

Feedback delivered on ESPR 2nd Milestone

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1 Introduction, lines 32 – 34, 1 Methodology, lines 46 – 48; 6.2 Pre-purchase aspects, lines 1767 – 1768, lines 1930 – 1931; 10.4 Supporting information about environmental labels, lines 5849 - 5855

We would like to point to two overarching, problematic and relating issues here: PEFCRs as a tool for measuring environmental impact **and** choosing apparel & footwear as a frontrunner for ESPR, using the logic of the Methodology for Ecodesign of Energy-related Products (MEErP). The first is mainly as we find PEFCRs hiding at the very end of the document: “ISO Type III environmental labels (ISO 14025:2016), known as Environmental Declarations, are labels presenting *quantified environmental information on the life cycle of a product to enable comparisons between products fulfilling the same function*. The Environmental Declarations were mainly envisioned for business-to-business communication, *but their use in business-to-consumer communication is not precluded*. The establishment of Product Category Rules ensures that the life cycle assessment is performed with specific rules aiming to foster transparency and facilitate comparisons between different Environmental Declarations. The EC promotes the establishment of commonly recognised Product Environmental Footprint Category Rules (PEFCRs). As any life cycle assessment, the Environmental Declarations are third-party verified.”

JRC should rather take note that there is a gaping lack of data and a lack of agreement on how products and data should be used in PEFCRs, and that a just result is completely unrealistic. Part of the textile industry (large brands) leads this work (PEFCRs for A&F), aiming to establish rules for the calculation of the PEF, which in itself is highly problematic as **only** those who pay to participate have voting rights. There is no indication that PEFCRs for A&F will be a tool that can in any way guide measuring products up against each other, as the data is outdated, boundary-problematic and geographical differences not contextualized. What is important for the overall environmental impact is that consumer buy fewer items and that they buy something they really like and need. The very idea that you can reduce the overall impact by weighting one product over the other, rests on assumptions that are not present.

1. we do not have good measurement methods
2. it is not certain that the differences between the products are big enough to make a difference
3. the difference between the products may also have to do with other variables that affect the use of the product, such as whether they fit, are liked, etc. and that for products such as apparel, it is primarily a question of finding the right thing.

Thus, the logic of using PEFCRs collapses. It doesn't help if the trousers have a lower score (based on very uncertain numbers and systems), the most important thing is that they actually fit. PEF and other similar tools, as long as we cannot trust the data, is in danger of institutionalizing greenwashing.

For ESPR, the logic behind white goods, and much simpler products that we mainly own one of and use until worn out, is transferred to A&F which is not acquired as replacement, but as a result of aggressive marketing and a market driven growth logic. A&F is not disposed of because it is worn out. (Access link: <https://clothingresearch.oslomet.no/2022/10/19/review-of-clothing-disposal-reasons/>)

That said, we understand a consumer-facing label is postponed, however, B2B use of PEFCR is still problematic. And the logic that more durable products will be used for longer, and only replaced when unwanted, also remains throughout the document.

5.1 The Global Market, lines 1067 – 1112 + Table 11, 5.6 Characteristics of the value chain, lines 1551 – 1552, 9.2.6.2 How to assess the environmental impacts and description of product technologies, lines 3883 - 3891

Problem addressed: The demise of Europe's textile industry and what is not taken into consideration in the description. Also: Assuming that all value chains are global and no alternative exists. In relief with the description of base case as being production in India, China and Bangladesh.

Explanation: There is a certain irony here, with the description of the demise of EU's vibrant textile industry as a backdrop (which seems to then be assumed be synonymous with BAT): "BC takes into account that China, India, and Bangladesh manufacture the largest part of textile apparel consumed in EU. This means that the BC is described by process techniques adopted in these countries, where the legislation allows higher emission into the environment compared to what happens in EU. The business model that characterises the BC promotes overproduction and overconsumption, supported by users that tend to change frequently their wardrobe. The end of life of the BC is described by landfilling and incineration of textile waste in the EU as well as in third countries. The BAT takes into account EU manufacture and the currently available less-impacting business models, user behaviours and waste management options. This means that the BAT is described by process techniques adopted in EU and described in the EU-BREF."

Lacking in the description of the Multi-Fiber Agreement history and how Europe ended up exporting both its production and knowledge to the Far East, there is a missing factor: That this is the basis for Fast Fashion and the current conundrum. The division into BC and BAT attempts to capture this, but ignores the fact that the drastic increase in use of synthetics is one of the main enablers here.

The description lacks the cultural heritage dimension, for example the invention of tailoring being European, and the importance of the rich history of tailoring and couture making Europe the powerhouse of design and innovation for apparel and footwear. Also, as an estimate made by us (not verified) that 80% of EU's wool is wasted, burned or buried, and that Europe's massive linen production is hardly processed in Europe, rather exported to China, there is an ignoring of the potential for resuscitating this industry based on local resources. Once fast and ultra fast

fashion has been dismantled, we will still need apparel and footwear, and the enormous natural resources currently not utilized within Europe, could become the basis of a blossoming industry.

