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National leadership for legislating longer product lifetimes: French policies and their interaction with European Union policies

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Abstract: Currently, the European Union (EU) is the "green leader", globally, in adopting policies to support longer product lifetimes. One reason for this state of affairs is that EU Member States are adopting progressive policies, which put pressure on the EU to set EU-wide laws to replace national ones. The main reason for this situation is that national rules may lead to distortions in trade in the EU Single Market, as corporations will find it difficult to be able to comply with different national rules and would prefer EU-wide standards. Currently, France is the undisputed leader in adopting policies for longer lifetimes, through policies including criminalization of planned obsolescence, modulated fees, repair policies, banning destruction of unsold products, and national indexes for repairability and durability of products. When the EU adopts similar policies, this can have several positive implications, but there can also be negative effects, for instance that the EU rules are less progressive than the national ones. The aim of this paper is to discuss the key benefits and drawbacks with EU harmonization of national rules, using France as an example. This paper maps the key French policies supporting longer product lifetimes and the upcoming EU rules aiming for EU-wide harmonization. Finally, we describe one policy where EU rules are likely to be less progressive than the French ones, mandatory repair information to consumers, to exemplify key trade-offs with harmonization.

Introduction

The European Union (EU) is currently the green leader globally (Bradford, 2020). This applies also to circular economy (CE) policies (Bocken et al., 2025), and product rules that support CE objectives (Dalhammar and Maitre-Ekern, 2024). The EU has adopted laws that aim to support longer product lifetimes *directly* through product design requirements for many product groups, as well as *indirectly*, by supporting product repairs through mandating provision of spare parts, manuals, and software updates in ecodesign requirements and a directive that strengthens consumers' right-to-repair.

There are two key reasons why the EU has adopted the most progressive policies: 1) the EU's own ambitious sustainability objectives, where longer product lifetimes are a way to support circular economy; 2) EU Member States have adopted several progressive policies related to products, which provide incentives for the EU to adopt similar ones. When national policies are adopted, this can cause fragmentation on the EU Single Market, as corporations may need to adjust products, and their packaging and labelling, depending on which country products are sold in, which is costly. This contrasts with the idea of a Single Market, where goods can trade freely, and corporations therefore argue that product related rules should be set at the EU level (Dalhammar, 2023). Thus, EU-wide standards replacing national standards reduce the costs of doing business. This also means that progressive EU Member States act as "green policy innovators", and national policies have often been very important "triggers" for EU rules in the past (Onida, 2005; Dalhammar, 2023).

In the context of product lifetimes, several EU Member States have adopted policies that – in various ways – support produce longevity, cf. Table 1. Currently, France is the clear "front-runner", in terms of adopting new, progressive policies related to issues like product lifetimes and repairability, and packaging, as have been noticed both by researchers (Dalhammar and Maitre-Ekern 2024) and mainstream media (Gros, 2024; Monbiot, 2023).

Policy	Where Implemented
Consumer information for repairability	France has a mandatory repair index for several product groups. Belgium voted for one last year. Several other EU countries preparing similar indexes..
Consumer info for durability	French repair index becomes durability index (2025).
Criminalization of planned obsolescence	France has criminalized planned obsolescence and also legally defined it.
Repair fund	France has introduced a repair fund, where producers will have to pay some of the costs for repairing broken products not covered by the legal guarantee.
Product labelling and information	France mandates producers of various product groups – e.g. electrical and electronic products, packaging, and textiles – label their products for several criteria, e.g. repairability, sustainability, recycled materials, micro plastics etc.
Eco-modulation	France has differentiated fees in EPR systems depending on properties that increase lifetime, repairability and recyclability.
Longer mandatory consumer guarantees	Several European countries have changed legal consumer guarantee periods ; e.g., Sweden introduced a 3 year guarantee period for most goods.
Lower taxes for repairers	Some countries have provided tax relief or lowered value added tax (VAT) for repairs / repair services
Measures addressing destruction of unsold/returned goods	Measures include a partial ban on some product destruction (France), reporting obligations (Germany), and reduced VAT on donated goods (Belgium).
Repair vouchers	Some Austrian cities issue repair vouchers subsidizing consumer repairs at local repairers. Austria now has a national voucher scheme for electronic devices.
Supporting infrastructure for re-use	Many cities in Europe are promoting re-use, e.g. by providing infrastructure at recycling stations to divert products from recycling.

Table 1. EU Member States policies to support longer lifetimes and repairs.

It should be noted that there are additional national policies to those mentioned in the table. For instance, Belgium has introduced a repair index that will enter into force in 2026 (Heens et al., 2024). For a review of different national and regional economic support schemes for repairs see Etzinger and Reimann (2023).

