] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12467-Empowering-the-consumer-for-the-green-transition
[61] European Commission, Towards a Sustainable Europe by 2030, COM (2019)22, 2019, https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf
[62] The Global Footprint Network define ecological deficit/reserve as: 'An ecological deficit occurs when the ecological footprint of a population exceeds the biocapacity of the area available to that population. A national ecological deficit means that the nation is importing biocapacity through trade, liquidating national ecological assets or emitting carbon dioxide waste into the atmosphere. An ecological reserve exists when the biocapacity of a region exceeds its population's ecological footprint.'

In 2016, the total ecological deficit per capita in the EU-27 plus the UK was 2.3 times the global average[63,64], surpassed only by North America (Figure 3).

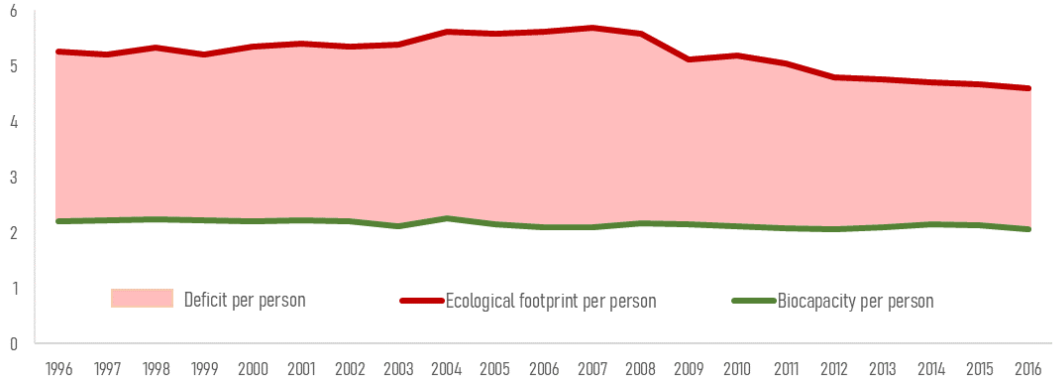
Figure 3. Ecological deficit per capita per world region in 2016 (global hectares)



Source: ICF elaboration based on data from www.footprintnetwork.org.

In recent years, the EU-27 ecological deficit and greenhouse gas (GHG) emissions have been decreasing as a result of many factors and policies[65,66]. However, reductions in the ecological deficit and GHG emissions need to be far quicker and more significant if they are to eliminate the EU-27 ecological deficit and achieve climate neutrality by 2050[67].

Figure 4. Evolution of EU-28 ecological footprint and biocapacity (1996-2016) in global hectares per person



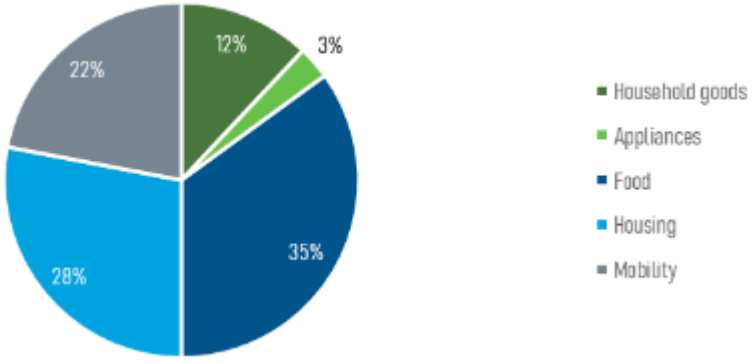
Source: Global Footprint Network, UNDP, 2016.

Consumption of goods and services is recognised as one of the main drivers for a high ecological deficit, negative and unstainable impacts on the global environment and

[63] The picture is not homogeneous across the EU, with data showing a wide range of consumption patterns within the Member States. None of them stay within the planetary boundaries, however.
[64] Global Footprint Network, EU Overshoot Day – living beyond nature's limits, 2019, https://www.footprintnetwork.org/content/uploads/2019/05/WWF_GFN_EU_Overshoot_Day_report.pdf
[65] EEA, *Trends and drivers of EU greenhouse gas emissions*, 2020, https://www.eea.europa.eu/publications/trends-and-drivers-of-eu-ghg.
[66] EEA, *The European environment — state and outlook 2020. Knowledge for transition to a sustainable Europe*, 2019, https://www.eea.europa.eu/publications/soer-2020.
[67] *ibid.*

climate[68] and, consequently, on human health[69], society and economy[70]. Figure 5 presents the contribution of each area of consumption to the Consumer Footprint in 2010.

Figure 5. Contribution to the Consumer Footprint of each area of consumption (of an average EU citizen) in 2010

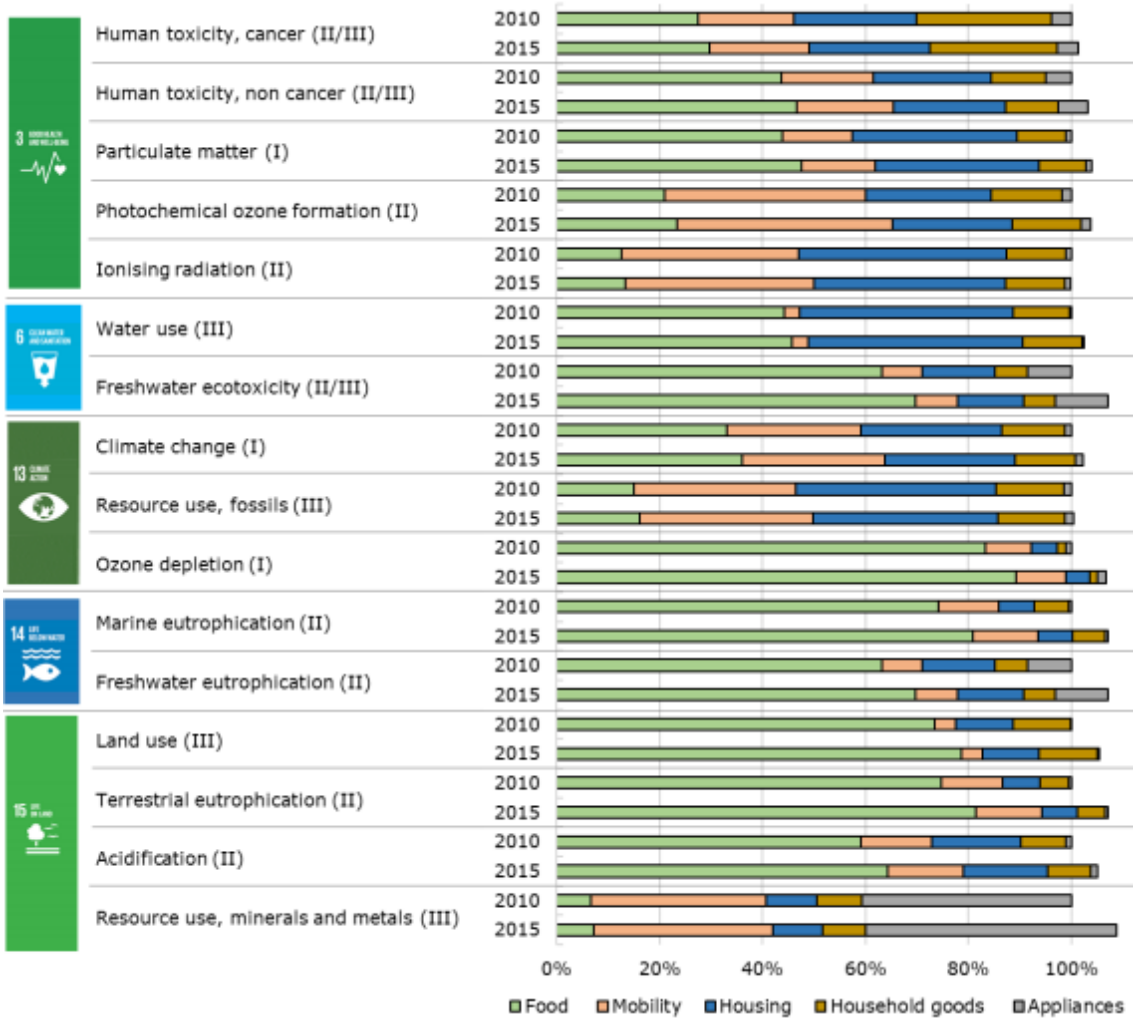


Source: ICF elaboration based on JRC, 2019.

According to the 2019 JRC report, the consumer ecological footprint increased at an average rate of 1.25% per year between 2010 and 2015 in all areas of consumption, except housing[71]. Figure 6 and Table 1 provide an overview of the findings of the JRC and the United Nations Environment Programme (UNEP) on the various environmental impacts of the consumer.

[68] JRC, *Consumer and consumption footprint: The assessment of the environmental impacts of consumption in the European Union*, 2019, p. 21, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC114814/science_for_policy_report_final_on_line.pdf.
[69] See, for example: World Health Organization (WHO), Circular economy and health: opportunities and risk, WHO Regional Office for Europe: Copenhagen, Denmark, 2019.
[70] See, for example, Pörtner et al., 2019; Intergovernmental Panel on Climate Change (IPCC), Summary for policymakers, 2019; IPCC Special Report on the Ocean and Cryosphere in a Changing Climate; European Commission, A clean planet for all A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2018) 773, 2019.
[71] According to the authors, this is primarily due to a general reduction of energy use in buildings and to energy efficiency regulations introduced since 2010.

Figure 6. Contribution of the areas of consumption to the Consumer Footprint in 2010 and 2015 (year of 2010 set as 100%)



Source: JRC, 2019, p. 21.

Table 1. Contribution of consumption categories to the impacts assessed by the environmental impact of products (EIPRO) study

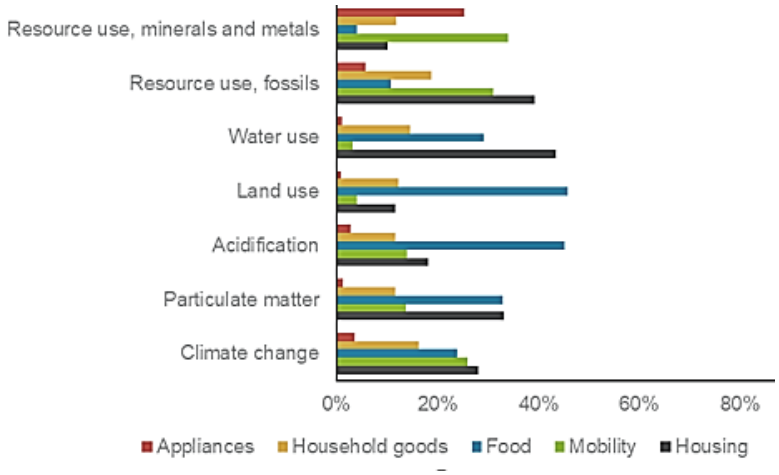
Category	Depletion (ADP)	Warming (GWP)	Chemical Oxidation (POCP)	Acidification (AC)	Eutrophication (EUT)	Human Toxicity Potential (HTP)	Eco-toxicity	Expenditure (%)
CP01+CP02 Food and beverages, tobacco, and narcotics	22%	31%	27%	31%	60%	26%	34&	19%
CP03 Clothing and footwear	2%	2%	3%	2%	5%	3%	6%	3%
CP04+CP05 Housing, furniture, equipment, and utility use	35%	24%	22%	26%	10%	21%	20%	25%
CP06 Health	2%	2%	2%	2%	1%	2%	1%	4%
CP07 Transport	20%	19%	20%	14%	6%	25%	15%	14%
CP08 Communications	2%	2%	2%	2%	1%	2%	2%	4%
CP09 Recreation and culture	5%	6%	7%	7%	4%	7%	7%	9%
CP10 Education	0%	1%	1%	1%	0%	1%	1%	1%
CP11 Restaurants and hotel	7%	9%	9%	10%	13%	8%	9%	10%
CP12 miscellaneous goods and services	5%	5%	7%	6%	2%	6%	6%	10%

Source: ICF elaboration based on UNEP, 2010[72].

Based on JRC Consumer Footprint reports, COWI and ECOFYS[73] estimated the relative[74] and absolute contributions of various product baskets (housing, mobility, food, household goods, and appliances). Table 2 shows that the baskets of household goods, food, mobility, and housing have the largest effect in most impact categories.

[72] Hertwich et al., *Assessing the environmental impacts of consumption and production: priority products and materials*, Report of the Working Group on the Environmental Impacts of Products and Materials to the International Panel for Sustainable Resource Management, UNEP, 2010.
[73] Confidential report, 2019.
[74] Due to overlaps between baskets, the contributions do not necessarily add up to 100%.

Table 2. Estimated environmental impacts of private consumption in 2019 – relative contribution per basket



Source: COWI and ECOFYS, 2019.

Table 3. Estimated environmental impacts of private consumption in 2019 – absolute values (based on data from various years between 2010 and 2014)

Basket	Climate change	Particulate matter	Acidification	Water use	Resource use, fossils	Resource use, minerals, and metals
	MtCO2e	Thousand deaths	10^9 mol H+ eq	Billion m3 water eq	EJ	Kt Sb eq
Services and housing	**1,433**	**120**	**6,7**	**2,890**	**24**	**2.5**
Mobility	**1,250**	**50**	**5.1**	**219**	**19**	**8.6**
Purchase of vehicle and other equipment	*194*					
Other	*1,056*					
Food	**1,150**	**119**	**16.4**	**1,940**	**6.7**	**1**
Consumer goods	**957**	**42**	**4.3**	**968**	**11.5**	**3**
Clothing	*166*					
Appliances, machines, electronics	*175*	*5*	*1.1*	*78*	*3.5*	*6.4*
Furniture and household commodities	*616*					
Total	**4,790**					

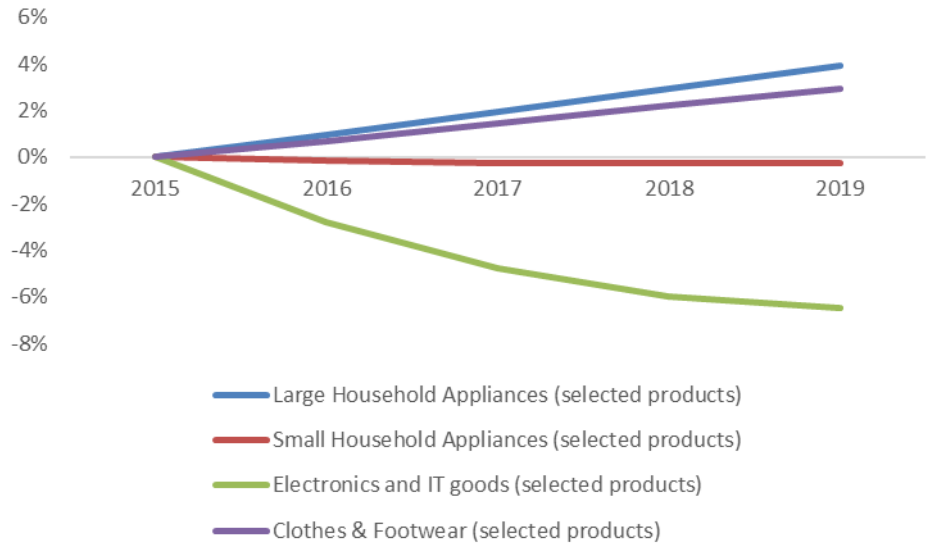
Source: ICF elaboration based on COWI and ECOFYS (2019) and The Green Lifestyles, Alternative Models and Upscaling Regional Sustainability (GLAMURS) project[75].

The increase in the Consumer Footprint between 2010 and 2015 is partly due to an increase in the amount of goods consumed in all areas of consumption (with the

[75] http://glamurs.eu ; https://ec.europa.eu/environment/integration/research/newsalert/pdf/ghg_emissions_from_household_consumption_mapped_across_eu_501na1_en.pdf

exception of some food products and household goods). One of the most significant increases in the period was the number of appliances owned (+29% between 2010 and 2015[76]). Based on available data, this trend continued between 2015 and 2019 for large household appliance and clothes and footwear (Figure 7).

Figure 7. Variation of volume of sales of selected goods (compared to base year, 2015)

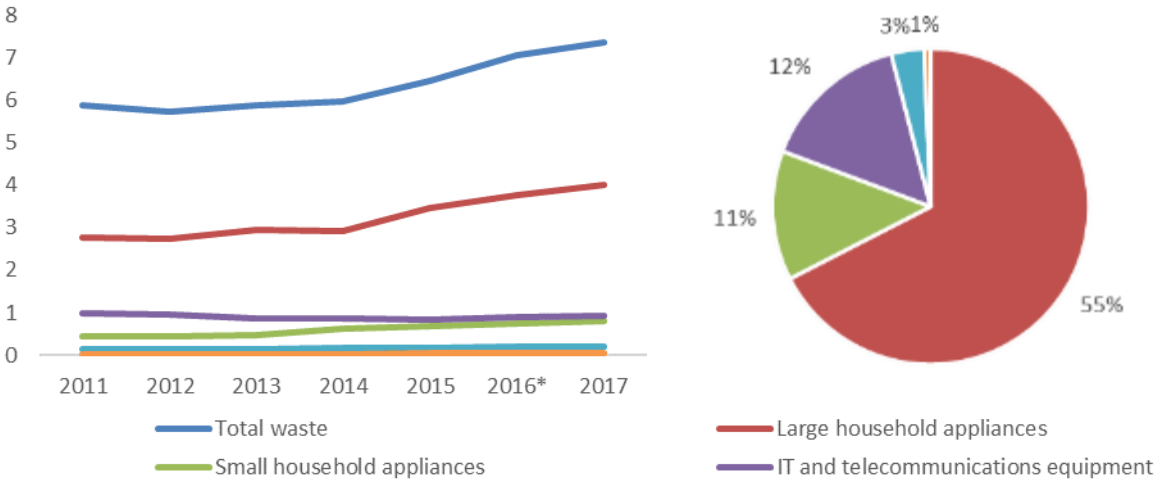


Source: ICF elaboration of data from Statista.

Total waste is also increasing in the EU, which is at least partly related to the higher replacement rate of goods (e.g. goods not lasting as long as previously, consumers replacing instead of repairing broken goods). Eurostat figures show that waste electrical and electronic equipment (WEEE) grew at an average rate of 7% per year[77] between 2015 and 2017 and is one of the fastest growing waste streams in the EU. Figure 3.7 presents the evolution of WEEE per capita in the EU-27 for key categories of products, showing that it has increased significantly for large household appliances and to a lesser extent for small household appliances.

[76] JRC, *Consumer and consumption footprint: The assessment of the environmental impacts of consumption in the European Union*, 2019, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC114814/science_for_policy_report_final_on_line.pdf
[77] Eurostat, 2020, dataset [env_waselee].

Figure 8. Evolution of WEEE 2011–2017 (kg per capita)

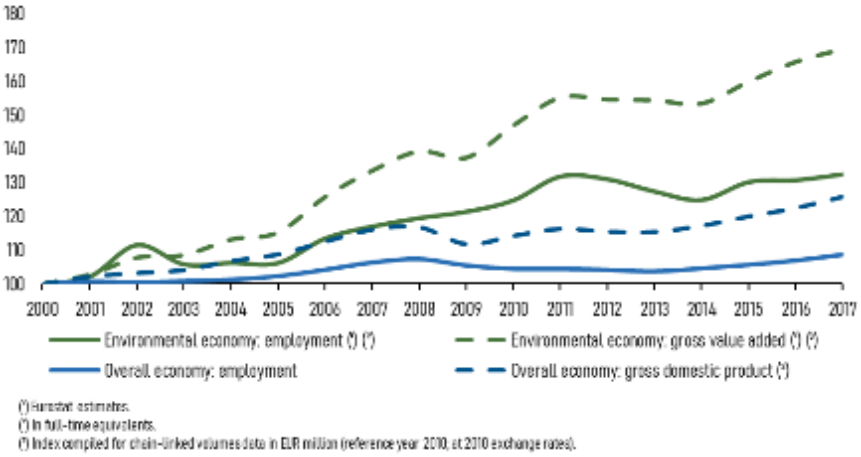


Source: ICF elaboration based on Eurostat dataset [ENV_WASELEE].

3.2 Current trends in sustainable consumption behaviours

In the EU-27, green markets for sustainable goods and services are growing at a faster rate than the overall economy (Figure 9).

Figure 9. Development of key indicators for the environmental economy and the overall economy, EU-27, 2000-2017



Source: Eurostat (online data codes: nama_10_a10_e, nama_10_gdp, env_ac_egss1, env_ac_egss2).

To some extent, these developments have been fostered by policy development and the increasing willingness of consumers to make more sustainable choices in their everyday lives (Box 1)[78].

Box 1. Evidence of consumers' willingness to make more sustainable choices

[78] While people may be willing to pay for more sustainable products, this may not necessarily translate to increased sales of more sustainable products for a variety of reasons, including budget constraints and influence of other product characteristics valued by consumers (e.g. design, status, convenience).

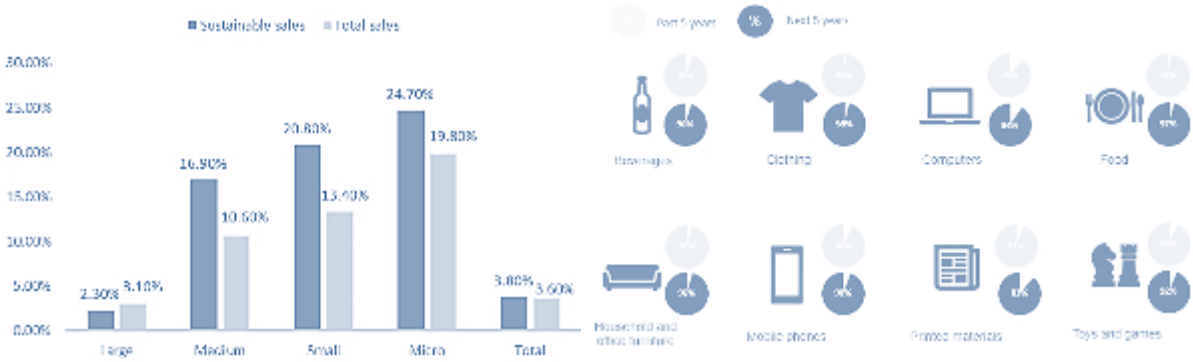
- Data from a 2009 Eurobarometer show that 83% of EU-27 citizens considered a product's impact on the environment an important element when deciding which products to buy. When buying products that use electricity (e.g. TVs or computers) or fuel (cars), 37% of consumers said they often consider the energy efficiency of products and 40% said they always take this into account in their purchasing decision. Ecolabelling plays an important role in the buying decisions of almost half of consumers (47%)[79].
- A 2013 Eurobarometer found that 54% of consumers occasionally bought environmentally friendly products and 26% often bought these products. A large majority of consumers were willing to pay more for environmentally friendly products if they were confident that the products are truly environmentally friendly. The survey also found that 84% of consumers mentioned environmental impact as one of the considerations they take into account when shopping[80].
- A 2014 study on environmental claims showed that two-thirds of surveyed consumers took environmental considerations into account in their daily life[81].
- Data from a special 2017 Eurobarometer show that when asked about their environmentally friendly choices during the past six months, 43% of consumers said they bought local products, 34% avoided single-use plastic goods or bought reusable plastic products, 24% avoided buying over-packaged products and 19% bought products marked with an environmental label[82].
- In a special 2019 Eurobarometer, 33% of consumers most agreed that 'changing the way we consume' was the most effective way to tackle environmental problems. When it came to individual actions in the past six months, 45% had avoided single-use plastic goods, 42% bought local products, 31% avoided buying over-packaged products and 22% bought products with an environmental label. Nearly all respondents (96%) had done at least one of the environmentally friendly actions presented to them in the past six months, with 21% doing at least seven of these actions[83]. This shows a slight increase in the numbers of consumers willing to make more sustainable choices compared to the 2017 survey.
- A 2019 study carried out by the International Trade Centre for the European Commission found that a large majority (85%) of the surveyed retailers from five EU Member States reported increased sales of sustainable products between 2013 and 2018, with 92% predicting that the sales of sustainable products will increase further[84].

According to a 2019 study by the International Trade Centre, European Commission[85], the trend in sales of 'sustainable products'[86] is extremely positive, with 85% of retailers reporting increased sales of sustainable products in the last five years and 92% expecting the growth to continue into the next five years. The report concludes that the sales of sustainable products has grown faster than the overall sales in all but one

[79] European Commission, Flash Eurobarometer 256 - Europeans' attitudes towards the issue of sustainable consumption and production, 2009.
[80] European Commission, Flash Eurobarometer 367 - Attitudes of Europeans towards building the single market for green products, 2013.
[81] GFK and European Commission, Consumer market study on environmental claims for non-food products, 2014.
[82] European Commission, Special Eurobarometer 468 - Attitudes of European citizens towards the environment, 2017.
[83] European Commission, Special Eurobarometer 501 - Attitudes of European citizens towards the Environment", 2020.
[84] International Trade Centre, European Commission, The European Union market for sustainable products: The retail perspective on sourcing policies and consumer demand, 2019, https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/EU%20Market%20for%20Sustainable%20Products_Report_final_low_res.pdf
[85] International Trade Centre, European Commission, The European Union market for sustainable products: The retail perspective on sourcing policies and consumer demand, 2019.
[86] There are products that performed better in at least one of the three pillars of sustainability: environment, social and economics.

country surveyed, for most product categories, and for micro, small and medium-sized enterprises. Large companies did not report the same growth rate in other sales.

Figure 10. Overview of the evolution of sales of sustainability products, 2019



Source: International Trade Centre, European Commission, 2019.

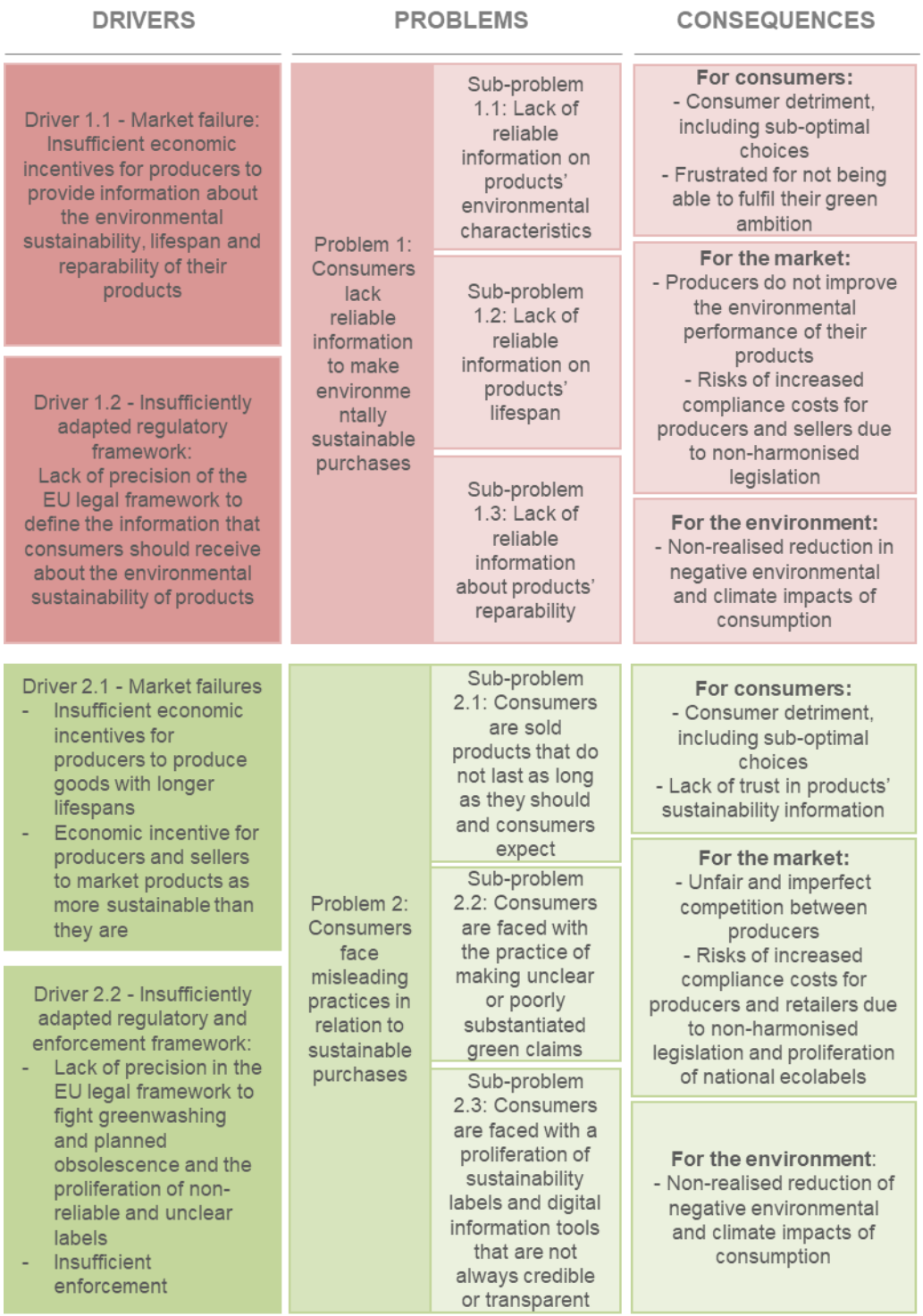
3.3 Key problems hindering sustainable purchases

A growing number of consumers (and businesses) are interested in the environmental performance and climate neutrality of products (both goods and services) and in adopting more sustainable consumption behaviours, such as buying products that last longer or repairing instead of replacing products. However, consumers' effective and active role in the green transition is constrained by the following key problems (Figure 11):

- Problem 1: Consumers lack reliable information to make environmentally sustainable purchases.
- Problem 2: Consumers face misleading practices in relation to sustainable purchases.

The remainder of this section briefly describes relevant market failures and EU-level initiatives, followed by a detailed analysis of the two core problems outlined above.

Figure 11. Problem tree for barriers to consumers' effective participation in the green transition



3.4 Context

3.4.1 General market failures: externalities and cognitive biases

Some general market failures related to externalities and cognitive biases are relevant to understanding where problems occur and identifying some possible solutions:

- *Tragedy of the commons*[87] and price reflection: in their decisions, consumers do not always take into account the full negative effects they impose on society and environment, unless the prices reflect the real environmental costs to society. Currently, prices do not fully reflect the negative external effects of products to society. Therefore, a significant share of consumers acting independently and according to their own self-interest will adopt consumption behaviours that are non-optimal from the point of view of society and environment ('the commons').
- Short-sighted behaviour:
  - Consumers often make consumption decisions based on short-term costs and disregard the long-term costs of their choices;
  - Consumers are inclined to let the default rule apply or choose based on familiarity;
  - Consumers have limited ability to deal with complex and extensive information (information overload) and may not be able to take all available information into account when they have a finite amount of time to decide.

3.4.2 Existing EU, national and multinational relevant initiatives

Various Commission-led initiatives aim to tackle one or more of the problems described above. These include the Ecodesign Directive (Directive 2009/125/EC) and its Implementing Regulations, the Energy Labelling Framework Regulation (Regulation EU 2017/1369), the Car-labelling Directive (Directive 1999/94/EC), the voluntary EU Ecolabel scheme, the Commission's new Consumer Sales and Guarantees Directive (Directive (EU) 2019/771), the Commission Recommendation on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations (EC Recommendation 2013/179/EU), the UCPD (Directive 2005/29/EC), the Consumer Rights Directive 2011/83/EU (CRD), the proposal for a Directive on representative actions for the protection of collective interests of consumers (repealing Directive 2009/22/EC), the CPC Regulation 2017/2394, Directive (EU) 2019/2161 on better enforcement and modernisation of Union consumer protection rules, and Directive 2018/851/EU on WEEE, among others (see Annex for detailed analysis and discussion).

The mapping of national initiatives identified more than 50 initiatives relevant to problem 1 and more than 70 initiatives related to problem 2 (with eight on preventing obsolescence and 40+ on preventing greenwashing) (see Annex 10 for full list and analysis). This highlights both the growing awareness of the problems and also the growing fragmentation across the EU in respect of solutions. Table 4 provides an overview of the legal initiatives identified at national level.

In addition to EU and national initiatives, there are also various multinational initiatives from industry, non-governmental organisations (NGOs) and other private entities that aim to address these sub-problems. The study team identified a selection of initiatives through desk research and consultations with stakeholders (see Annex 11). Here, again, the growing number of multinational initiatives reflects growing awareness, as well as fragmentation and lack of oversight in reliability and robustness, which may harm consumers and traders alike[88].

[87] In economics, tragedy of the commons refers to situations when individuals, acting without considering the full impact of their actions on the common good of all users, cause depletion of a common resource.
[88] Some stakeholders and independent experts highlighted that some private initiatives are based on non-transparent and non-robust approach and evidence and may therefore contribute to misinformation and/or mislead consumers.

Table 4. Overview of legal initiatives at national level

Legal initiatives	Problem 1: Lack of reliable information			Problem 2: Misleading practices		
	Durability	**Reparability**	**Environmental characteristics**	**Obsolescence**	**Greenwashing**	**Sustainable labels and digital information tools**
DIRECTLY LINKED to the EMPOWERING CONSUMERS EU INITIATIVE						
Existing legislation at national level	**France** **Durability Index** **France – Durability Index:** introduced by the Circular Economy Law 2020, the Durability Index will integrate/replace the Reparability Index from 2024. It will oblige producers, importers, distributors, or any other person placing electrical and electronic products on the market, to inform consumers on the reliability and robustness of a list of products (to be established).	**France, Finland, Slovenia** **Reparability index** **France – Reparability Index:** The Circular Economy Law obliges producers, importers, distributors, or any other person placing electrical and electronic products on the market, to provide the Reparability Index of their product to sellers of their products or any another person requesting it. The aim is to inform consumers of the ability to repair five groups of products (televisions, smartphones, laptops, lawnmowers, washing machines). **Information on spare parts and/or repair manuals and/or software updates** **France – Obligation to inform consumers on the availability of spare parts**: The Circular Economy Law obliges manufacturers and importers to inform retailers of the availability or non-availability of essential spare parts and of the time period during which they will be available. It also obliges the retailer to inform consumers on updates necessary to maintain the conformity of the product, how to install these updates, and the consequences of refusing to install them. **France – Consumer information on software updates and 'software guarantee':** The Circular Economy Law obliges manufacturers and importers to inform retailers on the availability or non-availability of essential spare parts and of the time period during which they will be available. It also obliges the retailer to inform consumers on the updates necessary to maintain the conformity of the product, how to install these updates, and the consequences of refusing to install them. **Finland – Legislative ban on untrue or misleading**	***No national legislation identified that goes beyond EU legislation***	**France and Greece** **Ban planned obsolescence** **France – Criminalisation of planned obsolescence: The** Consumer Code and Law on energy transition for green growth defines and forbids the practice of planned obsolescence. Where there is a breach of this provision, the person responsible for placing the product on the market can be sentenced to two years' imprisonment and a fine of EUR 300,000. **France – Criminalisation of intentional irreparability and deliberate obstruction of access to repair information:** The Circular Economy Law criminalises any technique used by the person responsible for placing the product on the market that makes it impossible to repair or recondition the product outside approved/licensed repairers. **Prevent irreparability – provision of spare parts** **France – Obligation to provide spare parts for a certain time period:** The Circular Economy Law requires producers of household appliances, small information technology (IT) and telecommunications equipment, screens and monitors to make spare parts available for a minimum of five years. **Greece – Provision of technical service for repair and maintenance and supply of spare parts:** The Consumer Protection Law establishes that the supplier (including both the manufacturer and the retailer) of new durable goods must ensure that consumers are consistently provided with technical services for maintenance and repair of these goods, as well as supply of spare parts, for at least two years from delivery.	**Sweden** **Ban/prohibition** **Sweden - Prohibition on misleading statements:** The Swedish Marketing Act prohibits traders from making incorrect statement and other representations that are misleading, specifically statement relating to a product's origin, uses and risks, such as impact on health or the environment. The Act provides some examples of such conduct, which are additional to those listed in the Directive.	**Austria, Germany, Sweden** **Public websites with feedback on labels[91]** **Austria – Website Buy Consciously:** The Federal Ministry for Climate Protection, Energy, Mobility, Innovation and Technology developed a website that provides information on 200 sustainable labels in Austria. **Germany - Siegelklarheit (label clarity):** This portal explains and evaluates labels used by manufacturers placing products on the German market. It considers sustainability and social standards. **Sweden –Hello Consumer service of the Swedish Consumer Agency**: This provides consumers with information on a number of environment and sustainability related topics, including information on ecolabels.

[91] Not a legislative initiative.

		information: the Finnish consumer protection legislation has imposed a ban on providing untrue or misleading information in marketing or during the course of the customer relationship, particularly information relating to 'the availability and need for maintenance, repairs and spare parts.' **Slovenia – Consumer Protection Act:** The Act obliges the producer and/or seller, where there is an obligatory conformity guarantee for certain types of technical goods[89], to provide information on the duration of services for maintenance of goods, spare parts and supplementary devices (at least three years after elapse of the guarantee). It also obliges the producer and/or seller, where there is an obligatory conformity guarantee for certain types of technical goods[90], to provide an assembly manual and a list of authorised services centres (at least three years after elapse of the guarantee). This guarantee is provided on top of the EU harmonised two-year guarantee.				
Legislative proposals at national level	**Belgium and Italy** **Belgium – Proposals for a Bill to combat planned and premature obsolescence and increasing the possibilities of repair (9 November 2019):** The Bill prohibits producers from engaging in planned and premature obsolescence practices. It proposes to include in pre-contractual information the reparability and non-reparability of products, as well as the length of time that spare parts are available. It suggests that all products have an indication of the lifetime of the product and the possibility for repair in a legible, apparent and unequivocal manner on their surface, packaging and in advertisements. Lifespan is expressed in hours, months or years, or, where relevant, in number of operating cycles. The producer is obliged to provide information on lifespan to consumers and to ensure that the	**Belgium, Italy, Portugal** **Belgium – Proposals for a Bill to combat planned and premature obsolescence and increasing the possibilities of repair (9 November 2019):** The Bill prohibits producers from engaging in planned and premature obsolescence practices. It proposes to include in pre-contractual information the reparability and non-reparability of products, as well as the length of time that spare parts are available. It suggests that all products have an indication of the lifetime of the product and the possibility for repair in a legible, apparent and unequivocal manner on their surface, packaging and in advertisements. Lifespan is expressed in hours, months or years, or, where relevant, in number of operating cycles. The producer is obliged to provide information on lifespan to consumers and to ensure that the	***No legislative proposals identified***	**Belgium, Italy, Portugal** **Belgium – Proposal for a bill to address planned obsolescence and support repair economy (19 July 2019):** This proposal introduces a definition of planned obsolescence and bans the practice. Where the provision is breached, it provides a sanction for the producer. It also suggests the creation of a product passport, an extension of the legal guarantee to five years. It also provides for a decision that manufacturers and importers must provide professional sellers and repairers with essential spare parts. **Belgium – Proposal for a Bill to address planned obsolescence and support the circular economy (7 January 2020):** The Bill introduces a definition of planned obsolescence and prohibits the practice. If the product is considered to be affected by	***No legislative proposals identified***	***No legislative proposals identified***

[89] Household appliances, vehicles and similar products, machines for agricultural and small-area cultivation, IT products, sports equipment, products for radio communications, audio and video technology and devices connected thereto, electro-medical devices intended for personal use, fire protection devices and wastewater treatment plants.

[90] Household appliances, vehicles and similar products, machines for agricultural and small-area cultivation, IT products, sports equipment, products for radio communications, audio and video technology and devices connected thereto, electro-medical devices intended for personal use, fire protection devices and wastewater treatment plants.

	product does not fail earlier than the indicated lifespan. **Italy – information obligation on the durability of the product (9 July 2018):** This legislative proposal would introduce an obligation to inform consumers on the 'guaranteed lifespan and the presumable lifespan'[92] of products on the packaging. The producer is responsible for providing the information and guaranteeing the correct durability of the product.	product does not fail earlier than the indicated lifespan. **Italy – Consumer rights on lifespan and possibility of reparations at accessible prices** (9 July 2018): This legislative proposal would recognise the consumer's right to be informed by producers on the possibility of reparation at accessible prices. **Portugal – Reparability** (4 November 2019)**:** Legislative proposal requiring that producers and importers must ensure the availability of user manuals.		planned obsolescence, the producer is responsible, unless they are established abroad, in which case the trader is responsible. It proposes to include in the pre-contractual information the lifetime of the products and the period during which spare parts that are essential for the use of the product are available in a visible and unequivocal way on the packaging and advertisement of the product. It obliges producers to guarantee the availability of a product's essential spare parts at a reasonable price. **Italy – Definition and prohibition of planned obsolescence (9 July 2020):** This legislative proposal would define and ban the practice of planned obsolescence and introduce criminal sanctions for the producer or distributor of goods who misleads consumers on a number of issues, including planned obsolescence. **Portugal – Promoting product durability and combating planned obsolescence (4 November 2019):** Legislative proposals to prohibit planned obsolescence by producers.		

Source: ICF

[92] No assessment methodology has been proposed.

3.5 Core problem 1: Consumers lack reliable information to make environmentally sustainable purchases

When comparing products and making purchase decisions, consumers often lack reliable information on:

- Products' environmental characteristics/impacts;
- Expected or guaranteed lifespan of goods;
- Availability of repair options.

Results obtained from the consumer survey and the OPC (see Annex 8 for details of both) are in line with evidence from literature[93]. The consumers surveyed indicated that important obstacles prevent them from adopting more sustainable consumption behaviours, such as lack of information on the sustainability of products (29%) and lack of information about products' reparability (27%). Fewer respondents (17%) viewed the lack of information about products' expected lifespan as an important impediment, although a higher proportion (30%) acknowledged the usefulness of receiving information about a product's guaranteed lifespan, followed by information on a product's life-cycle environmental and climate footprint (30%), and information vouching for the sustainability of a product (26%)[94].

Under existing policy instruments, making information on products' environmental performance available to consumers is voluntary[95] and/or limited to certain product categories and/or features[96]. The EU's consumer protection rules – primarily the UCPD and the CRD - lay down the key information requirements that consumers must be provided with in order to make an informed decision. However, these rules do not expressly require information on products' environmental characteristics, lifespan or reparability.

Without this information, consumers cannot properly consider the total cost of consumption (TCC) or sustainability aspects when deciding which products to purchase[97]. This lack of information has several consequences:

- Potential consumer detriment and frustration;
- Sub-optimal social offer of products with superior environmental characteristics, longer lifespans and higher repair potential[98];
- Non-realised reduction of negative environmental and climate impacts of consumption.

[93] See for example, 'Consumers' engagement in the circular economy' (October 2018), which reports that 82% of the participants agreed that it is difficult to find information on how long a product will last and on its reparability. In addition, 86% of participants agreed that they would like to receive better information on how long a product will last and 83% wish to receive better information on how easy it is to repair a product. Available at: https://ec.europa.eu/info/live-work-travel-eu/consumers/sustainable-consumption_en

[94] The preliminary results of the OPC show that respondents assign slightly higher importance to these obstacles.

[95] In particular, the EU Ecolabel Regulation (EC) No 66/2010.

[96] For example, the Energy Labelling Regulations, the fuel efficiency and CO_2 emissions (Directive 1999/94/EC relating to the availability of consumer information on fuel economy and CO2 emissions in respect of the marketing of new passenger cars); information on the energy sources for electricity generation, as well as reference to sources, where available, giving information on their environmental impact (Directive 2009/72/EC of 13 July 2009 concerning common rules for the internal market in electricity); pictograms on general cleaning products (the Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP), replacing certain provisions of the Directives related to the classification, packaging and labelling of dangerous substances (Directive 67/548/EEC) and preparations (Directive 1999/45/EC).

[97] Many studies demonstrate that providing information on environmental impact can influence consumers' buying decisions. See a review at: http://www.wrap.org.uk/sites/files/wrap/Env%20Sust%20Product%20Purchase%20Decisions_0.pdf

[98] European Commission, Links between production, the environment and environmental policy – Summary report, 2019, https://ec.europa.eu/environment/enveco/economics_policy/pdf/studies/KH0319438ENN.pdf

3.5.1 Sub-problem 1.1: Lack of reliable information on products' environmental characteristics

3.5.1.1 Description

Information about the environmental characteristics of products is not sufficiently and consistently available for all products across the EU. For example, the mystery shopping carried out for this study found that about 37% of the products analysed[99] had a voluntary sustainable label and/or textual message. Similarly, the mystery shopping exercise carried out for the European Commission study on environmental claims for non-food products[100] found that about 40% of the products analysed had a voluntary sustainability label. Other studies also concluded that while the share of products with green claims has been increasing (which possibly aggravates problems 2.2 and 2.3), environmental information is available for fewer than half of the products[101]. These findings are in line with the results of the CATI survey for this study, which revealed that just under half of companies provided environmental information for at least some products (48%), but only one-fifth (19%) did so for all products[102].

When information is available, companies present it in different ways, from vague (see sub-problem 2.2 below) to based on multiple methods and/or assumptions, complicating consumers' understanding or ability to readily compare[103]**.**

These findings are consistent with the views of a **large number of consumers who consider that information provided about the environmental characteristics is insufficient**. For example, according to a Flash Eurobarometer in 2013, 60% of consumers found it difficult to determine the environmental impact of products because the information was not available or not clear. Similarly, 85% of respondents to the OPC and the targeted consultation for the study 'Sustainable products in a circular economy - towards an EU product policy framework contributing to the circular economy'[104] reported being unsatisfied or only partially satisfied with the environmental information available to them, partly because the information was generally not sufficient to support their decision-making. Eurobarometer 256 (2009) and Eurobarometer 367 (2012) found that only 14% of respondents were fully aware of the environmental impact of the products they buy and use, while about 41% were aware of the most significant impacts. In the Eurobarometer 367, only half of respondents believed that it was easy to differentiate environmentally friendly products from other products. In the Flash Eurobarometer 501 (2019), more than 80% of the respondents agreed ((totally or tended to) that '[t]here is not enough information available about environmental problems and working conditions linked to clothing'.

[99] Products analysed in the mystery shopping carried out for this study included: large household appliances (washing machines, refrigerators, microwave ovens, vacuum cleaners, dishwashers); small household appliances (coffee machines, irons, toaster, mixers, kettles, electric shaver/razor/trimmer, hair dryer); IT and electronic products (mobile phones, laptops, LCD televisions, video cameras); clothes and footwear and carpets; hygiene and care products (shampoo, skin cream, toilet paper, baby diapers, baby bottles); household cleaning and miscellaneous (paints, hardwood floors, all-purpose cleaners, washing machine detergents); passenger cars; electricity services; parcel delivery services.

[100] European Commission, Consumer market study on environmental claims for non-food products, 2014.

[101] Confirmed by two industry associations. The magnitude of the problem is not the same across product groups, in some cases due to the existence of legal framework (e.g. cars).

[102] Food and drinks is the category that provides least information on the climate/environmental impact (35%), followed by clothing and/or footwear (44%).

[103] Highlighted by the stakeholders and reflected in the DG ENV study (ongoing), 'Environmental claims in the EU: Inventory and reliability assessment'.

[104] European Commission, Sustainable products in a circular economy – towards an EU product policy framework contributing to the circular economy, Staff Working Document, 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf

These findings are in line with the results of OPC and consumer survey, with almost one-third[105] of respondents considering difficulties in checking if products are environmentally friendly as one of the top three obstacles to enhanced consumer participation in the circular economy and in achieving more sustainable consumption. The results of the consumer survey[106] and OPC[107] also indicate that the provision of better consumer information, notably on the life-cycle environmental and climate footprint of a product or service (including resource extraction, manufacturing, transport, use and end-of-life/recycling) would be beneficial in consumers' transition towards more sustainable consumption. This was corroborated by the stakeholder consultation[108].

Having this information consistently for all products is important for about 85% of consumers, who report that they want to purchase products that are environmentally friendly (with some willing to pay a premium for more environmentally friendly products[109,110]. In Eurobarometer 256, 82% of respondents considered the product's impact on the environment very important (34%) or rather important (49%), increasing to 84% in 2013 (Eurobarometer 367)[111]. In fact, the recent results of the 2019 Market Monitoring survey[112] show that the majority of respondents considered the likely environmental impact of the product (either household appliance or electronics) to be an important factor in their purchase decision (34% for household appliances and 28% for electronic products).

Studies show that a significant share of consumers look for this information, as it influences their purchase decision. The consumer survey 'European Commission Study on environmental claims for non-food products'[113] showed that half of respondents looked for environmental information on the packaging when purchasing a product. In Eurobarometer 367 (2012)[114], respondents indicated that quality was the most important consideration for them (97%), followed by price (87%), and environmental impact (84%). When compared to Eurobarometer 256 (2009)[115], this represents an increase of 31.6% (+6 p.p.) in the number of respondents considering the environmental impact more important than price in their purchasing decisions. In Eurobarometer 388, 32% of consumers considered the 'environmentally friendliness' of a durable good one of the three most important characteristics. This is reflected in the

[105] 27% of respondents had difficulties when checking if products are environmentally friendly. This is the third most relevant obstacle for citizens (31%) and for consumer associations (42%). Companies/businesses considered it the fourth most relevant obstacle to empowering consumers for the green transition (32%), while only 13% of business associations believed it to be an important obstacle.
[106] 30% of respondents selected this as one of the top three most important piece of information.
[107] 27% of the respondents (31% of citizens) selected this as one of the top three most important piece of information.
[108] Almost all of the stakeholders consulted through targeted interviews/surveys (16 out of 21; comprising seven consumer associations, seven other organisations and two industry associations) believe that consumers are not aware of the environmental impacts of products because the information is not provided or available. Only three industry associations indicated that such information is generally provided.
[109] 77% of respondents to Eurobarometer 367 would be willing to pay more for environmentally friendly products if they were confident that the products were truly environmentally-friendly.
[110] Respondents to the consumer survey were willing to pay, on average, between 2.25% and 4.25% more (depending on the product type) for an identical product that claims to be environmentally sustainable.
[111] https://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_367_sum_en.pdf, p. 9.
[112] https://ec.europa.eu/info/policies/consumers/consumer-protection/evidence-based-consumer-policy/market-monitoring/market-monitoring-2019-presentation-results-market_en
[113] Especially in Italy (60%), Poland (55%) and Spain (55%).
[114] https://data.europa.eu/euodp/en/data/dataset/S1048_367, p. 54.
[115] https://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_256_en.pdf, p.12.

opinions of stakeholders interviewed for this study[116], as well as the results of the consumer survey[117] and the OPC[118].

The results of the consumer survey suggest that about 44% of consumers would be willing to pay to receive reliable information about the environmental impacts of products.

3.5.1.2 Extent of the problem

The lack of reliable information on the environmental characteristics/impacts of products affects all product categories to some extent, albeit not equally, due to product-specific legislation and market forces. Overall, evidence suggests that roughly 50% of products contain some sort of environmental information, but the information is often very simple and vague and does not provide sufficient details on environmental characteristics or impacts. A significant share of those claims is unfounded (see section 3.6.2). Table 5 summarises the assessment of the extent of lack of information for a selection of product categories based on the results of two mystery shopping exercises[119], the analysis of product-specific legislation on the provision of information on environmental claims, and evidence on the reliability of voluntary environmental claims.

Table 5. Extent of the problem, by selected product category

Selected product category	Extent of lack of information	Sales /household expenditure 2019	Notes
Large household appliances	+/++	0.38%	Product group already covered by Energy Labelling Regulations. However, the label does not cover all environmental impacts
Small household appliances	++/+++	0.24%	Only one product is covered by Energy Labelling Regulations. However, the label does not cover all environmental impacts
Electronics and IT goods	+++	1.75%	Only one product is covered by Energy Labelling Regulations. However, the label does not cover all environmental impacts

[116] Introduction of a requirement to indicate the overall environmental performance of a given product was considered by 23 interviewees across stakeholder groups to be either 'somewhat effective' (12) or 'highly effective' (11) in fostering more sustainable consumption behaviours. Overall, the proposed measure was judged to be likely effective by most respondents within each stakeholder category (consumer organisation, business associations, and public authorities). Generally, (slightly) more respondents thought that the proposed measure would be 'highly effective' than 'somewhat effective'.

[117] Almost 90% of respondents to the consumer survey attached importance to the environmental impact of goods they purchase.

[118] 39% of the respondents to the OPC indicated that it would be useful to have information on the product's life-cycle, environmental and climate footprint, while only 5% considered it most useful to have information on the product's environmental and climate footprint only during use.

[119] See Annex 9 for mystery shopping results for this study; See also European Commission, Consumer market study on environmental claims for non-food products, 2014.

Selected product category	Extent of lack of information	Sales /household expenditure 2019	Notes
Clothes and footwear	+++	4.49%	Not covered by any mandatory requirement to provide information on environmental impacts
Furniture	++/+++	2.31%	Not covered by any mandatory requirement to provide information on environmental impacts
Cars	+/++	0.15%	Product group already covered by Directive 1999/94/EC
Cosmetics and personal care	++/+++	0.93%	Not covered by any mandatory requirement to provide information on environmental impacts
Cleaning products	++/+++	0.30%	Not covered by any mandatory requirement to provide information on environmental impacts
Food and drinks	++	19.62%	Not covered by any mandatory requirement to provide information on environmental impacts
Hospitality and restaurants	+++	9.55%	Not covered by any mandatory requirement to provide information on environmental impacts
Housing, energy, water, etc.	++/+++	3.03%	Not covered by any mandatory requirement to provide information on environmental impacts
Transportation	++/+++	13.11%	Not covered by any mandatory requirement to provide information on environmental impacts
Other	+++	44.13%	

Legend: +++ high, ++ moderate, + low, 0 none.

Source: ICF, developed for this study.

The number of consumers affected by this sub-problem is at least equal to the number of consumers who would like to receive the information and consider current information insufficient (60%[120] of consumers or about 225 million consumers[121]). Extrapolating from the consumer survey, around 164 million people would be willing to pay for this information (EUR 5.32 on average).

Current evidence suggests that about 56% of consumers[122] (some 210 million consumers) would use the information to (at least occasionally) buy 'more environmentally friendly products' (with most also willing to pay a premium).

The current lack of private incentives to provide this information affects most companies on the market to some extent, with the exception of those offering 'best in class' products or products for which information is mandatory. As about 35% of companies use a life-cycle approach to assess the environmental impacts of (some of) their products[123], it can be assumed that at least 65% of companies (9.52 million, of which 9.49 million are small and medium-sized enterprises (SMEs)) have no incentive to consistently provide reliable environmental information about their products.

3.5.1.3 Consequences and who is affected

The fact that this information is not consistently available in a comparable way for all products prevents consumers from taking the environmental characteristics of products into account in their decision-making process. This is expected to lead to sub-optimal purchase decisions, both from the perspective of the individual and society, with consequences for the market and for the environment.

Consumers

The main consequence of this lack of information for consumers is the of loss consumer surplus and the experience of personal consumer detriment as a result of sub-optimal choices. This can be roughly estimated using either consumer willingness to pay for reliable information on the environmental impacts/characteristics for all products or by estimating the non-realised consumer surplus when consumers are not able to select more environmentally friendly products[124]. Accordingly, the opportunity cost of this sub-problem to consumers is estimated at between EUR 0.9 billion[125] and 2.1 billion per year[126].

In addition, the fact that the information is not widely and easily available across all products may frustrate some consumers and discourage them from searching for and buying more environmentally friendly alternatives.

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[120] European Commission, Flash Eurobarometer 367 - Attitudes of Europeans towards building the single market for green products, 2013. Various surveys/studies have reported similar or even higher values.
[121] Consumers defined as citizens of 16 years and above. This definition is consistent with that used by Eurostat in some of its reports.
[122] Binninger et al., 'Etiquettes environnementales et consommation durable: des relations ambiguës en construction', *Revue de l'organisation responsible,* Vol. 9, 2014, pp. 5-24.This is in line with the findings from the consumer survey, with 42-60% of respondents (depending on the product category) willing to pay about 5% of the price of a product to receive information on its environmental characteristics.
[123] COWI and ECOFYS, *Support for potential policies implementing the Environmental Footprint Method*, 2019 (confidential study).
[124] According to the survey, consumers would be willing to pay, on average, an additional 2.3% to 3.5% of the price of a product for an identical product that is more environmentally sustainable. However, greener products frequently have higher prices, sometimes 10% or more, according to the reviewed literature. This calculation deducted the price of greener' products from the willingness to pay to obtain the consumer surplus, taking into account the existence of greenwashing practices and the fact that a greener product might not always be available.
[125] Estimated by multiplying the share of consumers willing to pay to have environmental information available for all products and EUR 5.32 (average).
[126] See Annex 15. These estimates have significant limitations due to the lack of data and the need to rely on non-representative data or on expert judgment to fill the gaps.

Market

Market shares of more environmentally friendly products are lower than they would be if consumers were aware of the environmental characteristics of their purchases.

Indirectly, the fact that consumers cannot compare products based on their environmental characteristics leads to fewer incentives for companies to improve the environmental performance of their products[127].

Environment

The opportunity costs to the climate and environment of not providing this information are equal to the gains to the environment resulting from consumers buying more environmentally friendly products if that information were to be available.

We analysed two scenarios[128], in which the purchased alternatives would be 5% and 10% more "environmentally friendly" compared to the current situation. The estimated opportunity costs for each scenario are shown in Table 6. (See Annex 15 for a description of the methodology followed).

Table 6. Possible environmental impacts of shifting demand towards more environmentally friendly products

	5% scenario	10% scenario
Climate change (per year) (MtCO2e per year; EUR 34 per tonne CO2e)	1.1 MtCO2e EUR 40 million	2.2 MtCO2e EUR 80 million
Particulate matter (deaths per year; Value of a statistical life per year - EUR)	80 death EUR 385 million	160 deaths EUR 770 million
Acidification (109 mol H+ equivalent)	0.008	0.016
Water use (billion m3 water equivalent)	1.5	3
Resource use, fossils (EJ)	0.015	0.03
Resource use, minerals, and metals (kt Sb equivalent)	0.005	0.01

Source: ICF calculations based on data from various sources (see Annex 15).