Suggestion: See EU's Textile strategy in light of Soil Mission, Farm2Fork, New European Bauhaus, instead of isolating the issues in silos. The success of local food should be a guiding light for this, and points to unexplored opportunities. Also, the document should add a description of EU's (remaining) textile and footwear industry and its link to both heritage and local small-scale handicraft and luxury production, thus not letting the background document talk about fast fashion as it is all there is. See fibershed.org, [Earthlogic.info](https://earthlogic.info) and <https://link.springer.com/book/10.1007/978-3-030-88300-3> for more on this alternative path forward.

5.4 Main elements affecting the production of textile apparel, line 1289 Table 15, 9.2.7 Presence of substances of concern, line 3898

Problem: The exponential growth in synthetic fibers in general, and microplastics as a consequence of this. There is not enough focus on the basic problem, that synthetics are the basis for the growth of fast and ultrafast fashion, which is mainly related to price (cheapness) and availability (over-abundance). Synthetics can quickly meet demand, while natural fibers, need planning and a long-term investment by brands. Plastic pollution has been identified as one of our time's biggest environmental and health problem. Plastics are the cursor of our exponential increase in consumption, carriers of substances of concern and if not incinerated will eventually become microplastics. The health consequences of the latter are increasingly worrisome, as microplastics are found everywhere on earth and even in the human brain.

Suggestions: Get more facts about the connection between synthetics and growth in production, as well as the dramatic fall in the price of clothing. Dismantle the one-sided focus on "durability" and highlight aspects that can solve the problems with greater precision and also does not have the side effect of promoting plastic. Ensure that no policy encourages the use of plastics, and that plastics are only used where absolutely necessary for functional reasons.

<https://clothingresearch.oslomet.no/2023/06/30/the-plastic-elephant-overproduction-and-synthetic-fibres-in-sustainable-textile-strategies/>

<https://www.nature.com/articles/s41467-024-49441-4>

<https://www.science.org/doi/10.1126/sciadv.adr8243>

<https://www.veronicabateskassatly.com/read/the-treatment-of-microfibers-in-life-cycle-analysis-and-product-environmental-footprint-applications>

5.8 Lifespan of textile apparel, line 1656 – 1658, 6.2.1 Reasons for purchasing apparel, line 1733

Our main concern: Purchase vs acquisition is defined too limited, as if purchasing is the only mode of acquisition. Also, the claim that there is "no established system that allows the direct measurement of the service lifespan of textile apparel", is not correct.

This places all A&F consumer related choices in a market economy, when there are (more promising) options in other, parallel universes. This indicates that it is mainly the industry JRC relies on for its point of view. SIFO and NICE has on several occasions made JRC aware that dating A&F would give a measuring tool for estimating Duration of Service on a brand level. And that policy and industry have made a choice to not introduce dating or to use waste audits to collect this data, is quite different than this not being possible to measure.

Our recommendation: Look beyond to the informal market and include all modes of acquisition (gifts, homemade, inheritance, and so on). We encourage JRC to look at the entire value chain, including consumption/use and not write as if industry is the only legitimate stakeholder. Industry is also mainly described as the big actors, not the SMEs and micro-sized businesses, crafts, Fibersheds, etc. Until dating products becomes mandatory, use this method to collect the data needed on DoS: <https://clothingresearch.oslomet.no/2024/04/18/new-method-to-capture-relationship-between-properties-and-use/>

'Home sewing practices': <https://www.mdpi.com/2071-1050/10/8/2899>

6. User behaviour, line 1724 Table 35

Concern: Aspect 1(Reasons for purchasing) in the table is too narrow. Aspect 9 Repairability is problematic. General comment: Missing attitudes relating to synthetics.

Aspect 1 (Reasons for purchasing) needs to take into account gender differences, f ex that men more often than women acquire new apparel by being gifted items. Only looking at purchasing will not take into account much that enters the household and adds up in wardrobes. For aspect 9, 'Repairability' is not a good word, as apparel for the most part is repairable, with the exception of apparel that contains electronics or integrated elastane, or f ex pre-stressed denim. The idea here that repairable is something apparel should become, is an assumption with no data to back it. The table should also look at attitudes towards synthetics, as these come out as more environmentally friendly in PEF, while SIFO's research shows that Norwegian consumers prefer natural fibers and also regard them as better for the environment.

<https://clothingresearch.oslomet.no/?s=synthetics+natural+>

There is also no agreement on how superior the performance of synthetics is, and there is growing concern around plastics/microplastics, in particular related to waste

<https://www.nature.com/articles/s41467-024-49441-4>.

