Understanding the PEFCR for Apparel and Footwear

The Role of PEF in Policy

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Executive Summary

The aim of this paper is to explain the *Product Environmental Footprint (PEF)* method in general terms and how it is being applied during the current development of the *PEFCR (Category Rules) for Apparel and Footwear*. As the purpose of this paper is to summarise a technical topic for non-LCA experts, it is aimed at a general audience with interest in the PEFCR for apparel and footwear including NGOs and the general public. The paper is funded directly by the European Environmental Bureau (EEB) to provide independent support for its involvement in the PEFCR stakeholder engagement process.

Life-Cycle Assessment (LCA), PEF and PEFCRs are related methodologies that can be used to assess the environmental sustainability of products. LCA may be considered as the 'foundational' methodology for the PEF and PEFCR. However, in practice, existing LCA methods were overly broad, often resulting in LCA studies with conflicting results based on the different goals or methodological choices of individual studies. In response, the EU Commission developed the PEF method, a more specific set of guidelines within which to calculate an LCA. As the PEF method alone cannot achieve unambiguous and fair comparisons between products, additionally specific PEFCRs need to be developed for individual product categories in order to achieve this. The Apparel and Footwear (A&F) PEFCR is currently under development and scheduled to be launched in Q4 of 2024.

For a sector as complex and heterogeneous as apparel and footwear, creating a methodology which results in accurate and consistent PEF studies and also promotes better environmental outcomes is inherently difficult. Accordingly, there are several **limitations** on how well the A&F PEFCR can fulfil this mandate (a non-exhaustive selection of those limitations have been outlined below).

The A&F PEFCR is being considered by policymakers as an integral part of the policy response to fast fashion (products designed in such a way that reduces their longevity), however designing a methodology to do this is inherently difficult and a work in progress. The challenge faced by the method designers is to design a holistic method for calculating how many times a product will be worn on average, taking into account both *emotional* and *physical* durability. No widely accepted method for doing this currently exists. Even if a perfect method is developed, the A&F PEFCR will not alone address the problems of overconsumption and fast-fashion– these are systemic issues that should be dealt with through holistic, joined-up policy making.

It is important that the A&F PEFCR is not considered as providing a complete picture of sustainability. Socio-economic factors that are crucial to defining a product as 'sustainable' are (by design) not considered, and several environmental factors such as microplastics and biodiversity are either not considered and/or not sufficiently captured by existing metrics. However, the fact that it does not cover *all* sustainability impacts does not necessarily detract from the usefulness of measuring those that it does, instead it highlights the importance of treating the A&F PEFCR as one piece of the puzzle where it is used.

The A&F PEFCR face an unavoidable limitation when striking the balance between rigour and accessibility when setting the list of mandatory primary data points that must be collected during a PEF study. If the requirements are overly rigorous, many companies (especially SMEs) will find them prohibitively difficult and expensive, whereas if they are too relaxed the results may not be meaningful and may even open the door to greenwashing.

Another limitation that has already raised significant concern is the ability of the A&F PEFCR to provide accurate and transparent secondary data. All PEF studies (in any category) must use a common set of secondary data —an 'EF-compliant dataset'—which is compiled by the European Commission. The reliance

on commercial data means the EF-compliant dataset cannot be open-access under current agreements (although it is free to access for brands completing a PEF study), which is made worse by the fact that the dataset is housed on a difficult-to-navigate website. This potential lack of transparency is particularly concerning given the known inadequacies of existing secondary related to the environmental impacts of different fibres, without any clear plans to rectify this issue with a suite of up-to-date LCA studies.

Finally, by mandate, the A&F PEFCR must enable comparisons between products within the same category or sub-category (i.e., jackets, or t-shirts), however such products may have inherently different performance requirements in use. Without creating an unfeasibly large number of sub-categories, many products within the same sub-categories will be fundamentally different in their performance requirements (e.g., a winter jacket and a summer jacket) and the A&F PEFCR may therefore be limited in its ability to allow for comparisons at a meaningful level of granularity.

The **governance** of the A&F PEFCR is of vital importance and has often been criticised as being overly influenced by industry interests. The Technical Secretariat (TS), the body responsible for designing the PEFCR, is comprised overwhelmingly of large apparel and footwear brands or industry bodies, while the small number of non-industry bodies are all-but-one restricted to non-voting roles in the TS. Mechanisms to prevent the rules being solely written by industry exist, such as public consultations during the PEFCR development, and (perhaps most importantly) the review and approval processes which will be dominated by independent experts and member state representatives. However, while industry do not simply 'make the rules', more could be done to achieve a fairer balance between industry and civil society voices within the TS.

While PEFCR documents themselves are only guidance documents, but they are often considered by policy makers when they require a methodological basis for regulatory measures. To date, the PEF method has only very rarely been applied in policy, however where it has been integrated (for example into the EU Regulation for Sustainable Batteries) it has formed the methodological basis for strong regulatory measures. Policy makers have consistently displayed an appetite to integrate the PEF method into policy, as outlined in the EU's recently published Circular Economy Package (March 2022). A forthcoming EU proposal legislating the use of the PEF method when making environmental claims is expected in November 2022.

Within the wider policy context, it is important that the A&F PEFCR does not detract from the need for urgent regulation on the A&F industry to tackle the continued prevalence of fast-fashion. On a similar note, it is important that the communication of PEF results is done so in such a way that it is not seen as a 'green light' for consumers/producers encouraging them to buy/sell more products. The overwhelming focus of future policy in the textiles industry must be on reducing the volume of products placed on the market, as reducing the impacts of individual products alone is unlikely to reduce the overall footprint from the sector at the scale needed.

Bearing in mind these limitations, and considering the policy context, the following recommendations are made to support the A&F PEFCR in achieving the goal of providing a framework for making unambiguous and fair comparisons between the environmental impacts apparel and footwear products:

For method designers:

- Transparency is key. The EF 3.1 database must be de-mystified for non-expert interested stakeholders (civil society) with the creation of clear guides to how to navigate the databases, and the Commission must extend the availability of open access data as it is currently over-reliant on commercial databases.

- The PEFCR development process could do more to represent the voices of NGOs and independent experts. While several mechanisms to include civil society are in place, the A&F (and future) PEFCR(s) could do more to include non-industry voices, for example by significantly increasing the ratio of non-industry to industry members, and by removing the distinction between voting and non-voting members.

For policymakers:

- LCA does not, nor is it intended to, cover all issues related to sustainability. Where the PEF method is integrated into policy to support sustainability, it should always be accompanied by methods to assess and mitigate social impacts and additional impacts not covered by the PEF, especially when it comes to the apparel and footwear industry.
- When attempting to improve circularity for textiles, policymakers should prioritise policies aimed at reducing the absolute volumes of textiles placed on the market. The A&F PEFCR method may align with this goal if properly designed but will not fulfil this goal on its own (and should not be expected to).
- Given the remaining uncertainties regarding the A&F PEFCR methodology, and regarding the foreseeable practical limitations for brands (especially SMEs) if required to conduct PEF studies for their entire portfolio of products, caution is strongly advised when considering policies that will result in mandatory PEF studies for brands without the provision of streamlined tools and additional support.

For brands:

- Brands should complement any communications about the PEF with additional information about the wider and systemic challenges of sustainability in the textiles sector, or a clear and obvious explanation of its limitations.
- Brands should focus on using PEF studies to conduct robust assessments of their internal processes and value chains in order to reduce the footprint of their products, before considering using PEF studies as a marketing tool.

Table of Contents

1.0 Introduction

The aim of this paper is to explain the PEF method in general terms and how it is being applied during the current development of the *PEFCR (Category Rules) for Apparel and Footwear*. As the purpose of this paper is to summarise a technical topic for non-LCA experts, it is aimed at a general audience with interest in the PEFCR for apparel and footwear including NGOs and the general public. The paper is funded directly by the European Environmental Bureau (EEB) to provide independent support for its involvement in the PEFCR stakeholder engagement process.

Section 2.0 introduces LCA, PEF and PEFCRs, including an explanation of the general process for developing a PEFCR document. By explaining the role of civil society in the design process, we consider the extent to which the PEF is influenced by the apparel and footwear industry.