3.5.2 Sub-problem 1.2: Lack of reliable information on products' lifespan

3.5.2.1 Description

Evidence shows that information on the expected lifespan of goods[129] (years of life, hours of use, number of cycles, etc.) is not made widely available to consumers. A 2015 study undertaken by the European Consumer Organisation (BEUC) reports that when purchasing new products, consumers are not always properly

[127] European Commission, Impact Assessment on building the single market for green products: Facilitating better and credible information on environmental performance of products and organisations, which supports its conclusions, amongst other, on available evidence that energy labelling has increased the share of more efficient products on the market, 2012, https://ec.europa.eu/environment/eussd/smgp/pdf/ia_report.pdf.

[128] There is a lack of data on how much more environmentally friendly the products would be if this information were available.

[129] Lifespan refers to the period of durability of a good. According to the definition in the Sales of Goods Directive (SGD) 'durability' means the 'ability of the goods to maintain their required functions and performance through normal use'. It is understood to be the period for which a product works without the need for repair.

informed about the expected lifespan of the products they intend to buy[130]. This is in line with the results of the mystery shopping exercise for this study, which found that in more than 95% of mystery shops, information on the products' expected lifespan was not available. Similarly, more than 80% of respondents to the consumer survey in the European Commission 'Behavioural study on consumers' engagement in the circular economy'[131] reported not having received information about how long a product will last. Up to 27% of respondents to the OPC indicated that difficulty to know how long products will function without repair is a relevant obstacle to empowering consumers towards the green transition[132]. Results of the consumer survey for this study[133] and targeted consultation with stakeholders mirrored these findings[134], with interviewees from across all stakeholder categories considering information on product lifespan (with or without repairs) to be unavailable to consumers[135,136]. The results of the CATI survey revealed that about 23% of manufacturers claim to provide retailers with information on the expected lifespan for all of their products. Contrary to earlier evidence, however, the surveyed retailers claimed to provide this information to consumers for about 85% of their products[137].

Information on guaranteed lifespan is only available when a commercial guarantee is available (as it corresponds to the number of years covered by the commercial guarantee). Research undertaken by the European Consumer Centres Network (ECC-Net) indicated that consumer products are increasingly being offered together with a commercial guarantee[138,139,140]. Similarly, an EU-wide survey led by ECC Belgium[141] found that more than half of consumers had bought a commercial guarantee in the past (in almost 75% of cases, respondents said that the retailer offered the commercial guarantee, in 17% the manufacturer, and in 6% an insurance company)[142]. Similar observations were evident in the consumer survey[143] and mystery shopping exercise for this study. In 66% of the mystery shops (covering large household appliances, small household appliances, IT and other electronic products), at least one

[130] BEUC, Durable goods: More sustainable products, better consumer rights, 2015, http://www.beuc.eu/publications/beuc-x-2015-069_sma_upa_beuc_position_paper_durable_goods_and_better_legal_guarantees.pdf.
[131] European Commission, 2018. Behavioural Study on Consumers' Engagement in the Circular Economy. Available at https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf.
[132] While this is a highly important obstacle in the opinion of the majority of stakeholder groups (citizens (33%), consumer associations (53%), public authorities (39%) and other respondents (40%)), companies/businesses (15%) and business associations (8%) ranked this obstacle as less important.
[133] A minority of respondents to the consumer survey had received information about the estimated lifespan of the product before having to be repaired: 20% large household appliances; 18% small household appliances and tools; 17% electronic and IT products; 11% furniture. A slightly smaller group of respondents had received information about estimated lifespan of the product if minor or reasonable repairs are performed: 16% large household appliances; 13% small household appliances; 14% electronic and IT products; 7% furniture.
[134] The lack of provision of information on expected lifespan was noted in the online surveys by all consumer organisations (8 out of 8); a majority of public authorities (13 out of 19); and all other respondents (6 out of 6).
[135] While all consumer associations, public authorities and other organisations consulted agreed that information is not available to consumers, some industry associations indicated that the information is somewhat available.
[136] The mystery shopping found few exceptions, with a very limited number of retailers providing this information at the point of sale, by way of comparison of products and not necessarily in years, cycles, etc. However, an analysis of the approach followed by some retailers showed that those are often not transparent or robust. Some independent experts reported concerns about these private initiatives, as retailers might not always be able to be fully independent in their reviews.
[137] Around three-quarters of retailers had received information from the manufacturer on the expected lifespan of at least some of the products (71%), but only one-quarter received this information for all products (24%). Less than half of manufacturers participating in the CATI survey provided information on the expected lifespan (47%), and less than one-quarter provided this information for all of their products (23%).
[138] The results of the targeted stakeholder consultation show that opinions are divided on the availability of information on the availability of commercial guarantees.
[139] Cited in ECC-Net, 2019.
[140] ECC-Net conducted a total of 342 checks for three types of products: photo camera, TV, washing machine.
[141] Cited in ECC-Net, 2019. Among the survey participants (total = 543), 64% indicated Belgium as their country of residence, followed by Austria (7%), Slovenia (6%), Malta (3%). About 20% did not indicate their country of residence.
[142] The products for which commercial warranties have been frequently bought include household products (41%), electronic devices (37%) and vehicles (13%) .
[143] Respondents to the ICF consumer survey indicated that information about commercially guaranteed lifespan was provided at the moment of purchase for 34% of large household appliances, 33% of small household appliances and tools, 43% of electronic and IT products and 25% of furniture.

commercial guarantee was offered (38% of which were included in the price of the product)[144].

However, **research shows that the duration of commercial guarantees does not go much beyond the legal guarantee** (e.g. the mystery shopping for this study found that the most of the commercial guarantees have a duration of two years or less (39%), followed by 36 months (30%) (Table 7) **and that the information on such commercial guarantees is often unclear, imprecise or incomplete.** Research conducted by the ECC-Net similarly indicated that information provided to consumers on legal and commercial guarantees was generally unclear, imprecise, incomplete (e.g. regarding the overlap with the legal guarantee) and not easily comparable (e.g. regarding duration)[145]. This conclusion is corroborated by the results of the targeted consultation for this study, with all consumer associations arguing the need for clearer information, given the extent of confusion among consumers[146]. The results of the mystery shopping exercise found that only 39% agreed that the information about the commercial guarantee was clear and easy to understand[147] and .that information was sometimes missing In about 3% of cases, mystery shoppers did not find information about the duration of the guarantee and in 23% of cases, they were not able to find information about the organisation with which the commercial guarantee would be concluded. These findings are corroborated to some extent by research undertaken by the Commission[148], which found that half of the consumers do not possess sufficient information to be able to distinguish clearly between legal and commercial guarantees[149].

Table 7. Duration of guarantee, in months (n=433)

Duration in months	Large household appliances	Small household appliances	IT	Total
12	8%	18%	20%	**15%**
24	17%	28%	28%	**24%**
36	29%	33%	29%	**30%**
48	7%	4%	8%	**6%**
60	29%	12%	13%	**18%**
72	1%	0%	0%	**0%**

[144] Where that information was available, most of the contracts would be concluded with the seller (39%), with others with the manufacturer (22%) or an insurance company (22%). Likewise, the CATI survey indicated that the most common type of guarantee offered by retailers was a guarantee offered by the manufacturer free of charge, which respondents estimated was offered in 31% (n=66) of cases. In terms of product groups, products in the category of large household appliances came with paid-for commercial guarantees beyond the legal guarantee (52%) much more commonly than free-of-charge guarantees (25%), a stark contrast to small household appliances, where free commercial guarantees were offered in only 3% (n=11) of cases, but free of charge guarantees much more often (33%).

[145] ECC-Net, Commercial warranties are they worth the money? Legal guarantees and commercial warranties on consumer goods in the EU, Iceland, and Norway, 2019, https://www.europe-consommateurs.eu/fileadmin/user_upload/eu-consommateurs/PDFs/PDF_EN/REPORT-_GUARANTEE/garanties_update_2019.pdf

[146] Three out of three consumers organisations consulted via the online surveys noted that consumers face problems with commercial guarantees, while six out of six industry associations indicated that companies generally provide information on the availability of commercial guarantees to consumers.

[147] The main reasons indicated for the lack clarity and difficulties in understanding the information were lack of information about the commercial guarantee and difficulties in understand what was covered by the commercial guarantee. In 4% of the cases, it was not clear if the commercial guarantee was included in the product price or not.

[148] European Commission, Consumer market study on the functioning of legal and commercial guarantees for consumers in the EU, 2015, https://ec.europa.eu/info/sites/info/files/legal-guarantees-final-report_en.pdf

[149] Also reported by some of the stakeholders consulted.

Duration in months	Large household appliances	Small household appliances	IT	Total
120	8%	1%	0%	**3%**
Not found	1%	4%	3%	**3%**

Source: ICF elaboration based on the results of the mystery shopping exercise.

The results of the 2019 Market Monitoring survey[150] showed that a majority of respondents found it difficult to know how products compared on aspects other than price, such as quality, how long they would last etc. (60% in case of household appliances and 64% in the case of electronic products).

Evidence indicates that consumers would be interested in receiving reliable information about the lifespan of goods[151]. In Eurobarometer 367, for example, 92% of respondents agreed that the lifespan of goods available on the market should be indicated. Similarly, the 2019 Market Monitoring survey[152] showed that around 95% of respondents considered that knowing how long a product (household appliance or electronic product) would last was either very important or fairly important (68% considered it very important for household appliances and 65% for electronic products). 62% of respondents to the consumer survey carried out for the European Commission's 'Behavioural study on consumers' engagement in the circular economy' tended to agree or strongly agreed with the statement, 'I always look for information on how long a product will last', while more than 85% tended to agree or strongly agreed that they would like to receive better information on how long a product would last. A study carried out on behalf of the EESC[153] indicated that, on average, a product was chosen 4.6% more frequently when the lifespan of the product was indicated and sales of products increased by 13.8% when the product lifespan was displayed[154]. This suggests that consumers' expectations might not be aligned be with the effective lifespan of products and that they that assign importance to having that information in order to purchase products that would last longer. The results of the consumer market study carried out in 2017 by GFK to support the European Commission Fitness Check of Consumer and Marketing Law corroborate these findings[155]. The results of the OPC and targeted consultation for the 'Study on sustainable products in a circular economy - towards an EU product policy framework contributing to the circular economy' indicate that more than 80% of all respondents supported the provision of information on life expectancy of products, recyclability, reparability, place of manufacture, production type and the life-cycle environmental impacts of products. In the same vein, results from the ICF consumer survey showed that consumers value information about products' durability and believe it would prove effective in helping them choose more sustainable products, with about 43.5% of the respondents indicating that they would be willing to pay to receive information on the lifespan of products. These findings are reflected in the views

[150] https://ec.europa.eu/info/policies/consumers/consumer-protection/evidence-based-consumer-policy/market-monitoring/market-monitoring-2019-presentation-results-market_en
[151] This is also highlighted by BEUC, http://www.beuc.eu/publications/beuc-x-2015-069_sma_upa_beuc_position_paper_durable_goods_and_better_legal_guarantees.pdf
[152] https://ec.europa.eu/info/policies/consumers/consumer-protection/evidence-based-consumer-policy/market-monitoring/market-monitoring-2019-presentation-results-market_en
[153] EESC, The influence of lifespan labelling on consumers, 2016, https://www.eesc.europa.eu/resources/docs/16_123_duree-dutilisation-des-produits_complet_en.pdf
[154] This was significant for eight of the nine products covered (coffee machines, printers, vacuum cleaners, smartphones, washing machines, televisions). but most significant for coffee machines, washing machines, vacuum cleaners and smartphones. It was not significant for televisions.
[155] European Commission, Consumer market study to support the Fitness Check of EU consumer and marketing law, 2017, https://www.centerdata.nl/sites/default/files/consumer_market_study_to_support_the_fitness_check_of_eu_consumer_and_ma._.pdf

shared by most stakeholders across all categories surveyed as part of this study[156]. In fact, all stakeholder groups considered the introduction of a requirement to provide such information to consumers either 'somewhat effective' or 'highly effective' in fostering more sustainable consumption behaviour[157].

Evidence also shows that a significant share of consumers is interested in purchasing products with longer lifespans (Figure 12)[158,159]. Respondents to the consumer survey carried out for the European Commission 'Behavioural study on consumers' engagement in the circular economy' indicated that durability was the third most important decision factor the last time they bought a dishwasher/vacuum cleaner/television/smartphone/coat (after quality and price) because long-lasting products would save them money in the long term (50%), are typically of better quality (37%), are better for the environment (27%), and/or save them the effort of shopping for a replacement (25%). Similarly, an online survey among German consumers in 2017 showed that durability and robustness was the most important criterion when purchasing a washing machine and the second most important criterion when purchasing a smartphone[160]. For the four product groups studied (washing machines, TV sets, notebooks, hand mixers), respondents would opt for higher quality technical equipment when provided with simple and easily understandable information on the quality, durability and reparability of the products[161].

[156] In the OPC, 'Providing better consumer information on products' durability (lifespan)' was selected as the most effective measure to empower consumers for the green transition (33% of respondents). Respondents considered having information on the lifespan (guaranteed, expected and/or with minor repairs) as the most useful piece of information to empower consumers for the green transition (50%). In the online surveys, most consumer associations believed that the requirement to provide information on expected lifespan of the product would be highly effective. Among business associations, most respondents indicated that the proposed measure would be somewhat effective. Public authorities, generally believed that the measure would be effective.

[157] This does not necessarily reflect the opinion of all the stakeholders in a given group. It is a statement based on preliminary interviews with authoritative representatives of consumers, industry, and certifiers, however it remains to be validated or refuted by the wider results of the stakeholder consultation.

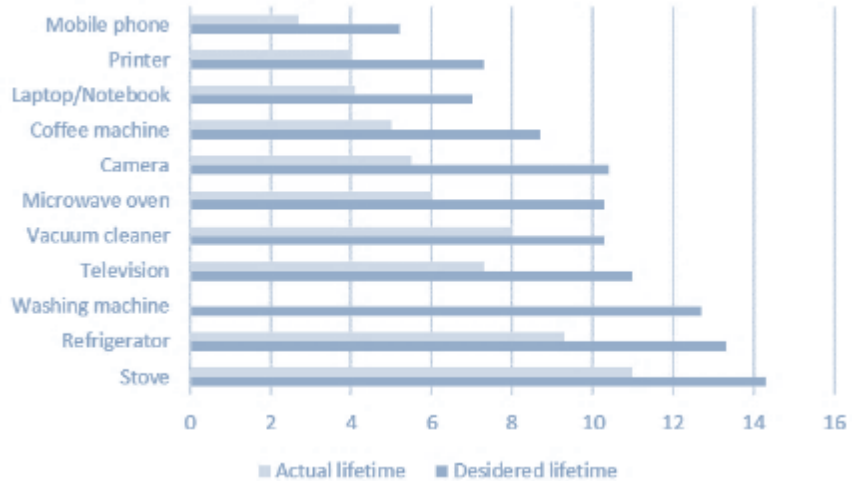
[158] See for example [158] European Environment Agency, 2020. Electronic products and obsolescence in a circular economy. Available at https://www.eionet.europa.eu/etcs/etc-wmge/products/electronics-and-obsolescence-in-a-circular-economy/@@download/file/ETC-WMGE_Electronics%20and%20obsolescence%20in%20CE_final.pdf. and Wieser, H.; Tröger, N. (2015): The use-time and obsolescence of durable goods in the age of acceleration, An Empirical Investigation among Austrian Households. Summary, 2015. Online available at https://www.beuc.eu/documents/files/FC/durablegoods/articles/0515_AK_Austria.pdf, last accessed on 13 Jul 2020.

[159] The importance of durability in consumer purchasing decisions varies depending on the product category and consumer profile. See for example http://www.wrap.org.uk/sites/files/wrap/Env%20Sust%20Product%20Purchase%20Decisions_0.pdf; https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf; http://publications.jrc.ec.europa.eu/repository/handle/JRC106993

[160] Jaeger-Erben, M. and Hipp, T., 2018. All the rage or take it easy–expectations and experiences in the context of longevity in electronic devices. *Descriptive analysis of a representative online survey in Germany Obsolescence Research Group (ed) OHA texts*, 1.Available at: https://challengeobsolescence.info/wp-content/uploads/2018/03/Research-Group-OHA_Description-Online-Survey_2018.pdf.

[161] In DG GROW study – chapter durability

Figure 12. Actual lifetime and desired lifetime for selected products



Source: Eionet Report - ETC/WMGE 2020/3[162].

Past studies show that consumers would be willing to pay for longer lifespan (ceteris-paribus). The 'Consumer market study to support the Fitness Check of consumer rules'[163] found that more than 80% of consumers surveyed would be willing to pay extra for products that are advertised to last longer. The EESC study on the influence of lifespan labelling on consumers[164] shows that 90% of the 2,917 consumers surveyed were willing to pay an additional EUR 102 for a similar product with two additional years of lifespan[165]. Similarly, the results of the behavioural experiment conducted in the 'Behavioural study on consumers' engagement in the circular economy' also showed that consumers would be willing to pay for longer-lasting products (Table 8). It also found that if durability information was provided, consumers were almost three times more likely to choose products with the highest durability. The results of the consumer survey carried out for this study showed similar findings (see Table 9).

Table 8. Willingness to pay for durability, in EUR, per year of additional durability

Vacuum cleaners	Dishwashers	TV	Smartphone	Coats
EUR 19.11	EUR 20.53	EUR 72.88	EUR 123.94	EUR 13.54

Source: ICF elaboration

Table 9. Willingness to pay for one additional year of lifespan (ceteris paribus), in % of product price

	Large household appliances (n=4,199)	Small household appliances and tools (n=4,224)	Electronic and IT products (n=2,517)	Furniture (n=865)
I would not be willing to pay any more	50%	49%	50%	53%

[162] European Environment Agency, 2020. Electronic products and obsolescence in a circular economy. Available at https://www.eionet.europa.eu/etcs/etc-wmge/products/electronics-and-obsolescence-in-a-circular-economy/@@download/file/ETC-WMGE_Electronics%20and%20obsolescence%20in%20CE_final.pdf.
[163] European Commission, 2017. Consumer Market Study to support the Fitness Check of EU consumer and marketing law.
[164] The sample of 2,917 participants was drawn from across France, Spain, Czechia and Benelux, and it covered coffee machines, printers, vacuum cleaners, smartphones, washing machines and televisions.
[165] The study found that across the tested products (which included washing machines, vacuum cleaners and coffee makers), products with a label showing a longer lifespan than the competing products were chosen an average of 13.8% more.

	Large household appliances (n=4,199)	Small household appliances and tools (n=4,224)	Electronic and IT products (n=2,517)	Furniture (n=865)
I would be willing to pay up to 5% more than the product price	25%	23%	23%	22%
I would be willing to pay up to 10% more than the product price	14%	16%	14%	12%
I would be willing to pay up to 15% more than the product price	6%	6%	7%	8%
I would be willing to pay up to 20% more than the product price	3%	4%	3%	3%
I would be willing to pay up to 25% more than the product price	1%	1%	1%	1%
I would be willing to pay more than 25% more than the product price	1%	1%	1%	1%

Notes: Answer to the question 'please indicate how much more you would be willing to pay for an identical product (as a percentage of the product price) that will last 1 year longer without having to be repaired'.

Source: ICF consumer survey for this study.

When information about lifespan is not available, consumers use a combination of general knowledge and proxies to make assessments about lifespans of comparable products[166]. In practice, this often means that consumers associate more expensive products with longer lifespans[167]. However, BEUC notes that 'in non-transparent markets, high purchase prices are not always good indicators for the durability of products'[168]. Indeed, several examples collected by consumer organisations show that very expensive products can fail early after the end of the guarantee period, an observation echoed by the Association Halte à l'Obsolescence Programmée (HOP)[169].

3.5.2.2 Extent of the problem

The lack of information on lifespan affects all goods that are not perishable, do not wear out quickly and therefore do not have to be purchased frequently, and - particularly - products that have an expected lifespan longer than the period of the legal guarantee (e.g. large household appliances, small household appliances, electronics and IT goods).

Information on expected lifespan is not provided for almost all goods in the market (which represents at least 9.33% of the final consumption expenditure of households in 2019 or about EUR 689 billion[170]). Information on the existence and duration of commercial guarantees that are included in the price of the good and have a duration longer than the legal guarantee (a proxy for the lifespan of a good) is only provided for

[166] See, for example, WRAP, Electrical and electronic product design: product lifetime. In collaboration with Knight et al., 2013, http://www.wrap.org.uk/sites/files/wrap/WRAP%20longer%20product%20lifetimes.pdf
[167] European Commission, Behavioural study on consumers' engagement in the circular economy, 2018, https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf
[168] BEUC, Durable goods: More sustainable products, better consumer rights, 2015, http://www.beuc.eu/publications/beuc-x-2015-069_sma_upa_beuc_position_paper_durable_goods_and_better_legal_guarantees.pdf
[169] During the interview with ICF for this study.
[170] These are conservative estimates, covering only large household appliances, small household appliances, electronic and IT goods, furniture, cars and clothes.

13% of large household appliances, 2% of small household appliances, and 2% of electronics and IT goods[171].

The number of consumers affected by this sub-problem is around 344 million, i.e. 92% of consumers who would like to receive this information and consider the available information insufficient, according to Eurobarometer 367. Extrapolating the result of the consumer survey, around 160 million of those would be willing to pay for this information (EUR 5.88 per year, on average).

Current evidence suggests that more than 50% of all consumers[172] (187 million people) would use the information to buy 'products that would last longer', with most willing to pay a premium.

The evident low provision of information on lifespan strongly suggests that (almost) all companies on the market that manufacture or sell goods - for which this information would be relevant from the point of view of the consumer and society (about 326,000 manufacturers and about 3.3 million traders[173]) – have no incentives to provide this information. This lack of incentives may have several reasons, as companies that produce products with shorter lifespans than market average may expect losses in revenue if they would provide this information, whereas companies that produce products with longer lifespans than market average (which may be a small percentage as this needs to be the case for share of the products manufactured by the company), may consider that the expected overall increase in turnover (due to the fact that some consumers are willing to pay more for products that last longer) is lower, or not likely to be significantly more, than the expected costs of providing that information (which could include compensating consumers and/or reputational damage if certain items would fail before the indicated lifespan for example).

One Member State (France) has approved legislation to address this problem to some extent, while two others are discussing similar legislative proposals (Table 4) (see Annex 10 for detailed analysis). This will lead to increased compliance costs for companies and increased legal uncertainty, which could become barriers to cross-border trading.

3.5.2.3 Consequences and who is affected

The fact that reliable information on lifespan is not consistently available in a readily comparable way for all goods prevents consumers from taking the lifespan of goods into account in their decision-making process. This is expected to lead to sub-optimal purchase choices from the perspective of the individual (consumers purchasing goods with higher effective TCC than similar alternatives) and from the perspective of society.

Consumers

The main consequence of the lack of reliable information for consumers is non-realised consumer surplus and potential consumer detriment as a result of sub-optimal choices. In fact, according to the European Commission study on the durability of products, goods that have longer lifespans generally have a lower TCC than the standard option, primarily due to postponing the purchase of the replacement appliance.

These losses can be estimated using either consumer willingness to pay for reliable information on the lifespan for all products[174] or the non-realised consumer surplus because consumers are not able to select goods that last longer[175]. Accordingly, the

[171] Mystery shopping findings.
[172] Consumer survey for this study. As shown previously, other sources report higher percentages.
[173] Data are not available on the number of retailers selling only these products.
[174] 161 million consumers were willing to pay on average EUR 5.88 per year for the information, in line with the data from the consumer survey.
[175] This is a conservative approach, as it only covers household appliances, electronic and IT products, sofas and seats and mattresses (see Annex 15 for methodology details).

opportunity cost of this sub-problem to consumers is estimated to be between EUR 0.97 and EUR 1.1 billion per year.

Table 10. Estimated consumer losses due to sub-optimal choices for lack of information on environmental characteristics of products (impact of one year of lack of information)

Product category	Share of products that could be replaced by an alternative that would last at least one additional year	Consumer losses (EUR million – prices 2019)
Large household appliances	2.7%	**87**
Cookers and ovens	2.7%	23
Dishwasher	2.9%	15
Microwaves	2.7%	4
Refrigerator	2.4%	21
Washing machines	3.1%	5
Small household appliances	2.9%	**102**
Vacuum cleaners	2.9%	16
Small kitchen appliances	3.1%	47
Irons	3.1%	3
Hair clippers	2.9%	5
Hair dryers	2.9%	3
Electric kettles	2.9%	2
Coffee machines	2.9%	18
Electronics and IT goods	2.9%	**787**
Laptops and tablets	3.4%	154
TVs	2.7%	76
Mobile phones	2.5%	411
Furniture		**-**
Sofas and seats	3.4%	90
Mattresses	3.4%	54
Total		**1,119**

Source: ICF calculations based on evidence from various sources.

Market

The market share of goods with longer lifespans is likely to be lower than it would be if consumers had information on the lifespan of goods (Table 10).

A European Parliament study on the impact of introducing a commercial lifespan guarantee[176] concluded that providing reliable information on expected and/or guaranteed lifespan can have a net positive impact on the single market, as it contributes to a level playing field for competition in the EU market, facilitates cross-border sales by providing a harmonised approach and creates a fairer system for all EU consumers.

[176] European Parliament, Introduction of a lifespan guarantee in the proposed online sales and digital content directive – Impact assessment of substantial amendments, 2017, https://www.europarl.europa.eu/RegData/etudes/STUD/2017/610999/EPRS_STU(2017)610999_EN.pdf

In addition, the obligation to provide this information to consumers might constitute an incentive for companies to develop/provide goods with longer lifespans, a possibility mentioned in literature and by stakeholders. This is because competition would also be on product lifespans contrary to what happens currently.

Environment

It is not expected that all goods are only replaced at the end of their lives, as fashion and other factors also play a role in the decision to replace a good[177]. However, there is evidence that a significant share of consumers will keep goods for a long time[178]. Eurobarometer 503 showed that the main reasons respondents replaced their digital devices were that the device broke (38%), the performance of the device had significantly deteriorated (30%) and certain applications or software stopped working on the device (18%)[179].

Increasing the market share of products with a longer lifespan is generally[180,181] expected to contribute to a reduction in resource depletion, waste, emissions and other environmental costs associated with the production, distribution and disposal life-cycle stages[182,183,184,185,186]. A German Environment Agency study[187] concluded that, for all product groups examined, long-life products did better than short-life variants in all environmental categories. Similarly, the PROMPT project showed that, for all the appliances analysed, those with shorter lives always perform worse across all environmental indicators[188]. According to Defra[189], there is a particular argument for optimised lifetime extension strategies, especially for products whose manufacturing, supply chain and waste management impacts dominate the life-cycle. According to a 2019 European Environmental Bureau (EEB) study, extending the lifespan of all washing

[177] See, for example, van den Berge et al., 'Too good to go? Consumers' replacement behaviour and potential strategies for stimulating product retention', *Current Opinion in Psychology*, 2020.

[178] According to the 2020 Eionet report, 'Electronic products and obsolescence in a circular economy', several studies contradict the widespread belief in a throwaway mentality among consumers (*ETC/WMGE 2020/3*). See also https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf

[179] European Commission, Attitudes towards the impact of digitalisation on daily lives, 2019, https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/special/surveyky/2228

[180] Some studies have pointed out that some large household appliances might be an exception if newer models are significantly more energy efficient than the models already owned by consumers. In this case, it is possible that the environmental costs associated with materials, production, distribution and disposal of buying an appliance sooner than later are outweighed by the environmental benefits related to the energy savings of using a more efficient model. See, for example, Iraldo et al., 'Is product durability better for environment and for economic efficiency? A comparative assessment applying LCA and LCC to two energy-intensive products', *Journal of Cleaner Production*, Vol. 140, 2017, pp.1353-1364; Ardente, F. and Mathieux, F., 'Environmental assessment of the durability of energy-using products: method and application'. *Journal of Cleaner Production*, Vol. 74, 2014, pp.62-73; Reale et al., *Consumer Footprint-Basket of Products indicator on household appliances*, Technical report. European Commission, Joint Research Centre, 2019.

[181] The results of a JRC study showed that '*for the global warming potential, prolonging the lifetime of a washing machine and dishwasher case studies is environmentally beneficial when the potential replacement product has up to 15% less energy consumption during the use. For the abiotic depletion potential impact, mainly influenced by the use of materials during the production phase, prolonging the lifetime of both machines was shown always to be beneficial, regardless of the energy efficiency of newer products. Freshwater eutrophication showed a great influence by the impact of the detergent used during the use phase; thus, prolonging the device's lifetime is still beneficial for this impact category, although the benefits are negligible compared to the life-cycle impacts of the products*'; https://op.europa.eu/en/publication-detail/-/publication/72cd56e4-bab7-11e6-9e3c-01aa75ed71a1/language-en/format-PDF/source-126402524.

[182] See, for example, Estevan et al., Life-cycle costing, State of the art report. Local Governments for Sustainability, European Secretariat, 2017, https://sppregions.eu/fileadmin/user_upload/Life_Cycle_Costing_SoA_Report.pdf

[183] Bakker et al., 'Products that go round: Exploring product life extension through design', *Journal of Clean Production*, Vol. 69, 2014, pp. 10–16.

[184] Bakker et al., *Products that Last 2.0: Product Design for Circular Business Models*. BIS Publishers, 2019.

[185] Cooper, T. (Ed), *Longer lasting products: Alternatives to the throwaway society,* CRC Press, 2016.

[186] Mugge et al., 'Design strategies to postpone consumers' product replacement: the value of a strong person-product relationship', *The Design Journal*, Vol. 8, No. 2, 2005, pp. 38-48.

[187] Prakash et al., Einfluss der Nutzungsdauer von Produkten auf ihre Umweltwirkung: Schaffung einer Informationsgrundlage und Entwicklung von Strategien gegen 'Obsoleszenz'. *Dessau-Roßlau: UBA Texte*, *11*, 2015, p.2016, https://www.umweltbundesamt.de/en/publikationen/einfluss-der-nutzungsdauer-von-produkten-auf-ihre-1

[188] Berwald et al., Environmental evaluation of current and future design rules. PROMPT, 2020, https://prompt-project.eu/wp-content/uploads/2020/07/PROMPT_20200429_Environmental-Evaluation-of-Current-and-Future-Design-Rules.pdf

[189] Defra, *Longer Product Lifetimes,* Summary Report, 2011, http://randd.defra.gov.uk/Document.aspx?Document=SummaryReport.pdf

machines, smartphones, laptops and vacuum cleaners in the EU by one year would lead to annual savings of around four million tonnes of carbon dioxide by 2030. In addition, it can promote the reuse of goods by providing more certainty in respect of the remaining lifespan after first use.

The opportunity costs to the climate and environment of not providing reliable information on lifespan are equal to the gains to the environment resulting from consumers buying products that would last longer if this information were to be available. Table 11 shows the results of the assessed environmental impact per year (see Annex 15 for detail).

Table 11. Possible environmental impacts of shifting demand towards products that would have a +1 year of lifespan, per year of lack of information

Impact	Size of impact for appliances, electronics and ICT and other electronics, sofas and mattresses
Climate change (per year) (MtCO2e per year; EUR 34 - 68[190] per tonne CO2e)	1 MtCO2e EUR 34 million
Particulate matter (deaths per year; VSL per year - EUR)	27 deaths EUR 131 million
WEEE (tonnes)	+/- 30,000

Source: ICF.

3.5.3 Sub-problem 1.3: Lack of reliable information about products' reparability

3.5.3.1 Description

Information on the availability of repair services, spare parts[191] and repair manuals of goods, as well as on the software update/upgrade policy, is not made widely available to consumers at the point of sale. This evidence emerged from the consumer survey of this study[192], targeted consultation with stakeholders[193] and the OPC[194]. It is also highlighted in several studies, including those by BEUC[195,196] and the European Commission 'Study on consumers' engagement in the circular

[190] https://www.ebrd.com/news/publications/institutional-documents/methodology-for-the-economic-assessment-of-ebrd-projects-with-high-greenhouse-gasemissions.html

[191] Only France, Slovenia and to some extent Italy have an obligation to inform consumers of the availability of spare parts.

[192] The survey indicates that information about the reparability of products (e.g. availability of repair services, spare parts, repair manuals, repair scoring) is perceived to be one of the most useful pieces of information for consumers (23%), enabling them to choose more sustainable products. However, across most product categories investigated, a large proportion of consumers have reported not receiving information on how long spare parts would remain available or how long software updates/upgrades would be provided.

[193] With the exception of several industry associations, this view was reflected across all stakeholder groups. However, it does not necessarily reflect the opinion of all stakeholders in a given group but is, rather, based on preliminary interviews with authoritative representatives of consumers, industry and certifiers. It remains to be validated or refuted by the wider results of the stakeholder consultation.

[194] 20% of respondents to the OPC indicated that 'difficulty to know if products can be repaired easily by professional repair services' is a relevant obstacle to empowering consumers towards the green transition. This was considered the eighth most relevant obstacle (28% of citizens, 11% consumer organisations, 6% company/business organisation, 20% business associations, 22% public authorities, 21% other respondents). This was followed by 12% of respondents highlighting that the 'difficulty to know if products can be repaired easily by consumers themselves is a relevant obstacle to empowering consumers towards the green transition' was the ninth most relevant obstacle (20% of citizens, 5% consumer organisations, 6% company/business organisation, 6% business associations, 8% public authorities, 17% other respondents).

[195] BEUC, Durable goods: More sustainable products, better consumer rights, 2015, http://www.beuc.eu/publications/beuc-x-2015-069_sma_upa_beuc_position_paper_durable_goods_and_better_legal_guarantees.pdf

[196] BEUC, Europe keep working for consumers – 2019/2024, 2018, https://www.beuc.eu/publications/beuc-x-2018-107-consumer_priorities_for_the_2019_european_parliament_elections.pdf

economy'[197], which found that over 80% of respondents tended to agree or strongly agreed that it is difficult to find information on how easy it is to repair a product. This is corroborated by the results of the mystery shopping exercise for this study, as only 19% of the mystery shops found some information on reparability and only 5 out of 400 mystery shops (1.25%) found that updates and/or upgrades were ensured[198].

Evidence indicates that consumers are interested in receiving information about the reparability of goods[199]. For example, 55% of the respondents to the consumer survey for the European Commission 'Behavioural study on consumers' engagement in the circular economy' tended to agree or strongly agreed with the statement 'I always look for information on how easy it is to repair a product' and more than 80% tended to agree or strongly agreed that they would like to receive better information on how long a product will last. The results of the OPC and targeted consultations in the 'Study on sustainable products in a circular economy - towards an EU product policy framework contributing to the circular economy'[200] found that more than 80% of all respondents supported the provision of information on life expectancy of products, recyclability, reparability, place of manufacture, production type and the life-cycle environmental impacts of products. In the same vein, the ICF consumer survey found that many consumers recognise that information about products' reparability and information about software updates/upgrades would help them to choose more sustainable products[201] and would be willing to pay to receive this information. Similar findings were gathered from ICF's target consultations with consumer organisations[202] and other stakeholder categories[203], with the majority considering that providing information on the availability of services and tools that could facilitate repair, such as spare parts, repair services, repair manuals and software updates/upgrades would be effective. Results of the recent 2019 Market Monitoring survey[204] showed that more than 80% of respondents considered knowing how easily a product (household appliance or electronics) could be repaired a very or fairly important factor in their purchase decision (49% for household appliances and 28% for electronic products).

Studies have shown that a share of consumers are somewhat interested in repairing instead of replacing broken goods. In Eurobarometer 388, 77% of respondents indicated that they preferred having their products repaired to buying new ones. Similarly, the consumer survey carried out in the context of the European Commission behavioural study[205] found that 64% of consumers always try to repair broken products. Of those, most reported using a professional repair service, while a small number of consumers repaired the product themselves or by the manufacturer. These are in line with results gathered from the consumer survey for this study, which

[197] European Commission, Behavioural study on consumers' engagement in the circular economy, 2018, https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf
[198] In one case this was ensured by the seller and in the other four cases by the manufacturer. Only in one case did the mystery shopper find information on the period of the commitment (i.e. 12 months). Not all products have digital content.
[199] European Commission, Consumer market study to support the Fitness Check of EU consumer and marketing law, 2017, https://www.centerdata.nl/sites/default/files/consumer_market_study_to_support_the_fitness_check_of_eu_consumer_and_ma._.pdf
[200] European Commission, Sustainable products in a circular economy – towards an EU product policy framework contributing to the circular economy, SWD(2019) 91 final, 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf
[201] Almost one in three consumers share this view (source: ICF consumer survey).
[202] Most of the consumer organisations (7 out of 8) stated that information on the availability of repair services and on relevant software updates or upgrades was not widely available to consumers, while one believed it is available to some extent. All consumer organisations (eight) agreed that there is a lack of information provided to consumers in relation to the availability of spare parts and repair manuals.(source: ICF survey – consumer organisations).
[203] This does not necessarily reflect the opinion of all the stakeholders in a given group, but, rather, is a statement based on preliminary interviews with authoritative representatives of consumers, industry and certifiers. It remains to be validated or refuted by the wider results of the stakeholder consultation.
[204] https://ec.europa.eu/info/policies/consumers/consumer-protection/evidence-based-consumer-policy/market-monitoring/market-monitoring-2019-presentation-results-market_en
[205] European Commission, Behavioural study on consumers' engagement in the circular economy, 2018, https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf

also found that consumers predominantly try to repair a product if/when it breaks down (61-89% of consumers, depending on the product type). The survey indicates that consumers will typically try to have their product(s) repaired by a professional repair service/shop recommended by the seller[206]. Fewer consumers will attempt to repair a product by themselves[207] or seek help from a Repair Café[208].

Various studies have shown that while consumers want to repair products, many decide not to because of the cost of repair, among other relevant reasons. Eurobarometer 367 showed that a significant share of EU citizens (39%) consider repairing a broken product difficult or economically disadvantageous (47% of respondents did not repair a faulty product in the last 12 months due to high repair costs). This was echoed by many stakeholders interviewed for this study, who somewhat or totally agreed that it is costly and burdensome for consumers to repair products[209].

Similarly, the European Commission behavioural study[210] found that about 36% consumers generally do not repair defective products. The most important reasons for not repairing products included the high price of repairs, followed by the preference for a new product and the feeling that the old product was obsolete or out of fashion. However, the fact that respondents did not know how to repair it/where to get it repaired (due to the lack of a repair manual and information on the availability of repair services) and the unavailability of spare parts also played a role in the decision to not repair a broken good (Table 14).

The consumer survey carried out by ICF highlighted the lack of repair services available locally[211], the difficulty in finding out if and where the product could be repaired[212], the repair service was too expensive/it was cheaper to replace the product[213], and the lack of availability of spare parts[214]. Table 12 illustrates the relative importance of unavailability of spare parts, repair manuals and software updates in failed attempts to repair.

Table 12. Percentage of attempts to repair that fail in part because of…

	Not able to get spare parts	Not able to get update	Not able to get repair manual	Failed repair attempts
Professional repair	1.5%	0.5%	NA	9.5%
Independent repair	4.2%	1.1%	2.5%	10.8%

[206] Respondents to the consumer survey indicated trying to have the product repaired by a professional repair service/shop recommended by the manufacturer and/or retailer in 35% of products in the large household appliances category, 32% of small household appliances, 37% of electronic and IT products, and 22% of furniture.
[207] This is the case in 30% of large household appliances, 27% of small household appliances, 20% of electronic and IT products, and 26% of furniture.
[208] This is reported only in a minority of cases for large household appliances (2%), small household appliances (3%), electronic and IT products (2%) and furniture (3%).
[209] This question was not asked of industry and is the opinion of consumer organisations, certification organisations and other repair organisations. It does not necessarily reflect the opinion of all the stakeholders in a given group, but, rather, is based on preliminary interviews with authoritative representatives of consumers, industry, and certifiers. However, it remains to be validated or refuted by the wider results of the stakeholder consultation.
[210] European Commission, Behavioural study on consumers' engagement in the circular economy, 2018, https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf
[211] Respondents to the consumer survey indicated that the repair was not available locally for 16% of large household appliances, 25% of small household appliances, 24% of electronic and IT products, and 25% of furniture.
[212] Respondents to the consumer survey indicated that it was not easy to find out if and where the product could be repaired for 20% of large household appliances, 27% of small household appliances, 18% of electronic and IT products, and 24% of furniture.
[213] Respondents to the consumer survey indicated that the repair service was too expensive/it was cheaper to replace the product for 15% of large household appliances, 26% of small household appliances, 14% of electronic and IT products, and 21% of furniture.
[214] Respondents to the consumer survey indicated that spare parts of the product were no longer available for 11% of large household appliances, 17% of small household appliances, 7% of electronic and IT products, and 18% of furniture.

Source: ICF consumer survey.

These observations were corroborated by the findings from targeted consultation[215], with commonly cited issues/problems with repairs (across most product categories) including:

- Spare parts no longer being available (e.g. refrigerators, dishwashers, kettles, LCD televisions);
- Software updates no longer being available (e.g. LCD televisions, laptops)[216];
- Spare parts being expensive (e.g. microwaves, dishwashers, laptops);
- Repair services not available locally (e.g. refrigerators, kettles, smartphones, laptops);
- Repair services being too expensive (e.g. microwave, refrigerators, kettles, smartphones, LCD televisions);
- Repairs taking too long (e.g. microwave, refrigerators, laptops).

[215] These include findings from the surveys with consumers and consumer organisations.
[216] This issue could have been considered in the context of problem 1.2 as well.

Table 13. Illustration of the difference between the lifespan of selected goods and the period during which spare parts are generally available

Type of product	'Use' lifespan	Main cause for failure	Period during which spare parts are available
Washing machine	10 years 2,500 cycles	Mechanical Electronic	8 years
Dishwasher	11 year	NA	
Fridge/freezer	10-11 years	NA	

Source: L'obsolescence programmée: politiques et mesures belges de protection du consommateur, 2017[217].

An EEB study on the furniture sector identified that the lack of availability of spare parts encourages the purchase of new furniture over repair[218]. In the same vein, the study on socioeconomic impacts of increased reparability also found that the design of a product, spare parts availability, as well as manuals and tools have a significant role to play in the choice to repair or replace a product[219].

Table 14. Reasons not to repair, by product category

Reason	Vacuum cleaner	Dishwasher	TV	Mobile phone	Coat or jacket
I preferred to get a new one	33.2%	20.4%	30.8%	33.4%	46.5%
It would have been too expensive	36.0%	49.6%	34.3%	39.8%	24.7%
The product could not be repaired	21.3%	19.2%	25.1%	16.8%	16.7%
The product was obsolete or out of fashion	19.7%	19.9%	29.5%	27.9%	24.5%
I did not know how to repair it/where to get it repaired	6.9%	10.3%	4.8%	6.0%	8.8%
It would have been too much effort	10.4%	13.0%	7.4%	9.9%	13.9%
The parts/material required were not available	7.1%	3.9%	5.4%	2.8%	0.9%
Other	4.5%	7.0%	5.2%	5.5%	3.8%
Do not know	0.8%	0.8%	0.4%	0.5%	1.5%
No. observation	964	507	765	1,128	584

Source: European Commission 'Behavioural study on consumers' engagement in the circular economy'.

[217] RDC Environment SA, L'obolescence programmee: politiques et mesures belges de protection du consommateur, 2017, https://economiepr.belgium.be/nl/file/5391/download?token=Z0I2K0DK

[218] Forrest et al., *Circular economy opportunities in the furniture sector*. European Environmental Bureau: Brussels, Belgium, 2017, https://eeb.org/publications/80/product-policy/51266/report-on-the-circular-economy-in-the-furniture-sector.pdf

[219] European Commission, Study on socioeconomic impact of increased reparability, 2016, https://op.europa.eu/en/publication-detail/-/publication/c6865b39-2628-11e6-86d0-01aa75ed71a1

Similarly, the ICF consumer survey showed that respondents would be more likely to consider repairing a product if they received information about the remaining estimated lifespan of the product after the repair[220].

These barriers have been addressed to some extent (for a limited number of goods, such as electronic displays, washing machines, dishwashers and refrigerators) by several ecodesign regulations adopted by the European Commission in October 2019, which included product requirements related to the availability of spare parts, repair information on professional repairers, and the availability of repair[221]. However, these requirements do not apply to the vast majority of goods.

Further evidence has shown that **consumers are generally willing to pay more for products with better reparability.** Consumers have indicated their readiness to pay EUR 29-54 more for vacuum cleaners, EUR 83-105 for dishwashers, EUR 77-171 for televisions, EUR 48-98 for smartphones, and EUR 10-30 for coats[222]. The Commission-run behavioural experiment indicated that while consumers generally consider durability more important than reparability as part of their purchasing decisions, they still value reparability information and, when provided with this information at the point of purchase, are more than twice as likely to choose products with the highest reparability ratings. Similar observations were made by CentERdata and GfK as part of an experiment[223] in which they examined whether the provision of reparability (and durability) information influenced consumers' choices. The authors found that when reparability information was provided, consumers chose products that were easier to repair and were willing to pay more for these products. This was, to some extent, reported in the ICF consumer survey, with about half of respondents indicating their willingness to pay for reparability (results varied by product type and type of commitment).

3.5.3.2 Extent of the problem

The lack of reliable information on reparability affects all goods that are not perishable, do not wear out quickly and therefore do not have to be purchased frequently, and that can be repaired. It primarily affects products that are reparable and have an expected lifespan longer than the period of the legal guarantee (e.g. large household appliances, small household appliances, electronics and IT goods).

Information on the reparability aspects of goods is not provided for more than 80% of all goods in the market (which represents at least 3.9% of the final consumption expenditure of households in 2019 or about EUR 300 billion[224]). Even where available, this information is neither complete nor consistently comparable. Information on the availability of software updates is not provided for more than 5% of products with digital content (which represents at least 1.66% of the final consumption expenditure of households in 2019 or about EUR 123 billion[225]).

[220] Respondents to the consumer survey indicated that the likelihood of repairing a product after receiving information on the remaining estimated lifespan after the repair would increase in the large majority of cases (87% in large household appliances, 86% small household appliances, 85% electronic and IT products, and 88% furniture).

[221] Examples include the availability of spare parts over a long period after purchase (7 years minimum for refrigerating appliances, 10 years minimum for household washing-machines and household washer-dryers, 10 years minimum for household dishwashers), including the obligation for the manufacturer to ensure delivery of the spare parts within 15 working days. Under the new ecodesign measures, manufacturers have to ensure the availability of repair and professional maintenance information for professional repairers.

[222] European Commission, Behavioural study on consumers' engagement in the circular economy, 2018, https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf

[223] CentERdata, The influence of durability and reparability information. 2020 https://www.centerdata.nl/en/projects-by-centerdata/the-influence-of-durability-and-reparability-information

[224] These are conservative estimates, as they cover only large household appliances, small household appliances, electronic and IT goods, furniture and cars.

[225] These are conservative estimates, as they cover only electronic and IT goods.

The number of consumers affected by this sub-problem is around 300 million, which corresponds to the 80% of consumers that would like to receive this information and consider the available information insufficient (see section above). Extrapolating the result of the consumer survey, around 155 million of those would be willing to pay for this information (EUR 5.53 per year on average).

Current evidence suggests that about 50-55% of all consumers[226] (187-205 million people) would use the information to buy 'products that would be easier to repair', with most willing to pay a premium. Evidence suggests that because consumers do not have this information, they may choose the alternatives in the market that are not the easiest to repair and consequently end up not repairing broken products (spare parts are not available when needed, software updates are not available, they do not know where to obtain updates or there is no repair manual available (Table 15).

Table 15. Problems faced by consumers who tried to repair a product and gave up

Type of repair	Not able to get spare parts	Not able to get update	Not able to get repair manual
Professional repair	16%	5%	N/A
Independent repair	39%	11%	23%

Source: ICF consumer survey.

The evident non-provision of information on reparability for most products strongly suggests that (almost all) that manufacturers - of goods for which this information would be relevant from the point of view of the consumer and society (about 206,000 manufacturers[227]) – do not have sufficient incentives to provide it. This lack of incentives may have several reasons, as companies that produce products that have a lower reparability than market average may expect losses in revenues if they would provide this information, while companies that produce products with better reparability than market average (which may be a small percentage as this needs to be the case for most of the products manufactured by the given company), may consider that the expected overall increase in turnover (due to the fact that some consumers are willing to pay more for products that have better reparability) is lower, or not likely to be significantly more than the expected costs of providing that information (which could include compensating consumers if the reparability of a certain item/model is not exactly has the one indicated, reputational damage, etc.).

The fact that consumers decide to replace instead of repairing potentially affects 193,000 repairers.

Three Member States have approved legislation to address this problem and three others are currently discussing legislative proposals (Table 4) (see Annex 10 for detailed analysis). This will lead to increased compliance costs for companies and increased legal uncertainty, which could become barriers to cross-border trading.

3.5.3.3 Consequences and who is affected

Failure to provide this information to consumers can lead to non-optimal individual choices, with consumers unknowingly purchasing goods that are potentially more difficult to repair or that have worse software update/upgrade policies than the available alternatives. Replacing instead of repairing goods is also a non-optimal choices from society's perspective.

[226] Values from ICF consumer survey y. As shown previously, other sources report higher percentages.
[227] There are some exceptions, mainly in the context of large and small household appliances.

Consumers

The main consequence of the lack of reliable information for consumers is non-realised consumer surplus and/or consumer detriment as a result of sub-optimal choices. This can be estimated using consumers' willingness to pay for reliable information on the reparability for all products or per product per type of information[228]. Accordingly, the opportunity cost of this sub-problem to consumers is estimated to be between EUR 0.9 billion and EUR 1.3 billion (see Annex 15 for methodology).

Market

As consumers are not able to take the reparability of products into account in their decisions, the market share of easier-to-repair goods - and consequently, the demand for repair services - are potentially lower than they would be if information on reparability would be required to be made available to consumers. As companies currently do not compete on reparability of their products, they have fewer incentives to improve their commitments with respect to the availability of repair services, spare parts and repair manuals, and their software update/upgrade policies[229].

The European Commission 'Study on socioeconomic impacts of increased reparability' concluded that increased consumer awareness could contribute to improving the functioning of the internal market and increase the demand of repair activities[230]. That increased demand, the study found, has high potential to bring added value to the economy by, for example, increasing the turnover of repairers. There would be negative economic impacts as well, such as loss of turnover for manufacturers and retailers. The economic impacts of increased reparability were also analysed by the European Parliament study on longer lifetime of products, which concluded that an increase of 1% in the use of maintenance, repair, rental services, etc. sectors would have an aggregated effect of EUR 6.3 billion[231].

Environment

The opportunity costs to the climate and environment of not providing information on reparability are equal to the gains to the environment resulting from consumers buying products that would last longer if this information were made available. Table 16 shows the estimated key environmental impacts for a scenario where repair would increase the lifespan of the broken product by one year (see Annex 15 for methodology).

Table 16. Possible environmental impacts of shifting demand towards products that are easier to repair, by year of lack of information

Impact	Size of impact for appliances, electronics, ICT and other electronics, sofas and mattresses
Climate change (per year) (MtCO2e per year; EUR 34 - 68[232] per tonne CO2e)	0.4 MtCO2e EUR 13 million
Particulate matter (deaths per year; VSL per year - EUR)	11 deaths EUR 51 million
WEEE (tonnes)	+/- 10,000

[228] Both questions were asked in the ICF consumer survey.
[229] According to the 2020 Eionet Report, 'Electronic products and obsolescence in a circular economy', as software updates have been one of the key causes of obsolescence in televisions, the provision of software drivers and support over a sufficiently long period would have a positive impact on the extension of television lifetimes.
[230] European Commission, Study on socioeconomic impact of increased reparability, 2016, https://op.europa.eu/en/publication-detail/-/publication/c6865b39-2628-11e6-86d0-01aa75ed71a1
[231] European Parliament, A longer lifetime for products: benefits for consumers and companies, 2016, https://www.europarl.europa.eu/RegData/etudes/STUD/2016/579000/IPOL_STU(2016)579000_EN.pdf
[232] https://www.ebrd.com/news/publications/institutional-documents/methodology-for-the-economic-assessment-of-ebrd-projects-with-high-greenhouse-gasemissions.html

Source: elaborated by ICF.

3.5.4 What are the problem drivers?

Key drivers leading to consumers lacking information to contribute to the green transition are:

- Market failure: insufficient economic incentives for producers to provide reliable information about the environmental sustainability of their products, including on lifespan and reparability;
- Regulatory failure: lack of precision in the EU legal framework to define the information that consumers should receive about the environmental sustainability of products.

Driver 1: Market failures - lack of private incentives to provide reliable information

In general, manufacturers and traders have no incentive to provide consumers with reliable information on the environmental characteristics, lifespan and reparability of their products. The exceptions are where the expected benefits in terms of increased demand outweigh the costs of providing that information, or where they are obliged to provide the information by the existing legal framework.

There is widespread agreement on the insufficient provision of reliable information to consumers on these three aspects. The lack of incentive to provide reliable information on environmental impacts likely affects about 50% of products, while the lack of incentive to provide reliable information on the lifespan and reparability of products affects more than 80% of products. This is because:

- It is not advantageous to provide this information for products with environmental characteristics[233], a lifespan or reparability that is inferior to competing products.
- Assessing the environmental impact of products and their lifespan can be burdensome and expensive. Assessing the environmental impacts of products is costly (resources and duration)[234] and the lack of a harmonised approach across the EU may require the application of more than one approach, leading to duplication of costs for companies involved in cross-border trade[235]. It can also hinder the comparability of products and recognition of the assessment as trustworthy by consumers, and/or be questioned by competitors and other organisations. Similarly, assessing the expected lifespan of products can be extremely costly and lengthy, in particular for products with long expected lifespans such as large household appliances.
- Potential gains in sales may not be high due to insufficient demand for more environmentally friendly products, products with longer lifespans and that are easier to repair (not all consumers are willing to pay for products that perform better in these aspects, and of those that do (a) the additional amount they are willing to pay may not be sufficient to cover the price premium associated to better performances or (b) their purchase preferences may assign more weight to other aspects of the products). This is caused by a variety of factors, including a lack of trust in environmental claims (see section 3.6) and high costs of repair. Consumers often take purchase decisions based on price and disregard the overall long-term costs of their choices. Several studies provided evidence of this bias in a variety of contexts. It is often exploited by companies to increase demand for their products through a

[233] For those that have superior environmental characteristics, it is advantageous to provide this information in order to gain competitive advantage.
[234] As highlighted by the stakeholders consulted.
[235] https://ec.europa.eu/environment/eussd/smgp/pdf/EF_stakeholdercons19.pdf

strategy called 'partitioned pricing'[236]. On life-cycle computations for example, higher initial prices of sustainable products constitute an important barrier to the uptake of those products, even if they represent savings in the long-term compared to other products[237].

- Providing information on lifespan and reparability may involve commitments about expected lifespan and availability of spare parts that could be expensive (e.g. ensuring availability of spare parts, loss of reputation) and/or become a liability to the manufacturer (e.g. consumers might demand compensation if the good did not last as long as indicated).
- Increasing the durability and reparability of goods can reduce sales and turnover for manufacturers and retailers[238].

Driver 2: Regulatory failure - insufficiently adapted regulatory framework

The current EU legal framework requires consumers to be provided with relevant pre-existing information on products. It does not, however, precisely define the information that consumers should receive about the environmental sustainability of products. This omission allows traders and producers to avoid providing this information, despite its relevance for a significant share of consumers when making their purchase decisions.

This lack of precision is recognised by public authorities and appears to be of concern, with the majority agreeing that consumers should be better informed on the lifespan and repairability of products[239]. They also agree that there should be a number of information requirements regarding lifespan of products, known issues that can cause the early failure of a product, and the reparability of products. In fact, the public authorities of some Member States[240] have laid down clear requirements on the obligation to provide consumers with information on the lifespan and/or reparability of products in order to address the lack of precision in the current EU legal framework.

3.6 Core problem 2: Consumers face misleading practices in relation to sustainable purchases

Many consumers are currently confronted with commercial practices that mislead them about the sustainability (including lifespan) of products. This generates consumer mistrust and decreases consumer interest in purchasing more sustainable products.

The main categories of commercial practices identified in various studies and corroborated by the results of the OPC, the consumer survey carried out in the context of this study and targeted consultation with public authorities were:

- Planned/premature obsolescence: development of goods (particularly durable consumer goods) that (a) fail early - goods are purposely designed not to last as long as the average consumer would expect, or (b) fail due to poor manufacturing, choice of materials, etc;

[236] Lee, Y.H. and Han, C.Y., 'Partitioned pricing in advertising: Effects on brand and retailer attitudes', *Marketing Letters*, Vol. 13, No. 1, 2002, pp.27-40.
[237] Kaenzig, J. and Wüstenhagen, R., 'The effect of life cycle cost information on consumer investment decisions regarding eco-innovation', *Journal of Industrial Ecology*, Vol. 14, No. 1, 2020, pp.121-136.
[238] European Parliament, A longer lifetime for products: benefits for consumers and companies, 2016, https://www.europarl.europa.eu/RegData/etudes/STUD/2016/579000/IPOL_STU(2016)579000_EN.pdf
[239] Survey of public authorities, Q 5 'Do you think consumers in your country should be better informed about the lifespan and repairability of durable goods (meaning goods expected to last longer than 2 years)?'. The option 'Yes, they need more information about lifespans' was selected 13 times and the option 'Yes they need more information about reparability (e.g. availability of repair services, spare parts or repair manuals)' was selected 15 times. The option 'No, the information they receive now is generally adequate' was selected 2 times and the option 'No, they are generally not interested in such information' 0 times.
[240] Seven out of 23 respondents from the following Member States: Romania, Italy, Finland, Greece, France, Austria.

