



## Media Release

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# Environmental assessment of foods: focus on methodologies

**How great an impact does a product have on the environment? As well as helping consumers with their purchasing decisions, product environmental information is meant to encourage a more environmentally friendly production process. Agroscope investigated two of the most important assessment methods currently in use. The bottom line: these are valuable tools, but in need of adaptation and supplementation.**

“The problem lies in the wide range of methods there are for assessing environmental services” explains Jens Lansche, Project Manager of the Life-Cycle Assessment Research Group at Agroscope’s Institute for Sustainability Sciences ISS. The European Union is working towards a standard calculation method (see box). An analysis of the EU methodology is also particularly relevant in the Swiss context, since the Swiss Federal Office for the Environment (FOEN) is taking part in the EU pilot phase as part of the ‘Green Economy’ action plan. In this connection, and together with Koch Consulting, Agroscope



**What impacts does the production of bread have on the environment? Developing a software tool at the product category level would be a step forwards. (Photo: Gabriela Brändle, Agroscope)**

conducted an analysis of the literature on behalf of the FOEN. The focus here was on the Product Environmental Footprint (PEF) methodology and on the Envifood Protocol in comparison with a selection of the most important international methodological guidelines for product LCAs. The following aspects were investigated: allocation of the environmental impact in the case of processes with more than one product, such as



milk and meat in dairy-cow husbandry; data quality and transparency; the consideration of multifunctionality in agriculture; the use of credit for by-products (joint products); and the taking into account of biodiversity and soil quality.

### **Environmental impact allocation**

In agricultural production, more than one product is often produced in a process. With grain production, for example, straw is produced as well as grain kernels. If we wish to examine the environmental impact of the grain kernels, the environmental impacts of the entire production system must first be divided up between the two products grain kernels and straw. This apportionment, known in environmental accounting as 'allocation', can be done in various ways. Performing allocation properly is one of the main challenges of life-cycle assessment.

The PEF methodology stipulates that allocation could be performed *inter alia* by replacing the straw with a product having the same function. Here, the environmental impact of the substituted product is subtracted from the overall environmental impact of the product system. The credited environmental impact varies according to the assumption regarding the choice of the substituted product, however. Straw, for example, can remain on the field as a harvest residue, or can be used as bedding material in animal husbandry. In the one case, the straw replaces soil-improvement and fertilisation measures; in the other, for example, it takes the place of lying mats. Depending on use, therefore, different processes are substituted which vary in terms of their environmental impact. This could lead to an unwelcome variability of results.

In addition, the study shows that the two impact categories of biodiversity and soil quality are relevant for the evaluation of agricultural products, but are inadequately dealt with in the PEF methodology. This circumstance can be explained by the fact that only area-related models have existed to date. For agricultural products, these aspects should therefore be depicted by other key figures such as agri-environmental indicators (monitoring) until product-related impact categories have been devised for these areas.

### **Further adjustments needed**

In many other aspects, both the PEF methodology and the Envifood Protocol make a valuable contribution towards the standardised environmental assessment of products. PEF and Envifood are thus achieving their goal of restricting the room for manoeuvre that exists in respect of the ISO standards for LCAs. According to Agroscope's Jens Lansche, however, owing to the existing room for manoeuvre, comparable results are not yet guaranteed when various users take advantage of the methodological leeway. The study recommends further development and clarification of the PEF methodology, as well as further harmonisation with Envifood. Developing a software tool for users on



the product category level would be an important step in the right direction, as it would ensure the data quality of the environmental product information.

### **Europe 2020: Protecting resources via EU PEF/OEF and Envifood**

In spring 2013, the European Commission published a Communication on the Creation of a Single Market for Green Products. Part of this consisted of recommendations as to how to measure the environmental footprint of products and organisations, including the Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) methodologies. The initiative is embedded in the Road Map for a Resource-Efficient Europe as part of the Europe 2020 Strategy of the European Union (EU). The EU PEF/OEF Pilot Phase runs until the end of 2016.

In employing the PEF methodology, the European Commission has set itself the objective of developing a standard methodology for the quantitative evaluation of the environmental impacts of products throughout their entire life cycle, within existing and future EU environmental policy. The backdrop to this is the wide range of methodologies and initiatives for the measurement and disclosure of environmental impacts. A consolidated draft version of the PEF guidelines has been available since July 2012, the applicability of which is currently being tested in various pilot projects. One intention in this connection is to develop product category rules which set specific requirements at the level of individual product categories such as cereals, vegetable oils and meat.

At the same time as the PEF methodology was being developed, the Envifood Protocol (Environmental Assessment of Food and Drink Protocol) was being drafted for the food sector with the participation of the European Commission, the private sector, producer associations and scientific experts. Among other things, the Protocol is to serve as a basis for the voluntary communication of environmental information along the food-sector value chain.

### **Further information:**

Agroscope Science No. 6: Eignung der Methoden PEF und ENVIFOOD für die Umweltproduktdeklaration von landwirtschaftlichen Produkten (=Suitability of the PEF and ENVIFOOD methodologies for the environmental product declaration of agricultural products): [Link to the study](#)

EU Commission / PEF: [http://ec.europa.eu/environment/eussd/smgp/dev\\_pef.htm](http://ec.europa.eu/environment/eussd/smgp/dev_pef.htm)

PEF methodology: <http://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:32013H0179&from=EN>

PEF pilot projects: [http://ec.europa.eu/environment/eussd/smgp/pef\\_pilots.htm](http://ec.europa.eu/environment/eussd/smgp/pef_pilots.htm)

PEF World Forum: <http://www.pef-world-forum.org/>

Envifood Protocol: [http://www.food-scp.eu/files/ENVIFOOD\\_Protocol\\_Vers\\_1.0.pdf](http://www.food-scp.eu/files/ENVIFOOD_Protocol_Vers_1.0.pdf)



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