



DISCUSSION PAPER

Reforming Extended Producer Responsibility to Promote Repair

Brussels, July 2024

The [Right to Repair Europe](#) coalition represents over 140 organisations from 24 European countries. It represents environmental NGOs and repair actors such as community repair groups, social economy actors, spare parts distributors, self-repairers, repair and refurbishing businesses, and any citizen who would like to advocate for their right to repair. This is a rapidly growing movement, and its objective to make repair affordable, accessible and mainstream is aligned with the objectives of the European Green Deal and the Circular Economy Action Plan. Browse member organisations by country [here](#). Runder Tisch Reparatur e.V., Germanwatch e.V. and the European Environmental Bureau are members of Right to Repair Europe.

1. Introduction

The EU has made a commitment to implement a right to repair for its citizens, recognising the need to improve overall circumstances for repairers and consumers who want to have their items repaired. Repair and longer product lifetimes can only realise their potential for resource and climate protection, local economic development and stronger consumer rights if fair competition for repairs, repairable products and affordable repair prices are restored. The so-called EU Right to Repair Directive¹ addresses these points to some extent, but still hesitantly and insufficiently².

¹ https://www.europarl.europa.eu/doceo/document/TA-9-2024-0308_EN.pdf

² <https://repair.eu/news/analysis-of-the-adopted-directive-on-common-rules-promoting-the-repair-of-goods/>

The affordability of repair of consumer products such as electronics and textiles has not yet been adequately addressed. In addition to a fair spare parts market³ and the removal of barriers to repairs, this could also be addressed with subsidies. Various nation states as well as regions and cities have now taken matters into their own hands and introduced repair bonus systems⁴ to partially subsidise repair costs. However, the introduction of a **repair bonus and other repair promotion measures** is often hindered by a **lack of financial resources**.

While such budgetary constraints are also a result of prioritisation, **tax revenues and state budget are not the only possible sources to finance an active promotion of repair and refurbishment: funds from Extended Producer Responsibility (EPR) schemes could also constitute a suitable and long-term source of financing.**

Currently, EPR schemes focus on waste management and do not systematically include repair and refurbishment. As such, they have contributed to better waste management but widely failed to become effective in waste prevention as they have not been able to create the necessary upstream changes.⁵ However, in order to reflect the priorities set in the European waste hierarchy⁶ and fulfil the original intention of EPR⁷, EPR needs to be reformed to become an effective instrument for waste prevention, including the promotion of repair as central waste prevention strategy: they must be holistic in their design and implementation and inter alia include binding collection and reuse targets.

It is important to note that reformed EPR schemes and repair funds are not a substitution for other policy measures that decrease the cost of repair. They must be complemented and enhanced by legislation that ensures the affordability and accessibility of repair for everyone, outlaws anti-repair practices and premature obsolescence and transforms reuse and waste management systems to be in line with a holistic Circular Economy. Nonetheless, they can play an important role in supporting the transition towards more repair and reuse.

How exactly should holistic EPR systems be set up to promote repairs? This paper first discusses in general how a transformed EPR system would need to look like in order to promote repair and a holistic Circular Economy. Then, it delves more specifically into repair funds: it takes a look at France, where an EPR-financed repair fund has already been

³ <https://repair.eu/news/the-price-is-not-right/>

⁴ <https://repair.eu/news/a-comprehensive-overview-of-the-current-repair-incentive-systems-repair-funds-and-vouchers/>

⁵ Anurodh Sachdeva, Ariel Araujo, and Martin Hirschnitz-Garbers, 'Extended Producer Responsibility and Ecomodulation of Fees' (Ecologic Institute, 9 July 2021), <https://www.ecologic.eu/18226>.

⁶ https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en

⁷ Thomas Lindhqvist, 'Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems' (IIIEE, Lund University, 2000), <https://linkinghub.elsevier.com/retrieve/pii/0959652694900108>.

introduced and useful lessons have been learnt. The paper concludes with policy recommendations for member states and the EU.

2. A transformed EPR

EPR has the potential to be an effective mechanism to support repair, including through establishment of EPR-financed repair funds. However, in order to enable this, EPR needs to be reformed more broadly, and its focus shifted from mere waste management towards waste prevention. If designed smartly, EPR systems can have positive effects and support the transformation to a Circular Economy in at least four ways:

- They can provide (parts of the) **funding** needed to support the transformation to a Circular Economy. This includes financing the redesign of **collection, sorting and treatment systems to promote repair and reuse (also of components)**, but also supporting schemes that reduce the amount of products discarded in the first place, such as repair bonus schemes.
- They can **incentivise repairability and reusability of products beyond legal requirements**.
- They can **incentivise waste prevention and circular consumer behaviour** and disincentivise unsustainable consumer behaviour. More concretely, they could support the repair of goods and make refurbished goods more attractive than new ones or oblige producers to provide information for raising consumer awareness, e.g. on durability or repairability of a product.
- They are a concrete step towards **incorporating environmental costs** into products costs and can contribute to **implementing the “polluter pays principle”** – instead of tax payers, producers and distributors cover the environmental costs after sale and the costs to reduce the waste stream.

