

POSITION PAPER

ESPR Ecodesign Regulations: Pioneers are 'neutral or negative' about investing. Why?

ABSTRACT

The Clean Industrial Deal¹ and the accompanying Competitiveness Compass² signal a change in direction. These initiatives induce policymakers to create conditions which increase clean industrial investment by business. When opening a high-level meeting on the Clean Industrial Deal at the European Economic and Social Committee on 10th April, Oliver Röpke, EESC President, endorsed this change in direction³.

The new Ecodesign for Sustainable Product Regulations (ESPR) constitute a flagship policy – one which aims to improve product designs in order to enable more repair and remanufacture as well as material recycling. Given the World Bank forecasts that the remanufacturing sector will achieve sales of €100 billion in Europe by 2030, we asked the following: 'How might the new ESPR be better aligned with broader intentions to create the conditions for more clean industrial investment?'

Whilst too many original equipment manufacturers (OEMs) still make products designed for a wasteful linear economy, an increasing number of competitors have taken the risk of being first-to-market with a product that can be disassembled and returned for remanufacture or repair. Our proposal is to use the ESPR regulations to support these pioneering products and thereby signal to all other ecodesign pioneers that their investments and risk-taking are valued. This is a different approach to the one that tasks the JRC (Joint Research Centre) with defining an ideal ecodesign which is then used to penalize all OEMs. We highlight one product example: imaging equipment and its associated toner or inkjet cartridges. Brother, Ricoh, Xerox (and Lexmark) along with one or two other suppliers, compete against the dominant market leader, HP, by designing their products for disassembly and remanufacture. Yet these pioneers see ecodesign regulations as being either neutral or negative to their future investments. Since ecodesign regulation is planned for so many other product categories, this example signals trouble ahead for a flagship EU policy.

1. Context

1.1 The 2024 UN Global Resources Outlook Report (p.36)⁴ includes the chart shown below. Since 1970, labour productivity has increased by 3.5 times. We have thereby become far wealthier. Yet resource productivity (the bottom line) has barely changed. While it does not acknowledge improved life choices, the static resource productivity accords with our knowledge that, since 1970, our passenger vehicles have become heavier; our food is delivered over greater distances; our clothing is replaced every few weeks instead of years; our homes are re-modelled more frequently; and a much-increased number of electrical and electronic products are replaced after ever-shorter periods of use.

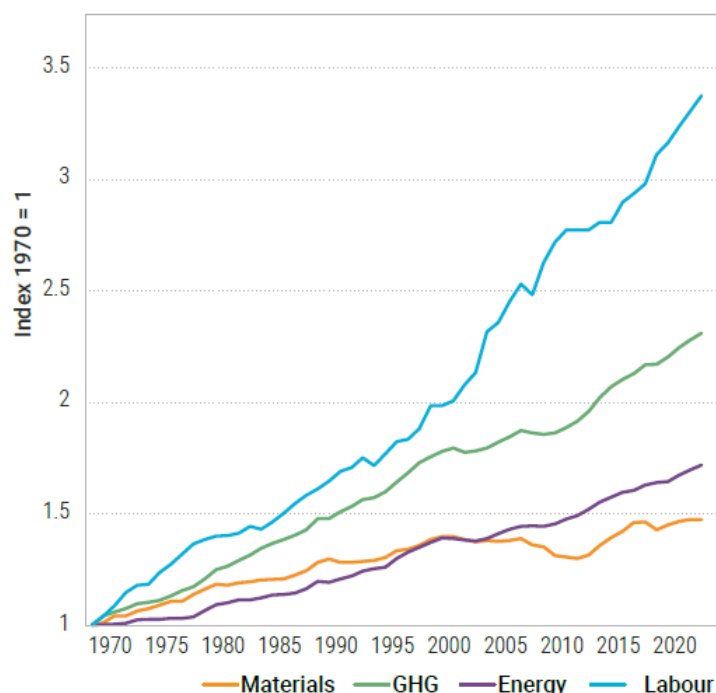
¹ https://commission.europa.eu/topics/eu-competitiveness/clean-industrial-deal_en

² https://commission.europa.eu/topics/eu-competitiveness/competitiveness-compass_en

³ A full recording of the 10th April 2025 EESC event can be found [HERE](#)

⁴ UNEP (2024) Bend the Trend – Pathways to a Liveable Planet as Resource Use Spikes ISBN 978-92-807-4128-5

Figure 2.23: Global resource productivity of materials, GHG emissions, energy and labour productivity, 1970 – 2024, index.



