

Stakeholder contribution on the

Preparatory study on textiles for product policy instruments

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| Comment 1 | |
| Section | Lines |
| 1. Introduction | 142-145 |

Products cannot become “sustainable” when there is no use for them. It is not the products themselves that are the problem, but the quantity of them. Circularity must be ensured through fewer products so that they can be used more and so that there is a point in repairing them, reusing them, etc. The most important thing that all regulations of apparel must consider, is how the regulation will affect the number and quantity (as imported/produced) both directly and indirectly. This can be done through measures that are aimed at what is growing the fastest, or what is the cause of the growth (the fast fashion business model), or by giving consumers, researchers and authorities access to knowledge about the lifespan of clothing (dating products when they enter the market), what is generally known as Duration of Service.

Reference:

Fletcher et al., Ecodesign position paper: Textiles and footwear, May 2023, SIFO, <https://clothingresearch.oslomet.no/ESPR-position-paper>

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| Comment 2 | |
| Section | Lines |
| 1. Introduction | 170-174 |
| 4.4 Tests and standards | 942-945 |

PEFCR A&F is a dying beast, and will never, or at least not for a very long time, be functional to compare products' environmental impact. An alternative and simpler model is to start by identifying particularly problematic products and regulate these out first - and preferably through bans. Examples of good candidates for such regulation are:

- Clothes and shoes with electronics (e.g. flashing lights on Santa hats and Christmas sweaters)
- Clothes that cannot be cleaned without losing functionality (e.g. waterproof jackets with down filling)
- Clothes that have been pre-distressed to look worn, have holes, etc. (e.g. distressed denim products)
- Promotional clothing items given away for free or single use

The preparatory study document should contain knowledge that points to which products should disappear from the market first and how these should be identified. Cooperation with NGOs could be a good thing here. Key questions to explore could include: What can we do without? For which products is plastic unnecessary, or particularly harmful? How can such work be seen in the context of the development of a global plastics agreement? Chemicals and a more up-to-date understanding of the skin as open to our surroundings is vital, so that the understanding of chemicals in textiles includes both direct contact with the skin and through the dust (and microplastic) we inhale. Environmental issues must encompass both the global and the local, and also not only the nature around us, but also *within* us.

Reference:

Klepp, I. G., Laitala, K., Berg, L. L., Tobiasson, T. S., Måge, J., & Hvass, K. K. (2023a). *Critical review of Product Environmental Footprint (PEF) - Why PEF currently favors synthetic textiles (plastics) and therefore also fast fashion*. Retrieved from Oslo: <https://clothingresearch.oslomet.no/wp-content/uploads/sites/1026/2023/02/Background-paper-on-PEF.pdf>

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| Comment 3 | |
| Section | Line |
| 3.1 Selection of the scope | 346 Table 2 |

Table 2 gives an overview of “function and intended use” of apparel and other subgroups. The “functions and intended use” would benefit from refinement in line with the importance of apparel and other textiles in our lives. We suggest that a greater emphasis is placed on social aspects and inclusion, to bring discussions about apparel closer to citizens' rights and participation, and not only point towards those who have too much, but also those who actually lack what makes it possible to be active citizens.

In this list there is an important category missing: Apparel is used to make the body "socially acceptable" (Entwistle, 2000; Klepp, 2008). Clothes are necessary to take part in all forms of social life. This includes professional life, sports and exercise, and all social activities. What this is depends on our age, gender and body, but also on the dress code. These can be both written (for example fitness centres and swimming pools have dress requirements, employers require jacket and tie, etc.), or they can be unwritten. Not having apparel suitable for the occasion means in practice that you are banned from said occasion. This perspective on clothing is important in the work to ensure underprivileged groups access to society - and to dignity (Klepp & Rysst, 2017; Laitala & Klepp, 2019a). We "properly dress" for work or dress up when we are invited to social events, not as a form of promoting "personal identity" but to show respect for the community and the ability to fit in.

