

European School on Artificial Leaf : Electrodes Devices

Timeline | 04/2018 to 09/2022

ICIQ People | [A. Llobet Research Group](#)

Budget | 3,599,022 €

<https://escaled-project.eu/en/>

ICIQ's Budget | 151,477 €

Call | [H2020-MSCA-ITN-2017](#)

SUMMARY

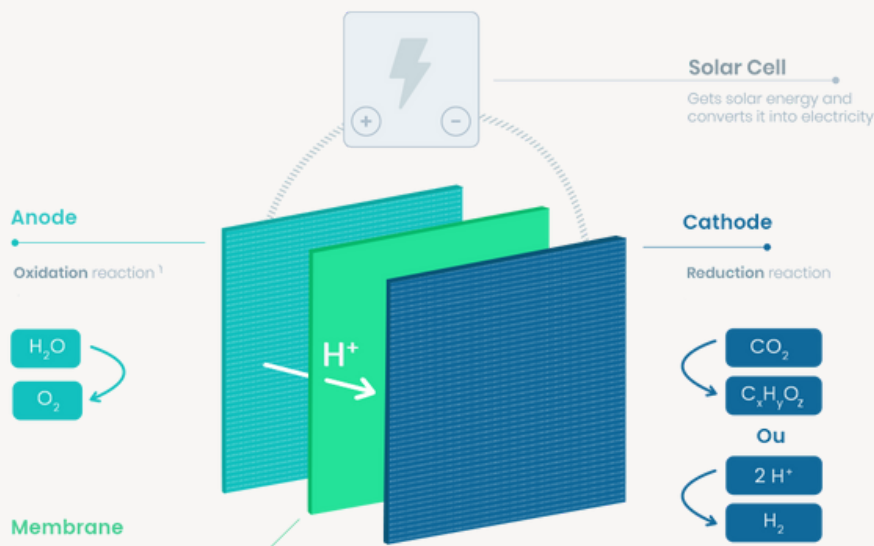
Climate change resulting from accumulation of anthropogenic carbon dioxide in the atmosphere and the uncertainty in the amount of recoverable fossil fuel reserves are driving forces for the development of renewable, carbon-neutral energy technologies. Artificial photosynthesis appears to be an appealing approach for a sustainable energy generation as it produces “solar fuels” or commodities for chemistry in a stable and storable chemical form, from solar energy, H₂O & CO₂. The **eSCALED** project is a contribution to structure early-stage research training at the European level and strengthen European innovation capacity to elaborate an artificial leaf. The ESR will be in charge of combining in a unique device a solar cell and a bioinspired electrochemical stack where H₂O oxidation and H⁺ or CO₂ reduction are performed in microreactors.

OBJECTIVE

eSCALED is a bio-inspired research program with the ambition of developing a device which, by miming photosynthesis, would be capable of getting the solar energy to store it in the molecular scale, in a chemical form. The ambition of the **eSCALED** consortium is to create a device capable of getting solar energy and of storing it under chemical form into solar fuels: hydrogen or carbon molecules, rich in energy, interesting for mobility or industry.

"eSCALED aims at a scientific breakthrough to imitate the photosynthesis functional sites: the leaf's chloroplastes"

eSCALED artificial photosynthesis device



CONSORTIA