Parts of the responsibilities of producers under EPR legislations should be fulfilled by **mandatory fees**. Reformed EPR schemes exploiting the potential described above need to at least include the following aspects with regards to fees derived out of EPR schemes:

1. **The use of EPR fees to promote a holistic circular economy instead of only end-of-life management, both before and after products are discarded by consumers.**

To effectively channel those fees derived out of EPR schemes in the direction of circular strategies like repair, refurbishment or remanufacturing, **legislation should clearly specify how they must be used for strategies of waste prevention**. To avoid that waste prevention is neglected in the allocation of fees, policymakers should determine minimum shares of the fund that need to be used to support waste prevention. It should be ensured

that cost of collection and treatment are fully covered and then an additional sum should be dedicated to higher circular economy strategies (e.g.: X% of the fees must be used to support repair practices).

EPR fees should be used to promote repair and reuse, for instance by financing a repair bonus. Other ways to do so include supporting social economy actors active in repair or reuse, financing qualification programmes for repair skills, by supporting pilot projects that for instance aim at re-using components as spare parts and funding information and awareness measures. Promoting repair and reuse options through EPR funds can also support a socially just transition: by ensuring that products can be used longer and that sustainable options such as repair and re-use become more affordable, the life-cycle costs for a product decrease. Further, it can also contribute to the creation of local employment in the repair and reuse sector. Finally, EPR funds should also contribute to reforming the collection, sorting and treatment systems in order to promote the repair and reuse of discarded products (as well as components).⁸

2. Significant and ecomodulated EPR fees that allow for the coverage of waste prevention activities and all environmental costs and have a steering effect.

To be able to incorporate environmental costs after sale and to use the potential steering effect of EPR fees' ecomodulation, the fees must be significant compared to product price. **Currently, EPR fees per product are very small compared to the product price⁹**, which prevents any steering effect to materialise. Moreover, such **low fees cannot cover the actual costs that a product causes after sale if it was managed in line with the circular economy hierarchy**. To calculate the amount of the fee, the actual costs for waste prevention and management of a product after sale should build the basis. Thus, first Producer Responsibility Organisations (PROs) should determine how much each institution, fund or project to be covered by the EPR fund needs and then calculate the amount of the EPR fee needed to cover this cost. To harmonise the system in the EU, it might be possible to build an average value across the EU as a reference point. Besides this, to make the EPR system effective, the penalties for a failure to pay the adequate EPR fee must be significantly higher than the costs for a company to comply with the regulation.¹⁰

Further, **EPR fees should be ecomodulated in order to incentivise and reward more circular practices**. As **EPR fees should cover the actual environmental and societal costs**, companies that reduce these environmental costs occurring after sale, for instance through an advanced circular product design or through selling refurbished products,

⁸ For more information on how EPR funds should also contribute to reforming the collection, sorting and treatment systems, see: RREUSE, 'Extended Producer Responsibility and the Role of Social Economy Re-Use Operators: Implementing a Socially Inclusive Waste Hierarchy', 27 August 2020, <https://rreuse.org/wp-content/uploads/rreuse-position-paper-on-epr-final.pdf>.

⁹ Sachdeva, Araujo, and Hirschnitz-Garbers, 'Extended Producer Responsibility and Ecomodulation of Fees'.

¹⁰ Siddharth Prakash et al., 'Modell Deutschland: Circular Economy' (Freie Universität Berlin, Öko-Institut e.V., 15 June 2023), 63, https://www.oeko.de/fileadmin/oekodoc/MDCE_Blueprint.pdf.

should pay a lower fee. As an in-depth calculation per specific product is not realistic, the **exact fee should be determined by an ecomodulation that reflects the waste hierarchy**. It is crucial that ecomodulation should be used to support frontrunners that go beyond regulation and not to replace mandatory minimum circular standards. In this Bonus/Malus system, unsustainable practices would be penalised. Ecomodulation **can incentivise extraordinary circular product design as well as circular business models**:

- *Incentivise extraordinary circular product design*: Extraordinary circular product design can for example be incentivised by reducing the EPR fee for those products with a high repairability index¹¹ or durability index.
- *Incentivise circular business models*: Business models that focus on circularity should pay less fees. For instance, fees for refurbished devices or products with high repairability should be significantly lower.

In order to fully exploit the potential of a steering effect of EPR fees and their ecomodulation, harmonised standards should be established across the EU.

