Tracking down Social Impacts of Products with Social Life Cycle Assessment

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Abstract

An important aspect of sustainable development is the social impacts from the consumption of goods and services. A recently developed method for social life cycle assessment (S-LCA) assesses the potential positive and negative social impacts along a product’s life cycle, while avoiding shifting negative impacts from one part of the supply chain to another. This thesis evaluated the applicability of S-LCA in three case studies, as well as a way of introducing an ethical perspective on the distribution of social impacts among stakeholders.

The case study of laptop computers identified workers and the local community as the stakeholders at greatest risk of negative social impacts, with China, Russia, Saudi Arabia, Thailand and Brazil being most prone to these impacts. A case study of vehicle fuels identified some fossil and some renewable fuels with high or very high risks of negative impacts, suggesting a need for strict procurement requirements on social performance for all types of vehicle fuels. A study of e-waste recycling in Pakistan revealed negative social impacts on workers and the community, while decreasing poverty by providing employment.

By performing a social hotspot assessment using S-LCA methodology, much can be learned about the potential social impacts associated with a product’s life cycle, and potentially important aspects that would otherwise have been neglected can be identified. Some methodological issues of S-LCA requiring further attention are:

Indicator relevance. Impact pathways between indicators and performance assessment on social issues must be examined and improved.

Aggregation and weighting of impacts and indicators. With major uncertainties still present, results must be transparent, but also aggregated for the purposes of interpretation and communication.

Assessment of the use phase. To be more complete, S-LCA methodology needs to be complemented with an assessment of the use phase.

Introduction of context. Identifying the context of relevant stakeholders in different parts of the life cycle would allow identification of the greatest leverage in improvement of social conditions.

Keywords: Sustainable development, social sustainability, sustainable production and consumption (SPC), products, social life cycle assessment, S-LCA, social impacts, indicators, multi-criteria decision analysis (MCDA), ethics, case study, laptop computer, vehicle fuels, e-waste