- Greenwashing - use of vague, misleading and/or unfounded claims regarding products' environmental characteristics[241];
- Proliferation of sustainability labels, trust marks, quality marks, claims, etc. and digital information tools (e.g. digital tools comparing the carbon footprints of selected products) that signal/inform consumers about economic, social and environmental aspects of products that consumers struggle to interpret, compare and verify.

3.6.1 Sub-problem 2.1: Consumers are sold products that do not last as long as they should or as long as consumers expect

3.6.1.1 Description

The failure of products earlier than reasonably expected is a growing concern for consumers, consumer organisations and NGOs, as shown by the results of the OPC (77% of respondents (and 89% of citizens) experienced an unexpected failure of products in the past three years) and the targeted consultation carried out for this study, including the consumer survey (see Annex 8).

Although evidence is often anecdotal[242] and difficult to find in scientific literature[243], available studies suggest **that certain consumer goods are not designed to last long and/or have a shorter lifetime than in the past**[244,245,246]. The PROMPT project[247] is based on consumer reports in seven Member States, which includes Belgium and therefore the complaints from Test Achat/Test Aankoop database on Trop Vite Use/Te Rap Kapot. PROMPT identified that a significant share of goods tend to fail right after the end of the minimum legal guarantee period (between the second and third year) (Figure 13)[248]. As shown in Table 17, the results of the consumer survey are also in line with these findings. This view is not shared by manufacturers/retailers[249]. The 2019 Market Monitoring survey[250] showed that around 16% of respondents experienced a product breaking shortly after the legal guarantee or commercial guarantee period (15% for household appliances and 17% for electronic products).

[241] The UCPD guidance defines greenwashing as 'The expressions "environmental claims" and "green claims" refer to the practice of suggesting or otherwise creating the impression (in a commercial communication, marketing or advertising) that a good or a service has a positive or no impact on the environment or is less damaging to the environment than competing goods or services. This may be due to its composition, how it has been manufactured or produced, how it can be disposed of and the reduction in energy or pollution expected from its use. When such claims are not true or cannot be verified, this practice is often called "greenwashing". "Greenwashing" can relate to all forms of business-to-consumer commercial practices concerning the environmental attributes of goods or services. According to the circumstances, this can include all types of statements, information, symbols, logos, graphics and brand names, and their interplay with colours, on packaging, labelling, advertising, in all media (including websites) and made by any organisation, if it qualifies as a "trader" and engages in commercial practices towards consumers.'

[242] Prakash et al., Influence of the service life of products in terms of their environmental impact: Establishing an information base and developing strategies against obsolescence, UBA-Texte 11/2016, 2016, https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-01-16_texte_09-2020_obsolescense_en_0.pdf

[243] Bakker et al., The long view: Exploring product lifetime extension, 2017, https://www.oneplanetnetwork.org/resource/long-view-exploring-product-lifetime-extension

[244] EEB, 2015.

[245] Bakker et al., The long view: Exploring product lifetime extension, 2017, https://www.oneplanetnetwork.org/resource/long-view-exploring-product-lifetime-extension

[246] European Parliament, Planned obsolescence: Exploring the issue, 2016, https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/581999/EPRS_BRI(2016)581999_EN.pdf

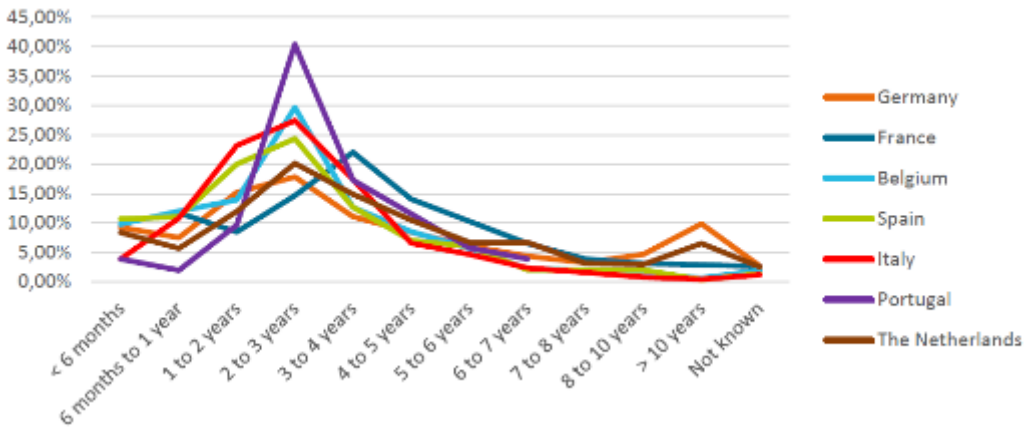
[247] PROMPT, State-of-the-art of consumers' product experiences related to premature obsolescence, forthcoming.

[248] The results are not representative and are influenced by sample bias.

[249] ICF survey of industry organisations shows little support for planned or premature obsolescence, with some early indications from respondents that most products (with the exception of mobility equipment and furniture) never fail prematurely.

[250] https://ec.europa.eu/info/policies/consumers/consumer-protection/evidence-based-consumer-policy/market-monitoring/market-monitoring-2019-presentation-results-market_en

Figure 13. Age at first defect: results of the PROMPT project based on consumer complaints and survey reports, by country



Source: PROMPT, State-of-the-art of consumers' product experiences related to premature obsolescence, forthcoming.

Table 17. Results of the consumer survey: 'How old was the product when you had your first problem with it?'

	Large household appliances	Small household appliances and tools	Electronic and IT products	Furniture
Between 2 and 3 years	44%	66%	59%	58%
3 years	16%	10%	16%	13%
4 years	11%	9%	5%	10%
5 years	11%	6%	10%	6%
6 years	6%	3%	3%	4%
7 years	3%	1%	4%	2%
8 years	2%	2%	2%	2%
9 years	2%	0%	0%	2%
10 years or older	5%	2%	0%	2%

Source: elaborated by ICF.

A 2015 German study concluded that the percentage of large household appliances replaced by consumers within five years due to technical defects more than doubled, from 3.5% in 2004 to 8.3% in 2012[251]. Similarly, a study carried out by the German Environment Agency[252] reported that the average time in service for the first user of large household appliances has decreased from 14 to 13 years, with technical failure being the main reason for product replacement (accounting for about 56% of total replacements)[253]. A more recent study by the German Environment Agency presented some evidence that the lifespan of some goods is becoming shorter (e.g. an analysis of

[251] European Parliament, Planned obsolescence: Exploring the issue, 2016, https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/581999/EPRS_BRI%282016%29581999_EN.pdf
[252] Cited in European Commission, 2016.
[253] European Parliament, Planned obsolescence: Exploring the issue, 2016, https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/581999/EPRS_BRI%282016%29581999_EN.pdf

the date of manufacture of installed capacitors concluded that the average age of washing machines disposed of in 2013 was 13.7 years, compared to 16 years in 2004)[254]. This is in line with a JRC study that found that the average expected product lifetime of washing machines and washer-dryers of 12.5 years had decreased compared to the typical former value of approximately 15 years[255].

The European Parliament study on promoting product longevity[256] cited evidence from the literature indicating that current appliances such as cookers, vacuum cleaners, kettles and irons are less durable than in the past[257]. The same study found that in the case of smartphones and tablets, despite most devices lasting for at least four years, a large proportion of the devices were replaced after two years because: (1) the battery had stopped working and could not be replaced; (2) the screen had cracked and could not be replaced; or (3) the manufacturer was no longer willing or able to support the software. Early failure in the context of smartphones is also documented elsewhere[258]. Interestingly, while issues related to the failure of goods may vary depending on the characteristics of the goods, the PROMPT project (based on consumer reports) concluded that 'a limited number of problem types account for four out of five failures, most of which refer to a specific part of a product, many of which appear to be shared across product categories (e.g. batteries, printed circuit boards and LCD screens)'[259].

A study commissioned by BV-OECO reviewed four studies and compiled their findings in respect of trends in the reduction of lifespan in the Netherlands and Germany (Table 18)[260].

Table 18. Summary of the meta-analysis of studies regarding product lifespan trends, by product,

Product	Trend	Period	Measure	Method	Country	Source
Screen	-17%	2000-2010	Residence time	Weibull analysis of sales data	NL	HUISMAN 2012
Vacuum cleaners, microwaves, Audio	-12%					
Computers, laptops and mobile phones	-10%					
Lamps	-10%					
Washing machines, dishwashers, washer-dryers	-7%					
Refrigerators and freezers	-4%					

[254] Prakash et al., Influence of the service life of products in terms of their environmental impact: Establishing an information base and developing strategies against obsolescence, *UBA-Texte 11/2016* (2016), 2016, https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-01-16_texte_09-2020_obsolescense_en_0.pdf

[255] JRC, Follow-up of the preparatory study for Ecodesign and Energy Label for household washing machines and household washer dryers, 2017, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC108583/jrc108583_wash_explanatory-notes_20171206_final_clean.pdf

[256] European Parliament, Planned obsolescence: Exploring the issue, 2016, https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/581999/EPRS_BRI%282016%29581999_EN.pdf

[257] The same study indicated that 'there are some suggestions in the literature that product lifetime may actually be getting better, not worse, over time', however the study based its conclusions on relatively old data which may explain the disparity between its findings and more recent data (e.g. it compared data from 1947-2001 and 1945-1980). The study also focused primarily on cars and smartphones.

[258] Rizos et al., Identifying the impact of the circular economy on the Fast-Moving Consumer Goods industry: opportunities and challenges for businesses, workers, and consumers–mobile phones as an example, 2019.

[259] PROMPT, State-of-the-art of consumers' product experiences related to premature obsolescence, forthcoming.

[260] Depypere, M. and Opsomer, T., Relevance of policy measures to increase product lifetimes: a literature review, BV-OECO, 2018.

Product	Trend	Period	Measure	Method	Country	Source
All products together	-8%					
CF lamps	+3%	2000 – 2005	Lifetime	Weibull analysis of consumer surveys	NL	BAKKER 2014
Flatscreen TVs	0					
Vacuum cleaners	-1%					
Refrigerators	-1%					
Dishwashers	-2%					
Mobile phones	-3%					
Washing machines	-3%					
Laptops	-5%					
Hot water and coffee	-9%					
Printers and imaging equipment	-11%					
Microwaves	-15%					
Small consumer electronics	-20%					
Large household appliances	+2%	2004-2008	First service life	Consumer survey (TV not listed here: immature market with introduction of flat screen TVs in 2004)	Germany	PRAKASH 2016
Large household appliances	-10%	2008-2012				
Large household appliances	-8%	2004-2012				
Washing machine	-6%					
Wash dryers	-12%					
Dishwasher	+2%					
Refrigerator	-10%					
Notebooks	-5%					
Washing machine	-14%	2004 – 2013	Residence time	Capacitor age at disposal center	Germany	STAMMINGER 2005, PRAKASH 2016
Washing machine	=/+	1993 – 2013	Lifetime	Machine test by Stiftung Warentest of machines that cost more than 350 EUR.	Germany	PRAKASH 2016

Source: From BV-OECO study.

The failure of goods determined by their design is sometimes referred to as 'absolute obsolescence'[261] and it is due to lack of performance of material or components (mechanical obsolescence) or lack of interoperability of software and/or hardware (incompatibility obsolescence)[262]. When this type of failure occurs before it might be reasonably expected by consumers or technologically possible, then this is considered premature obsolescence (goods are made of low-quality material, poorly manufactured or designed). Planned obsolescence occurs when that failure is intentionally planned, e.g. programmed into the goods[263].

Consumers are interested in goods with longer lifespans (see section 3.5). While some data show that consumers may replace some goods before the end of their lifespan[264,265] (e.g. due to psychological obsolescence often exacerbated by marketing campaigns), recent **studies have suggested that consumers would like their goods to last longer than they currently do**. A review conducted by UNEP in 2017 found that[266,267]:

- 66% of 806 Brazilians surveyed felt that product lifespans were shorter than they deemed reasonable;
- 45% of 802 British households considered their household appliances did not last as long as they would like them to;
- The majority of 1,000 surveyed Austrian residents 'want products to last considerably longer than they are currently used'.

This was corroborated by the experiences of consumers reported in the ICF consumer survey (more than 67% who experienced problems with goods considered that the first problem occurred too early and that the product should normally have lasted longer[268]) and in the OPC (where only 11% of the citizens that responded had never experienced early product failure)[269].

Various organisations have expressed their concerns about premature and planned obsolescence of goods[270,271]. An OPC that ran from 29 November 2018 to 24 January

[261] There are various other classifications and types of obsolescence. See, for example, https://prompt-project.eu/wp-content/uploads/2020/07/PROMPT_20200430_State-of-the-art-overview-of-the-user-market-and-legal-aspects.pdf or EESC, 2013.
[262] EEA, Electronic products and obsolescence in a circular economy, ETC/WMGE 2020/3, 2020, https://www.eionet.europa.eu/etcs/etc-wmge/products/electronics-and-obsolescence-in-a-circular-economy/@@download/file/ETC-WMGE_Electronics%20and%20obsolescence%20in%20CE_final.pdf
[263] *ibid.*
[264] Even in these cases, premature obsolescence might play a role. A recent PROMPT report found that the ultimate decision to replace a functioning product depends on the interplay of multiple factors, including loss of performance, https://prompt-project.eu/wp-content/uploads/2020/07/PROMPT_20200430_State-of-the-art-overview-of-the-user-market-and-legal-aspects.pdf
[265] In a circular economy, the goods replaced before the end of their lives can be re-sold and reused (https://www.eea.europa.eu/publications/circular-by-design).
[266] Bakker et al., The long view: Exploring product lifetime extension, 2017, https://www.oneplanetnetwork.org/resource/long-view-exploring-product-lifetime-extension
[267] The same report identified two other studies in the UK and Germany where consumers did not expect significantly higher lifespans for a specific set of products, highlighting research that justified this discrepancy with evidence of discrepancies between 'wanting' and 'expecting' (the latter incorporating consumers' views on the behaviour of businesses).
[268] Respondents to the consumer survey considered the first problem they experienced occurred too early and that the product should have normally lasted longer in 69% of large household appliances, 75% of small household appliances and tools, 72% of electronic and IT products, and 86% of furniture.
[269] Overall, 24% of respondents (but only 11% of citizens) indicated no experience of an unexpected failure of one or more products in the past three years. Those that had experienced this selected the following product categories to be the most problematic: ICT products (e.g. mobile phone, computer and peripherals, gaming equipment) (47%); small household appliances (e.g. kettle, toaster, microwave oven, hobby machinery) (20%); clothing and footwear (19%); and other electronics (e.g.TV set, audio-visual equipment, digital camera) (18%).
[270] European Commission, Sustainable products in a circular economy – towards an EU product policy framework contributing to the circular economy, SWD(2019)92 final, 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf
[271] BEUC, Consumer priorities for the 2019 European Parliament elections, 2018, https://www.beuc.eu/publications/beuc-x-2018-107-consumer_priorities_for_the_2019_european_parliament_elections.pdf; HOP, Durabilité des produits 2020: Le temps de l'action, 2020, https://www.halteobsolescence.org/wp-content/uploads/2020/11/Rapport-Club-de-la-Durabilite-

2019 found that a large majority (76%) of respondents (and 88% of consumers) were concerned about premature obsolescence of products[272].

The consultations showed that most stakeholder groups (including citizens but not industry associations) believe that premature obsolescence occurs but is not necessarily planned[273]. This was also the view of the independent experts consulted for this study. Industry representatives did not agree that the practice of planned obsolescence is prevalent[274] and raised doubts as to whether shorter lifespans are linked solely to manufacturers rather than to consumer behaviour, such as poor maintenance and increased use[275].

The stakeholders consulted (with the exception of industry representatives) generally believed that premature obsolescence often happens because products are designed to stop working or to deteriorate quickly[276], prevention of repairs or replacement of parts[277], products/software can no longer be maintained and/or manufacturer stops supporting it[278], products do not receive new security updates or other updates necessary for the proper functioning, and products have mandatory software updates that reduce their performance[279]. Only two business associations commented on the underlying causes that lead to premature obsolescence, referring to i) cheap products manufactured outside the EU by using materials that cause failures and ii) inoperability due to excessive use or an operating error, rather than a design fault.

At EU-level, the UCPD to some extent addresses the issue of planned obsolescence (i.e., a specific type of premature obsolescence where the early failure of a product was due to an intentional decision/action of the manufacturer) for all goods[280], while the EU energy label *Ecodesign* and the voluntary EU Ecolabel can be seen as important instruments to prevent premature obsolescence for a set of goods. At national level, there are also some legal initiatives (and some proposals) that aim to prevent premature obsolescence. Nevertheless, the findings described above point to the possible existence of premature obsolescence across the EU.

There have been few legal cases in different Member States related to planned obsolescence. For example, the Competition Authority in Italy fined both Apple and Samsung for unfair commercial practices linked to software updates that had an impact on the performance of phones and accelerated their replacement[281]. In 2020, France's consumer protection body fined Apple EUR 25 million for misleading consumers by failing to inform them that updating their iPhones with the latest operating system would

2020.pdf; European Parliament Resolution of 4 July 2017 on a longer lifetime for products: benefits for consumers and companies, https://www.europarl.europa.eu/doceo/document/TA-8-2017-0287_EN.html?redirect: Oldyrevas et al., Long live the machine. *ECOS*, 2020, https://ecostandard.org/wp-content/uploads/2020/02/LONG-LIVE-THE-MACHINE-ECOS-REPORT.pdf: EESC, Towards more sustainable consumption: industrial product lifetimes and restoring trust through consumer information, CCMI/112-EESC-2013-1904, 2013, https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/towards-more-sustainable-consumption-industrial-product-lifetimes-and-restoring-trust-through-consumer-information

[272] European Commission, Sustainable products in a circular economy – towards an EU product policy framework contributing to the circular economy, SWD(2019)92 final, 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf

[273] Planned and/or premature obsolescence is considered to occur mostly in smartphone and tablets (7 out of 8 consumer organisations, 4 out of 5 other organisations); laptops, printers, computers (6 out of 8 consumer organisations, 5 out of 5 other organisations); other IT and technology products (5 out of 8 consumer organisations, 4 out of 5 other organisations); small household appliances (5 out of 8 consumer organisations, 5 out of 5 other organisations).

[274] None considered it to take place often or very often, and the majority considered it to happen rarely.

[275] Interview with APPLIA.

[276] 6 out of 8 consumer organisations; 2 out of 2 public authorities.

[277] 5 out of 8 consumer organisations; 2 out of 2 public authorities considered this seldom the case.

[278] 7 out of 8 consumer organisations; 2 out of 2 public authorities.

[279] 6 out of 8 consumer organisations; 2 out of 2 public authorities.

[280] The UCPD does not prohibit obsolescence practices as such but a trader selling goods with hidden obsolescence issues could be pursued for withholding material information, subject to case-by-case assessment.

[281] Apple's fine was EUR 10 million, while Samsung received a smaller fine of EUR 5 million.

slow the device[282,283]. However, in line with several studies[284,285], the Eionet Report[286] highlighted that in spite of several documented cases of goods designed to fail early (washing machines, mobile phones, inkjet cartridges), proving that those failures were intentionally planned is extremely difficult[287]. Stakeholders consulted (across all groups except industry associations) remain convinced of the existence of obsolescence practices but consider them difficult to verify.

3.6.1.2 Extent of the problem

Premature obsolescence is relevant to all goods that are not perishable, do not wear out quickly and therefore do not have to be purchased frequently, but particularly products that have an expected lifespan longer than the period of the legal guarantee (large household appliances, small household appliances, electronics, IT goods, etc.). According to the OPC, respondents believed that this problem largely affects ICT products (e.g. mobile phones, computer and peripherals, gaming equipment), small household appliances (e.g. kettle, toaster, microwave oven, hobby machinery) (20%), clothing and footwear (19%) and other electronics (e.g.TV, audio-visual equipment, digital camera) (18%).

This problem affected between 10.5% and 13.9% of consumers surveyed (depending on the threshold used to define early failure - i.e., failure 60%, 75% or 90% earlier than the reasonable expected lifespan), which, extrapolated to the EU-27, would represent between 393,000 and 505,000 consumers per year.

[282] Rizos et al., Identifying the impact of the circular economy on the Fast-Moving Consumer Goods industry: opportunities and challenges for businesses, workers and consumers–mobile phones as an example, 2019; RDC Environment, L'obsolescence programmée : politiques et mesures belges de protection du consommateur, 2017, https://www.marghem.be/wp-content/uploads/Obsolescence-programm%C3%A9e_rapport-final_RDC-Envrionment_V2_Rapport.pdf

[283] Reuß et al., Kaufen für die Müllhalde, Das Prinzip der geplanten Obsoleszenz, 2013.

[284] See, for example, RDC Environment, L'obsolescence programmée: politiques et mesures belges de protection du consommateur, 2017.

[285] BEUC, Factsheet – Premature obsolescence: when products fail too quickly, 2018, https://www.beuc.eu/publications/beuc-x-2018-057_premature_obsolescence.pdf

[286] EEA, Electronic products and obsolescence in a circular economy, ETC/WMGE 2020/3, 2020, https://www.eionet.europa.eu/etcs/etc-wmge/products/electronics-and-obsolescence-in-a-circular-economy/@@download/file/ETC-WMGE_Electronics%20and%20obsolescence%20in%20CE_final.pdf

[287] This was also highlighted by the consulted CPC authorities and other stakeholders.

Table 19. Lifespan when product broke, as % of expected lifespan

	Lifespan when product broke, as % of expected lifespan		
	<60.0%	**<75.0%**	**<90.0%**
Large household appliances			
Cookers and ovens	10.8%	11.4%	11.9%
Dishwasher	19.0%	20.7%	21.3%
Microwaves	8.8%	10.3%	10.8%
Refrigerator	15.7%	15.9%	16.9%
Washing Machines	21.0%	21.9%	22.8%
Small household appliances			
Vacuum cleaners	13.6%	14.8%	15.4%
Small kitchen appliances	5.7%	7.1%	8.0%
Irons	5.4%	7.1%	8.3%
Hair clippers	5.9%	7.5%	8.3%
Hair dryers	5.9%	7.5%	7.5%
Electric kettles	6.5%	8.2%	8.9%
Coffee machines	9.7%	12.1%	13.8%
Electronics and IT goods			
Laptops and tablets	7.1%	14.2%	19.1%
TVs	10.3%	11.8%	12.9%
Mobile phones	9.0%	18.0%	20.7%
Furniture			
Sofas and seats	9.9%	10.5%	11.2%

Source: ICF consumer survey.

The European Commission Study on the costs and benefits of extending certain rights under the Consumer Sales and Guarantees Directive 1999/94/EC outlined the consumer detriment experienced due to early failure (Table 20).

Table 20. Consumer detriment resulting from defects during different time periods (EUR)

Indicator	Bound	Time period for discovery of defect*				
		Defects discovered less than 2 years after purchase	Defects discovered 2-3 years after purchase	Defects discovered 3-5 years after purchase	Defects discovered more than 5 years after purchase	Average across all time periods
Average gross detriment per consumer (EUR)**	Lower	113	200	104	101	115
	Upper	185	307	181	173	137
Average net detriment per consumer (EUR)**	Lower bound	32	109	40	64	34
	Upper bound	52	170	56	109	53

Source: ICF elaboration based on data from European Commission Study on the costs and benefits of extending certain rights under the Consumer Sales and Guarantees Directive 1999/94/EC.

While only a few manufacturers may practice premature obsolescence, the problem affects all companies on the market that manufacture durable goods (about 326,000 manufacturers), as it leads to an uneven playing field.

One Member State (France) has approved legislation to address this problem, while three others are discussing legislative proposals (Table 4) (see Annex 10 for detailed analysis). This will lead to increased compliance costs for companies and increased legal uncertainty, which could become barriers to cross-border trading.

3.6.1.3 Consequences and who is affected

Even if premature obsolescence (planned or not) is practised by only a few companies or for some type of goods (as indicated by industry associations), it can have a major impact on consumers, the market and the environment:

- Consumer detriment - consumers pay more than they would be willing to pay for 'effective' lifespan of goods with premature obsolescence and they suffer personal detriment related to the need to repair and/or replace the goods earlier than they could reasonably have expected when they purchased the good[288,289,290];
- Uneven or lack of a level playing field and harm to the single market - products with planned and premature obsolescence may be cheaper to produce and can compete with other goods on price, as consumers are not aware of the effective differences in the lifespan/quality of goods;
- Environmental impacts - the need to replace products more frequently and reduced potential for circularity (re-sale and reuse)[291].

[288] BEUC, Factsheet – Premature obsolescence when products fail too quickly, 2018, https://www.beuc.eu/publications/beuc-x-2018-057_premature_obsolescence.pdf
[289] EU-wide data on the economic cost of early failing products for consumer budgets are not available. However, Kreiß (2014) estimates that in Germany consumers could save EUR 110 every month.
[290] BEUC, Durable goods: More sustainable products, better consumer rights, 2015, http://www.beuc.eu/publications/beuc-x-2015-069_sma_upa_beuc_position_paper_durable_goods_and_better_legal_guarantees.pdf
[291] EEA, Circular by design – Products in the circular economy, 2017, https://www.eea.europa.eu/publications/circular-by-design

Consumers

There is consumer detriment in this case, as consumers pay more than they would be willing to pay for the 'effective' lifespan of goods. They suffer personal detriment related to the need to repair and/or replace the goods earlier than they could have reasonably expected when they purchased the good[292,293,294].

Based on available data, the consumer detriment as a result of one year of premature obsolescence would be around EUR 1.6 billion (see Annex 15).

Table 21. Estimated consumer losses due to premature obsolescence, in EUR million, 2019 prices

Product	Losses
Large household appliances	**268.04**
Cookers and ovens	53.49
Dishwasher	52.65
Microwaves	7.05
Refrigerator	75.49
Washing machines	20.04
Small household appliances	**103.31**
Vacuum cleaners	35.57
Small kitchen appliances	32.94
Irons	2.08
Hair clippers	4.05
Hair dryers	2.64
Electric kettles	2.05
Coffee machines	22.85
Electronics and IT goods	**1213.38**
Laptops and tablets	141.61
TVs	150.00
Mobile phones	521.79
Total	**1,584**

Notes: obsolescence is defined as failures that happen before the product reaches 60% of its expected lifespan.

Source: ICF elaboration

[292] BEUC, Factsheet – Premature obsolescence when products fail too quickly, 2018, https://www.beuc.eu/publications/beuc-x-2018-057_premature_obsolescence.pdf
[293] EU-wide data on the economic cost of early failing products for consumer budgets are not available. However, Kreiß (2014) estimates that in Germany consumers could save EUR 110 every month.
[294] BEUC, Durable goods: More sustainable products, better consumer rights, 2015, http://www.beuc.eu/publications/beuc-x-2015-069_sma_upa_beuc_position_paper_durable_goods_and_better_legal_guarantees.pdf

Market

There is an uneven or lack of a level playing field, harming the single market. This is the result of products with planned and premature obsolescence possibly being cheaper to produce and therefore competing with other goods on price, as consumers are not aware of the effective differences in the lifespan/quality of goods.

It also creates a 'negative' incentive for companies to develop products that last longer.

Environment

Early failure of products leads to their early replacement and thus to environmental impacts related to the production, transport and disposal of products. Table 22 presents the estimates of the possible environmental impacts of premature obsolescence (see Annex 15 for methodology).

Table 22. Possible environmental impacts of premature obsolescence, in EUR million, in 2019 prices

	Impacts
Climate Change (per year) (MtCO2e per year; EUR 3 per tonne CO2e)	1.874 MtCO2e EUR 64 million
Particulate matter (deaths per year; VSL per year - EUR)	54 deaths EUR 256 million
WEEE (tonnes)	51,000

Notes: obsolescence is defined as failures that happen before the product reaches 60% of its expected lifespan and as a consequence of one year of this practice.

Source: ICF elaboration

3.6.2 Sub-problem 2.2: Consumers are faced with the practice of making unclear or poorly substantiated green claims

3.6.2.1 Description

Consumers are increasingly confused by the practice of making environmental claims. The European Commission 'Consumer market study on environmental claims for non-food products' reported that 61% of consumers find it difficult to understand which products are truly environmentally friendly, and 44% do not trust this type of information. The consumer survey and the OPC found that 33% of the respondents consider difficulties in verifying the reliability of environmental claims on products to be one of the most relevant obstacles to the adoption of more sustainable consumption behaviours[295]. This was reflected in the targeted consultation[296] and in many other studies[297], such as the 2019 Consumers Conditions Scoreboard[298], which surveyed

[295] 36% of citizens; 23% of companies/business; 58% of consumer associations; 24% of business associations; 36% of public authorities; and 42% of other associations selected 'difficulties to verify the reliability of environmental claims (including climate related) on products' as a relevant obstacle to enhanced consumer participation in the circular economy and more sustainable consumption behaviour.

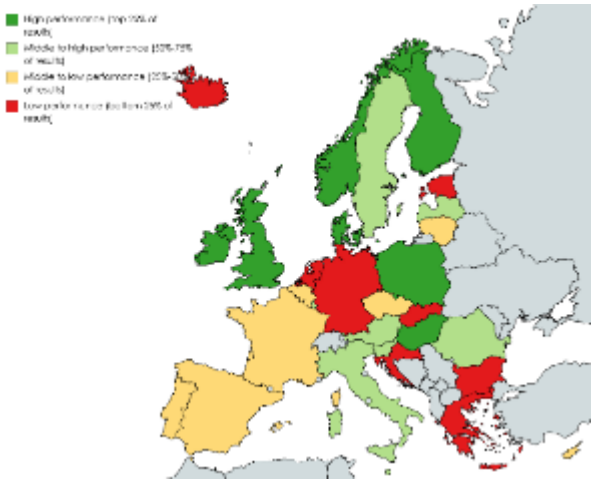
[296] This question was not asked of industry and thus reflects the opinions of consumer organisations, certification organisations and other repair organisations. It does not necessarily reflect the opinion of all the stakeholders in a given group, but, rather, is based on preliminary interviews with authoritative representatives of consumers, industry and certifiers. It remains to be validated or refuted by the wider results of the stakeholder consultation.

[297] Recognition of labels is of paramount importance to their effectiveness. The Special Eurobarometer 492/2019 showed that most respondents recognised the EU energy label and knew what it stood for, with 79% declaring that it had an influence when purchasing electric appliances (European Commission, Special Eurobarometer 492/2019 on Europeans' attitudes on EU energy policy, 2019, https://data.europa.eu/euodp/en/data/dataset/S2238_91_4_492_ENG).

[298] European Commission, Consumer Credit Scoreboard, 2019, https://ec.europa.eu/info/sites/info/files/consumers-conditions-scoreboard-2019_en_1.pdf.

consumers' and retailers' trust levels in environmental claims. The results for consumers indicated that only about half trust green claims[299] (in line with the findings of the EU study on Green Claims[300] and the ICF consumer survey[301]), the overall EU-28 trust level in environmental claims in 2018 at 4% lower than in 2016 (Figure 14).

Figure 14. Consumer and retailer trust in environmental claims, 2018 (% of consumers who 'strongly agree' or 'agree')



	Consumer's trust in environmental claims	Retailer's trust in environmental claims	Average trust in environmental claims	2018-2016
EU 28	55	71	63	-4
BE	49	71	60	-4
BG	53	53	53	+3
CZ	55	68	61	+6
DK	81	79	80	+8
DE	45	63	54	-17
EE	62	50	56	-8
IE	66	83	74	-6
EL	53	61	57	+3
ES	56	70	63	+1
FR	47	79	63	-13
HR	40	62	51	-1
IT	54	74	64	+9
CY	50	71	61	+7
LV	60	68	64	-8
LT	65	55	60	+8
LU	64	82	73	-3
HU	78	76	77	0
MT	62	80	71	+12
NL	55	64	60	+5
AT	55	70	68	-9
PL	65	81	75	+5
PT	68	63	60	-2
RO	55	79	67	-1
SI	49	79	64	+4
SK	52	58	55	-3
FI	64	85	75	+3
SE	54	80	67	+1
UK	63	80	71	-7
IS	45	60	52	-7
NO	60	85	73	+1

Source: 2019 Consumers Conditions Scoreboard.

Some recent studies and reports have indicated that practice of making environmental claims in advertisements and on products is common and possibly becoming more so, at least in certain EU countries[302,303]. This is supported by the findings of the EU Study on environmental claims on non-food products (76% overall presence of implicit and explicit green claims among the products assessed offline) and the results of the mystery shopping exercise for this study, which found that over half (51%) of the products analysed had an environmental claim.

In spite of EU consumer law (e.g. the UCPD) allowing national authorities to take action against unfair commercial practices that harm consumers' economic interests, such as 'greenwashing', **several studies have suggested that a considerable share of those environmental claims provide vague, misleading or unfounded information on products' environmental characteristics across the EU and**

[299] *ibid.*
[300] GFK, European Commission, Consumer market study on environmental claims for non-food products, 2014.
[301] The consumer survey found that about 63% of consumers believe that some (43%) or most (19%) sustainability labels are trustworthy.
[302] European Commission, Environmental claims – report from the multi-stakeholder dialogue, 2013, https://ec.europa.eu/info/sites/info/files/environmental-claims-report-ecs-2013_en_0.pdf
[303] Frey et al., 'La pubblicità ambientale quale strumento di comunicazione per l'eco-consumatore', *Finanza, Marketing e Produzione*. Vol.1, 2011, pp. 34-61.

product types (both in advertisements and in the product)[304,305,306,307,308,309]. All stakeholder categories consulted recognised that greenwashing has become an important and persistent problem, although views on its prevalence varied by stakeholder group)[310].

The 2014 European Commission study on environmental claims found that 40% of consumers who checked the veracity of an environmental claim concluded that it was not verifiable[311]. The same study analysed a sample of claims against the UCPD to determine whether consumers are provided with clear, accurate and reliable information in relation to environmental claims in non-food products. Overall, the assessment pointed to possible non-compliance with EU legal requirements, as many of the claims used vague terms and did not meet the requirements of accuracy and clarity. In addition, some claims seemed to contain incorrect statements. From the random selection of 53 environmental claims on non-food products, the study found that few of the claims could be considered fully in line with the UCPD, primarily due to the use of vague terminology that could be considered misleading.

The stakeholder consultation on the potential future use of the Product and Organisation Environmental Footprint methods[312] showed that 56% of respondents to all consultations (citizens, businesses, public authorities, etc.) had already encountered misleading claims, but only 4% filed a complaint[313]. More specifically:

- 66% of respondents to the business and sectoral associations' survey encountered claims that would qualify as misleading, but only 6% filed a complaint. In their experience, some (56%) or many (18%) environmental claims are false;
- 68% of respondents to the survey to method and initiative owners encountered environmental claims that were misleading, with 20% thinking that many environmental claims are false and about 50% thinking that some are false. The views of respondents on the share of misleading claims varied significantly, between 5% and 80%;
- Most of the public administrations, international organisations and NGOs surveyed reported encountering misleading environmental claims, with about 50%

[304] European Commission, Project to Support the Evaluation of the Implementation of the EU Ecolabel Regulation. ENV.A.1/SER/2013/0065r, 2013, http://publications.europa.eu/resource/cellar/a779f801-5498-11e7-a5ca-01aa75ed71a1.0001.01/DOC_1

[305] European Commission, Sustainable products in a circular economy - towards an EU product policy framework contributing to the circular economy, SWD(2019), 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf

[306] European Commission, Annexes to the Impact assessment on the policy initiative on 'Building the single market for green products: Facilitating better and credible information on environmental performance of products and organisations', 2013, https://ec.europa.eu/environment/eussd/smgp/pdf/annexes_ia.pdf

[307] European Commission, Report on 2018-2019 stakeholder consultations regarding the potential future use of the Product and Organisation Environmental Footprint methods, 2020, https://ec.europa.eu/environment/eussd/smgp/pdf/EF_stakeholdercons19.pdf

[308] European Commission, Consumer market study on environmental claims for non-food products, 2014, https://ec.europa.eu/info/sites/info/files/green-claims-report_en.pdf

[309] Advertising Standards Authority, Compliance Report – Environmental claims survey 2008, 2008, https://www.asa.org.uk/asset/A8D754E7-76AD-4463-8B4B91EA2A137CD3/

[310] In view of the stakeholders consulted, greenwashing practices are more common in food and drink products (5 out of 8 consumer associations, 6 out of 21 public authorities, 2 out of 3 other stakeholders); cosmetic and personal hygiene products (4 out of 8 consumer associations, 5 out of 21 public authorities, 2 out of 3 other stakeholders); mobility equipment (4 out of 8 consumer associations, 5 out of 21 public authorities, 2 out of 3 other stakeholders); cleaning and detergents (3 out of 8 consumer associations, 4 out of 21 public authorities, 2 out of 3 other stakeholders); and clothes and footwear (3 out of 8 consumer associations, 4 out of 21 public authorities, 2 out of 3 other stakeholders).

[311] European Commission, Consumer market study on environmental claims for non-food products, 2014.

[312] European Commission, Report on 2018-2019 stakeholder consultations regarding the potential future use of the Product and Organisation Environmental Footprint methods, 2020, https://ec.europa.eu/environment/eussd/smgp/pdf/EF_stakeholdercons19.pdf

[313] In a small number of responses, the cost and effort of making a complaint was mentioned as a barrier to taking action. In a number of more general comments, some respondents observed that there is no legal prohibition against misleading environmental claims.

experiencing false environmental claims, and the other half experiencing some false claims.

The preliminary results of a larger and more recent assessment undertaken in 2020 for DG ENV (IPSOS and Milieu)[314] generally corroborated the above findings and drew some additional key conclusions:

- Just over one-third of the environmental claims were found to be unclear and ambiguous, i.e. consumers could not discern the nature of the actual environmental benefit promoted by the claim. Many of the claims assessed as unclear were vague, general statements, which, on first impression, could not be associated with any concrete environmental impact;
- Around 60% of the claims analysed in-depth were found to be well-substantiated by national experts;
- Claims that offer gradation ('the best', 'more', 'x times more efficient') often lacked any indication of the benchmark for comparison, automatically rendering them inaccurate and misleading under UCPD;
- Certification schemes (e.g. bioleaf, EU ecolabel, etc.) greatly improved the clarity of the claims. Certification by an independent, third-party institution was deemed very helpful for the assessment of all criteria. However, the increasing proliferation of schemes and labels may confuse consumers.

3.6.2.2 Extent of the problem

The misleading commercial practice of Greenwashing is a problem for all products in the market. The extent of the issue can be estimated by extrapolating from the results of studies on the incidence of environmental claims per product category and their assessed reliability (Table 23).

[314] DG ENV study, Environmental claims in the EU: Inventory and reliability assessment, ongoing.

Table 23. Estimated percentage of products affected by greenwashing

Product category	Percentage with vague or misleading environmental claims	Estimated impact on the decision-making of those that buy environmentally friendly products	Notes
Large household appliances	28%	+	Energy label probably overrides the impact of misleading/vague claims
Small household appliances	3%	++/+++	Energy label probably overrides the impact of misleading/vague claims for vacuum cleaners
Electronics and IT goods	9%	++/+++	Energy label probably overrides the impact of misleading/vague claims for TVs
Clothes & footwear	3%	++	Design plays an important role in purchase decision
Furniture	15%	++	Design plays an important role in purchase decision
Cars	15%	+	Emission label and technology probably override the impact of misleading/vague claims
Cosmetics and personal care	26%	+++	
Cleaning products	18%	+++	
Food and drinks	18%	++	Product-specific regulation regarding some claims
Hospitality and restaurants	9%	++	Lack of offer
Housing, energy, water, etc. provision	29%	+++	
Transportation	14%	++	Lack of offer

Source: ICF estimates based on the results of three mystery shopping exercises (this study, DG JUST 2014 study, DG ENV 2020 study), and the findings of the inventory of DG ENV and other sources.

Greenwashing affects all consumers who purchase 'green products' - 86% (15% always and 36% often)[315] or about 322 million consumers, some of whom even pay a premium.

[315] ICF consumer survey for this study.

It also affects consumers who do not purchase environmental products because they do not trust the information provided. This amounts to at least 12% of consumers, according to evidence from a 2014 European Commission study[316], Eurobarometers and consumer surveys, but is likely higher, as 44% of consumers consulted in the context of the European Commission 'Consumer market study on environmental claims for non-food products' did not trust environmental claims. According to a 2014 Commission study[317], while 75% of EU citizens would buy green products, only 17% had actually done so in the month prior to the survey. The main reasons were lack of trust in the environmental information provided by producers and retailers, and limited availability of green products at affordable prices.

As about 35% of companies use a Life-Cycle Approach to assess the environmental impacts of their products[318], it can be assumed that at least that number are affected by the uneven or lack of a level playing field caused by the practice of greenwashing.

One Member State (Sweden) has approved legislation to address this problem and others might consider doing so in the near future[319]. This will lead to increased compliance costs for companies and increased legal uncertainty, which could become barriers to cross-border trading.

3.6.2.3 Consequences and who is affected

This misleading commercial practice exploits information failure, as consumers have imperfect information and less information than providers (i.e. asymmetric information) on the environmental impacts of products. This inequality distorts the market and directly leads to consumer detriment, an uneven or lack of a level playing field that undermines the proper functioning of the Single Market, and negative environmental and climate impacts.

Consumers

Greenwashing can harm consumers through consumer detriment (due to sub-optimal choices) as they might chose a product over other alternatives that are in reality no less environmentally friendly, based on misleading claims and sometimes paying a premium for a supposedly more environmentally friendly product.

Based on available evidence from the ICF consumer survey, the loss of benefits[320] for consumers as a result of greenwashing is at least around EUR 500 million a year (see Annex 15 for methodology). This is a conservative estimate based on the willingness to pay for trustworthy information - losses for consumers are likely higher in reality.

Market

Greenwashing harms the functioning of the Single Market as it allows products and companies to gain a competitive advantage over their competitors through the provision of misleading or false information, creating an uneven playing field. It has a particularly negative impact on traders making genuine claims and genuine sustainability efforts[321]. This was highlighted by the stakeholders and independent experts consulted.

[316] GFK, European Commission, Consumer market study on environmental claims for non-food products, 2014.
[317] *ibid.*
[318] COWI and ECOFYS, Confidential study, 2019.
[319] Netherlands' Authority for Consumers and Markets (ACM) has published five rules of thumb for sustainability claims to support business in informing consumers more correctly and properly about environmental and sustainability aspects of their products and services. It has called for the Dutch government to approve legislation to address this more effectively.
[320] Considering consumer detriment and loss of consumer surplus
[321] European Commission, Environmental claims – report from the multi-stakeholder dialogue, 2013, https://ec.europa.eu/info/sites/info/files/environmental-claims-report-ecs-2013_en_0.pdf

These practices indirectly lead to consumers' mistrust of environmental claims and reduce demand for sustainable products[322], creating an important obstacle to the transition to a greener economy and society. This is in line with the results of the stakeholder consultation on the potential future use of the Product and Organisation Environmental Footprint methods[323], which found that a significant share of respondents across all stakeholder groups thought that the availability of reliable and comparable environmental information would trigger growth in green markets. Similarly, 26% respondents to the consumer survey indicated their willingness to choose sustainable products if the information on sustainability was vouched. It is also in line with the 2014 European Commission study[324], which reported that while 75% of EU citizens indicated they would buy green products, only 17% had actually done so in the month prior to the survey, largely due to a lack of trust in the environmental information provided by producers and retailers and limited availability of green products at affordable prices.

Environment

Consumers end up purchasing products that are not as environmentally friendly as existing alternatives, creating undesirable environmental impacts, i.e. the difference between the environmental impact of the purchased product based on misleading claims and the environmental impact of the product that would have been purchased in the absence of greenwashing[325]. Table 24 shows the estimated costs for the environment for two scenarios of additional (5% and 10%) environmental friendliness of purchased products in the absence of greenwashing (see Annex 15 for methodology).

Table 24. Possible environmental impacts of greenwashing (as a consequence of one year of this practice), in EUR million, 2019 prices

	5% scenario	10% scenario
Climate change (per year) (MtCO2e per year; EUR 34 per tonne CO2e)	1.4 MtCO2e EUR 50 million	2.8 MtCO2e EUR 100 million
Particulate matter (deaths per year; VSL per year - EUR)	80 premature deaths EUR 475 million	200 premature deaths EUR 950 million
Acidification (109 mol H+ eq)	0.0085	0.019
Water use (billion m3 water eq)	1.8	3.6
Resource use, fossils (EJ)	0.02	0.04
Resource use, minerals, and metals (kt Sb eq)	0.005	0.01

Source: ICF estimations based on a variety of sources.

[322] According to the results of the 2010 National Geographic Greendex online survey, the largest proportion of respondents across the 17 countries said the main factor discouraging them from buying more environmentally sound products was the fact that companies make false claims about the environmental impacts of their products (https://ec.europa.eu/environment/eussd/smgp/pdf/annexes_ia.pdf).

[323] European Commission, Report on 2018-2019 stakeholder consultations regarding the potential future use of the Product and Organisation Environmental Footprint methods, 2020, https://ec.europa.eu/environment/eussd/smgp/pdf/EF_stakeholdercons19.pdf

[324] GFK, European Commission, Consumer market study on environmental claims for non-food products, 2014.

[325] BEUC, Factsheet – Premature obsolescence when products fail too quickly, 2018, https://www.beuc.eu/publications/beuc-x-2018-057_premature_obsolescence.pdf

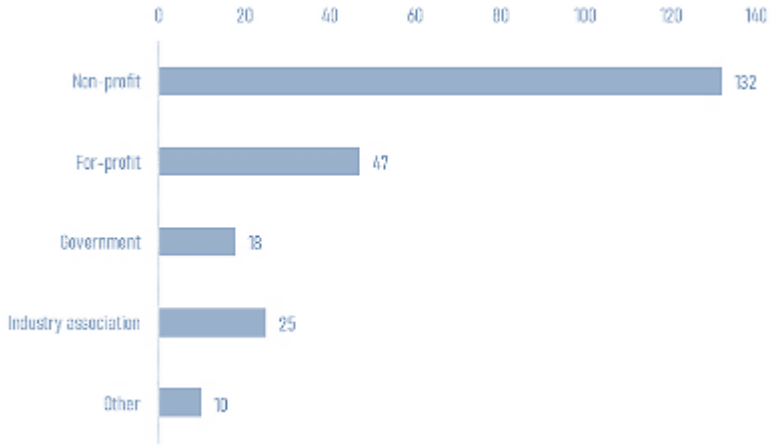
3.6.3 Sub-problem 2.3: Consumers are faced with a proliferation of sustainability labels and digital information tools that are not always credible or transparent

3.6.3.1 Description

The practice of using labelling schemes and digital information tools promotes more sustainable goods and services by providing information to consumers on the performance of products and/or services with respect to one or more environmental aspects (and often with respect to social and ethical aspects)[326,327].

These schemes are developed by public agencies (including governments and public institutions), private companies, for profit and non-profit organisations, individually or in partnerships[328].

Figure 15. Type of managing organisation of 232 ecolabels included in the Ecolabel Index database



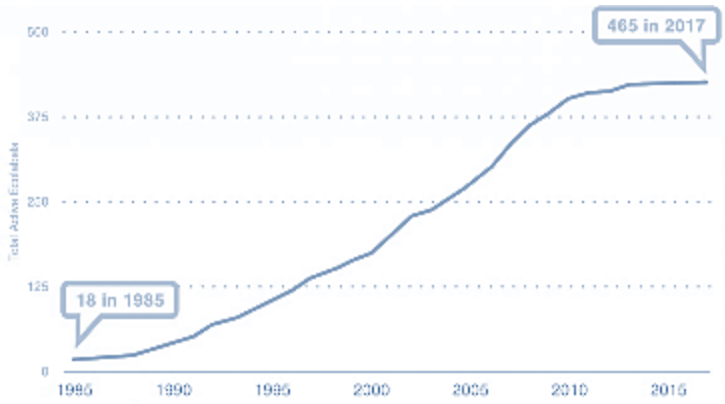
*Source: Ecolabel Index (*http://www.ecolabelindex.com/ecolabels/?st=region=europe).

The past two decades have seen **a proliferation of labelling schemes and digital information tools covering different aspects, adopting different operational approaches, and subject to different levels of scrutiny** (e.g. self-setting or reliance on a third-party attestation procedure, independence and thoroughness of the

[326] Rubik, F. and Frankl, P., *The future of eco-labelling: Making environmental product information systems effective*, London, Routledge, 2017.
[327] OECD, Environmental labelling and information schemes, 2016.
[328] *ibid.*

monitoring and auditing procedure). Evidence suggests that second or third-party verification ensures higher accuracy of the information[329,330,331,332,333,334,335,336].

Figure 16. Evolution of ecolabels included in the Ecolabel Index database

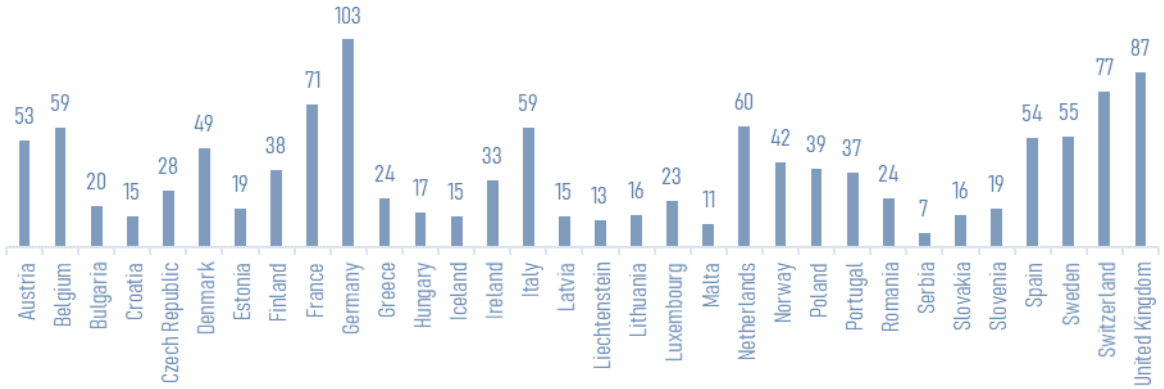


Source: https://www.hakaimagazine.com/features/ecolabel-fable/

According to the Ecolabel Index, there were 232 ecolabels active in Europe in 2020 (48% of which cover some social attributes) (Figure 17; Figure 18). However, many more labels exist, with independent experts consulted noting that these are often private labels, created and used by a brand to differentiate itself from competing products.

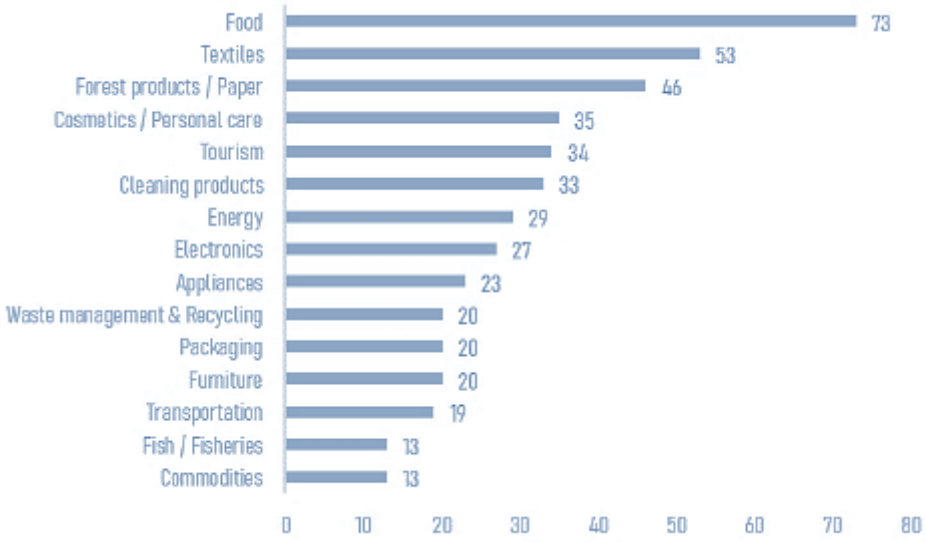
[329] European Commission, Environmental claims – report from the multi-stakeholder dialogue, 2013, https://ec.europa.eu/info/sites/info/files/environmental-claims-report-ecs-2013_en_0.pdf
[330] European Commission, Sustainable products in a circular economy – towards an EU product policy framework contributing to the circular economy, SWD(2019)92 final, 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf
[331] European Commission, EU best practice guidelines for voluntary certification schemes for agricultural products and foodstuffs. OJ C 341, 16.12.2010, pp. 5–11
[332] EEA, Textiles and the environment in a circular economy, ETC/WMGE 209/6, 2019, https://www.snpambiente.it/wp-content/uploads/2020/01/ETC-WMGE_report_final-for-website.pdf
[333] https://ec.europa.eu/info/sites/info/files/green-claims-report_en.pdf
[334] Marx, A., 'Legitimacy, institutional design, and dispute settlement: the case of eco-certification systems', *Globalisations*, Vol. 11, No. 3, 2014, pp. 401-416, https://www.tandfonline.com/doi/abs/10.1080/14747731.2014.899245
[335] OECD, 'A Characterisation of Environmental Labelling and Information Schemes', *Working Papers No. 62*, 2013, https://www.oecd-ilibrary.org/docserver/5k3z11hpdgq2-en.pdf?expires=1597042843&id=id&accname=guest&checksum=B4CBB0C4FDFA6F6843D7AF7185D56BC0
[336] European Commission, Annexes to the impact assessment on the policy initiative on 'Building the single market for green products: Facilitating better and credible information on environmental performance of products and organisations', 2013, https://ec.europa.eu/environment/eussd/smgp/pdf/annexes_ia.pdf

Figure 17. Number of active ecolabels in Europe, by country



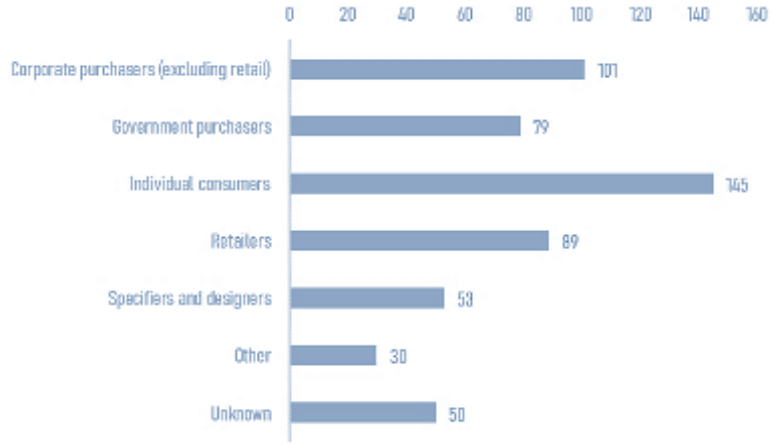
*Source: Ecolabel Index (*http://www.ecolabelindex.com/ecolabels/?st=region=europe).

Figure 18. Number of active ecolabels in Europe, by sector



*Source: Ecolabel Index (*http://www.ecolabelindex.com/ecolabels/?st=region=europe).

Figure 19. Target audience(s) of the ecolabels



*Source: Ecolabel Index (*http://www.ecolabelindex.com/ecolabels/?st=region=europe).

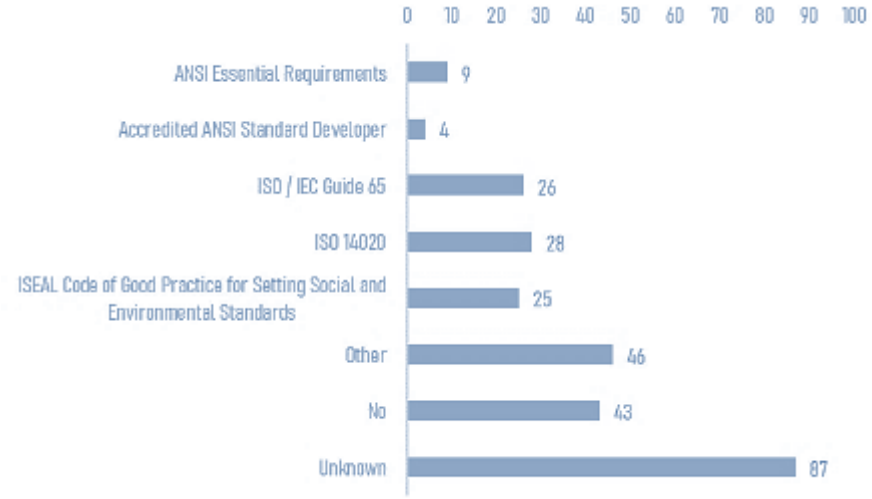
The Ecolabels registered in the database vary in their characteristics and development of their standards, how they ensure compliance with their standards, and type of managing authority:

- For 27% of the labels, the standards are not available online; 61% have one standard, 18% have 2-5 standards, and 8% have 6-10 standards.
- There is information about the frequency of standard revision for two-thirds of the labels, which shows that more than half are revised when needed.
- 95% work with an open and consensus-based approach to develop their standards (97% in 2012[337]).
- 40% of the labels follow one of the following standard-setting norms: ANSI Essential Requirements Accredited, ANSI Standard Developer, ISO/IEC Guide 65, ISO 14020 and ISEAL Code of Good Practice for Setting Social and Environmental Standards; 18% do not follow any standard-setting norms. There is no information for 37% of the labels.
- A conformity assessment is carried out by a third-party for 54% of the labels, by a second party (organisation managing the label) for 25%, by a first party (organisation applying the label) for 5%. For the remaining 16% of labels, the conformity assessment method is either unknown or not required). 48% of the verifiers are accredited (6% are not; 47% unknown or not applicable). In only 35% of the cases does the assessment require specific metrics and data. Studies show that third-party verification is generally linked to higher accuracy of the assessments[338].
- Ongoing audits/monitoring following certification is carried out by 55% of the labels, of which 62% are done by a third party, 30% by a second party and 5% by a first party.
- Of the 76 labels for which information is available, 40% have a public assessment/audit report. Only 17% indicated having a dispute settlement or appeal mechanism.