Of the existing functions listed in Table 2, We suggest a broadening of No. 1. Yes, apparel provides protection, but this does not only apply to protection from the outer environment, but also social conditions - e.g. the reflective vest provides protection in traffic and a face mask against infection. Apparel is used to both support and protect the body. The same applies to No. 2. While nakedness is not allowed, the rules for how the body should be covered are not only a matter of legislation, but also religion and culture - and they change with gender and age (Klepp & Storm-Mathisen, 2005; Storm-Mathisen & Klepp, 2006; Klepp, Laitala, & Skuland, 2019).

References:

Entwistle, J. (2000). *The fashioned body: fashion, dress, and modern social theory*. Cambridge: Wiley-Blackwell.

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Klepp, Laitala, K., & Skuland, S. (2019). Uniformity without uniforms: Dressing school children in Norway. In A. Borch, I. Harsløf, K. Laitala, & I. G. Klepp (Eds.), *Inclusive consumption* (pp. 39-62). Oslo: Universitetsforlaget.

Klepp, I. G., & Rysst, M. (2017). Deviant bodies and suitable clothes. *Fashion Theory*, 21(1), 79-99. doi:10.1080/1362704X.2016.1138658

Klepp, I. G., & Storm-Mathisen, A. (2005). Reading fashion as age: Teenage girls and grown women's accounts of clothing as body and social status. *Fashion Theory: The Journal of Dress, Body and Culture*, 9(3), 323-342.

Laitala, K., & Klepp, I. G. (2019a). Dressing a Demanding Body to Fit In: Clean and Decent with Ostomy or Chronic Skin Disease. *Social Inclusion*, 7(1), 124-135. doi:10.17645/si.v7i1.1717

Storm-Mathisen, A., & Klepp, I. G. (2006). Young Fashion and Adult Style: How Teenage Girls and Grown Women Accounts for the Impact of Style and Fashion on Their Personal Clothing Practices. *Ethnologia Scandinavica. A journal for Nordic ethnology*, 36, 91-106.

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| Comment 4 | |
| Sections | Lines |

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| 3.1.1 Potential improvement considering ecodesign aspects in Article 5(1) of the ESPR | 414 – 417 and 432 - 434 |
| 6.2.7 Attitudes towards the purchase of apparel made with recycled materials | 1905 - 1907 |

There is a lot hinging on recycled content and recyclability in ESPR, in order to decrease throughput of virgin fibres. But are these two fit for purpose, when we see them together? Or are they actually in opposition? It is common textile knowledge that virgin fibres with longer staple-fibres are stronger than recycled. Synthetics will be nearly as strong but are connected to other problems with the use of rPET from bottles. According to Changing Markets Foundation, rPET represents over 90% of all recycled polyester.

While polyester recycling has problems separating textile recycled material from that which comes from packaging plastic and the fact that the recycled material does not emit less (but in some studies more) microplastics – natural fibres have other challenges. In many products, recycled natural material will be adequate, but in others it will exceed technical and aesthetic quality. Recycled silk shares few characteristics with virgin silk primarily because virgin silk is a monofibre producing fine cloth, and recycled silk is made from shorter staple length silk. The document lacks an in-depth discussion of which fibres, product groups, etc. for which mixing in recycled material is desirable, and why. Likewise, a discussion of the possible negative effects of increased use of recycled material is missing.

The Swedish Environmental Institute IVL recently released a study projecting that large-scale recycling in the EU would contribute to a 1.3% reduction in climate impact. “We consider this to be a relatively small contribution to the reduction needed for the carbon footprint of textile products” (Sandin et al. 2024).

Consumers’ attitudes towards recycled materials are not positive. JRC’s own research shows that this is preferred by only 11%. (line 1906) In Norway the respondents in a study showed a high preference for natural fibres, while polyester and recycled polyester was preferred by only 2%. 35% of the respondents said they avoided recycled polyester (Sigaard & Laitala, 2023).

