

The team



With advise from



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Funded by
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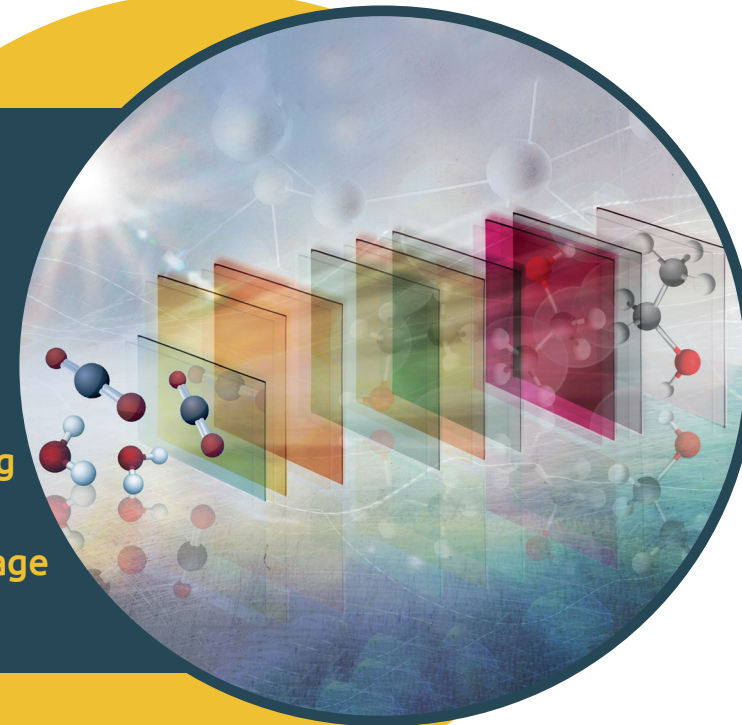
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Solar energy to power CO₂ reduction
towards C₂ chemicals for storage

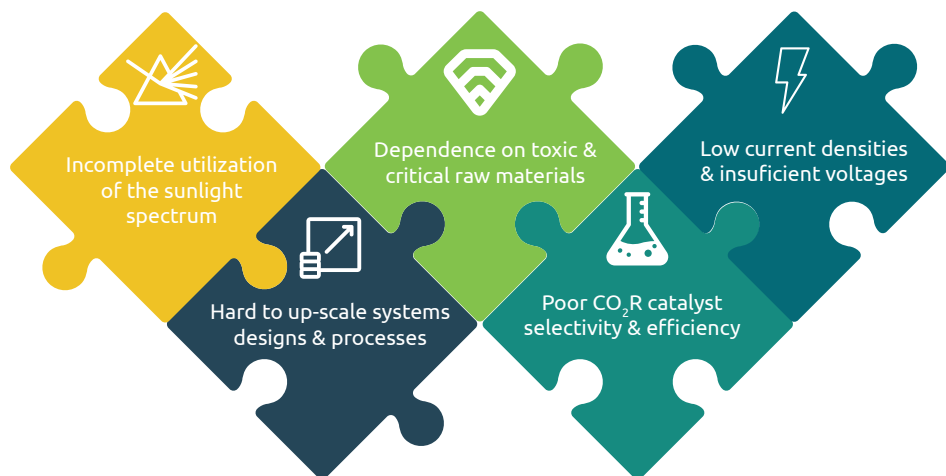
Pioneering a novel technology that directly converts sunlight and CO₂ into valuable C₂ chemicals, enabling safe and efficient green energy storage



- 1 1 step, stand alone solar-to-X
- 2 Abundant non-toxic feed-stock (CO₂, H₂O) and materials
- 3 Up-scalable processing and system integration
- 4 True green circular CO₂ economy

The energy transition challenge

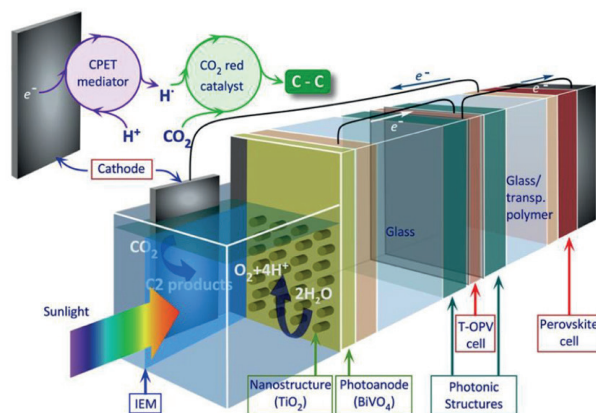
To directly convert solar energy into storable fuels and chemicals, overcoming:



The solution

A **compact tandem photo-electrochemical cell (PEC)** that converts CO₂ and H₂O into C₂ chemicals ethanol and ethylene, incorporating:

- **Organo-metallic water oxidation catalysis (WOC), stable at pH7.**
- **Metal oxide/organic PV/perovskite PV triple tandem.**
- **Photonic nano-structures for broadband sunlight harvesting.**
- **Cathode for CO₂ reduction (CO₂R) based on CPET¹ catalysis.**

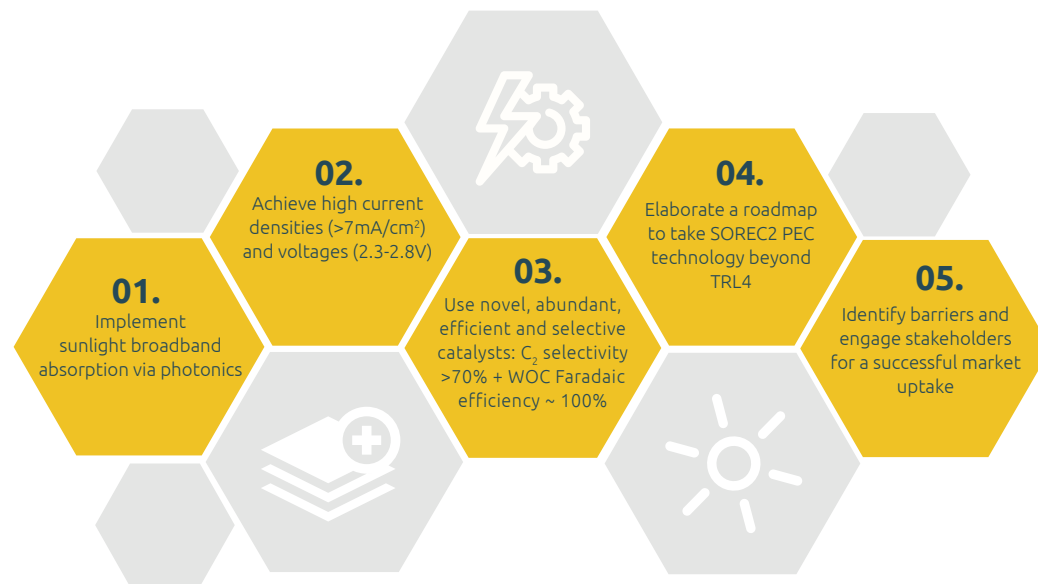


Solar Energy + CO₂ + H₂O



¹CPET: Concerted Proton-Electron Transfer molecular mediator

Project goals



Future roadmap