Source: Global Material Flows Database (UNEP 2023a); Emissions Database for Global Atmospheric Research (EDGAR); IEA World Energy Database; Penn World Table version 10.01.

1.2 The UN report concludes that 'Increasing resource use is the main driver of the triple planetary crisis'. Life Cycle Assessment studies show that **extending the working life of products** is almost always one of the most effective ways of 'moving the dial' on resource productivity. The EU Ecodesign for Sustainable Products Regulations (ESPR) are intended to help bring about this change in resource productivity. More reuse, more repair and especially more remanufacture are the intended outcomes. And to achieve this, the ESPR will need to create conditions for more business investment.

1.3 This need to improve investment conditions moved the European Remanufacturing Council to become a signatory to the Antwerp Declaration in 2024 and participate in the presentation of the EU Clean Industrial Deal by Ursula van der Leyen in February 2025. Remanufacturing is acknowledged in both the Clean Industrial Deal and the Competitiveness Compass because the World Bank foresees €100 billion in sales for the sector by 2030⁵. We are firmly committed to the success of the Clean Industrial Deal and the ESPR, and the single most important metric of their successful implementation is, in our opinion, a material increase in 'clean industrial' investment.

⁵ This estimate excludes defence equipment, which typically includes overhaul and maintenance contracts valued annually at circa 5% of the equipment costs. World Bank 2022 'Squaring the Circle'

2. Promoting Pioneer Products

2.1 This position paper promotes a simple but fundamental idea: that in almost all product categories there are competitors who have created an ecodesign product. These pioneer products are rarely the market leader because the linear economy is still more profitable and offers a lower investment risk. There are so many examples of poor product design by OEMs that the JRC (and the contractors invited to conduct impact assessments) do *not* routinely list exceptions to the general rule (of bad design) to alert the Commission to the possibility of promoting these exceptions as exemplars. This underlying assumption (that all OEMs are the same) leads the JRC to create an 'ideal' ecodesign alternative, for which policy interventions are then proposed. We ask instead that ESPR methodology is amended to first search for evidence of existing ecodesigns and then build upon the best of these models. If this were to become the initial assumption of ESPR, then smaller competitors, having risked so much to be the first to create ecodesign products, would expect to gain most from the regulations. This signal, we assert, is a low-cost pathway to setting long-term conditions that favour investment in a cleaner economy.

2.2 We have used printers and cartridges as an example of what could be done under ESPR even though we sense that – without a change in the current working plan – it is now too late for a change in direction for this product group. But it is not just printers and cartridges to which our proposals could apply; there are other priority products under ESPR which would benefit. For example, later this year we will work jointly with ETRMA on tyre ecodesign, to expand on the existing system of retreading truck and aircraft tyres using an industry-wide traceability scheme. Some durable furniture categories are designed for repair and remanufacture, and there are further examples from categories of electrical and electronic products. More speculatively, since mattresses were added to the product priority list in April, we are investigating examples of the remanufacture of used pocket and Bonelli springs. As a member of the new Ecodesign Forum, we look forward to contributing evidence for ecodesign to support the remanufacture of these and many other products.

3. Imaging Equipment and Consumables

3.1 Johannes Gutenberg began printing in 1454 with his Gutenberg press. 560 years later, ecodesign regulations are being drafted for the €33-billion industry sector. Directorate B of the JRC has provided comprehensive evidence of this mature and competitive market. This evidence includes a market analysis and the environmental impacts of using printers and cartridges. David Bernad Beltràn led this work: <https://susproc.jrc.ec.europa.eu/product-bureau/node/529>

The evidence shows that since the energy-saving techniques implemented under earlier ecodesign regulations have reached a plateau, extending the working life of the printers and, where they exist, the associated cartridges, is expected to have the greatest benefit on environmental outcomes⁶. Yet, according to consumer research by IPSOS for the JRC, 55% of individual consumers (not businesses) reported a fear, distrust or bad experience with remanufactured equipment.