Strong political measurements such as mandating incorporation of recycled content in products has to be based on clear benefits and also acceptance. Both are lacking. Microplastics are an area where knowledge is growing rapidly. We believe it is important to bring in the latest research that is more about the spread of microplastic in the air, and into people's bodies. We would like to warn against isolating the microplastic discussions to a laundering problem, while our children inhale microplastics as dust from their stuffed animals (recycled or not) and home textiles. Plastic reduction is important both because of plastic's health and environmental effects in themselves, but also because of plastic's important position for enabling fast fashion and for the increase in fibre production. If it were to become profitable to build up a recycling industry for polyester in the EU - what would happen in the global market? Can it be possible that such a development will *increase* the actual use of

plastics (both because it is seen as "green" and because this recycled feedstock is in addition to what China already produces more than enough of, namely cheap polyester)?

References:

Sandin Albertsson, G., Lidfeldt, M., Nellström, M., Strandberg, J., Billstein, T., Hammar, T., & Larsson, M. (2024). Life cycle assessment of mechanical textile recycling in Sweden.
Sigaard, A. S., & Laitala, K. (2023). Natural and sustainable? Consumers' textile fiber preferences. *Fibers*, 11(2). doi:10.3390/fib11020012

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| Comment 5 | |
| Section | Lines |
| 3.1.1 Potential improvement considering ecodesign aspects in Article 5(1) of the ESPR | 420-428 |

The WRAP (2017) report referenced in this section is an evaluation of UK efforts to reduce the environmental impact of the sector at a national level based on product durability, among other measures. The estimation of environmental savings is based on an assumed decline in new production resulting from longer lasting products. However, the authors of the report themselves indicate that despite their efforts the associated decline in volumes expected from longer lasting products did not occur in reality. They warn that the causal relation between lifetime extension and production volumes reductions usually assumed do not apply, and there is not any evidence showing otherwise in the literature.

The JRC research report relies on assumptions that have dominated academic literature for decades but that are increasingly being contested.

1. That clothing consumption volumes have increased because the quality is dropping and therefore products need to be replaced more often.
2. That increasing the durability will reduce the volume of waste and new production, which can only happen if:
 - 2a. New products are only bought to replace items previously owned
 - 2b. Production volumes decisions by companies are driven by product demand

Wardrobe studies (Laitala & Klepp, 2022) and waste audits of textiles (Fashion for Good, 2022; Refashion, 2023) show that garments and accessories are massively discarded while still in good material condition, contesting assumption 1. Material failure is not a major cause of clothing disposal.

The experience of WRAP in the UK shows that assumption 2 does not apply either. This may be because 2a and 2b do not meet reality. However, more research is needed to understand all factors at play.

Assumption 2a was looked into in a Dutch study, which indicated that only 4% of clothing acquired was based on replacement (Maldini, 2019). Most of the literature on clothing durability assumes that replacement is a main driver for acquisition, but there have not been other field studies on the topic.

Assumption 2b has not been thoroughly investigated, but a few case studies point to a variety of reasons behind companies' production decisions, including their market expansion plans and the strengthening of their partnership with suppliers (see e.g. Paton, 2018). In short, the effect of product durability on production and therefore waste volumes, is unknown.

If the assumptions above do not apply, product durability can lead to negative environmental effects associated with the use of more materials, more synthetic content, and more impactful textile processing.

References

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- Laitala, K., & Klepp, I. G. (2022). Review of clothing disposal reasons. <https://clothingresearch.oslomet.no/2022/10/19/review-of-clothing-disposal-reasons/>
- Maldini, I. (2019). From speed to volume: reframing clothing production and consumption for an environmentally sound apparel sector. In N. F. Nissen & M. Jaeger-Erben (Eds.), Proceedings of the 3rd PLATE conference (pp. 519–524). TU Berlin. <https://doi.org/10.14279/depositonce-9253>
- Refashion. (2023). Characterisation study of the incoming and outgoing streams from sorting facilities. https://refashion.fr/pro/sites/default/files/rapport-etude/Overview_Characterisation_study_Refashion_2023_EN.pdf
- Paton, E. (2018, March 27). H&M, a Fashion Giant, Has a Problem: \$4.3 Billion in Unsold Clothes. *New York Times*.
- WRAP. (2017). Valuing Our Clothes: the Cost of UK Fashion. http://www.wrap.org.uk/sites/files/wrap/valuing-our-clothes-the-cost-of-uk-fashion_WRAP.pdf