Section 3.0 introduces the PEFCR for Apparel and Footwear (referred to herein as the 'A&F PEFCR'), briefly introducing the membership of the Technical Secretariat, timeline and the key features of the (draft) methodology. The contents of the A&F PEFCR is then explained further in terms of its limitations. There are considerable challenges the Technical Secretariat must overcome if the PEFCR is going to successfully achieve its purpose. Many of these aspects, such as the measurement of emotional durability and secondary data reliability (plus others not mentioned in this paper), are yet to be finalised and will be key points of interest and debate in the future.

Section 4.0 then considers the role of PEF in policy, first considering the role it has played thus far, and then considering how it may be integrated into the various legislative initiatives that form the EU's Circular Economy Package (March 2022). There are strong indications that the PEF will be enforced as a basis for validating voluntary green claims. Other aspects of policy integration are less clear, however there are indications that it may be used as a basis for mandatory environmental information disclosure through a product passport and/or EU Ecolabel, and for setting minimum environmental performance criteria in different EU product policy instruments such as Ecodesign or public procurement.

Finally, **Section 5.0** provides recommendations for PEFCR practitioners (the Technical Secretariat) and policy makers. The recommendations are a mixture of more specific/technical recommendations for shaping the rules, alongside more over-arching governance and policy-oriented principles, with the goal to ensure that the rules are established through a fair process and are adopted into policy responsibly.

2.0 Understanding LCA, PEF and PEFCRs

2.1 What is Life-Cycle Assessment?

Life-Cycle Assessment (LCA) refers to an assessment of the environmental impacts of a product or process over a defined lifetime, where the lifetime is most commonly measured from the extraction/cultivation of raw materials to its end-of-life (cradle-to-grave).

It is useful here to also state what LCA is not.[1] LCA is not a method for measuring *all* environmental impacts, for many impacts either the science is not sufficiently advanced, or they are simply inappropriate for measuring in a linear fashion. LCA is not strictly a method for assessing the wider *sustainability* impacts such as social or economic impacts (although hybrid methodologies for social-LCA are becoming increasingly acknowledged). Furthermore, LCA is an assessment method, it does not itself propose solutions or policies but the results of an LCA study may inform such measures.

2.2 What is the PEF?

The Product Environmental Footprint (PEF) Guide[2] was released in 2013 as part of the European Commissions' Single Market for Green Products project. The purpose was to create a common language and method for conducting LCAs, which may then form the foundation for a set of specific rules. In this way, the PEF method supplements existing international standards for LCA (such as ISO14040:2006, which form the basis of the PEF Guide), which are in practice overly broad and unreliable for ensuring consistent and comparable LCA studies. A 'product environmental footprint (PEF)' (or 'PEF study') is therefore simply an LCA which has been completed within these more specific guidelines.

2.3 What are the PEFCRs?

The purpose of the Product Environmental Footprint Category Rules (PEFCRs) is to provide a framework for unambiguous and fair comparisons within specific product groups in the EU market. PEFCRs are essentially extensions of the PEF Guide for specific product categories, which make sure that the same assumptions, measurements and calculations are made to support comparable environmental claims across that same group. The PEF alone is too broad and generalised to achieve this. At the time of writing, there are nineteen existing pilot PEFCRs and five[3] in drafting process. The upcoming *PEFCR for Apparel and Footwear* perhaps represents the broadest and most complex product category to date.

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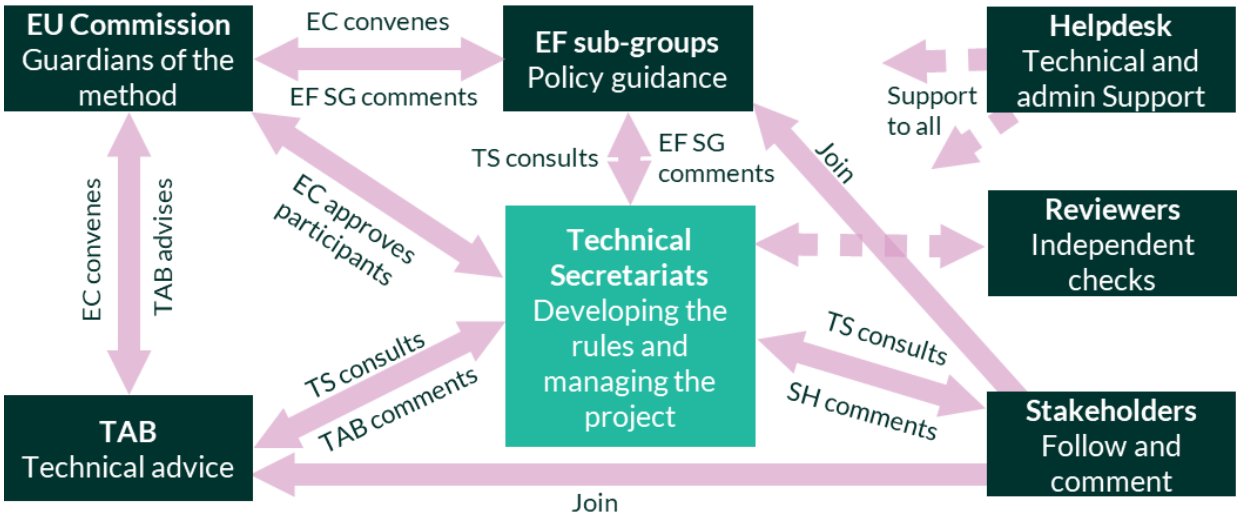
[1] This is explored in more detail in the 'Limitations' section of the report.
[2] European Commission (EC), Joint Research Council (JRC) and Institute for Environment and Sustainability (IES) (2012) *Product Environmental Footprint (PEF) Guide*. Available at: https://ec.europa.eu/environment/eussd/pdf/footprint/PEF%20methodology%20final%20draft.pdf
[3] Apparel & Footwear, Cut flowers and potted plants, Flexible packaging, Synthetic turf and Marine fish.

2.4 PEFCR Development Process

The figure below identifies the key actors involved in writing a PEFCR, their role and how they interact with each other.



Arguably the most important body for each individual PEFCR is the **Technical Secretariat (TS)**, which coordinates the development of the rules**.** The typical roles within the Technical Secretariat are as follows:

- **Chair** coordinates the various tasks of the TS and chairs the meetings.
- **Technical Secretariat Coordinator (TSC)** represents the Technical Secretariat in the Steering Committee.
- **Members** are responsible for developing and agreeing upon the sector-specific rules.
- **Technical Lead/Expert** writes the document and helps the TSC coordinate discussions. Writing the PEFCR documentation is a collaborative process, the role of the Technical Lead is to translate the decisions made by the Members into the final document.

To ensure the representativeness of the TS, at least 51% of the EU market must be represented (either by companies themselves or a representative (i.e., industry bodies)). When this cannot be achieved (as is the case with the A&F PEFCR), the Commission may choose to actively participate in the work of the Technical Secretariat[4].

The Role of Civil Society in the PEFCR Development Process

While the TS may design a PEFCR, they alone do not 'make the rules'. Indeed, the PEF method claims legitimacy from being designed under a democratically controlled process, and from its compliance with existing LCA standards. Below we have considered the measures in place to ensure a PEFCR is designed within a democratic process and where relevant considered the associated caveats to those measures:

1. The draft and final PEFCR documents must be approved by the **Steering Committee (SC)** to advance/gain final approval. During the Environmental Footprint pilot-phase[5] the SC consisted of: "*one member of each pilot, representatives of the EC, one representative from each EU member state,*

[4] Joint Research Council (2021) *Understanding Product Environmental Footprint and Organisation Environmental Footprint methods*. Available at: https://ec.europa.eu/environment/eussd/smgp/pdf/EF%20simple%20guide_v7_clen.pdf
[5] The 'pilot phase' of the PEF method refers to the first phase of the PEF development, during which the initial PEF Guide and nineteen individual PEFCRs were developed. This concluded in 2018 and we are now in the 'transitionary phase', during which five new PEFCRs (including for Apparel and Footwear) are currently being developed.

EFTA, or candidate country, and one representative from key stakeholder groups (consumers, SMEs, environmental NGOs, business and international organisations)" (PRé Sustainability, 2016[6]).

