

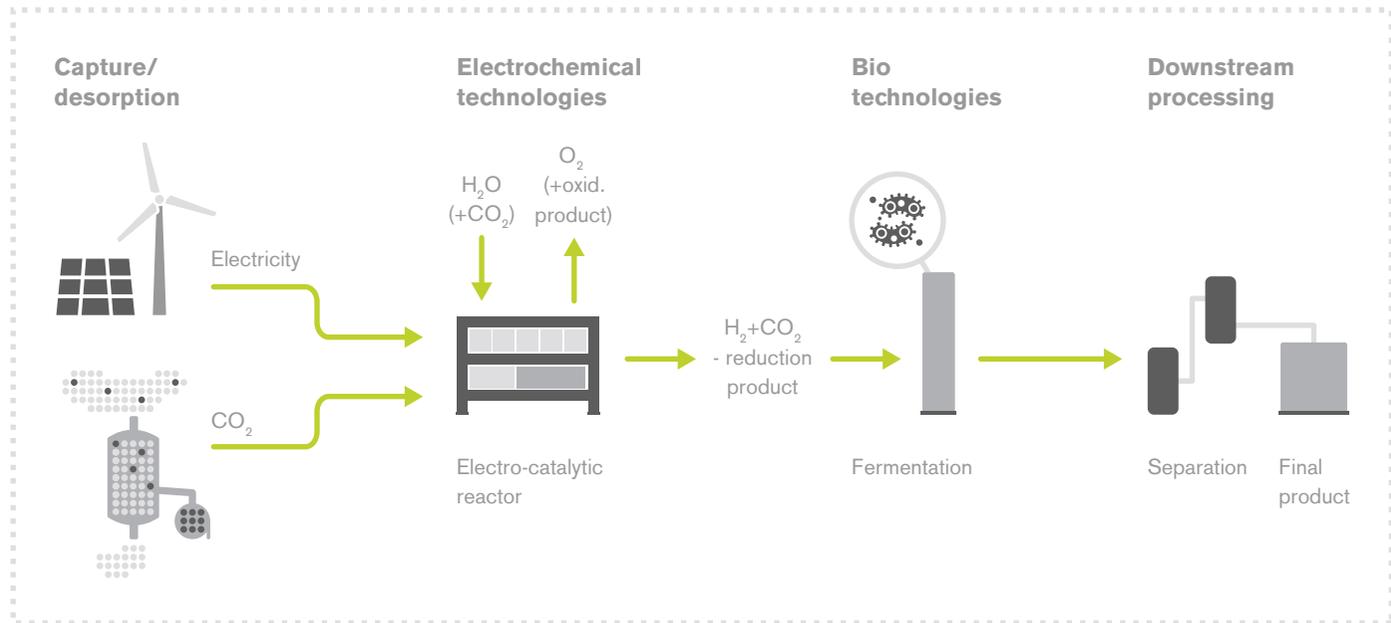
Celbicon

CELBICON aims at the development, from TRL3 to TRL5, of new CO₂-to-chemicals technologies, conjugating at once: high efficiency, low cost, robustness, moderate operating temperatures and low maintenance costs, for an effective decentralized market penetration.

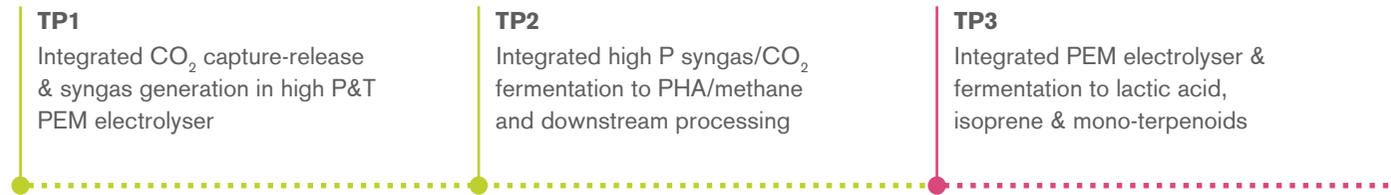
These technologies will bridge cost-effective:

- **CO₂ capture and purification** from the atmosphere through sorbents.
- **Electrochemical conversion of CO₂** via PEM electrolysis concepts with innovative materials, promoting CO₂ reduction and simultaneous fruitful oxidation reactions (e.g. for wastewater treatment).
- **Biological-fermentation of CO₂-reduction products** (syngas, C1 water-soluble molecules) to high-value chemicals.
- **Smart products purification** routes.

The **SYNERGIC** combination of chemical and biological **TECHNOLOGIES** is the key for boosting a **CO₂ CONVERSION** from **WASTE** to **ADDED-VALUE PRODUCTS**.



CELBICON process strategies and related technology platforms:



High pressure processing:
from CO₂ to bioplastics (PHA)

Low pressure processing:
from CO₂ to added-value chemicals (isoprene, lactic acid,...)

CELBICON GOAL is to present a sustainable **TRL5 PROTOTYPE PILOT-PLANTS** for the conversion of atmospheric CO₂ into high-value products, such as:

Bioplastic as **POLYHYDROXYALKANOATES**
ISOPRENE, TERPENES and **LACTIC ACID**
Added value gasses as **BIOMETHANE**



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Climate is changing.

CO₂ released by **antropic activities** is causing a disbalance in the C-cycle and already contributed to an increase of 1°C of the planet's average surface temperature.

CO₂ Conversion is challenging:

The **CELBICON** revolutionary idea is to **capture of carbon dioxide from the atmosphere** for its **conversion to valuable products** through an unique combination of chemical and biological technologies.



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Cost-effective CO₂ conversion into chemicals via combination of Capture, ELectrochemical, Blochemical CONversion technologies

