



Next REnewable multi-GENeration technology enabled by TWO-phase fluids machines

Fact Sheet

Project Information

REGEN-BY-2

Grant agreement ID: 851541

[Project website](#)

DOI

[10.3030/851541](https://doi.org/10.3030/851541)

Project closed

EC signature date

22 April 2020

Start date

1 September 2020

End date

31 August 2024

Funded under

SOCIETAL CHALLENGES - Secure, clean and efficient energy

Total cost

€ 5 419 327,50

EU contribution

€ 4 905 748,75

Coordinated by

UNIVERSITA DI PISA



Italy

Project description

Developing novel, renewable multi-generation technology

The growing importance of renewable energy is increasing demand in advanced energy infrastructure. With this in mind, the EU-funded REGEN-BY-2 project aims to develop a novel lab-scale prototype of a highly efficient, patented thermodynamic cycle and related plant for the conversion of thermal sources in energy vectors. The prototype, using two-phase flow compressors and expanders, will be able to convert

any type of renewable thermal source (e.g. solar, aerothermal, geothermal and hydrothermal) from low to high temperature, including additional thermal sources such as waste heat. The project will promote demand for and increased use of renewable thermal sources.

Fields of science

[engineering and technology](#) > [mechanical engineering](#) > [thermodynamic engineering](#)

Keywords

[Flexible multi-generation](#)

[Combined Cooling Heating and Power](#)

[Two-phase fluid expanders](#)

[Two-phase fluid compressors](#)

[Patent realization](#)

[High-potential startup \(Unicorn\)](#)

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-1-2019-2020 - Developing the next generation of renewable energy technologies](#)

Call for proposal

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

[See other projects for this call](#)

Sub call

H2020-LC-SC3-2019-RES-TwoStages

Funding Scheme

Coordinator



UNIVERSITA DI PISA

Net EU contribution

€ 614 750,00

Total cost

€ 614 750,00

Address

LUNGARNO PACINOTTI 43/44

56126 Pisa

 **Italy** 

Region

Centro (IT) > Toscana > Pisa

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Participants (13)



RINA CONSULTING SPA

 **Italy**

Net EU contribution

€ 436 500,00

Address

VIA CECCHI 6

16129 Genova 

Region

Nord-Ovest > Liguria > Genova

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

€ 436 500,00



FUNDACION CARTIF

 Spain

Net EU contribution

€ 358 125,00

Address

PQ TECNOLOGICO BOECILLO 205

47151 Boecillo 

Region

Centro (ES) > Castilla y León > Valladolid

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 358 125,00



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

 France

Net EU contribution

€ 138 000,00

Address

RUE MICHEL ANGE 3

75794 Paris 

Region

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 225 623,75

 THIRD-PARTY 

UNIVERSITE DE LORRAINE

 France

Net EU contribution

€ 87 623,75

Address

COURS LEOPOLD 34
54052 Nancy Cedex 

Region

Grand Est > Lorraine > Meurthe-et-Moselle

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 87 623,75



R2M SOLUTION SPAIN SL

 Spain

Net EU contribution

€ 307 500,00

Address

CALLE CERVERA 59 1D

28033 Madrid 

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](#) 

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

[HORIZON collaboration network](#) 

Total cost

€ 307 500,00



TIFEO SRL

 Italy

Net EU contribution

€ 543 125,00

Address

VIA DEI CARABINIERI 28

57123 Livorno 

SME 

Yes

Region

Centro (IT) > Toscana > Livorno

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

€ 543 125,00



ETHNICON METSOVION POLYTECHNION

Greece

Net EU contribution

€ 423 250,00

Address

HEROON POLYTECHNIOU 9 ZOGRAPHOU CAMPUS
157 72 ATHINA

Region

Αττική > Αττική > Κεντρικός Τομέας Αθηνών

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#)

Total cost

€ 423 250,00



UNIVERSITE DE LIEGE

Belgium

Net EU contribution

€ 500 000,00

Address

PLACE DU 20 AOUT 7
4000 Liege

Region

Région wallonne > Prov. Liège > Arr. Liège

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#)

Total cost

€ 500 000,00



ASOCIACION ESPANOLA DE NORMALIZACION

 Spain

Net EU contribution

€ 79 125,00

Address

CALLE GENOVA 6
28004 Madrid 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Other

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 79 125,00



EXOES

 France

Net EU contribution

€ 661 250,00

Address

6 AVENUE DE LA GRANDE LANDE ZONE ARTISANALE BERSOL
33170 Gradignan 

SME 

Yes

Region

Nouvelle-Aquitaine > Aquitaine > Gironde

Activity type

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

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

€ 661 250,00



FORDERVEREIN DES LEHRSTUHL FÜR STROMUNGSMECHANIK ERLANGEN (LSTME) EV

 Germany

Net EU contribution

€ 0,00

Address

CAUERSTR 4
91058 Erlangen 

Region

Bayern > Mittelfranken > Erlangen, Kreisfreie Stadt

Activity type

Research Organisations

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Total cost

€ 513 578,75




DR. JAKOB ENERGY RESEARCH GMBH & CO. KG

 Germany

Net EU contribution

€ 192 500,00

Address

PESTALOZZISTRASSE 3
71384 Weinstadt 

SME 

Yes

Region

Baden-Württemberg > Stuttgart > Rems-Murr-Kreis

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

€ 192 500,00



HYSYTECH SRL

 Italy

Net EU contribution

€ 564 000,00

Address

VIA I MAGGIO 5

10043 Orbassano (TO) 

SME 

Yes

Region

Nord-Ovest > Piemonte > Torino

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

€ 564 000,00

Last update: 6 September 2024

Permalink: <https://cordis.europa.eu/project/id/851541>