- ***Caveat***: While this constitution of the SC was true for the pilot-phase PEFCRs, there has been no new guidance guaranteeing this will be the case for the transition-phase PEFCRs (such as for Apparel and Footwear). This is particularly concerning given the SC has not met since April 2018.[7]

2. An external, independent third-party **Review Panel** will provide a review report/statement on the second draft of the PEFCR report, which must be responded to by the TS, and will feed into the SC's approval process. The Review Panel must contain one LCA expert, one industry expert and (if possible) one representative from civil society NGOs, and it must be selected following a scoring system provided in the PEF method.
    - ***Caveat***: The members of the review panel are appointed by the TS themselves, suggesting there may be scope to appoint a sympathetic panel rather than one which will raise difficult questions. Furthermore, the definition of an 'NGO' could be clarified, as NGOs may include organisations with specific interests including those sponsored by companies with vested interests. In these cases, civil society might not be adequately represented.
3. While PEFCRs are being drafted, two **Public Consultations** are held where all interested stakeholders can provide feedback on the draft PEFCRs.
    - ***Caveat***: While the process is technically open to EU citizens, even if they were aware of the process, due to the complex nature of the Commission's platforms, interested stakeholders often find it difficult to access the relevant documents to review or to submit a response[8].
4. Within the TS itself, it is *preferable* that the TS consists of a mixture of industry, NGOs, member states, national/international institutions or a university/research institute – such is the case with the A&F TS in which a wide range of stakeholders were reportedly invited to join at its inception.
    - ***Caveat***: The requirement of 51% market coverage dictates that the TS membership will mainly consist of industry. Furthermore, (as discussed below) for the A&F PEFCR only, membership has been stratified into voting and non-voting roles, with the NGOs acting as Observers (non-voting). Additionally, some non-industry stakeholders may not have the resources to participate in the development of a PEFCR.
5. Finally, the design of any PEFCR is bound by the PEFCR guidance[9], which itself is based on the PEF guide, which in turn is aligned with existing international standards (in particular ISO 14040/44). The development of the PEFCR guidance was led by independent experts with oversight from the European Commission.

The caveats listed above are not intended to entirely undermine the governance and procedures of the PEFCR development process. Rather the intention is to recognise the fallibility of the mechanisms by which civil society's voice is recognised and to identify areas for improvement.

[6] PRé Sustainability (2016) *Towards environmental footprint rules – PEF governance structure*. Available at: https://pre-sustainability.com/articles/towards-environmental-footprint-rules-pef-governance-structure/
[7] *Steering Committee workspace*. Available at: https://webgate.ec.europa.eu/fpfis/wikis/display/EUENVFP/Documents+of+common+interest (Accessed via EU Login Portal: 04 July 2022)
[8] This was the case in the first public consultation on the PEFCR for A&F
[9] European Commission (2017) *PEFCR Guidance document, version 6.3*. Available at: https://ec.europa.eu/environment/eussd/smgp/pdf/PEFCR_guidance_v6.3.pdf

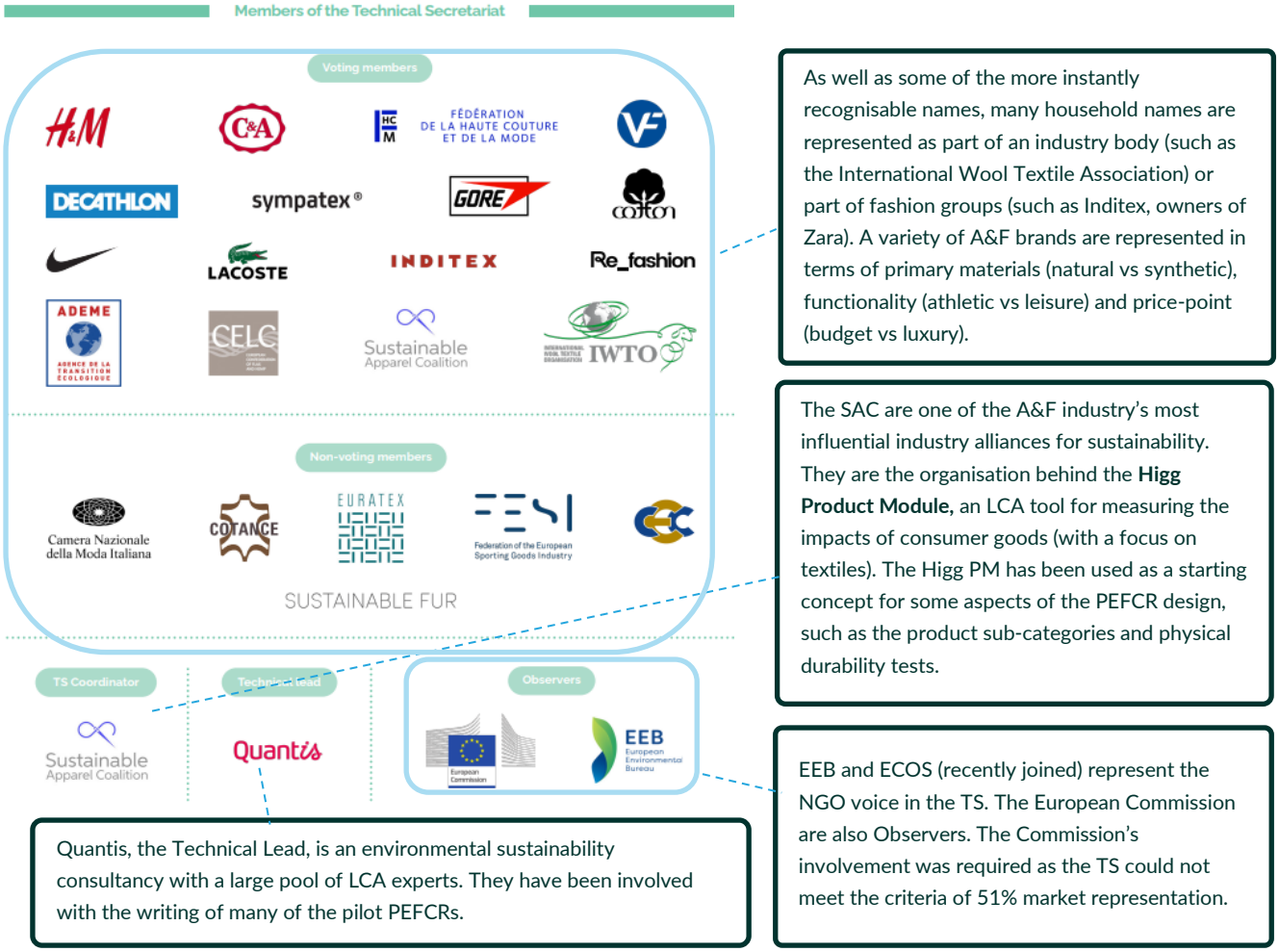
Key points: within the Technical Secretariat (TS), SMEs and civil society play a limited role, which is arguably heightened by the distinction between voting and non-voting members (specific to the A&F PEFCR). However, the TS do not simply 'make the rules' and civil society are able to influence (through public consultations, independent review or non-voting roles in the TS) or even block a PEFCR from gaining final approval (if the Steering Committee were to refuse its final approval).

3.0 Introduction to the A&F PEFCR

3.1 A&F PEFCR Design Process

The membership of the TS PEFCR is shown in the diagram below[10]. As mentioned, the Apparel TS differs from all other PEFCRs in that its membership is stratified into Voting, Non-Voting and Observers. Whether or not a member may vote is determined by financial contributions made by participating organisations, which are essential given the considerable costs of developing a PEFCR (the work of the TS Coordinator, the Technical Lead/Expert, as well as the supporting studies and final review, all requires significant funding). The voting members are almost all large brands or industry associations representing large brands, with ADEME being the only non-industry voting member. Even the Coordinator of the TS (the Sustainable Apparel Coalition (SAC)) is an industry association funded by large brands, most of whom may be considered as 'fast-fashion'.

[10] Sustainable Apparel Coalition (2022) *About PEF*. Available at: https://apparelcoalition.org/about-pef/#



Regarding input to the PEFCR methodology development from outside the TS, it is worth noting that the first round of public consultation was one of the most actively participated draft PEFCR consultations to date, with over 1000 responses (although most of the responses came from the natural fibre industry rather than a diverse set of stakeholders).