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| Comment 6 | |
| Section | Lines |
| 4.1 Reasons for the disposal of apparel | 2060-2061 |

Our review of waste audits and wardrobe studies suggests that 37% of garments are disposed of for reasons related to their intrinsic quality, while lack of perceived value accounts for 35% of the garments disposed of, and 28% are disposed due to poor fit (Laitala & Klepp, 2022). All in all, the main reason for growing volumes of textile waste is growth in production volumes, and this is not properly addressed in the document.

When clothes pile up in many consumers' wardrobes, and in (waste)streams of used clothes, and more and more are disposed of without being “used up”, the responsibility for this must be assigned to those who have profited from selling them, not the consumer.

The marketing of apparel has been massive, along with the marketing of other appearance-related products (make-up, plastic surgery and more) where the main message has been that most people (and especially women) need to constantly improve, and they need to buy something new to be socially acceptable. The push to buy new stuff is enormous, and it is underpinned by something we are all (especially young people) afraid of: not being *good enough*. The document as a whole, lacks a discussion of the role of marketing in the impasse we are in. How much is sold at a discount? How many new collections are released per year? How can the marketing be made more neutral and factual? Can forms of marketing be banned? The planned Textile Strategy and Ecodesign for Sustainable Products Directive are both aimed at design, but it is not design, rather marketing, that has been driving the increase in products entering the market.

Reference

Laitala, K., & Klepp, I. G. (2022). Review of clothing disposal reasons.
<https://clothingresearch.oslomet.no/2022/10/19/review-of-clothing-disposal-reasons/>

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| Comment 7 | |
| Section | Lines |
| 5.2 The EU market (<i>Import</i>) | 1182-1187 |

The current state of knowledge indicates that this is the core challenge to reduce the environmental impact of the sector, therefore, we suggest tackling production volumes, including internet sales and falling prices directly, rather than relying on indirect measures such as promoting longer lifetimes or reuse. This is also supported by new research showing that the number of garments that are acquired has the most impact on the lifetimes of clothing (Laitala, Klepp, & Løvbak Berg, 2024). Measuring can also predict which clothes and textiles go out of us, and after how long use, through waste audits, wardrobe studies and a new method we have developed, that lies somewhere in between these, which we have called “Waste audit interviews” (Laitala & Klepp 2024, Laitala, Klepp & Løvbak Berg 2024, Klepp 2023).

From this perspective, identifying accurate KPIs and monitoring methods is key for this regulation and we do not see a discussion about this advancing. The JRC has a key role in making sure that monitoring methods are in line with current existing and lack of knowledge. The effect of durability, reuse, and repair measures should be monitored through the

volumes of new products produced and imported to Europe. This will allow to test areas where knowledge is lacking, such as the effect of increased reuse and durability on production volumes.

References:

Laitala, K. & Klepp, I.G. (2024). Waste audit interviews - A method for understanding the link between intrinsic quality and apparel lifespans. Consumption Research Norway (SIFO), Oslo Metropolitan University.

<https://clothingresearch.oslomet.no/wpcontent/uploads/sites/1026/2024/04/NewMethod.pdf>

Laitala, K., Klepp, I. G., & Løvbak Berg, L. (2024). The impact of modes of acquisition on clothing lifetimes. In K. Niinimäki (Ed.), *Recycling and Lifetime Management in the Textile and Fashion Sector* (pp. 91-111). Boca Raton: CRC Press.