3. **Better governance of EPR schemes that includes all relevant stakeholders, including consumer protection and environmental organisations.**

For the management of EPR schemes, different models exist. For instance, fees may be collected by a central PRO or competing schemes can be set up while it is mandatory for producers to be member of one scheme.¹² In any of the models, it is currently mainly the producers that can decide how the funds are allocated, and interests of other relevant stakeholders in the value chain such as NGOs or social enterprises are not represented. To achieve a balanced representation of interests, it is **crucial that PROs are managed by a board that unites all relevant stakeholders (at least producers, social enterprises, public authorities, waste managers, environmental NGOs, consumer protection organisations)**.¹³ Besides, PROs should be obliged to give administrative bodies and governments access to data, for instance on financial flows and on the use of the funds, to

¹¹ However, the repairability index as introduced by the EU Ecodesign and Energy Labelling rules on mobile phones and tablets does not reflect actual repairability as it neglects the price of spare parts (see <https://repair.eu/de/resources/press-release-on-ecodesign-regulation-for-smartphones-and-tablets/>). Besides, those indexes (to be developed) need to ensure that they go *beyond* mandatory minimum requirements.

¹² Agnes Bünemann et al., 'Erarbeitung Möglicher Modelle Der Erweiterten Herstellerverantwortung Für Textilien' (Umweltbundesamt, 2023), 123, https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/146_2023_texte_protex.pdf.

¹³ European Environmental Bureau, 'Priorities for the Waste Framework Directive (WFD) Proposal 2023/0234(COD)', 2023, 12, https://eeb.org/wp-content/uploads/2023/11/2023_EEB_Position-Paper_Targeted-Revision-WFD.pdf

enable these institutions to monitor and adapt the EPR scheme in line with the aim of a resource-efficient and low-emission circular economy.¹⁴

3. EPR-financed repair funds

Repair funds are effective measures to promote repair and should be increasingly financed via extended producer responsibility. Financing a repair funds scheme through EPR is sensible to avoid burdening public budgets and enable long-term incentive systems. Repair funds are financial incentive measures introduced by cities, federal states, or countries to encourage citizens to have defective or damaged items repaired rather than discarded and replaced with new ones. Typically, a repair fund scheme includes financial support or discounts for repair services. This can take the form of direct subsidies, discounts, or vouchers. Repair funding programs are gaining popularity across Europe and receiving numerous positive feedback from the population. People enthusiastically have their devices repaired within the framework of these funding programs.

All national and subnational **programmes providing financial support for repairs have achieved positive results.**¹⁵ They are important tools to raise awareness among consumers about the possibility of repair and to enable them to choose repair. In France, for example, over 165,000 repairs were carried out under the repair bonus programme within the first year¹⁶ and in Austria, over 840,000 vouchers were paid out between April 2022 and January 2024.¹⁷

For example, in France, after the implementation of the repair fund, over 165,000 repairs were carried out under the program, and over 840,000 vouchers have been paid out in Austria since the introduction of repair vouchers. A study on the environmental and economic impact of the Thuringian repair bonus concluded that from 2021 to 2024, 33,288 repairs potentially avoided 2,971 tons of CO₂ eq. and 390 tons of electronic waste.¹⁸ Overall, consumers as well as repair businesses respond positively to these measures, as several reports indicate.¹⁹

Predictability for repair businesses is crucial when it comes to responding to increased demand for repairs due to the funding program and, for example, hiring

¹⁴ Janine Röling and Axel Darut, 'Let's Reshape EPR: For a Game Changing Policy Tool That Supports Prevention, Separate Collection and High-Quality Recycling', October 2023, 8, <https://recyclingnetwork.org/wp-content/uploads/2023/10/EPR-Position-Paper-Final.pdf>.

¹⁵ Katrin Meyer and Magdolna Molnár, 'A Comprehensive Overview of the Current Repair Incentive Systems: Repair Funds and Vouchers', *Right to Repair Europe* (blog), 11 March 2024, <https://repair.eu/news/a-comprehensive-overview-of-the-current-repair-incentive-systems-repair-funds-and-vouchers/>.

¹⁶ HOP - Halte à l'obsolescence programmée, 'Rapport HOP : le bonus réparation peut (encore) mieux faire', 31 January 2024, <https://www.halteobsolescence.org/rapport-hop-bonus-reparation/>.

¹⁷ https://www.bmk.gv.at/service/presse/gewessler/2024/0103_reparaturbonus.html

¹⁸ Erik Poppe et al., 'Erweiterte Ökologische Wirkungsabschätzung Zum Reparaturbonus Thüringen. Ergebnisbericht.' (Berlin: Fraunhofer IZM, May 2024), https://www.izm.fraunhofer.de/de/abteilungen/environmental_reliabilityengineering/projekte/rebo-4-0.html.