Several national policies, and especially the French mandatory Repair Index, have raised concerns among European industries (Dalhammar, 2023), but also among French industries, about the need to comply with both EU rules and national rules (Gros, 2024). EU-wide rules would thus support the functioning of the Single Market. Further, companies outside the EU often comply with EU laws to be able to export their products to the EU, and policymakers outside the EU often adopt policies like the EU ones (Bradford, 2020). Thus, there are several benefits associated with EU harmonization of national policies. But harmonization can also have downsides. EU product rules pre-empt national ones, and thus the existence of EU rules may stop progressive national policies. Furthermore, when EU rules are adopted, they may be less ambitious than national rules and thus constitute a partial "deregulation". Currently, there are concerns among actors in France that this will be the case when EU laws replace national rules.

Objective and outline

The aim of this research was to outline national policies that are often at the forefront of policy developments related to longer product lifetimes, analyse how EU have started to harmonize national practices, and explore how EU legal harmonization may lead to less ambitious policies.. In this paper, we show the results and discuss the key benefits and drawbacks with EU harmonization of national rules, using France as an example.

The next section accounts for the key French rules related to product lifetimes and repairability. We then look at the EU upcoming rules for smartphones and compare them with criteria applied in the French Repair Index, to show that setting EU-wide rules may lead to deregulation in some cases. We then shortly discuss expected future developments related to harmonization in the EU. We end the paper with conclusions and recommendations.

French policies for longer lifetimes

In recent years, France has been a front-runner in adopting policies for longer lifetimes. This has been the result of mobilisation of committed stakeholders (e.g. HOP - Halte à l'obsolescence programmée) that have made ambitious policies more politically feasible.

Ban of planned obsolescence

France is the first country in the world to make planned obsolescence an illegal offence. The first law targeting planned obsolescence was enacted in 2015 with the Energy Transition Act , making it punishable under the French Consumer Code. Planned obsolescence is legally defined by the law as "a set of techniques, including software, used by a product manufacturer to deliberately reduce the product's lifespan". Despite the recognition of this offence, no one has yet to be convicted.

The AGEC Act

The AGEC Act, known in French as "antigaspillage pour une économie circulaire", (Anti-Waste Law for a Circular Economy) is the most significant and innovative legislation on product sustainability. Introduced in 2020, the AGEC Act consists of 130 articles designed to accelerate the transition to a circular economy. It focusses on five key areas: eliminating disposable plastics; improving consumer information about environmental impact of products, reducing waste while promoting solidarity-based (as opposed to market-based) reuse, addressing planned obsolescence, and encouraging more sustainable production (see French Republic, 2020).

The reparability / durability index

The law has introduced a repairability index (see French Republic, 2020, Art. 16) for nine categories of products: washing machines (both front and top-loading), smartphones, laptops, televisions, electric lawnmowers, dishwashers, vacuum cleaners, and high-pressure cleaners.

The index evaluates the repairability of a product, scoring it out of 10. Its dual purpose is to restore the balance of information between consumers and manufacturers by offering greater transparency on product design and repairability, and to incentivize manufacturers to improve their scores, aiming to outperform competitors and use it as a selling argument. As such, the index does not replace eco-design regulations but encourages better practices through provision of information to consumers that in turn gives producers incentives to improve the repairability of products.

The repairability index for each product model is calculated based on criteria: documentation, ease of disassembly, availability of spare parts, and the price of spare parts. Manufacturers are responsible for calculating the index and must communicate it to retailers. It is mandatory for retailers, including online sellers, to display the index. The public authorities, the DGCCRF (Department of Competition, Consumer Affairs and Fraud Control), are tasked with ensuring that the index is displayed correctly and that the scores are accurate. The DGCCRF's 2024 activity report shows that more than 50% of the establishments inspected failed to meet their obligations in terms of displaying the repairability index: failure to display it, lack of precision in its calculation, etc. Inspections should therefore be more frequent to ensure compliance with the law (DGCCRF. 2024).

Recently durability indexes have appeared for televisions (since January 2025) and washing machines (since April 2025), replacing the repairability index (French Republic, 2020, Art. 16, II). The durability index for each product model is calculated based on two categories of criteria. In addition to assessing a product's repairability, this index also includes factors related to its reliability, such as resistance to falls and wear, ease of care and maintenance and the existence of a commercial warranty. A positive aspect of the durability index is the requirement for manufacturers to make their calculation grids for repairability indices publicly available. This transparency enhances the ability to verify the accuracy of the ratings, allowing not only authorities but also consumer associations and other stakeholders to hold manufacturers accountable.