Klepp, I. G. (2023). Status for developing methods for using waste as a resource for knowledge about the use phase of clothing, September 2023, SIFO, <https://clothingresearch.oslomet.no/status-usingwaste-as-resource-for-knowledge-about-the-use-phase-of-clothing/>

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| Comment 8 | |
| Section | Line |
| 5.8 Lifespan of apparel textiles | 1569 |

There are several partially overlapping definitions and terms suitable to refer to longevity and durability. Regardless of which terms are used, it is important to keep in mind that the material capability of a product to perform over time (durability), is not the same as how long it has actually been used (e.g. Duration of Service (DoS)). The former looks forward to an unknown future and predicts it, while the latter looks back to what *has* happened.

Unfortunately, there is little research that deals with the relationship between durability and DoS, and several problems occur when trying to predict DoS based on product characteristics as outlined in (Klepp et al., 2023b). We have therefore developed a new method which has this as its aim, and which can be used to verify whether different theories about durability do or do not have an effect on lifespan (Laitala & Klepp, 2024).

The situation is further complicated because DoS, or clothing lifespans, can be described and measured in years, the number of wears, cleaning cycles, and/or users. All have an independent value (Klepp, Laitala, & Wiedemann, 2020). Prolonging the lifespan of a product will not have any environmental impact if it causes another product's lifespan to be shortened. It is the total utilisation rate for clothing (e.g. in the EU) that must be increased in order to reduce environmental burdens. Overall, this will be the number of clothes (imported + produced) divided by the number of users, if the denominator increases more than the numerator, the utilization rate decreases.

In Consumption Research Norway SIFO's latest research paper on *The Impact of Modes of Acquisition on Clothing Lifetimes* (Laitala et al., 2024) the conclusion is among other things that:

“The overall utilisation rate, whether we look at a private wardrobe, a country, or the world, is more important than the lifetime measured in years for an individual garment when discussing the environmental impact of clothing. Few uses per garment generate an increasingly less efficient industry, which thus develops in the opposite direction than the principles of the circular economy where the aim is to keep the products and materials in circulation at their highest use-value for as long as possible. Clothing lifetimes are affected by the number of items in the wardrobe, and therefore, more of the discussion should be about overall utilisation rather than measures, whether they are political or personal, that seek to increase the lifetime of individual garments.”

References

- Klepp, I. G., Laitala, K., Berg, L. L., Tobiasson, T. S., Måge, J., & Hvass, K. K. (2023b). USED, BUT NOT USED UP: Using textile waste to inform textile rating schemes. In *A suggestion for empirically based policy measures to reduce the environmental impacts of clothing and footwear*. SIFO.
- Klepp, I. G., Laitala, K., & Wiedemann, S. (2020). Clothing Lifespans: What Should Be Measured and How. *Sustainability (Basel, Switzerland)*, 12(15)(6219), 21. doi:10.3390/su12156219
- Laitala, K. & Klepp, I.G. (2024) Waste audit interviews - A method for understanding the link between intrinsic quality and apparel lifespans. Consumption Research Norway (SIFO), Oslo Metropolitan University. <https://clothingresearch.oslomet.no/wpcontent/uploads/sites/1026/2024/04/NewMethod.pdf>
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| Comment 9 | |
| Section | Line |
| 6.4.1 Reasons for the disposal of apparel | 2071, 2084 and 2091 (Table 31) |

There are several good reasons for intensifying the work on fit in ESPR. Fit problems are much more than a problem with internet sales (line 2183). Equally important in developing better fit, are grading systems and labelling schemes, including their control. The problem with sizing and fit has also been recognised in WRAP's work with Clothing Durability, as

SCAP members agreed that “the single most important design factor in extending a garment’s life expectancy is its cut” (Anthesis & WRAP, 2015).

Fit is one of the three main reasons for clothing disposal (Laitala & Klepp, 2022). This has been documented by several studies from different countries and using different research methods, all showing the same: a lot of clothes are disposed of because they do not fit the owner's body. This problem is more prevalent among women and children than men. Further, the problem is more frequent among those needing larger sizes (Laitala, Klepp, & Hauge, 2011; Otieno, Harrow, & Lea-Greenwood, 2005).

