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## Towards environmental labelling of food products in France

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This paper outlines the main aspects of a more detailed article (Hélias et al. 2022). The French government has enacted legislation to create an environmental labelling system for food products. During an experiential phase in 2020-2021 involving numerous stakeholders, many of whom proposed labelling systems, a multidisciplinary scientific council (SC) was set up to support the process. The SC addressed several issues related to the data and methods to be used, the environmental impacts to be considered and the label design to summarise all of the aforementioned aspects in a simple, informative and useful way. We present the main outcomes of the SC's reflections (Soler et al, 2021), and conclude that operational and massive environmental labelling of food products is possible. The feasibility, stakeholder agreement and compliance with international recommendations were the basis for answering six questions.

*What environmental issues should be considered?* Most environmental labelling systems implemented to date have focused on climate change, however, other environmental issues have become more acute, leading amongst others to a multicausal decline in biodiversity. Human health is not explicitly mentioned in the French law enacted in 2021, but is a major concern for consumers and citizens for which two domains must be distinguished. The exposure of populations to pollutants emitted into the environment should be included in the environmental labelling scheme. Health impacts associated with contaminants (e.g. pesticide residues) in food relate to food safety, which is regulated by the food legislation in the European Union (EU), including these health impacts in environmental labelling could prove incompatible with EU regulations and raise significant risks of legal challenge.

*What objectives should be targeted?* Environmental labelling can act in two ways: highlighting the differences in impact within each food category, and between food categories (e.g., between animal and plant-based products). Determining the extent to which environmental labelling should focus on one or the other, or on both of these levers is a major issue in the choice of a labelling system. We consider that both should be encompassed.

*What data should be used, and by who?* An intermediate pathway is possible between low-cost creation of generic data and the creation of more specific data at higher cost. Implementing a "semi-

specific" approach would involve complementing the generic data with data for a range of high-impact action levers e.g. recipe, transport or packaging. Different types of stakeholders – companies and digital app providers – can then attribute environmental impact values to products on the market. Collective rules must be defined. In all cases, evaluations should be part of a coherent and compatible methodological framework, be transparent and traceable to allow external verification or an institutional validation process.

*What methods for assessing environmental impacts?* The European Commission has proposed the "Product Environmental Footprint" (PEF) method, for assessing the environmental impacts of products. For food labelling, improvements to the method and associated current data can be proposed. (1) LCA has to account for variations in soil carbon stocks in agro-ecosystems resulting from a change in practices or in land use. Taking these stock variations into account is legitimate and desirable in an environmental label, and French data are available. (2) Toxicity and ecotoxicity indicators are the subject of numerous debates by stakeholders. PEF uses an infinite time horizon. Given the need to aggregate the information into a single indicator, modulating the PEF with a 100-year horizon would allow a better balance between the impacts of organic molecules and trace metals. (3) The relationships between agricultural practices and biodiversity are complex. Several proposals have been made but they have not yet been included in the PEF. A possible and rapidly operational solution would be to add a new impact category "field-level biodiversity" in the LCA framework. It would require defining two parameters: a coefficient expressing biodiversity benefit associated with various types of labels, and the weight given to this impact category, which is a matter of societal arbitration that needs to be made explicit.

*Which environmental scores should be chosen?* LCA is mainly used in multicriteria comparative approaches, but for environmental labelling the information is aggregated in a single score expressed in millipoints. This scale can be changed for two reasons: (1) To express the impact of a food product relative to other foods and not in absolute terms, in order to facilitate comparison between products. (2) To introduce a non-linearity between the single score scale and the labelling scale, so that the latter can be fully used (with values all along the variation range and not only at the extremes). When changing scale, special attention must be paid to the equation (introduction of non-linearity) and to the bounds used (construction of the reference), scale changes must be transparent and argued.

Modifying the environmental scores by introducing additional indicators may distort the food-environment relationship established in the basic framework, and thus risk losing scientific rigour in order to gain on other dimensions. However, this may be acceptable to better highlight the benefits of actions that are consistent with public policy priorities (like in the EU 'Farm-to-Fork' strategy). These elements raise important strategic questions to be considered when thinking about complementary indicators, but their justifications are not only scientific but also political.

*What label format should be proposed?* A label format refers to the visual that is presented to the consumer. An effective format must attract attention and have salience. For this, it is preferable that it be standardised, hence the importance of having a unique, immediately recognisable format, located in an expected place on the packaging. For salience, it is preferable that it be in colour. An effective format for changing behaviour must be synthetic. This can nevertheless be complemented by an analytical part, based on a sub-score decomposition or a numerical value revealing the actions of producers in a more detailed way than the aggregate score.

Through the existence of the PEF, the life cycle inventory data in the Agribalyse database and the answers to the above questions, the LCA framework can be operationalized and adapted for

environmental labelling. Informing consumers about the environmental impacts of food products is therefore possible and is certainly a step forward in minimizing the human impact on nature.

## **References**

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