[337] Marx, A., 'Varieties of legitimacy: a configurational institutional design analysis of eco-labels', *Innovation: The European Journal of Social Science Research*, Vol. 26, No. 3, 2013, pp. 268-287, https://doi.org/10.1080/13511610.2013.771892
[338] Marx, A., 'Varieties of legitimacy: a configurational institutional design analysis of eco-labels', *Innovation: The European Journal of Social Science Research*, Vol. 26, No. 3, 2013, pp. 268-287, https://doi.org/10.1080/13511610.2013.771892

- The time to achieve certification and the duration of the certification vary across the labels.

Figure 20. Standard-setting norms followed by labels



*Source: Ecolabel Index (*http://www.ecolabelindex.com/ecolabels/?st=region=europe).

The lack of common standards and minimum criteria have led to a proliferation of such schemes and labels, using various approaches with different robustness. A qualitative assessment of the soundness of the methodology used by a selection of labels (not only ecolabels) to assess environmental impacts concluded that in more than one-third of cases, the method had weak or no links with (scientifically) recognised approaches to calculating environmental impacts.

The practice of using labels with different levels of transparency and credibility can negatively affect purchase decisions, create consumer confusion[339,340,341,342] and reduce consumer trust (and thus effectiveness of such schemes)[343,344,345]. For example, consultations on the potential future use of the Product and Organisation Environmental Footprint methods[346] showed that stakeholders think that the large number of available labels and initiatives should be reduced. Similarly, 60% of citizens indicated that there are too many different and confusing labels that provide environmental information, with 13% not trusting information on labels, and nearly 90% agreeing that sustainability claims on product labels should be verified by a public EU body. A great majority of stakeholders interviewed either

[339] European Commission, Annexes to the impact assessment on the policy initiative on 'Building the single market for green products: Facilitating better and credible information on environmental performance of products and organisations', 2013, https://ec.europa.eu/environment/eussd/smgp/pdf/annexes_ia.pdf
[340] European Commission, Environmental claims – report from the multi-stakeholder dialogue, 2013, https://ec.europa.eu/info/sites/info/files/green-claims-report_en.pdf
[341] *ibid.*
[342] Brécard, D., 'Consumer confusion over the profusion of eco-labels: Lessons from a double differentiation model', *Resource and energy economics*, Vol. *37*, 2014, pp. 64-84.
[343] European Commission, Sustainable products in a circular economy – towards an EU product policy framework contributing to the circular economy, SWD(2019)92 final, 2019, https://ec.europa.eu/environment/circular-economy/pdf/sustainable_products_circular_economy.pdf
[344] European Commission, Consumer market study on environmental claims for non-food products, 2014.
[345] Yokessa, M. and Marette, S., 'A review of eco-labels and their economic impact', *International Review of Environmental and Resource Economics*, Vol. 13, Issue 1-2, 2019, pp. 119-163, https://hal.inrae.fr/hal-02628579.
[346] European Commission, Report on 2018-2019 stakeholder consultations regarding the potential future use of the Product and Organisation Environmental Footprint methods, 2020, https://ec.europa.eu/environment/eussd/smgp/pdf/EF_stakeholdercons19.pdf

'somewhat agreed' or 'entirely agreed' that the proliferation of environment/sustainability labels leads to confusion and mistrust among consumers[347]. The ICF consumer survey also found that only 20% of respondents consider most of the labels in the market trustworthy[348]. Consumers are also unable to understand the meaning of environmental and make no distinction between non-certified (self-declarations) and third-party certified labels[349].

Evidence shows that if consumers can be confident that the information provided by sustainability labels is trustworthy, they will be more likely to buy products/services containing those labels[350]. Up to 27% of the respondents to the OPC selected 'the proliferation and/or lack of transparency/understanding/ reliability of sustainability labels on products and services' as a relevant obstacle to empowering consumers for the green transition[351].

The available research on the proliferation of digital information tools to compare the sustainability of products is very limited, although desk research for this study found a significant number of those tools, some with non-transparent or non-robust approaches to assess sustainability impacts. There is also a lack of harmonisation in the assessment approaches used. The ICF consumer survey found that 25% of respondents used those tools all the time or often, 25% knew about those tools but never used them, and about 25% were not aware of those tools. One of the main reasons for not using sustainability tools was considering the information untrustworthy (21% of respondents)[352]. Of those that use such tools, about half considered them moderately, not very, or not at all trustworthy. Only 8% of the respondents to the OPC selected 'Proliferation and/or lack of transparency/understanding/reliability of IT tools (e.g. consumer apps) that provide advice for a more sustainable consumer behaviour' as one of the top three obstacles to empowering consumers towards the green transition. However, as digital information tools are likely to become more important in influencing consumption behaviour, this could change in the coming years.

3.6.3.2 Extent of the problem

The misleading practice of using labels with different levels of transparency and credibility is a relevant problem for all products in the market. It affects all consumers that purchase 'green products', i.e. 26% to 40% of consumers[353] (74-150 million consumers), some of which even pay a premium. It also affects consumers that would be potentially interested in purchasing more sustainable products but do not do so because they are confused and/or distrust sustainability labels (Table 25).

[347] This statement does not necessarily reflect the opinion of all the stakeholders in a given group, but is, rather, based on preliminary interviews with authoritative representatives of consumers, industry and certifiers, and remains to be validated or refuted by the wider results of the stakeholder consultation.
[348] This contrasts with results of the mystery shopping exercise, where up to 72% of respondents agreed or somewhat agreed that the environmental claims they found appear to be based on evidence and they believe they are trustworthy.
[349] European Commission, Consumer Market study on environmental claims for non-food products, 2014.
[350] Results of the ICF consumer survey indicated that up to 89% of consumers who do not trust sustainability labels would be more inclined to use these labels when purchasing products if they were confident in their trustworthiness.
[351] 27% of citizens; 34% of companies/business; 16% of consumer associations; 28% of business associations; 28% public authorities; 23% other stakeholders.
[352] Other factors indicated by respondents included i) it is burdensome to review products while shopping (36%); ii) it is burdensome to scan the products with the phone while shopping (28%); iii) information is not trustworthy (21%); there are not enough products/ services covered (13%).
[353] Varies depending on the sources and methodology used.

Table 25. Estimated percentage of lost potential demand and market share of products with trustworthy labels due to confusion and/or mistrust in labels

Product category	Lost potential demand	Lost market shares due to mistrust
Large household appliances	5.3%	0.80%
Small household appliances	4.2%	0.12%
Electronics and IT goods	4.4%	0.09%
Clothes and footwear	4.8%	0.14%
Furniture	2.9%	0.06%
Cars	0.5%	0.10%
Cosmetics and personal care	5.6%	2.08%
Cleaning products	5.5%	1.49%
Food & Drinks	6.7%	2.00%
Hospitality and restaurants	2.1%	0.21%
Housing, energy, water, etc. provision	2.1%	0.42%
Transportation	2.1%	0.06%
Everything else	0.5%	0.02%

Source: ICF estimates based on the consumer survey and other sources of information.

As about 35% of companies use a Life-Cycle Approach to assess the environmental impacts of (some of) their products[354] and possibly use labels, it can be assumed that at least that number are affected by the loss of market share.

Currently, three Member States (Austria, Germany, Sweden) have public websites with (non-legislative) feedback on labels, while the Dutch Authority for Consumers and Markets (ACM) has asked the Dutch legislator to introduce stricter non-legislative rules for certification labels. Non-harmonised national initiatives may lead to an increase in compliance costs and legal uncertainty, which could discourage cross-border trading.

3.6.3.3 Consequences and who is affected

The misleading practice of using labels which are not credible or transparent hampers the effectiveness of sustainability labels in guiding consumers towards more sustainable consumption, harming competition, possibly discouraging sustainability efforts, and leading to avoidable environmental impacts.

Consumers

Consumers may purchase products based on the assumption that a certain label is credible when in fact it is not. They may wish to purchase more sustainable products (and even pay a premium) but not do so because they do not trust or are confused by the practice of using intransparent labels. Based on available evidence on the willingness of consumers to pay for more credible labels, the currently non-realised benefits to consumers from this sub-problem are around EUR 430 million (see Annex 15 for methodology).

Market

[354] COWI and ECOFYS, Confidential study, 2019.

The practice of using labels with different degrees of transparency and reliability harms the functioning of the Single Market by allowing products and companies to gain a competitive advantage over their competitors despite not abiding by the same standards. It has a particularly negative impact on traders investing in labels that are transparent and credible.

Companies often have to adhere to more than one scheme and incur additional costs. According to a 2019 study by the International Trade Centre and the European Commission, 22% of retailers consulted used at least three sustainability standards or codes for sourcing sustainable products[355]. In addition to the impact on costs, the lack of harmonisation of schemes can also become a barrier to companies selling their products and services in other markets, hindering the Single Market[356,357]. The stakeholder consultation on the potential future use of the Product and Organisation Environmental Footprint methods[358] found that 76% of respondents to the industry survey believe there are too many labels. Similarly, stakeholders in this study highlighted that the proliferation of labels, together with national measures to address the issue, lead to market fragmentation and hinder the Single Market.

The impact on consumer trust also limits the demand for sustainable products (compared to a scenario with higher levels of trust)[359,360] and results in a lack of incentives for producers to offer more sustainable products.

Environment

The fact that consumers end up purchasing products that are not as environmentally friendly as existing alternatives creates undesirable environmental impacts (i.e. the difference between the environmental impact of the purchased product based on misleading claims and the environmental impact of the product that would have been purchased in the absence of greenwashing)[361]. These losses are difficult to quantify, as many such labels cover sustainability aspects other than the environment.

3.6.4 What are the problem drivers?

Key drivers that lead to consumers facing misleading practices in relation to sustainable purchases are:

- Market failure: economic incentives for some producers to produce goods with shorter lifespans than can reasonably be expected by the consumer;
- Market failure: economic incentives for some producers and sellers to market their products as more sustainable than they are and/or to use labels that are not fully transparent and credible;

[355] According to the report, the standards used more frequently are: (a) for beverages: 26% Fairtrade and 21% organic standards; (b) for clothing: Oeko-Tex (20%), Fairtrade (11%) and the Global Organic Textile Standard (GOTS) (10%); (c) food sector: organic (25%) and Fairtrade (15%); for furniture, 20% of retailers used ISO 90001 for sourcing policies, 14% Forest Stewardship Council (FSC) standards, 12% Oeko-Tex and 11% Programme for the Endorsement of Forest Certification (PEFC). See https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/EU%20Market%20for%20Sustainable%20Products_Report_final_low_res.pdf

[356] European Commission, EU best practice guidelines for voluntary certification schemes for agricultural products and foodstuffs, OJ C 341, 16.12.2010, pp. 5–11.

[357] European Commission, Environmental claims – report from the multi-stakeholder dialogue, 2013, https://ec.europa.eu/info/sites/info/files/environmental-claims-report-ecs-2013_en_0.pdf

[358] European Commission, Report on 2018-2019 stakeholder consultations regarding the potential future use of the Product and Organisation Environmental Footprint methods, 2020, https://ec.europa.eu/environment/eussd/smgp/pdf/EF_stakeholdercons19.pdf

[359] European Commission, Environmental claims – report from the multi-stakeholder dialogue, 2013, https://ec.europa.eu/info/sites/info/files/environmental-claims-report-ecs-2013_en_0.pdf

[360] Yokessa, M. and Marette, S., 'A review of eco-labels and their economic impact', *International Review of Environmental and Resource Economics*, Vol. 13, Issue 1-2, 2019, pp. 119-163, https://hal.inrae.fr/hal-02628579/document

[361] BEUC, Factsheet – Premature obsolescence when products fail too quickly, 2018, https://www.beuc.eu/publications/beuc-x-2018-057_premature_obsolescence.pdf

- Regulatory failure: lack of clarity in the EU legal framework to counter greenwashing, planned obsolescence, and proliferation of intransparent and non-credible sustainability labels and digital information tools, together with insufficient enforcement of the existing EU legal framework.

Driver 1.1: Market failures - economic incentives for some producers to produce goods with shorter lifespans than reasonably expected by consumers

Producing products that have shorter lifespans is often cheaper and (possibly) more profitable, as long as there is asymmetric information and consumers are led to believe that they are purchasing goods with longer lifespans than their effective lifespan. For some brands, the importance of reputation might diminish or eliminate these benefits in the long-term[362], thus they decide to produce goods with reasonable lifespans. For others, the potential loss of future sales may not outweigh the increased short-term profits due to premature obsolescence. This becomes a more interesting strategy for manufacturers if the general trend in the sector is to produce goods with lifespans that are (far) shorter than they could realistically be in order to increase sales of replacement goods due to early failure[363,364].

Driver 1.2: Market failures - economic incentives for some producers and sellers to market their products as more sustainable than they are and/or to use labels and digital information tools that are not fully transparent and credible

Increased consumer interest in sustainable products provides an incentive to market products as sustainable in order to gain a competitive advantage or so as not to be at a disadvantage. This also leads to a proliferation of sustainability schemes, labels, etc.

While more and more companies are making efforts to become more sustainable, not all are actually providing sustainable products. A share of the latter might consider marketing their products as more sustainable than they are, or using sustainability labels that are less transparent and credible in order to stay competitive.

Gathering evidence and assessing the environmental characteristics of products involves resources and time, which may prompt some companies to self-report on the environmental characteristics of their products without proper supporting evidence, or to use less stringent (possibly cheaper) sustainability labels.

Driver 2: Regulatory failure: lack of precision in the EU legal framework and insufficient enforcement of the existing EU legal framework

The UCPD is the main piece of EU legislation that can tackle commercial practices such as greenwashing, premature obsolescence, and the use of non-transparent sustainability labels and digital information tools. However, the current framework sets out a principle-based approach that requires a case-by-case assessment from enforcers. This lack of precision makes it difficult for national authorities to address these issues and enforce the current rules effectively:

- Lack of specific rules, guidance and benchmarks on early failure of goods, including a common and actionable definition of premature obsolescence and clear and concrete examples of such practice. The public authorities consulted considered current obsolescence provisions to be generally ineffective, largely because they do not address the root causes (6 respondents) of the problem and because they are difficult to enforce (7 respondents).
- Lack of specific rules, guidance and benchmarks on what constitutes greenwashing and transparent and credible labels, including a common and actionable definition of

[362] Packard, V., *The waste makers*, Harmondsworth, Pelican, 1960.
[363] *ibid.*
[364] Bakker et al., The long view: Exploring product lifetime extension, 2017, https://www.oneplanetnetwork.org/resource/long-view-exploring-product-lifetime-extension

greenwashing, clear and concrete examples, and minimum agreed criteria for sustainability labels to meet. This makes claims and labels difficult to interpret, verify and compare. While the positions expressed by public authorities were balanced in respect of the effectiveness of the current EU legal framework, most agreed that there is space for improvement, for example by making existing definitions and concepts clearer and more specific.

The national authorities highlighted that insufficient enforcement is due to a lack of resources, as well as limitations in scientific and technical expertise to assess the environmental aspects of products and premature obsolescence, and to prove the intent to mislead consumers. This results in a very limited number of experiences with enforcement cases under the UCPD, in spite of recently updated guidance. Diverging national understandings of the concept of early obsolescence practices and greenwashing also hinder effective cross-border cooperation on infringements.

Some authorities they received only very limited numbers of consumer complaints (or no complaints at all) about environmental claims. This makes it very difficult for them to prioritise the issue, especially in systems where prioritisation is clearly linked to complaints[365].

The limitations of the current EU legal framework have contributed to the implementation of specific national measures/requirements (beyond the UCPD and other general requirements) that regulate claims about the environmental impact or social sustainability of products, or obsolescence[366]. This leads to a lack of harmonisation, however, that can become a barrier to cross-border trade.

3.7 How will the problems evolve without further EU intervention?

The evolution of these issues will depend on the interaction between various forces, including:

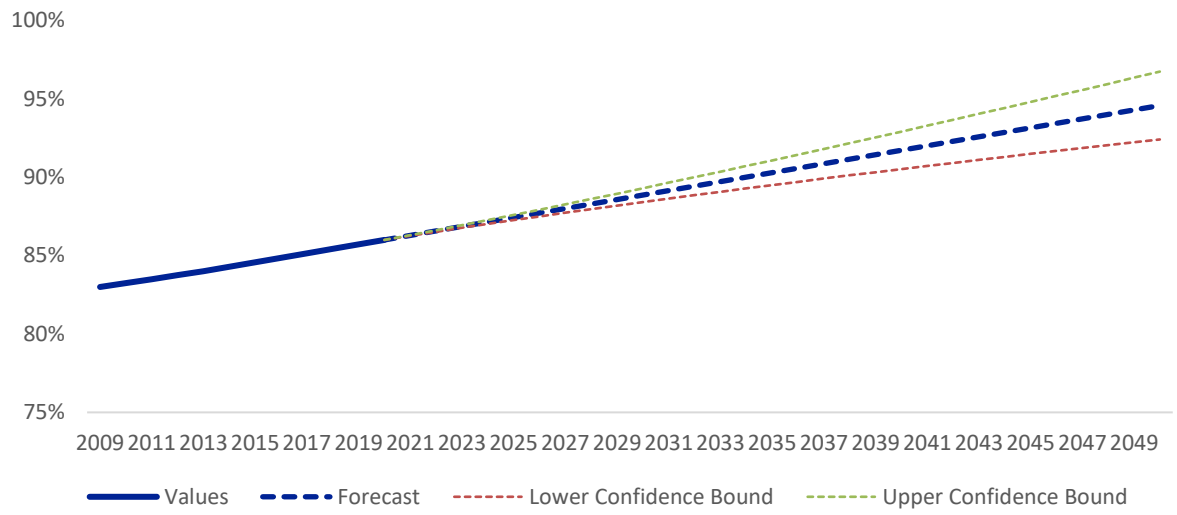
- Evolution of consumer interest in sustainable products that last longer and are easier to repair;
- Trends in private incentives to provide information on environmental impacts, lifespan and reparability, as well as incentives to practice greenwashing, premature obsolescence, and an expanded offer for sustainability labels and digital information tools that are not transparent and reliable;
- National initiatives that attempt to address the problems.

Consumers

The percentage of consumers that are interested in sustainable products is expected to grow further (Figure 21), as is the percentage of consumers who are interested and purchase accordingly.

[365] A DG ENV study found that only 4% of the 56% of respondents who had encountered a misleading green claim filed a complaint.
[366] 8 out of 20 respondents.

Figure 21. Forecasted evolution of share of consumers interested in sustainable products to some extent



Notes: forecast using linear regression.

Source: ICF elaboration based on historical data from Flash Eurobarometer 256 and Flash Eurobarometer 367.

Supply

With increased consumer interest in more sustainable products, it is expected that recent trends[367] will continue, with growing incentives for companies to provide information on the sustainability of their products and an increasing share of products providing information on their environmental characteristics. While this will mitigate lack of information on environmental characteristics of products (sub-problem 1.1), it may potentially increase the incentives to adopt greenwashing practices and to develop and use sustainability labels that are not fully transparent and reliable (exacerbating problems 2.2 and 2.3).

The incentives for manufacturers to produce products that last longer and to inform consumers about their lifespan and reparability are expected to remain largely unchanged for most products or to slightly increase for those few products covered by the current Ecodesign Regulations (from 2019) and for products with digital content in respect of the availability of software updates (once the newly introduced obligation in the SGD requiring sellers to inform consumers about updates[368] comes into force in 2022)[369].

National initiatives

Recent trends show that a growing number of Member States have introduced, or will introduce, legislation to deal with some of the sub-problems described (Table 4) (see Annex 10 for detail). While these legislative initiatives might help to reduce some of the consequences of those problems, they will also lead to non-uniform rules across the EU, exacerbating problems with competition and the level playing field in the Single Market, and limiting cross-border enforcement.

[367] European Commission, Consumer market study on environmental claims for non-food products, 2014, https://ec.europa.eu/info/sites/info/files/study_on_environmetal_claims_for_non_food_products_2014_en.pdf
[368] Article 7(3) SGD: 'the seller shall ensure that the consumer is informed of and supplied with updates, including security updates, that are necessary to keep those goods in conformity'.
[369] The obligation does not require the provision of information on the availability of software at the point of sale.

Overall

The extent of the problems and their consequences will likely evolve as follows:

- Sub-problem 1.1 – lack of information about the environmental characteristics of products: slight reduction in the extent of the problem and its consequences for consumers, the market and the environment. The lack of a common framework to report on environmental characteristics will not address consumers' difficulties in comparing products based on their environmental impacts and may hinder the adoption of optimal choices.
- Sub-problem 1.2 – lack of reliable information on lifespan: the offering of commercial guarantees is expected to increase slightly but the changes are not expected to be substantial. The incentives to provide clear and consistent information on the guaranteed lifespan included in the product price are not expected to change significantly, nor are incentives to provide information on expected lifespan expected to change. Consequently, the extent of the problem and its consequences will remain constant.
- Sub-problem 1.3 – lack of reliable information on reparability: overall, the extent of the problem and its consequences is expected to remain constant for most of the EU-27 and to improve for some products in a few Member States that are trying to address the problem through national legislation. For software updates, the extent of the problem is expected to reduce slightly from 2022, but the comparability of products at the point of sale based on the availability of software updates will remain an issue.
- Sub-problem 2.1 – premature obsolescence: no major changes are expected to the extent of the problem or its consequences, with the exception of some improvements in the overall lifespan of certain products and their reparability, as a consequence of the Ecodesign Regulations.
- Sub- problem 2.2 – greenwashing: an increase is expected in the share of products using greenwashing, as the sustainability of products becomes increasingly valued by more consumers and the expected benefits of greenwashing thus increase. Enforcement is expected to improve slightly, as the European Commission is planning to develop guidance for Member States, while Member States have decided to prioritise the prevention of these practices. Overall, the extent of the problem and its consequences will be exacerbated, however, with increased consumer mistrust in respect of environmental claims.
- Sub-problem 2.3: the number of multi-brand ecolabels[370] is expected to stagnate while one-brand sustainability labels are expected to increase. This will increase consumer mistrust in sustainability labels and claims, and reduce their effectiveness in shifting consumption towards more sustainable products.

Two EU-level initiatives are in assessment and development that - if implemented - will help to minimise the extent of some of the sub-problems for some product categories:

- Legislative proposal on substantiating green claims – as described in its Inception Impact Assessment[371], this initiative may establish an EU legal framework requiring companies to substantiate claims related to the impacts covered by the Environmental Footprint methods. If Product Environmental Footprint Category Rules (PEFCRs) or Organisation Environmental Footprint Sector Rules (OEFSRs) have been adopted, green claims should be substantiated on that basis or through a compliant study. This initiative might contribute to addressing sub-problem 2.2. and

[370] An ecolabel identifies products or services proven environmentally preferable overall, within a specific product or service category.
[371] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12511-Environmental-performance-of-products-businesses-substantiating-claims

to some extent sub-problem 2.3. (these possible effects were taking into account in the definition of the baseline to the extent possible, given the uncertainty about the final shape of initiative, see section 6.1).

- Sustainable Product Policy Initiative: as described in its Inception Impact Assessment[372], this initiative aims to widen the scope of the Ecodesign Directive beyond energy-related products. It will propose additional legislative measures to make products on the EU market more sustainable. Among the measures being considered are the establishment of EU rules for setting requirements on mandatory sustainability labelling and/or disclosure of information to market actors along value chains in the form of a digital product passport, and establishing overarching product sustainability principles. Some of these measures will be horizontal, while others target specific sectors. Priority will be given to product groups with the greatest environmental impact and circularity potential (e.g. electronics, ICT, textiles), but also furniture and high-impact intermediary products such as steel, cement, and chemicals. This initiative might contribute to addressing the two problems to some extent. Given the uncertainty regarding the nature and scope of the initiative, it was not possible to incorporate its impacts in the baseline scenario.

Notwithstanding the uncertainty as to how exactly these two initiatives might impact the extent of the problems analysed and their consequences, they are expected to complement the initiative on empowering consumers for the green transition[373] by addressing aspects that cannot be fully targeted by the empowerment initiative.

[372] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12567-Sustainable-Products-Initiative
[373] In line with the Inception Impact Assessment of each initiative and information provided by DG JUST to the study team.

4 Why should the EU act?

EU competence stems from the Article 4 of the Treaty on the Functioning of the European Union (TFEU), which stipulates that the Union shares competence with Member States in the areas of the internal market, environment and consumer protection. It also stems from specific articles of the TFEU:

- Article 169 of the TFEU, on the protection of consumers, stipulates that the EU shall contribute, inter alia, to protecting the economic interests of consumers as well as to promoting their right to information and education in order to safeguard their interests;
- Article 114 TFEU relates to 'the establishment and functioning of the internal market'. Possible legislative action taken in relation to the problems analysed here would be based on Article 114 in conjunction with Article 169 TFEU;
- Article 192(1) TFEU relates to the actions to be taken by the Union to achieve the objectives listed in Article 191(1) TFEU, namely:
  - 'preserving, protecting, and improving the quality of the environment,
  - protecting human health,
  - prudent and rational utilisation of natural resources,
  - promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change'[374].

4.1 Subsidiarity test

The general objective of the initiative is to empower consumers in the green transition by protecting them from imperfect information and information asymmetry about certain characteristics of the products, that prevents them from adopting more sustainable consumption behaviour (and reducing their own negative environmental) impacts and leads to consumer detriment.

The environmental and climate impacts of consumption in one Member State are felt by all Member States. The present study (including the consumer survey and stakeholder consultations) showed that the problems are widespread and have the same causes across the EU, and problems thus need to be addressed consistently across the Union. Any legislative action would occur against the background of existing EU consumer protection rules. The UCPD ensures full harmonisation of information requirements related to unfair commercial practices that harm consumers' economic interests. The CRD provides fully harmonised rules on pre-contractual information requirements. New national-level legislative action within the scope of these Directives could go against the fully harmonised acquis that is already in place.

Only through harmonised EU rules on information provision and unfair commercial practices (based on common requirements, criteria and approaches) can it be ensured that the same product has the same published information (based on the same requirements and criteria) throughout the EU. This would allow consumers to properly compare products offered in different Member States and prevent confusion from inconsistent or non-comparable information.

As highlighted by some industry associations, businesses, and independent experts, it is essential to ensure a level playing field for manufacturers and retailers in terms of both the requirements to be met before placing a good on the market and the information supplied to customers across the EU. For this reason, EU-wide, legally binding rules are necessary.

[374] European Union, Consolidated Version of the Treaty on the Functioning of the European Union, 2017, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

The EU-wide nature of the problem requires adequate enforcement action and market surveillance at EU level. This is particularly evident in the case of illegal practices of planned obsolescence and greenwashing affecting consumers in several EU Member States at the same time. For it to be fully effective, enforcement and monitoring across the EU must be based on a common and uniform substantive framework (e.g. definitions, standards, benchmarks), as highlighted by the stakeholder consultations.

4.2 Subsidiarity: EU added value

As explained in the problem definition, an increasing number of initiatives exist at EU and Member State level.

Legislative measures have also been adopted at Member State level, In France, for example, legislation on premature obsolescence was introduced in 2015, while legislative proposals are being debated in other Member States, such as Belgium and Italy. In addition, a few Member States have adopted or proposed legislation to ensure increased reparability, both in relation to the provision of information and the requirements to store and provide spare parts.

The EU has taken the initiative (to a certain extent) to improve the sustainability of products, most notably through the Ecodesign Directive, the EU Ecolabel scheme, the EU green public procurement (GPP) criteria and the new Consumer Sales and Guarantees Directive, in addition to the legislation already in place.

However, the current fragmentation of interventions at both EU and Member State level means that the problems identified not only result in consumer detriment (loss of consumer welfare and cost-saving opportunities, lack of consumer protection against greenwashing and premature obsolescence) and costs for industry[375], but ultimately create barriers to the free movement of sustainable products in a circular economy, with negative environmental and climate impacts (see section 3).

Consumers play an important role in the circular economy, but evidence suggests[376] that they must be provided with clear information on products at the point of sale if they are to make cost-saving decisions to buy sustainable products. The scale of the problems identified suggests that only EU intervention can change consumer behaviour, by increasing trust in environmental claims and their propensity for circular economy products through setting shared criteria for reliable information on sustainability, and, ultimately, traders' behaviour.

A coherent and comprehensive EU approach should magnify the impact of consumer policy in fostering competition in product sustainability and possibly contribute to the provision of more sustainable products. The 2017 Fitness Check of the Consumer and Marketing Law, as well as the evaluation of the CRD, confirmed that the horizontal EU consumer and marketing law acquis has contributed towards a high level of consumer protection across the EU. It has also ensured a better-functioning internal market and helped to reduce costs for businesses offering products and services cross-border. As this initiative aims to complete this acquis and address problems that have become more acute with the green transition, it is expected to achieve similar added value.

[375] For example, due to the need to apply for different national certification schemes (already a barrier for industry that hinders the internal market (see section 3.3)).

376 Many studies demonstrate that providing information on environmental impact can influence consumers' buying decisions. See a review at:
http://www.wrap.org.uk/sites/files/wrap/Env%20Sust%20Product%20Purchase%20Decisions_0.pdf] and section 3 for more information

5 What should be achieved?

This section describes the general and specific objectives of the initiative. Operational objectives (typically option-specific) will be defined once the best-fit policy option has been selected.

The objectives (general and specific) and the Intervention Logic are depicted in Figure 5.1.

The general objectives are to:

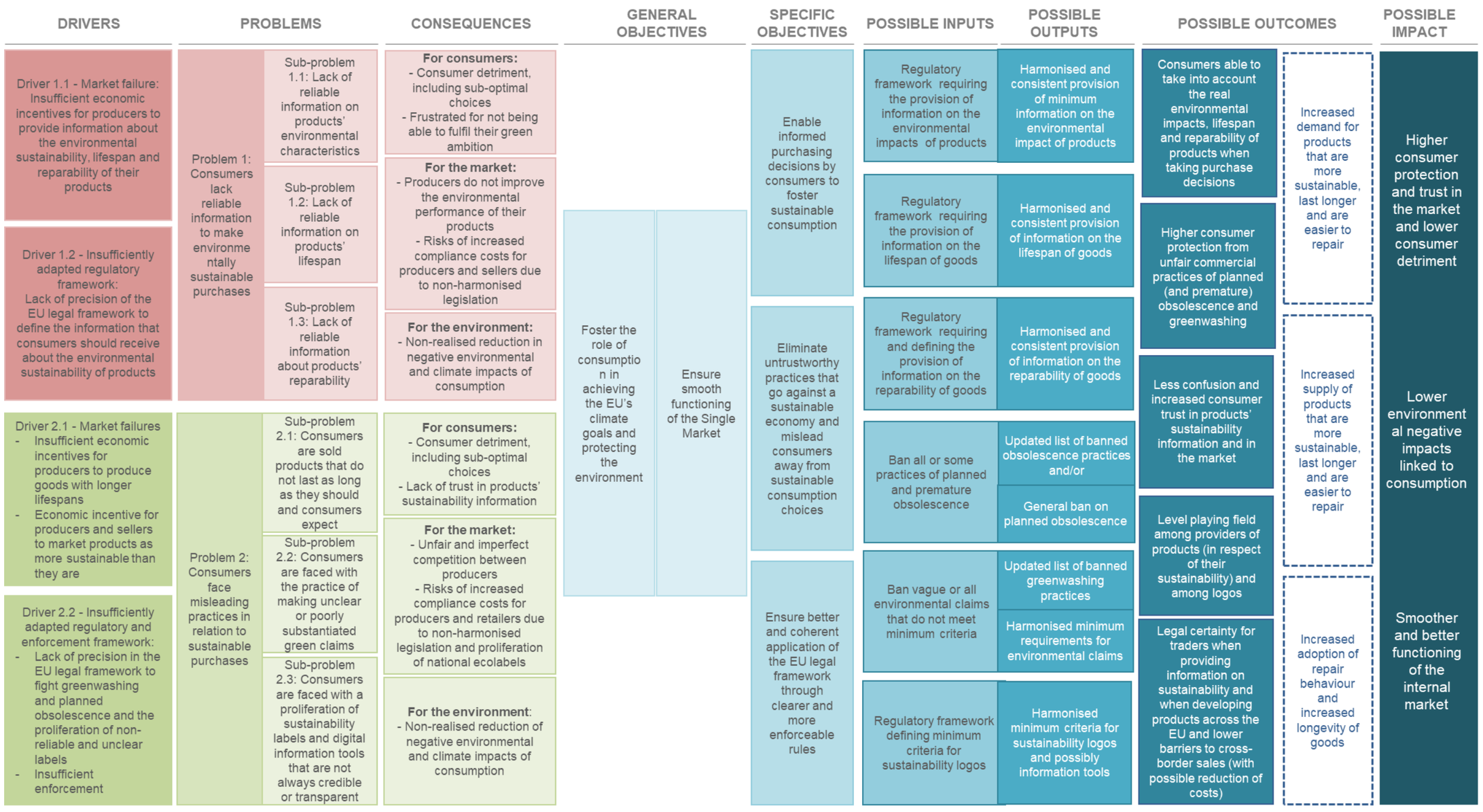
- Foster more sustainable consumption behaviour to help to achieve the EU's climate goals and protect the environment;
- Support the smooth functioning of the Single Market.

The specific objectives are to:

- Enable informed purchasing decisions by consumers to foster sustainable consumption;
- Eliminate misleading practices that run against the concept of a sustainable economy and that lead consumers away from sustainable consumption behaviours;
- Support better and coherent application of the EU legal framework through clearer and more enforceable rules.

The various policy options identified and analysed in the following sub-sections intend to achieve one or more of these specific objectives and tackle the problems identified in section 3.

Figure 22. Objectives and Intervention Logic of the initiative



6 What are the available policy measures/ options?

6.1 Baseline scenario

The baseline scenario is 'do nothing' at EU level, against which the selected measures/options will be compared.

This scenario does not mean no change. In fact, consumer markets are dynamic and influenced by changes in both consumer behaviour and in the behaviour of producers and sellers. These actions are influence by one another and by technological, economic, social and legal developments. The baseline scenario is based on recent trends and current developments in the various consumer markets (Section 3.7.). Where possible and relevant, it builds on evidence collected from literature, targeted consultation and legal analysis, complemented by expert opinion.

Long-term forecasts have a high degree of uncertainty, especially for indicators such as the percentage of consumers purchasing sustainable products and the incidence of greenwashing, for which data are already insufficient and often divergent.

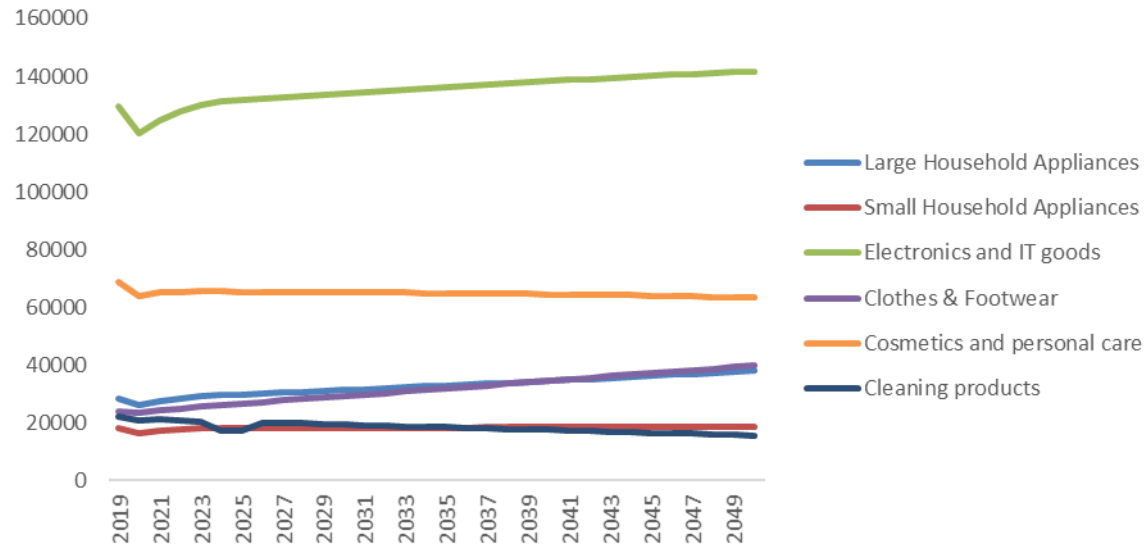
Technological developments are expected to occur in the period of analysis but are very difficult to predict. Those are not expected to be influenced by any of the options, however, and should affect the baseline and all options equally.

Legal developments (at EU and national level) attempting to address one or more of the problems are also expected to be implemented. As mentioned, the uncertainty surrounding these initiatives limited the study's capacity to incorporate their effects into the baseline scenario.

Contextual factors

Consumption per capita is expected to grow for most of the product categories, as is overall private consumption, albeit very slightly (up around 9% in 2050 compared to 2019), due to the projected decline in the EU-27 population[377] from 2027 onwards. This will not be the case for all product categories, as the expenditure in cleaning products and cosmetic/personal care products is expected to decrease slightly (Figure 23).

Figure 23. Evolution of total sales for selected product categories, in EUR million, 2019 prices



Source: ICF elaboration based on Statista data.

[377] Eurostat [PROJ_19NP].

Sustainable consumption

The market share of sustainable products in total consumer expenditure is expected to grow significantly. This is in line with past trends in sales of sustainable products (Figure 10) and is consistent with the forecasted increase in consumer interest in sustainable products (Figure 21) and positive trends in the share of products containing information on their environmental impacts (see section 3.7[378]). The trust in environmental claims is expected to continue to decline, also following recent trends[379].

Table 26. Forecasted evolution of consumer expenditure: total and on sustainable products (variation compared to 2019)

Year	Increase in total expenditure	Increase in expenditure in sustainable products	Increase in market share of sustainable products
2025	4%	25%	20%
2030	6%	42%	35%
2035	7%	63%	53%
2040	8%	84%	71%
2045	8%	107%	91%
2050	9%	130%	112%

Notes: forecasts used linear regression.

Source: ICF elaboration.

Environmental impacts

The increase in the market share of sustainable products is expected to compensate for the total increase in consumption and lead to a reduction in the overall environmental footprint of private consumption.

However, the effective reduction in environmental impacts will depend on whether or not the information on product sustainability is reliable. The forecast assumes that the percentage of greenwashing will not change significantly, as two opposite forces will influence its evolution, i.e. there will be more incentives for companies to practice greenwashing (as demand for these products will increase), while Member State action and the development of further guidelines from the Commission may reduce those incentives (see section 3.7).

The quantification of these impacts is very challenging, as sustainable products may have slightly or significantly less impact on the environment than products that are considered non-sustainable.

National policy developments

Several Member States are expected to adopt national legislation initiatives against planned obsolescence. As is the case for current French legislation and the Belgian and

[378] Data on the evolution of products marked as sustainable were extrapolated from the study conducted by the NYU Stern's Centre for Sustainable Business (https://hbr.org/2019/06/research-actually-consumers-do-buy-sustainable-products#:~:text=NYU%20Stern's%20Center%20for%20Sustainable,came%20from%20sustainability%2Dmarketed%20products).

[379] The available data indicate that trust declined at 2% per year between 2016 and 2018. This study adopts a conservative approach and assumes that the decline will slow to a rate of 0.5% per year.

Italian legislative proposals, these are unlikely to be harmonised, despite expected efforts from the Commission to develop guidelines in this respect.

Some Member States are also expected to implement legislation to tackle the lack of information on durability and/or reparability, possibly through repair/durability scores specifically developed for certain product groups. These initiatives are unlikely to be harmonised, unless the European Commission's initiative to develop a score is developed and adopted.

EU policy developments

It is likely that the two EU-level initiatives - legislative proposal on substantiating green claims and Sustainable Product Policy Initiative (see section 3.7) – will be adopted in the near future. Based on information available, it is expected that:

- The legislative proposal on substantiating green claims will set criteria for green claims related to the set of main environmental impacts covered by the Environmental Footprint methods[380]. These criteria are expected to relate primarily to substantiation of the claims.
- The Sustainable Product Policy Initiative will address aspects related to information on durability and reparability and minimum sustainability requirements for specific groups of goods. As the requirements will be product-specific, they will, in principle, be subject to further standardisation work and defined by future delegated acts (under the framework legislation). Consequently, the implementation of actions under this initiative is expected to take place gradually over the next 10-15 years for a sub-set of product types.

Consumers problems in respect of reparability

New ecodesign rules will be applied from 2021 on electronic displays and televisions, household washing machines, household refrigerating appliances, household dishwashers, electrical lamps and luminaires, and several other products. On 1 October 2019, several Ecodesign Regulations were adopted that promote the reparability of appliances by ensuring the availability of spare parts[381] and the availability of repair and professional maintenance information for professional repairers[382,383].

Consequently, consumer problems related to the lack of spare parts for repairs will significantly reduce for certain products from 2021 onwards.

6.1.1 Assessment of the baseline

Section 3 describes the baseline in detail (current problems, how they are expected to evolve and their consequences) providing some quantification of the opportunity costs of not addressing the problems in full.

For the assessment of possible measures that (to some extent) can address the problems in the baseline, we adopted an incremental approach (the exception being the assessment of coherence which was also done for the baseline using an absolute scale from 0 to 10, where 0 is not coherent and 10 fully coherent; see Annex 13). This means that we calculated the incremental impacts (costs and benefits) of each measure against

[380] Climate change, ozone depletion, human toxicity – cancer, human toxicity – non-cancer, particulate matter, ionising radiation – human health, photochemical ozone formation – human health, acidification, eutrophication – terrestrial, eutrophication – freshwater, eutrophication – marine, ecotoxicity – fresh water, land use, water use, resource use – minerals and metals, resource use – fossils.

[381] Examples include the availability of spare parts over a long period after purchase (7 years minimum for refrigerating appliances; 10 years minimum for household washing-machines and household washer-dryers; 10 years minimum for household dishwashers), including the obligation for the manufacturer to ensure the delivery of the spare parts within 15 working days.

[382] 'Professional repairer' means an operator or undertaking which provides services of repair and professional maintenance of refrigerating appliances.

[383] https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/about_en#Energylabels

the baseline. This allowed us not to quantify the current status of the full EU economy for the various assessment criteria, which would not be feasible. Consequently:

- when a scale is used to score an impact of a measure (for example, from 0-10) the score assigned to the baseline is the midpoint (in the example, 5);
- the monetised costs and benefits of each measure considered in the assessment are incremental to those of the baseline, which is therefore assigned EUR 0 for these impact categories (as the costs and benefits of the baseline against the baseline is obviously zero).

6.2 Policy measures to address the problems

Following the Better Regulation Guidelines, the most promising measures/options to address the various problems and sub-problems were identified.

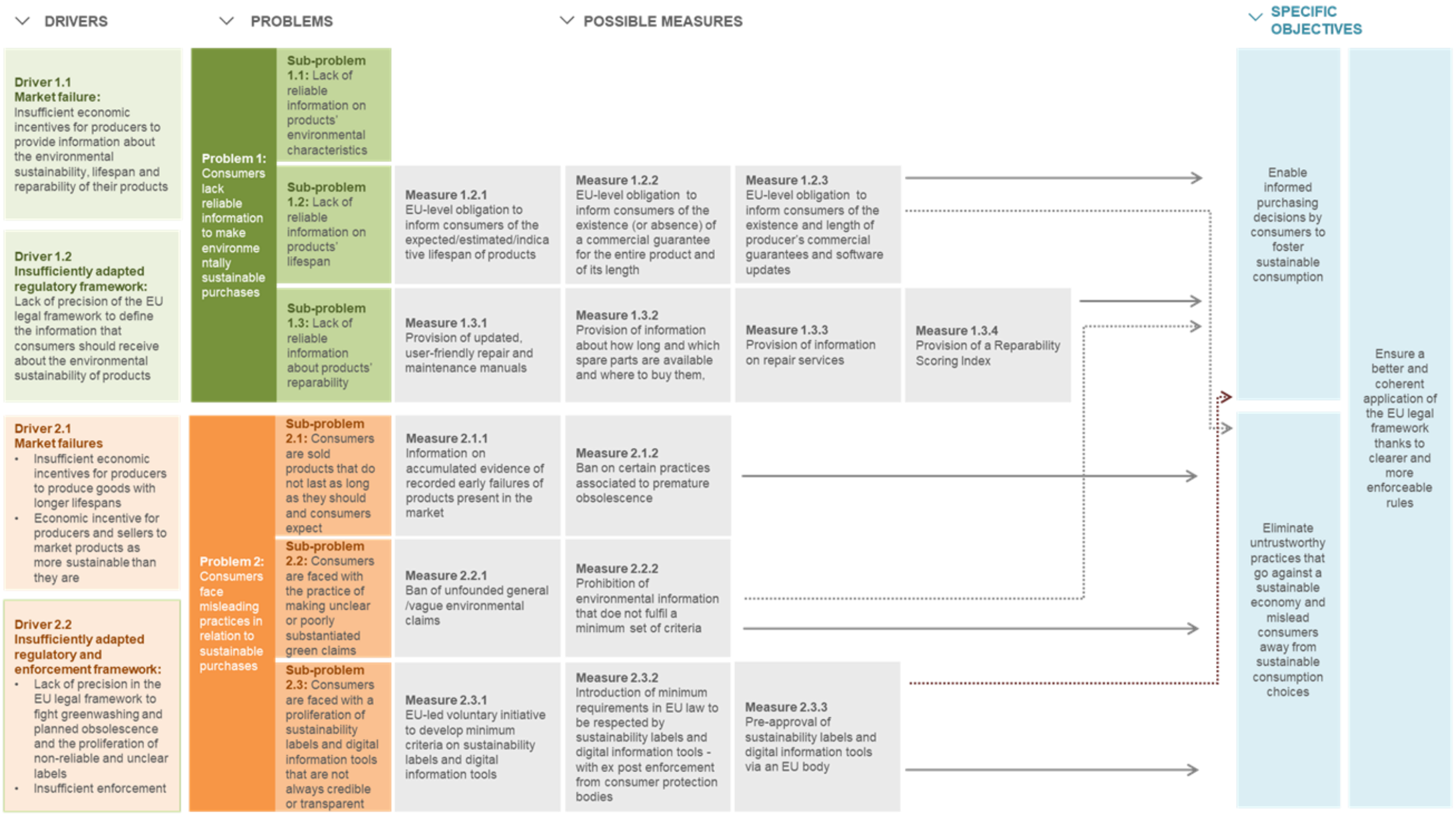
The first step included compiling an extensive list of potential measures from existing and planned relevant national (public and private) initiatives through a mapping exercise carried out in the EU-27 and four other countries (UK, US, South Korea, New Zealand), as well as through relevant literature and stakeholders.

These measures were then assessed and retained or discarded following iterative assessment steps incorporating stakeholder feedback and expert judgement on their feasibility, relevance, effectiveness and coherence in the context of the European Commission initiative on "Empowering consumers for the green transition". Most measures described below were those retained after this process[384] (see Annex 14 for a summary of the screening, assessment and selection process). Those discarded in the context of this initiative may be potentially interesting in the context of other initiatives, for example initiatives that adopt a product-specific approach or that aim to impose obligations on manufacturers (instead of on traders/sellers).

The following sub-sections describe the various measures retained for further analysis (Figure 24).

[384] Some measures were retained for analysis at the request of DG JUST as it was deemed important to assess their benefits and limitations in more detail. Some measures were not retained because they would require a product-specific approach or to avoid overlaps and inconsistencies with the Green Claims and Sustainable Product Policy initiatives. Finally, some measures were identified as potentially interesting after the conclusion of the research and consultation stages and after the screening and selection process, thus were added at a later stage.

Figure 24. Selected measures for further analysis



Source: ICF

6.2.1 Measures to address sub-problem 1.1: Lack of reliable information on products' environmental characteristics

None of the options identified to address sub-problem 1.1 was retained for further analysis, as their added value could not be demonstrated in the context of the European Commission initiative.

6.2.2 Measures to address sub-problem 1.2: Lack of reliable information on products' lifespan

The three measures to address sub-problem 1.2 retained for further analysis are described below. In each case, the information obligation would be on the seller, in line with relevant EU consumer law (e.g. CRD). It is assumed that sellers will require manufacturers and importers to provide them with information on the expected lifespan of goods. The scope of these measures excludes services, consumables and fast-moving consumer goods[385]. Their applicability to non-energy related products should be subject to careful assessment, due to the limited availability of evidence for these product categories.

Measure 1.2.1: Obligation to inform consumers about the expected lifespan of products (without common guidelines and assumptions[386])

At the point of sale, the consumer would be informed by the seller about the expected lifespan/durability of products, in number of years[387] or number of cycles of times used.

In accordance with the SGD[388], durability means 'the ability of the goods to maintain their required functions and performance through normal use'.

Where no technical standards exist to determine the expected durability for the product category in question (e.g. light bulbs) or until they become available (e.g. to be developed under the future SPPI or ecodesign requirements), sellers would be free to decide on the exact method to assess the expected lifespan of the products. Sellers would need to be transparent and make their method and assumptions publicly available.

The information would be provided with each unit of the product (e.g. on the package, on a flyer). In principle, manufacturers and importers would be the ones placing the information on/with the product, with the sellers having to do so in only limited situations.

The "impact chain" of the measure can be briefly described as follows:

1. Increase consumer awareness of the expected lifespan of a sub-group of products available in the market.
2. Consumers take this information into account in their purchase decisions.
3. Some consumers opt for products that will last longer, based on the information provided.
4. Consumer purchase decisions will be more environmentally friendly and lead to lower consumer detriment.

[385] Fast-moving consumer goods: products satisfying the daily needs and requirements of the population which the consumer typically consumes, depletes or replaces within one year. Typical examples are foodstuffs, cosmetics, drugstore products, household cleaners, hygiene, paper and office supplies. European Commission, Commission Decision (EU) 2016/1848 on the measure SA.40018 (2015/C) (ex 2015/NN), OJ L 282, 2016, p. 64.

[386] In the context of the DG JUST horizontal initiative to 'empower consumers for the green transition', the development of product-specific guidelines is not considered as feasible, thus an obligation to inform consumers about the expected lifespan of products in line with common guidelines and assumptions was not considered in this study.

[387] In this case, the trader would to qualify the duration with an explicit indication of the intensity (e.g. assuming 3 washing cycles or 3 hours of use per week).

[388] Directive (EU) 2019/771 on certain aspects concerning contracts for the sale of goods.

Measure 1.2.2: Obligation to inform consumers of the existence (or absence) and length of a producer's commercial guarantee for durability

Consumers would be informed, at the point of sale, of the existence or absence of a producer's commercial guarantee for durability[389] (and its length) for the entire good. The cost of the producer's commercial guarantee must be included in the price of the good to allow for comparison.

This information would be shown in number of years, prominently and in a standardised way that allows easy comparison by consumers. More specifically, it would be located close to the price for online sales and on prominent physical hangtags/stickers for offline sales.

The information obligation would be on the seller (based on information provided by the manufacturer), while the guarantor will be the manufacturer.

The impact chain of the measure can be briefly described as follows:

1. Improve consumer awareness of the commercial guarantee period, and enhance consumer's ability to compare products based on their guaranteed lifespan.
2. Consumers take these into account in their purchase decisions.
3. Some consumers opt for products that offer longer commercial guarantees.
4. Longer commercial guarantees signal the producer's confidence that the product has a long lifespan, is more sustainable and leads to lower consumer detriment.

Measure 1.2.3: Obligation to inform consumers of the existence (or absence) of a producer's commercial guarantee for durability and the period of time during which free software updates will be provided by manufacturers

In addition to the obligation in measure 1.2.2, under this option, consumers would be informed at the point of sale of the existence or absence of a minimum period of time (in number of years) during which the producer commits to provide free software updates, including security updates, for goods with digital elements.

The impact chain of the measure can be briefly described as follows:

1. Increase consumer awareness of the software updates available and the period of that availability for all products in scope.
2. Consumers compare products based on that information and decide to purchase those that offer better conditions.
3. A share of products that would be replaced due to lack of updates will instead be updated and stay in use.
4. By extending the life of products that would otherwise have been replaced, the measure contributes to more sustainable consumption behaviour.

6.2.3 Measures to address sub-problem 1.3: Lack of reliable information about products' reparability

The four measures to address sub-problem 1.3 retained for further analysis are described below. For all of these measures, the obligation to provide information would rest with the seller, in line with relevant EU consumer law (e.g. CRD). It is assumed that sellers will require manufacturers and importers to provide them with the required information, where relevant. The scope of the measures excludes services, consumables and fast-moving consumer goods. Their applicability to non-energy related products should be subject to careful assessment, given the limited availability of evidence for these product categories.

[389] In accordance with the SGD, a 'producer's commercial guarantee of durability' means any undertaking by a producer (the guarantor) to the consumer, in addition to the seller's legal obligation relating to the guarantee of conformity (legal guarantee), to replace or repair the goods in accordance with Article 14 SGD (free of charge, within a reasonable period, without any significant inconvenience to the consumer) if these goods have not been able to maintain their required functions and performance through normal use.

At a final stage of the study (after the main consultations done in the context of this study were already finalised) a fifth measure was identified and assessed by the European Commission, DG Justice and Consumers. This measure imposes an obligation to sellers to provide consumers with a repair scoring index at the point of sale (showing how reparable a product is e.g. with 3 to 5 classes), whenever such scoring index would need to be developed by manufacturers in accordance with EU or national laws applicable to certain product categories. Where a repair scoring index would not be available for certain product categories, sellers would need to provide consumers with other relevant repair information whenever this has been made available by the manufacturer, also at the point of sale. This means that the fifth measure is a composition of all previous measures which were duly assessed in the context of the study, but it would only apply on a 'where available/applicable' basis.

Measure 1.3.1: Provision of updated, user-friendly repair and user manuals

Consumers would be provided with updated, user-friendly repair and user manuals. For offline shops, such manuals could either be included in product packaging or via digital means[390] on the product packaging. For online shops, these manuals could be available to download in digital format.

The manuals must be user-friendly and drafted so as to be accessible to an 'average consumer' (clear and plain non-technical language, with visuals, and excluding steps that cannot be performed by a non-professional repairer). These repair manuals are expected to be a user-friendly tailored version of those provided to professional repairers.

The impact chain of the measure can be briefly described as follows:

1. Provide detailed instructions on how to repair certain problems with the goods within scope.
2. Consumers that decide to self-repair will be able to do so more effectively and successfully.
3. A share of products that would be replaced because of failed attempts to self-repair will instead be repaired successfully.
4. By extending the life of products that would otherwise have been replaced, the measure contributes to more sustainable consumption behaviour.

Measure 1.3.2: Provision of information on the spare parts available and length of that availability

Consumers would be informed about the availability of spare parts and the length of time for which they will be available.

The period during which spare parts will be available will not be defined but, rather, will depend on the product-specific ecodesign rules (either existing or to be developed under SPPI) that define the period during which spare parts should be remain available after purchase[391].

For offline shops, information can be made available to consumers via the same channels as described under measure 1.3.1. For online shops, such information would be made available at the point of sale. The online seller could also refer to the manufacturer's webpage where this information is available for that specific good.

The impact chain of the measure can be briefly described as follows:

1. Increase consumer awareness of the spare parts that are available and the length of that availability for all product in scope.

[390] For example, via a machine-readable code (e.g. QR code or barcode) that can be printed or attached to the product and scanned through a digital device (e.g. smartphone) in order to access all relevant product information.
[391] More specifically, the period of time after placing the last unit of the model on the market.

2. Consumers compare products based on the provided information and decide to purchase those that offer better conditions.
3. A share of products that would be replaced because of lack of spare parts or difficulties in sourcing such parts will instead be repaired and not replaced;
4. By extending the life of products that would otherwise have been replaced the measure contributes to more sustainable consumption behaviour.

Measure 1.3.3: Provision of information on availability of repair services

Consumers would be informed by the seller on the availability of repair services. Such information would be available on a website or through other means. The seller would be free to decide whether to refer to the manufacturer's authorised repairers or independent repairers or both.

The impact chain of the measure can be briefly described as follows:

1. Increase consumer awareness of where they can find repair services.
2. A share of products (that would otherwise be replaced at the baseline as a result of difficulties in finding repair services) will instead be repaired successfully.
3. By extending the life of products that would otherwise have been replaced, the measure contributes to more sustainable consumption behaviour.

Measure 1.3.4: Provision of information on availability of repair services

A scoring index displayed at the point of sale would show consumers how reparable a product is. Where no specific Ecodesign/SPPI measures exist to define the technical parameters for assessing the reparability of a specific product category, sellers would apply the general method developed by the JRC[392].

It is assumed that manufacturers would assess the reparability score according to the index and include that information on the product packaging or provide it with the product. In a few cases, sellers might have to carry out the assessment and/or ensure that the information is provided on/with the product.

The impact chain of the measure can be briefly described as follows:

1. Increase consumer awareness of the level of reparability of the products within scope.
2. Consumers compare products based on the information provided and decide to purchase those with a higher repairability score.
3. A share of products that would have been replaced as a result of being more difficult to repair will instead be repaired successfully.

6.2.4 By extending the life of products that would otherwise have been replaced, the measure contributes to more sustainable consumption behaviour.Measures to address sub-problem 2.1: Consumers are sold products that do not last as long as they should or as long as consumers expect

The two measures to address sub-problem 2.1 retained for further analysis are described below. In both cases, the obligation to provide the information would be on the seller, in line with relevant EU consumer law (e.g. CRD). The scope of these measures excludes services, consumables and fast-moving consumer goods.