Originally scheduled to be completed by December 2021, the timeline has been significantly extended to Q4 2024 due to delays to the release of the EF 3.1 database (the secondary data).

3.2 Scope of the A&F PEFCR

The PEFCR is a technical document aimed at LCA practitioners, meaning it can be difficult for non-experts to digest. We have therefore highlighted below a few key aspects of the A&F PEFCR (and the PEF method more generally) we think interested non-LCA experts should be aware of. It should be noted that, the A&F PEFCR is still in a 'draft' state currently, however several aspects of it are unlikely to change.

Functional unit (FU): is defined as the quantified performance of a product system for use as a reference unit. For the A&F PEFCR the FU is defined as: *To provide a product to meet the consumer's needs (as defined per sub-category*[11]*) in good condition for* ***one day of wear.*** By choosing this FU (as opposed to 'one garment'

[11] Using the Jackets and Coats sub-category as an example, this would currently be defined as "*a garment to put on top of a shirt or sweater or to protect from the elements*".

or 'one kg of garments') the A&F PEFCR recognises the environmental benefits of longer-lasting products as the impact of a garment is spread across the number of wears.

System boundary: is set as the entire life-cycle **(from cradle-to-grave**). This essentially accounts for all inputs and outputs, from raw material extraction (i.e., cotton cultivation or fossil fuel extraction) to the end-of-life when that product is either disposed of in a landfill or incinerator or is recycled into another product.

It has been suggested that the system boundary for fossil-based and natural fibres are inequitable given the formation of fossil fuels (billions of years ago) has not been taken into account.[1] This argument conflicts with all existing LCA standards, which omit the formation impacts given they occurred billions of years ago and there is no research suggesting this is impacting current environmental conditions. The key goal of LCA is to identify *changes* to environmental impacts associated with human activity – removing fossil fuels from the earth (and inevitably releasing the stored carbon into the atmosphere) is the important change in this sense, and this is already accounted for by the impact categories for the depletion of fossil fuels and climate change.

Primary Data Requirements: Primary data refers to company-specific data, meaning data that has been collected from the supply chain relevant to the specific product being studied. To ensure consistency and comparability, the PEF method (unlike more generic LCA guidance) *requires* certain data points to be covered by primary data in order to complete a valid PEF study. The A&F PEFCR will specify which data points must be covered by primary data following the materiality principle, based on two assessments of 'representative products'[12]. When finalised these will likely include data points such as: type and weight of fibres per Bill of Material, origin of fibres, transport modes and distances, manufacturing processes, etc.

Secondary Datasets: refer to data that is not specific to the product being studied, collected from a third-party source (as opposed to the supply chain), and essentially represents a 'market average' level of impact or activity associated with a particular process. Secondary data is used to fill the gaps where primary data is not available or difficult to obtain. To ensure consistency, all PEF studies must use the same secondary data, rather than sourcing their own.

For certain production processes **default values** are provided, for example the average amount of energy required for washing products in each sub-category; these values are based either on the results of A&F PEFCFR supporting studies or on the expert judgement of the Technical Advisory Bureau (TAB) or TS. Relatedly, all PEF studies must use an **EF-compliant database**, containing life-cycle inventory datasets (inputs and outputs) as well as the environmental impacts for processes, for example the global warming potential (measured in 'kg CO2 eq') resulting from the cultivation of 1 tonne of cotton. The latest EF-complaint dataset will be EF 3.1, due to be released by Q4 2022. The database itself is comprised of a series of individual databases, a mixture of commercial databases such as EcoInvent and publicly available data owned by the European Commission[13]. Any organisation may apply to use the EF 3.1 dataset free of charge for the purpose of completing a PEF study.

Impact categories: refer to categories of environmental impacts included in a PEF study, generally related to the depletion of scarce resources, or emissions of environmentally damaging substances (e.g., greenhouse gases and toxic chemicals). All PEFCRs must cover the 16 impacts categories, which are specified in the PEFCR guidance documentation[14] (page 48). Companies are also encouraged to report

[12] Representative products are products that represent the 'market average'. Impacts for representative products are calculated during the design phase of the PEFCR through the supporting studies.
[13] *EPLCA, Nodes: approved or waiting approval*. Available at: https://eplca.jrc.ec.europa.eu/LCDN/contactListILCD.xhtmln (Accessed: 7th July 2022)
[14] European Commission (2017) *PEFCR Guidance document, version 6.3*. Available at: https://ec.europa.eu/environment/eussd/smgp/pdf/PEFCR_guidance_v6.3.pdf

additional information regarding wider sustainability impacts; for the A&F PEFCR a non-exhaustive list including plastic leakage (microplastics) and biodiversity impacts has been suggested.

Allocation: refers to an approach to solving multi-functionality problems, in other words, how to allocate the impacts of a process that has multiple functions between those functions; for example, how to allocate the impacts of raising cattle between the meat, leather, manure, etc. The PEF method follows an allocation hierarchy, meaning (for processes which cannot avoid allocation) allocation should first be attempted based on a ***physical relationship*** (such as the weight, or protein requirements)**,** then, if not possible, based on some other relationship (such as economic allocation) or a combination of these. These principles of allocation must be consistently applied to the treatment of both primary and secondary data. The allocation rules to be applied to the A&F PEFCR are still being decided.

Normalisation and Weighting: Normalisation refers to the process of translating absolute impacts into impacts per *reference unit*. The reference unit may be 'an average EU citizen's annual impacts', so we would be contextualising a product's impacts relative to that reference unit. Normalisation can communicate the magnitude of a product's impacts relative to the wider context in which that product exists and help to understand the relative differences in magnitude between impact categories. Once the results of each of the 16 impact categories have been normalised, the PEF study can apply a weighting method to each category to generate a single-score indicator**, the 'PEF score'.** The method to do this involves a complex mixture of panel-based and evidence-based weighting, multiplied by a robustness factor.[15] This is a mandatory step according to the JRC report following the pilot phase[16] and the A&F PEFCR itself. The normalisation and weighting factors are similar for all PEFCRs. However, the trade-off in producing an easy to convey single score is the additional layers of uncertainty that are present as a result.

Benchmark Values and Classes of Performance: The environmental performance of a product may be benchmarked against a representative ('market average') product(s) at the end of a PEF study. The representative product(s) is defined by the TS at the beginning of the PEFCR development, using industry-average data and/or primary data from TS members. The average performance (impacts) of the representative product(s) is then calculated to develop a benchmark. . To *report* the performance against the benchmark, 'classes of performance' may (optionally) be developed, which simply refer to how the results of the benchmarking exercise are grouped and anchored. For example, whether the environmental performance is graded from A to E or from A to F relative to the benchmark value, and whether the 'defaulted score' for a product matching benchmark value is a C or an F. Both benchmark values and classes of performance are developed specifically for each PEFCR.

Data Quality Requirements (DQR): are designed to measure and provide assurance as to the overall quality of the data. A DQR assessment calculates a combined score based on four criteria: Precision/Uncertainty (P), Technological Representativeness (TeR), Geographical-Representativeness (GR) and Time Representativeness (TiR). Where processes are calculated using a combination of primary and secondary data, both are taken into account when calculating a DQR score. Eventually, when DQR scores have been calculated, those scores must meet certain minimum thresholds for the PEF study to be valid (as confirmed by an external verifier).

[15] Sala, S. et al. (2018) *Development of a weighting approach for the Environmental Footprint*. Available at: https://eplca.jrc.ec.europa.eu/permalink/2018_JRC_Weighting_EF.pdf
[16] Zampori, L. and Pant, R. (2019) *Suggestions for updating the Product Environmental Footprint (PEF) method.* Available at: https://eplca.jrc.ec.europa.eu/permalink/PEF_method.pdf

Verification: all PEF studies must undergo a verification process to be considered valid. A set of minimum requirements for the verification is common to all PEFCRs (as laid out in Section 8 of the PEFCR Guidance[17]), on top of which each PEFCR may provide additional guidance (this has not been finalised for the A&F PEFCR). These minimum requirements cover both the verification tasks that must be completed, as well as the competences of the verifier.