¹⁹ <https://www.sachsen-fernsehen.de/reparaturbonus-im-freistaat-ein-voller-erfolg-1603284/>;
<https://www.handwerksblatt.de/themen-specials/reparieren-statt-wegwerfen/reparaturbonus-neu-in-sachsen-mehr-geld-in-thueringen>

new employees. Short-term suspensions of the program and unplanned decline in demand can lead to significant difficulties, as demonstrated by the example of the RUSZ repair workshop in Vienna²⁰, which had to declare bankruptcy. Therefore, a stable framework is essential. As will be demonstrated in the following chapter via the case of the French repair bonus, **EPR revenues can constitute a long-term source of financing for repair funds.** Using EPR funds for this purpose improves the EPR system by shifting to a more holistic life-cycle management of products rather than only end-of-life management.

Finally, while an EPR-financed repair fund can be a useful measure to advance the transition to more repair and promote behaviour change, it should be considered rather a transitional measure, as the long-term aim remains to address the root causes for the high cost of repair. Failing to reduce the cost of repair generally while subsidising repair with EPR funds would be an inefficient allocation of resources, likely at the expense of consumers. Therefore, it is **crucial that providing financial support for repair is not a substitution for other policy measures that decrease the cost of repair, such as ensuring the availability and affordability of spare parts, repair tools and repair information to anyone, and setting design standards for repairability.** That is, the use of EPR fees for repair funds should not impede or delay measures that create a competitive repair market.

3.1 The French “Bonus Réparation”

Since December 2022, French consumers can benefit from a repair fund that is financed by EPR fees. Having initially only been available for electrical and electronic appliances, the system was extended to clothing and shoes in November 2023. Thanks to the bonus, **consumers receive a discount applied immediately upon payment in the repair shop, provided the repair is carried out by a business certified with the “QualiRépar” label** (see below) for the electrical and electronic appliances and “Bonus réparation” for textiles and shoes. **The repair businesses then receive a reimbursement of the discounted sum from the responsible PRO.**

The discount can only be applied to out-of-warranty repairs. The repair itself is covered by a three-month warranty. Some repairs like the replacement of non-essential parts, the replacement of consumables like batteries or problems resulting from use that does not comply with the manufacturer's instructions are excluded from the bonus system. The discount cannot be applied to the buying of spare parts.

The exact amount of the discount is specified for each product group and ranges from €15 to €60 for EEE and €6 to €25 for textiles and shoes, depending on the type of product or service to be carried out. For some products, the rebate was increased as of

²⁰ https://rusz.at/wp-content/uploads/2023/10/2023_SN_30-9_letzt-muessen-wir-uns-selbst-reparieren.pdf

January 1, 2024 (for example for washing machines, vacuum cleaners and TVs, to up to €60). New products (such as fans, printers or displays) and eligible repairs (for instance, damaged smartphone displays) were also added to the system which now covers 83 products. Even more product types are to be included until 2025.

The website “Bonus Réparation”²¹ implemented by the non-governmental association Halte à l’Obsolescence Programmée (HOP) provides easy-to-use information on the terms and conditions of the repair fund, a list of the individual product group-specific discount amounts and links to websites where certified repairers can be found.

Only repairs carried out by qualified repair businesses are eligible for the repair bonus. For electrical and electronic appliances, the label “QualiRépar” has been created “in order to ensure high-quality repairs” and is open for independent or authorised professionals. To obtain the certification, repair shops face a seven-stage qualification process which on average lasts 2 months. Certification is valid for 3 years following an initial audit and is subject to a follow-up audit after 18 months.²² In May 2024, 5,600 businesses in France have received the label.

The fund is entirely financed by EPR contributions paid by manufacturers for each product they put on the French market. Processing of the fees and reimbursement of the repair shops is managed by the PROs who are responsible for their respective sector. France is one of the few countries where EPR fees are already graduated via **ecomodulation**. The amount a producer is obliged to pay to the respective PRO not only depends on the quantity of products placed on the market but also on predefined criteria that can either increase (e.g., unavailability of certain spare parts, lack of software updates) or decrease (product upgrade with standard tools, e.g. memory drives for laptops) the fee.²³ The fees for a washing machine placed on the market amount to around €8 to €10.

The three eco-organisations Ecologic²⁴, ecosystem²⁵ and Re_fashion²⁶, representing different manufacturers and brands, have each set up a fund and a respective reimbursement software through which the repair businesses receive their contributions.

A few months after the introduction of the repair bonus, major shortcomings started to show, which needed to be addressed in order to make the scheme more effective and efficient. In May 2023, the environmental and consumer organisation HOP stated that only around 1200 repair shops had received the necessary certification to qualify for the

²¹ <https://www.bonusreparation.org/>

²² <https://www.label-qualirepar.fr/la-labellisation/>

²³ ‘La modulation de l’éco-participation’, ecosystem, <https://pro.ecosystem.eco/profil/producteur/modulation-eco-participation>; Helen Micheaux and Franck Aggeri, ‘Eco-Modulation as a Driver for Eco-Design: A Dynamic View of the French Collective EPR Scheme’, *Journal of Cleaner Production* 289 (20 March 2021): 125714, <https://doi.org/10.1016/j.jclepro.2020.125714>.

