

HORIZON
2020

Novel photo-assisted systems for direct Solar-driven redUction of CO2 to energy rich CHEMicals

Fact Sheet

Project Information

SUN2CHEM

Grant agreement ID: 884444

[Project website](#) 

DOI

[10.3030/884444](https://doi.org/10.3030/884444) 

Project closed

EC signature date

15 April 2020

Start date

1 October 2020

End date

30 April 2024

Funded under

SOCIETAL CHALLENGES - Secure, clean and efficient energy

Total cost

€ 3 941 507,50

EU contribution

€ 2 998 445,00

Coordinated by

ECOLE POLYTECHNIQUE
FEDERALE DE LAUSANNE



Switzerland

Project description

Developing solutions for efficient, solar-driven CO2 reduction

Ethylene is an energy-rich chemical produced from fossil fuels in industry, with high commercial value and a strong presence in the global market. Targeting ethylene as the final product, the EU-funded SUN2CHEM project aims to develop solutions that will result in efficient solar-driven CO2 reduction. To do this, the project will develop all the components to be integrated into tandem photoelectrochemical cells and

advanced photocatalytic reactors. It will also conduct environmental and social studies on the new technology in the context of a circular economy, its energy security impacts and the social acceptance of chemicals produced from sunlight conversion. The project will play a role in making us less dependent on fossil fuels and in reducing carbon emissions by CO₂ conversion.

Fields of science (EuroSciVoc)

[natural sciences](#) > [chemical sciences](#) > [catalysis](#) > **[photocatalysis](#)**

[engineering and technology](#) > [nanotechnology](#) > **[nano-materials](#)**

[natural sciences](#) > [chemical sciences](#) > [organic chemistry](#) > **[aliphatic compounds](#)**

[engineering and technology](#) > [environmental engineering](#) > **[energy and fuels](#)**

[social sciences](#) > [economics and business](#) > [economics](#) > **[sustainable economy](#)**



Keywords

[Ethylene](#)

[polymers](#)

[fuel](#)

[photocatalysis](#)

[PC](#)

[photoelectrochemical](#)

[PEC](#)

[photosynthesis](#)

Programme(s)

[H2020-EU.3.3. - SOCIETAL CHALLENGES - Secure, clean and efficient energy](#)

MAIN PROGRAMME

[H2020-EU.3.3.2. - Low-cost, low-carbon energy supply](#)

Topic(s)

[LC-SC3-RES-29-2019 - Converting Sunlight to storable chemical energy](#)

Call for proposal

[H2020-LC-SC3-2018-2019-2020](#)

[See other projects for this call](#)

Sub call

H2020-LC-SC3-2019-NZE-RES-CC

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE

Net EU contribution

€ 627 937,50

Total cost

€ 627 937,50

Address

BATIMENT CE 3316 STATION 1

1015 Lausanne

 **Switzerland** 

Region

Schweiz/Suisse/Svizzera > Région lémanique > Vaud

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Participants (14)



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

 **France**

Net EU contribution

€ 304 047,50

Address

RUE MICHEL ANGE 3

75794 Paris 

Region

Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 304 047,50



IFP Energies nouvelles

 France

Net EU contribution

€ 129 176,25

Address

AVENUE DE BOIS PREAU 1 & 4

92500 Rueil Malmaison 

Region

Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 129 176,25



**CONSORZIO INTERUNIVERSITARIO NAZIONALE PER LA SCIENZA E
TECNOLOGIA DEI MATERIALI**



Italy

Net EU contribution

€ 175 336,25

Address

VIA GIUSTI 9

50121 Firenze



Region

Centro (IT) > Toscana > Firenze

Activity type

Research Organisations

Links

[Contact the organisation](#)

[Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 175 336,25



UPPSALA UNIVERSITET



Sweden

Net EU contribution

€ 150 125,00

Address

VON KRAEMERS ALLE 4

751 05 Uppsala



Region

Östra Sverige > Östra Mellansverige > Uppsala län

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)

[Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 150 125,00



UNIVERSITEIT LEIDEN

 Netherlands

Net EU contribution

€ 177 375,00

Address

RAPENBURG 70

2311 EZ Leiden 

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 177 375,00



UNIVERSITAT JAUME I DE CASTELLON

 Spain

Net EU contribution

€ 316 247,50

Address

AVENIDA VICENT SOS BAYNAT S/N

12006 Castellon De La Plana 

Region

Este > Comunitat Valenciana > Castellón/Castelló

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 316 247,50



AARHUS UNIVERSITET

 Denmark

Net EU contribution

€ 170 740,00

Address

NORDRE RINGGADE 1

8000 Aarhus C 

Region

Danmark > Midtjylland > Østjylland

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 170 740,00



IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

 United Kingdom

Net EU contribution

€ 289 647,50

Address

SOUTH KENSINGTON CAMPUS EXHIBITION ROAD

SW7 2AZ LONDON 

Region

London > Inner London — West > Westminster

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 289 647,50



FUNDACIO PRIVADA INSTITUT CATALA D'INVESTIGACIO QUIMICA

Spain

Net EU contribution

€ 323 750,00

Address

AVENIDA PAISSOS CATALANS 16
43007 Tarragona

Region

Este > Cataluña > Tarragona

Activity type

Research Organisations

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 323 750,00



SOLINTEL M & P SL

Spain

Net EU contribution

€ 171 562,50

Address

AVENIDA DE JEREZ 33
28514 Nuevo Baztan

SME

Yes

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 171 562,50



EUROQUALITY SAS

 France

Net EU contribution

€ 162 500,00

Address

53 RUE DE CHATEAUDUN
75009 PARIS 09 

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 162 500,00



NANKAI UNIVERSITY

 China

Net EU contribution

€ 0,00

Address

WEIJIN ROAD 94
300071 TIANJIN 

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 315 187,50



NATIONAL UNIVERSITY OF SINGAPORE PUBLIC COMPANY LIMITED BY GUARANTEE

Singapore
Net EU contribution

€ 0,00

Address
LOWER KENT RIDGE ROAD 21
119077 Singapore

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#) [Website](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 301 750,00



NATIONAL UNIVERSITY CORPORATION THEUNIVERSITY OF TOKYO

Japan
Net EU contribution

€ 0,00

Address
HONGO BUNKYO KU 7 3 1
113 8656 Tokyo

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 326 125,00

Last update: 14 November 2024

Permalink: <https://cordis.europa.eu/project/id/884444>

European Union, 2025