3.3 Limitations

For a sector as complex and heterogeneous as apparel and footwear, creating a methodology which results in accurate and consistent PEF studies and also promotes better environmental outcomes is inherently challenging and is likely to result in the most complex PEFCR yet. In the sub-sections below, this paper explores a non-exhaustive list of some of the key limitations of the A&F PEFCR. With all the limitations explored below it is worth acknowledging that the PEFCR is an evolving document with a sell-by-date[18], after which some of these limitations may be addressed in future versions, if not this version.

Note that we are considering those listed below as 'limitations' in so much as they limit the achievement of the aims of the A&F PEFCR. The aim of the PEF method is: *"to set the basis for better reproducibility and comparability of the results of LCA studies."*[19] In line with this, the A&F PEFCR aims to allow companies to improve the environmental impacts of products, and (when displayed) help consumers make informed choices.

3.3.1 Fast-Fashion and Emotional Durability

LCA is an assessment tool which focuses on individual products and processes, as such it is not a suitable tool for assessing the impact of a brand or the sector's overall impact on the environment, and therefore not capable alone of addressing the problems of overconsumption and fast-fashion – **these are systemic issues that should be dealt with through holistic, joined-up policy making.**

However, the methodology is exploring how to address this indirectly by penalising low-quality fast-fashion garments which are largely responsible for the problem of over-consumption. These are items that are either **physically** non-durable (e.g., made of low-quality fibres or flimsy attachments) or **emotionally** non-durable (e.g., garments that are quickly made redundant by new fashion lines). Non-durable (both physically and emotionally) items are worn fewer times and are accordingly assigned a lower **intrinsic quality multiplier (IQM)** in the PEFCR method, meaning they will perform worse on a '*per wear*' basis.

A key difficulty for the Technical Secretariat is defining and quantifying the IQM, especially with regards to emotional durability. Physical durability in the A&F PEFCR will be defined and measured following existing international standards[20], such as ISO 9865 for water repellence or ISO 14704-1 for stretch and recovery. Whereas there is no established international standard for measuring emotional durability, therefore proxies such as price, number of fashion collections released/ 'drops' per year and using sample data from consumers have been suggested by members of the TS. Each method has pros and cons and are pushed by those sectors who stand to benefit from them the most; for example, luxury fashion brands tend to push for price as a proxy as many studies indicate a strong link between high prices and low

[17] European Commission (2017) *PEFCR Guidance document, version 6.3*. Available at: https://ec.europa.eu/environment/eussd/smgp/pdf/PEFCR_guidance_v6.3.pdf
[18] PEFCRs developed during the pilot phase were valid until 31st December 2020. The period of validity for Apparel PEFCR is still to be determined, and it is still unclear if there will be any guaranteed updates for a PEFCR once it is no longer valid.
[19] Sustainable Apparel Coalition (2022) *About PEF*. Available at: https://apparelcoalition.org/about-pef/
[20] This is not to suggest that the definition of physical durability is without difficulties. The natural fibres industry in particular contest that characteristics or natural fibres (such as fit and comfort) are not adequately accounted for by current methods.

disposal rates, however this could lead to an undesirable situation in which a brand can improve their sustainability score simply by increasing their price. Emotional durability was the most commonly commented-on topic during the first public consultation, so there is very strong pressure for it to be included in some form.

Key point: The A&F PEFCR should only be seen as a small piece of the legislative puzzle and should not detract from the more pressing need to reduce the volume of products placed on the market. Attempts to promote more durable products may contribute to this goal, but the methodological challenges to defining durability are a work in progress and will be subject to trade-offs.

3.3.2 Sustainability Impacts Not Covered

The PEF method is an environmental assessment tool, not a 'sustainability tool', and even as an environmental assessment tool it does not claim to, nor can it ever, cover all known impacts whether they be environmental, social or even moral. Some of the commonly cited impacts not covered include:

- ***Microplastics***: There is not yet an agreed, standardised method for quantifying and assessing the impact of microplastics on the environment. Relatedly, there is no known 'planetary threshold' for microplastics (unlike for GHG emissions), so there is no way to normalise microplastic impacts relative to the other impact categories in order to assess the likely trade-offs. Given we do not know the maximum threshold perhaps the focus should be on eliminating this rather than quantifying the impacts; this is analogous to the EU REACH Regulation where known hazardous substances are restricted once evidence suggests the impact is outweighed by the benefit.
- ***Chemical exposure:*** While the UseTox methodology (used under the PEF method) is widely regarded as the best available for measuring toxicity in LCA, it does not currently measure toxicity associated with direct human consumption, which may occur from skin contact and/or inhalation of fibres. Although legislation exists to control the use of highly toxic chemicals (such as REACH or potentially through upcoming Ecodesign requirements), the reality is that highly toxic chemicals, such as PFAS[21], continue to play a major role in the production of textiles, so measuring the associated hazard through a PEF study could improve sustainability outcomes.
- ***Biodiversity:*** There is currently no international consensus on a life cycle impact assessment method capturing biodiversity impacts in a single indicator. At least eight of the impact categories have a key effect on biodiversity, however the impacts on biodiversity are not meaningfully captured or represented in the PEF method[22]. Adding biodiversity as an impact category is potentially problematic in this sense, given it is an *endpoint* (a final outcome) indicator, whereas existing PEF impact categories are *mid-point* (contributing factor) indicators. The JRC have suggested biodiversity should be included as *additional information* in PEF studies, not necessarily given its own impact category[23]. The Agricultural Working Group (part of the TAB) are expected to make specific recommendations for the inclusion of biodiversity at the end of 2022.
- ***Social impacts:*** This includes aspects which are critical to sustainability in the textiles sector such as child labour, modern slavery and the livelihoods of farmers in developing countries. International guidelines and standards (such as ISO14075) for social LCA are currently under development but have not yet garnered support for inclusion in the PEF method. For some social impacts such as child labour, for which there is no acceptable level, arguably the focus should be on enforcing stringent legislation, rather than quantifying such impacts through LCA.

[21] European Environmental Bureau (2020) https://meta.eeb.org/2020/11/18/braving-the-elements-which-brands-are-acting-to-get-the-toxic-forever-chemicals-off-your-raincoat/

[22] Zampori, L. and Pant, R. (2019) *Suggestions for updating the Product Environmental Footprint (PEF) method.* Available at: https://eplca.jrc.ec.europa.eu/permalink/PEF_method.pdf

[23] *ibid*

- ***Animal welfare/exploitation***: The welfare level of animals being farmed and exploited for the production of natural fibres, or the use of their skin is not included. This critique is rarely raised, perhaps due to the complications around allocation methods, or because the primary opponents to the PEF tend to be those in support of animal fibres.[24] This exemplifies the need for consistency in reasoning – if the harm to animals from microfibres being released into the environment is included, it would be inconsistent not to include other causes of harm to animals.

Weaknesses of existing categories: In a 2019 report, the Joint Research Council found that out of the 16 impact categories, only three were considered "satisfactory" (climate change, ozone depletion and particulate matter)[25]. New impact categories should ideally result in an improvement to the overall data quality, otherwise the legitimacy of the PEF method may be further undermined.

The fact that these impacts are not covered should prompt policy makers to ensure they are being addressed elsewhere. For some impacts, such as modern slavery and highly toxic chemicals, policy makers should consider if it is useful to quantify them at all or instead adopt a 'zero tolerance' approach.

Key point: LCA does not provide a complete picture of whether or not a product is 'sustainable', however it does not claim to do so, and we should not dismiss those impacts we can measure just because we cannot measure them all. The A&F PEFCR should only be seen as a tool that can be used as part of the legislative puzzle, and in that sense, it is important that it does not detract important action on those impacts not measured.

Constraints of the PEF method: It is worth noting here that the Technical Secretariat for the A&F PEFCR are limited in what they can directly change. The list of impact categories for example must be common to all PEFCRs and is therefore led by the Technical Advisory Bureau at the 'PEF-level'. Nevertheless, concerns at the PEF-level should be raised with the TS as issues are often related to the TAB through the TS, consequently the TS has a key role to play in providing feedback to the TAB about the limitations of the general PEF method.

3.3.3 Primary Data Requirements

As described above, to ensure consistency and comparability, the PEF method (unlike more generic LCA guidance) requires certain data points to be covered by primary (company-specific) data. Following the materiality principle, those data points should cover the life cycle stages which are likely the most impactful.

