

SUSTAINABLE CHEMICALS WITH SUNLIGHT AND CO₂


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Learn about our sustainability analysis, latest publications and more....

Helmholtz-Zentrum Berlin hosts plenary meeting



The FlowPhotoChem team assembled for our 6th project-wide plenary meeting. This time we gathered in Berlin, Germany on the 23rd and 24th of November, 2023.

We had a productive meeting as we entered an exciting phase of the project with our modular reactors generating promising results and systems integration advancing. We extend a special thanks to Prof. Matthew Mayer and Siddhart Gupta at the [Helmholtz-Zentrum Berlin](#) for organising and hosting.

SoHHytec shares insight on research collaboration



Academic-industry collaborations can serve as lynchpins for businesses seeking to open up new avenues of engagement with the broader innovation ecosystem. Universities can serve as sources of new talent and ideas for corporations.

Read our interview with [SoHHytec's](#) R & D Manager, Dr Ehsan Rezaei [here](#).



FlowPhotoChem Coordinator
Professor Pau Farràs Costa,
University of Galway

WHAT IS FlowPhotoChem?

FlowPhotoChem is a multi-national, EU-funded research project that is developing new and better ways to manufacture chemicals using carbon dioxide (CO₂) and sunlight. There is great potential to replace much of the fossil fuels used today to make fuels and useful chemicals, by using solar energy and advanced catalysts to convert CO₂ into, for example, ethylene, as a precursor for plastics. FlowPhotoChem addresses the key challenges to achieving this – more effective solar light management, more efficient reactors, and more durable catalysts.

The project brings together many of Europe's leading R&D teams in this and related fields, from computer scientists and modellers to chemists, reactor designers and catalyst companies.

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Dissemination matters

FlowPhotoChem publications



Three FlowPhotoChem papers have been published since our [last newsletter in June 2023](#). The recent papers come from partners at the University of Szeged, the University of Galway and [ICIQ](#).

Visit our website's [Publications page](#) to access these and our entire list of papers.

Our PhD candidates present their findings

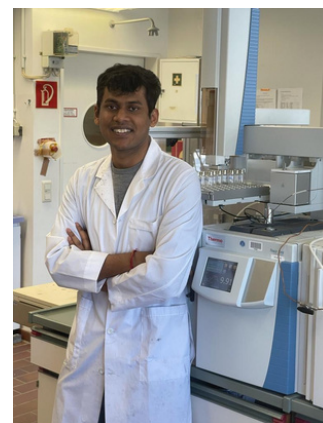
Our early-stage researchers are on the conference circuit disseminating FlowPhotoChem results to a variety of audiences and building their networks in the research community.

The Solar2Chem project's (Grant Agreement No. 861151) conference "[From Sunlight to Fuels: Uniting Science and Environmental Responsibility](#)" took place in Tarragona, Spain at the Institut Català d'Investigació Química (ICIQ) from the 18th to 22nd of September 2023. [University of Galway](#) PhD candidate Hanka Besic took home a prize for her poster titled- "Performance and stability of cobalt oxides in an anion exchange membrane for electrolyser." Congratulations to Hanka!

[DLR](#) researcher David Brust presented at the 8th International Conference on Semiconductor Photochemistry. His talk and poster were titled- "Modelling Study of a Photo-Thermal Catalytic Reactor for rWGS Reaction Under Concentrated Irradiation." The meeting was held in Strasbourg, France from September 11th through the 15th, 2023.

2023 Early Stage Researcher vlog - Results!

[Helmholtz-Zentrum Berlin](#) 3rd year PhD candidate Siddharth Gupta, supervised by Dr Matthew Mayer, created a 2023 video update on progress developing the FlowPhotoChem electrochemical (EC) reactor for CO and CO₂ reduction.



Learn more about Sid's work in his [vlog](#). Check out our complete series of early-stage researcher vlogs in our [Media & Materials](#) suite.

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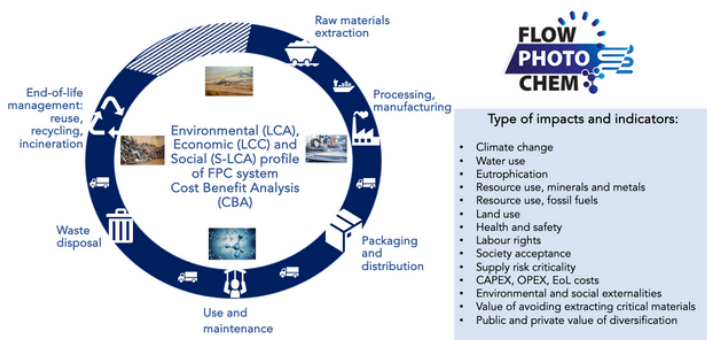
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Our sustainability profile and public outreach

FlowPhotoChem: Analysing the social impact of 'solar chemicals'

Sustainability profile of FPC System



Technology is changing and will continue to do so, posing present and future challenges. Transforming industry to have a beneficial evolutionary impact on society includes social, economic and environmental considerations. Responsible innovation contributes to increasing the prosperity of all stakeholders: businesses, society and the environment.

With this in mind, Leitat Technological Center's PI Dr Susana Leão unravels FlowPhotoChem's sustainability analysis from a life cycle perspective and contextualises its importance. Read more about the social impact of solar chemicals [here](#).

Galway Youth Climate Assembly 2023

University of Galway researchers, Prof. Pau Farràs Costa, Dr Wenming Tong and Hanka Basic presented a poster- 'Innovative processes for the production of chemicals from water and air' depicting FlowPhotoChem's objectives at the November 15th, 2023, Galway City Youth Climate Assembly in Ireland. This activity was part of the Galway Science and Technology Festival.

The event aimed to foster dialogue with young people and increase participation in decision-making in climate action policies. Approximately 100 young people took part in the Assembly.

Read about the presentation and event [here](#).



PROJECT FACTS:

Grant agreement number 862453

EC contribution €6,993,315

Duration 48 months

Started 1 June 2020

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