²⁴ <https://www.ecologic-france.com/>

²⁵ <https://decouvrir.ecosystem.eco/>

²⁶ <https://refashion.fr/pro/fr>

bonus at the time and that only a fraction (565,000 euros of 63 million euros) of the annual budget had been used.²⁷

Recognising the need for revision, the national **government announced corresponding improvements** in the following months. In addition to increasing the financial benefits for individual appliances and the inclusion of further product groups, the environment minister also proposed to **establish a “national repair council” (Conseil National de la Réparation), which would oversee the development of the repair bonus and bring together various stakeholders.**²⁸ This council includes several committees and representatives from the state government, the French Environment and Energy Management Agency (Ademe), repairers, manufacturers, NGOs, eco-organisations, after-sale service actors and local authorities. Its members **monitor the development of the repair bonus and communicate any necessary recommendations for adjustments to the government.**²⁹

Having followed the development of the bonus closely for over a year, experts at HOP have concluded that the **programme is worthwhile but still needs to be improved: Too little awareness, too few certified workshops and too narrowly defined eligibility criteria are preventing the potential of the repair bonus from being fully realised.**³⁰

4. Policy Recommendations

There are many potential levers for utilising extended producer responsibility to a greater extent for the transition to a circular economy and, in particular, for promoting repair activities. In the following, **policy recommendations are formulated for the EU and national level on how to realise this potential.** While the first part focusses on the existing legislation on EPR at these two levels, the second part formulates recommendations for the implementation of a national EPR-financed repair bonus.

4.1 EPR reform

4.1.2 EU level

To establish effective EPR systems as described in this paper and to harmonise them across the European Union, the Waste Framework Directive (WFD) and the Directive on Waste from Electrical and Electronic Equipment (WEEE Directive), as well as other existing and future product-specific EPR legislation (e.g., vehicles, textiles and footwear, furniture, batteries) should be adapted as follows:

²⁷ HOP - Halte à l'obsolescence programmée, 'Bonus réparation : les erreurs à corriger pour le booster', *HOP - Halte à l'obsolescence programmée* (blog), 10 May 2023, <https://www.halteobsolescence.org/bonus-reparation-les-erreurs-a-corriger-pour-le-booster/>.

²⁸ <https://www.halteobsolescence.org/bonus-reparation-le-gouvernement-donne-raison-a-hop/>

²⁹ <https://www.halteobsolescence.org/lancement-du-nouveau-conseil-national-de-la-reparation/>

³⁰ HOP - Halte à l'obsolescence programmée, 'Rapport HOP : le bonus réparation peut (encore) mieux faire', 31 January 2024, <https://www.halteobsolescence.org/rapport-hop-bonus-reparation/>.

- **Establish Extended Producer Responsibility fees in line with the waste hierarchy**

- The current **WFD** (Art. 8) states that EPR schemes in member states *may* include the organisational or financial responsibility for the *collection and management* of used products. To enable a holistic Circular Economy, mandatory EPR fees must also support repair and refurbishment, a reformed collection, sorting and treatment system in line with the waste hierarchy and awareness-raising measures and the collection of necessary data as described in Chapter 2. Further, the WFD should *oblige* member states to establish EPR systems that cover all these aspects instead of only providing the option. This also includes that EPR fees should be increased as described in Chapter 2 to ensure coverage of all costs related to waste prevention and waste management.
- The current **WEEE Directive**³¹ only covers the collection, treatment, recovery and disposal of WEEE (Art. 12 and Art. 13). This should be expanded to also cover waste prevention activities, such as reuse, repair, as described in Chapter 2. This follows the intention of Recital 6, which states that “The purpose of this Directive is to contribute to sustainable production and consumption by, as a first priority, the prevention of WEEE and, in addition, by the re-use, recycling and other forms of recovery [...]”. This includes the funding of measures such as repair bonuses.

- **Harmonise Extended Producer Responsibility across member states**

The current WFD states that member states *may* establish a system of EPR. This leads to **fragmented systems of EPR that do not exploit the potential steering effect that common rules in the internal market could activate**. Therefore, Art. 8 should establish mandatory EPR schemes in all member states, specifying for which product groups the introduction of an EPR scheme is mandatory (e.g., textiles and footwear, furniture). Both in the WFD and in the WEEE Directive, provisions on EPR should be supplemented by **common guidelines for the fees** to ensure a high steering effect, including at least common methods for the calculation of the fees (at best a harmonisation of it across the EU) and for the ecomodulation, as described in chapter 2.