The challenge for any PEFCR is balancing accessibility with rigour when setting the primary data requirements. If the requirements are set too low, there will be a risk of opening the door to PEF studies which are not only meaningless (overly reliant on industry average data) but also potentially strategically designed to show the product in the best possible light e.g. by selecting industry average 'default' data which provides more favourable results than their primary data — in other words 'greenwashing'. On the

[24] Note, animal fibres would typically be considered as a 'co' or by-products, depending on the fibre and allocation methodology recommended in the final A&F PEFCR, meaning 'some' or 'none' or the animal welfare/exploitation impacts would be allocated to the material itself.
[25] Zampori, L. and Pant, R. (2019) *Suggestions for updating the Product Environmental Footprint (PEF) method.* Available at: https://eplca.jrc.ec.europa.eu/permalink/PEF_method.pdf

other hand, if the data requirements are overly rigorous, there is a risk of excluding SMEs who may not have the resources of a multi-national for collecting mandatory primary data.

Key point: the A&F PEFCR sets mandatory data requirements which must be forgiving enough that SMEs are not excluded from completing a PEF study yet are sufficiently rigorous to ensure studies are accurate and prevent any greenwashing.

3.3.4 Secondary Data Transparency

As described above, all PEF studies must use secondary data sourced from an 'EF-compliant LCA database' (the A&F PEFCR will use EF 3.1 database). The database itself is comprised of a series of individual databases, a mixture of commercial databases (such as EcoInvent) and publicly available data (such as data compiled from the PEFCR representative products)[26].

The reliance on commercial databases arguably limits how transparently the information behind the EF 3.1 databases can be communicated. Much of the secondary data is derived from commercial databases, meaning that they are not open access, except for brands who are developing a PEF study. Some of the databases are owned by the Commission (therefore open access), however even for these, beyond observing the name of the database, actually gaining access and navigating them is currently prohibitively difficult. What this means is that currently, an interested stakeholder cannot possibly identify the default impacts for the cultivation of 1kg cotton or the production of 1kg polyester and how they compare. The solution to this must be two-pronged: the Commission must extend the availability of open access data (either through procuring ownership rights of commercial databases, or by funding their own studies), and it must also invest in a making the website more navigable for non-experts.

In lieu of being able to provide open-access databases, a transparent and independent process of designing the EF 3.1 database may be sufficient to reassure some. The responsibility for ensuring the underlying data is accurate and abides by a consistent methodology lies with technical groups such as the Technical Advisory Bureau (TAB) and Joint Research Council (JRC). These technical groups are made up of independent LCA/Environmental Footprint experts and their recommendations are reviewed independently by an EU Commission-governed process before being adopted. The members of these groups are not necessarily experts in A&F, however a specific A&F TAB Working Group (formed by members of the TS) is currently being proposed in an attempt to rectify this shortcoming. In summary, compared to the PEFCR development process, the EF 3.1 project is relatively a more independent process, and there are on-going attempts to rectify its current shortcomings in sector-specific expertise.

[26] *EPLCA, Nodes: approved or waiting approval.* Available at: https://eplca.jrc.ec.europa.eu/LCDN/contactListILCD.xhtmln (Accessed: 7th July 2022)

The **accuracy** of the EF 3.1 data (specifically as it relates to the impacts of different fibres) is a topic of significant concern. Reports such as the Great Greenwashing Machine[27] have highlighted concerns regarding inconsistent methodologies and the unrepresentativeness of datasets used for calculating the impacts of fibre within previous sustainability assessments. These concerns have been intensified recently due to the ruling of Norwegian authorities to ban making (certain) sustainability claims based on the Higg MSI tool, stating that the global average secondary data was unsuitable for making a sustainability claim.[28]
Until the EF 3.1 database is released it is difficult to comment conclusively on how relevant these concerns remain for the A&F PEFCR, as we do not know what background data it will be using. However, while the TAB and relevant Working Groups are in place to ensure the accuracy of the database, it is unclear exactly *how* these concerns will be addressed given the lack of suitable available data currently and no (known) plans to commission the programme of studies that would be needed to generate such data.

Additionally, there remains uncertainty regarding the long-term plan for EF 3.1. The validity of the database will expire, and the Commission currently has no long-term vision for an approach to ensure that the data is updated and regularly procured. This combined with persistent delays to the EF 3.1 project has led to significant uncertainties associated with the dataset.

Key point: As it stands, the secondary LCA databases cannot be fully transparent given the commercial nature of the underlying data, which might hinder the public trust in the results of PEF studies. However, the transparency and independence of the EF 3.1 dataset may be sufficient as a second-best option until full transparency can be achieved.

3.3.5 Comparing Products Within the Same Sub-Category

At the time of writing the PEFCR is divided into 13 product sub-categories (such as t-shirts, boots, underwear, etc) — more than any other PEFCR to date. The list of categories was decided by the TS, based on factors such as the individual priorities of the brands that make up the TS, project budget limitations, policy development, environmental impact, and sales volumes etc.

Even with 13 sub-categories there remain inherent limitations on using the PEFCR to compare products within the same sub-category. For example, a winter sports jacket requires far more material and processing to meet its performance requirements compared to a summer jacket, however both would be grouped in the jacket sub-category as *a garment to put on top of a shirt or sweater or to protect from the elements*. To some extent this is accounted for by the durability of each product, however that would not take into account the relative difference in performance requirements of each item.

Some solutions are available to this problem. The A&F PEFCR will attempt to address this within the *Comparisons and Comparative Assertions* section of the document, where it can specify the conditions under which a comparative assertion may be made. This may eventually require the TS to develop a more nuanced set of 'sub-sub-categories' within which products may be compared to each other, requiring benchmarks per sub-sub-category. The question is then whether these sub-sub-categories should be applied more generally to the PEFCR, for example whether certain default values should be defined by sub-sub-category (at which point it becomes technically infeasible given the limited resources of the TS).

[27] Bates-Kassatly, V. and Baumann-Pauly, D. (2021) *The Great Greenwashing Machine Part 2: The Use and Misuse of Sustainability Metrics in Fashion*. Available at: https://eco-age.com/wp-content/uploads/2022/03/Great-Green-Washing-Machine-Report-Part-2_FINAL.pdf
[28] Kent, S. (2022) *Norway Warns H&M, Norrøna Over Misleading Sustainability Claims*, *Business of Fashion*, 16 June. Available at: https://www.businessoffashion.com/articles/sustainability/hm-norrona-norway-sustainability-environmental-marketing-higg/

Key point: Without creating an unfeasibly large number of sub-categories, many products within the same sub-categories will have fundamentally different performance requirements and the A&F PEFCR will therefore be limited in its ability to allow for comparisons between PEF studies. It remains to be seen whether the TS can develop an acceptable solution to this issue, which does not encourage inappropriate comparisons, while also allowing the A&F PEFCR to fulfil its mandate to allow for comparisons.

4.0 Role of the A&F PEFCR in Policy

PEFCRs alone are only guidance documents, but they have the potential to be imposed upon organisations either by regulatory or private measures. This section begins by considering how the PEF could be used by brands (including retailers and manufacturers), then considering how it has already been integrated into policy, and finally reviewing (and speculating on) the future role the PEF could play in EU policy, specifically focussing on the initiatives proposed by the European Commission as part of its 'Circular Economy Package' in March 2022.

4.1 How Brands Could Use the PEF

Firstly, brands may conduct a PEF study for purely *internal* purposes:

1) To **reduce a product's environmental impact**. By undertaking a PEF study, brands can begin to understand the environmental impact *hotspots* they should focus on and assess potential improvement options.
2) Using it as a **communication tool within the value chain** to encourage/influence suppliers to reduce their environmental impacts.

Secondly brands may conduct a PEF study for *external* purposes:

1) To make a voluntary **green claim,** comparing the environmental performance of their product to that of a competitor (if the competitor has conducted a comparable PEF study using the PEFCR) or the market in general. These might be:
    - **Business-to-consumer** claims, either on the product label or via marketing materials.
    - **Business-to-business** claims, shared privately between businesses.
2) In response to **retailer[29] requirements/incentives.** Retailers often require or incentivise suppliers to present environmental performance data associated with their product[30]. If the PEFCR is to become the 'go-to' methodology for assessing environmental performance it is plausible that this could be introduced by some retailers, especially given the increasing focus on Scope 3 emissions via the Science Based Targets Initiative.
3) To **comply with government legislation**. If the PEF method is integrated into EU policy, it could become mandatory in some circumstances for brands to complete and report PEF studies in order to have access to the EU market. Furthermore, it could become mandatory for products to achieve a minimum standard (in terms of the 'PEF score'), in order to be granted access to the market through, for example, Ecodesign requirements, or for the purpose of public procurement.

