

Towards a climate-neutral energy production

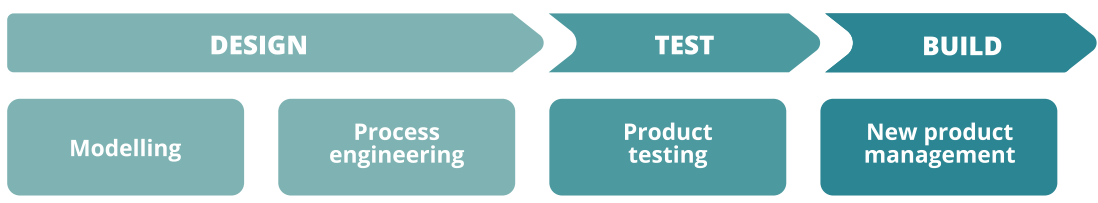
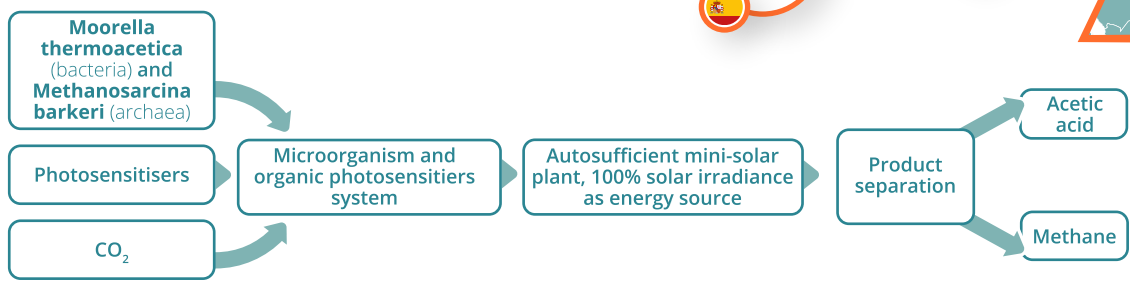
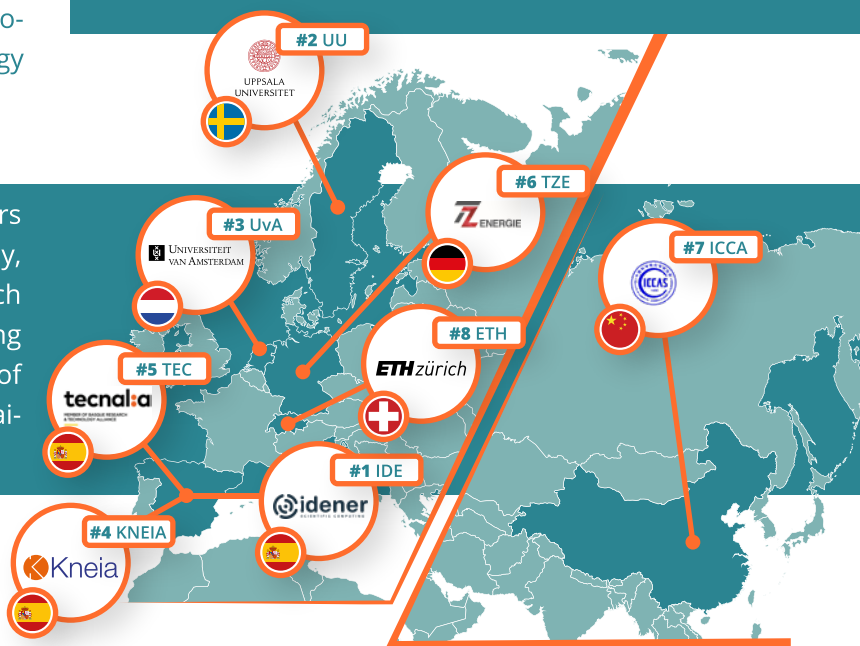
The European Union has set an ambitious objective for 2050: being the first climate-neutral continent. But first, we need to overcome several challenges: using sustainable feedstocks, implementing technologies which are not using rare materials and capturing, storing and converting CO₂ without extra energy source. To overcome these challenges, **Photo2Fuel** is advancing in the research of solar fuels.

Photo2Fuel aims to develop a breakthrough technology that converts CO₂ into useful fuels and chemicals employing microorganisms and using only sunlight as an energy source.

Photo2Fuel is a project bringing together 8 partners from 6 countries (Spain, The Netherlands, Germany, Sweden, China, Switzerland). 5 universities, 2 research and technology organisations and 1 SME are working together to cover all the steps for the development of **Photo2Fuel**'s methodology, which focuses on the sustainable production of biofuels and biochemicals.

Hybrid biofuel production systems employing microorganisms and CO₂

In **Photo2Fuel**, we are developing devices to convert CO₂ into fuels and chemicals using only microorganisms and sunlight. The main system of **Photo2Fuel** is composed of microorganisms, photosensitisers and CO₂. After testing and optimisation, this system will be scaled up into a photo-micro reactor, able to operate in variable weather conditions. After the reactions, methane and acetic acid will be recovered. An evaluation of the environmental, social, and technological aspects of the system will lead to a roadmap for further research.



Support the transition to a climate neutral Europe by 2050

Sustainable, stable and scalable system

Funded by the European Union

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OVERALL PROJECT BUDGET: € 2.493.171
START DATE: 1 September 2022
END DATE: 31 August 2025
TOTAL MONTHS: 36