A better way: Look at all forms of acquisition. Limit or find another way to describe issues around repair. We would also like to suggest that we start from the specific problems that the clothes have and which types of clothes have these problems. It is also important to take into account that if you want, for example, underwear to be more "repairable", and the elastic band needs to replace elastane in the fabric - this means that the clothes will become thicker, heavier and the waist more visible. All measures to increase "repairability" might also have other effects such as contributing to increasing environmental impact and also changing functionality/aesthetics. This should therefore only be done for garment types and materials where it is both a major problem and can be solved without creating new problems.

6.2.1 Reasons for purchasing apparel, lines 1751 - 1753 Digital vs. physical shopping

We see this as problematic: Why isn't marketing as a main and important driver for overproduction discussed as a separate point? Why use a reference from year 2017 (very old) when Shein and Temu are more recent and much more relevant for the discussion?

Aggressive marketing is increasingly being identified as a key driver for the massive increase in apparel sales (and discarding). This has been acknowledged by the French government, and Geneva city, but not sufficiently by JRC. However, JRC also writes: "Some companies opt to implement business models characterised by continuous novelty and disposable trends in constant change (Centobelli et al., 2022), designing their products for rapid trend turnovers through obsolescence and early disposal. Other companies, in contrast, implement business models with less frequent trend turnovers, focusing on product durability and reverse logistics. The number of seasons or trends that are placed on the market largely affects the environmental impacts. Rapid trend turnovers tend to drive consumers (directly or indirectly) to replace clothes, even when it is still not necessary from technical perspective."

Therefore: Data is urgently needed to understand how key aspects of business models influence how long items or collections must be sold at full price until they can be sold at reduced prices (on sale). Or how penalizing companies with frequent collection drops during the year, and a large proportion of the clothes sold with prices on sale, can reduce the companies' and EU's environmental impact.

Discussing product-specific problems is very limited (and is also debatable), understanding if addressing this at a product level actually has any effect, should be top priority.

6.2.1 Reasons for purchasing apparel, lines 1764 – 1766, 9.2.6 Environmental impacts, lines 3771 - 3777

This is what JRC postulates: "However, some seem to be linked to the need to *replace* apparel that is old, worn out or broken to a certain extent. In these cases, information requirements on reparability and disposal could guide the user concerning ways to repair the product to ensure optimum durability."

"The trend turnover is a fundamental factor that defines a business model. Some companies opt to implement business models characterised by continuous novelty and disposable trends in constant change (Centobelli et al., 2022), designing their products for rapid trend turnovers through obsolescence and early disposal. Other companies, in contrast, implement business models with less frequent trend turnovers, focusing on product durability and reverse logistics. The number of seasons or trends that are placed on the market largely affects the environmental impacts. Rapid trend turnovers tend to drive consumers (directly or indirectly) to *replace* clothes, even when it is still not necessary from technical perspective."

This is problematic, because: Replacement and reason for disposal and purchase are confused. In SIFO's research, which JRC cites, on reasons for disposal, around only 1/3 is disposed of because it is worn out or broken, 'old' is not defined other than no longer fashionable, and which no 'repair' will enable for longer use. But tying this number to *replacement* is questionable in itself. The idea that disposal leads to replacement is a theory, and very little research has been done in this area, Irene Maldini is one of the very few who has looked at this, and she found

hardly any relationship between disposal, acquisition and replacement. What is already in the wardrobe is not necessarily perceived as "not trendy". New things are bought and sooner or later something has to go out. All this replacement stuff is an obsession. When it comes to reasons for disposal, these have been studied, but there has been no study of how they are related to acquisitions! So, we do not necessarily replace what we dispose of. Conversely, it is also the case that people use clothes that are both worn and worn out and damaged in an infinite number of ways.

Find out where and in which product groups replacement has an effect. Don't assume it applies to clothes, although this may apply to washing machines. Point out the knowledge gap that there are so few studies looking at the effect of disposal on purchasing - and conversely the effect of purchasing on disposal. This is knowledge that is not only important for a possible design directive, but will also have a decisive effect on waste management.

6.2.2 Criteria used when buying apparel, lines 1777 – 1778, lines 1795 – 1796, 6.2.6 Attitudes towards the purchase of apparel made without harmful chemicals, lines 1989 – 2006, 6.2.7 Attitudes towards the purchase of apparel made with recycled materials, lines 2007 – 2020, 9.2.5 Recyclability and recycled content, lines 3565 - 3567

Concern: Using consumer surveys as facts, as there is a difference between what consumers say and what they do. We quote:

“Quality and price are paramount factors influencing consumers' apparel purchasing decisions, with 97% emphasising the importance of product quality”

“According to a Cotton Incorporated (2014) survey, the top pre-purchase drivers for sportswear among consumers are comfort (77%), fit (69%), washes clean (65%), **quality (64%), and durability (62%).**”

Consumers' awareness/fear of toxic chemicals, is another example, where questionnaires can be problematic. Consumers' attitudes towards recycled content is also part of this complex, as the question-boundaries are very unclear, how one defines recycled content, f ex. Based on the above, this is then an assumption: “With a growing interest in textile products containing recycled fibres, there should be also a growing demand for certification schemes based on chain of custody systems capable of tracking the source of the recycled fibres used.”