- **Ensure a more democratic and transparent management of the Producer Responsibility Organisations (PROs)**

The WFD should ensure that **PROs are governed** not only by producers but at **least also social enterprises, public authorities, waste managers,**

³¹ For other recommendations for EPR in the WEEE Directive revision outside the scope of this paper, please see: ‘Joint Position of European Environmental Organisations on the Revision of the Directive on Waste from Electrical and Electronic Equipment’, <https://eeb.org/library/ngo-position-on-the-revision-of-the-directive-on-waste-from-electrical-and-electronic-equipment-weee/>.

environmental NGOs and consumer protection organisations. The WFD should furthermore oblige PROs to give governments access to their data (e.g., on financial streams and the use of the funds) and hold PROs responsible for achieving the set targets.³² This could be regulated in Art. 8 of the WFD.

- **Establish quantitative targets for waste reduction, resource use reduction and reuse at EU level³³**

To enable holistic EPR schemes, quantitative waste reduction and resource use reduction targets are needed to prioritise activities and steer transformation in line with the waste hierarchy. Such could be harmonised across member states.³⁴

4.1.3 National level

Besides this need for action on the EU level, most EU member states have not fully exploited their possibilities of introducing mandatory EPR schemes yet. Even though EU harmonisation should be the mid-term aim and pushed for by national governments, the need for funds to finance the circular transition materialises now. Therefore, **national governments should establish mandatory EPR schemes with ecomodulated fees and sufficient resources earmarked for repair** quickly and not wait for a potential EU harmonisation. In addition to recommendations for a more effective establishment of EPR systems, this section also contains specific recommendations for the design of national repair bonus systems.

As the status quo of EPR systems is different in every member state, we will in the following showcase the leeway for member states to act using the example for Germany and the management of electronic and electrical equipment.

Germany: Elektro- und Elektronikgesetz (ElektroG)

Currently, producers have to pay for several administrative costs and provide a guarantee that, in the event of insolvency, the costs of disposing of electronic or electrical devices placed on the market will be covered in the future. In addition to this, they need to either manage the correct disposal of e-waste collected by public waste management authorities by picking up containers of e-waste at the waste management authorities or pay a system provider for it. How many times they or their system provider are responsible for picking up the containers and manage the collected e-waste is dependent on the quantity of electronic and electrical equipment put on the market - and the costs vary accordingly.³⁵ Taking the example of Bitkom Compliance Solution, a system

³² Röling and Darut, 'Let's Reshape EPR: For a Game Changing Policy Tool That Supports Prevention, Separate Collection and High-Quality Recycling', 8.

³³ <https://eeb.org/library/white-paper-on-sustainable-resource-management-in-the-eu/>

³⁴ European Environmental Bureau, 'Environmental Impact of Waste Management - Revision of the Waste Framework Directive.', 22 February 2022, <https://eeb.org/wp-content/uploads/2022/02/EEB-Feedback-WFD-revision-Feb-2022-.pdf>.

³⁵ <https://www.elektrogesetz.de/umsetzung/kosten/#gebuehren>

provider whose services cover the administrative costs, the guarantee, as well as the management of the e-waste depending on the amount put on the market, **the costs per smartphone for big companies such as Samsung or Apple would be about €0,00017.** For small companies such as Fairphone, the costs per smartphone are about €0,016.³⁶ This is a very small amount in any case, considering that the average price of a smartphone in Germany was €626 in 2022.³⁷ **The costs for the collection of e-waste are borne by the public waste management authorities.**³⁸

In order to align the current system with the principles of the waste hierarchy and utilise it to promote repair, the EPR system laid out in the ElektroG should be reformed as follows:

- **Use the fees to ensure circularity of products put on the market**

First, mandatory EPR fees in the ElektroG need to be introduced. The ElektroG in conjunction with the ElektroGBattGGEbV should regulate that EPR fees to be paid by producers should cover at least measures for repair, reuse, a reformed collection, sorting and treatment system, awareness raising measures and the collection of knowledge as described in chapter 2. This should be regulated in a respective new article in section 2 of the ElektroG and an adaptation of especially §15-17 for harmonisation. For promoting the repair of goods, the EPR fees should at least be used to finance a repair fund as described in chapter 3 and to support municipalities with programs promoting the repair of goods.

- **Establish a proper calculation method for EPR fees**

To ensure that the above-mentioned circular practices can be adequately supported by the EPR fees, the ElektroG in conjunction with the ElektroGBattGGEbV needs to establish an adequate calculation method. This calculation method should define the sum of the costs that are to be covered by EPR fees. Then, the financial responsibility to cover this sum should be distributed among producers based on the quantity of products placed on the market (similar to the current system). The ElektroG needs to provide for a process of regular updates of the calculation of the financial needs and the respective fee calculation.