When discussing the integration of the PEF into policy, this typically relates to how the brands may use the PEF for external purposes, but it is useful to remember that there are also internal reasons why brands may wish to utilise the PEF method.

[29] As well as retailers this could equally apply to any supplier-buyer relationship
[30] For example, in the UK, Tesco currently offer preferential financial rates based on suppliers' carbon data disclosure, emissions reduction targets and progress against sustainability goals, see: https://www.tescoplc.com/news/2021/tesco-set-to-become-first-uk-retailer-to-offer-sustainability-linked-supply-chain-finance/

4.2 Current Policy Integration

Since the conclusion of the pilot studies in 2018, policymakers have welcomed the use of PEF to support the communication of environmental impacts. Commission Recommendation 2021/2279[31] states that Member States *should* use the PEF method in voluntary policies in this area, and that brands should also use the PEF method for measurements or communication of lifecycle environmental impacts. This conclusion is supported by a 2019 Commission Staff Working Document[32], which summarised the PEFCR pilot studies and established the general appetite for PEF policy integration via targeted stakeholder engagement. This message was again reiterated in the 2020 EU Circular Economy Plan which stated: *the Commission will also propose that companies substantiate their environmental claims using Product and Organisation Environmental Footprint methods*[33].

Nevertheless, with a few notable exceptions, the PEF method has experienced little integration into the policies of either the EU or its individual Member States so far. A few exceptions are explored below.

EU Batteries Regulation

One key exception is the **Regulation on Batteries and Waste Batteries**[34]**,** which is in the final stages of trialogue negotiations (meaning it is in the final stages of becoming a Regulation and automatically law in all EU Member States).

The EU Batteries Regulation would make it mandatory for all producers of (EV and industrial) batteries placed on the EU market to calculate the carbon footprint of their products following the latest PEFCR[35] methodology. The focus on carbon footprint is based on the findings made during the PEFCR development, that other impact categories were either of little relevance to batteries or not sufficiently robust[36]. This 'single metric' focus is contrary to the calls for more indicators to be added to the A&F PEFCR. Beyond carbon footprint other sustainability criteria are considered in the battery regulation such durability, repair, recyclability, recycled content and due diligence, though without referring to the PEFCR for batteries.

We might reasonably expect other impacts (such as toxicity and water scarcity) to be *more* relevant for the A&F sector than for batteries, however policy makers might still learn from this approach of focussing on certain metrics based on materiality and scientific robustness.

The PEFCR is used for more than just the methodological basis for information disclosure within the EU Batteries Regulation. Once calculated, the carbon baseline must then be

[31] European Commission (2021) *Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations*. Available at; https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32021H2279
[32] European Commission (2019) *Commission Staff Working Document - Sustainable Products in a Circular Economy - Towards an EU Product Policy Framework contributing to the Circular Economy*. Available at: https://ec.europa.eu/environment/pdf/circular-economy/sustainable_products_circular_economy.pdf
[33] European Commission, Directorate-General for Communication, (2020) *Circular economy action plan: for a cleaner and more competitive Europe. Publications Office of the European Union.* Available at: https://data.europa.eu/doi/10.2779/05068
[34] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2312
[35] Referring to the *PEFCR for High Specific Energy Rechargeable Batteries for Mobile Applications*.
[36] *RECHARGE's comments to EU proposal on substantiating green claims*. Available at: https://rechargebatteries.org/media/battery-manufacturers-sustainability-claims/

benchmarked, and the results of that assessment must be made available on the product label. If adopted, the Battery Regulation would go further still by enforcing carbon footprint minimum thresholds, blocking poor-scoring products from being placed on the market. In the 2019 Commission Staff Working Document, stakeholder opinions about potential future uses of the PEF were considered, and while the use of the PEF for such 'minimum requirements' were recommended by some, it was seen as a less popular option than for information reporting purposes. This will be considered below as it relates to the A&F PEFCR, for policy makers it will be interesting to keep an eye on the implementation and subsequent responses to this aspect, if it does indeed pass trialogue negotiations intact.

Made Green in Italy label

Another notable exception is Italy's **Made Green in Italy** (MGI) scheme, the first (and only) piece of Member State legislation to integrate the PEF method. Introduced in 2015 and enforced in 2018, MGI is a voluntary labelling scheme for Italian-manufactured products, managed by Italy's Ministry for the Environment and the Protection of the Territory and the Sea (MATTM). Several product categories have been included so far: three food product categories (cheese, vinegar and pasta) and three non-food categories (wooden packaging, industrial laundry services and woven wool), with plans to expand these in the future.

Made Green in Italy is very much complementary to the PEF. To gain eligibility, brands must not only complete a PEF study, but also must perform well against a benchmark, meet other sector-specific requirements (such as organic certification for food) and achieve continuous improvement of that product footprint. Where no PEFCRs exist, specific Category Rules have been developed, which are analogous with the PEFCRs in both design and process, but exist at the Member State level. Once eligible, brands may place the MGI logo on their product, report the three main impact categories on their product, and communicate on performance against the benchmark. Indeed, the MGI scheme receives support from the Commission as it is seen as helping the development of additional PEFCRs[37], demonstrating how it is complimentary to the PEF.

Again, there are clear learnings to be taken from the MGI scheme, in terms of how the A&F PEFCR should be supplemented by additional methods to provide a more holistic view of the sustainability of a product, and how others have chosen to only select certain impact categories for reporting purposes as opposed to all 16.

[37] Southley, F. (2021) 'How the Made Green in Italy label 'battles against greenwashing', *Food Navigator*. Available at: https://www.foodnavigator.com/Article/2021/06/03/How-the-Made-Green-in-Italy-label-battles-against-greenwashing

Key points: Existing policies integrating the PEF method demonstrate a tendency towards (1) selecting a limited number of impact categories, rather than utilising all 16, and (2) supplementing the method with additional metrics to create a more holistic view of sustainability. The EU Battery Regulation demonstrates the PEF method being used for more than simply labelling and actually being used as the basis for minimum environmental performance thresholds for gaining entry to the market.

4.3 Future Policy Integration – Unpackaging the Circular Economy Package for the A&F PEFCR

4.3.1 Introduction to the Circular Economy Package

On 30 March 2022 the European Commission released the Circular Economy Package[38], a set of initiatives aimed at speeding up the transition towards a more circular economy. While these initiatives themselves are proposals, they provide an indication of the direction of travel for future regulation.

The Circular Economy Package contains four distinct initiatives, plus an overarching Communication "On Making Sustainable Products the Norm" (*Sustainable Products Initiative*)[39], which provides and overview of the initiatives and how they will work together. Two of the initiatives apply more generically to multiple products categories:

- *Regulation on Eco-design for Sustainable Products* (ESPR)[40]
- E*mpowering Consumers for the Green Transition* (ECGT)[41]

Two of the initiatives are sector-specific (based on sectors which were identified as having high environmental impact and high potential for improvement):

- *Construction Products Regulation*[42]
- *Strategy for Sustainable and Circular Textiles* (Textiles Strategy)[43]

As it relates to how the A&F PEFCR will be integrated into policy, the Textiles Strategy (as it stands) reinforces what is stated in the ESPR and ECGT. 'Textiles-specific' guidance is of course included for other purposes, for example regarding measures to reduce the build-up of 'textile mountains' and microplastic shedding.

[38] https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2013
[39] *ibid*
[40] https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products_en
[41] https://ec.europa.eu/info/live-work-travel-eu/consumers/sustainable-consumption_en
[42] https://single-market-economy.ec.europa.eu/sectors/construction/construction-products-regulation-cpr/review_en
[43] https://environment.ec.europa.eu/strategy/textiles-strategy_en

For more details on the contents of each initiative, please consult the European Environmental Bureau's briefing paper: *Unpacking the Circular Economy Package* (April 2022)[44].