We would like to remind JRC that questionnaires are weak when used in this way. The ‘correct’ answer is ‘quality’, but there is no agreement on what quality *is* or how can consumers actually gain knowledge on something so diffuse? Chemicals are not part of labelling requirements and since no one ‘sees’ them except as colors, they for the most part invisible, so the lack of attention means that people are not necessarily afraid or concerned at product level. They may also believe that strict laws ensure we are safe from them. If we look at the environmental impact, however, people have some degree of awareness. As bans and improvements will come in to place, this is one of the most important arguments for actually dating products.

GoreTex should be treated as special waste until it no longer contains PFAS, as one example.

The studies cited here on consumer preferences for recycled content, are again consumer surveys, and depend on how the questions are posed and if unclear, concepts such as “quality”

are used, in the interpretation of durability. For what type of products do they accept recycled materials, and what type of recycled materials are we talking about. Typically, brands will have bold marketing of 'recycled content', but will not say if for example the recycled material stems from rPET from bottles, which the consumer has learned is a 'bad' choice. A consumer study of this needs to be much more nuanced. A recent study from Consumption Research Norway shows very little willingness to acquire apparel in recycled synthetic materials.

<https://clothingresearch.oslomet.no/2023/01/26/natural-and-sustainable-consumers-textile-fiber-preferences/>

Use consumer surveys with precaution. They might say something about practice, but often not. Use sources that better capture realities. This is especially important when discussing unclear concepts. For making the consumer aware of level of quality, one first has to agree on what quality is and make this understandable and accessible. In many cases consumer will have diverging opinions on this, for example are thin materials delicate and nice, or flimsy and weak? Are heavy materials better, or are they cumbersome?

For chemicals that should concern consumers, they would be better protected if all products were dated, so that consumers can better know if chemicals of concern are possibly in the products or not.

For attitudes towards recycled content, commission a consumer study to properly study this including reaction to actual materials and not only words describing them. Also make consumers aware how little the environmental gain is, here estimated to be 1.3%.: <https://ivl.diva-portal.org/smash/record.jsf?pid=diva2%3A1833833&dswid=9564>

This is important to not make recycling an excuse and a vehicle for overconsumption.

6.2.3 User quality assessment of apparel: key insights, lines 1852 – 1853 and 1867 – 1868 and 1887 – 1889, 1891 – 1892, 1893 – 1894, 1895 – 1899, 9.1 Relevant product aspects, lines 2539 – 2547, 9.2.1 Physical durability 2802 – 3011, 9.1.2 Exclusion of non-relevant product aspects table 40, line 2722, table 41, line 2732, lines 2738 – 2744, 9.2.1.1 The ecosystem of physical durability, lines 2832 – 2848 (user behavior), 9.2.1.2 Natural vs synthetic fibres – duality or complexity? lines 2863 – 2879, 9.2.1.3 How to assess physical durability, lines 2880 – 2992, 9.2.6.1 The ecosystem affecting the environmental impacts, line 3835

Commenting: "Consumers also tend to associate durability and ease of care with higher quality apparel, with a strong expectation for long-lasting products." "Consumers expect high-quality apparel to be durable (Yuille, 2015). In fact, 43% of survey 1867 respondents declared that long-lasting products are generally better quality (Consumers, Health, 1868 Agriculture and Food Executive Agency et al., 2018)." "Overall, the references analysed provide consistent views on the fact that the assessment of quality by users is multifactorial and somewhat subjective because, inter alia, it is largely based on tactile experience with the apparel." "However, how consumers assess quality is not always clear as this can be very subjective." "Information requirements on product aspects linked to durability, and even reliability, could enable consumers to better understand and assess the quality of apparel." "In order to facilitate the user's assessment of the quality of apparel, performance requirements based on product durability, reliability and reusability aspects could, as appropriate, include minimum levels.

Another possibility could be to define requirements connected to the functional performance of apparel. Information requirements related to the above-mentioned product parameters could serve as metrics to guide users' assessment of quality in apparel." "Perceived quality of the product is a decisive factor to discard textile apparel (Aakko and Niinimäki, 2021)"

Concern: Durability as key aspect, will favour plastics over natural fibers and materials. We see a lot of ignoring the context and nuances of the research. Alos, fiber-blind thresholds and unnecessarily complex measurement parameters.

In the document, durability is seen as equalling quality, which is on one hand objective, and on the other hand subjective. Yes, consumers use 'quality' as a concept to appear as good consumers. But an important ambiguity for the confusion, is unclear marketing, greenwashing and low prior knowledge. If marketing was more focused on informing about the *properties* of products, and these were communicated in a more standardized and understandable way, it would be easier to orientate oneself.

