

# Science for Environment Policy

## EU guidelines on better life cycle assessment produced

**The EU Joint Research Centre** has produced a new part of the handbook that provides guidelines for developing and using Life Cycle Assessments (LCA), which evaluate the environmental impacts of products, focusing specifically on life cycle impact assessment (LCIA). It recommends that assessments should be comprehensive, accessible and easy to apply in order to make LCA a more mainstream concept in decision-making.

**LCA is considered** the state-of-the-art methodology for assessing products' environmental implications and, as its name suggests, it considers all relevant environmental impacts of all the phases of a product's life cycle, from extraction of materials and production, to consumption and disposal.

The results of LCAs are used in several sustainable consumption tools, such as ecolabels, green procurement and environmental product declarations. Although some efforts have been made towards harmonising LCA methods, these need to be further improved, as does the translation of LCA methods into policy and inform decision-making.

Co-financed by DG Environment, the Joint Research Centre has gathered and evaluated existing knowledge to produce support for policy decision-making called the International Reference Life Cycle Data System (ILCD) handbook<sup>1</sup>. This contains a series of technical documents and guidance for good LCA practices in business and government.

The ILCD handbook analysed several LCA methods to assess impacts on human health and the environment. Although they are similar, there are significant differences in their results, which may lead to different conclusions and decisions. As such, clear guidance was needed on the models and the indicators used in LCA methods. Hence, the handbook for LCIA supports the consistent calculation of indicators for different impacts, recommending the adoption of specific methods for each impact category, such as climate change, ozone depletion, eutrophication, ecotoxicity, land use, resource depletion.

During the development of the handbook, various groups of stakeholders were invited to provide comments and suggested areas of improvements, concerning the enlargement of impact categories as well as the potential spatial differentiation of the assessment. More research is needed on specific environmental impacts, such as biodiversity and water use. Additionally, better geographical integration of data would provide a better understanding of impacts at different scales, such as local, regional and global, as well as how different geographical regions are affected.

The stakeholder consultation also highlighted the need to find the right balance between scientific robustness and applicability, and between caution to act on LCA results due to uncertainties, and the need to take action despite uncertainties. The handbook recommends developing a structured approach to addressing uncertainty, as well as better ways to communicate LCA results so that they are easier to understand.

LCA plays an important role in evaluating environmental sustainability of products. Its continuing development must be in line with the most current science to produce a comprehensive environmental assessment of products, says the study. However, there is also a need to make LCAs more accessible and feasible to ensure their usage, which will require greater harmonisation of methods and translation into decision-making.

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1. See: <http://ict.jrc.ec.europa.eu>