Repair bonus

Part of the contributions collected by producer responsibility schemes ('eco-organizations') finances a repair fund, which reimburses part of the cost of repairing a good by a labelled repairer. The fund covers five categories of products: electronics and electrical appliances (Ministry of Ecological Transition, 2021a), clothing (Ministry of Ecological Transition, 2022a), DIY and gardening (Ministry of

Ecological Transition, 2021b), sports and leisure (Ministry of Ecological Transition, 2021c), and furnishings (Ministry of Ecological Transition, 2022b). The repair bonus assistance can vary from a few euros to 60 euros, and including all the sectors and their budgets up to 2028, the total amount is around 800,000, 000 euros.

Consumers do not need to complete any formalities; they simply visit a certified repairer, and the bonus is directly deducted from their bill. This is a key incentive for repair, especially given that 68% of French people do not repair their products due to cost concerns (Harris Interactive, 2020). For consumers to be motivated to repair a product instead of purchasing a new one, the cost of repair must not exceed 33% of the price of a new product (ADEME, 2021).

However, the impact on both consumers and repairers remains limited. There is a significant need for nationwide communication and a greater incentive scheme to get repairers on board, as well as harmonization in the communication and management of the fund to ensure that the bonus is a real incentive. For the moment, only 30% of the total bonus envelope has been used up, and according to a HOP study in January 2024, only 78% of surveyed repairers without the label wanted to join the scheme (Micheaux et al., 2024, p.6).

We can expect the bonus to be implemented in countries other than France, since the EU's Right to Repair Directive encourages member states to introduce various incentives, such as a repair bonus or circular VAT. As shown in table 1, some EU Member States have adopted other schemes to support repairs economically (see also Etzinger and Reimann, 2023).

Eco-modulation

A bonus system has been established for manufactured products based on the "polluter pays" principle to improve ecodesign of products. It came into force in France for electrical and electronic devices from 1st January 2025 (Ecosystem, 2024). This eco-modulation system consists of reducing the eco-contributions paid by manufacturers (which are often passed on in the final price) to reward products with the best repairability indexes within their categories. These eco-modulations are a natural extension of the repair index initiative, aiming to encourage manufacturers to prioritize product design and improve eco-design practices. In theory, it makes it possible to identify a product's repairability and durability through price. Yet, only the bonus system has been adopted so far and no penalties are in place (i.e. malus), limiting its impact.

Structural Changes Needed

Several structural adjustments also need to be made if the AGEC Act is to be properly implemented and achieve its ambitious objectives. Certain laws are not respected, and the penalties that go with breaking these laws are not applied. Numerous practices of planned obsolescence and obstacles to repair, such as serialization or software obsolescence, can be observed, even though these practices are illegal under the AGEC law. In the report from the Information Mission on the AGEC Law, serialization and irreparability practices in the EEE and automotive sectors are highlighted; however, no recommendations are made in this respect (Information Mission, 2024, p. 59)

Furthermore, the governance of EPR schemes remains unsatisfactory, since manufacturers are both "judges" and parties through the producer eco-organizations. The governance of eco-organisations is in fact the responsibility of manufacturers. We therefore recommend that the public authorities be put back at the heart of decision-making, to steer the schemes towards objectives of general interest, rather than the economic objectives of those who place products on the market. For example, according to report published by several French inspection authorities (Inspection générale des finances et al., 2024) it would be preferable to entrust ADEME (French Environment and Energy Management Agency) with the implementation of reuse and repair funds instead of the eco-organizations, as their governance conflicts with these missions. This is an observation also shared by the rapporteurs of the report evaluating the AGEC Act (Information Mission, 2024).

Will EU policies be less ambitious? The example of the Repair Index

The introduction of a Europe-wide repairability index is a very positive step to inform over 450 million people in the 27 EU member states about product durability. However, the devil is in the details: the provisions proposed at the European level risk undermining the progress

made in France, as the measures are significantly less ambitious.

In October 2023, the European Commission issued an unfavourable opinion on France's planned durability index for smartphones, considering it contrary to EU law (Breton, 2023). The Commission argued that a European repairability index would soon be incorporated into the energy label for smartphones (albeit with different criteria).

Certain important criteria not included in French index, are considered in the European index; e.g., if parts are serialized and an additional five steps in the disassembly score. It also accounts for the duration of software maintenance after a product's launch, with an eco-design regulation stipulating a minimum of five years of software support from the date of market release. However, overall and for most criteria, the European index is considerably less ambitious than the French one. The French durability index includes twenty-two durability criteria, whereas the European index only includes five. An example of the currently proposed EU label and the French label can be seen in Figures 1 and 2.