Measure 2.1.1: Information on accumulated evidence of recorded early failures of products present in the EU market

Consumers would be informed by the seller of up-to-date evidence on certain aspects of the product's design that could cause early failure (thus reducing its lifespan).

[392] https://ec.europa.eu/jrc/en/publication/analysis-and-development-scoring-system-repair-and-upgrade-products

Third party 'authorised entities' (consumer organisations, market monitoring bodies, public or non-public, designated by Member States) would be called on to collect and deliver such evidence.

This information would be made available via the website of the authorised entities or other means.

The impact chain of the measure can be briefly described as follows:

1. Warn consumer about products for which there is accumulated evidence of early failure.
2. Some consumers avoid those products.
3. Purchased products will last longer, meaning that consumer purchasing decisions are more environmentally friendly and lead to lower consumer detriment.

Measure 2.1.2: Ban on certain identified practices associated with early obsolescence

Practices that have been identified as leading to premature obsolescence would be banned. This would include some practices identified during the study:

- Providing software updates that slow-down goods with digital content or digital content/service without clearly informing the consumer;
- Not providing software updates needed for the proper functioning of the device (in accordance with the legal requirements);
- Preventing access to key components of a product (e.g. batteries), making the product irreparable (unless duly justified for safety concerns or functionality/durability reasons);
- Incorporating intentional design features for the specific purpose of reducing the durability of the product;
- Deliberately introducing a device/component into the product that renders the product unusable after a certain period of time or a certain number of uses.

The impact chain of the measure can be briefly described as follows:

1. Ban products that may fail earlier or need to be replaced prematurely (e.g. because they cannot be repaired or their performance is very poor) due to certain business practices.
2. Purchased products will last longer, meaning that consumer purchasing decisions are more environmentally friendly and lead to lower consumer detriment.

6.2.5 Measures to address sub-problem 2.2: Consumers are faced with the practice of making unclear or poorly substantiated green claims

The two measures to address sub-problem 2.2 that were retained for further analysis are described below.

Measure 2.2.1: Ban on unfounded vague/general statements

General/vague statements on the environmental performance of products (such as 'good for the environment', 'green', 'friend of nature') would be forbidden unless the product is considered to have an 'environmentally excellent performance'. This can be proven by the EU Eco-label, equivalent national ecolabels, or an LCA study in accordance with the PEF instrument.

This measure would complement (and not overlap with) the Substantiating Green Claims Initiative, as the latter is not expected to specifically address vague statements.

The impact chain of the measure can be briefly described as follows:

1. Ban products that have vague environmental claims but are not best in class.
2. Consumers are not misled into thinking that these products have an 'environmentally excellent performance'.

3. In some cases, consumers will purchase products that have better environmental performance as they are able to compare products based on more concrete and reliable information.
4. Some consumers might start trusting these claims and purchase more environmentally friendly products.

Measure 2.2.2: Prohibition of environmental claims that do not fulfil a minimum set of criteria

The measure would act as a safety net for the claims not covered by the upcoming Substantiating Green Claims Initiative instrument (e.g. claims in respect of biodiversity, forest management, reparability, durability, implicit claims like imagery and overall product presentation, including layout, choice of colours, images, pictures, and sounds) and ban environmental claims that do not respect the following criteria[393]:

- The environmental claim should relate to aspects that are significant in terms of the product's environmental impact;
- The benefit claimed should not result in an undue transfer of impacts to other environmental aspects;
- The claim should be clear and unambiguous about the aspect(s) of the product or its life-cycle to which it refers;
- Companies should not make claims about aspects that are legally required;
- The wording, imagery, and overall product presentation (i.e. layout, choice of colours, images, pictures, sounds, symbols or labels) should be a truthful and accurate representation of the scale of the environmental benefit and should not overstate the benefit achieved;
- The claim should relate to environmental achievements instead of aspirations to future environmental performance. Future aspirations can be still expressed under certain conditions. If a trader uses environmental statements in its company name, product name, etc., and the name is used for marketing purposes, such marketing is subject to the same documentation requirements that apply to other environmental claims in marketing communications.

The impact chain of the measure can be briefly described as follows:

1. Ban products whose environmental claims do not meet the above criteria.
2. Consumers are not misled into thinking that these products are environmentally friendly.
3. In some cases, consumers will purchase products that have a better environmental performance as they are able to compare products based on more concrete and reliable information.
4. Some consumers might start trusting these claims and purchasing more environmentally friendly products.

6.2.6 Measures to address sub-problem 2.3: Consumers are faced with a proliferation of sustainability labels and digital information tools that are not always credible or transparent

The three measures to address sub-problem 2.3 retained for further analysis are described below.

Measure 2.3.1: EU-led voluntary initiative to develop minimum criteria on sustainability labels and digital information tools – voluntary uptake

[393] Criteria developed by the Multi-stakeholder Group on Environmental Claims (https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3327&NewSearch=1&NewSearch=1).

Minimum requirements for governance and transparency of sustainability labels and digital information tools would be developed via multi-stakeholder dialogue with all relevant parties. Once developed, organisations running the labels or tools (or certification schemes) would decide, on a voluntary basis, to comply with the principles.

Measure 2.3.2: Introduction of minimum requirements for sustainability labels and digital information tools – compulsory for all sustainability labels and digital information tools

Minimum requirements on the governance, reliability and transparency of sustainability labels and digital information tools would be defined at EU level and made compulsory for all sustainability labels, irrespective of whether the labels are managed by public, semi-public, private or non-profit organisations.

The minimum requirements would cover governance aspects of the labels and digital information tools, including accessibility to industry participants, multi-stakeholder involvement, compliance monitoring, dispute resolution, sanctioning for non-compliance and transparency for consumers (identity of the organisation running the label, its objectives, its functioning). The study has developed a set of possible criteria in close collaboration with experts and ISEAL (see Annex 2).

Ex post compliance checks would be performed by consumer protection authorities on an ad hoc basis.

The impact chain of the measure can be briefly described as follows:

1. Ban sustainable labels and digital information tools that do not meet the minimum criteria.
2. Consumers are not misled into thinking that products carrying those banned labels or compared using those banned digital information tools are more sustainable than they are.
3. In some cases, consumers will purchase products that are more sustainable as they are able to compare products based on more transparent and reliable labels and/or digital information tools.
4. Some consumers might start trusting these labels and digital information tools and start purchasing more sustainable products.

Measure 2.3.3: Pre-approval of sustainability labels and digital information tools via an EU body

The approval of sustainability labels and digital information tools for use on the EU market would be subject to an ex-ante conformity assessment to be performed by an EU body. Approval would require conformity with to the minimum requirements outlined in option 2.3.2.

The impact chain of the measure is similar to the one of measure 2.3.2.

7 What are the impacts of the policy measures/options?

This section presents the assessment of the impact of the various measures analysed (see section 6). Before carrying out the assessment, the study identified the relevant impact against which the options / measures should be assessed.

In line with the Better Regulation Guidelines on impact assessment, all of the impacts (potentially) associated with the selected options/measures were identified (see Annex 15). The process of identifying impacts was mainly informed by the literature review and stakeholder consultation. It also drew on expert input/judgement.

The starting point for the development of the longlist of impacts is the impacts checklist from the Better Regulation Guidelines (Tool #19). This required an in-depth analysis

and understanding of all available evidence, which in turn minimised the risk of overlooking potentially significant impacts.

The significance of social, economic and environmental[394] (direct and indirect) impacts that the policy options may entail for the various stakeholders was assessed on the basis of:

- Their expected magnitude – taking into account the likely scale of impacts (extent of resulting costs and benefits), the number of businesses and consumers affected, and the extent of change expected;
- Their likelihood – taking into account available evidence on the probability of positive and negative impacts/effects and prioritising those impacts for which there is robust evidence;
- Their relevance to stakeholders – taking into account existing views provided by relevant stakeholder groups, additional insights/judgments expressed during the stakeholder consultation;
- Their link to Commission objectives - the extent to which each of the selected impacts is aligned with the objectives of the European Commission initiative on empowering consumers for the green transition.

The assessment took account of the views of stakeholders gathered through extensive consultation, as well as evidence collected through desk research and validated by selected independent experts. The final/screened list of impacts to be investigated further is listed below (and in Annex 15).

Many of the screened impacts are inter-related, with some impacts being the causes or consequences of others. For example, growth/investment is a highly relevant policy impact, but is influenced by all of the other economic factors, such as sectoral competitiveness, SME growth, the functioning of the Single Market, innovation and research, technological development, international trade and investment, and competition. The screening therefore attempted to distinguish between those impacts occurring directly and those occurring indirectly, as a result of other impacts.

The selected impacts vary across the policy options, particularly in their likelihood and significance. However, most impacts are relevant across the different policy options/measures. Screening was therefore undertaken for the options collectively (including the baseline) rather than individually, with a view to later assessing in more detail any differences in (the extent/magnitude of) impacts associated with the different options. An impact was retained for further analysis if it was deemed 'relevant' and expected to be of a magnitude of '●●' (at a minimum in a scale from '●' to '●●●') for at least one of the proposed policy options. All impacts directly relating to the objective of the initiatives were also retained.

Based on the screening assessment, the following potentially significant impacts were identified as priorities for more detailed analysis:

- **Consumer benefits and losses**, including the following sub-categories of impacts:
  - Consumer detriment and other gains and losses (e.g. changes in prices and choices);
  - Quality of the decision-making process;
  - Consumer protection;
  - Consumer trust.
- **Functioning of the Single Market**, including the following sub-categories of impacts:

[394] Environmental impacts were not expected to be highly significant.

- Impact on the level playing field;
- Reduction of barriers to cross-border trade.

- **Costs to companies and impact on SMEs,** including the following sub-categories of impacts:
  - Administrative burden;
  - Substantive compliance costs;
  - Indirect costs;
  - SME growth.
- **Costs to public bodies**, including the following sub-categories of impacts:
  - Enforcement costs;
  - Other costs
- **Sustainability**, including the following sub-categories of impacts:
  - Circularity and sustainable consumption;
  - Climate change;
  - Other environmental impacts.
- **Application of the EU legal consumer framework**, including:
  - Any impact on enforcement and harmonisation of approaches across the EU.

Table 27 sets out the impacts that were selected, the stakeholder group(s) affected, and the general assessment approach used. The impacts of the measures might differ between product categories and is highlighted where relevant.

Table 27. Selected significant impacts of the policy measures/options

Main category of impacts	Affected parties							Assessment	
	Citizens	Consumers	Complying enterprises (SMEs and large enterprises)	Non-complying enterprises (SMEs and large enterprises	Public administrations (EU, national)	Third countries	Nature	Qualitative	Quantitative
Consumer benefits and losses		●						●	partial
Functioning of the EU internal market		●	●	●				●	
Costs to companies and impact on SMEs			●	●				●	partial
Costs to public bodies					●			●	partial
Sustainability	●	●	●	●	●	●	●	●	partial
Application of the EU legal consumer framework	●	●	●	●	●			●	

Source: ICF.

7.1 Summary of the approach to assess the various impacts

This section describes the overall approach to the assessment of the selected impacts, including its limitations.

All selected impacts were assessed in both a qualitative and quantitative way. The quantitative assessment was done by monetisation where possible and otherwise by scores.

The monetisation involved assigning a monetary value to benefits or losses experienced by stakeholders. Where possible, the analysis relied on data from various sources, including statistics, studies, the ICF consumer survey, the CATI survey and the mystery shopping exercise carried out for this study. The available data frequently did not (entirely) cover the needs of the analysis, making it necessary to extrapolate the data or fill in data gaps using expert judgement from the study team and a panel of experts and drawing from other sources of information, such as the results of the surveys, interviews and workshops with stakeholders. Given the uncertainty surrounding many parameters, in the analysis they were defined as probability distribution functions rather than single values[395]. In addition, scenarios were defined for most of the measures to describe possible responses of consumers and/or businesses, with the monetised impacts obtained by running Monte Carlo[396] simulations. The input data limitations were reflected in the analysis by presenting the output as a range rather than single values but the results should nevertheless be read with caution and seen as indicative of the scale of the impacts. The approach and assumptions to the monetisation of benefits and costs of each measure are described in more detail in Annex 15.

The scores were assigned by the study team and validated by a panel of experts, reflecting the findings of the desk research and consultations, including targeted interviews, a consumer survey, stakeholder surveys and workshops.

7.1.1 Consumers benefits and losses

Consumer welfare (personal detriment and surplus)

This impact was assessed quantitatively and qualitatively. The quantitative assessment involved the monetisation of the incremental changes to consumer welfare as a result of the implementation of a given measure (which is expected to be positive) and was based primarily on the results of the contingency valuation of specific products (Table 28) obtained through the ICF consumer survey (with a sample of 11,800 respondents; see Annex 8), complemented by data from other sources where necessary.

Table 28. Product scope of consumer survey

Category of product	Product group	Product
Relevant for all measures	Large household appliances	Washing machines
		Refrigerators
		Microwave/electric ovens
		Vacuum cleaners
		Dishwasher
		Coffee machines

[395] Either a triangular distribution function or a uniform distribution function, depending on the parameters.
[396] In a Monte Carlo simulation, the results were calculated 10,000 times, each time using a different set of random values from the probability distribution functions. The results were distributions of possible outcome values. See, for example, Mooney, C.Z., Monte Carlo simulation, Vol. 116, Sage, 1997.

Category of product	Product group	Product
	Small household appliances and tools	Irons
		Mixers
		Kettle
		Electric shaver/razor/trimmer
		Hair dryer
	Electronic and IT products	Smartphones
		Laptops
		LCD televisions
	Furniture	Sofa
Relevant for all measures	Clothes, footwear, and house textiles	Clothes – party
		Clothes – children
		Clothes – adult
		Sport shoes
Relevant for measures related to sub-problems 1.1., 2.2 and 2.3	Hygienic, care products and cosmetics	Shampoos
		Skin cream
		Toilet paper
		Perfume
	Household cleaning, detergents and decoration products	All-purpose cleaners
		Washing machine detergents
		Paint 2l
	Food	Meat (1kg)
		Bananas (1kg)
		Milk (1l)
		Breakfast cereals (1 package)
		Pre-prepared dishes (1 meal)
		Mineral water (50cl bottle)
Services	Services	Electricity services
		Parcel delivery

Source: ICF.

The monetisation followed the following steps:

1. Estimate the expected changes in the market due to a given measure. For example, certain information becomes available for certain products where in the baseline it would not be, or the share of products that fail prematurely decreases (compared to the baseline) as a consequence of banning certain practices.
2. Estimate the expected changes in consumer behaviour resulting from the measure. For example, the share of consumers interested in (and willing to pay for) products with longer lifespans will be (to some extent) able to do so (compared to the baseline). Or consumers purchase products that do not fail earlier than reasonably expected (where in the baseline they would unknowingly purchase such products).
3. Estimate the expected benefits of those changes to consumers. The specific approach depends on the measure and on the availability of data. It could be to:
    a) Estimate the incremental change in consumer welfare, relying on data on willingness to pay[397]: for those consumers that changed their consumption behaviour as a result of the measure, calculate the difference between what consumers are willing to pay - for example for an additional year of guaranteed lifespan - and the price premium they effectively had to pay. This estimation was first done per product (Table 28) and then extrapolated to the product group;
    b) Estimate the incremental change in consumer surplus, relying on the price of goods and their increased extended lifespan: for those consumers that changed their consumption behaviour as a result of the measure, calculate the difference between what consumers gained (i.e. the price of the goods divided by the incremental duration of the good) and the price premium they effectively had to pay. This estimation was first done per product (Table 28) and then extrapolated to the product group;
    c) Estimate the stated benefits of a measure based on consumers' Stated Willingness to Pay[398] for having that measure implemented, as gathered in the ICF consumer survey (see Annex 8).

While providing a sense of the magnitude of the benefits for consumers, the estimates have significant limitations:

- Anecdotal data on consumer preferences and detriment for some product groups and unavailability of data for a significant share of product groups within scope (especially for sub-problems 1.1, 2.2 and 2.3).
- For some problems, there was the need to focus on a sub-set of product groups due to lack of data on other product categories. Thus the results do not cover all products in scope of the measure. For others, the study could only assess the measure for high-level product categories due to lack of data.
- In most cases, the products covered in the survey were only a sub-set of the products that exist in a certain product category, which required extrapolation of the results of the assessment for the individual products to the product category, assuming that the products would represent (to some extent) the average product in that category. Without such assumptions, the assessment would have not been possible (given that the measure is horizontal) but it nevertheless constitutes an important limitation. While this issue was not raised by the stakeholders, the

[397] Often data on willingness to pay was obtained using a contingent valuation 'stated preference' technique, where specially constructed questionnaires described a hypothetical choice (used in the ICF consumer survey) and asked direct questions about the amount consumers would be prepared to pay for that hypothetical choice. The limitations of this approach were taken into account by incorporating margin of error in the calculations and running a Monte Carlo simulation.
[398] Maximum price a consumer states to be willing to pay for a product.

different characteristics of goods and services can indeed impact the effectiveness of various measures.

- Discrepancies between consumer statements and real-life behaviours.
- Difficulties in assessing the variation in the average sustainability of the products purchased and the average lifespan and reparability of the goods purchased as a result of a certain measure.

In order to mitigate these limitations, Monte Carlo simulations were used to assess, where relevant, the benefits for different scenarios. These depended on factors specific to each measure, such as compliance levels, change in the behaviour of suppliers, impact on comparability of information.

As it was not possible to monetise the consumer welfare for some measures, it was assigned a score ranging from 0 to 10.

Quality of the decision-making process

This impact assesses the extent to which a measure leads to a situation where consumers have more and better information to make decisions and can more/less easily compare goods or services on offer (taking into account information overload, for example). Improving the decision-making process may or may not lead to changes in behaviour and to a reduction in consumer detriment, but it can also lead to an improvement in the subjective welfare of consumers[399]. This was assessed qualitatively and quantitatively using a score ranging from 0 to 10. This impact is one of the components of the specific objective 'Enable informed purchasing decisions by consumers to foster sustainable consumption'.

Consumer protection

This impact assesses the extent to which a measure increases consumer protection in general, and is thus in part covered by the monetisation of the consumer welfare. It was assessed qualitatively and quantitatively, using a score from 0 to 10. The scores were assigned by the study team (and validated by a panel) based on an expert assessment of the findings from desk research and stakeholder consultation, including targeted interviews and the results of the stakeholder workshop. This impact is one of the components of the specific objective 'Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption'.

Consumer trust

This impact assesses the extent to which a measure increases consumers' trust in the market (and is thus in part covered by the monetisation of the consumer welfare) by putting in place effective mechanisms to prevent and penalise misleading practices. This was assessed qualitatively and quantitatively, using a score from 0 to 10. This impact is one of the components of the specific objective 'Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption'.

7.1.2 Functioning of the Single Market

Some options will contribute to reducing the practice of unfair commercial practices and harmonising the rules across Member States. In leading to legal certainty and lowering barriers to cross-border trade, they will also contribute to the improved functioning of the internal market.

Level playing field

[399] See, for example, Scammon, D.L., 'Information load and consumers', *Journal of Consumer Research*, Vol. 4, No. 3, 1977, pp.148-155.

This impact assesses the extent to which a measure contributes to a (more even) level playing field in respect of product lifespan, reparability and sustainability. It was assessed qualitatively and quantitatively, using a score from 0 to 10. This impact is one of the components of the specific objective 'Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption'.

Barriers to cross-border trade

Lack of harmonised rules across the EU can lead to extra costs and difficulties for companies trading in other Member States, particularly SMEs. The measures aim to harmonise rules in various areas and reduce legal uncertainty, (possibly) duplication of costs, and barriers to cross-border trade. This was assessed qualitatively and quantitatively, using a score from 0 to 10.

7.1.3 Costs to companies and impact on SMEs

The costs were calculated for SMEs and large enterprises separately, and for manufacturers, service providers and retailers separately (for some sub-problems, by product types and groups, such as large household appliances, small household appliances, ICT and other electronic products). Within each category, the costs were calculated for an 'average company' producing and/or selling an 'average good or service'[400].

While providing a sense of the magnitude of the benefits for consumers, the cost estimates have significant limitations:

- Need to focus on a sub-set of product groups in the case of some measures and need to carry out estimates at a very high level for other measures as a result of lack of data.
- Costs are estimated for an average company per category. Companies are very different from each other and this assumption significantly simplifies the complex landscape of businesses across the EU.
- Costs are estimated for an average good or product. While such an assumption was required, given the initiative's horizontal approach, it can affect the assessment. Differences in the characteristics of goods and services can affect unit costs. For example, the incorporated technologies and the number of components in a product can influence the costs of lifespan tests or the time required to develop a repair manual. Similarly, the complexity of the supply chain might have an impact on the cost of a PEF study. While the stakeholder consultation did not identify product categories/sectors suffering disproportionate impacts, the literature review suggests that for sectors related to product categories whose products are significantly different from each other and are constantly changing (e.g. clothes, decoration, and to a lesser extent furniture), all measures might have a greater impact. Products with complex supply chains will also suffer disproportionate effects of measures related to assessments of their sustainability performance.
- Lack of data on the effective direct costs for companies. During the consultation, companies declined to provide estimates of those costs and the desk research did not provide all of the required data. Very few companies were interviewed[401] that provided some pointers on the incremental number of hours most measures would require for each cost item. These pointers were used together with expert judgement (study team and three external experts) to set the costs.

[400] While theoretically there might be an overlap between product groups within a company that produces both, this overlap would concern only a small fraction of familiarization costs and is therefore considered to be negligible.
[401] The companies were from Portugal, Sweden and Belgium. Three were three large enterprises and two micro-enterprises. Data were gathered on the condition that their names would not be disclosed.

These limitations were mitigated to an extent by assuming that some assumptions of the analysis follow a uniform distribution with a minimum and a maximum value (see Annex 15).

Administrative burden

Measures will impose information obligations on business (some on manufacturers, others on traders). These information obligations may lead to increased costs to businesses from:

- Familiarising themselves with the information obligation;
- Training members and employees on the information obligations;
- Retrieving relevant information from existing data and adjusting existing data;
- Producing new data;
- Designing information material (e.g. leaflets) and copying (reproducing reports, producing labels or leaflets);
- Filling forms and tables (including record-keeping) and submitting the information to the relevant authority;
- Inspecting, checking (including assisting inspections by public authorities) and holding meetings (internal/external) with an auditor, lawyer etc.

The extent of the impact depends on whether or not some of these activities would be done even in the absence of the measure (i.e. at the baseline). These costs were assessed following the EU Standard Cost Model described in Tool #60[402].

Substantive compliance costs

These are the incremental (non-business as usual) costs (other than fees and administrative burden) to businesses for complying with the measures. They include implementation costs, direct labour costs, equipment costs, material costs and cost of external services. These costs were assessed following a similar approach to the EU Standard Cost Model described in Tool #60[403].

Monetisation of the costs of producing products that do not fail earlier than reasonably expected is extremely challenging, as it depends on the products, reasons for early failure, and data on unit costs (often lacking). It was done by screening the prices of various product types on online marketplaces, identifying the price of the cheapest product, and then assume that it would cost 7.5-15% extra to comply with the measure and improve the product accordingly[404]. This is a significant limitation of the quantification of substantive costs.

Indirect costs

The market dynamic may also lead companies to adapt their products/commitments in order to remain competitive. These adjustments will often have an impact on the operating costs of those companies (indirect costs of the measure). These costs were assessed qualitatively and quantitatively, using a score from 0 to 10.

SME growth

The aforementioned costs might hinder the growth of SMEs and affect their viability. The imbalance between the relative impact of the measures on SMEs and on larger enterprises is particularly evident for those measures that impose costs per product model. This is because, in general, the sales volume per model is generally lower for

[402] https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-60_en_0.pdf
[403] https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-60_en_0.pdf
[404] Incorporated in the analysis by assuming that the costs of improving follow a uniform distribution (0.075, 0.15).

SMEs than for larger enterprises. These costs were assessed qualitatively and quantitatively, using a score from 0 to 10.

7.1.4 Costs for public authorities

All measures will impose enforcement costs, including the cost of monitoring and enforcing compliance with new requirements, as well as adjudication/litigation costs. The latter refer to the costs of using the legal system or an alternative dispute resolution (ADR) mechanism to solve disagreements or disputes generated by the new requirements.

This impact was assessed qualitatively and quantitatively. The estimates have significant limitations due to the lack of specific data on the additional resources the measure will require. The gaps were addressed by using data from similar studies[405] and relying on data provided by some CPC authorities on the size of the team that would be dealing with the enforcement of the measure.

The approach to the quantification and monetisation of these costs is in line with the EU Standard Cost Model described in Tool #60[406]. It covers:

- Familiarisation with the new measure and training of staff;
- Monitoring costs: the estimated costs of the human resources needed to monitor the new instrument. They consist of (a) the estimated additional time (days or hours) devoted to monitoring compliance with the new instrument on an annual basis times, and (b) the forecasted average salary of staff involved in monitoring compliance, plus any other incremental expense that may be incurred, such as mystery shopping exercises, sweeps;
- Enforcement costs: the estimated costs of the human resources needed to enforce the new instrument. They consist of (a) the estimated additional time (days or hours) devoted to enforcement activities related to the new instrument on an annual basis, multiplied by (b) the forecasted average salary of staff involved in enforcement activities, plus any other incremental expense that may be incurred in monitoring compliance, and minus the incremental volume of fines collected if policy intervention is implemented;
- Complaint, adjudication and case handling costs: the estimated costs of the human resources needed to handle complaints and cases by ADR bodies and the courts.

7.1.5 Environmental impacts

Climate change

All measures are expected to lead to a reduction in the CO_2 equivalent (CO2e) emissions of consumption, either by reducing the replacement rate of goods or by increasing the market share of 'truly' sustainable products.

This impact was assessed qualitatively and quantitatively. The estimates have significant shortcomings due to limited data on current CO_2e emissions of all products (and by product type) and difficulties in assessing the variation in the average sustainability of the products purchased and the average lifespan and reparability of the goods purchased as a result of a certain instrument.

[405] The Impact Assessments accompanying the proposals for the Ecodesign Regulations and for the Regulation of the European Parliament and of the Council on cooperation between national authorities responsible for the enforcement of consumer protection laws (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016SC0164&from=EN).
[406] https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-60_en_0.pdf

The approach to the quantification of impacts included an estimate of the 'avoided CO_2 emissions' as a result of new consumption patterns elicited by a given measure and the shadow carbon price[407].

Given the significant data limitations, these calculations were not possible for sub-problems 1.1, 2.2 and 2.3.

Other environmental impacts

The impact of the measures on WEEE and on preventing premature deaths were also monetised. As above, the estimates have significant limitations and were not performed for measures related to sub-problems 1.1, 2.2 and 2.3. Other impacts were assessed qualitatively and quantitatively (in a score ranging from 0 to 10) but not monetised.

7.1.6 Overarching impacts

Circularity and sustainable consumption

This impact assessed the extent to which a measure will contribute to a more circular economy and more sustainable economy, considering the three pillars - economic, environmental and social. It was assessed qualitatively and quantitatively, using a score ranging from 0 to 10. This impact is one of the components of the specific objectives 'Enable informed purchasing decisions by consumers to foster sustainable consumption' and 'Eliminate untrustworthy practices that go against sustainable economy and mislead consumers away from sustainable consumption'.

Application of the EU legal consumer framework

The measure will contribute to improving the application and enforcement of the EU legal consumer framework. This impact was assessed qualitatively and quantitatively, using a score ranging from 0 to 10.

7.2 Results of the assessment

This section presents the assessment of the selected impacts of each measure (while the analysis their coherence is provided in Annex 13). It assigns a score (between 0 and 10) to each sub-criterion (impact) that will be used to compare options using a MCA in section 8.

The measures have other minor impacts, identified and discarded through the process of screening and selection of impacts (see Annex 15). One such category is the effect on jobs, which was excluded due to its expected low magnitude and the resulting difficulty in quantifying it realistically. As all measures will impose some costs on business and cost increases may translate into some job losses, it is possible that all measures may have a limited negative impact on jobs. On the other hand, there may be a positive job impact due to the increase in consumer trust and a more level playing field, leading to lower transaction costs and an increase of allocative efficiency as untrustworthy companies and practices are penalised.

There are also other parties who may be affected, but who were not considered in the analysis because the corresponding impacts were considered minor and therefore not selected in the screening of impacts (see Annex 15). One such category is Third Countries, where often part of the production chain is located and which may thus be affected by requirements imposed in the EU. Nevertheless it can be estimated that the level playing field established by the measures assessed in this study would also bring benefits to businesses located in Third Countries, as those businesses that currently mislead consumers would also have to align their practices with those that are truly

[407] This value varies depending on the source. This study used the low value recommended by the High-Level Commission on Carbon Prices (i.e. EUR 34 in 2019 prices). See Stern, N. and Stiglitz, J.E., *Report of the High-Level Commission on Carbon Prices*, World Bank, 2017, https://www.carbonpricingleadership.org/report-of-the-highlevel-commission-on-carbon-prices/

sustainable in order to sell their products on the EU market in conformity with the measures examined.

7.2.1 Assessment of measures to address sub-problem 1.2: Lack of reliable information on products' lifespan

Evidence regarding the existence and size of sub-problem 1.2, consumer expectations regarding durability of goods (beyond the legal guarantee period), and consumer interest in receiving information on durability, is mostly available for energy-using products, while for the remaining types of goods far less evidence is available. Consequently, the measures were assessed for energy-using products and assuming that their application to additional product types would be subject to targeted analysis if relevant.

The impacts of the measures are assessed against the baseline (so only the incremental ones are considered). For impacts assessed using a scale from 0 to 10, the baseline scores 5. For impacts that are monetisable, the baseline has an impact of EUR 0, for the reasons indicated in section 6.1.

7.2.1.1 Measure 1.2.1: EU-level obligation to inform consumers of the expected/estimated/indicative lifespan of products

The measure was assessed against a baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable Products Initiative on some product groups, which could significantly reduce the impact of the measure for those product groups in 10-15 years, as those actions are gradually implemented. The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (possible negative impact – assigned score 4/10):** The measure ensures that consumers receive information on the indicative lifespan for certain product categories. This is information that a great majority of consumers want to receive (as several studies show)[408] and for which about half are willing to pay (according to the ICF consumer study). No negative impact is expected in terms of information overload.

  The comparability of the information provided across products within the same category is expected to be very low, at least as long as companies are allowed to use different assumptions (e.g. normal usage of the product and different standards/methodologies to assess the lifespan of their products. The assessment of this measure is based on the assumption that harmonised approaches and assumptions will not be defined. This significant limitation was highlighted by companies and experts, with a general agreement that it renders the measure (to help consumers to select products that last longer) ineffective, or even potentially counter-productive.

  The reliability of the information will depend on the assumptions used by manufacturers to define lifespan, and on the effectiveness of the enforcement of the measure. Some companies will have incentives to overestimate the lifespan of their product to gain (or at least not to lose) competitive advantage. Other companies might have incentives to slightly underestimate the lifespan of their products in order to avoid reputational damage should a product fail earlier than indicated. The challenges related to information reliability were highlighted as a significant limitation of this measure by several stakeholders. The introduction of counters

[408] See overview in Section 3.5.

and/or the request of certified tests to support the claims will address this limitation to some extent.

- **Consumer protection (no impact – assigned score 5/10):** In principle, the measure ensures that consumers receive information that helps them to avoid products with low lifespans. However, as explained above, those are the same products for which companies have incentives to overestimate lifespan. While effective enforcement can contribute to preventing these situations, the fact that companies can define the approach and assumptions used to test their products, and that consumers may not get redress[409] if the products fail earlier than indicated, leaves some consumers somewhat unprotected (possibly the most vulnerable consumers, who tend to buy non-high-end products). This limitation was highlighted by experts, consumer organisations and NGOs.
- **Consumer trust (possible negative impact – assigned score 4/10):** This measure will likely reduce consumer trust in the market. As highlighted by the DG JUST behavioural study[410] and by experts from all groups consulted, receiving this information is likely to create expectations about compensation (e.g. free repair, replacement) if a product fails before the indicated lifespan (which might be a one-off event and not the result of the provision of unreliable information). This compensation might be difficult to obtain, as the expected lifespan is an average of all units produced and so the failure of one unit before the indicated time does not prove that the consumer was misled.

  As each company can define its own methodology and assumptions, consumers will be wary of inconsistent standards. On the other hand, this information might give some reassurance to consumers about the durability of products[411].
- **Monetisable consumer welfare (possible positive impact, with average of scenarios EUR 0.3 – 0.5billion in 2025-2040 – assigned score 6/10;):** Depending on the level of reliability of the lifespan information provided, the measure may contribute to consumers purchasing alternatives that last longer than in the baseline. In fact, the reliability of the information will decide whether the measure might bring positive or negative benefits to consumers. As each company can decide its own methodology, a negative impact would occur where, based on the indicated lifespan, some consumers believe (and even pay a premium) that they are buying products that last longer than those bought in the baseline, when in fact they are not. Table 29 shows this effect for a sub-set of product types (see Annex 15 for methodology and assumptions).

[409] Under the new enforcement and modernisation revisions from Directive 2019/2161/EC that will modify the UCPD, as of May 2022 it will be possible for consumers to seek individual redress for unfair commercial practices (including unfounded statements of durability estimations). However, a product failing before the indicated lifespan does not prove that the indicated lifespan was incorrect (these values are averages and follow a distribution function, so it is normal that some units will fail earlier and others later than the value indicated). It will be necessary to show that a non-reasonable share of units failed before the indicated lifespan.

[410] European Commission. Behavioural study on consumers' engagement in the circular economy, 2018, https://ec.europa.eu/info/sites/info/files/ec_circular_economy_final_report_0.pdf

[411] Consultation for this study and other studies (e.g. DG JUST behavioural study) revealed a growing level of distrust towards manufacturers when it comes to product durability, with many consumers considering that products are deliberately not built to last.

Table 29. Impact on monetisable consumer welfare of measure 1.2.1 (present value 2021 (@4%) at prices of 2019, EUR million, total for the period indicated)

Scenario	2025-2040	2025-2050
Low reliability of information	-225 (±40)	-965 (±135)
Moderate reliability of information	980 (±130)	1,120 (±150)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

The impact on consumer welfare as a result of the implementation of this measure was assessed for large household appliances, small household appliances, and IT and other electronic goods. The assessment was undertaken for two scenarios on the reliability of information: low-moderate (about 40% is reliable) and moderate-high (about 60% is reliable).

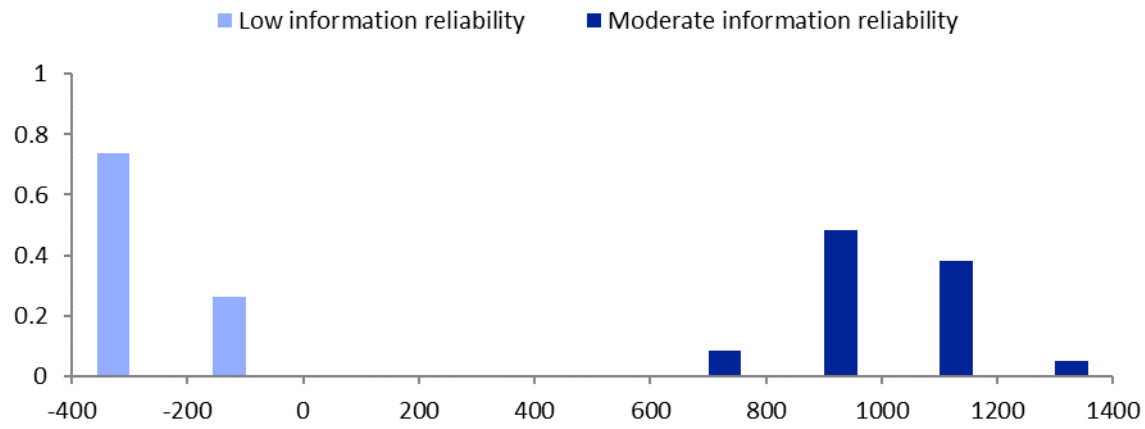
This assessment has limitations because it relies on extrapolation of anecdotal data for consumer behaviour and for the lifespan of products available on the market and only considers gains for one additional year of lifespan. In reality, the measure will help consumers to choose products with lifespans that might be two or more years higher than the products they would have bought in the baseline scenario. This limitation has been addressed to some extent by incorporating this uncertainty into the analysis and by running a Monte Carlo simulation.

The approach calculated the gains of those consumers that end up buying products[412] that last one year longer[413]. The reliability of the information influences the number of cases where consumers bought a product based on misleading information (in these cases consumers actually experience a loss in consumer surplus[414], which was accounted for).

The results of the Monte Carlo simulations for the two scenarios are presented in Figure 25 and show that the reliability of the information on expected lifespan has a significant impact on its monetisable benefits.

[412] The estimate took into account the willingness to pay for a product with information that will last at least one year longer than a similar product (this scenario corresponds to this measure), but also the difficulties in finding products that last one year longer (due to lack of choice) and also that it is possible that some consumers are already buying the product with one additional year of lifespan.
[413] A gross gain in the price of the product divided by the lifespan of the product, and a net gain equal to the gross gain minus the price premium they paid to purchase a product that lasts one year longer.
[414] Estimated to be equal to the price premium paid for the product with the longer lifespan.

Figure 25. Impact on monetisable consumer welfare as a result of measure 1.2.1 for the period 2025-2040 - results of Monte Carlo simulation (present value, at 2019 prices, in EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (possible negative impact – assigned score 4/10):** The impact on the level playing field depends on ensuring that companies use the same assumptions and standards to assess lifespans and that proper enforcement is in place, as companies producing goods with a lower-than-average lifespan will have incentives to overstate the lifespan of their products.

  As no harmonised assessment approaches are foreseen, the measure will potentially lead to situations where products with shorter lifespans may indicate longer lifespans than products that have a longer lifespan, due to the adoption of different approaches and assumptions in assessing lifespan.

- **Reduction of barriers to cross-border trade (no impact – assigned score 5/10):** The measure is not expected to have an impact on reducing barriers to cross-border trade.

- **Administrative burden (average of scenarios EUR 2.4 – 2.7 billion in 2025-2040):** This measure will impose a significant administrative burden on businesses, of which an important share is related to the production of new data to be able to provide information on the expected lifespan of products. While the obligation is on the trader, it is assumed that traders will request this information from manufacturers.

  This study obtained inconsistent information on whether companies already perform tests[415] to assess the lifespan of their product. The administrative burden was estimated for three scenarios in respect of the share of companies that already assess the lifespan of their products: 75%, 50% and 25%.

  The other important cost element is the tagging of products. The assessment assumed that in 97.5% of cases this will be done by the manufacturer on the

[415] Data obtained for the costs of the tests varied significantly. It was incorporated in the analysis by assuming that these costs follow a triangular distribution function. Another challenge was to estimate how many models exist per product category. The sources used were the Impact Assessments of the Eco-design Regulations, complemented by desk research on the offer of main online retailers in different EU countries.

package and that in 2.5% of the cases stickers will have to be placed on the product package by sellers. Data on how much time it takes to place the stickers was obtained from the Impact Assessment for the proposal of Ecodesign regulations[416].

The results of the estimation for the three scenarios (and for three product types large household appliances, small household appliances, IT and other electronic goods, in line with the scope of the monetisation of benefits) are shown in Table 29, Table 31 and Table 32. 40% of the costs for the manufacturers refer to the need to familiarise and adapt internal procedures to comply with the new obligation and 47% refer to the costs of tests to assess lifespan. In the case of retailers, 95% of the costs are in familiarisation and adaptation of internal systems and procedures.

[416] 5 minutes per sticker; see, for example, https://ec.europa.eu/transparency/regdoc/rep/10102/2019/EN/SWD-2019-349-F1-EN-MAIN-PART-2.PDF

Table 30. Administrative burden as a result of measure 1.2.1 (present value at 2019 prices, EUR million)

	2025-2040			2025-2050		
	Scenario Tests at BAU			Scenario Tests at BAU		
	25%	50%	75%	25%	50%	75%
One-off	950 (±95)	800 (±75)	670 (±35)	950 (±95)	800 (±75)	670 (±35)
Recurrent (total)	1,875 (±90)	1,745 (±60)	1,620 (±30)	2,300 (±125)	1,220 (±80)	1,945 (±40)
TOTAL	**2,825 (±185)**	**2,560 (±125)**	**2,290 (±60)**	**3,250 (±220)**	**2,930 (±145)**	**2,615 (±75)**

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 31. Disaggregation per company of administrative burden type as a result of measure 1.2.1

	2025-2040			2025-2050		
	Scenario Tests at BAU			Scenario Tests at BAU		
	25%	50%	75%	25%	50%	75%
SMEs	**52.5 (±3%)**	**57% (±2%)**	**62% (±1%)**	**53% (±3%)**	**57.5% (±2%)**	**63% (±1%)**
Manufacturers	6% (±0.5%)	5.5% (±0.3%)	5% (±0.2%)	6% (±0.5%)	5.5% (±0.3%)	5% (±0.2%)
Retailers	46% (±3%)	51% (±2.5%)	57% (±1.5%)	47% (±3%)	52% (±2.5%)	58% (±1.5%)
Large Enterprises	**47.5% (±3%)**	**43% (±2%)**	**38% (±1%)**	**47% (±3%)**	**42.5% (±2%)**	**37% (±1%)**
Manufacturers	47.5% (±3%)	43% (±2%)	38% (±1%)	47% (±3%)	42.5% (±2%)	37% (±1%)
Retailers	~0.1%	~0.1%	~0.1%	~0.1%	~0.1%	~0.1%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 32. Disaggregation per category of administrative burden as a result of measure 1.2.1 (period 2025-2040) – average scenario

	Share of total
Familiarising with the information obligations	3%
Training	1%
Retrieving existing information & adjusting existing data and systems	2%
Producing new data	32%
Designing and placing information material	60%
Filling forms and tables	0%
Inspecting and checking	2%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will increase company costs, which might be passed on the consumers. However, the total costs of the measure divided by the volume of projected sales is equal to about EUR 0.10, which, given the average price of the products affected by the measure, is expected not to have an effect on demand. In addition, some companies might need to improve the quality of their products in order to remain competitive and consequently incur costs. These costs are expected to be compensated by increased demand for those same products.
- **SME growth (no impact – assigned score 5/10):** This measure will have a higher relative impact on SME manufacturers, whose volume of sales per model is likely lower than that of large enterprises. Nevertheless, the costs imposed by the measure are not expected to have a significant negative impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 86 – 97 million in 2025-2040):** Based on interviews with some CPCs, it is assumed that Member States (possibly with the exception of France) would have to create a dedicated team to enforce this measure. Around five experts would spent 25% of their time monitoring compliance, 50% carrying out inspections, and 25% handling complaints. The number of complaints that could be handled was estimated at around 700 per year per Member State, on average. About 1% were assumed to be dealt with through ADR bodies and 0.1% in courts. The costs of an ADR body adjudication and of a court adjudication were obtained from the Impact Assessment of CPC authorities and the supporting study.

  The study assumed that familiarisation with the measure and adjusting internal procedures to start enforcing the measure would require 140 hours. In addition,16 employees would receive a 7-hour training.

  It was also assumed that there will be a yearly monitoring action (such as a mystery shopping exercise) per Member State, which will amount to around EUR 40,000.

  The present value of the costs to the public administrations are shown in Table 33.

Table 33. Enforcement costs as a result of measure 1.2.1 (present value at 2019 prices, EUR million)

Category	2025 – 2040	2025 - 2050
Familiarization & Training	0.2	0.2
Monitoring	19 - 30	26 - 41
Enforcement	38	52
Complaints & Adjudication	29	39
Total	**86 - 96**	**118 - 133**

Source: ICF elaboration.

Environmental impacts

- **Climate change (EUR ±0):** Due to the implementation of the measure, (some) consumers are unlikely to purchase products that effectively last longer and therefore the impact on CO_2 emissions is considered negligible.
- **Other environmental impacts change (no impact – assigned score 5/10):** Similarly, the measure is expected to have negligible effects on other environmental impacts.

Overarching impacts

- **Circularity and sustainable consumption (no impact – assigned score 5/10):** The measure is not expected to be effective in helping to increase consumer awareness of products' durability (at the time of purchase) and therefore will not reduce the frequency of replacement of products.
- **Application of the EU legal consumer framework (no impact – assigned score 5/10):** As the assessment is carried out by businesses following non-harmonised approaches, this measure is not expected to have a significant impact on ensuring better and more coherent application of the EU legal consumer framework.

7.2.1.2 Measure 1.2.2: EU-level obligation to inform consumers of the existence (or absence) and length of a producer's commercial guarantee for the entire good

The measure was assessed against a baseline that does not incorporate possible effects of related actions in the context of the Sustainable Products Initiative on some product groups, which could either reinforce or reduce the impact of the measure for those product groups in 10-15 years, as those actions are gradually implemented.

The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (positive impact – assigned score 7/10):** The measure ensures that consumers receive information on the 'guaranteed lifespan' for durable goods (or on a sub-set) in a clear and consistent way. The vast majority of consumers want to receive this information for (as shown by several studies)[417], with half of them willing to pay for it, according to the ICF consumer survey.

[417] See overview in Section 3.5..

As highlighted by several studies and confirmed by the experts and businesses consulted, commercial guarantees are used by companies to signal that their products are reliable and that they are expected to last[418]. Currently, only a small share of products have commercial guarantees included in the price of the product that have a duration longer than the period of the legal guarantee. Consequently, the impact of the measure as a proxy to indicate which products are expected to have a longer lifespan is limited and its evolution will depend on how the offer and duration of commercial guarantees (included in the product price) will evolve.

In order to simulate the possible changes in the market dynamics as a result of the introduction of the measure, an agent-based model was developed based on that of Brouillat (2015)[419], DeCroix (1999)[420] and Kunpeng Li et al. (2019)[421]. The results of the simulations show that it is possible that the share of products covered by commercial guarantees and the duration of those commercial guarantees will increase as a result of the measure. These changes will be slow in initially, before then accelerating. The results are in line with the expectations voiced by some consumer associations and NGOs consulted, and with the views of several independent experts consulted[422].

In addition to helping consumers to distinguish products with commercial guarantees from those without and signalling the products expected to have longer lifespans, the measure will also improve consumer awareness of the duration of the legal guarantee, which the European Commission, DG Justice and Consumers study on legal and commercial guarantees found to be relatively low, at just 35%[423].

While no negative impact is expected in terms of overload of information, some of the experts and consumer organisations consulted noted that attention will have to be paid to the way information is provided in order to avoid confusing consumers about the period covered by a legal guarantee and the additional period covered by a commercial guarantee.

The comparability of the information provided across products is expected to be very high. Differences will exist between those Member States in which the period for the legal guarantee is set to two years and those that have longer legal guarantees (e.g. Sweden, Netherlands).

The reliability of the information is also expected to be very high as there are contractual obligations implied by it.

- **Consumer protection (positive impact – assigned score 7/10):** By ensuring that the information on the availability and duration of commercial guarantees is provided in a harmonised way alongside the price, consumers who struggle to

[418] See, for example: Kelley, C.A., 'An investigation of consumer product warranties as market signals of product reliability', *Journal of the Academy of Marketing Science*, Vol. 16, No. 2, 1988, pp. 72-78; DeCroix, G.A., 'Optimal warranties, reliabilities, and prices for durable goods in an oligopoly,' *European Journal of Operational Research*, Vol. 112, No. 3, 1999, pp.554-569; Balachander, S., 'Warranty signalling and reputation', *Management Science*, Vol. 47, No. 9, 2001, pp. 1282-1289; Murthy, D.N.P. and Djamaludin, I., 'New product warranty: A literature review', *International Journal of Production Economics*, Vol. 79, No. 3, 2002, pp. 231-260; Li, K. et al., 'The impact of quality perception and consumer valuation change on manufacturer's optimal warranty, pricing, and market coverage strategies', *Decision Sciences*, Vol. 50, No. 2, 2019, pp. 311-339; Esmaeili, M. et al., 'Three-level warranty service contract among manufacturer, agent, and customer: A game-theoretical approach', *European Journal of Operational Research*, Vol. 239, Issue No. 1, 2014, pp. 177-186; Bian, Y. et al., 'Optimal extended warranty strategy: Offering trade-in service or not?', *European Journal of Operational Research*, Vol. 278, No. 1, 2019, pp. 240-254.

[419] Brouillat, E., 'Live fast, die young? Investigating product life spans and obsolescence in an agent-based model', *Journal of Evolutionary Economics*, Vol. 25, No. 2, 2015, pp. 447-473.

[420] DeCroix, G.A., 'Optimal warranties, reliabilities, and prices for durable goods in an oligopoly', *European Journal of Operational Research*, Vol. 112, No. 3, 1999, pp. 554-569.

[421] Li, K. et al., 'The impact of quality perception and consumer valuation change on manufacturer's optimal warranty, pricing, and market coverage strategies', *Decision Sciences*, Vol. 50, No. 2, 2019, pp. 311-339.

[422] Stakeholder Consultation report, in particular the minutes of the third workshop.

[423] https://ec.europa.eu/info/sites/info/files/legal-guarantees-final-report_en.pdf

identify products that are covered by commercial guarantees (and for how long) will be able to more easily identify and purchase products covered by commercial guarantees. These consumers will be protected from problems that occur during the guaranteed lifespan (which would not be case in the baseline). It will also contribute to protecting consumers who are currently unaware of the period covered by a legal guarantee.

The magnitude of the impact will depend on how the market will react to the measure in terms of availability and duration of commercial guarantees offered.

- **Consumer trust (positive impact – assigned score 7/10):** This measure will increase consumers' trust in the market. Firstly, due to the increase in consumer awareness regarding the period covered by the legal guarantees and the period covered by an additional commercial guarantee[424]. Secondly, an increase in the availability and duration of commercial guarantees will reassure consumers of the quality of the products offered on the market and remind them that they have the choice to select more reliable products.
- **Monetisable consumer welfare (positive impact with average of scenarios EUR 1.8 – 2.5 billion in 2025-2040 – assigned score 7/10):** The measure is estimated to bring an increase to the monetisable consumer welfare. The magnitude of the benefits will depend on the impact of the measure on the behaviour of producers and thus on the availability and duration of commercial guarantees. For this reason, the estimation of the benefits was done for two scenarios for the evolution of the offer of commercial guarantees (Table 34).

Table 34. Impact on monetisable consumer welfare as a result of measure 1.2.2 (present value (@4%) at 2019 prices, EUR million)

Scenario	2025-2040	2025-2050
Low-moderate evolution of the offer of commercial guarantees	1,750 (±270)	2,500 (±380)
Moderate-high evolution of the offer of commercial guarantees	2,480 (±425)	4,125 (±785)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

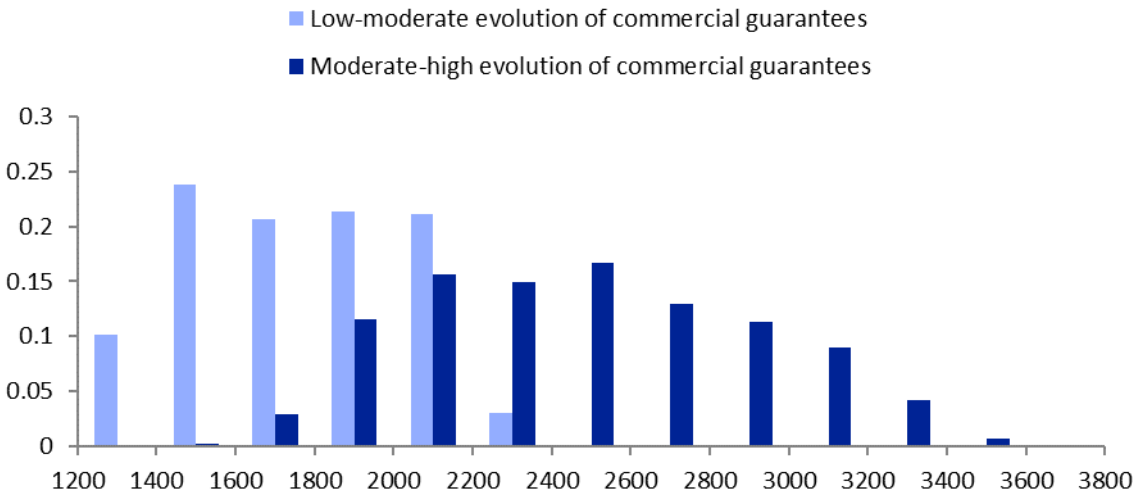
The increase in monetisable consumer welfare as a result of the implementation of this measure was assessed for large household appliances, small household appliances, and IT and other electronic goods. The assessment was done for two scenarios for the evolution of the market and how the measure will be effective in signalling longer product lifespans, i.e. the extent to which the guaranteed lifespan will converge with the expected lifespan of a product.

The approach used was to calculate the surplus of those consumers that end up buying products[425] that are covered by a commercial guarantee[426] as a result of the measures (at the baseline they would have not purchased a product covered by a commercial guarantee).

[424] The mystery shopping exercise showed that about 40% of the commercial guarantees (some of them paid for) have a duration equal or inferior to the legal guarantees.
[425] The estimate took into account willingness to pay for a product covered by one year longer than the legal guarantee.
[426] Which means a gross gain of the willingness to pay, and a net gain equal to the gross gain minus the price premium they paid to purchase a product with a commercial guarantee of one year. The average price premium considered was based on the results of the mystery shopping and on the DG JUST study on legal and commercial guarantees (https://ec.europa.eu/info/sites/info/files/legal-guarantees-final-report_en.pdf).

The results of the Monte Carlo simulations for the two scenarios are presented in Figure 26.

Figure 26. Impact on monetisable consumer welfare as a result of measure 1.2.2 for the period 2022-2050 - results of Monte Carlo simulation (present value at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (possible positive impact – assigned score 6/10):** The measure will increase transparency on the guaranteed lifespan of products and indirectly penalise companies that do not offer (or offer less attractive) commercial guarantees by reducing the demand of their products. As companies producing products with shorter lifespans than could be reasonably expected will most likely not offer commercial guarantees, the measure will contribute to a more level playing field.
- **Reduction of barriers to cross-border trade (possible positive impact – assigned score 6/10):** Evidence indicates that without EU action, Member States will start to address this sub-problem independently and in a non-harmonised way (Table 4). This will increase legal uncertainty and compliance costs for cross-border trade. SMEs are expected to be particularly heavily penalised, as the expected volume of cross-border sales might not compensate for the costs of familiarisation and compliance with different national rules.

  A harmonised approach at EU level to address this sub-problem is therefore expected to have a positive impact on business confidence and cross-border transactions.
- **Administrative burden (average of scenarios EUR 0.9 – 1.1 billion in 2025-2040):** This measure will impose considerable one-off administrative burdens on businesses, primarily related to adapting systems, procedures and existing data (e.g. updating websites) and to re-designing and replacing price tags in physical shops. However, it will have a low recurrent administrative burden, as the activities necessary to provide the information would have been carried out in the business-as-usual scenario.

  The results of the estimates are shown in Table 35, Table 36 and Table 37 for large household appliances, small household appliances, and IT and other electronic goods

(in line with the scope of the monetisation of the benefits). About 90% of the costs to manufacturers are in familiarisation with the measure and adapting internal systems and procedures. The majority of the costs to retailers (around 70%) are related to frequent internal inspections to ensure that the information is provided.

Table 35. Administrative burden as a result of measure 1.2.2 (present value (@4%) at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	445 (±15)	445 (±15)
Recurrent (total)	530 (±75)	735 (±105)
TOTAL	**975 (±90)**	**1,180 (±120)**

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 36. Disaggregation per company type of administrative burden as a result of measure 1.2.2

	2025-2040	2025-2050
SME	**96.8%** (±0.3%)	**97.3%** (±0.3%)
Manufacturers	~0.3%	~0.3%
Retailers	96.5% (±0.3%)	97.2% (±0.3%)
Large Enterprises	**3.2% (±0.3%)**	**2.7% (±0.3%)**
Manufacturers	3% (±0.3%)	2.5% (±0.3%)
Retailers	~0.2%	~0.2%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 37. Disaggregation per category of administrative burden as a result of measure 1.2.2 (period 2025-2040)

	Share of total
Familiarising with the information obligations	11%
Training	2%
Retrieving existing information & adjusting existing data and systems	11%
Producing new data	0%
Designing and placing information material	13%
Filling forms and tables	0%
Inspecting and checking	63%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will increase operational costs, which may be passed on to consumers. However, the total costs of the measure divided by the volume of product sales is around EUR 0.04, which is not expected to have an effect on demand, given the average price of the products affected by the measure.

  In addition, some companies will start to provide commercial guarantees or increase the duration of their existing commercial guarantees. This is not expected to lead to a significant increase in the operational costs for companies, as they are aware of the lifespan of their products and will select the optimal duration for the commercial guarantee and the resulting optimum price premium. These costs are expected to be compensated by an increase in the price of products (as consumers are willing to pay for longer guaranteed lifespans) and possibly by an increase in demand for those same products.
- **SME growth (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 15-27 million in 2025-2040):** Based on interviews with some CPCs, it is assumed that the measure would not require significant additional resources to those required to enforce CRD and SGD.

  The analysis assumed that the measure will require an additional FTE, with their time divided equally between monitoring, inspection and handling complaints.

  It was assumed that each Member State would need 70 hours to become familiar with the measure and to adjust internal procedures to start enforcing the measure. In addition, 16 employees will receive a 7-hour training.

  It was also assumed that there would be a yearly action per Member State (e.g. mystery shopping), which will amount to EUR 40,000 (based on market research).

  The other unit costs were assumed to be the same as in the previous measure. Table 38 presents the estimated present value of the costs to public administrations.

Table 38. Enforcement costs as a result of measure 1.2.2 (present value at 2019 prices, EUR million)

	2025 – 2040	2025 - 2050
Familiarization & Training	0.1	0.1
Monitoring	5-17	7-22
Enforcement	5	7
Complaints & Adjudication	5	7
Total	**15-27**	**21-36**

Source: ICF elaboration.

