

Recycling renewable hydrogen for climate neutrality

Fact Sheet

Project Information

RecHycle

Grant agreement ID: 101058692

DOI

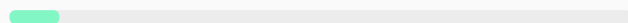
[10.3030/101058692](https://doi.org/10.3030/101058692) 

Start date

1 June 2022

End date

31 May 2026



Funded under

Digital, Industry and Space

Total cost

€ 28 419 720

EU contribution

€ 6 226 743

Coordinated by

ARCELORMITTAL BELGIUM NV

 Belgium

Objective

RecHycle's goal is to implement a gas hub, capable of mixing metallurgic gases produced on site with or without external (green) hydrogen sources. This is to be fed ultimately into the Blast Furnace and a future DRI furnace to sustainably produce green steel.

The project will demonstrate a cost-efficient solution to decrease carbon emissions by initiating a new industrial symbiosis between and within the steel industry, chemical industry and renewable energy sources (e.g. wind or solar to obtain green electricity or hydrogen). The project will contribute in the shift towards a circular economy where waste products are valorised to the maximum of their potential. Furthermore, the project is to serve as a stepping stone towards further development of synergies between companies within the North Sea Port industrial area, thus creating new opportunities for innovation and economic activities.

Challenges to be addressed are the dynamic optimization of gas mixtures and flows,

minimizing risks of hydrogen on material embrittlement, ceramic feed-inlet (Tuyere?) within the furnaces, the quality of the produced steel and the (future) material scrap streams of the DRI. Rechycle is to be executed through a consortium of 6 partners from 4 different countries including 2 industrial partners that are world leading in the steel manufacturing industry and 4 research partners specialized in hydrogen-based studies.

Fields of science

[natural sciences](#) > [biological sciences](#) > [biological behavioural sciences](#) > [ethology](#) > **biological interactions**

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

Programme(s)

[HORIZON.2.4 - Digital, Industry and Space](#)

MAIN PROGRAMME

[HORIZON.2.4.9 - Low-Carbon and Clean Industries](#)

[HORIZON.2.4.1 - Manufacturing Technologies](#)

Topic(s)

[HORIZON-CL4-2021-TWIN-TRANSITION-01-22 - Adjustment of Steel process production to prepare for the transition towards climate neutrality \(Clean Steel Partnership\) \(IA\)](#)

Call for proposal

[HORIZON-CL4-2021-TWIN-TRANSITION-01](#)

[See other projects for this call](#)

Funding Scheme

[HORIZON-AG - HORIZON Action Grant Budget-Based](#)

Coordinator



ARCELORMITTAL BELGIUM NV

Net EU contribution

€ 5 100 000,00

Address

Keizerinlaan 66

1000 Brussel

 **Belgium** 

Region

Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad

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](#) 


Non-EU contribution

€ 21 792 250,00

Participants (6)



JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH

 Austria

Net EU contribution

€ 166 746,00

Address

Leonhardstrasse 59

8010 Graz 

Region

Südösterreich > Steiermark > Graz

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 0,25



UNIVERSITA POLITECNICA DELLE MARCHE

Italy

Net EU contribution

€ 126 875,00

Address

Piazza Roma 22
60121 Ancona

Region

Centro (IT) > Marche > Ancona

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#)

Non-EU contribution

€ 0,00



ARCELORMITTAL MAIZIERES RESEARCH SA

France

Net EU contribution

€ 601 087,00

Address

Rue Andre Campra 6 Immeuble Le Cezanne
93200 Saint Denis

Region

Ile-de-France > Ile-de-France > Seine-Saint-Denis

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](#)

Non-EU contribution

€ 400 725,50



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

France

Net EU contribution

€ 89 483,00

Address

Rue Michel Ange 3

75794 Paris

Region

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

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#)

Non-EU contribution

€ 42 603,25

THIRD-PARTY

UNIVERSITE DE BORDEAUX

France

Net EU contribution

€ 42 602,00

Address

Place Pey Berland 35

33000 Bordeaux

Region

Nouvelle-Aquitaine > Aquitaine > Gironde

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#)

Non-EU contribution

€ 0,50



IRT ANTOINE DE SAINT EXUPERY

 France

Net EU contribution

€ 99 950,00

Address

B 612 - Cs 34436, 3 Rue Tarfaya
31400 Toulouse 

SME 

Yes

Region

Occitanie > Midi-Pyrénées > Haute-Garonne

Activity type

Research Organisations

Links

[Contact the organisation](#) 

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

[HORIZON collaboration network](#) 

Non-EU contribution

€ 0,00

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