- **Establish ecomodulation**

The calculation method for the EPR fees should be complemented with an ecomodulation like described in chapter 2.3. Therefore, the ElektroG should define clear criteria for a bonus / malus system as well as a process on how to define and regularly update minimum and maximum amounts for the respective

³⁶ Own calculation based on the calculator of [Bitkom Compliance Solutions](#) and the following assumptions: Weight per smartphone: 200g, estimation of smartphones put on the market in Germany by big companies such as Samsung or Apple: 7,5 Mio., estimation of smartphones put on the market in Germany by small companies such as Fairphone: 40.000

³⁷ <https://de.statista.com/statistik/daten/studie/28306/umfrage/durchschnittspreise-fuer-smartphones-seit-2008/>

³⁸ Bünemann et al., 'Erarbeitung Möglicher Modelle Der Erweiterten Herstellerverantwortung Für Textilien', 220–21.

ecomodulation criteria. The criteria need to be defined in a way that ensures that they in any case go beyond legal requirements to ensure the incentivising function for extraordinary circular product design or business models.

- **Management of the fees**

§35 ElektroG needs to be adapted to ensure that besides producers, at least representatives of social enterprises, public authorities, waste managers, the Environmental Protection Agency, the Federal and State ministries for environment, environmental NGOs and consumer protection organisations are equal members of the decision-making bodies of the (“Gemeinsame Stelle”). Currently, a broad stakeholder representation is only ensured for the advisory board (in §35 (2)) while proper decision-making power is only attributed to producers in §35 (1)-3. In general, multi-stakeholder, non-profit producer responsibility organisations should be established in Germany to manage the EPR funds, including the repair fund. The framework conditions of the repair fund should be set by a multi-stakeholder repair council as in France (see chapter 3).

- **Necessary framework conditions**

In order for the EPR fees to be established in the ElektroG as described above can best contribute to a transition to a circular economy, several framework conditions must be adapted. As the federal government is currently developing a National Circular Economy Strategy, this process should be used to establish these framework conditions. To name some selected examples, it should:

- **Transform the collection and sorting system of old devices in line with the Circular Economy hierarchy** as described in chapter 2. Sorting should take place as early as possible, and separate products and components that can be repaired, prepared for reuse, or of which components could be used as spare parts for repair or remanufacturing. Actors of the circular economy who would use (parts of) old devices for repair, refurbishment, remanufacturing or repurposing should get easy access to the sorted devices. Therefore, the requirements for actors processing used electronic devices must be adapted and also allow micro, small and medium-sized companies to access old devices (possibly after sorting) without facing high bureaucratic requirements. To that end, as a pre-condition, a reliable and significantly better funding must be ensured for public waste management authorities.
- **Make provisions for a holistic revision of the ElektroG**
Besides establishing a mandatory EPR fee system in the ElektroG as described above, it should also include the obligation to check old devices for possibilities of re-use in §20 (1) more concretely to make it effective on the ground. Institutions processing old devices (like treatment facilities or

collection points) should be obliged to fulfil a quota of re-use that increases dynamically.³⁹ Public waste management can be supported with EPR funds to fulfil this requirement. Besides, the general lack of enforcement of the ElektroG must be addressed.⁴⁰

4.2 National EPR-financed Repair funds

With regard to a national repair bonus system financed by EPR fees, the following recommendations arise from the experience of repair bonus systems implemented in Europe to date:⁴¹

- **Funding amounts must be sufficiently high** to have an incentivising effect and make repair more attractive compared to buying new. HOP recommends that funding amounts provided by a repair bonus should help to ensure that repair costs do not exceed 33% of the new price of the product. According to the French ministry of the environment, consumers are not willing to have their products repaired above this "psychological threshold" of one third of the new price.
- To ensure that there are sufficient opportunities to avail the repair bonus, **criteria for participating repair businesses**, if any, should be chosen as **low-threshold and simple as possible**. An assessment of the first phase of the French repair fund concludes that the effort and costs for businesses to qualify for the funding program are deterrent for many, especially smaller, businesses. **Administrative burdens** for small repair businesses must be kept low and manageable also with regards to processing the rebates to encourage participation and ensure requirements are reasonable.
- **Independent actors** should be **included in decision-making** on the framework conditions and implementation of the repair fund system to ensure a more balanced and diverse perspective. The involvement of **local authorities** can ensure a more effective implementation and support at the local level.
- A **wide range of products** should be included in a repair bonus scheme in order to make participation more accessible and attractive for consumers.
- Consumers can only make use the repair bonus if they know about it. The evaluation of the French bonus has shown that further extensive information is

³⁹ Deutsche Umwelthilfe: Umweltgerechter Umgang mit Elektrogeräten. Positionspapier der Deutschen Umwelthilfe zum Elektro- und Elektronikgesetz, p. 10, https://www.duh.de/fileadmin/user_upload/download/Projektinformation/ElektroG/240503_DUH_Stellungnahme_ElektroG_2024.pdf

⁴⁰ Deutsche Umwelthilfe: Umweltgerechter Umgang mit Elektrogeräten. Positionspapier der Deutschen Umwelthilfe zum Elektro- und Elektronikgesetz, p. 15, https://www.duh.de/fileadmin/user_upload/download/Projektinformation/ElektroG/240503_DUH_Stellungnahme_ElektroG_2024.pdf

⁴¹ HOP - Halte à l'obsolescence programmée, 'Rapport HOP'; Meyer and Molnár, 'A Comprehensive Overview of the Current Repair Incentive Systems'.

needed to increase consumer awareness of the programme. A **nationwide communication campaign** and the obligation for sellers and manufacturers to provide information about the bonus at the point of sale should help to publicise such a system. **Information about participating repair businesses** is key as well: Introducing a repair map, as practiced in Saxony and France, makes repair offers visible in the region. Updating of the data is crucial to ensure the correctness of the information.