Environmental impacts

- **Climate change (average of scenarios EUR 6 – 8 million in 2025-2040):** As a result of the measure, some purchased products will last at least one year longer than those that would have been purchased in the baseline (the extent of this depends on the scenario considered). This will lead to a reduction of produced units equal to one divided by the lifespan of the products purchased in the baseline. This will reduce the volume of CO2e emissions (Table 39) (the volume will depend on the effect of the measure on the offer of commercial guarantees, for the same reasons as explained above). Table 39 also presents the monetised value of the avoided CO_2e emission.

Table 39. Avoided CO2e emissions due to measure 1.2.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices)	
Low-moderate evolution of the offer of commercial guarantees	0.14 (±0.02)	0.38 (±0.06)	2.6 (±0.4)	5.7 (±0.8)
Moderate-high evolution of the offer of commercial guarantees	0.6 (±0.1)	2.4 (±0.5)	11 (±2)	34 (±7)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts change (possible positive impact – assigned score 6/10):** The production of products also uses resources (e.g. water) and causes the release of particulate matter and other polluting agents. By decreasing production, these impacts are expected to be reduced. Table 40 and Table 41 show the volume of e-waste and premature deaths (and respective costs for society) avoided as a result of the measure. A rough estimate of other environmental benefits would include reduction of acidification (±0.0015 109mo H+ eq), water use (± 0.11 billion m3), use of fossil fil (±0.005 EJ) and use of minerals and metals (± 0.009 kt Sb eq).

Table 40. Avoided e-waste due to measure 1.2.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Low-moderate evolution of the offer of commercial guarantees	3.9 (±0.6)	10.6 (±1.6)	1 (±0.1)	2 (±0.3)
Moderate-high evolution of the offer of commercial guarantees	16.8 (±3)	66 (±15)	4 (±0.7)	12 (±2.7)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 41. Avoided premature deaths due to measure 1.2.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices)	
Low-moderate evolution of the offer of commercial guarantees	4 (±0.6)	11 (±1.7)	10 (±2)	23 (±4)
Moderate-high evolution of the offer of commercial guarantees	17 (±3)	68 (±15)	45 (±9)	136 (±33)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (possible positive impact – assigned score 6/10)**: The measure will, to some extent, help to increase consumer awareness of product durability (at the time of purchase) and reduce the frequency of replacement. This contributes to a reduction in waste and to a more circular and sustainable economy.
- **Application of the EU legal consumer framework (positive impact – assigned score 7/10):** This measure is expected to have some impact on ensuring better and coherent application of the EU legal consumer framework (in particular the SGD), as it specifies where and how information on the duration of legal guarantees and the availability/duration of commercial guarantees should be provided to consumers.

7.2.1.3 Measure 1.2.3: Obligation to inform consumers of the existence (or absence) of a producer's commercial guarantee for durability and on the period of time during which free software updates will be provided by manufacturers

The measure was assessed against a baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable Products Initiative on some product groups, which could either reinforce or reduce the impact of

the measure for those product groups in 10-15 years, as those actions are gradually implemented.

The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (significant positive impact – assigned score 8/10):** Evidence from studies, the ICF consumer survey and stakeholder consultations for this study show that consumers are interested in purchasing products with better software updates. However, the mystery shopping exercise showed that (in line with the views of consumers collected and reported in surveys) this information was provided in less than 1% of mystery shops.

  The SGD (which will repeal and replace the Consumer Sales and Guarantees Directive (1999/44/EC) requires traders to provide software updates for the period of time that a consumer may reasonably expect, where the sales contract provides for a single act of supply of the digital element. However, it does not specify the exact period of time nor how this should be communicated to consumers at the point of sale.

  This measure (in addition to the impacts described for measure 1.2.2) allows consumers to identify products that offer better conditions in terms of availability of software updates and thus improve their decision-making process. In addition, it could have the additional benefit of quantifying 'reasonable expectation', with some stakeholders noting the advantages of qualifying the term both for consumers and for enforcement.

  This information should be relatively comparable between products in the same category.

- **Consumer protection (significant positive impact – assigned score 8/10):** This measure, in addition to the positive impacts described for measure 1.2.2, will further protect consumers, as it is expected to qualify the notion of 'reasonable expected period' for providing software updates (without prejudice to the fact that the manufacturer's interpretation might fall short of what should be considered reasonable in the sense of the SGD). Manufacturers might decide to ensure software updates for a longer period than the 'reasonable period' in the SGD, protecting consumers for longer as a result of the measure.

  As the commitments regarding availability of updates for a given product might change over time, it is assumed that mechanisms will be put in place to ensure that consumers have proof of that commitment, which they may refer to at a later stage.

- **Consumer trust (significant positive impact – assigned score 8/10):** In addition to the positive impacts described for measure 1.2.2, this measure will increase consumer trust by clarifying and qualifying the 'reasonable expected period', increasing transparency and, in the rare situations where products offer updates for longer periods than 'reasonably expected', removing some barriers to repair, giving consumers a sense of empowerment.

- **Monetisable consumer welfare (significant positive impact with average of scenarios EUR 2.4 – 3.6 billion in 2025-2040 – assigned score 8/10):** This measure brings not only the monetisable consumer welfare described for measure 1.2.2, but also benefits related to the possibility of updates. Evidence shows that some consumers give up repairing a broken product because of a lack of updates. Data from the ICF consumer survey indicated that this is the case in about 6%, 10% and 9% of repair attempts of laptops, TVs, and smartphones, respectively.

By providing consumers with information on the exact period of availability of software updates (and possibly informing them that the software will be provided for a longer period than could be reasonably expected), the measure may contribute to ensuring that consumers are better informed (as in the Dutch experience). It may also help them to select products with software updates ensured for longer periods (when compared to the baseline) and, to some extent, ensure that some of the failed repair attempts will succeed. In these cases, consumers will experience a gain.

The benefits of the measure depend on the availability of products that offer software updates beyond the period already covered by the SGD and a commercial guarantee (when available). For this reason, estimates were done for two scenarios regarding the availability of software updates beyond the requirements of SGD: low-moderate and moderate-high (see Annex 15 for detail on the approach).

The measure is estimated to have the monetisable consumer welfare presented in Table 42 (for a sub-set of product types: large household appliances, small household appliances and IT and other electronic goods)[427].

Table 42. Impact on monetisable consumer welfare as a result of measure 1.2.3 (present value (@4%) at 2019 prices, EUR million)

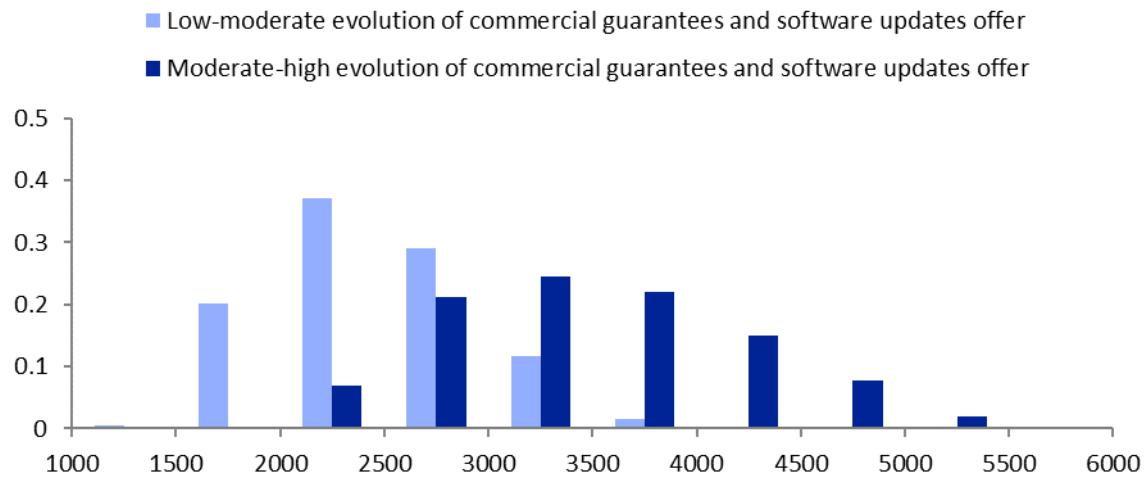
Scenario	2025-2040	2025-2050
Low-moderate evolution of the offer of commercial guarantees and software updates beyond commercial guarantees	2,425 (±475)	3,430 (±660)
Moderate-high evolution of the offer of commercial guarantees and software updates beyond commercial guarantees	3,485 (±725)	5,500 (±1,110)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

[427] A Monte Carlo simulation was carried out. The Stated Willingness to Pay followed a triangular distribution (0, Stated Willingness to Pay, 1.25* Stated Willingness to Pay) and the probability of finding an alternative for which software updates are available for an additional year (on top of the reasonable period) followed a triangular distribution (0,0.25,1). Stated Willingness to Pay equals the average of the results of the ICF consumer survey.

Figure 27. Impact on monetisable consumer welfare as a result of measure 1.2.3 - results of Monte Carlo simulation (present value (@4%) at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (positive impact – assigned score 7/10):** The measure is expected to have some positive impacts on the level playing field in addition to those described for measure 1.2.3, as it will increase transparency on commitments to software updates and allow consumers to compare products based on those commitments.
- **Reduction of barriers to cross-border trade (possible positive impact – assigned score 6/10):** In addition to the positive impacts described for measure 1.2.2, this measure will potentially further reduce barriers to cross-border trade, as it is expected that some Member States will independently legislate in future if no EU-level legislation is in place (e.g. the Netherlands).
- **Administrative burden (EUR 1 – 1.2 billion in 2025-2040):** In addition to the costs of measure 1.2.2, manufacturers will have costs associated with deciding on the period during which they will provide software updates and communicating that to traders. Traders will then have costs to ensure that consumers receive this information at the point of sale. The estimated costs for large household appliances, small household appliances, and IT and other electronic goods (in line with the scope of the monetisation of the benefits) are presented in Table 43, Table 44 and Table 45.

Table 43. Administrative burden as a result of measure 1.2.3 (present value at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	510 (±10)	510 (±10)
Recurrent (total)	570 (±80)	810 (±110)
TOTAL	**1,080 (±90)**	**1,320 (±120)**

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 44. Disaggregation per company type of administrative burden as a result of measure 1.2.3

	2025-2040	2025-2050
SME	**87.8%** (±1%)	**87.3%** (±0.3%)
Manufacturers	~0.6%	~0.6%
Retailers	87.2% (±1%)	86.7% (±1%)
Large Enterprises	**12.2% (±1%)**	**12.7% (±1%)**
Manufacturers	12% (±1%)	12.5% (±1%)
Retailers	~0.2%	~0.2%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 45. Disaggregation per category of administrative burden as a result of measure 1.2.3 (period 2025-2040)

	Share of total
Familiarising with the information obligations	9%
Training	2%
Retrieving existing information & adjusting existing data and systems	11%
Producing new data	0%
Designing and placing information material	13%
Filling forms and tables	0%
Inspecting and checking	65%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will slightly increase operational costs, which might be passed on to consumers. However, the total costs of the measure divided by the volume of project sales is equal to about EUR 0.04, which, given the average price of the products affected by the measure, is not expected to have an effect on demand.
- **SME growth (no impact – assigned score 5/10):** As in measure 1.2.2, this measure will have a higher relative impact on SME manufacturers, whose volume of sales per model is likely lower than that of large enterprises. Nevertheless, the costs imposed by the measure are not expected to be significant and should not have a significant negative impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 15 – 27 million in 2025-2040):** The measure is expected to have similar costs to those described for measure 1.2.2, as it is assumed that the incremental costs with enforcing the provision of information software updates is negligible where authorities are already enforcing the obligation to inform on the availability/length of producer's commercial guarantees.

Environmental impacts

- **Climate change (EUR 8 – 13 million in 2025-2040):** In addition to the impacts described for measure 1.2.2, some consumers will be able to repair products that would otherwise have had to be replaced if the unavailability of software updates made repair impossible. Consequently, the repaired products will have a longer lifespan than in the baseline. This will lead to a reduction in units produced equal to one divided by the additional lifespan of the products (as a result of the repair[428]). This will reduce the volume of CO_2e emissions (during production) (Table 46) (see Annex 15 for methodology to monetise the savings in CO2e emissions due to the measure).

Table 46. Avoided CO2e emissions as a result of measure 1.2.3

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices)	
Low-moderate evolution of the offer of commercial guarantees	0.28 (±0.1)	0.64 (±0.22)	5 (±1.8)	10 (±2.8)
Moderate-high evolution of the offer of commercial guarantees	0.8 (±0.25)	2.8 (±0.8)	15 (±3)	40 (±8)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

[428] For simplicity, this was set to follow a uniform distribution between 0.5 and 1 years.

- **Other environmental impacts (possible positive impact – assigned score 6/10):** Similar to those described for measure 1.2.2., as the impact of the additional obligation to provide information on software updates on the production is estimated to be minor, as will the effect of the additional obligation on other environmental impacts and on WEEE. Table 47 and Table 48 show the volume of e-waste and premature deaths (and respective costs for society) avoided as a result of the measure[429].

Table 47. Avoided e-waste as a result of measure 1.2.3

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Low-moderate evolution of the offer of commercial guarantees	8 (±3)	18 (±6)	2 (±1)	4 (±1)
Moderate-high evolution of the offer of commercial guarantees	23 (±7)	77 (±22)	6 (±1)	14 (±3)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 48. Avoided premature deaths as a result of measure 1.3.3

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices)	
Low-moderate evolution of the offer of commercial guarantees	8 (±3)	18 (±6)	22 (±7)	40 (±11)
Moderate-high evolution of the offer of commercial guarantees	23 (±7)	79 (±22)	62 (±14)	161 (±36)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (possible positive impact – assigned score 6/10):** In addition to the benefits described for measure 1.2.2, this measure will contribute to a very slight increase in the share of products repaired instead of replaced. This in turn contributes to a reduction in waste and to a more circular and sustainable economy. The magnitude of the impact is very small, however.
- **Application of the EU legal consumer framework (positive impact – assigned score 7/10):** This measure is expected to have some significant impact on ensuring better and coherent application of the EU legal consumer framework.

[429] These estimates have significant limitations and should be seen as indicative of the possible magnitude of the impact.

7.2.2 Assessment of measures to address sub-problem 1.3: Lack of information about products' reparability

Evidence regarding the existence and size of sub-problem 1.3, consumer expectations regarding reparability of goods (beyond the legal guarantee period), and consumer interest in receiving information on durability, is mostly available for energy-using products, while for the remaining types of goods far less evidence is available. Consequently, the measures were assessed for energy-using products and assuming that their application to additional product types would be subject to targeted analysis if relevant.

The impacts of the measures are assessed against the baseline (so only the incremental ones are considered). For impacts assessed using a scale from 0 to 10, the baseline scores 5. For impacts that are monetisable, the baseline has an impact of EUR 0, for the reasons indicated in section 6.1.

As mentioned above, measure 1.3.5 was identified and assessed by the European Commission based on information collected after the conclusion of the study's data collection phase and the analysis phase. For this reason, the assessment of this measure is not included in this report but can be consulted in the Commission Staff Working Document, Impact Assessment Report on the "Initiative on Empowering the consumer for the green transition".[430]

7.2.2.1 Measure 1.3.1: Provision of updated, user-friendly repair and maintenance manuals to consumers

The measure was assessed against a baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable Products Initiative on some product groups, which could somewhat reduce the impact of the measure for those product groups in 10-15 years, as the actions are gradually implemented.

The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (no impact – assigned score 5/10):** The measure is not expected to have an impact on the quality of the decision-making process, as all products will have a repair manual.
- **Consumer protection (possible positive impact – assigned score 6/10):** This measure contributes to protecting consumers from problems faced when lacking the necessary instructions to independently carry out repairs. It can also prevent consumers from carrying out unsafe repairs (by non-certified people) by warning them about the repairs that may be done independently and those that should be left to professional repairers.
- **Consumer trust (possible positive impact – assigned score 6/10):** This measure may slightly increase consumer trust in the market as it increases transparency and removes some barriers to independent repair, giving consumers a sense of empowerment. This potential benefit was mentioned by three stakeholders (two NGOs and one consumer association) and two consulted experts (see Annex 8).

[430] The study was completed before the Impact Assessment and hence a direct link was not available at the time of writing this report.

- **Monetisable consumer welfare (positive impact with average of scenarios EUR 0.4 – 0.8 billion in 2025-2040 – assigned score 7/10):** Evidence shows that some consumers attempt to repair a broken product and give up because of a lack of repair manuals or information to carry out the repair[431]. Data from the ICF consumer survey indicates that this is the case in about 3.5% of repair attempts. By providing consumers with a repair manual, some[432] of these 3.5% failed repair attempts will in fact succeed and consumers will experience a 'gain' equal to the value of the additional lifespan of the product.

  Providing the repair manual online is expected to be more effective, as consumers will be able to retrieve it more easily. It also allows for any updates to the manual to be available to previous buyers.

  The measure is estimated to increase monetisable consumer welfare (for a sub-set of product types: large household appliances, small household appliances and ICT and other electronic goods). These are presented in Table 49 and Figure 28 for two scenarios – failed self-repair due to the lack of a repair manual, and those that will succeed once a repair manual is available (see Annex 15 for approach and assumptions).

Table 49. Impact on monetisable consumer welfare due to measure 1.3.1 (present value (@4%), at 2019 prices, EUR million)

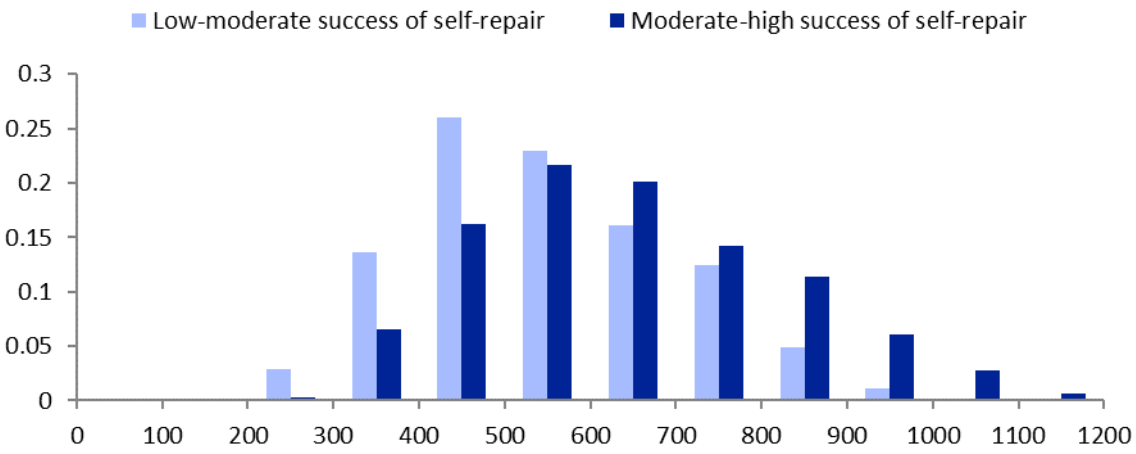
Scenario	2025-2040	2025-2050
Low-moderate success of self-repair	550 (±150)	820 (±225)
Moderate-high success of self-repair	645 (±175)	960 (±260)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

[431] Highlighted by several NGOs, consumer organisations and experts consulted during the study.
[432] The uncertainty was accounted for in the analysis by having the success rate follow a uniform distribution between 0 and 1.

Figure 28. Impact on monetisable consumer welfare due to measure 1.3.1 - results of Monte Carlo simulation (present value 2021 (@4%), at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (no impact – assigned score 5/10):** The measure is not expected to have an impact on the level playing field.
- **Reduction of barriers to cross-border trade (possible positive impact – assigned score 6/10):** The measure is expected to have some impact on barriers to cross-border trade, as some Member States will independently legislate if no EU-level legislation is in place. A harmonised approach to repair manuals might prevent the need for companies to comply with different standards (which would multiply the associated costs). However, language barriers may reduce the expected impact.
- **Administrative burden (EUR 0.8 – 0.9 billion in 2025-2040 if digital means are used):** Manufacturers will have to produce repair manuals for each model. Based on data collected through interviews, the minimum cost of producing a repair manual (for users) was estimated at between EUR 4,000 and EUR 6,000. These costs can significantly increase if supporting videos are produced. Printing repair manuals in order to include a paper copy with each product could cost an additional EUR 1-2.50 per copy.

  The total costs were estimated for two options: provision of repair manuals in paper (with the product) and provision of repair manuals online (link to the website provided on the package or by the online seller) for large household appliances, small household appliances, and ICT and other electronic goods (in line with the scope of the monetisation of the benefits). As Table 50, Table 51, Table 52 show, the costs of a digital solution to providing this information are significantly lower than the paper solution. This is in line with the views collected from industry associations during the second workshop.

Table 50. Administrative burden due to measure 1.3.1 (present value, at 2019 prices, EUR million)

	2025-2040	2025-2050	2025-2040	2025-2050
	Paper copy		Digital means	
One-off	300 (±20)	300 (±20)	335 (±20)	335 (±20)
Recurrent (total)	28,500 (±80)	39,500 (±180)	525 (±55)	725 (±80)
TOTAL	**28,800 (±100)**	**39,800 (±200)**	**860 (±75)**	**1060 (±100)**

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 51. Disaggregation per company type of administrative burden as a result of measure 1.3.1

	2025-2040	2025-2050	2025-2040	2025-2050
	Paper copy		Digital means	
SME	11.8% (±1%)	11.7% (±1%)	**15.3% (±1%)**	**14.7% (±1%)**
Manufacturers	11.7% (±1%)	11.6% (±1%)	11.3% (±1%)	11.4% (±1%)
Retailers	~0.1%	~0.1%	4% (±0.4%)	3.3% (±0.3%)
Large Enterprises	**88.2% (±1%)**	**88.3% (±1%)**	**84.7% (±1%)**	**85.3% (±1%)**
Manufacturers	88.2% (±1%)	88.3% (±1%)	84.7% (±1%)	85.3% (±1%)
Retailers	~0.01%	~0.01%	~0.01%	~0.01%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 52. Disaggregation per category of administrative burden as a result of measure 1.3.1 (period 2025-2040) – digital means

	Share of total
Familiarising with the information obligations	4%
Training	1%
Retrieving existing information & adjusting existing data and systems	3%
Producing new data	82%
Designing and placing information material	2%
Filling forms and tables	1%
Inspecting and checking	7%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will increase operational costs, which might be passed on to consumers. However, the total costs of the measure divided by the volume of project sales is equal to about EUR 0.04, which, given the average price of the products affected by the measure, is not expected to have an effect on demand;
- **SME growth (no impact – assigned score 5/10):** This measure will have a higher relative impact on SME manufacturers, whose volume of sales per model is likely lower than those of large enterprises. Nevertheless, the costs imposed by the measure are not expected to be significant and should not have a significant negative impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 16 – 21 million in 2025-2040):** Based on interviews with some CPCs, it is assumed that the measure would not require significant additional resources to those required to enforce the CRD and SGD.

  The study assumed that the measure will require one additional FTE (per Member State), with their time divided equally between monitoring, inspection and handling complaints.

  Becoming familiar with the measure and adjusting internal procedures to begin enforcing the measure were assessed to require 70 hours. In addition, 16 employees will receive a 7-hour training session.

  It was also assumed that there might be a yearly monitoring action (such as a mystery shopping exercise) per Member State, which will cost around EUR 20,000.

  The other unit costs were assumed to be the same as in the previous measures. The results are presented in Table 53 below.

Table 53. Enforcement costs as a result of measure 1.3.1 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.1	0.1
Monitoring	5 - 11	7 - 15
Enforcement	5	7
Complaints & Adjudication	5	7
Total	**16 - 21**	**21 - 28**

Source: ICF elaboration.

Environmental impacts

- **Climate change (EUR 19 – 33 million in 2025-2040):** Due to the implementation of the measure, (some) consumers will be able to repair some goods that would have been replaced had the repair not been made easier/simpler/cheaper as a result of the availability of a repair manual. Consequently, the repaired products will have a longer lifespan than in the baseline. This will lead to a reduction in units produced equal to one divided by the additional lifespan of the products (as a result of the repair[433]). This will reduce the volume of CO_2e emissions (during production) as shown in Table 54 below (see Annex 15 for monetisation methodology).

Table 54. Avoided CO2e emissions due to measure 1.3.1

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices)	
Low-moderate success of self-repair	1.2 (±0.3)	2.1 (±0.6)	24 (±7)	36 (±10)
Moderate-high success of self-repair	1.4 (±0.4)	2.5 (±0.7)	28 (±8)	42 (±12)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts change (positive impact – assigned score 7/10):** By decreasing production, the measure is expected to have a positive impact on other environmental aspects. Table 55 and Table 56 show the volume of e-waste and premature deaths (and respective costs for society) avoided as a result of the measure.

[433] For simplicity, this was set to follow a uniform distribution between 0.5 and 1 years.

Table 55. Avoided e-waste due to measure 1.3.1

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Low-moderate success of self-repair	32 (±9)	58 (±16)	9 (±2)	13 (±4)
Moderate-high success of self-repair	38 (±20)	68 (±19)	10 (±3)	16 (±4)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 56. Avoided premature deaths due to measure 1.3.1

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices)	
Low-moderate success of self-repair	33 (±9)	60 (±16)	95 (±28)	144 (±42)
Moderate-high success of self-repair	39 (±11)	70 (±19)	112 (±32)	170 (±49)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (positive impact – assigned score 7/10):** The measure will incentivise consumers to repair broken products independently and safely, and help to increase the share of products repaired instead of replaced. This contributes to a reduction in waste and to a more circular and sustainable economy. However, as shown above, the magnitude of the impact is relatively small.
- **Application of the EU legal consumer framework (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on ensuring better and coherent application of the EU legal consumer framework.

7.2.2.2 Measure 1.3.2: Provision of information about spare parts available and until when

The measure was assessed against a baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable Products Initiative on some product groups, which could reduce the impact of the measure for those product groups in 10-15 years, as those actions are gradually implemented.

The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (possible positive impact – assigned score 6/10):** Evidence from literature, the ICF consumer survey and stakeholder consultation for this study found that consumers are interested in purchasing products with better availability of spare parts, as this reassures them that finding spare parts is (and will remain) possible and thus the product can be repaired if it breaks.

  The mystery shopping exercise showed that (in line with the views of consumers collected and reported in surveys) this information was provided in less than 6% of the mystery shops of large household appliances and in less than 5% of the mystery shops of small household appliances, ICT and other electronic products.

  This measure will help consumers to identify products offering better availability of spare parts and thus improve their decision-making process.

  The decision to use digital means to provide the information was taken to reduce potential 'information overload, but it does have a slight negative impact on visibility and accessibility of the information. This will be mitigated by ensuring that consumers are told where the information is available.

  This information should be relatively comparable between products in the same category.

- **Consumer protection (possible positive impact – assigned score 6/10):** This measure contributes to protecting consumers trying to repair products from problems resulting from not knowing where to find spare parts (independent repair) or not being able to get spare parts at all, as they are no longer available.

- **Consumer trust (possible positive impact – assigned score 6/10):** This measure may slightly increase consumer trust in the market as it increases transparency and removes some barriers to repair, giving consumers a sense of empowerment.

  As the commitments of manufacturers in respect of the availability of spare parts for a given model might change over time, mechanisms will be put in place to ensure that consumers have a proof of that commitment, for later reference.

- **Monetisable consumer welfare (significant positive impact with average of scenarios EUR 1.2 – 3 billion in 2025-2040 – assigned score 8/10):** Evidence shows that some consumers attempt to repair a broken product and give up because of a lack of spare parts or information on how to get those parts. Data from the consumer survey indicated that this is the case in about 7-12% of repair attempts (depending on product category). By providing consumers with information on the availability of spare parts, some of these failed repair attempts will succeed and consumers will experience a gain, either by purchasing products for which (more) spare parts are available for longer or by knowing where to gt those spare parts.

  Providing the information (which spare parts are available and where) online is expected to be more effective, as consumers will be able to retrieve it more easily. It also makes subsequent information updates available to previous buyers.

  The measure is estimated to bring the monetisable consumer welfare (for a sub-set of product types: large household appliances, small household appliances and IT and other electronic goods) presented in Table 57 and Figure 29[434]. The benefits were

[434] A Monte Carlo simulation was carried out. The Stated Willingness to Pay followed a triangular distribution (0, Stated Willingness to Pay, 1.25* Stated Willingness to Pay) and the probability of finding an alternative for which spare parts are available for an additional year followed a triangular distribution (0,0.4,1). Stated Willingness to Pay equals the average of the results of the ICF consumer survey.

calculated for two scenarios for the impact of the measure on the behaviour of companies regarding the period of time for which they will provide spare parts (see Annex 15 for quantification of benefits and assumptions).

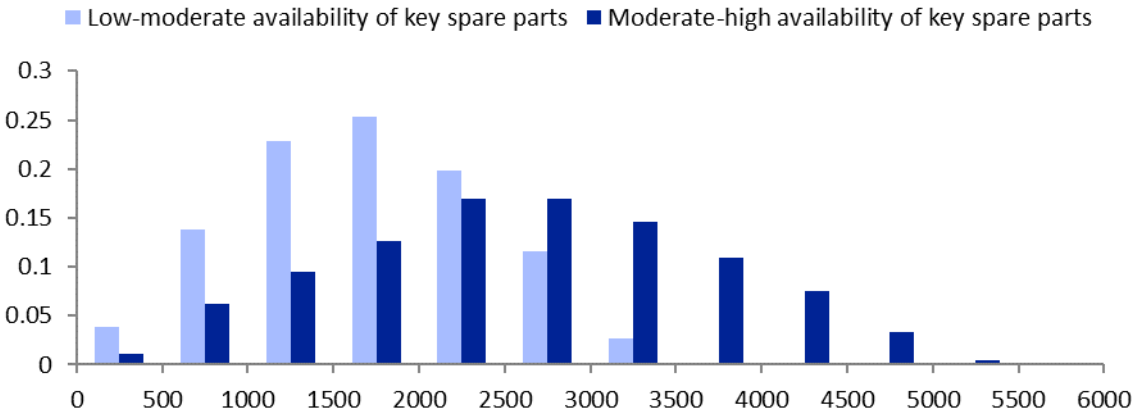
Table 57. Impact on monetisable consumer welfare due to measure 1.3.2 (present value (@4%), at 2019 prices, EUR million)

Scenario	2025-2040	2025-2050
Low-moderate availability of spare parts	1,700 (±695)	2,370 (±970)
Moderate-high availability of spare parts	2,600 (±1,100)	3,660 (±1,500)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Figure 29. Impact on monetisable consumer welfare due to measure 1.3.2 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (no impact – assigned score 5/10):** The measure is expected to have a slight positive impact on the level playing field as it will increase transparency of commitments on the availability of spare parts and will allow consumers to compare products accordingly. The magnitude of the impact is expected to be very small in the period of analysis.
- **Reduction of barriers to cross-border trade (possible positive impact – assigned score 6/10):** The measure is expected to have some impact on barriers to cross-border trade, as Member States will likely independently legislate if no EU-level legislation is in place.
- **Administrative burden (EUR 1.68 – 1.72 billion in 2025-2040):** Administrative burden affects manufacturers, as they will have to provide the necessary information to traders (including the costs of identifying which spare parts will be available and

for how long), as well as traders, as they will have to ensure that consumers receive this information (perhaps just providing a link to the website of the manufacturer). The estimated costs for large household appliances, small household appliances, and ICT and other electronic goods (in line with the scope of the monetisation of the benefits) are presented in Table 58, Table 59 and Table 60.

Table 58. Administrative burden due to measure 1.3.2 (present value, at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	225 (±10)	225 (±10)
Recurrent (total)	1,475 (±5)	2,030 (±5)
TOTAL	1,700 (±15)	2,265 (±15)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 59. Disaggregation per company type of administrative burden as a result of measure 1.3.2

	2025-2040	2025-2050
SME	**79.7% (±0.4%)**	**80.2% (±0.3%)**
Manufacturers	1.2% (±0.2%)	1.2% (±0.2%)
Retailers	78.5% (±0.2%)	79% (±0.1%)
Large Enterprises	**20.3% (±0.3%)**	**19.8% (±0.2%)**
Manufacturers	20% (±0.3%)	19.5% (±0.2%)
Retailers	~0.3%	~0.3%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 60. Disaggregation per category of administrative burden as a result of measure 1.3.2 (period 2025-2040)

	Share of total
Familiarising with the information obligations	5%
Training	0%
Retrieving existing information & adjusting existing data and systems	1%
Producing new data	28%

Designing and placing information material	48%
Filling forms and tables	0%
Inspecting and checking	18%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will slightly increase operational costs, which might be passed on to consumers. However, the total costs of the measure divided by the volume of project sales is equal to about EUR 0.07, which, given the average price of the products affected by the measure, is not expected to have an effect on demand.

  Manufacturers might decide to improve their commitments in respect of spare parts in order to increase their competitiveness. This decision is expected to take into account the costs and benefits of such a commitment and thus should not impose significant net costs on manufacturers.
- **SME growth (no impact – assigned score 5/10):** This measure will have a higher relative impact on SME manufacturers, whose volume of sales per model is likely lower than those of large enterprises. Nevertheless, the costs imposed by the measure are not expected to be significant and should not have a significant negative impact on SME growth.

On the other hand, the measure will promote reparability of products and increase the demand for repair services, often provided by SMEs.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 16 – 21 million in 2025-2040):** Based on interviews with some CPCs, it was assumed that the measure will not require significant additional resources to those required to enforce CRD and SGD.

  The measure was assumed to require one additional FTE (per Member State), with their time divided equally between monitoring, inspection and handling complaints.

  The study assumed 70 hours for familiarisation with the measure and adjusting internal procedures to start enforcing the measure. 16 employees will receive a 7-hour training course.

  A yearly monitoring action (such as a mystery shopping exercise) was assumed per Member State, which will cost around EUR 20,000. The other unit costs are assumed to be the same as in the previous measures.

  The results are presented in Table 61.

Table 61. Enforcement costs due to measure 1.3.2 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.1	0.1
Monitoring	5-11	7-15
Enforcement	5	7
Complaints & Adjudication	5	7
Total	**16-21**	**21-28**

Source: ICF elaboration.

Environmental impacts

- **Climate change (average of scenarios EUR 39 – 68 million in 2025-2040):** Due to the implementation of the measure, (some) consumers will be able to repair products that would otherwise have had to be replaced if the unavailability of spare parts made repair impossible. Consequently, the repaired products will have a longer lifespan than their alternative in the baseline. This will lead to a reduction in units produced equal to one divided by the additional lifespan of the products (resulting from the repair[435]). This will reduce the volume of CO_2e emissions (during production), as indicated in Table 62. (See Annex 15 for quantification and monetisation of the savings in CO_2e emissions.)

Table 62. Avoided CO_2e emissions due to measure 1.3.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices)	
Low-moderate availability of spare parts	2.4 (±0.6)	4.3 (±1.2)	50 (±13)	75 (±20)
Moderate-high availability of spare parts	2.8 (±0.8)	5.1 (±1.4)	59 (±16)	88 (±24)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts change (positive impact – assigned score 7/10):** By decreasing production, the measure is expected to have a positive impact on other environmental aspects. Table 63 and Table 64 show the volume of e-waste and premature deaths (and respective costs for society) avoided as a result of the measure.

[435] For simplicity, this was set to follow a uniform distribution between 0.5 and 1 years.

Table 63. Avoided e-waste due to measure 1.3.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Low-moderate availability of spare parts	67 (±18)	121 (±32)	18 (±5)	28 (±7)
Moderate-high availability of spare parts	79 (±21)	142 (±38)	22 (±6)	33 (±9)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 64. Avoided premature deaths due to measure 1.3.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices)	
Low-moderate availability of spare parts	69 (±18)	124 (±33)	200 (±57)	302 (±86)
Moderate-high availability of spare parts	81 (±22)	146 (±39)	236 (±67)	356 (±101)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (positive impact – assigned score 7/10):** The measure will help to increase the share of products repaired instead of replaced. This contributes to a reduction in waste and to a more circular and sustainable economy. As shown above, however, the magnitude of the impact is relatively moderate.
- **Application of the EU legal consumer framework (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on ensuring better and coherent application of the EU legal consumer framework.

7.2.2.3 Measure 1.3.3: Information about availability of repair services

The measure was assessed against a baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable Products Initiative on some product groups, which could somewhat reduce the impact of the measure for those product groups in 10-15, as those actions are gradually implemented.

The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (possible negative impact – assigned score 4/10):** Evidence from literature, the ICF consumer survey and stakeholder consultation for this study found that consumers often face problems when trying to repair a product because they do not know where to repair the product or because there is no repair service nearby.

  This measure aims to ensure that traders provide consumers with information about the availability of repair services at the point of sale.

  While this might help consumers to select products that appear to have better availability of repair services, problems related to the capacity of traders to provide comprehensive and complete information on repair services not specifically recommended by brands might contribute to poorer decision-making by consumers.

  The measure will not have an impact on cases where consumers live far from the place where the product was purchased (traders will not be able to cover all regions and Member States).

- **Consumer protection (no impact – assigned score 5/10):** This measure is not expected to have an impact on the level of consumer protection.

- **Consumer trust (possible negative impact – assigned score 4/10):** Information provided by traders might be unintentionally biased towards recommended repair services (other types of repair services are more difficult and costly to identify) or incomplete (e.g. excluding certain regions and other Member States). The measure might therefore have a negative impact on consumer trust.

- **Monetisable consumer welfare (possible positive impact with average of scenarios EUR 0.12 – 0.25 billion in 2025-2040 – assigned score 6/10):** Evidence shows that some consumers attempt to repair a broken product and give up because of a lack of repair services or because they cannot find these services. Data from the ICF consumer survey indicated that this is the case in about 2% and 5% of cases for appliances and ICT and electronic products, respectively.

  However, the lack of effectiveness of the measure in providing complete information is expected to lead only to a minor increase in consumer surplus. Table 65 and Figure 30 present the estimated monetised impact for a sub-set of product types (large household appliances, small household appliances, ICT and other electronic goods) and for two scenarios regarding the effect of the measure on increasing consumer awareness of available repair services.

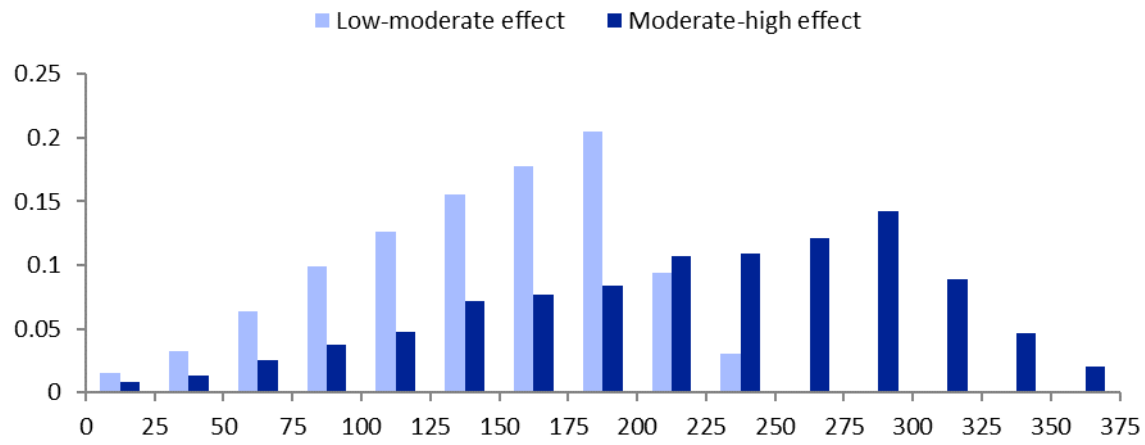
Table 65. Impact on monetisable consumer welfare as a result of measure 1.3.3 (present value (@4%), at 2019 prices, EUR million)

Effect of the measure in increasing awareness of available repair services	2025-2040	2025-2050
Low-moderate	140 (±50)	200 (±70)
Moderate-high	220 (±80)	300 (±100)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Figure 30. Impact on monetisable consumer welfare as a result of measure 1.3.3 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (possible negative impact – assigned score 4/10):** The measure is expected to have a small negative impact on the level playing field as a result of the limitations in the comprehensiveness of the list of repair services provided by traders and the potential unintentional biases towards repair services recommended by brands.
- **Reduction of barriers to cross-border trade (negative impact – assigned score 3/10):** The measure might have a negative impact on cross-border trade, as traders from one Member State could experience difficulties in identifying repair services in another Member State, which might prevent them from selling product across borders.
- **Administrative burden (EUR 3.1 – 3.4 billion in 2025-2040):** Administrative burdens of this measure involve the need to maintain an updated list of repair services and ensure that consumers have access to that list. These costs are incurred by the trader. The estimated costs for large and small household appliances, small household appliances, and ICT and other electronic goods (in line with the scope of the monetisation of the benefits) are presented in Table 66, Table 67 and Table 68.

Table 66. Administrative burden as a result of measure 1.3.3 (present value, at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	500 (±30)	500 (±30)
Recurrent (total)	2,750 (±100)	3,780 (±120)
TOTAL	3,250 (±130)	4,280 (±150)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 67. Disaggregation per company type of administrative burden as a result of measure 1.3.3

	2025-2040	2025-2050
SME	**99.3% (±0.3%)**	**99.3% (±0.3%)**
Manufacturers	**-**	**-**
Retailers	99.3% (±0.3%)	99.3% (±0.3%)
Large Enterprises	**0.7% (±0.3%)**	**0.7% (±0.3%)**
Manufacturers	-	-
Retailers	0.7% (±0.3%)	0.7% (±0.3%)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 68. Disaggregation per category of administrative burden as a result of measure 1.3.3 (period 2025-2040)

	Share of total
Familiarising with the information obligations	2%
Training	0%
Retrieving existing information & adjusting existing data and systems	4%
Producing new data	78%
Designing and placing information material	4%
Filling forms and tables	0%
Inspecting and checking	12%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will slightly increase operational costs, which might be passed on to consumers. However, the total cost of the measure divided by the volume of project sales is equal to about EUR 0.13, which, given the average price of the products affected by the measure, is not expected to have an effect on demand.
- **SME growth (possible negative impact – assigned score 4/10):** This measure will have a higher relative impact on SME traders, whose volume of sales per model is likely lower than that of large enterprises.

  The impact of the measure on volume of repair is not significant. It could have a negative impact on SME repair services that are not specifically recommended by manufacturers.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 8 – 13 million in 2022-2050):** Based on interviews with some CPCs, it was assumed that the measure will not require significant additional resources to those required to enforce the CRD and SGD.

  The measure was assumed to require an additional 0.5 FTE (per Member State), with their time divided equally between monitoring, inspection and handling complaints.

  The study assumed 70 hours would be needed for familiarisation with the measure and adjusting internal procedures to start enforcing the measure. In addition, 16 employees will receive a 7-hour training course.

  It was also assumed that there might be a yearly action per Member State, which will cost EUR 20,000 (based on market research). The other unit costs are assumed to be the same as in the previous measures.

  The results are presented in Table 69.

Table 69. Enforcement costs as a result of measure 1.3.3 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarization & Training	0.1	0.1
Monitoring	2.5 - 8.1	3.5
Enforcement	2.5	3.5
Complaints & Adjudication	2.5	3.5
Total	**8 - 13**	**11 – 18**

Source: ICF elaboration.

Environmental impacts

- **Climate change (average of scenarios EUR 1 – 2 million in 2025-2040):** The volume and monetised value of CO_2e emissions (during production) avoided as a result of the measure are indicated in Table 70.

Table 70. Avoided CO_2e emissions as a result of measure 1.3.3

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices)	
Low-moderate effect of the measure in increasing awareness of available repair services	~0.06	~0.1	1.2 (±0.3)	1.7 (±0.5)
Moderate-high effect of the measure in increasing awareness of available repair services	~0.07	~0.12	1.4 (±0.4)	2 (±0.5)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts change (possible positive impact – assigned score 6/10):** The impact on production is expected to be minor, as will the effect of the measure on other environmental impacts, and on the production of WEEE (see Table 71 and Table 72).

Table 71. Avoided e-waste as a result of measure 1.3.3

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Low-moderate effect of the measure in increasing awareness regarding available repair services	1.5 (±0.4)	2.8 (±0.7)	0.4 (±0.1)	0.6 (±0.2)
Moderate-high effect of the measure in increasing awareness regarding available repair services	1.8 (±0.5)	3.2 (±0.9)	0.5 (±0.1)	0.7 (±0.2)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 72. Avoided premature deaths as a result of measure 1.3.3

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices)	
Low-moderate effect of the measure in increasing awareness of available repair services	1.6 (±0.4)	2.8 (±0.8)	4 (±1)	7 (±2)
Moderate-high effect of the measure in increasing awareness of available repair services	1.9 (±0.5)	3.3 (±0.9)	5 (±1.5)	8 (±2)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (possible positive impact – assigned score 6/10):** The measure will very slightly increase the share of products repaired instead of replaced. This contributes to a reduction in waste and to a more circular and sustainable economy. As shown above, the magnitude of the impact is very small.
- **Application of the EU legal consumer framework (possible negative impact – assigned score 4/10):** This measure will be difficult to enforce, as CPC authorities are expected to face difficulties in assessing whether or not the information provided by retailers is comprehensive and unbiased.

7.2.2.4 Measure 1.3.4: Reparability Scoring Index

The measure was assessed against a baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable Products Initiative on some product groups, which could reduce the impact of the measure for those product groups in 10-15 years, as those actions are gradually implemented.

The Substantiating Green Claims Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (possible positive impact – assigned score 6/10):** Evidence from literature and from the stakeholder consultations carried out for this study shows that consumers would like to have information about the reparability of products.

  This measure aims to ensure that traders provide consumers with an indication of the reparability of products, using an easily understandable score[436] that helps consumers to select products with higher overall reparability.

  The measure is expected to have a positive impact on the quality of consumer decisions, as a score will cover a wide range of reparability aspects effectively, without information overload.

  However, as the reparability score would be assigned by traders, this could lead to the same product having different scores depending on where it was bought. This lack of harmonisation might lead to consumer confusion and reduce the impact of the measure on the quality of their decision-making.
- **Consumer protection (no impact – assigned score 5/10):** This measure is not expected to have an impact on the level of consumer protection.
- **Consumer trust (possible negative impact – assigned score 4/10):** The score assigned to a certain product model might differ from trader to trader, which could impact negatively on consumers' trust in traders.
- **Monetisable consumer welfare (positive impact with average of scenarios EUR 0.5 – 1 billion in 2025-2040 – assigned score 7/10):** Studies have shown that a significant share of consumers (about 85% according to the ICF consumer survey) try to repair a broken product before considering replacing it. However, various barriers (some of which were addressed by the measures above) mean that some of these attempts fail (27-33% according to the ICF consumer survey, depending on the product category).

  A repair score would allow consumers to select products that are easier to repair[437]. However, it might not provide actionable information that will help consumers to repair the products (e.g. which spare parts are available, and where). This reduces the effectiveness of the measure. Nevertheless, it is expected to lead to an increase in consumer surplus.

  Table 73 and Figure 31 present the results for a sub-set of product types (large household appliances, small household appliances, ICT and other electronic goods) for two scenarios for the effect of the repair score in leading to the purchase of

[436] The index could be based on the JRC method, for example, or on the French approach.
[437] A study of the effectiveness of the French repair score reports a very low impact of the score on consumer decisions.

products that are easier to repair (compared to the baseline)[438] (see Annex for 15 for methodology).

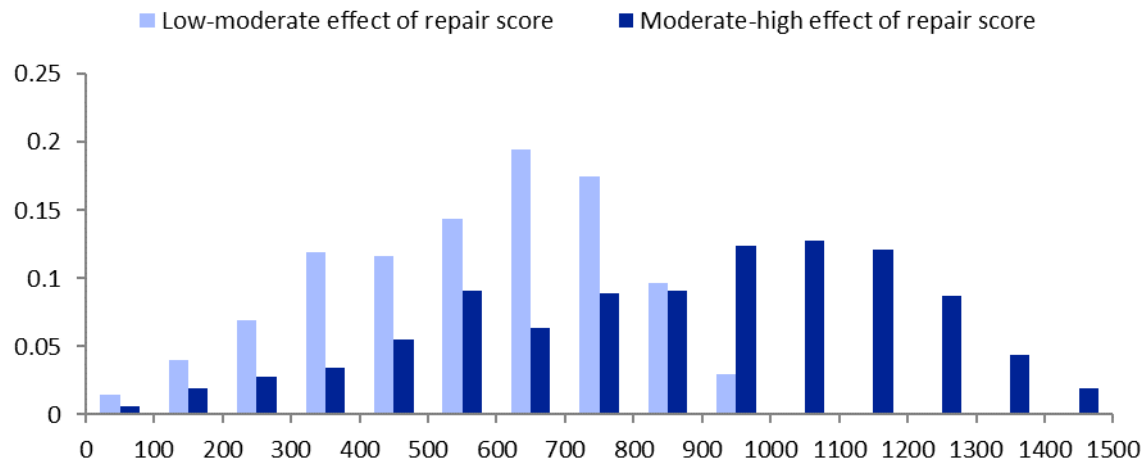
Table 73. Impact on monetisable consumer welfare as a result of measure 1.3.4 (present value (@4%), at 2019 prices, EUR million)

Scenario	2025-2040	2025-2050
Low-moderate effect of repair score	565 (±210)	775 (±280)
Moderate-high effect of repair score	870 (±320)	1,190 (±435)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Figure 31. Impact on monetisable consumer welfare as a result of measure 1.3.4 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (no impact – assigned score 5/10):** The measure is expected to have a minor positive impact on the level playing field, as consumers will be able to compare products based on their reparability. However, the fact that the score is assigned by traders in a non-harmonised way may reduce this impact.
- **Reduction of barriers to cross-border trade (positive impact – assigned score 7/10):** The measure might prevent future barriers to cross-border trade, as one Member State has already developed a reparability score for certain product

[438] A Monte Carlo simulation was carried out. The Stated Willingness to Pay followed a triangular distribution (0, Stated Willingness to Pay, 1.25* Stated Willingness to Pay) and the probability of finding an alternative with a higher score followed a triangular distribution (0,0.4,1).

categories and others may also adopt their own repair score system. The measure would prevent this lack of harmonisation, where traders wishing to trade across borders assess the reparability of products according to different systems, leading to a duplication (or more) of costs.

- **Administrative burden (EUR 4.2 – 4.4 billion in 2025-2040):** The administrative burden of this measure involves the need to assess and inform consumers on the reparability of products. It is assumed that the manufacturers will carry out the assessment. The estimated costs for large household appliances, small household appliances, and ICT and other electronic goods (in line with the scope of the monetisation of the benefits) are presented in Table 74, Table 75, and Table 76.

Table 74. Administrative burden as a result of measure 1.3.4 (present value, at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	980 (±40)	980 (±40)
Recurrent (total)	3,290 (±50)	4,520 (±80)
TOTAL	**4,270 (±90)**	**5,500 (±120)**

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 75. Disaggregation per company type of administrative burden as a result of measure 1.3.4

	2025-2040	2025-2050
SME	**94.1% (±0.1%)**	**94.5% (±0.1%)**
Manufacturers	~0.4%	~0.4%
Retailers	93.7% (±0.1%)	94.1% (±0.1%)
Large Enterprises	**5.9% (±0.2%)**	**5.5% (±0.3%)**
Manufacturers	4.3% (±0.1%)	3.8% (±0.1%)
Retailers	1.6% (±0.1%)	1.7% (±0.1%)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 76. Disaggregation per category of administrative burden as a result of measure 1.3.4 (period 2025-2040)

	Share of total
Familiarising with the information obligations	4%
Training	2%
Retrieving existing information & adjusting existing data and systems	9%
Producing new data	63%
Designing and placing information material	11%
Filling forms and tables	0%
Inspecting and checking	10%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Substantive compliance costs (Eur 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** The measure will slightly increase operational costs, which might be passed on to consumers. However, the total cost of the measure divided by the volume of project sales is equal to about EUR 1.6, which, given the average price of the products affected by the measure, is not expected to have an effect on demand.
- **SME growth (possible negative impact – assigned score 4/10):** This measure will have a higher relative impact on SME traders, whose volume of sales per model is likely to be lower than that of large enterprises. Given the substantial amount of resources that the assessment will require, the measure is expected to have a minor negative impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 32 – 37 million in 2025-2040):** Based on interviews with some CPCs, it was assumed that the measure would require some additional resources to those required to enforce the CRD and SGD.

  The study assumed that the measure would require two additional FTEs (per Member State), with their time divided equally between monitoring, inspection and handling complaints.

  It was assumed that familiarisation with the measure and adjusting internal procedures to start enforcing the measure would take approximately 70 hours, while 16 employees would undergo a 7-hour training course.

  It was also assumed that there might be a yearly action per Member State, which will cost EUR 20,000 (based on market research). The other unit costs are assumed to be the same as in the previous measures.

  The results are presented in Table 77

Table 77. Enforcement costs as a result of measure 1.3.4 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.1	0.1
Monitoring	10 - 16	14 - 22
Enforcement	10	14
Complaints & Adjudication	11	15
Total	**32-37**	**43-51**

Source: ICF elaboration.

Environmental impacts

- **Climate change (average of scenarios EUR 26 – 45 million in 2025-2040:** The volume and monetised value of CO_2e emissions (during production) avoided as a result of the measure are indicated in Table 78.

Table 78. Avoided CO_2e emissions as a result of measure 1.3.4

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices)	
Low-moderate effect of repair score	1.6 (±0.4)	2.8 (±0.8)	32 (±9)	49 (±12)
Moderate-high effect of repair score	1.8 (±0.5)	3.3 (±0.9)	38 (±10)	57 (±15)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts change (positive impact – assigned score 7/10):** The impact on the reduction of production is expected to be moderate (compared to other measures), as will the effect of the measure on other environmental impacts and on the production of WEEE (see Table 79 and Table 80)[439].

Table 79. Avoided e-waste as a result of measure 1.3.4

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Low-moderate effect of repair score	44 (±12)	80 (±21)	130 (±38)	195 (±57)
Moderate-high effect of repair score	52 (±14)	94 (±25)	153 (±44)	230 (±67)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

[439] Estimates have significant limitations and should be seen as indicative of the possible magnitude of the impact.

Table 80. Avoided premature deaths as a result of measure 1.3.4

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices)	
Low-moderate effect of repair score	43 (±12)	79 (±21)	12 (±3)	18 (±5)
Moderate-high effect of repair score	51 (±13)	92 (±25)	13 (±4)	21 (±6)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (positive impact – assigned score 7/10):** The measure will help to increase the share of products repaired instead of replaced. This will contribute to a reduction in waste and to a more circular and sustainable economy. As shown above, the magnitude of the impact will be very small.
- **Application of the EU legal consumer framework (possible negative impact – assigned score 4/10):** This measure is very challenging to enforce, as authorities might face difficulties in verifying the reliability of the score and the methodology used.

7.2.3 Measures to address sub-problem 2.1: Consumers are sold products that do not last as long as they should or as long as consumers expect

The impacts of the measures are assessed against the baseline (so only the incremental ones are considered). For impacts assessed using a scale from 0 to 10, the baseline scores 5. For impacts that are monetisable, the baseline has an impact of EUR 0, for the reasons indicated in section 6.1.

The baseline that does not incorporate possible effects of related actions under consideration in the context of the Sustainable products initiative on some product groups, which could have two consequences. While it might reduce some of the impacts of the measures for those product groups in 10-15 years, as those actions are gradually implemented (e.g. they might fail less and last longer), it could also reinforce other impacts by providing requirements against which practices could be assessed.

The Substantiating Green Claims Initiative is not expected to be relevant to these measures.

7.2.3.1 Measure 2.1.1: Information on accumulated evidence of recorded early failures of products in the market

Impacts on consumers

- **Quality of consumer decision-making (possible positive impact – assigned score 6/10):** The measure is expected to increase consumer awareness of possible problems with certain products that may cause them to fail earlier than expected. This will contribute to more informed purchasing decisions.

  The effectiveness of the measure might be reduced by the fact that consumers will have to actively look for information on the websites of third parties.

  The measure does not require consistent recording of evidence of early failures of products on the market. It only requires third parties to communicate the evidence

where it has been recorded. This means that the share of products effectively covered by the measure will depend on voluntary actions, and that the sample of products covered might not be fully balanced. In addition, the entities collecting this evidence (e.g. consumer associations) often provide it for a fee. If they were obliged to disclose the information for free, they might lose an important source of funds.

Finally, the capacity of consumers to understand the accumulated evidence will depend on how each third party presents the information. In some cases, it might be very technical and difficult for the average consumer to grasp.

- **Consumer protection (possible positive impact – assigned score 6/10):** This measure contributes to some extent to protecting consumers from unknowingly purchasing products that are likely to fail earlier, provided that information is registered by third parties.
- **Consumer trust (possible positive impact – assigned score 6/10):** This measure increases consumer trust in the market as it increases transparency on possible problems with certain products. The reliance on voluntary actions and possible issues with product coverage and sampling may reduce this impact, however.
- **Monetizable consumer welfare (possible positive impact with average EUR 0.1 – 0.2 billion in 2025-2040 – assigned score 6/10):** Evidence from literature and from the ICF consumer survey found that a share of products fail before might be reasonably expected[440], causing personal detriment to consumers (as they purchased the product based on assumptions that turned out to be incorrect).

  The estimated monetised consumer losses avoided as a result of the measure (present value, at 2019 prices) is between EUR 100 and EUR 180 million for the period 2025-2040 and between EUR 150 and EUR 275 million for the period 2022-2050. The monetisation covers three product groups: large household appliances, small household appliances, ICT and other electronic products (see Annex 15 for methodology).