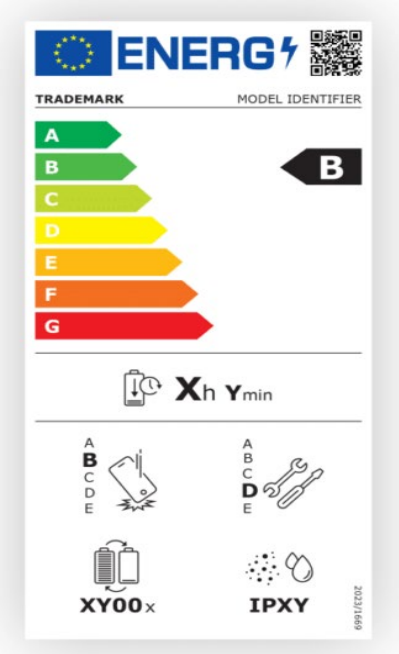

Figure 1 The proposed EU label
Source: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12798-Energy-labelling-of-mobile-phones-and-tablets-informing-consumers-about-environmental-impact_en

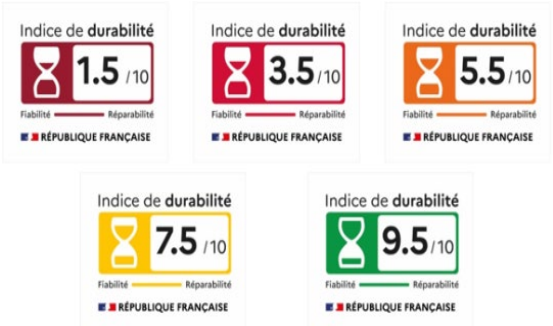

Figure 2. French Repairability Index
Source: https://www.ecologie.gouv.fr/politiques-publiques/indice-durabilite

Three main issues limit the effectiveness of the European label criteria. First, there is no pricing criterion, even though the law requires spare parts to be available at a reasonable price, without defining what constitutes "reasonable." Secondly, while an index is intended to highlight those products and producers who do better than minimum ecodesign standards, the European index still gives points and rewards manufacturers who merely comply with minimum ecodesign requirements. Finally, the label's readability is a significant issue. The index will be displayed alongside other information without an overall score, making it hard for consumers to quickly compare products. This dispersal of information could prevent consumers from easily identifying which products are genuinely more durable and repairable.

There are additional, albeit secondary, issues where the European labelling is less effective than the French index. For instance, it highlights energy consumption - a criterion that is of negligible importance for smartphones. Furthermore, the transparency of score details is limited, with insufficient granularity in the transmitted scores.

EU harmonization: current and (expected) future developments

The EU's ecodesign regulation for smartphones and tablets which comes into force in June 2025 (see Table 2) includes innovative minimum requirements, e.g. the requirement for parts and software to be available for several years, a minimum delivery time for parts, as well as obligations to be able to dismantle certain parts easily, or to use reusable fasteners. Some similar requirements have also been introduced for other product groups, including white goods.

Examples of mandatory Ecodesign provisions	Examples of mandatory labelling provisions
●Specified spare parts available 7 years after product placed on market ●Spare parts available for professional repairers ●Ease-of-disassembly obligations ●Operation system upgrades available for at least 5 years after last placement on market ●Repair and maintenance information available to professional repairers. ●Maximum delivery times for spare parts. ●Information obligations for price of spare parts. ●Provisions on 'resistance to drops', 'scratch resistance', 'protection from dust and water', 'battery endurance' ●Rules on software that enables reuse / repairs, / combats 'serialization'	●Rating of 'free fall reliability' ("drop test") ●Rating in repairability classes (aggregate scoring based on 'disassembly depth', 'fastener type', 'tools', 'spare parts', 'software updates', and 'repair information') ●Rating of battery endurance per cycle ●Ingress protection rating

Table 2. EU Ecodesign and labelling requirements for mobile phones and tablets.

The mandatory labelling requirements (see table 2) is the first example of EU labelling that harmonizes labelling practices (the EU Energy Labelling Regulation is the basis). It provides a 'blueprint' for expected similar EU labelling requirements for additional product groups, which may include a wide range including white goods, electronics, and furniture. As these EU rules are adopted, the legal scope for national measures will decrease.

Conclusions

The benefit of EU rules is that they apply in all EU member states, and in that way, the French rules may be seen as a success as they paved the way for EU-wide rules. However, if the EU rules that replace national rules do not reflect the ambition and scope of national rules, EU member states have to accept that some rules are "watered down". The alternative is to keep pushing for more stringent rules, both domestically and at the EU level.

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