There are several reasons for poor fit, and SIFO has contributed with this type of knowledge, also mentioning that more knowledge is needed (Laitala, Hauge, & Klepp, 2009, 2010, 2012; Laitala, Klepp, & Hauge, 2011). A PhD on this topic is just defended in Denmark (Terkiltsen, 2024). The problems include:

1. Poor size labelling caused problems by lack of standardisation and inaccurate or insufficient information or incorrect labelling
2. Inadequate pattern construction. The current way of developing sizing systems based on one key measurement leads to a suitable fit only for a minority. Clothing patterns and grading systems should be based on recent anthropometric studies and correspond to specific body types.
3. Lack of availability of ready-to-wear clothing in a variety of sizes and fits that the population uses. Greater variety should be available. The importance of this is increasing in the EU with increased immigration (of other body types) alongside obesity problems and that we are growing all in all, also in height.
4. Lack of opportunities for adjustments. Bodies also change in different life stages, and well-fitted clothes can adapt to such changes. Elastic materials provide flexibility, but this can also be achieved through good cut and not through the use of elastane - which creates other environmental problems.

We therefore propose that the work with ESPR is aimed at fit problems. Emphasis should be placed on women's clothing. The updated standard should be made mandatory (NEN-EN 13402-3), or it should become a minimum requirement which standard is used and this should be made clear. Which measures the standard actually uses must also be made more easily accessible so that incorrect use of the standards becomes easier to uncover. This relates particularly to complaints where fit is the reason for consumers to return products, as several recent media stories have uncovered the hidden environmental impact of internet returns; and that we know many order several sizes in a hope that one will fit.

Anthesis, & WRAP. (2015). *Sustainable Clothing Technical Report: Clothing Durability Report*. Retrieved from Banbury: <http://www.wrap.org.uk/sites/files/wrap/Clothing-Durability-Report-final.pdf>

Laitala, K., Hauge, B., & Klepp, I. G. (2009). *Large? Clothing size and size labeling* (2009:503). Retrieved from Copenhagen: <https://www.norden.org/en/publication/large-clothing-sizes-and-size-labeling>

Laitala, K., Hauge, B., & Klepp, I. G. (2010). "If I don't fit into size medium, I refuse to try on a larger size. I am not large!" Gender, clothing sizes and ideals of beauty. *Fashion Theory: Dress, Body, Culture (Russian edition)*

Laitala, K., Hauge, B., & Klepp, I. G. (2012). "Sizes are arbitrary, you can't trust them" A study of the relationship between size labeling and actual clothing sizes. In P. McNeil & L. Wallenberg (Eds.), *Nordic Fashion Studies* (pp. 201-220). Stockholm: Axl books.

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Laitala, K., Klepp, I. G., & Hauge, B. (2011). Materialised ideals: Sizes and beauty. *Culture Unbound: Journal of Current Cultural Research*, 3, 19-41.

Otieno, R., Harrow, C., & Lea-Greenwood, G. (2005). The unhappy shopper, a retail experience: exploring fashion, fit and affordability. *International Journal of Retail and Distribution Management*, 33(4), 298-309. Retrieved from <http://www.ingentaconnect.com/content/mcb/089/2005/00000033/00000004/art00006>

Terkildsen, M. (2024). *To [Fit] In Danish Fashion: Impact Engineer-ing – Towards Inclusive FIT and Sizing On the Foundation of Body Logic*. <https://arts.au.dk/en/news-and-events/events/show/artikel/phd-defence-msc-mette-terkildsen-to-fit-in-danish-fashion-impact-engineer-ing-towards-inclusive-fit-and-sizing-on-the-foundation-of-body-logic>

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| Comment 10 | |
| Section | Lines |
| 6.3.3 Reparability | 1989 – 2031 |

As long as we have had textiles, they have been repaired. Why does the EU want to "make clothes repairable"? When weren't textile products repaired? Or what clothes aren't? In the preparatory study document, it is as if it is taken for granted that this is something that must be required or changed. But is it? Likewise, there is a question of what "spare parts" and what type of repair instructions are going to be attached to the products, and the environmental impact of those. Clothing can be repaired with many different techniques, one can repair a piece in many different ways, as such there is no one "guide to correct repair" (line 2028). This is unhelpful, suggesting that there is a binary of good or bad when it comes to repair. Rather what is right is dependent on the person's knowledge and also the desired result.