Impacts on businesses

- **Impact on the level playing field (positive impact – assigned score 7/10):** The measure is expected to have a slight positive impact on the level playing field as it will increase transparency on problems with certain products. However, issues related to limited and unbalanced product coverage by third parties might reduce this impact.
- **Reduction of barriers to cross-border trade (positive impact – assigned score 7/10):** The measure is expected to have some impact on barriers to cross-border trade, as some Member States will likely independently legislate if no EU-level legislation is in place. A harmonised approach to informing consumers of possible evidence of early failure will therefore contribute to a more consistent approach and avoid duplication (or multiplication of costs).
- **Administrative burden (EUR 4 – 5 million in 2025-2040):** The measure does not oblige third parties to collect the information, only to make it available to consumers. Consequently, the incremental costs imposed by the measure are the costs of third parties having to update their websites with the information collected. The present value for the period 2025-2040 is around EUR 4-5 million and for the period 2025-2050 around EUR 6-7 million (of which EUR 1.6 million are one-off costs).

[440] These 'expectations' refer to indicative expected lifespan from the technical studies reviewed.

- **Substantive compliance costs (EUR 0):** As this measure imposes an information obligation, the costs identified are categorised as administrative burden and no relevant substantive compliance costs were identified.
- **Indirect costs (no impact – assigned score 5/10):** An indirect cost of the measure might be the loss of membership fees for consumer associations, as some consumers might decide not to become members if the information is available for free.
- **SME growth (no impact – assigned score 5/10):** This measure will have no impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 7 – 8 million in 2025-2040):** The enforcement of the measure will be challenging due to the voluntary nature of collecting information. Enforcement authorities will have difficulty in identifying situations where a third party has information they do not disclose. These situations are expected to be rare, however.

  Based on interviews with some CPCs, it was assumed that the measure would not require significant additional resources to those required to enforce the UCPD.

  The study assumed that the measure would require 0.5 FTE (per Member State), with 50% of their time devoted to monitoring, 25% to inspection and 25% to handling complaints.

  Familiarisation with the measure and adjusting internal procedures to start enforcing the measure was assumed to require 35 hours. Additionally, 16 employees will receive a 3.5-hour training course.

  The costs of adjudication are expected to be in line with the unit costs presented in previous measures. The enforcement costs are shown in Table 81

Table 81. Enforcement costs as a result of measure 2.1.1 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.1	0.1
Monitoring	4 - 5	5 -7
Enforcement	2	3
Complaints & Adjudication	2	3
Total	**7 - 9**	**11 - 13**

Source: ICF elaboration.

Environmental impacts

- **Climate change (EUR 4 – 8 million in 2025-2040):** Due to the implementation of the measure, (some) consumers will purchase products that will last longer[441]. Consequently, the average lifespan of the products owned by consumers will increase. This will lead to a reduction in units produced equal to one divided by the additional lifespan of the products, reducing the volume of CO_2e emissions (during production) (Table 82). (See Annex 15 for methodology)

[441] For the purpose of the quantification analysis, this was assumed to be one year longer.

Table 82. Avoided CO_2e emissions as a result of measure 2.1.1

2025-2040	2025-2050	2025-2040	2025-2050
Volume (Mt)		EUR million (present value, at 2019 prices)	
0.3 (±0.08)	0.5 (±0.1)	6 (±2)	9 (±3)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts (positive impact – assigned score 7/10):** The production of products also uses resources (e.g. water) and causes the release of particulate matter and other polluting agents. By decreasing production, these impacts are expected to be reduced. In addition, the total amount of WEEE will also be reduced. (See Table 83).

Table 83. Avoided e-waste and avoided premature deaths as a result of measure 2.1.1

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices)	
Avoided e-waste	8 (±2)	14 (±4)	2 (±0.6)	3 (±0.9)
Avoided premature deaths	8 (±2)	14 (±4)	23 (±7)	34 (10)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (possible positive impact – assigned score 6/10):** The measure will help to increase the average lifespan of the products owned by consumers, contributing to a reduction in waste and to a more circular and sustainable economy. However, the magnitude of the impact is expected to be relatively small.
- **Application of the EU legal consumer framework (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on the application of the EU legal consumer framework.

7.2.3.2 Measure 2.1.2: Ban on certain identified practices associated with premature obsolescence

Impacts on consumers

- **Quality of consumer decision-making (no impact – assigned score 5/10):** This measure is not expected to have an impact on the quality of consumers' decision-making.

- **Consumer protection (significant positive impact – assigned score 8/10):** This measure will protect consumers from purchasing products that would fail early as a result of the practices banned by the measure. The magnitude of the impact will depend on incidence of the banned practices and compliance level.
- **Consumer trust (very significant positive impact – assigned score 9/10):** This measure will increase consumer trust in the market as it prevents situations where consumers could be misled into buying products that would fail earlier than reasonably expected. Again, the magnitude of the impact will depend on compliance level and perceived effectiveness of enforcement.
- **Monetisable consumer welfare (significant positive impact with average scenarios EUR 1.8 – 2.3 billion in 2025-2040 – assigned score 8/10):** Evidence suggests that a share of products (5-20% depending on the product type) fail significantly earlier than reasonably expected, which leads to personal consumer detriment.

  The study monetised the impacts on consumer welfare, defining early failure as failure within the first 60% of the product lifespan (see Annex 15 for approach). The results are presented in Table 84 and Figure 32 for two scenarios of incidence of the banned practices[442]: low-moderate and moderate-high. The monetisation covers three product types - large household appliances, small household appliances, ICT and other electronic products.

Table 84. Impact on monetisable consumer welfare as a result of measure 2.1.2 (present value (@4%), at 2019 prices, EUR million)

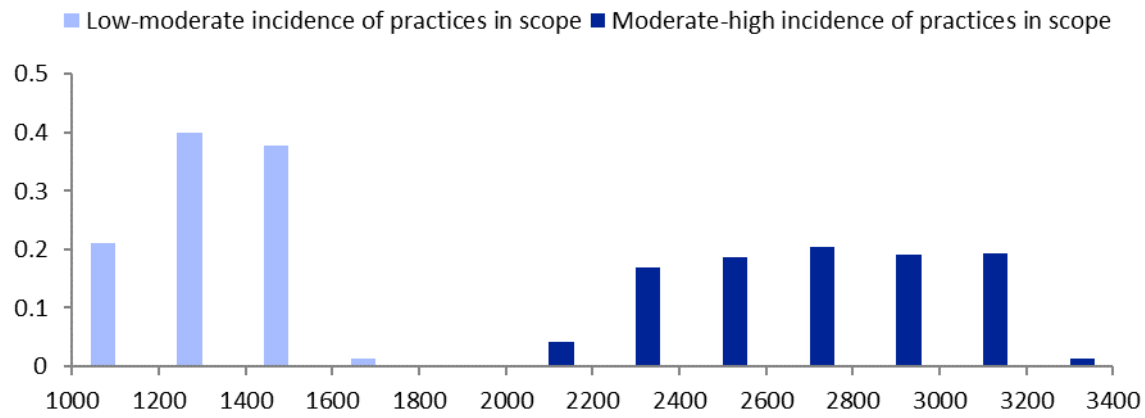
Scenario	2025-2040	2025-2050
Low-moderate incidence of practices in scope	1,350 (±150)	1,980 (±220)
Moderate-high incidence of practices in scope	2,700 (±300)	3,970 (±445)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

[442] This incidence is not known for two main reasons: data on problems are anecdotal and cover a reduced number of products; and the final list of practices that would be banned by the measure is still not known. The incidence scenarios were defined based on the data available at the time of writing.

Figure 32. Impact on monetisable consumer welfare as a result of measure 2.1.2 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (very significant positive impact – assigned score 9/10):** The measure is expected to contribute very positively to a level playing field. Companies engaging in the banned practices likely have lower costs than their competitors but charge similar prices because consumers assume that the products have an expected lifespan similar to the average.
- **Reduction of barriers to cross-border trade (significant positive impact – assigned score 8/10):** The measure is expected to have some impact on barriers to cross-border trade, as one Member State has already legislated on this issue and others are likely to independently legislate (two are currently discussing specific proposals for legislation) if no EU-level legislation is in place. This will lead to legal uncertainty and extra costs for companies selling across borders and might even prevent them (specially SMEs) from doing so.
- **Administrative burden (EUR 0):** As this measure does not impose an information obligation, the costs identified are categorised as substantive compliance costs and no relevant administrative burdens were identified.
- **Substantive compliance costs (average of scenarios EUR 1.2 – 1.6 billion in 2025-2040):** This includes costs of improving goods that fail earlier due to the banned practices. Estimates of these costs are challenging, as they depend on the type of product, practices causing early failure, and lack of data on unit costs.

  The estimation was done by scanning the prices of various product types on online marketplaces, identifying the price of the cheapest product, and then assuming an extra cost of 7.5-15% to comply with the measure and improve the product accordingly[443]. This is a significant limitation of the quantification of substantive costs. The estimated costs for large household appliances, small household appliances, and ICT and other electronic goods (in line with the scope of the monetisation of the benefits) are presented in Table 85, Table 86 and Table 87.

[443] This was incorporated in the analysis by ensuring that the costs of improving follow a uniform distribution (0.075, 0.15).

Table 85. Substantive compliance costs as a result of measure 2.1.2 (present value, at 2019 prices, EUR million)

	2025-2040		2025-2050	
	Scenario incidence		Scenario incidence	
	Low- Moderate	Moderate-high	Low- Moderate	Moderate-high
One-off	165 (±2)	170 (±2)	165 (±2)	170 (±2)
Recurrent (total)	905 (±143)	1,575 (±293)	1,260 (±203)	2,200 (±408)
TOTAL	**1,070 (±145)**	**1,745 (±295)**	**1,425 (±205)**	**2,370 (±410)**

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 86. Disaggregation per company type of substantive compliance costs as a result of measure 2.1.2

	2025-2040		2025-2050	
	Scenario incidence		Scenario incidence	
	Low- Moderate	Moderate-high	Low- Moderate	Moderate-high
SME	**12.5% (±0.6%)**	**10.8% (**±0.5%)	**11.4% (±0.5)**	**10% (±0.5)**
Manufacturers	7.8% (±0.01%)	7.9% (±0.01%)	7.8% (±0.01%)	7.9% (±0.01%)
Retailers	4.7% (±0.6%)	2.9% (±0.5%)	3.6% (±0.5%)	2.1% (±0.4%)
Large Enterprises	**87.5% (±0.6%)**	**89.2% (±0.5%)**	**88.6% (±0.5)**	**90% (±0.4)**
Manufacturers	87.5% (±0.6%)	89.2% (±0.5%)	88.6% (±0.5)	90% (±0.4)
Retailers	0%	0%	0%	0%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 87. Disaggregation per category of substantive compliance costs as a result of measure 2.1.2 (period 2025-2040)

	Share of total
Familiarising with the information obligations	3%
Training	0%
Retrieving existing information & adjusting existing data and systems	2%
Producing new data	83%
Designing and placing information material	0%
Filling forms and tables	0%
Inspecting and checking	11%

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Indirect costs (no impact – assigned score 5/10):** The substantive compliance costs will be passed on to consumers, which may lead to a reduction in revenues resulting from lower sales.
- **SME growth (possible positive impact – assigned score 6/10):** The number of SME manufacturers is very small, thus the negative impact of the measure on the overall SME growth is expected to be negligible. The need to comply with the measure might boost innovation and growth in the long-term.

  On the other hand, by preventing these unfair practices, SMEs that were suffering from the lack of a level playing field will have an opportunity to grow.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 103 – 104 million in 2025-2040):** Enforcement of the measure will require the creation or strengthening of the team currently responsible for addressing obsolescence practices in each CPC. In particular, technical knowledge will be required so that authorities can assess compliance with a certain banned practice.

  The study assumed that all Member States except France (the only Member State with legislation banning planned obsolescence) will need to strengthen their teams dealing with premature obsolescence. It also assumed that those teams would have about seven FTEs to monitor the market, handle complaints and carry out inspections (Table 88). The team of seven additional FTEs will devote 42% of their time to monitoring, 42% to inspection and 16% to handling complaints.

  The study assumed that three people would need 70 hours' training to become familiar with the measure and to adjust internal procedures to start enforcing the measure. In addition, 16 employees will receive 24 hours training.

  The costs of adjudication are expected to be significantly higher than average given the complexity of the matter. The study assumed that one ADR case costs around EUR 7,756 and a court case around five times the average.

Table 88. Enforcement costs as a result of measure 2.1.2 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.3	0.3
Monitoring	43 - 44	59 - 61
Enforcement	43	59
Complaints & Adjudication	17	23
Total	**103 - 104**	**141 - 143**

Source: ICF elaboration.

Environmental impacts

- **Climate change (average of scenarios EUR 72 – 90 million in 2025-2040):** The average lifespan of the products owned by consumers will increase and the need to produce replacement products will decrease proportionally. This will reduce the volume of CO_2e emissions (during production), as indicated in Table 89

Table 89. Avoided CO_2e emissions as a result of measure 2.1.2 (present value, at 2019 prices, EUR million)

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (Mt)		EUR million (present value, at 2019 prices	
Low-moderate incidence of practices in scope	2.6 (±0.3)	4.6 (±0.5)	53 (±6)	81 (±9)
Moderate-high incidence of practices in scope	5.2 (±0.6)	9.3 (±1)	108 (±12)	161 (±18)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

- **Other environmental impacts change (significant positive impact – assigned score 8/10):** The measure is expected to contribute to the reduction of other environmental impacts, including fine particle emissions (and consequent premature deaths) and the total amount of WEEE (Table 90 and Table 91).

Table 90. Avoided e-waste as a result of measure 2.1.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Volume (million kg)		EUR million (present value, at 2019 prices	
Low-moderate incidence of practices in scope	72 (±8)	128 (±14)	20 (±2)	30 (±3)
Moderate-high incidence of practices in scope	144 (±16)	257 (±29)	40 (±4)	60 (±7)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Table 91. Avoided premature deaths as a result of measure 2.1.2

Scenario	2025-2040	2025-2050	2025-2040	2025-2050
	Number		EUR million (present value, at 2019 prices	
Low-moderate incidence of practices in scope	15 (±1.6)	26 (±3)	43 (±6)	65 (±10)
Moderate-high incidence of practices in scope	30 (±3)	53 (±6)	87 (±14)	130 (±20)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Overarching impacts

- **Circularity and sustainable consumption (significant positive impact – assigned score 8/10):** The measure will contribute to a reduction in waste and a more circular and sustainable economy as products last longer. As shown above, the magnitude of the impact is quite significant.
- **Application of the EU legal consumer framework (significant positive impact – assigned score 8/10):** This measure is expected to have a significant impact on ensuring better and coherent application of the EU legal consumer framework (UCPD).

7.2.4 Measures to address sub-problem 2.2: Consumers are faced with the practice of making unclear or poorly substantiated green claims

The impacts of the measures are assessed against the baseline (so only the incremental ones are considered). For impacts assessed using a scale from 0 to 10, the baseline scores 5. For impacts that are monetisable, the baseline has an impact of EUR 0, for the reasons indicated in section 6.1.

Two measures were identified, which can be implemented individually or in combination. If combined, there will be significant cost savings for both companies and public administrations. The scores assigned to an option that would combine both measures are provided in Table 110.

7.2.4.1 Measure 2.2.1: Ban of unsubstantiated general statements on the environmental performance of products

This measure would complement (but not overlap with) the Substantiating Green Claims Initiative, as the latter is not expected to address vague statements[444]. The study did not consider alternative baselines, given the implementation of that Initiative.

The Sustainable Products Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (significant positive impact – assigned score 8/10):** Vague environmental claims can mislead consumers into purchasing products that are not as green' as they are led to believe. This problem

[444] Based on the information provided by DG JUST to the study team.

has been documented by various studies and is also reflected with the stakeholder and expert consultations for this study.

By banning such vague statements (unless there are robust indications of environmental excellence of products), the measure will prevent consumers from making decisions based on unreliable information, It will also highlight the products that are truly 'environmentally excellent'.

The measure is expected to have a positive impact on consumers' decision-making.

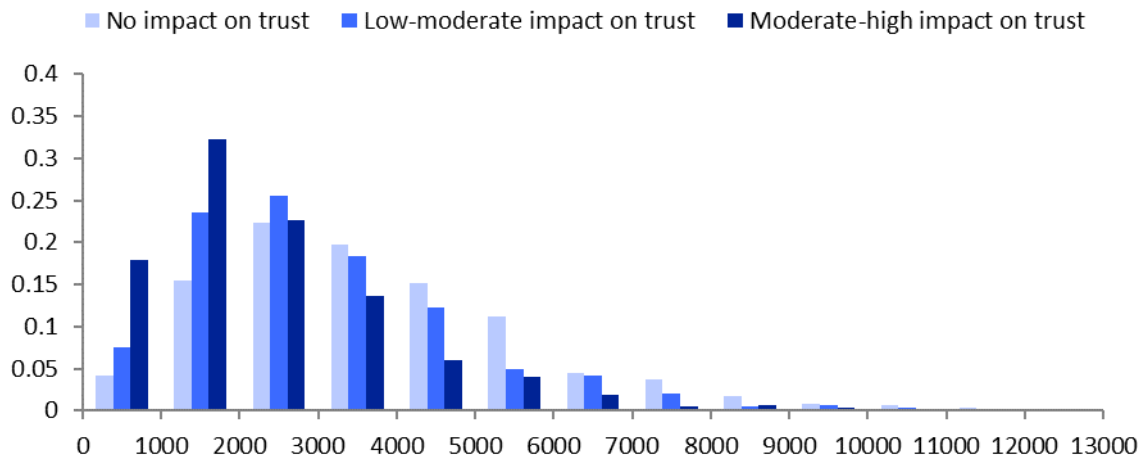
- **Consumer protection (positive impact – assigned score 7/10):** This measure will protect consumers from basing their purchasing decisions on misleading information (which may also imply paying more for non-existing environmental benefits).
- **Consumer trust (significant positive impact – assigned score 8/10):** Evidence from literature suggests that the proliferation of vague environmental claims has contributed to decreased consumer confidence in environmental information. By banning these types of statements (unless properly substantiated), this measure is expected to have a positive impact on consumer trust. This has also been highlighted by stakeholders from all groups and by the independent experts consulted.
- **Monetisable consumer welfare (significant positive with average of scenarios EUR 2.2 – 4 billion in 2025-2040 – assigned score 8/10):** The magnitude of the effect of the measure on monetisable consumer welfare depends on the extent of the impact of the measure on level of consumer trust in environmental claims. The effects were calculated for three scenarios for the impact on trust (no impact, low-moderate impact and moderate-high impact) (Table 92 and Figure 33). (See Annex 15 for approach.)

Table 92. Impact on monetisable consumer welfare as a result of measure 2.2.1 (present value (@4%), at 2019 prices, EUR million)

Scenario	2025-2040	2025-2050
No impact on trust	2,380 (±800)	3,280 (±1,100)
Low-moderate impact on trust	3,050 (±900)	4,220 (±1,235)
Moderate-high impact on trust	3,735 (±1,000)	5,155 (±1,385)

Source: ICF elaboration.

Figure 33. Impact on monetisable consumer welfare as a result of measure 2.2.1 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (significant positive impact – assigned score 8/10):** The impact on the level playing field is expected to be positive, as products with unsubstantiated claims will no longer be: (a) as competitive as products that are indeed environmentally excellent; and (b) favoured to the detriment of products without environmental claims.
- **Reduction of barriers to cross-border trade (no impact – assigned score 5/10):** The measure is not expected to have an impact on cross-border trade.
- **Administrative burden:** As this measure does not impose an information obligation, the costs identified are categorised as substantive compliance costs and no relevant administrative burdens were identified.
- **Substantive compliance costs (EUR 2.9 – 3.2 billion in 2025-2040):** Products with unsubstantiated vague claims will have to have these claims removed. The time between the approval of the measure and its implementation will allow businesses to adjust to the new rules, thus most of the products affected will no longer carry those claims by the time the measure comes into force. The removal of the claims will require adjustments to product packaging, flyers, etc., but this will be a one-off cost.

  For the very small share of products still carrying banned claims by the time the measure comes into force, the claims will likely be removed by the trader (e.g. covering them with a sticker). This will imply some costs in the first two years of implementation, after which these products are assumed to have been sold. The results of the estimations are presented in Table 93, Table 94 and Table 95.

Table 93. Substantive compliance costs as a result of measure 2.2.1 (present value, at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	2,600 (±100)	2,600 (±100)
Recurrent (total)	425 (±25)	585 (±30)
TOTAL	**3,030 (±125)**	**3,200 (±135)**

Source: ICF elaboration.

Table 94. Disaggregation per company type of substantive compliance costs as a result of measure 2.2.1

	2025-2040	2025-2050
SME	**99.4% (±0.1)**	**99.4% (±0.1)**
Manufacturers	20% (±0.4%)	20.8% (±0.4%)
Service providers	35.5% (±0.6%)	36.9% (±0.5%)
Retailers	43.9% (±0.4%)	41.7% (±0.4%)
Large Enterprises	**~0.6%**	**~0.6%**
Manufacturers	~0.3%	~0.4%
Service providers	~0.2%	~0.2%
Retailers	~0.1%	~0.1%

Source: ICF elaboration.

Table 95. Disaggregation per category of administrative burden type as a result of measure 2.2.1 (period 2025-2040)

	Share of total
Familiarising with the information obligations	26%
Training	6%
Retrieving existing information & adjusting existing data and systems	15%
Producing new data	0%
Designing and placing information material	33%
Filling forms and tables	0%
Inspecting and checking	20%

Source: ICF elaboration.

- **Indirect costs (no impact – assigned score 5/10):** No significant indirect costs were identified.
- **SME growth (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 7 – 12 million in 2025-2050):** Enforcement of the measure is expected to be relatively easy, as the measure specifies the type of proof that will be required before vague terms can be used in environmental claims. Some of the CPC authorities interviewed suggested that the measure might lead to savings as it will prove greenwashing more easily (fewer resources will be needed to substantiate their assessment). For the Member States concerned, the measure will not bring incremental costs. For the others, it was assumed that 0.5 FTE would be needed, spending 50% of their time on monitoring, 25% on inspection and the remaining 25% on handling complaints.

  It was also assumed that there might be a yearly action per Member State, which will cost EUR 20,000 (based on market research). The other unit costs are assumed to be the same as in the previous measures.

  The results of the estimations are presented in Table 96

Table 96. Enforcement costs as a result of measure 2.2.1 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.1	0.1
Monitoring	3 - 8	5 - 11
Enforcement	2	2
Complaints & Adjudication	2	3
Total	**7 - 12**	**10 - 17**

Source: ICF elaboration.

Environmental impacts

- **Climate change (significant positive impact):** As a result of the measure, (some) consumers will purchase products that are truly greener (instead of those that falsely claim to be). It is not possible to assess how much greener those products will be (compared to the alternative in the baseline). For this reason, an exact quantification of the impacts is not possible.
- **Other environmental impacts change (positive impact – assigned score 7/10):** The impact on other environmental impacts is expected to be positive.

Overarching impacts

- **Circularity and sustainable consumption (positive impact – assigned score 7/10):** The measure will, in principle, increase the consumption of more sustainable products.
- **Application of the EU legal consumer framework (significant positive impact – assigned score 8/10):** This measure will have a positive impact on ensuring better and coherent application of the EU legal consumer framework, in particular the UCPD.

7.2.4.2 Measure 2.2.2: Prohibition on environmental claims that do not fulfil a minimum set of criteria

The measure would act as a safety net for the claims not covered by the upcoming Substantiating Green Claims Initiative. Three possible baseline scenarios were therefore considered: no implementation of Substantiating Green Claims Initiative; low-moderate scope of the claims covered by the Substantiating Green Claims Initiative (and thus a moderate-high scope of this measure); and moderate-high scope of the claims covered by the Substantiating Green Claims Initiative (and thus a low-moderate scope of this measure).

The Sustainable Products Initiative is not expected to be relevant to this measure.

Impacts on consumers

- **Quality of consumer decision-making (positive impact – assigned score 8/10):** Unsubstantiated environmental claims have a doubly negative impact on the decision-making, misinforming consumers and reducing the effect of substantiated claims.

  By banning claims that do not meet minimum criteria, this measure will contribute to improving the reliability of the information provided to consumers and will therefore have a positive impact on consumers' decision-making. The magnitude of the impact is proportional to the share of claims in scope.

- **Consumer protection (positive impact – assigned score 7/ 10):** This measure will protect consumers from basing their purchasing decisions on misleading information (and possibly paying more for non-existent environmental benefits).

- **Consumer trust (significant positive impact – assigned score 8/10):** Evidence from literature suggests that the proliferation of unsubstantiated claims has contributed to decreased consumer trust in environmental information. By ensuring that certain claims need to meet certain minimum criteria (that will ensure reliability and robustness of the claim), this measure is expected to have a positive impact on consumer trust. This effect was highlighted by stakeholders from all groups and by the independent experts consulted[445].

- **Monetisable consumer welfare (significant positive impact with average EUR 1.6 – 2.9 billion in 2025-2040 – assigned score 8/10):** The impact of this measure depends on specific actions that will be implemented as a result of the Substantiating Green Claims Initiative, as it is likely that some of the problems addressed by this measure might be dealt with by that Initiative. For this reason, the study estimated the impact for three scenarios in relation to the share of greenwashing problems that will not be addressed by the Substantiating Green Claims Initiative.

  The estimated impact on monetisable consumer welfare also depends on the effect of the measure on consumer trust in green claims. Three possible scenarios for this impact were considered: no effect, low-moderate effect, and moderate-high effect. The results are presented in Table 97 and Figure 34 (see Annex 15 for approach).

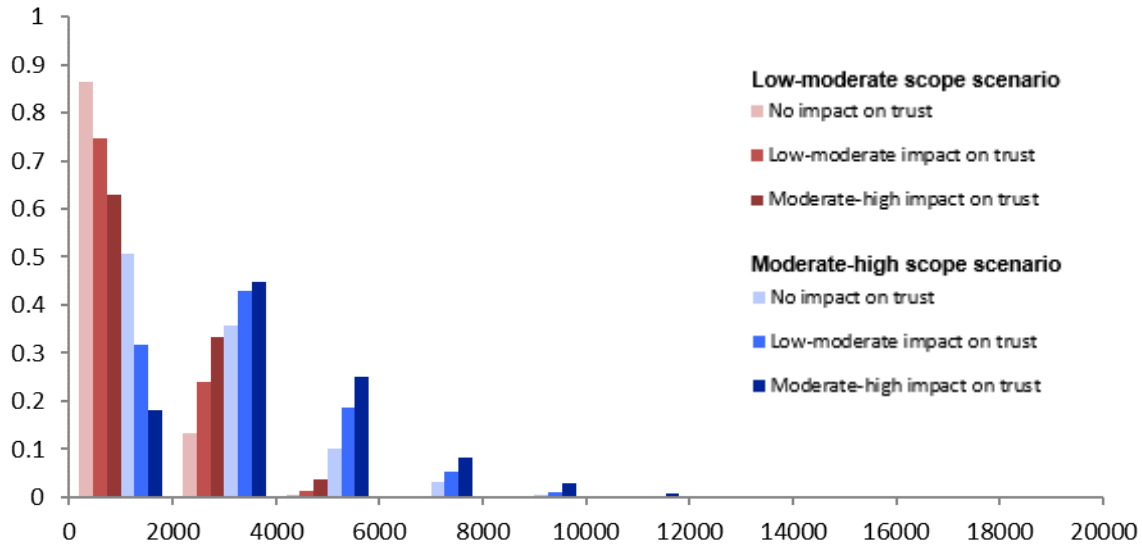
[445] They were consulted about setting minimum criteria for all environmental claims, not only those in scope.

Table 97. Impact on monetisable consumer welfare as a result of measure 2.2.2 (present value (@4%), at 2019 prices, EUR million)

Scenario related to scope after the Substantiating Green Claims Initiative	Scenario related to impact on trust	2025-2040	2025-2050
Low-moderate scope after the Substantiating Green Claims Initiative	No impact on trust	1,170 (±395)	1,605 (±540)
	Low-moderate impact on trust	1,500 (±440)	2,065 (±605
	Moderate-high impact on trust	1,830 (±500)	2,525 (±680)
Moderate-high scope after the Substantiating Green Claims Initiative	No impact on trust	2,330 (±785)	3,215 (±1,080)
	Low-moderate impact on trust	2,995 (±880)	4,130 (±1,215)
	Moderate-high impact on trust	3,655 (±985)	5,050 (±1,360)
Full scope – no overlap with the Substantiating Green Claims Initiative	No impact on trust	3,885 (±1,310)	5,355 (±1,800)
	Low-moderate impact on trust	4,990 (±1,470)	6,885 (±2,020)
	Moderate-high impact on trust	6,095 (±1,645)	8,410 (±2,265)

Source: ICF elaboration.

Figure 34. Impact on monetisable consumer welfare as a result of measure 2.2.2 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (significant positive impact – assigned score 8/10):** The impact on the level playing field is expected to be positive, as products with unsubstantiated claims will no longer be: (a) as competitive as products that are indeed environmentally excellent; and (b) favoured, to the detriment to products without environmental claims.
- **Reduction of barriers to cross-border trade (no impact – assigned score 5/10):** The measure is not expected to have an impact on cross-border trade.
- **Administrative burden (EUR 0):** As this measure does not impose an information obligation, the costs identified are categorised as substantive compliance costs and no relevant administrative burdens were identified.
- **Substantive compliance costs (EUR 2.9 – 3.2 billion in 2025-2040):** The costs will be similar to those for measure 2.2.1. If both measures were combined, most of the costs would be incurred only once.

Table 98. Substantive compliance costs as a result of measure 2.2.2 (present value, at 2019 prices, EUR million)

	2025-2040	2025-2050
One-off	2,610 (±60)	2,610 (±60)
Recurrent (total)	450 (±70)	670 (±95)
TOTAL	**3,060 (±130)**	**3,280 (±155)**

Source: ICF elaboration.

- **Indirect costs (no impact – assigned score 5/10):** No significant indirect costs were identified.
- **SME growth (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 7 – 12 million in 2025-2040):** Enforcement of the measure should not present significant challenges, as the criteria will help to identify and prove the practice of greenwashing. The costs would be similar to those for measure 2.2.1. If both measures were combined, there would be economies of scale.

Environmental impacts

- **Climate change (possible positive impact)** The measure will not have a significant impact on climate change, as it is unlikely to cover claims related to this aspect (as a result of the Substantiating Green Claims Initiative).
- **Other environmental impacts (possible positive impact – assigned score 6/10):** The impact on other environmental impacts is expected to be positive but limited, as the main environmental impacts are covered by PEF and therefore not within the scope of the measure.

Overarching impacts

- **Circularity and sustainable consumption (possible positive impact – assigned score 6/10):** The measure will, in principle, slightly increase the share of sustainable products purchased.
- **Application of the EU legal consumer framework (significant positive impact – assigned score 8/10):** This measure will have a positive impact on ensuring better and coherent application of the EU legal consumer framework, in particular the UCPD.

7.2.5 Measures to address sub-problem 2.3: Consumers are faced with a proliferation of sustainability labels and digital information tools that are not always credible or transparent

These measures would complement the Substantiating Green Claims Initiative. Possible overlaps were assessed as limited, because:

- The selected measures would apply to labels related to any of the three pillars of sustainability (not just the environmental pillar, as is the case with the Substantiating Green Claims Initiative);
- The measures propose an overarching and harmonised framework for all sustainability labels that covers aspects not expected to be addressed by the Substantiating Green Claims Initiative (e.g. governance, transparency).

The Sustainable Products Initiative is not expected to be relevant to this measure.

The impacts of the measures are assessed against the baseline (so only the incremental ones are considered). For impacts assessed using a scale from 0 to 10, the baseline scores 5. For impacts that are monetisable, the baseline has an impact of EUR 0, for the reasons indicated in section 6.1.

7.2.5.1 Measure 2.3.1: EU-led voluntary initiative to develop minimum criteria on sustainability labels and digital information tools

Impacts on consumers

- **Quality of consumer decision-making (no impact – assigned score 5/10):** The proliferation of labels with various degrees of transparency and reliability has been identified as a barrier to the adoption of more sustainable consumption behaviour.

  Desk research shows that there is still a reduced number of fully dedicated digital information tools to help consumers compare products based on their sustainability. On the other hand, desk research also shows that more and more marketplaces and online shops are giving consumers an indication of the sustainability of the products they sell and also that the number of dedicated comparison tools is expected to increase. The consumer survey also showed that the number of consumers currently using these tools is moderate (6% use them all the time and 19% often) and that many (25%) are not aware of the existence of these tools. The digitalisation of the economy and positive trends regarding consumer interest in adopting more sustainable consumption behaviour is expected to boost the use of such apps and promote their proliferation.

  The introduction of minimum criteria for sustainability labels and digital information tools would increase their transparency and reliability (and possibly slow down or even invert the current proliferation of these labels), enhancing the quality of consumers' decision-making.

  However, this measure would rely on voluntary uptake, meaning that there would be no harmonisation across labels and digital information tools. The measure does not foresee a way to help consumers to identify which labels and digital information tools adhere to those minimum criteria[446], thus the impact of the measure on the quality of their decision-making is assessed as negligible.

  The view of some independent experts and consumer associations consulted was that voluntary actions would have very low effectiveness.

- **Consumer protection (no impact – assigned score 5/10):** This measure would not contribute to protecting consumers, given its voluntary nature and expected low effectiveness.
- **Consumer trust (no impact – assigned score 5/10):** The impact of consumer trust was assessed as negligible.
- **Monetisable consumer welfare (no impact with average ~EUR 0– assigned score 5/10):** Given the low effectiveness, the expected impact on monetizable consumer welfare is around zero.

Impacts on businesses

- **Impact on the level playing field (no impact – assigned score 5/10):** The impact of the measure on the level playing field is expected to be negligible, as consumers will not be able to distinguish between labels/digital information tools that adhere to the minimum criteria and those that do not.
- **Reduction of barriers to cross-border trade (no impact – assigned score 5/10):** The measure is not expected to have an impact on cross-border trade.

[446] Possible solutions to consumer awareness were discussed with experts and stakeholders, but concluded that providing more information to consumers would increase confusion and information overload, and possibly have a negative impact on their decision-making process.

- **Administrative burden (EUR 0):** No administrative burden was identified, given its voluntary nature.
- **Substantive compliance costs (EUR 0):** No substantive compliance costs were identified, given its voluntary nature and the expectation that only label and digital information tools already meeting minimum standards will adopt the measure.
- **Indirect costs (no impact – assigned score 5/10):** No significant indirect costs were identified.
- **SME growth (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 0.3 million in 2025-2040):** Given the voluntary nature of the measure, there will be no enforcement costs. Other costs to public bodies (including the European Commission) will be related to the organisation of meetings and preparation of the minimum criteria. These are estimated at about EUR 94,000 in the first year and EUR 16,000 per following year[447].

Environmental impacts

- **Climate change (EUR ~0):** The climate change impact is expected to be negligible.
- **Other environmental impacts (no impact – assigned score 5/10):** The impact on other environmental impacts is also expected to be negligible.

Overarching impacts

- **Circularity and sustainable consumption (no impact – assigned score 5/10):** The impact on circularity and consumption of sustainable products is expected to be negligible.
- **Application of the EU legal consumer framework (no impact – assigned score 5/10):** This measure will not have an impact on ensuring better and coherent application of the EU legal consumer framework.

7.2.5.2 Measure 2.3.2: Introduction of minimum requirements in EU law to be respected by sustainability labels and digital information tools - with ex post enforcement from consumer protection bodies

Impacts on consumers

- **Quality of consumer decision-making (significant positive impact – assigned score 8/10):** The introduction of minimum criteria to which all sustainability labels and digital information tools would have to adhere would increase their transparency and reliability (and possibly slow down or even reverse the current proliferation of sustainability labels), thereby enhancing the quality of consumers' decision-making.

  Consumers will be able to obtain information about the governance, coverage, methodology, etc. of the labels and of digital information tools, which could help them assess and select the labels and digital information tools that are most useful (e.g. more in line with their values and priorities in terms of sustainability).

[447] Assuming six meetings in the first year to discuss and prepare the minimum criteria and then one meeting a year to revise and report on the criteria.

Given the amount of information and the high number of labels, it is expected that not all consumers will compare all labels, which will reduce the potential impact of the measure.

The magnitude of the impact will depend on the evolution of sustainability digital information tools and on the strictness of the criteria. The analysis assumed that the criteria would be relatively similar to those developed for the study (see Annex 2).

- **Consumer protection (significant positive impact – assigned score 8/10):** Given the proliferation of labels that are non-transparent or reliable, consumers may purchase products (sometimes paying a premium) that are not as sustainable as they are led to believe. This measure will therefore prevent consumers from being misled by labels and digital information tools that do not meet minimum criteria, and ensure that they have the necessary information.
- **Consumer trust (significant positive impact – assigned score 8/10):** The impact of consumer trust is expected to be high. This is in line with the results of the ICF consumer survey, evidence from literature, and the views of experts and consumer organisations and NGOs consulted. However, the reliance on self-assessment and ex post enforcement may not fully reassure consumers that labels really do comply with the minimum criteria.
- **Monetisable consumer welfare (significant positive impact with average of scenarios EUR 4.5 – 6.6 billion in 2025-2040 – assigned score 9/10):**

  Monetisation was only possible for the application of minimum criteria to sustainability labels due to lack of data.

  Consumers surveyed indicated that they would be willing to pay a premium for information that has been verified. The minimum criteria would therefore contribute to improving the transparency and reliability of the labels (mostly due to the requirement that assessments would have to be third-party verified).

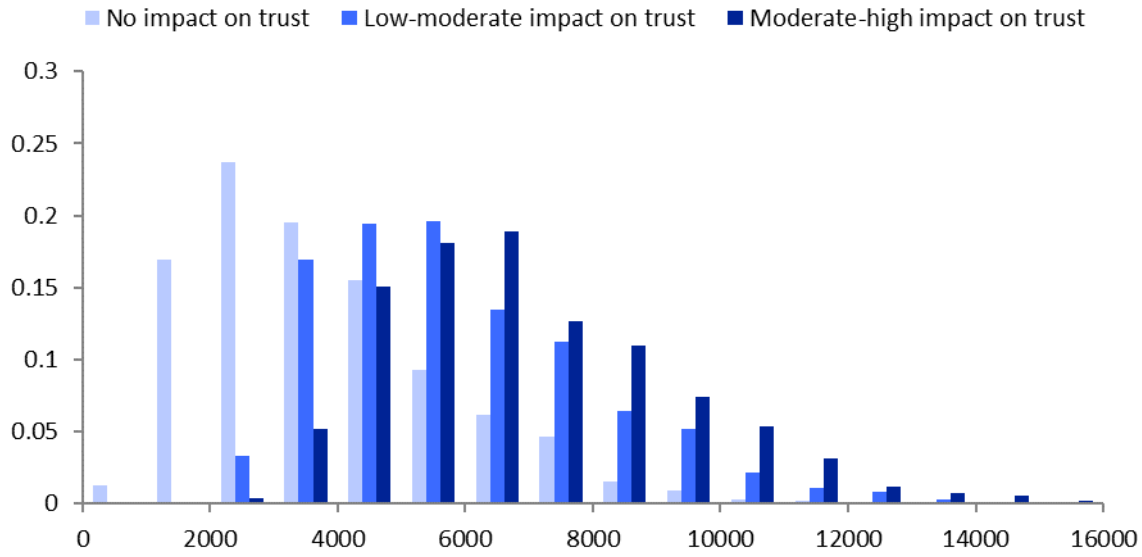
  The monetisation of consumer welfare was based on the Stated Willingness to Pay and took into account the fact that the effectiveness of the measure depends on the share of consumers that trust labels and consider them in their purchasing choices. The monetisable consumer welfare was calculated for three scenarios for the impact of the measure on the trust of consumers on sustainability labels (which were developed assuming that the criteria will include third-party verification): no impact on trust; low-moderate impact on trust; moderate-high impact on trust (Table 99 and Figure 35). (See Annex 15 for approach.)

Table 99. Impact on monetisable consumer welfare as a result of measure 2.3.2 (present value (@4%), at 2019 prices, EUR million)

Scenario	2025-2040	2025-2050
No impact on trust	3,765 (±963)	5,188 (±1,321)
Low-moderate impact on trust	5,915 (±1,068)	8,162 (±1,468)
Moderate-high impact on trust	6,991 (±1,132)	9,649 (±1,556)

Source: ICF elaboration.

Figure 35. Impact on monetisable consumer welfare as a result of measure 2.3.2 - results of Monte Carlo simulation (present value (@4%), at 2019 prices, EUR million)



Source: ICF elaboration.

Impacts on businesses

- **Impact on the level playing field (significant positive impact – assigned score 8/10):** The measure is expected to contribute to a level playing field between products displaying labels or being compared by digital information tools, as all will have to adhere to the same minimum criteria. It will also contribute to a level playing field between organisations managing labels (who charge fees to businesses) and digital information tools.
- **Reduction of barriers to cross-border trade (significant positive impact – assigned score 8/10):** Member States are increasingly concerned with the proliferation of labels that are non-transparent or unreliable. The consumer association in the Netherlands has called on the Dutch government to legislate on the matter, and other Member States are expected to follow suit. Non-harmonised legislation would increase legal uncertainty and costs for companies seeking to trade cross-border, which will have to adhere to different rules.
- **Administrative burden (EUR 0.615 – 0.62 billion in 2025-2040):**

  Estimations were only possible for the application of minimum criteria to sustainability labels due to lack of data for administrative burdens related to the application of minimum criteria to digital information tools.

  The entities running and managing the labels will incur administrative costs.

  - Familiarisation with the measure and the minimum criteria, assessing the extent to which the criteria are met and the changes that will have to be implemented to ensure full compliance (a share of these costs could be considered substantive compliance costs);
  - Staff training (a share of these costs could be considered substantive compliance costs);
  - Ensuring that all necessary and up-to-date information is available on their website (or through other means);
  - Inspections (internal and external) (a share of these costs could be considered substantive compliance costs).

Almost all costs are borne by retailers (the obligation is on them) and relate to the need for retailers to get familiarised with the requirement, adapt their internal procedures to make sure they comply with it and perform inspections. The total administrative burden costs are one-off costs of approximately EUR 617 million, of which about EUR 615 million are born by retailers and approximately EUR 2 million by the entities running and managing the labels. Table 100 provides an overview of the disaggregation of the administrative burden per cost category.

Table 100. Disaggregation per category of administrative burden as a result of measure 2.3.2 (period 2025-2040)

	Share of total
Familiarising with the information obligations	10%
Training	2%
Retrieving existing information & adjusting existing data and systems	0%
Producing new data	87%
Designing and placing information material	0%
Filling forms and tables	0%
Inspecting and checking	1%

Source: ICF elaboration.

- **Substantive compliance costs (EUR 3 – 3.5 billion in 2025-2040):**

  Estimations were only possible for the application of minimum criteria to sustainability labels due to lack of data for substantive compliance costs related to the application of minimum criteria to digital information tools.

  The entities running and managing the labels will incur substantive compliance costs from implementing the necessary changes in their internal processes to comply with the criteria, including carrying out third-party certification for each application (if they are not doing so already in the baseline). These costs are expected to be passed on to the manufacturers and service providers applying for the label. If the minimum criteria for labels will not require third-party verification, the substantive costs of the measure would be only around EUR 1.6 million in the period 2025-2040 (present value, all one-off costs). Manufacturers and service providers will have a total of recurrent substantive compliance costs of about EUR 3,265±235 million in the period of 2025-2040 (present value) and of approximately EUR 4,520 ±325 million in the period of 2025-2040 (present value).
- **Indirect costs (no impact – assigned score 5/10):** The fees to apply for a label are expected to increase. On the other hand, increased harmonisation may reduce the need to apply for numerous labels.
- **SME growth (no impact – assigned score 5/10):** This measure is not expected to have a significant impact on SME growth.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 14 – 15 million in 2025-2040):** Enforcement cost estimates assumed that the measure would not require significant additional resources to those required to enforce the UCPD. In fact, some of the interviewed CPC authorities indicated that the measure might lead to savings, as it will help them to tackle lack of transparency and reliability of labels more easily (fewer resources would be needed to carry out their assessment). For the Member States concerned, the measure will not bring incremental costs. For the others, it

was assumed that 1 FTE will be needed to monitor (50%), carry out inspections (40%) and handle complaints (10%). The results are presented in Table 101.

Table 101. Enforcement costs as a result of measure 2.3.2 (present value, at 2019 prices, EUR million)

	2025 - 2040	2025 - 2050
Familiarisation & Training	0.1	0.1
Monitoring	7 - 8	9 - 11
Enforcement	5	7
Complaints & Adjudication	2	2
Total	**14 - 15**	**18 - 20**

Source: ICF elaboration.

Environmental impacts

- **Climate change (positive):** The climate change impact is expected to be positive:
  - Consumers of products already carrying sustainability labels and/or using digital information tools in the baseline will be able to select truly sustainable products instead of those making false claims;
  - Some consumers who do not buy sustainable products in the baseline because they do not trust labels, will start to trust those labels and purchase products carrying them.

The estimation of the impacts is extremely challenging for various reasons:

- Sustainability labels and digital information tools cover various impacts, which may or may not include climate change;
- There are no available data on the share of sales per label and digital information tools;
- There are no data on the difference between the CO_2e emissions of products carrying a certain label and those with other/no labels.

For these reasons it is not possible to quantify and monetise this impact.

- **Other environmental impacts (positive impact – assigned score 7/10):** The impact on other environmental aspects is expected to be positive. The magnitude of the impact depends on various factors, however, including coverage of these impacts by labels and digital information tools as well as the continuous updating of labels and digital information tools.

Overarching impacts

- **Circularity and sustainable consumption (positive impact – assigned score 7/10):** The impact on circularity and consumption of sustainable products is expected to be quite positive.
- **Application of the EU legal consumer framework (significant positive impact – assigned score 8/10):** This measure will have a positive impact on ensuring better and coherent application of the EU legal consumer framework, in particular the UCPD.

7.2.5.3 Measure 2.3.3: Pre-approval of sustainability labels and digital information tools via an EU body

Impacts on consumers

- **Quality of consumer decision-making (significant positive impact – assigned score 8/10):** The impacts are similar to those described for option 2.3.2.
- **Consumer protection (significant positive impact – assigned score 9/10):** The impacts are similar to those described for option 2.3.2 but higher, as the compliance level will be higher given that only pre-approved labels/logos and digital information tools will be allowed.
- **Consumer trust (significant positive impact – assigned score 8/10):** The impacts are similar to those described for option 2.3.2.
- **Monetisable consumer welfare (significant positive impact with average of scenarios EUR 4.5 – 6.6 billion in 2025-2040 – assigned score 9/10):** The impacts are similar to those described for option 2.3.2.

Impacts on businesses

- **Impact on the level playing field (significant positive impact – assigned score 8/10):** The impacts are similar to those described for option 2.3.2 because on the one hand compliance level might be higher given that only pre-approved labels/logos will be allowed on the other hand the fees and bureaucratic procedure as well as the time required to get the pre-approval might be entry barriers to smaller companies.
- **Reduction of barriers to cross-border trade (significant positive impact – assigned score 8/10):** The impacts are similar to those described for option 2.3.B but slightly higher, as the compliance level may be higher given that only pre-approved labels and digital information tools will be allowed. .
- **Administrative burden (EUR 0.615 – 0.62 billion in 2025-2040):** The administrative burdens are similar to the ones described for the managers of labels in the context of option 2.3.2.
- **Substantive compliance costs (EUR 3.1 – 3.6 billion in 2025-2040):** The substantive compliance costs are similar to those described for option 2.3.2 plus an additional fee when applying for pre-approval (which we assume will be similar to the upper limit of the EU Ecolabel fee). This will amount to (present value) EUR 3,350±230 million for the period 2025-2040 and to EUR 4,685±325 million in the period 2025-2050.
- **Indirect costs (no impact – assigned score 5/10):** The impacts are similar to those described for option 2.3.2.
- **SME growth (no impact – assigned score 4/10):** The pre-approval of labels and of digital information tools may constitute a relevant entry barrier for SME.

Impacts on public administrations

- **Enforcement costs and other costs (EUR 56 – 57 million in 2025-2040):** Costs will be significantly higher than in option 2.3.2 as all labels will need to be pre-approved by an EU body.

  The costs of setting up and running the EU body were considered to be around EUR 4.02 million per year, which corresponds to a present value of about EUR 42 million for the period 2025-2040 and of EUR 57 million. National enforcement costs are estimated to be similar to those under option 2.3.2 (i.e., EUR 14-15 million for 2025-2040 and EUR 18 - 20 million for 2025-2050).

Environmental impacts

- **Climate change (>EUR 0 in 2025-2040):** The impacts are similar to those described for option 2.3.2. but possibly higher due to expected higher levels of compliance.
- **Other environmental impacts (positive impact – assigned score 7/10):** The impacts are similar to those described for option 2.3.2.

Overarching impacts

- **Circularity and sustainable consumption (positive impact – assigned score 7/10):** The impacts are similar to those described for option 2.3.2.
- **Application of the EU legal consumer framework (significant positive impact – assigned score 8/10):** The impacts are similar to those described for option 2.3.2**.**

8 How do the measures/options compare?

The options are compared following the Better Regulation Guidelines, in particular section 2.6 of Chapter III, 'How do the options compare?'. In spite of all efforts to monetise identified impacts, it was not possible to monetise all impacts in full due to methodological challenges and insufficient quantitative evidence. Therefore, in order not to make judgements based on a sub-set of impacts (those monetisable), a cost-benefit analysis (CBA) was carried out and integrated in a MCA where the monetisable impacts are complemented by and compared with intangible impacts to be able to make a fully-fledged comparison.

The CBA provides a limited view of the net benefits of the measures / options as these are calculated by subtracting the monetisable costs (administrative burdens, substantive compliance costs and enforcement costs) from the monetisable benefits (monetisable consumer welfare and the impact on climate change), disregarding non-monetisable impacts. The (partial) CBA considered a social discount rate of 4%, as recommended by the Better Regulation Guidelines Toolbox (Tool#61)[448]. It was carried out for two periods: 2025-2040 (15 years, as recommended by the BRG) and 2025-2050. The selection of a second period of analysis beyond the 15-year recommendation reflected that it takes more than 10 years for measures on lifespan and reparability to start to have an effect for some product categories. The downside of longer periods of analysis is the increased uncertainty in respect of the economic, social, technological developments that can influence the impact of the measure. The analysis was done in constant prices, at 2019 levels. The limitations of the (partial) CBA analysis are significant and are primarily related to the limitations of the monetising the costs and benefits (see section 7.1). There is, however, one additional limitation that is important to highlight – the fact that some of the identified benefits and costs may represent redistributions of welfare between agents of the economy

The MCA has three high-level assessment criteria (as required by the Better Regulation guidelines): Efficiency, Effectiveness, Coherence. Each of the identified impacts are a sub-criterion of one of those three high-level criteria (Figure 36). The assessment of the options follows the 'non-linear/non-compensatory approach' described in Tool #63. In the efficiency criteria we incorporated the five impacts that were monetisable either as benefits or costs:

- as benefits, we incorporated the monetisable consumer welfare and the impact on climate change (which complement the intangible benefits included in the MCA - reduction of cross-border barriers and other environmental impacts).
- as costs, we incorporated the administrative burdens, substantive compliance costs and enforcement costs (which complemented the intangible costs included in the MCA - indirect costs and reduction of SME growth).

This approach assigns weights to the criteria/sub-criteria. This is a subjective exercise and relies on judgements on the relative importance of each criteria/sub-criterion. That subjectivity is both an important limitation and an advantage of the MCA, as it allows other considerations to be incorporated in the assessment in a way that other approaches do not.

A reasonable scenario was selected as default scenario in order to ensure coverage of all criteria and sub-criteria without giving significantly more weight to benefits than to costs. In the default scenario, 30 points are assigned to Effectiveness, 60 points to

[448] As explained in the Tool#61 of the Better Regulation Guidelines: 'The social discount rate is used to compare costs and benefits that occur in different time periods from the point of view of society. It is based on different arguments, one is the principle that people prefer to receive goods and services now rather than later, another one on the shadow costs of risk-free capital.' 'A social discount rate is used to convert all costs and benefits to "present values" so that they can be compared. This discount rate is a correction factor applied to costs and benefits expressed in constant prices.'

Efficiency and 10 points to Coherence. The points are divided equally between the various sub-criteria of each criterion:

- each of the 6 sub-criteria in the effectiveness criterion was assigned 1/6 of its 30 points;
- each of the 9 sub-criteria of the efficiency criterion was assigned 1/9 of its 60 points; which means that overall benefits (4 of the 9 sub-criteria of efficiency) have less weight than costs (5 out of 9 sub-criteria of efficiency).

As assignment of criteria is subjective and there is some overlap between some of the criteria under Effectiveness and Efficiency, a sensitivity analysis was carried out for various possible weight combinations:

- All three criteria (Effectiveness, Efficiency, Coherence) have the same weights (100/3), and the points are divided equally between the various sub-criteria of each criterion;
- Effectiveness has a weight of 45, Efficiency 45 and Coherence 10, and the points are divided equally between the various sub-criteria of each criterion;
- Effectiveness has a weight of 20, Efficiency 70 and Coherence 10, and the points are divided equally between the various sub-criteria of each criterion;
- Effectiveness has a weight of 10, Efficiency 80 and Coherence 10, and the points are divided equally between the various sub-criteria of each criterion;
- Effectiveness has a weight of 0, Efficiency 90 and Coherence 10, and the points are divided equally between the various sub-criteria of each criterion;
- Average of the weights assigned by five independent experts to each sub-criterion. This was done by asking each expert independently (through an online survey) to express their views on the relative importance of each criterion and sub-criterion. They were given 100 points to allocate between all three criteria and then had to distribute the points they had assigned to each criterion between its corresponding sub-criteria.
- Worst-case scenario, where Effectiveness has a weight of 0, Efficiency 100 and Coherence 0; 60% of the points allocated to efficiency are divided equally between the various sub-criteria related to costs and the remaining 40% are divided equally between the various sub-criteria related to benefits.

Figure 36. MCA assessment table

CRITERIA	EFFECTIVENESS						EFFICIENCY									COHERENCE
	Specific objective 1. Enable informed purchasing decisions by consumers to foster sustainable consumption		Specific objective 2. Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption			Specific objective 3. Ensure better and coherent application of the EU legal framework through clearer and more enforceable rules	Benefits				Costs					
SUB-CRITERIA/ IMPACTS	Quality of consumers' decision-making	Circularity and sustainable consumption	Consumer protection	Consumer trust in the market	Level playing field	Application of EU legal consumer framework	Consumer detriment (monetisable)	Barriers to cross-border trade	Climate change	Other environmental impacts	Administrative burden	Substantive compliance costs	Indirect costs	SME growth	Costs to public administrations	
STAKEHOLDER DIRECTLY AFFECTED	Consumers	Society	Consumers	Consumers	Businesses	Society	Consumers	Businesses	Society	Society	Businesses	Businesses	Businesses	Businesses	Public bodies	
Unit	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	Euros	0 → 10	Euros	Euros	0 → 10	0 → 10	Euros	0 → 10

Source: ICF.

8.1 Sub-problem 1.2: Lack of reliable information about products' lifespan

Four options were selected for further analysis:

- Option 0 – baseline.
- Option A - measure 1.2.1: EU-level obligation to inform consumers of the expected/estimated/indicative lifespan of products without harmonised assessment approaches.
- Option B - measure 1.2.2: EU-level obligation to inform consumers of the existence (or absence) and length of a commercial guarantee for the entire product.
- Option C - measure 1.2.3: Obligation to inform consumers of the existence (or absence) of a producer's commercial guarantee for durability and on the period of time during which free software updates will be provided by manufacturers.

All options are mutually exclusive.

Table 102 summarises the assessment of the baseline and each option against each assessment criterion (the assessment of their impacts is detailed in section 7.2.1 and of their coherence in Annex 13).

The overall comparison of the options using a MCA shows that in the default scenario, the ranking of options with the highest score is: option C (measure 1.2.3), option B (measure 1.2.2), option 0 (baseline), option A (measure 1.2.1).

The results of the sensitivity analysis show that the ranking of options with the highest score remains unchanged in all scenarios of weights tested (Table 103), including the worst-case scenario'.

When comparing monetisable costs and benefits using the CBA approach, option C (measure 1.2.3) brings the highest net benefits to society as a whole. Table 104, Figure 37, Figure 38 and Figure 39 present the results of the partial CBA for the various options.

Stakeholder consultation

The results from the OPC show that the provision of information about the guaranteed lifespan[449]/commercial guarantee[450] is considered slightly more useful for consumers choosing sustainable products than the provision of information about expected lifespan[451,452].

Similarly, in the ICF consumer survey (n=11,805), 30% of respondents considered information on guaranteed lifespan most useful piece when choosing sustainable products, while 22% selected information on expected lifespan as most useful.

These results were echoed in the in-depth stakeholder interviews and surveys. Consumer organisations and enforcement authorities believed that information on both expected and guaranteed lifespan would be effective. Businesses, on the other hand, considered that while providing information about the guaranteed lifespan would be effective and feasible (and somewhat less costly), providing information on expected lifespan would be somewhat effective or not effective, given its high costs and difficulties with feasibility and enforceability.

[449] In the OPC questionnaire and stakeholder surveys, it was specified as follows: Information on 'guaranteed' lifespan (should repairs be necessary, they would be at no cost to the consumer).
[450] 39% of citizens; 25% of consumer organisations; 16% of companies; 6% of business associations; 46% of public authorities.
[451] In the OPC questionnaire and stakeholder surveys, it was specified as follows: Information on 'expected' lifespan without repair (should repairs be necessary after the legal guarantee period, they would be at consumer's expense).
[452] 21% of citizens; 50% of consumer organisations; 0% of companies; 12% of business associations; 27% of public authorities.

