Discussion Paper: Analysis of Data and Methods applied in the SAC MSI and Associated Tools

Prepared on behalf of: Australian Wool Innovation and the International Wool and Textiles Organisation (IWTO)

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Summary

The Sustainable Apparel Coalition (SAC) is a non-government organisation that aims to reduce the environmental and social impacts of apparel, footwear and textile products, by providing a common approach for assessing a product's sustainability performance and to drive behaviour improvement. The SAC has built a strong industry foundation with SAC member companies, which are estimated to represent over one third of global apparel and footwear production. Since its launch in 2010, the SAC has engaged in significant industry research and development to produce tools and datasets to measure sustainability, using an approach based on life cycle assessment (LCA). However, there are still areas of uncertainty, knowledge gaps and inconsistencies in this approach when it is compared to the relevant background LCA standards, and this limits the ability of SAC to reach their laudable goals. The aim of this paper is to provide a constructive summary of methodological issues, and practical recommendations, that the SAC could use to increase the scientific robustness of their tools, to achieve its environmental sustainability goals. This summary document was developed after a comprehensive review of the public SAC Higg Materials Sustainability Index (MSI) methodology, database and SAC communications of relevance, with reference to the International Standards from the 14040 and 14020 series, and the European Commission Product Environmental Footprint (PEF) guidelines.

This discussion paper has highlighted a series of issues, many that relate to inconsistencies with the international guidelines and best practice for LCA. This discussion paper concludes that to achieve its long-term vision of transforming the apparel industry so that it produces no unnecessary environmental harm and has a positive impact on the people and communities associated with its activities, SAC must address the following shortcomings in it's methodologies. These are related to:

(1) the guidance for comparative analysis and public disclosure;
(2) the choice of system boundaries and functional unit;
(3) the exclusion of important impact categories;
(4) the choice of LCA method and handling multi-functionality;
(5) data quality, transparency and handling of uncertainty;
(6) weighting and normalisation; and
(7) the comprehensive coverage of non-LCA assessed issues.

It is noted that the key issues raised here have the potential, if not addressed, to result in burden shifting, unintended consequences, and incorrect guidance from the MSI and associated tools. If not addressed, these issues could lead to less sustainable fibre choices, which may compromise the SAC's goal of promoting a sustainable apparel industry.

Based on the analysis and discussion paper reported here, a list of key inconsistencies and risks to the scientific robustness of the MSI have been identified, and recommendations have been provided to rectify these. Overall, the discussion paper found that the provision of, and adherence to the appropriate Standards for LCA and best practice in LCA, would rectify most, if not all of the issues raised. The authors recognise that addressing these issues may, in some cases, be a substantial undertaking and therefore the following recommended ranking of key issues is provided:

i) Development or adherence to Product Category Rules (PCRs) is a recommendation of this discussion paper, to improve consistency between datasets. In the interim, withholding results from public disclosure and comparison is a priority to ensure erroneous conclusions are not drawn.

ii) Inclusion of the full life cycle in the MSI and use of the correct functional unit for textiles is an urgent priority. To be consistent with the raw material and manufacturing

stages, and to be consistent with good practice in LCA, an evidence-based approach, reflecting actual garment use and end-of-life by consumers is essential. Application of a durability approach, which has a weak correlation with garment lifetime during consumer use, is inconsistent with the MSI and good scientific practice, and may result in directing users towards choices that result in burden shifting.

iii) Inclusion of currently omitted impact categories, such as microplastics, is a high priority to increase the coverage and relevance of the MSI.

iv) Clarification of LCA methods is recommended, and consequential LCA (cLCA) methods with system expansion, are recommended, considering the goals of the MSI and associated tools.

v) Inclusion of a quantitative uncertainty analysis and confidence intervals with all MSI results, and coefficient of variation's with data sources, is strongly recommended to ensure only scientifically valid comparisons are made. In addition to this, a full justification of the use of proxy data is recommended, together with improvement in the description of methods and datasets used in the MSI.

vi) Disclosure of non-weighted and normalised data is recommended in the MSI tool.

vii) Inclusion of a broader range of impact categories, including those not easily assessed by LCA, is recommended, using a similar approach to how chemicals are currently handled in the MSI. This will provide a broader commentary to accompany results. For example, assessing renewability and biodegradability is recommended.

It is essential that this important work to improve sustainability of the textile industry continues, and that robust, accurate and reliable methods are used to generate results that can be trusted by all parts of the textiles supply chain, including consumers. Although further development of methodologies is necessary, SAC and their tool has the potential to significantly improve the sustainability performance within the industry, reducing environmental impacts of the global apparel, footwear and textile industries. In commissioning this discussion paper, the wool industry continues its constructive and science-based approach to promoting the assessment of environmental sustainability in the textiles industry.