Certainly repair is important. The main reason why apparel is not repaired is its low value (not least financially) and also lack of knowledge. Few people will repair something if it costs more to do so than the cost of a new product. Increasing the value of clothes and textiles is absolutely central to driving up repair rates. Price increases are important for other reasons as well - to "make fast fashion out of fashion", production volume reduction is key.

Strengthening commercial repair can be done through consumer rights. Using differentiated commercial guarantees (e.g. ten years for a coat and four years for a dress, and specifying what "normal use" is) would also increase the commercial market for repair. (Laitala, Klepp, Haugrønning, Throne-Holst, & Strandbakken, 2021; Laitala, Løvbak Berg, & Strandbakken, 2023)

References

Laitala, K., Klepp, I. G., Haugrønning, V., Throne-Holst, H., & Strandbakken, P. (2021). Increasing repair of household appliances, mobile phones and clothing: Experiences from consumers and the repair industry. *Journal of Cleaner Production*, 282, 125349. doi:10.1016/j.jclepro.2020.125349

Laitala, K., Løvbak Berg, L., & Strandbakken, P. (2023). *Why won't you complain? Consumer rights and the unmet product lifespan requirements*. Paper presented at the 5th Product Lifetimes and the Environment (PLATE) Conference, Espoo.

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| Comment 11 | |
| Section | Line |
| 6.3.1 User behaviour during use: laundering practices | 1916 |

Laundering and care are important for the overall environmental impact, both because it has an environmental impact in itself, and because it affects the lifespan. We know that there are large regional and national differences in this area also within the EU (Laitala, Klepp, & Henry, 2017). There are many different factors that affect washing results and environmental impacts, but of these, washing frequency is one of the most important (Laitala, Klepp, Kjeldsberg, & Eilertsen, 2011), which is influenced by fibre (Laitala, Klepp, Kettlewell, & Wiedemann, 2020).

Developing better washing habits is therefore both useful and possible. In this work, both the products (textiles, white goods and washing chemicals), their labelling, and knowledge among consumers can contribute. Likewise, better storage practices for clothes in use, more use of alternative cleaning methods (Laitala, Klepp, & Henry, 2017), and less fabric softeners and other unnecessary chemicals, can be promoted with environmentally positive results.

References

- Laitala, K., Klepp, I. G., & Henry, B. (2017). Global laundering practices. Alternatives to machine washing. *H&PC Today – Household and Personal Care Today*, 12(5), 10-16. Retrieved from http://www.teknoscienze.com/tks_article/global-laundering-practices-alternatives-to-machine-washing/
- Laitala, K., Klepp, I. G., Kettlewell, R., & Wiedemann, S. (2020). Laundry care regimes: Do the practices of keeping clothes clean have different environmental impacts based on the fibre content? *Sustainability*, 12(18), 7537. doi:10.3390/su12187537

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| Comment 12 | |
| Section | Line |
| 6.4.3 Person-product attachment | 2162-2164 |

All these strategies rely on an assumed decline in production to have a positive environmental effect. An early review of such strategies showed that their effect had not been empirically validated (Maldini & Balkenende, 2017), and a comparative field study of regular ready-made garments and personalised garments (made with input from users) showed that such special garments were not used more frequently, were not kept for longer, and did not lead to a reduction in demand from users (Maldini et al., 2019). Although assumptions about the environmental value of special garments dominate the literature, international data shows that second-hand garments are used fewer times than new items, and self-made clothing was worn less than tailored garments (Laitala et al., 2024).