During the stakeholder workshop and interviews, experts highlighted that the effectiveness of measure 1.2.1 depends on having a harmonised methodology to assess products' lifespan and the possibility of redress in case of non-compliance.

(See Annex 8 for details.)

Table 102. Sub-problem 1.2: Assessment of options – summary table

CRITERIA	EFFECTIVENESS						EFFICIENCY									COHERENCE
	Specific objective 1. Enable informed purchasing decisions by consumers to foster sustainable consumption		Specific objective 2. Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption			Specific objective 3. Ensure better and coherent application of the EU legal framework through clearer and more enforceable rules	Benefits				Costs					
SUB-CRITERIA/ IMPACTS	Quality of consumer decision making	Circularity and sustainable consumption	Consumer protection	Consumer trust in the market	Level playing field	Application of the EU legal consumer framework	Monetizable Consumer Welfare	Barriers to cross-border trade	Climate change (average of scenarios 2025 - 2040, present value)	Other environmental impacts	Administrative burden (average of scenarios 2025 - 2040, present value)	Substantive compliance costs (average of scenarios 2025 - 2040, present value)	Indirect costs	SME growth	Costs to public bodies (average of scenarios 2025 - 2040, present value)	
STAKEHOLDER DIRECTLY AFFECTED	Consumers	Society	Consumers	Consumers	Businesses	Society	Consumers	Businesses	Society	Society	Businesses	Businesses	Businesses	Businesses	Public bodies	
Unit	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	EUR million	0 → 10	EUR billion	EUR billion	0 → 10	0 → 10	EUR million	0 → 10
Option 0 - baseline	5	5	5	5	5	5	5	5	EUR 0	5	EUR 0	EUR 0	5	5	EUR 0	10
Option A - measure 1.2.1	4	5	5	4	4	5	6 (EUR 0.3 – 0.5 billion)	5	EUR 0	5	EUR 2.4 – 2.7 billion	EUR 0	5	5	EUR 86 – 97 million	6
Option B - measure 1.2.2	7	6	7	7	6	7	7 (EUR 1.8 – 2.5 billion)	6	EUR 6 – 8 million	6	EUR 0.9 – 1.1 billion	EUR 0	5	5	EUR 15-27 million	9
Option C - measure 1.2.3	**8**	**6**	**8**	**8**	**7**	**7**	8 (EUR 2.4 – 3.6 billion)	**6**	EUR 8 – 13 million	**6**	EUR 1 – 1.2 billion	EUR 0	5	5	EUR 15-27 million	**9**

Source: ICF elaboration.

Table 103. *Sub-problem 1.2: Sensitivity analysis*

Ranking of options	Default: Effectiveness 30%, Efficiency 60%, Coherence 10%	Effectiveness 1/3, Efficiency 1/3, Coherence 1/3	Effectiveness 45%, Efficiency 45%, Coherence 10%	Effectiveness 20%, Efficiency 70%, Coherence 10%	Effectiveness 10%, Efficiency 80%, Coherence 10%	Effectiveness 0%, Efficiency 90%, Coherence 10%	Experts	Worst-case scenario: Efficiency 100% (of which 60% allocated to costs and 40% to benefits)
0ABC	92	143	88	94	97	100	102	84
A0BC	67	93	55	74	82	90	70	80
B0AC	205	239	218	197	188	180	232	164
0BAC	172	231	173	171	171	170	195	148
AB0C	100	100	100	100	100	100	108	96
BA0C	180	189	185	177	173	170	200	160
CA0B	207	215	220	198	189	180	227	168
AC0B	127	126	135	121	116	110	135	104
0CAB	198	257	208	192	186	180	222	156
C0AB	232	265	253	218	204	190	260	172
A0CB	93	119	90	96	98	100	97	88
0ACB	118	169	123	116	113	110	130	92
0BCA	252	320	258	248	244	240	287	212
B0CA	285	328	303	273	262	250	325	228
C0BA	312	354	338	294	277	260	352	236
0CBA	278	346	293	269	259	250	314	220
BC0A	318	335	348	299	279	260	362	244
CB0A	345	361	383	320	295	270	390	252
CBA0	320	311	350	300	280	260	357	248
BCA0	293	285	315	279	264	250	330	240
ACB0	160	133	180	147	133	120	173	120
CAB0	240	222	265	223	207	190	265	184
BAC0	213	196	230	202	191	180	238	176
ABC0	133	107	145	126	118	110	146	112

Legend: 0-baseline; A-option A; B-option B; C-option C.; Highlight in green – ranking of options with the highest score in a given scenario.

Source: ICF elaboration.

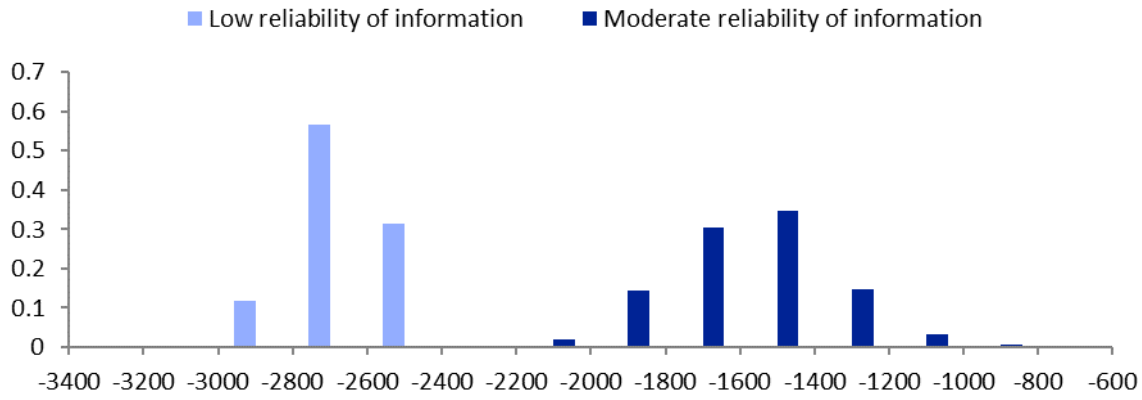
Table 104. Sub-problem 1.2.: Partial CBA of the various options – average of scenarios considered (present value (@4%), at 2019 prices, EUR million)

Period of analysis	Option A Measure 1.2.1	Option B Measure 1.2.2	Option C Measure 1.2.3
2025-2040	-2,273 (±213)	1,129 (±447)	1,865 (±745)
2025-2050	-2,705 (±325)	2,210 (±839)	3,244 (±1,156)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

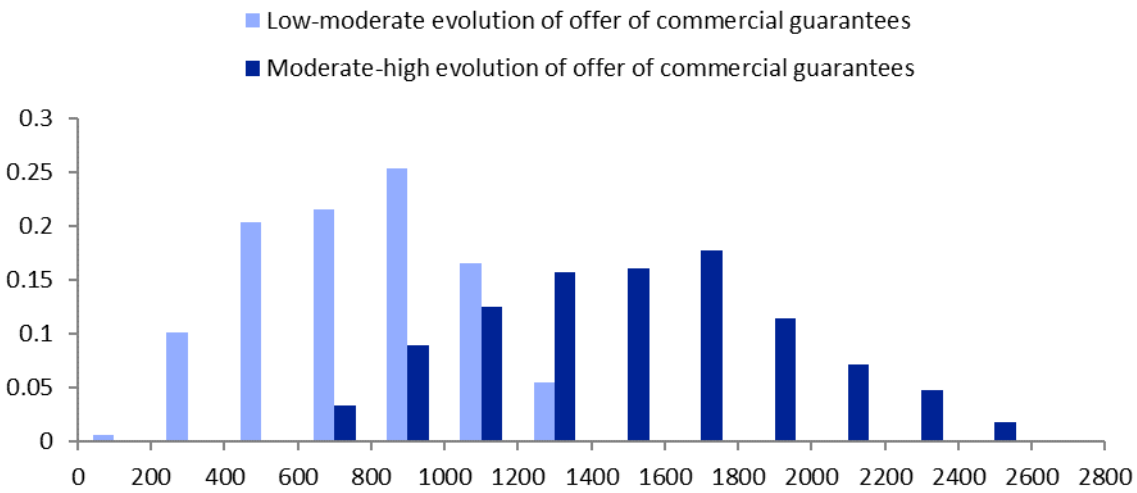
Figure 37. Option A (measure 1.2.1): partial CBA 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

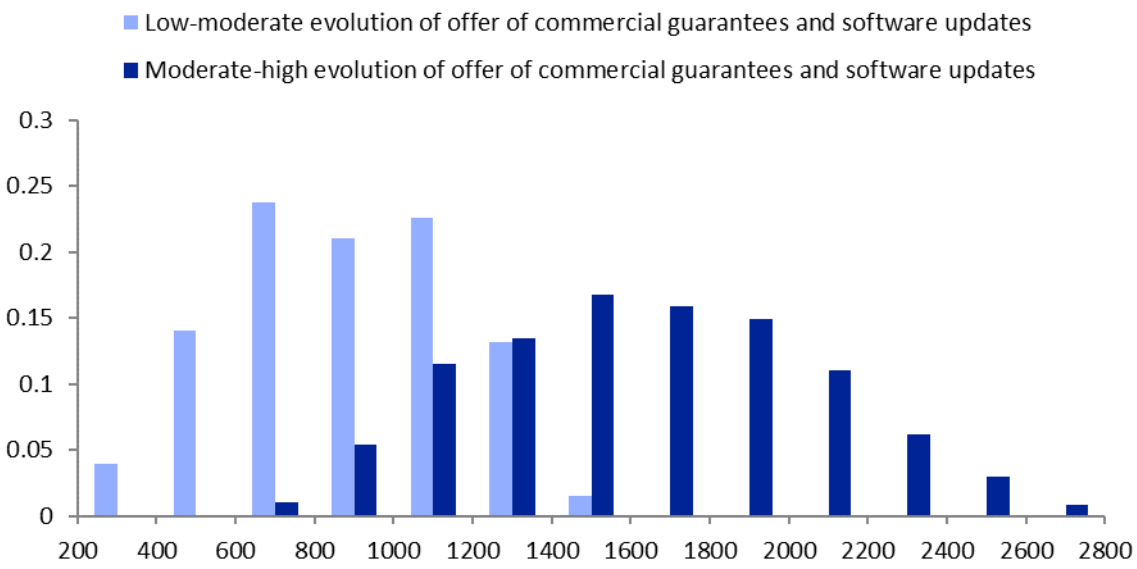
Figure 38. Option B (measure 1.2.2): partial CBA 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Figure 39. Option C (measure 1.2.3): partial CBA 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

8.2 Sub-problem 1.3: Lack of reliable information about products' reparability

Five options were selected for further analysis:

- Option 0 – baseline.
- Option A - measure 1.3.1: Provision of updated, user-friendly repair and maintenance manuals to consumers.
- Option B - measure 1.3.2: Provision of information about which spare parts are available and until when.
- Option C - measure 1.3.3: Information about availability of repair services.
- Option D - measure 1.3.4: Reparability Scoring Index.

The European Commission, DG Justice and Consumers identified a fifth option after the conclusion of the research and consultation stages of the study – Option E: Provision of Repair Scoring Index, or other relevant repair information on a where applicable/available basis. The European Commission, DG Justice and Consumers collected evidence to assess this option against the criteria not related to the costs to companies. The criteria related to the costs to companies were then assessed by ICF, by extrapolating the data collected for other related measures.

Option A, option B and option C are complementary and stand-alone, but option B and option C are interdependent to some extent with option D. Option 0 and Option E are mutually exclusive between them and with all others.

Table 105 summarises the assessment of the baseline and each option against each assessment criterion (the assessment of their impacts is detailed in section 7.2.2 and of their coherence in Annex 13).

The comparison of the options using a MCA shows that in the default scenario the ranking of options with the highest score is the following: option E, option B (measure 1.3.2), option D (measure 1.3.4), baseline, option C (measure 1.3.3), option A (measure 1.2.1).

The results of the sensitivity analysis found that the ranking of options with the highest score remains unchanged for half of the scenarios of weights tested (see Annex 12). In the remaining scenarios (including the worst-case scenario), two rankings of options had the same highest score:

- Option E, option B (measure 1.3.2), option D (measure 1.3.4), option 0 (baseline), option A (measure 1.3.1), option C (measure 1.3.3).
- Option B (measure 1.3.2), option D (measure 1.3.4), option 0 (baseline), option E, option A (measure 1.3.1) and option C (measure 1.3.3).

When comparing monetisable costs and benefits using the CBA[453] (Table 106, Figure 40, Figure 41, Figure 42, Figure 43), option A and option B were expected to bring net benefits to society, while the estimated benefits of option C and option D do not outweigh the costs of the measure. It was not possible to do a CBA for option E.

Stakeholder consultations

In the OPC, the provision of information on product reparability (e.g. availability of repair services, spare parts, repair manuals, repair scoring) was chosen as the most useful to help consumers to choose sustainable products. It fared particularly high among citizens (54%), public authorities (57%) and consumer organisations (35%)

[453] The discount rate is 4%.1

but was also often chosen by business associations (30%) and businesses (21%), showing broad support across stakeholder categories. In the ICF consumer survey (n=11,805), respondents considered information on reparability the fourth most useful piece of information to help them to choose sustainable products (23%).

The stakeholder interviews and surveys showed that measures 1.3.1, 1.3.2 and 1.3.4[454] were considered somewhat effective by all stakeholder groups (as the price of repairs plays a significant role in consumers' decisions to repair or replace broken products). Business associations pointed out that all measures would be generally feasible and would generate moderate to high costs. In the stakeholder workshop, all three measures were considered relevant, with experts noting that repair costs are a very important barrier that the measures cannot address. The development of a repair score (measure 1.3.4) was also considered useful, but would require a product-specific approach.

(See Annex 8 for details.)

[454] Measure 1.3.5 was identified after the consultations had been launched.

Table 105. Sub-problem 1.3: Assessment of options – summary table

CRITERIA	EFFECTIVENESS						EFFICIENCY									COHERENCE
	Specific objective 1. Enable informed purchasing decisions by consumers to foster sustainable consumption		Specific objective 2. Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption			Specific objective 3. Ensure better and coherent application of the EU legal framework through clearer and more enforceable rules	Benefits				Costs					
SUB-CRITERIA/ IMPACTS	Quality of consumer decision making	Circularity and sustainable consumption	Consumer protection	Consumer trust in the market	Level playing field	Application of the EU legal consumer framework	Monetizable Consumer Welfare	Barriers to cross-border trade	Climate change (average of scenarios 2025 - 2040, present value)	Other environmental impacts	Administrative burden (average of scenarios 2025 - 2040, present value)	Substantive compliance costs (average of scenarios 2025 - 2040, present value)	Indirect costs	SME growth	Costs to public bodies (average of scenarios 2025 - 2040, present value)	
STAKEHOLDER DIRECTLY AFFECTED	Consumers	Society	Consumers	Consumers	Businesses	Society	Consumers	Businesses	Society	Society	Businesses	Businesses	Businesses	Businesses	Public bodies	
Unit	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	EUR million	0 → 10	EUR billion	EUR billion	0 → 10	0 → 10	EUR million	0 → 10
Option 0 - baseline	5	5	5	5	5	5	5	5	EUR 0	5	EUR 0	EUR 0	5	5	EUR 0	8
Option A - measure 1.3.1	5	7	6	6	5	5	7 (EUR 0.4 – 0.8 billion)	6	EUR 19 – 33 million	7	EUR 0.8 – 0.9 billion	EUR 0	5	5	EUR 16 – 21 million	8
Option B - measure 1.3.2	6	7	6	6	5	5	8 (EUR 1.2 – 3 billion)	6	EUR 39 – 68 million	7	EUR 1.68 – 1.72 billion	EUR 0	5	5	EUR 16 – 21 million	8
Option C - measure 1.3.3	4	6	5	4	4	4	6 (EUR 0.12 – 0.25 billion)	3	EUR 1-2 million	6	EUR 3.1 – 3.4 billion	EUR 0	5	4	EUR 8 – 13 million	8
Option D - measure 1.3.4	6	7	5	4	5	4	7 (EUR 0.5 – 1 billion)	7	EUR 26 – 458 million	7	EUR 4.2 – 4.4 billion	EUR 0	5	4	EUR 32 – 37 million	8
Option E Scores provided by DG JUST	*7*	*7*	*6*	*6*	*6*	*6*	*7*	*6*	*>0*	*7*	*~ 0.2*	*EUR 0*	*5*	*5*	*~ EUR 0.12*	*9*

Source: ICF elaboration.

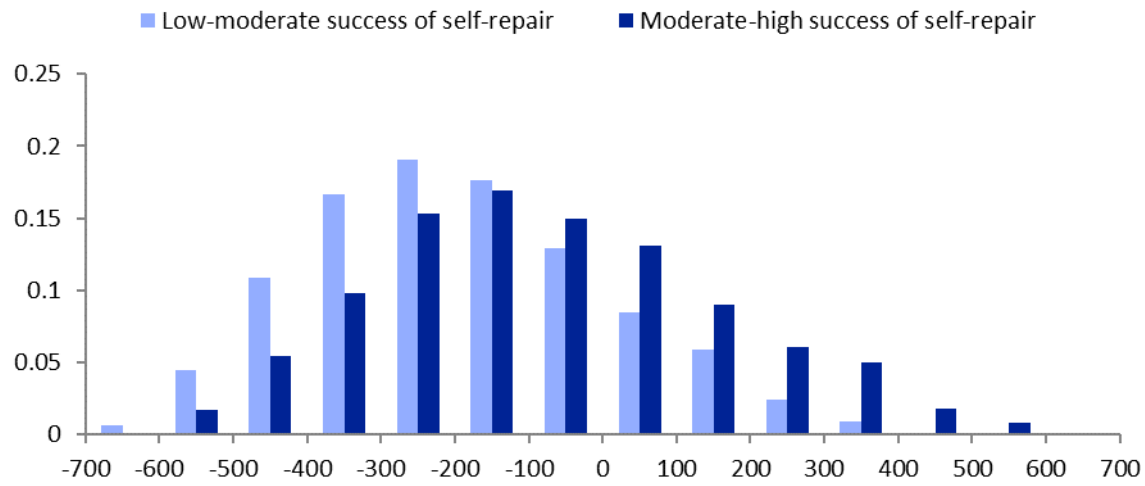
Table 106. Sub-problem 1.3: Partial CBA of the various options – average of scenarios considered (present value, at 2019 prices, EUR million)

Period of analysis	Option A Measure 1.3.1	Option B Measure 1.3.2	Option C Measure 1.3.3	Option D Measure 1.3.4	Option E
2025 - 2040	-255 (±230)	430 (±1,060)	-3,077 (±90)	-3,515 (±332)	NA
2025 - 2050	12 (±340)	1,070 (±1480)	-4,030 (±115)	-4,277 (±457)	NA

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

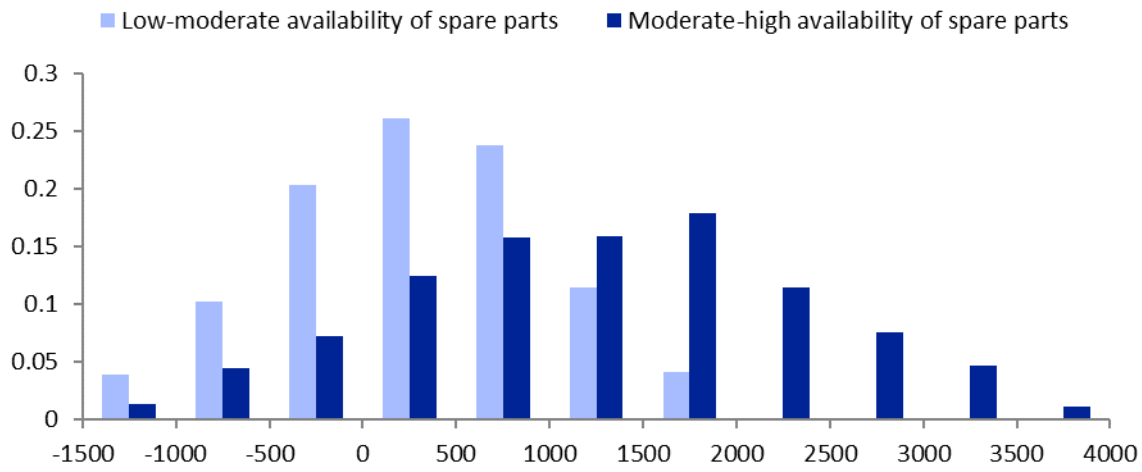
Figure 40. Option A (measure 1.3.1): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

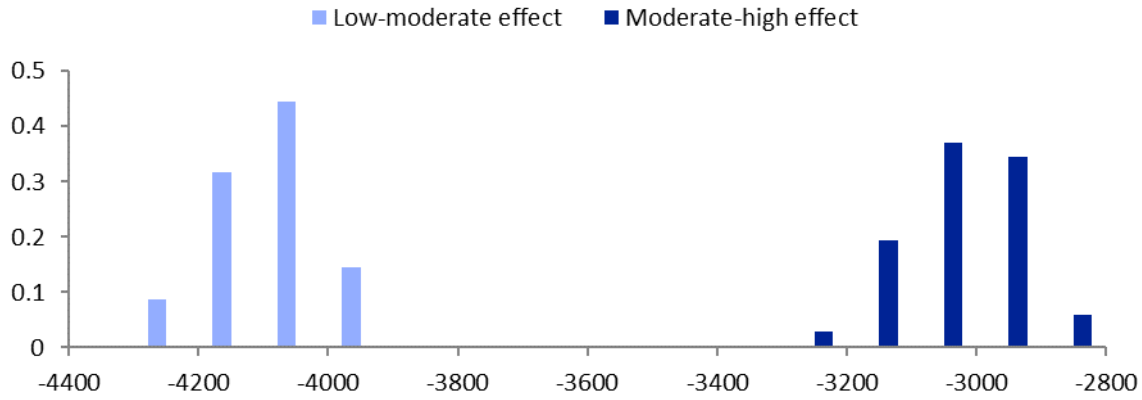
Figure 41. Option B (measure 1.3.2): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

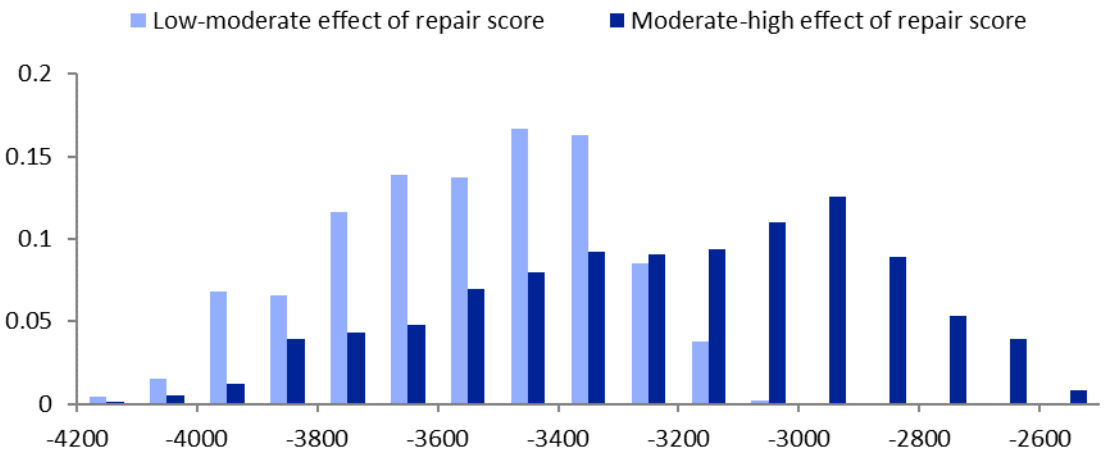
Figure 42. Option C (measure 1.3.3): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Figure 43. Option D (measure 1.3.4): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

8.3 Sub-problem 2.1: Consumers are sold products that do not last as long as they should or as long as consumers expect

Three options were selected for further analysis:

- Option 0 – baseline.
- Option A - measure 2.1.1: Information on accumulated evidence of recorded early failures of products present in the market.
- Option B - measure 2.1.2: Ban on certain identified practices associated to premature obsolescence,

Option A is interdependent to some extent with option B. Option 0 is mutually exclusive with all other options.

Table 107 summarises the assessment of the baseline and each option against each assessment criterion (the assessment of their impacts is detailed in section 7.2.3 and of their coherence in Annex 13).

The comparison of the options using a MCA shows that in the default scenario the ranking of options with the highest score is the following: option B (measure 2.1.2), option A (measure 2.1.1), option 0 (baseline). (Table 108)

When comparing monetisable costs and benefits using CBA (Table 109 Figure 44 and Figure 45), the study concludes that, individually, option A and option B bring net benefits.

Stakeholder consultation

The results from the OPC showed strong support from consumer organisations (65%), citizens (35%) and public authorities (28%) for stronger protection against obsolescence practices, in contrast to companies (5%) and business organisations (3%). In the ICF consumer survey (n=11805), respondents selected providing

stronger protection against practices that cause early failure of products as the third most effective measure (of the 12 provided).

During stakeholder consultations, consumer organisations considered measures to address planned and premature obsolescence to be highly effective. Business associations, however, did not believe that the measures would be effective, largely because they believed that the incidence of these practices is extremely low. Several highlighted that some specifications could reduce companies' freedom to select materials and design that will provide consumers with less expensive products. Public authorities considered measure 2.1.2 effective but indicated that banned premature obsolescence practices should be defined and described clearly, precisely and specifically so that they can be more easily identified and enforced.

Most consumer associations believed that the measure 2.1.1[455] would not be effective unless the information would be provided in an easily understandable way for consumers. By contrast, most business associations and public authorities believed that the measure would be effective. Among other stakeholders, the general view was that the measure would be somewhat effective.

(See Annex 8 for details.)

[455] The final shape of the measure differs from that in stakeholder consultations, in that initially the information was to be provided by traders. This adjustment stemmed from stakeholder feedback that suggested it simply would not work.

Table 107.Sub-problem 2.1: Assessment of options – summary table

CRITERIA	EFFECTIVENESS						EFFICIENCY									COHERENCE
	Specific objective 1. Enable informed purchasing decisions by consumers to foster sustainable consumption		Specific objective 2. Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption			Specific objective 3. Ensure better and coherent application of the EU legal framework through clearer and more enforceable rules	Benefits				Costs					
SUB-CRITERIA/ IMPACTS	Quality of consumer decision making	Circularity and sustainable consumption	Consumer protection	Consumer trust in the market	Level playing field	Application of the EU legal consumer framework	Monetizable Consumer Welfare	Barriers to cross-border trade	Climate change (average of scenarios 2025 - 2040, present value)	Other environmental impacts	Administrative burden (average of scenarios 2025 - 2040, present value)	Substantive compliance costs (average of scenarios 2025 - 2040, present value)	Indirect costs	SME growth	Costs to public bodies (average of scenarios 2025 - 2040, present value)	
STAKEHOLDER DIRECTLY AFFECTED	Consumers	Society	Consumers	Consumers	Businesses	Society	Consumers	Businesses	Society	Society	Businesses	Businesses	Businesses	Businesses	Public bodies	
Unit	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	EUR million	0 → 10	EUR billion	EUR billion	0 → 10	0 → 10	EUR million	0 → 10
Option 0 - baseline	5	5	5	5	5	5	5	5	EUR 0	5	EUR 0	EUR 0	5	5	EUR 0	8
Option A - measure 2.1.1	6	6	6	6	7	5	6 (EUR 0.1 – 0.2 million)	7	EUR 4 – 8 million	7	EUR 4 -5 million	EUR 0	5	5	EUR 7 – 9 million	8
Option B - measure 2.1.2	5	8	8	9	9	8	8 (EUR 1.8 – 2.3 billion)	8	EUR 72 – 90 million	8	EUR 0	EUR 1.2 – 1.6 billion	5	6	EUR 103 – 104 million	8

Source: ICF elaboration.

Table 108.*Sub-problem 2.1: Sensitivity analysis*

Ranking of options	Default: Effectiveness 30%, Efficiency 60%, Coherence 10%	Effectiveness 1/3, Efficiency 1/3, Coherence 1/3	Effectiveness 45%, Efficiency 45%, Coherence 10%	Effectiveness 20%, Efficiency 70%, Coherence 10%	Effectiveness 10%, Efficiency 80%, Coherence 10%	Effectiveness 0%, Efficiency 90%, Coherence 10%	Experts	Worst-case scenario: Efficiency 100% (of which 60% allocated to costs and 40% to benefits)
0AB	84	94	58	70	75	80	75	72
0BA	114	131	108	114	117	120	119	112
A0B	86	96	95	92	91	90	105	88
AB0	102	102	138	122	116	110	136	116
B0A	130	137	150	144	142	140	150	140
BA0	132	139	188	167	158	150	180	156

Legend: 0-baseline; A-option A; B-option B; Highlight in green – ranking of options with the highest score in a given scenario.

Source: ICF elaboration.

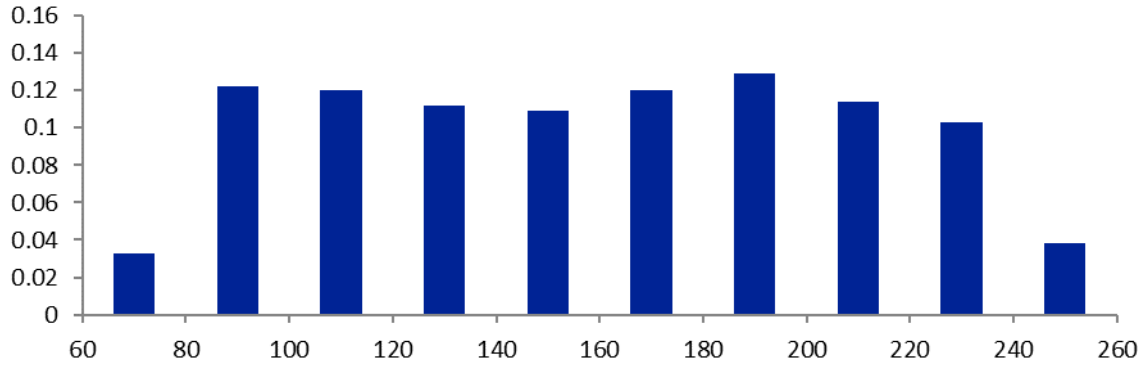
Table 109. Sub-problem 2.1: Partial CBA results of the various options – average of scenarios considered (present value, at 2019 prices, EUR million)

Period	Option A Measure 2.1.1	Option B Measure 2.1.2
2025 - 2040	134 (±50	592 (±310)
2025 - 2050	242 (±74)	1,197 (±450)

Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

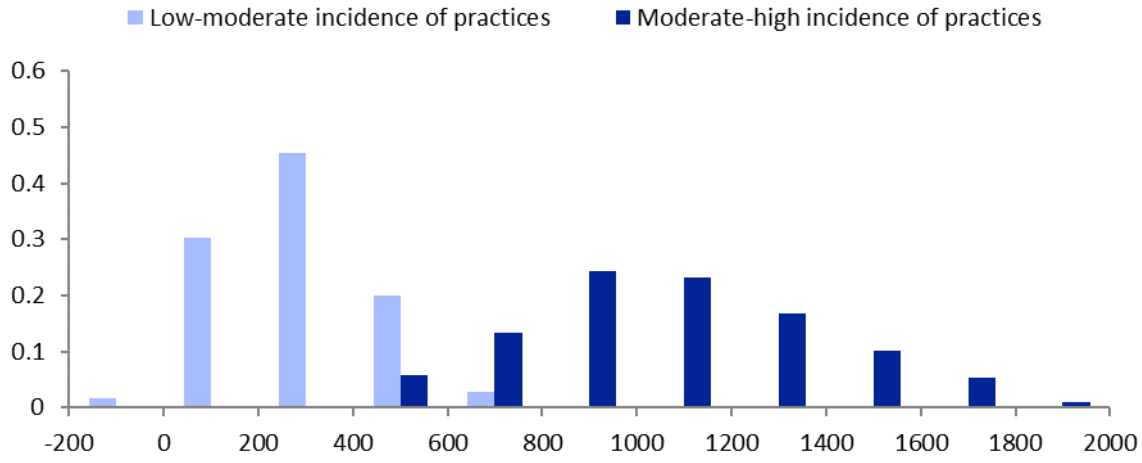
Figure 44. Option A (measure 2.1.1): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

Figure 45. Option B (measure 2.1.2): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Notes: The monetisation covers three product types: large household appliances, small household appliances, ICT, and other electronic products.

Source: ICF elaboration.

8.4 Sub-problem 2.2: Consumers are faced with the practice of making unclear or poorly substantiated green claims

Four options were selected for further analysis:

- Option 0 – baseline.
- Option A - measure 2.2.1: Ban on unsubstantiated general statements on the environmental performance of products.
- Option B - measure 2.2.2: Prohibition on environmental claims that do not fulfil a minimum set of criteria.
- Option C - combination of measure 2.2.1 and measure 2.2.2.

Table 110 summarises the assessment of the baseline and each option against each assessment criterion (the assessment of their impacts is detailed in section 7.2.4 and of their coherence in Annex 13).

The comparison of the options using a MCA shows that in the default scenario the ranking of options with the highest score is: option C (combination of measures), option A (measure 2.2.1), option B (measure 2.2.2), option 0 (baseline).

The results of the sensitivity analysis show that the ranking of options remains unchanged for all the scenarios considered (Table 111), including the worst-case scenario.

When comparing monetisable costs and benefits using CBA (Table 112, Figure 46, Figure 47 and Figure 48), the study concluded that combining both measures (option C) clearly brings net benefits to society (average of the scenarios considered).

Stakeholder consultation

In the targeted consultation, stakeholders were asked for their views on the two measures.

For measure 2.2.1, consumer associations, business associations, public authorities, and other stakeholders generally believed that the proposed measure would be highly effective. Similarly, among organisations responsible for labels/certification schemes, respondents believed that the proposed measure would be effective. They also felt that the measure would have a positive impact on their organisations. Views on the feasibility of the proposed measure were evenly split among business associations, with equal numbers believing the measure would be 'feasible' and 'somewhat feasible'. In relation to costs, the prevailing view was that the measure would entail high costs. Public authorities held mixed views on the ease of enforcement and monitoring, with equal numbers believing it would be 'somewhat easy' and 'somewhat difficult' to enforce.

For measure 2.2.2, consumer associations generally believed that the proposed measure would be highly effective. Among business associations, the view was that the measure would be somewhat effective. The public authorities' views on effectiveness were more evenly split, with equal numbers believing it would be 'highly effective' and 'somewhat effective'. Among organisations responsible for labels/certification schemes and other stakeholder groups, respondents generally believed that the proposed measure would be effective. Most business associations believed that the measure would be 'somewhat feasible' but were concerned that it

would entail high costs[456]. Most public authorities explained that it would be 'somewhat easy' to enforce the proposed measure, although some foresaw various challenges with enforcement and monitoring, including: (1) too broad or too narrow a definition set out in regulations to define greenwashing; and (2) the lack of adequate metrics to test whether a green label or claim is unfounded/unsubstantiated.

(See Annex 8 for details.)

[456] These views were to a certain extent confirmed by the CATI survey of manufacturers and retailers (see Annex 8).

Table 110. Sub-problem 2.2: Assessment of options – summary table

CRITERIA	EFFECTIVENESS						EFFICIENCY									COHERENCE
	Specific objective 1. Enable informed purchasing decisions by consumers to foster sustainable consumption		Specific objective 2. Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption			Specific objective 3. Ensure better and coherent application of the EU legal framework through clearer and more enforceable rules	Benefits				Costs					
SUB-CRITERIA/ IMPACTS	Quality of consumer decision making	Circularity and sustainable consumption	Consumer protection	Consumer trust in the market	Level playing field	Application of the EU legal consumer framework	Monetizable Consumer Welfare	Barriers to cross-border trade	Climate change (average of scenarios 2025 - 2040, present value)	Other environmental impacts	Administrative burden (average of scenarios 2025 - 2040, present value)	Substantive compliance costs (average of scenarios 2025 - 2040, present value)	Indirect costs	SME growth	Costs to public bodies (average of scenarios 2025 - 2040, present value)	
STAKEHOLDER DIRECTLY AFFECTED	Consumers	Society	Consumers	Consumers	Businesses	Society	Consumers	Businesses	Society	Society	Businesses	Businesses	Businesses	Businesses	Public bodies	
Unit	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	EUR million	0 → 10	EUR billion	EUR billion	0 → 10	0 → 10	EUR million	0 → 10
Option 0 - baseline	5	5	5	5	5	5	5	5	EUR 0	5	EUR 0	EUR 0	5	5	EUR 0	8
Option A - measure 2.2.1	8	7	7	8	8	8	8 (EUR 2.2 – 4 billion)	5	> 0 (high)	7	EUR 0	EUR 2.9 – 3.2 billion	5	5	EUR 7 – 12 million	8
Option B - measure 2.2.2	8	6	7	8	8	8	8 (EUR 1.6 – 2.9 billion)	5	>0 (low)	6	EUR 0	EUR 2.9 – 3.2 billion	5	5	EUR 7 – 12 million	8
Option C - measure 2.2.1 + Measure 2.2.2	9	7	8	9	8	8	9 (EUR 3.7 – 6.9 billion)	5	>0 (high)	7	EUR 0	EUR 3.3 – 3.5 billion	5	5	EUR 7 – 12 million	8

Source: ICF elaboration.

Table 111.*Sub-problem 2.2: Sensitivity analysis*

Ranking of options	Default: Effectiveness 30%, Efficiency 60%, Coherence 10%	Effectiveness 1/3, Efficiency 1/3, Coherence 1/3	Effectiveness 45%, Efficiency 45%, Coherence 10%	Effectiveness 20%, Efficiency 70%, Coherence 10%	Effectiveness 10%, Efficiency 80%, Coherence 10%	Effectiveness 0%, Efficiency 90%, Coherence 10%	Experts	Worst-case scenario: Efficiency 100% (of which 60% allocated to costs and 40% to benefits)
0ABC	72	43	58	81	91	100	80	116
A0BC	108	80	108	109	109	110	125	122
B0AC	90	67	90	90	90	90	98	102
0BAC	53	30	40	62	71	80	53	96
AB0C	145	117	158	137	128	120	171	128
BA0C	127	104	140	118	109	100	144	108
CA0B	200	167	225	183	167	150	232	154
AC0B	178	146	198	166	153	140	212	146
0CAB	127	93	125	128	129	130	141	142
C0AB	163	130	175	156	148	140	187	148
A0CB	142	109	148	138	134	130	166	140
0ACB	105	72	98	110	115	120	120	134
0BCA	75	50	68	80	85	90	73	104
B0CA	112	87	118	108	104	100	119	110
C0BA	145	117	158	137	128	120	160	128
0CBA	108	80	108	109	109	110	114	122
BC0A	148	124	168	136	123	110	164	116
CB0A	182	154	208	164	147	130	205	134
CBA0	218	191	258	192	166	140	251	140
BCA0	185	161	218	163	142	120	210	122
ACB0	215	183	248	193	172	150	257	152
CAB0	237	204	275	211	186	160	278	160
BAC0	163	141	190	146	128	110	189	114
ABC0	182	154	208	164	147	130	216	134

Legend: 0-baseline; A-option A; B-option B; C-option C; Highlight in green–ranking of options with the highest score in a scenario.

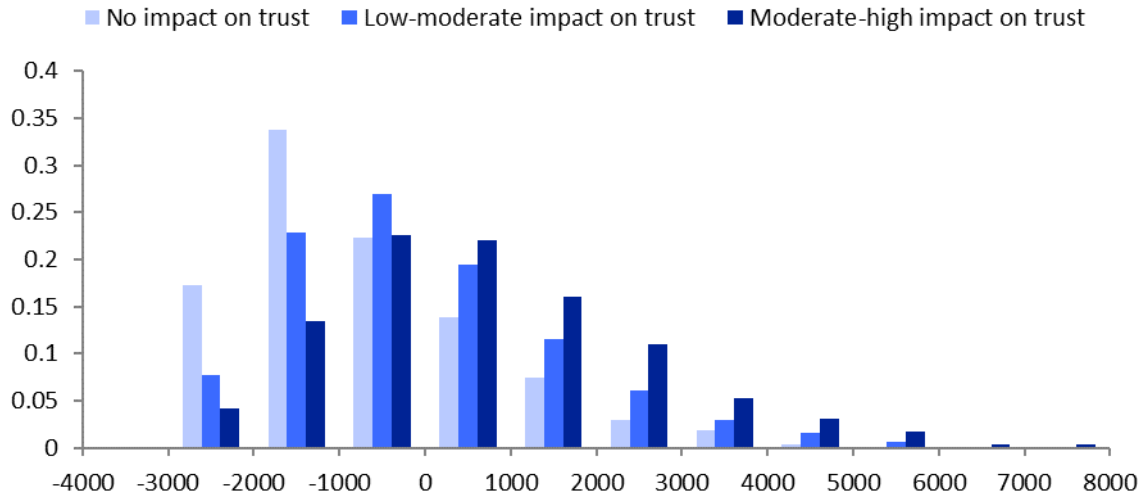
Source: ICF elaboration.

Table 112. Sub-problem 2.2: Partial CBA results of the various options – average of all scenarios considered (net 2021 value, at 2019 prices, EUR million)

Period of analysis	Option A Measure 2.2.1	Option B Measure 2.2.2	Option C Measure 2.2.1 + Measure 2.2.2
2025 - 2040	23 (±1,005)	-789 ±986	1,893 (±1,005)
2025 - 2050	1,067 (±1,156)	978 (±1,067)	3,916 (±2,153)

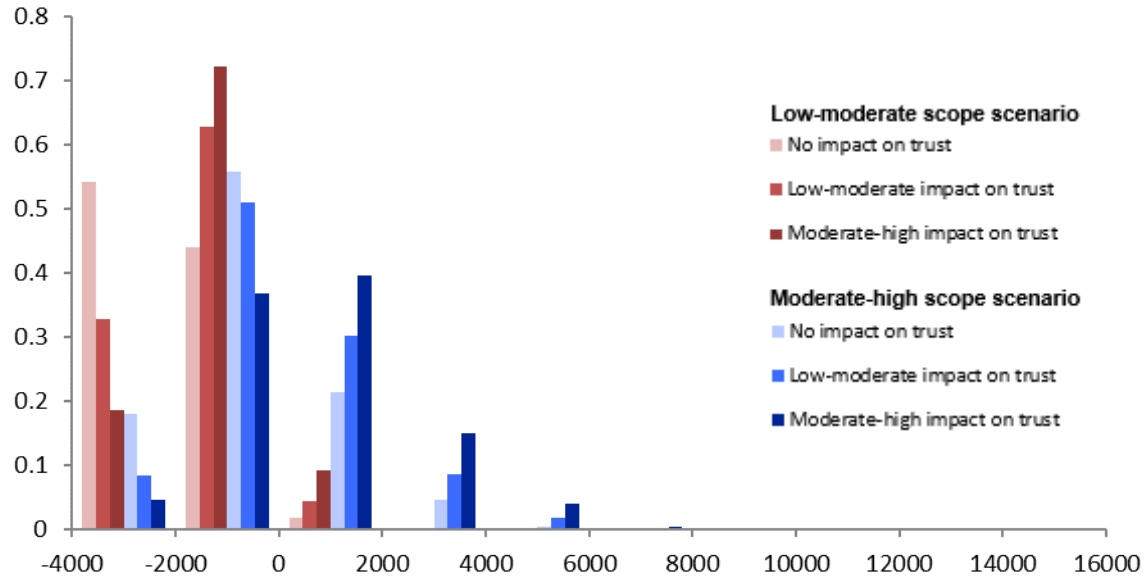
Source: ICF elaboration.

Figure 46. Option A (measure 2.2.1): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



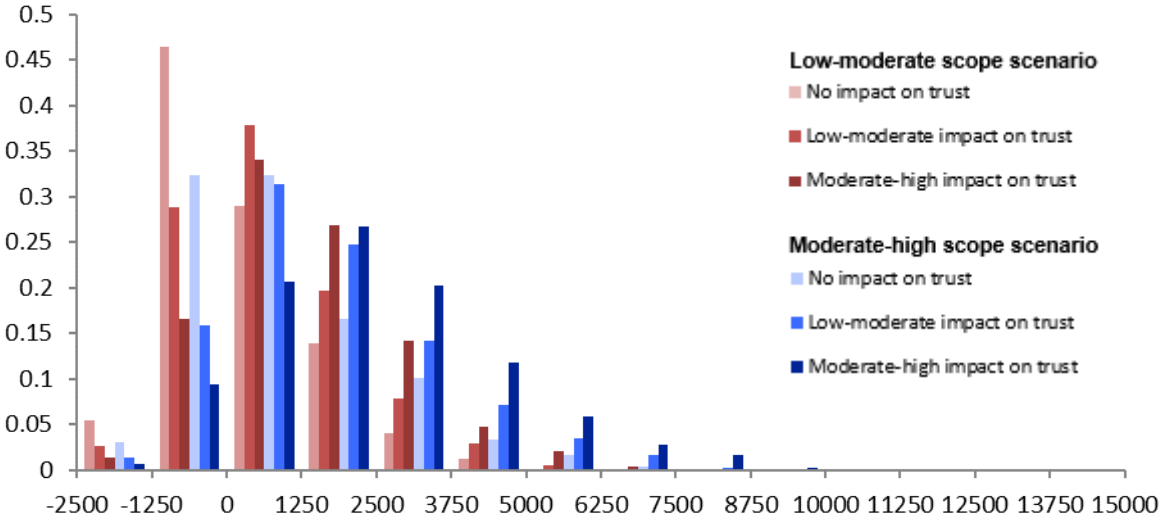
Source: ICF elaboration.

Figure 47. Option B (measure 2.2.2): Partial CBA, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Source: ICF elaboration.

Figure 48. Option C (measure 2.2.1 + measure 2.2.2): Partial CBA, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Source: ICF elaboration.

8.5 Sub-problem 2.3: Consumers are faced with a proliferation of sustainability labels and digital information tools that are not always credible or transparent

Three options were selected for further analysis:

- Option 0 – baseline.
- Option A - measure 2.3.1: EU-led voluntary initiative to develop minimum criteria on sustainability labels and digital information tools.
- Option B - measure 2.3.2. Introduction of minimum requirements in EU law to be respected by the sustainability labels and digital information tools, with ex post enforcement from consumer protection bodies.
- Option C - measure 2.3.3.Pre-approval of sustainability labels and digital information tools via an EU body.

All options are mutually exclusive.

Table 113 summarises the assessment of the baseline and of each option against each assessment criterion (the assessment of their impacts is detailed in section 7.2.5 and of their coherence in Annex 13).

The comparison of the options using a MCA shows (Table 114) that in the ranking, the highest score in all scenarios except in the worst-case scenario is: option B (measure 2.3.2), option C (measure 2.3.3), option 0 (baseline), option A (2.3.1)[457]. In the worst-case scenario, the ranking with the highest score is: option B (measure 2.3.2), option 0 (baseline), option C (measure 2.3.3), option A (measure 2.3.1).

A CBA[458] was only possible for option B and option C, which shows that both options are expected to bring net benefits to society (Table 115, Figure 49 and Figure 50).

Stakeholder consultation

Nearly one-quarter of respondents to the OPC (23%) identified 'providing greater transparency and reliability for sustainability labels' as an effective option to enable consumers to play their role in the circular economy. By contrast, only 7% selected 'providing greater transparency and reliability for IT tools (e.g. consumer apps) providing advice for a more sustainable consumer behaviour'. Companies/businesses were the stakeholder types most likely to identify both of these options as effective.

In the targeted consultation, stakeholders were asked for their views on measures setting minimum requirements (on transparency, reliability, etc.) for 1) sustainability labels and 2) digital information tools. Most consumer associations thought that the proposed measures would be 'somewhat effective', while other stakeholder groups were even more positive. Organisations responsible for labels/certification schemes were generally of the view that measures 2.3.2 and 2.3.3 would be effective and have a positive impact on their organisation. Similarly, most business associations, public authorities and other stakeholders indicated that the measures would be 'highly effective' and 'feasible' (despite some concern that they could entail high costs). Most public authorities believed that the measures would be 'somewhat easy to enforce' and 'easy to monitor'.

(See Annex 8 for details.)

[457] Other ranking scores equally high in almost as many scenarios: option B, option C, option A, baseline.
[458] The discount rate is 4%.

Table 113. Sub-problem 2.3: Assessment of options – summary table

CRITERIA	EFFECTIVENESS						EFFICIENCY									COHERENCE
	Specific objective 1. Enable informed purchasing decisions by consumers to foster sustainable consumption		Specific objective 2. Eliminate untrustworthy practices that go against a sustainable economy and mislead consumers away from sustainable consumption			Specific objective 3. Ensure better and coherent application of the EU legal framework through clearer and more enforceable rules	Benefits				Costs					
SUB-CRITERIA/ IMPACTS	Quality of consumer decision making	Circularity and sustainable consumption	Consumer protection	Consumer trust in the market	Level playing field	Application of the EU legal consumer framework	Monetizable Consumer Welfare	Barriers to cross-border trade	Climate change (average of scenarios 2025 - 2040, present value)	Other environmental impacts	Administrative burden (average of scenarios 2025 - 2040, present value)	Substantive compliance costs (average of scenarios 2025 - 2040, present value)	Indirect costs	SME growth	Costs to public bodies (average of scenarios 2025 - 2040, present value)	
STAKEHOLDER DIRECTLY AFFECTED	Consumers	Society	Consumers	Consumers	Businesses	Society	Consumers	Businesses	Society	Society	Businesses	Businesses	Businesses	Businesses	Public bodies	
Unit	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	EUR million	0 → 10	EUR billion	EUR billion	0 → 10	0 → 10	EUR million	0 → 10
Option 0 - baseline	5	5	5	5	5	5	5	5	EUR 0	5	EUR 0	EUR 0	5	5	EUR 0	8
Option A - measure 2.3.1	5	5	5	5	5	5	5 (~EUR 0)	5	~EUR 0	5	EUR 0	EUR 0	5	5	EUR 0.3 million	8
Option B - measure 2.3.2	8	7	8	8	8	8	9 (EUR 4.5 – 6.6 billion)	8	>0 (moderate)	7	EUR 0.615 – 0.62 billion	EUR 3 – 3.5 billion	5	5	EUR 14 -15 million	8
Option C - measure 2.3.3	8		9	8	8		9 (EUR 4.5 – 6.6 billion)	8	>0 (moderate)	7	EUR 0.615 – 0.62 billion	EUR 3.1 – 3.6 billion	5	5	EUR 56 -57 million	8

Source: ICF elaboration.

Table 114. Sub-problem 2.3: Sensitivity analysis

Ranking of options	Default: Effectiveness 30%, Efficiency 60%, Coherence 10%	Effectiveness 1/3, Efficiency 1/3, Coherence 1/3	Effectiveness 45%, Efficiency 45%, Coherence 10%	Effectiveness 20%, Efficiency 70%, Coherence 10%	Effectiveness 10%, Efficiency 80%, Coherence 10%	Effectiveness 0%, Efficiency 90%, Coherence 10%	Experts	Worst-case scenario: Efficiency 100% (of which 60% allocated to costs and 40% to benefits)
0ABC	120	67	90	140	160	180	97	216
A0BC	120	67	90	140	160	180	92	214
B0AC	193	141	190	196	198	200	190	224
0BAC	157	104	140	168	179	190	143	220
AB0C	157	104	140	168	179	190	139	218
BA0C	193	141	190	196	198	200	185	222
CA0B	165	128	173	160	155	150	175	162
AC0B	135	94	128	140	145	150	129	170
0CAB	135	94	128	140	145	150	133	172
C0AB	165	128	173	160	155	150	180	164
A0CB	105	61	83	120	135	150	82	178
0ACB	105	61	83	120	135	150	87	180
0BCA	187	137	185	188	189	190	190	212
B0CA	223	174	235	216	208	200	237	216
C0BA	202	165	223	188	174	160	227	168
0CBA	172	131	178	168	164	160	180	176
BC0A	253	207	280	236	218	200	283	208
CB0A	238	202	273	216	193	170	273	172
CBA0	238	202	273	216	193	170	269	170
BCA0	253	207	280	236	218	200	279	206
ACB0	172	131	178	168	164	160	175	174
CAB0	202	165	223	188	174	160	222	166
BAC0	223	174	235	216	208	200	232	214
ABC0	187	137	185	188	189	190	185	210

Legend: 0-baseline; A-option A; B-option B; C-option C; Highlight in green – ranking of options with the highest score in a given scenario.

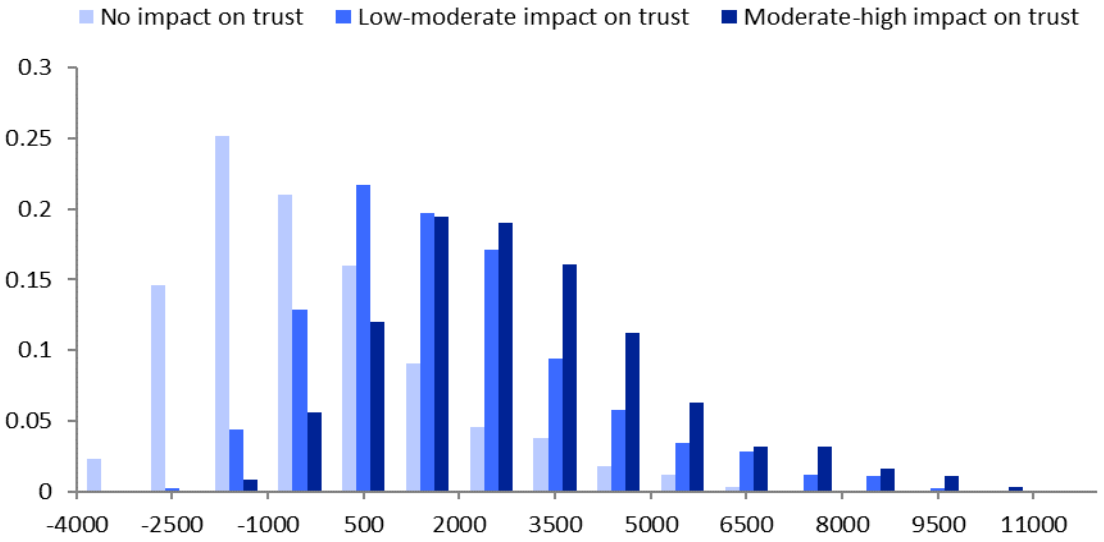
Source: ICF elaboration.

Table 115. Problem 2.3: Partial CBA results of the option B and option C (present value at prices of 2019, million of euros)

Period of analysis	Option B Measure 2.3.2	Option C Measure 2.3.3
2025 - 2040	1,675 (±1,162)	1587 ± 1072
2025 - 2050	2,518 (±1,597)	2296 ± 1474

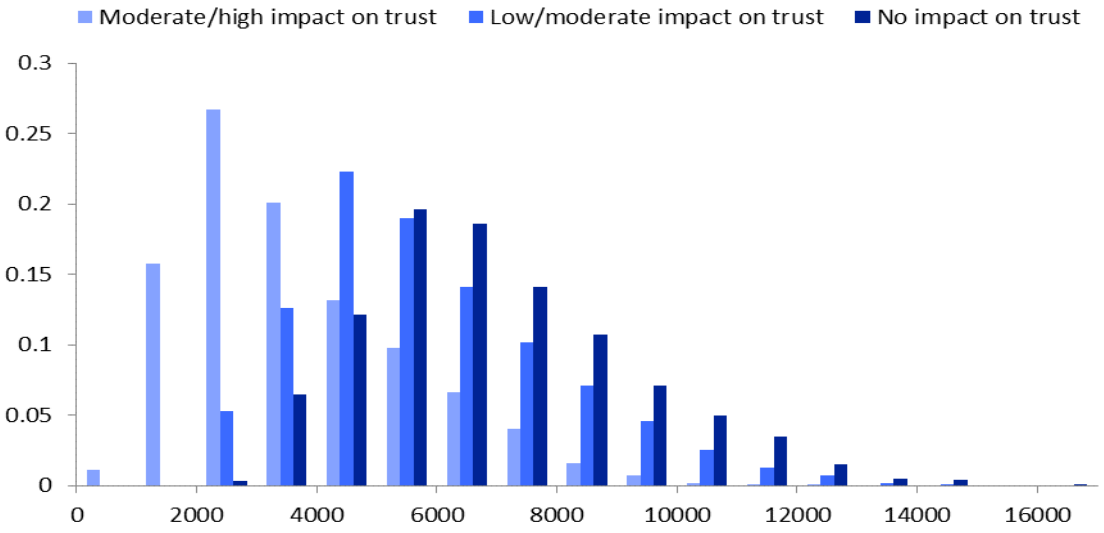
Source: ICF elaboration.

Figure 49. Option B (measure 2.3.2): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Source: ICF elaboration.

Figure 50. Option C (measure 2.3.3): Partial CBA results, period 2025-2040 – results of Monte Carlo simulation (present value, at 2019 prices, EUR million)



Source: ICF elaboration.

Annexes

- Annex 1: Reviewed literature
- Annex 2: Proposed minimum criteria for sustainable labels and digital information tools
- Annex 3: Legal analysis
- Annex 4: Briefing notes on specific topics
- Annex 5: Summary of assessment of selected labels and digital information tools
- Annex 6: Overview of consumer market
- Annex 7: Stakeholder Consultation Synopsis Report
- Annex 8: Detailed results of stakeholder consultations (including consumer survey and CATI survey to manufacturers and retailers)
- Annex 9: Mystery shopping results
- Annex 10: Mapping of national initiatives
- Annex 11: Multinational initiatives
- Annex 12: Results of the sensitivity analysis of the MCA
- Annex 13: Coherence analysis
- Annex 14: Results of the screening of measures
- Annex 15: Impact Assessment methodology
- Annex 16: Summary of evidence on obstacles to repair, reuse and sharing products, and possible solutions