Below, we explore the ways in which the A&F PEFCR has been integrated into some of the policy options raised by the initiatives.

4.3.2 Voluntary Green Claims

Firstly, it is worth noting that not all environmental (green) claims will be relevant to the A&F PEFCR. Green claims cover a broad range of LCA-related (carbon footprints, water footprints, etc) and non-LCA-related (recyclability, animal cruelty-free) environmental claims[45], with the A&F PEFCR clearly being relevant to the former only.

The Textiles Startegy reiterates existing calls for using the PEF method as a basis for validating voluntary green claims but lacks some crucial details at this stage. The Textiles Strategy states: *the use of Environmental Footprint [PEF] methods is considered as **a way** to substantiate and communicate environmental claims*. In all likelihood, this suggests that A&F brands making LCA-related claims, will need to substantiate these claims with a PEF study. Specific claims (for example claiming a lower carbon footprint) will almost certainly need to be validated by a PEF study. Generic claims (for example 'greener' products) are not being banned outright, so it seems plausible that the PEF score (the weighted result of all sixteen impact categories) may be an accepted method for validating such claims, but this is not confirmed.

A proposal on substantiating green claims, is expected during the second half of 2022[46], which should clarify rules on the types of green claims that can be made by A&F brands and tie them to the A&F PEFCR. Some key elements of the ECGT that will need to be clarified are:

- Will other methods (such as LCA's verified to an ISO-standard) be permissible means of validating green claims?
- Will brands be allowed to make generic claims based on the PEF score alone, or will additional information not currently captured by the PEF also be required?

4.3.3 Mandatory Information Requirements

The *Regulation on Ecodesign for Sustainable Products* (ESPR), will introduce mandatory information requirements for circularity and other key environmental aspects. The Digital Product Passport (DPP) is a key measure in the ESPR. A Digital Product Passport is a structured collection of product related data, providing a 'digital twin' of a product, which consumers and policymakers can use to access relevant and verified information related to sustainability, environmental impact, recyclability, etc. In addition to the DPP, under the Strategy for Sustainable Textiles, the Commission will explore mandatory disclosure of other types of information on product labels, such as sustainability and circularity parameters.

[44] Available at: https://eeb.org/wp-content/uploads/2022/04/CE-Briefing-April-4-2022.pdf (Accessed: 26th July 2022)
[45] FoodDrinkEurope, (2022) *Views on substantiating green claims and the use of PEF*. Available at: https://www.fooddrinkeurope.eu/wp-content/uploads/2021/10/FoodDrinkEurope-views-on-Substantiating-Green-Claims-proposal-and-use-of-PEF.pdf (Accessed: 26th July 2022)
[46] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12511-Environmental-performance-of-products-businesses-substantiating-claims_en

The potential role of the PEF method in these mandatory environmental information requirements remains very unclear. If approved, the proposals for the ESPR states that *the Commission will introduce mandatory disclosure of other types of information, such as sustainability and circularity parameters*. It has not been specified that these *will* be based on the PEF method, however no alternative environmental footprinting method is mentioned in either initiative. If A&F brands *are* required to report environmental information following the A&F PEFCR, it is unclear exactly what information will be disclosed.

Some of the key unanswered questions include:

- Which of the 16 environmental impact categories included in the PEF will be required? Will brands be required to report on the single PEF-score?
- Will brands be required to report on their 'benchmark values', and if so, how will those results be presented?
- Will environmental impact categories not included in the A&F PEFCR be required?

Furthermore, there are significant practical concerns regarding the financial and time costs if brands are required to conduct PEF studies for *all* of their products. There are many potentially costly steps when conducting a PEF study: collecting primary data[47], building the initial model/tool for processing that data, verifying the final PEF study, etc. The concern is that such costs could detract from potentially more important spend towards actions, or may even be unfeasible, especially if expensive consultants are required, or if the company has no existing relationship with their suppliers. In reality, the relationship between 'measurement' and 'action' is not so dichotomous. The act of conducting a PEF study can help to focus action *more effectively and efficiently* by identifying environmental impact hotspots and benchmarking performance. Equally, requiring PEF studies for all products would provide a level playing field for companies already investing, who would no longer be financially disadvantaged (relative to their competitors) for doing so.

The EU Commission's response to these concerns around cost is not wholly reassuring. In its Impact Assessment for the ESPR[48], the Commission has suggested that brands could expect to incur a cost as low as EUR 3,950 for completing a PEF study. This value is based on the presumption that there are significant economies of scale, however for SMEs performing a small number of PEF studies the marginal cost would certainly be a lot larger. Additionally, it has been suggested that a mixture of free software tools and access to low-cost expertise will lower the costs for SMEs in particular. However, while there are several allusions to such a tool being developed, there does not appear to be any concrete plans for developing such a tool for A&F products. Finally, until the A&F PEFCR finalises the verification requirements, the verification costs remain a potentially significant uncertainty.

[47] The first set of supporting studies conducted during the development of the PEF suggest that participating brands were able to collect all required primary data, but much of it needed to be specifically collected for the study, and much of that was challenging to collect.

[48] European Commission (2022) *Commission Staff Working Document: Impact Assessment Part 4: Accompanying the document Proposal for a Regulation of the European Parliament and of the Council establishing a framework for setting ecodesign requirements for sustainable products and repealing Directive 2009/125/EC*. Available at: https://environment.ec.europa.eu/document/download/09e359a3-a63f-4f9f-9808-f0df995ecc33_en?filename=SWD_2022_82_1_EN_impact_assessment_part4_v2.pdf

Key points: While there remains much ambiguity regarding how exactly the A&F PEFCR may be integrated into policy, it is clear that the PEF method is becoming the default method where measuring the environmental performance of a product is required. Given the remaining uncertainties regarding the A&F PEFCR methodology— and regarding the foreseeable practical limitations for brands (especially SMEs) if required to conduct PEF studies for their entire portfolio of products—caution may be advisable for policies that will require mandatory PEF studies without the provision of streamlined tools and additional support.

5.0 Recommendations

Below we have listed a set of recommendations drawn from the key points highlighted in the preceding discussion. These have been categorised by intended audience.

For method designers:

- Transparency is key. The EF 3.1 database must be de-mystified for non-expert interested stakeholders (civil society) with the creation of clear guides to how to navigate the databases, and the Commission must extend the availability of open access data as it is currently over-reliant on commercial databases.
- LCA is an evolving discipline. The Technical Advisory Bureau (TAB) should continue in their efforts to extend the list of mandatory environmental impact categories. However, the fact the A&F PEFCR does not cover *all* environmental impacts does not detract from its utility for measuring those impacts that it does, provided it is clear what is included and excluded whenever results are shared.
- Grouping garments by categories is unavoidably problematic. In providing recommendations for *how* the PEF results can be used, the Technical Secretariat (TS) should emphasise that products within the same sub-category may not necessarily be comparable and continue to seek an acceptable compromise.
- The PEFCR development process could do more to represent the voices of NGOs and independent experts. While several mechanisms to include civil society are in place, the A&F (and future) PEFCRs could do more to include non-industry voices, for example by significantly increasing the ratio of non-industry to industry members, and by removing the distinction between voting and non-voting members.

For policymakers:

- LCA does not, nor is it intended to, cover all issues related to sustainability. Where the PEF method is integrated into policy to support sustainability, it should always be accompanied by methods to assess and mitigate social impacts and additional impacts not covered by the PEF, especially when it comes to the apparel and footwear industry.
- When attempting to improve circularity for textiles, policymakers should prioritise policies aimed at reducing the absolute volumes of textiles placed on the market. The A&F PEFCR method may align with this goal if properly designed but will not fulfil this goal on its own (and should not be expected to).
- Given the remaining uncertainties regarding the A&F PEFCR methodology, and regarding the foreseeable practical limitations for brands (especially SMEs) if required to conduct PEF studies for their entire portfolio of products, caution is strongly advised when considering policies that will result in mandatory PEF studies for brands without the provision of streamlined tools and additional support.

For brands:

- Brands should complement any communications about the PEF with additional information about the wider and systemic challenges of sustainability in the textiles sector, or a clear and obvious explanation of its limitations.
- Given this amount of information may be confusing to customers, brands may wish to focus on using PEF studies to improve their internal processes and value chains to reduce the footprint of their products.

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