We do not have research that shows that physical durability as defined here, has an impact on DoS, let alone new acquisitions, so there is no basis to say that they will reduce environmental impact. Consumers buy or acquire apparel for many different reasons, where durability is **not** the main driver, for example a silk dress will be perceived as quality, but will be less durable than a synthetic item. Consumers look for many attributes, including drape, warmth, less prone to smell, occasion-needs, etc. And they dispose of apparel for several reasons; 'durability', wear and tear are not a main driver. An extremely industry-focused approach and to a lesser degree takes into account consumers' perspective. Using Consumption Research Norway's research to underpin this logic, is problematic, as the nuances are lost: The research cited here, actually discusses willingness to repair based on price and value-assessment of garments (and other goods), *not* durability/quality as cited. The research discusses the *lack of congruency around defining quality*, which here is ignored.

Also, problematic is that under the section on measuring durability, JRC does not address fiber-specific thresholds, and as pilling is the major durability issue (which arguably could be seen as a repair issue, as a pilling comb will fix some pilling-issues. High quality cashmere pills, low quality synthetics pill. In the first it is expected and easy to deal with, in the second not. So quality is on a continuum. So choosing durability as an important aspect is not informing consumers in a useful way. Quite the opposite. There is also a danger of implementing measures, such as adding extra buttons, which will increase the environmental burden, based on non-existent research of effect.

Suggestion: Do not use unclear concepts like "quality", and do not mix the concepts durability and quality. Understand that different products and different consumers wishes are a complex mix of aesthetic and technical properties, from there start to understand quality as a complex "web" of qualities. This web makes design requirements complex, and this should be discussed. It might be that it should be limited to specific problems that are both documented, f ex for specific product groups and not be mandated or related to *all* apparel. Date products, make dating mandatory on EU's market and use waste audits to establish DoS.

<https://clothingresearch.oslomet.no/2024/04/18/new-method-to-capture-relationship-between-properties-and-use/> Also use the research not to back industry perspectives, but to understand the consumer as a major stakeholder. This is actually EU's mandate, to protect us.

6.2.5 Attitudes towards second-hand apparel purchase, lines 1960 – 1967

There is an underlying assumption that second-hand replaces new apparel purchases or acquisitions.

Studies have shown that those who buy second-hand also are those who buy more overall, and not necessarily less, new apparel. Also, countries with high second-hand purchases do not have a lower trade of new products.

Suggestion: Find out more about replacement drivers, through new studies (which WRAP just did in a new publication on how replacement rates can be quantified). Do not assume that more second-hand effects the purchasing or acquisition of new products. Policy that increases something do not necessary decrease something else. The production and trade of too many new products are the main driver of the current environmental crisis. The quantities also affect the trade with second-hand products, making it increasingly less profitable. Quotas on import and regulation on marketing is there for a more effective avenue.

6.3.1 User behaviour during use: laundering practices, lines 2022 – 2074; 9.2.2.1 The ecosystem affecting maintenance, line 3053

The document lacks updated washing/care research and lacks inclusion of important aspects for care.

Why use research that is old, when more recent research, f ex on the importance of filling grade in machines as an undervalued parameter in laundry practices, is not present in the document? Also, lack of dividing laundry habits on fiber type is not accounted for. This is one of the only places microfibers is discussed, but *laundry* is a very little part of the microplastics problem, as plastic pollution from textiles is mainly at the end-of-life stage, and also in use.

Why is this singled out as a way to reduce environmental impact: “Running short washing cycles and reduced spin speed”?

Because of less energy use, one wonders? When filling grade and which frequency is not mentioned as an issue here, which *is* more important. Spin speed is important to remove the dirty water, and to reduce drying time. Long washing cycles have been developed to reduce energy with the same washing results, but not necessarily to give us what we want: clean clothes. This does not align with state-of-the art research.

Solution: Use more updated sources, and include filling grade:

Look at f ex Klint’s PhD, which addresses, among other things, what is the functional unit of laundering, a stellar study that JRC really should read.

<https://clothingresearch.oslomet.no/2024/09/13/new-phd-makes-a-splash-the-function-of-the-laundry-and-the-limitation-in-self-reported-data/>

In sum: include filling grade and remove “reduced spin speed and short washing cycles” as this does not align with what we know about having clean clothes and environmental impact of laundering.

6.3.3 Reparability, lines 2105 – 2150

Here the document addresses the concept of whether apparel is or is not repairable, and how this affects disposal. Causality, in other words. “The consumer relationship with apparel often exhibits a transient nature, characterised by the disposal of items before they reach the end of their lifecycle. This disposability stems from factors such as overconsumption and the convenience of replacing rather than repairing apparel. Moreover, diminishing sewing skills and limited access to repair services further impact consumers' decisions regarding garment maintenance and repair.” “Reasons for this behaviour include overconsumption and the convenience of replacing unwanted items rather than repairing them. A lack of emotional attachment to the product is observed.”

Again, we have consumer questionnaires raising their ‘ugly heads’: “Most survey respondents rated reparability as unimportant when purchasing apparel items such as coats or jackets while only about 11% considered reparability to be important.”

