- Climate, environment and circular economy
- Life cycle analysis (LCA)

Life cycle analysis (LCA)
OVERVIEW AND CHALLENGES

Life Cycle Analysis (**LCA**) is an assessment method aimed **at quantifying the environmental impacts** of a product or a service, as part of an eco-design approach or with a view to selecting the optimal solution. All the potential impacts on the environment are quantified and the consumption of resources is examined, from extraction of raw materials to treatment of waste (“from cradle to grave”).

It is therefore a **global, multi-step and multi-criteria approach**, governed by a standard (ISO 14040-44) and recommended by the European Union. LCA developed rapidly from the 1980s and it is now used by:

- international, European and national public bodies,
- the scientific community,
- industrial players.

In practice, it takes a variety of forms to:

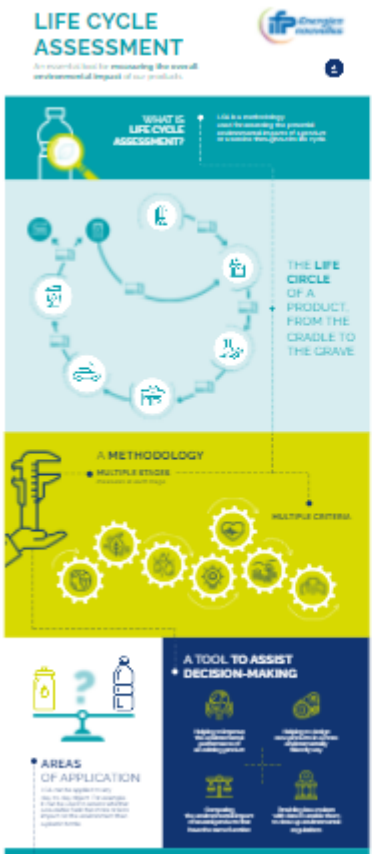
- take into account specific regional and sector-based characteristics,
- incorporate new criteria, such as:
    - the risk of **water shortage**,
    - the **monetization** of environmental impacts,
    - new **climate change** indicators.

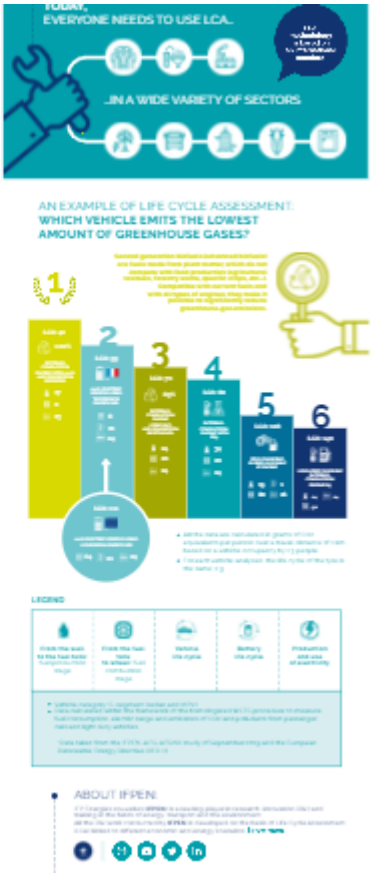
Today, LCA is an invaluable tool for assessing the **impacts on the environment of activities linked to new energy systems**. It is used to identify :

- the principal sources of pollution,
- opportunities to improve the environmental performance of products and services at **various stages of their life cycle**.

Conduct studies and develop methodologies to support decision-making and guide R&D strategies.

Infographics:





Contact

Jérôme Sabathier

- Head Economics & Environmental Evaluation Department

Innovation and Industry
News
November 2023

Establishing a green river transport fleet: LCA and prospective modeling at the heart of the FLUENT study

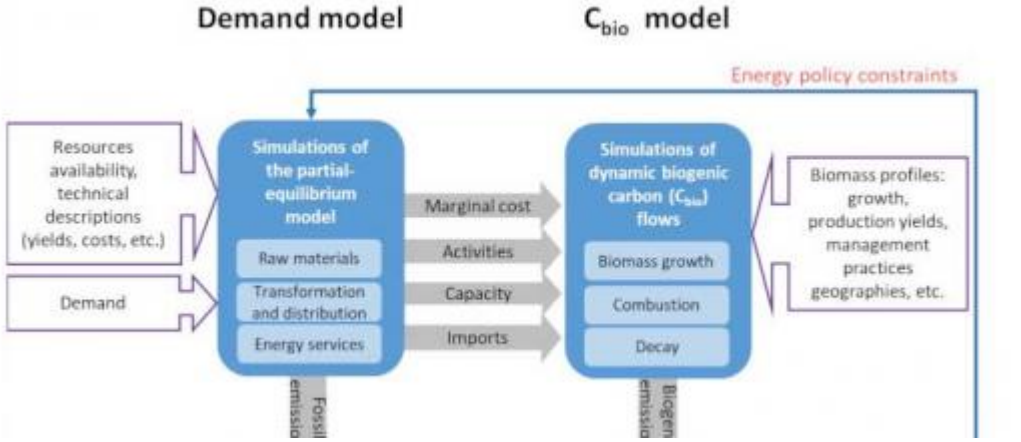
- Life cycle analysis (LCA)
- Biofuels and e-fuels

Innovation and Industry
News
July 2022

Sustainable mobility: tech solutions for reducing the road transport sector’s environmental footprint

Press release

- Sustainable mobility
- Electrified Mobility
- Environmental Analysis of Transport



Fundamental Research
News
April 2020

Dynamic modeling to help achieve genuine carbon neutrality

- Climate, environment and circular economy
- Environmental monitoring
- Life cycle analysis (LCA)

- Economics

- Environmental impact evaluation & LCA

Life cycle analysis (LCA)

Link to the web page :