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## **Developing methods and tools for the agri-food sector for sound environmental assessments based on a life cycle and multi-criteria approach in the view of eco-design and environmental labelling**

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The current food system is facing many societal challenges, which are leading food companies to reconsider their practices throughout the value chain, in order to be part of the required food transition, in synergy with ecologic and energetic transitions and aligned with new consumer expectations regarding sustainability. Challenges are numerous: optimising the use of resources, preserving the biodiversity, strengthening food sovereignty, etc. To enable targeted action on the issues at stake, reliable diagnostic tools are a prerequisite. Life Cycle Assessment (LCA) is used to evaluate the environmental impacts of the production, use and end-of-life of products, and to evaluate the potential gains from an ecodesign approach. The environmental assessment can be carried out at different scales (unit operation, product, company, sector). Sectoral guidelines and calculation tools are being developed by actors across the whole value chain to enable the economic players in the sectors to be increasingly autonomous in their products evaluation and ecodesign approaches. These initiatives will be further encouraged by the development of the environmental labelling of food products planned by the French government and studied at the European level. Important issues remain concerning the method, i.e. the calculation algorithm and the rationale behind, and the level of precision of the data to be mobilised. The French technical institutes from the agri-food sector are strongly involved in the work carried out in collaboration with ADEME and INRAE to provide reference environmental impact values for raw materials, transformation processes and packaging elements, while consolidating methodologies and environmental indicators. Current projects include contribution to the continuous improvement of the public Agribalyse database and the development of sectoral calculations tools for instance for oil, meat and milk products. This work feeds into the required developments to make the LCA framework operational both for environmental labelling and for eco-design approaches that can be undertaken at sector level or company level. The aim is to promote life cycle thinking as a decision-support tool to improve the food system sustainability.