In a recent Norwegian study (not cited here, as it is in Norwegian), 65 percent of textiles disposed of in municipal waste, was fully usable. When consumers dispose of clothes before they are worn out, they do not need repairs, so why is JRC pointing a finger here? The argument does not take into account the clear facts:

1. Most clothes are not purchased as replacements
2. clothes are repairable
3. they are mainly disposed of *before* they are worn out
4. disposing of clothes makes room for new purchases in the wardrobe.

As already pointed to, this needs to be researched and the inverse dynamic also needs addressing. There is little knowledge, yes, but what is wrong with the vast majority of clothes that do not require much knowledge. The vast majority of ‘faults’ are stains, pilling, etc., in other words repairs that do not require much knowledge or very specialized equipment. There is no research that looks at whether more repairs would lead to longer use and certainly not whether this would prevent the purchase of new ones (in WRAP’s latest publication, they specifically ask for this research). It may just as well be that small defects are used as an excuse for disposal. If the garments are well-liked, consumers will both live with the defects and/or do something about them. Thus, the main reason for disposal is not the defects themselves, but the lack of *value*.

We have no documentation that replacement is important when acquiring new clothing, quite the opposite, and what is referred to as “overconsumption” can just as well be referred to as overproduction, which means that a lot of clothing is sold with aggressive marketing and for extremely low prices. We would rather ask: When did apparel become “non-repairable”? Repair has been a common and daily part of clothing care since... forever. The whole concept itself here is weak and therefore it is of course not easy to ask consumer about this aspect. This is one of several examples of how transferring terminology from another field of consumption (electronics) to clothing, does not work.

Sewing skills (which may be lacking) are really not necessary for most ‘failures’: stains and pilling. Repairs can be done in an infinite number of ways and will depend on the level of knowledge but also on what the individual wants and requirements for the garments (aesthetically and functionally).

Suggestion: Do not use unclear concepts (like “reparability”) and do not assume that replacement is important, without evidence for this. Think through the “overconsumption” concept and whether the consumer or the industry are actually to blame, when considering aggressive marketing, the answer is rather obvious. Also: “Research by Laitala et al., (2023) emphasizes the need for clear guidelines on what constitutes unacceptable wear versus normal use.” This is because complaints are important and generate professional repairs. Again – another reason for dating products, to ensure guarantees. So, this all comes together.

6.4.1 Reasons for disposal of apparel, lines 2177 - 2223

We would like to comment these references: “A review by Laitala and Klepp, (2022) of 17 consumer studies involving around 20 000 participants identified the most common reasons for apparel disposal as intrinsic quality (34%), 2191 perceived value (31.4%), and fit issues (25.8%). These findings are consistent with the results summarized in **Table 36**, which also highlight these factors as the primary reasons for apparel disposal. While quality-related concerns are the leading cause, perceived value and fit issues are almost equally significant.”

“Other issues: pilling, fabric breakdown, accidental damage, loss of dimensional stability, logo failure, discoloration, holes in seams, and trim failure (Cooper and Claxton, 2022b).”

Disposal is mainly tied to volumes, and not necessarily what is addressed in the Cooper and Claxton study, as is made clear in the Laitala and Klepp reference, but this is not considered in the document in a satisfactory way, as this section is missing an important and missing aspect, quantity. One of the most important parameters for disposal is how much you have (i.e. how much you buy). If this quantity does not decrease, increased lifespan will have no effect, but conversely, less purchases will lead to longer useful life. Therefore, it is not ecodesign that we need, but regulation of marketing, to stem volumes.

Disposal is also tied to life changes. Experiences from working with waste audits show that a lot of clothing is disposed of in large quantities. Wardrobe studies confirm this, and disposal happens mainly in conjunction with death, moving house, etc. This suggests that there are important life events that are pivotal. <https://uni.oslomet.no/klesforskning/2023/03/31/want-not-waste-not-preliminary-findings/>

The part that is disposed of because of wear must be identified. It is for these clothes (e.g. socks) that increased strength will lead to longer life. But the problem of making them stronger must then be weighed against other properties. *This can be done by making the requirements fiber specific.* Socks become stronger with more plastic, but then smell more, so if you prefer wool for less smell and more warmth, you must also accept weaker socks. For a sports t-shirt, a wool -shirt will ensure that if you have a Teams meeting right after the gym, you can skip a shower and not become ill, as it will keep you warm even when wet. A cotton or synthetic t-shirt, on the other hand, will make you ice-cold when wet.

Suggestion: Analyze the drivers, which are marketing and volumes. Take into account that it is not necessarily anything wrong with the disposed items, it is their sheer volume that constitutes a problem. They are for the most part probably disposed of primarily because there is too much in the wardrobe, and therefore there is little use for those items, they take up space. We lack knowledge on important aspects like price and reduced prices/sales (and other marketing

parameters) on inflow, Duration of Service and thereby on outflow. Too much emphasis is placed on product level drivers and on design, when the battle is at a systemic level: overproduction, aggressive marketing, etc. When we have too much, we will also dispose of...too much. That is simple math.