While emotional durability sounds like an attractive proposition when considering how to reduce environmental impacts of clothing products, invoking notions of meaning making, memory, attachment to a product and therefore suggesting that if a garment is held on to and not discarded; there is no evidence that such a relationship translates into lower environmental impact overall or reduces the likelihood of purchasing of additional items. The evidence that *does exist* suggests that there is no 'one size fits all' approach to the behaviours that people engage around long-lasting clothes, with the result that liking a product (feeling an 'emotional connection' with it) can result for example in some people wearing a garment often and for a long time and others wearing it rarely in order to preserve it, and buying other pieces to use frequently instead. Even if it was effective in delivering impact reduction (for which no evidence exists), this variability means that emotional durability does not lend itself to being described in specific, achievable, relevant terms that lends itself to regulation.

Further, while emotional durability and associated behaviour traits of long-lasting products is often seen as something that can be 'designed in' in the product design and conceptualisation phase of product development; design is widely recognised as a weak force in creating relationships, associated memories, etc. that a wearer goes on to associate with a piece of clothing (Fletcher, 2016). Many factors influence how long a product is used more than design, such as easy availability of new alternatives, marketing, price. Not only that, but there is no evidence that owning one meaningful garment prevents the acquisition of further pieces. Introducing regulation around emotionally durable design would not tackle the substantive sustainability challenge facing the textile and clothing sector, that of rising product volumes. Emotional durability is not an effective intervention point in driving environmental change for textiles and clothing.

We suggest therefore, that the ongoing work concentrates on what actually leads to positive change, rather than continuing to base itself on vague concepts that it is hard to ascertain if they actually have an environmental impact. The aspects that this term (emotional durability) includes can be better included in other terms such as Duration of Service, which includes all reasons why something is used. It is also possible to approach it through the use of the essential disposal reasons. Perceived value, together with intrinsic quality (wear and tear-related issues) and fit, are the main reasons for disposal (Laitala & Klepp, 2022). Perceived value is less “emotional” and contains important topics, such as price and quantity, and is therefore more effective in interventions towards change and regulation.

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| Comment 13 | |
| Section | Line |
| 9.6.1.5 Attitudes towards second- hand apparel purchase | 3884-3895 |

The report referenced here is authored by a company that sells second-hand clothes and used to claim their positive environmental impact. Instead of using such a source, it is recommended to refer to the limited knowledge available from scientific sources. Estimations of the displacement rate of clothing reuse (the quantity of new purchases that are avoided by recirculation of used garments) range from 28.5% to 92% (Farrant et al., 2010; Fisher et al., 2011; Nørup et al., 2019; Stevenson & Gmitrowicz, 2012). Such studies, carried out in several countries, acknowledge the importance of contextual factors, location, age, gender, income, and type of item in displacement estimations. Low displacement rates found in African countries, for instance, are attributed to lack of access of respondents to affordable new clothes (Nørup et al. 2019). On the other hand, low replacement rates found in the UK are partly explained by second-hand purchases driven by a “spur of the moment” (Stevenson & Gmitrowicz, 2012). It is often not taken into consideration that second-hand garments are used fewer times than new items (Laitala et al., 2024).

In line 3885 the report stresses that “By all accounts, second-hand purchases, generally speaking, tend to have a reduction effect on the purchase of new apparel” while there is no scientific consensus about that. We hope that reuse helps to reduce production, but there is not enough empirical evidence to claim to what extent this is true.

The degree of replacement thus does not necessarily affect the degree of utilisation. Said in a simpler way: We all want a more circular economy, where materials and products are utilised far better than today. But circulating the products more will not necessarily lead to this. It is the total number (volumes) that is important, and not how often each product is sold and bought or rented out. Therefore, policies aimed at reducing quantities are more effective than those that seek to increase the circulation of products.

In general, we would like to see the JRC report highlighting areas where knowledge is most needed to design more impactful policy, acknowledging that the effect of the policies currently in development is unknown, and that it needs to be thoroughly monitored to avoid undesired rebounds.

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