- **Collecting data** on the use of the bonus and feedback from consumers and repairers is important **for calculating emission savings and potentially adjusting the programme**. Continuous analysis of the data can optimise the efficiency and success of the programme. Furthermore, data on repaired products can be useful for implementing and evaluating further measures for repair promotion. Establishing public national statistics on repairs and collecting extensive feedback from consumers and repairers is crucial to monitor and improve the implementation of the bonus.

5. Conclusion

Extended producer responsibility is designed to hold manufacturers of products accountable for the impact of their products on the environment. The failure so far to include repair and reuse in this system means that this purpose is insufficiently fulfilled. **Financing repair and other life extension measures through ecomodulated EPR fees within transparent and inclusive EPR governance schemes** is necessary and feasible, as this paper has shown. In particular the financing of repair bonuses is an effective measure.

Financial incentives like repair funds that tackle the affordability of repair can lead to reduced demand for new products, thus reducing consumption-related environmental and climate impacts. This is especially true when those **repair incentive systems are combined with other measures**. To make repairs easier and more accessible again in our society, **structural barriers** must be removed, and a **fair and non-discriminatory repair market** must be enabled.

By removing those structural barriers, we should strive to make repair more attractive and cheaper than purchasing new products without the help of financial support. However, there might be some **additional cost for repair vis-à-vis replacement even in a competitive repair market** (for instance due to logistics, transaction and labour costs) as well as behavioural and cognitive barriers. Furthermore, it is **appropriate and necessary to use EPR-financed incentives to internalise negative externalities**. **Removing the structural barriers to repair and providing financial support are not mutually exclusive but should be pursued in parallel: reducing the cost of repair in the first place while employing financial incentives in the most efficient way.**

To reduce structural barriers, implementing a **manufacturer-independent right to repair** is necessary, including repair-friendly product design (repairability, modularity), access to spare parts for all products at reasonable prices, long-term availability of software and firmware updates, and a ban on the use of software blockades or contractual clauses to prevent manufacturer-independent repairs. Further, **taxation systems** should be adapted to make repair more competitive, for instance through a shift from taxing labour to taxing raw material use, as well as tax reductions for the repair sector. Finally, **access to information** such as a repairability score allows consumers to buy more repairable products, and access to technical repair information allows consumers and independent repairers to conduct safe and successful repairs.

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Annex

1. Products covered by the French bonus reparation

Listed below you will find an overview of fixed discount rates for a range of products in 2023 and 2024 (not exhaustive):

Product/Service	Bonus 2023	Bonus 2024 (if modified)
Repairing an undone seam for an unlined garment	6 €	
Textile zipper (small), Sewing/gluing shoes	8 €	
Kettle, Toaster, Iron	10 €	15 €
Coffee machine with filter, Hoverboard, Rowing Machine, Treadmill, Lawn mower, Musical instrument	15 €	
Vacuum cleaner	15 €	40 €
Drone, Amplifier, Drill	15 €	20 €
Shoe repair (leather)	18 €	
Stove, Game Console, Digital camera	20 €	
Fully automatic coffee machine, Freezer, Refrigerator, Tablet, Cell phone	25 €	
Washing machine, Dishwasher, Tumble Dryer	25 €	50 €
Television	30 €	60 €
Laptop computer	45 € (min. repair threshold: 180€)	50 € (min. repair threshold: 150€)

2. Legal basis of the French bonus réparation

The legal basis is provided by [Art. L. 541-10-4](#) of the Anti-Waste Law for a Circular Economy (“Loi anti-gaspillage pour une économie circulaire”):

As part of their waste prevention objective mentioned in article L. 541-10, the PROs (producer responsibility organisation) and individual systems of the sectors in question participate in financing the costs of repairs carried out by a certified repairer on products owned by consumers. To this end, each PRO and each producer in an individual system creates a fund dedicated to financing repair. These funds may be pooled within the same sector and between sectors by decision of the PROs and individual producers concerned. Each fund is endowed with the resources needed to achieve the repair objective set out in II of article L. 541-10. Increase the number of

electrical and electronic appliances repaired each year in France by 20%, to 12 million by 2027. When this objective is not achieved, the commitments proposed by the PRO or the producer in an individual system in application of II of article L. 541-9-6 include an increase in the fund's resources in proportion to the objectives not achieved.

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