6.4.3 Person product attachment, lines 2249 – 2286; 9.1.3 Grouping of relevant product aspects, lines 2738 – 2744, 3.2.1. Products included in the scope, line 426, Table 7

It is problematic to call the process of using and keeping things for a long time ‘emotional durability’ and assuming this can be ‘designed into’ a product.

The Niinimäki and Armstrong (2013) study shows how many different factors contribute to clothes being liked and worn for a long time. However, it does *not* show whether it is possible to design for this. As far as we know, these are only theories and assumptions. We do not think that distinguishing between emotional and physical durability is particularly wise or helpful. As JRC points out, it is highly unclear how a concept such as emotional durability could be measured. But this also applies to technical and physical durability. We do not have research that shows that stronger garments are worn more or longer – quite the contrary, the connection between strength and lifespan is complex and the lack of knowledge is great. It is therefore more important to measure actual lifespan (Duration of Service - DoS) and promote companies that contribute to clothes that are worn/last long, regardless of whether this is due to technical/aesthetic aspects or whether this has to do with marketing practices.

A possible approach: Instead, one needs to study the products from the point of disposal in order to gather actual data on DoS. Building policy on loose speculation or theories is not a good idea. Policy should instead direct its attention in the opposite direction: How long and how much something is used (DoS) is possible to measure and provides exact data. This will be made easier by dating clothes, as we have now mentioned several times. We don’t need “durability” and especially not a division into physical and emotional durability. It is much better to work with facts and waste audit data, in order to establish DoS.

We could also offer a thought experiment: In PCs and cell phones software is what makes the products more than “just” a typewriter or a phone. However, for some consumers (very few) they will remain purely a typewriter or a phone, no matter how much the software offers of possibilities. While the hardware (the actual product) has a look and function that can satisfy esthetically and through parameters such as durability and repairability predict a long or short lifespan. But one doesn’t separate the two into physical and emotional durability. One sees it as a ‘package’. But without the software, both are just empty ‘boxes’ with no real function.

For a jacket, the designer will take into consideration many of the same elements, even though the owner will own several jackets simultaneously, as there’s weather to consider, occasions, etc. (one would not wear the same jacket to a wedding as skiing, f ex). However, the designer may design in many features, which are under-used, as described above with pc and cellphone examples. An outdoor GoreTex jacket could be designed to climb the highest mountain, to withstand the most extreme weather conditions, but a consumer can potentially only use it to walk the dog in the rain or buy it because he or she likes to look like someone who climbs mountains. A dress could, similarly, be designed to withstand harsh use and many wash cycles, and then is worn to one party, and never

again, as the owner has 20 other dresses that have nicer colors or are more 'proper' for the type of parties she gets invited to. How will physical and emotional durability 'explain' these examples? Some apparel should withstand 'heavy use' and/or 'heavy care', other apparel is there for 'light use' and/or 'light care' – the user decides and makes sense of the 'software' of the product: warmth, cooling, safety, being dressed for the occasion/social codes, drape, fit – all the tangible and non-tangible aspects that may or may not ensure a long duration of service and that cannot be translated into "bad case", "base case", "Best Available Technology" and "BNAT" for a jacket or a dress. The problem of grouping products in the same way as PEFCRs does, becomes glaring, when one starts looking at 'real world' uses of the garments.

In our minds, it is time to go back to the drawing board and rethink what needs measuring and why. It is not possible to predict DoS at the start of a product's lifespan. In PEFCRs ANNEX VI, the Holistic Durability Working Group is on record demanding more research around this, but maybe the question needs to be asked differently all together, not trying to predict DoS of new product, and not dividing into intrinsic and extrinsic, acknowledging the complex web of attributes – or how 'softwear' (sic) and hardware become intertwined.

**9.1 Relevant product aspects, lines 2539 – 2547, Table 40, line 2722, and Table 41, line 2732;
9.2.3 Repairability, line 3128 – 3171**

What is problematic: Repairability as a key aspect, what consequences this aspect will have if implemented as described.

The replacement of separate elastic-bands in underwear, sportswear, tights, etc. and that elastane for comfort, esthetical and practical purposes, will have to be reversed as a 'design approach' to make the products more consumer-appealing.

If the fabric is the part which is most affected by failures, followed by seams and trims, then this also means that few products are affected, and if it is price that mainly determines whether something is repaired, why is this not addressed?

Solution: Find out the consequences, as for the most part clothing is repairable, and in the instance, it is not, complications may be bigger than assumed. Address the issue of price, for example by a discussion on the knowledge about the connection between price and DoS, repair and mode of disposal. Start a discussion on which apparel is not 'repairable' for example, apparel with electronics (out of scope), high content of elastane and pre-stressed denim.