⁶ 'Remanufactured models, despite not matching the energy efficiency of new models, provide substantial environmental benefits by significantly reducing raw material consumption, lowering distribution emissions, and extending product life. Remanufactured models can achieve a 46% reduction in total GHG emissions compared to new models.'

3.2. Policymaking for ecodesign in this context is complex. There is little point in promoting greater durability and more remanufacturing when customers do not want it. The JRC enquired about the underlying reasons for the perception of poor quality. Evidence from independent third parties who refill and remanufacture cartridges and some printers is included in the JRC evidence. The draft ecodesign regulations aim to prohibit the continuation of the methods described in this evidence. It is disappointing that the process was dominated by the adversarial drive of competition and not by the question of how policymaking might aim to align OEMs and independent third parties through a shared interest in designing and promoting printers and cartridges for remanufacture. If this were possible, might it not also address the problem of consumers' perception of poor quality reported by IPSOS?

4. Some OEM Circular Design Exists

4.1 Of the 836,000 A3 colour and mono **printers** sold in the EU, IDC⁷ estimate 6.5% are refurbished and remanufactured. For A4 printers the estimate is 1% and for inkjet printers the rate is essentially – nil. Of the machines that are remanufactured or refurbished, 70% are exported from the EU. With regard to **cartridges**, approximately 80 million toner cartridges are sold annually in the EU as compared to about 300 million inkjet cartridges. Inkjet cartridges appear to have a lower rate of return (5 to 15%) for refilling and remanufacture compared to toner cartridges (15 to 25%). This difference is largely explained by existing OEM investment in the design, reverse logistics, and remanufacturing of toner cartridges as one part of a service which includes the return of used cartridges. Inkjets on the other hand, unless sold as part of a print service contract, are distributed so widely that they are often discarded in mixed household waste collection.

4.2 HP is the established market leader. But the HP business model is being challenged by a number of smaller competitors who have developed products designed to be returned for disassembly and remanufacture. These competitors have invested in centralized, large-scale facilities to manage the disassembly, remanufacture and redistribution of the cartridges – and to a much lesser extent A3 and some A4 printers. These investments have been made inside Europe. We estimate that in terms of numbers of cartridges and printers remanufactured, Brother is the largest of these competitors, followed by Ricoh then Xerox (including Lexmark). [As Xerox is acquiring Lexmark during 2025, we have included Lexmark under Xerox.] Customers also have the option of avoiding cartridges by adopting for example an Epson printer which they can top-up at home using ink supplied in much less convenient, plastic, single-use bottles.

The following are highlighted:

- i. The current remanufacturing rate of 6.5% for A3 and 1% for A4 laser printers is far below the technical possibility enabled by some of the existing designs.
- ii. A large majority (possibly 90% or 270 million) of inkjet cartridges are either discarded as waste or returned for material recycling. This includes models ecodesigned for remanufacture.
- iii. Toner cartridges constitute 21% of the total cartridge market, and since they are sold largely to businesses rather than individuals, the return and remanufacturing rate is higher (15% to 25%) when compared to inkjets. The Commission should consider whether ecodesign adequately targets the main problems – inkjet cartridges and printers.

⁷ IDC multi-client market study 2025

5. Will Ecodesign Regulations Support New Investment?

5.1 We await the conclusions of the impact assessment report currently being prepared by IPSOS and others for the Commission. The pioneering companies that first invested in product designs and factories to process their equipment for remanufacture have expressed their disappointment at the draft ecodesign regulations. Some of this disappointment was expressed in our position paper of September 2024, which is available to view at: <https://europeanreman.eu/pdf/story/78crr1.pdf>. In it we proposed an **opt-in** for companies that have already adopted their own ecodesigned products and take back their equipment for remanufacture. Our reason for doing so is that this would incentivize OEMs to invest *more* in their own remanufacturing to avoid being required to provide chip-resetting access to third parties. Consequently, our proposal serves as a constructive compromise, and potentially even encourages OEMs that currently do not remanufacture to start doing so in order to protect their sales.