**9.2.1.3 How to assess physical durability, lines 2880 – 3011, incl tables 43, 44 and 45, 9.3
Mutual influence of product aspects and product categorization, lines 4142 – 4144**

Trying to simplify the extreme complex nature of textiles has ended up with a testing regime that makes no sense. The idea of 'aging' being measured and bunched into four 'levels' (bad case, base case, BAT and BNAT) and using PEFCR as A&F's categories, and not taking into account use and fibers being treated and chosen for different functions – such as warmth, lack of retaining smell, etc., all this is highly problematic.

JRC writes: „The first step of this synthesis is the adoption of product categories valid for all relevant product aspects. In the case of textile apparel, this exercise is very simple because the only product

aspect described via categories was the physical durability. This allows the adoption of the categories reported in **Table 44** of section 9.2.1.4 as the product categorization to be used in the following steps of the development of the PS.”

This is not true. This is not simple, in JRC’s world view, not by a long call.

The main ‘failure’ identified as an ‘aging’ factor is pilling, which is a factor for some products, but an easy-to-fix issue in many natural fiber products, more prevalent in blends. When – for *accessories – one chooses to keep them out of the scope, because it would create too many sub-categories*, for example dividing into fibers (silk vs. non-silk), one wonders why this isn’t the exact same for all the other categories? For socks and tights, for example? Where holes are a main reason for failure, which isn’t included. And for t-shirts, if these were categorized both into fibers and use areas (sports, everyday) one could nuance on cleaning cycles, relating to smell, for example. But then of course, the neat tables will not be so ‘neat’ any more. Also, this raises the question of how well these tests capture real life and true use. so why set 20 wash cycles as a given, when wool is laundered less often than other fibres.

Start mandating date of products going to market, along with brand, and use waste audits to, at brand level, decide what ages and what does not age well. Compare with prices the products receive on the second-hand market, up against a 5-level scale of products’ reuse value, developed by Consumption Research Norway

<https://clothingresearch.oslomet.no/2024/04/18/new-method-to-capture-relationship-between-properties-and-use/>

9.2.3.1 The ecosystem affecting the repairability, lines 3184 – 3207; 9.2.3.2 How to assess repairability, lines 3224 – 3231

“The decision of repairing an item of textile apparel is highly subjective and depends on individual values, fashion trends, price, skills and time available to users.”

“However, self-repair is a viable option only if the user has suitable skills and available time.”

“...repairability can be assessed via more product-related properties identifying the product parts and describing the level of four key parameters: (1) disassembly complexity, tool accessibility, use of standard fasteners, and (4) repair support resources”

Summing up: The economic aspect of price or perceived value of product when acquired, is not considered. So, the decision is rational, clothes that are expensive or you love you repair, either yourself or by others. Studies on repair are unequivocal. We need to increase the value of clothes and the easiest way to do that is to reduce the quantity. If one does not have suitable skills, many ask a relative or someone else to help them, according to our research.

We would like JRC to point to studies that actually tie the four key parameters (disassembly complexity, tool accessibility, use of standard fasteners and repair support service) to repair and even better to Duration of Service. We wonder how you know that this aspect will have an impact.

Addressing the volumes is probably what will affect this issue. As this will further be studied in Task 5 and 6, ensure that studies are commissioned that actually study the correlation between the four key parameters and Duration of Service, price and marketing.

9.2.4.2.2 Pre-consumer waste, lines 3362 – 3363, 9.2.4.2.3 Post-consumer waste 3386 – 3391, 9.2.4.3 How to assess and describe product technologies in the context of waste generation 3401 - 3402

Pre-consumer and post-consumer waste and consumption vs production as a driver for volumes, which is mainly caused by fashion fads, personal taste or social life: “The generation of waste is not an intrinsic property of a single product technology, but rather depends on many elements of its ecosystem, and is *driven by the total consumption* of textile apparel.”

First JRC writes the dynamics that lead to brands producing stuff that doesn’t get sold, then later say this is driven by trends, personal taste and consumption in general. But it is the quantity produced (and imported) that is crucial, not how much of it is purchased. The quantities drive the price down, and when they are not sold at full price, the prices are ‘dumped’ (they go on sale) and the consumer, who is at the receiving end of heavy marketing ploys, carries the ‘waste’ out of the store.

Once again it comes down to addressing the volumes, and not unfairly blaming the consumer. Remember that much more is produced than bought, in spite of prices being dumped.

9.3 Mutual influence of product aspects and product categorization, line 4131

The claim that is problematic: “Waste generation is strictly connected to recyclability and recycled content;”

This is not the case. It is ‘strictly related to’ volumes. Recycling might be better than other treatments of textile waste, but as the waste hierarchy clearly shows waste preventions is better, this is at the core.

The knowledge we do have on restricting is not promising when it comes to environmental savings <https://ivl.diva-portal.org/smash/record.jsf?pid=diva2%3A1833833&dswid=9564>. What we don’t know is how an emerging recycling industry will affect production and consumption, so this is lacking knowledge. We also encourage JRC to implement waste prevention and not only waste treatments in the discussion.