5.2 When interviewed, Brother, Ricoh, Xerox and Lexmark reported to us that they view the proposed ecodesign regulations as having either a neutral or negative effect on investment plans in Europe. This is somewhat disappointing, and we hope not to see similar responses in the other product categories subject to new ESPR and ecodesign regulations. Their reasons for expressing neutral or negative investment appetite are listed below in order of priority:

1. **Scale economics.** The remanufacturing process is sensitive to scale economics. Manufacturing has been optimized using automation for decades, but automation is just beginning to be economically viable in remanufacturing. To reduce unit costs, a higher throughput of used equipment is needed, yet the draft ecodesign regulations aim to encourage market fragmentation. This means that the cost of capital for remanufacturing projects will increase in step with the increased project risks.
2. **Quality issues.** The draft regulations require OEMs to provide chip replacement / resetting to independent third parties. There are not, however, any provisions for OEMs to object to third parties whose processes result in poor quality outcomes such as ineffective toner seals. In this context, the draft regulations requiring OEMs to provide chip replacement/resetting to independent third parties may lead to a wider circulation of such low-quality products. Without provisions to address and control these known quality issues, customers will continue to be exposed to substandard products – which will continue to undermine trust in the market.
3. **Air quality and health risks.** Third parties who refill used cartridges can use substitute toners and inks which may introduce health risks from air quality impacts, especially in the home. The interaction between printer and its toner or ink determines the impact on air quality. OEMs remain concerned that this issue is not being acknowledged or addressed in regulations.
4. **No acknowledgement of OEM ecodesign.** It is OEMs that design equipment for remanufacture. Yet the draft ecodesign regulations require OEMs to enable third parties to disassemble and remanufacture the OEM equipment. The regulations are silent on support for existing OEM remanufacture investment.
5. **Obstacles.** Ecodesign is only one of the hurdles facing the circular economy. That the draft regulations are unsupportive of existing investment adds to the sense that the linear economy is simply easier to deliver at a profit. In addition to ecodesign, the cost of reverse logistics, complicated by ongoing transboundary issues, continues to increase. And requiring used equipment containing legacy substances to meet updated product regulations adds further uncertainty and thereby risk to investment in remanufacturing.

The remanufacturing sector in Europe wants the ESPR and ecodesign regulations to succeed. Their success will be measured in most product categories by an increase in the proportion of new equipment designed for take-back being returned for remanufacture and repair. But this outcome can only be achieved with much higher investment from businesses.

6. OUR PROPOSALS

1. Identify the companies and products that fit closest to an 'ideal' of ecodesign for the specific product category. Categorise the products as pioneers, then use ESPR and ecodesign regulations to support both the investments made by this category of existing competitor and their pioneer products.
2. Do not use an 'ideal' ecodesign to create regulations to disappoint or undermine investment made by those included in the category of pioneer products.
3. When Life Cycle Assessment evidence concludes that product life extension through remanufacture and repair is a priority outcome, aim to give OEMs the responsibility to deliver this outcome. In most markets, OEMs respond with contractual arrangements with third parties to ensure 'as new' product quality is achieved.
4. Take up our proposal for an **opt-in** to the ecodesign regulations for those OEMs in the imaging equipment and cartridges sector with existing ecodesign products and factory-scale remanufacturing.
5. Include a provision in the Ecodesign Regulations for registered third parties to meet certain minimum quality requirements to minimize the customer perception problem reported by IPSOS.
6. Reconsider the scope of the draft ecodesign regulations for imaging equipment and cartridges to focus on the main problems: inkjet cartridges and printers.
7. Invite evidence of health risks from the use of substitute toners and inks.
8. In drafting the forthcoming Circular Economy Act, aim to protect and promote public sector procurement processes which specify products that have been remanufactured and refurbished.
9. Academics are developing new measures for business performance because traditional metrics are based on assumptions first made in the eighteenth and nineteenth centuries⁸. The Circular Economy is a topic which, if aligned with this academic work, may provide more insight into how best to use policy to send positive signals to investors.

END

File ref.: Position Paper Clean Industrial Deal and Ecodesign April 2025 FINAL

⁸ Core assumptions in business theory: A wedge between performance and progress, Subi Rangan et al., INSEAD Oxford University Press 2025

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About the Council:

The vision of the European Remanufacturing Council is to triple the value of Europe's remanufacturing sector to €100 billion by 2030. We will bring together businesses from every product sector to share knowledge, and seek changes to policy with the aim of making remanufacturing a normal part of the product life cycle.

For more information about the ERC please visit
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