

INNOVATION FUND

Deploying innovative net-zero technologies for climate neutrality

AdriatiCO2: Marcegaglia AdriatiCO2

The Innovation Fund is 100% funded by the EU Emissions Trading System

| Project Factsheet

The project, led by Marcegaglia Ravenna S.p.A., aims to reduce CO₂ emissions in the Ravenna industrial district through Carbon Capture Utilisation and Storage (CCUS) technologies. It features a high degree of innovation, being the first project in Italy and Southern Europe to deploy Bioenergy with carbon capture and storage (BECCS), thus resulting in more than 100% reduction of CO₂ emissions in the atmosphere compared to the reference scenario. AdriatiCO₂ allows the integration of CCUS technology in a cogeneration plant with a green Direct Reduced Iron (DRI) production, which will use biochar and biomethane as sources. The project employs a patented technology, which, combined with a heat recovery system and a novel solvent, will enable the annual capture of up to 112 000 tonnes of CO₂ from the plant's flue gases.

The project will capture CO₂ from two emission points within Marcegaglia Ravenna's facilities. In the co-generator, biomethane will partly substitute natural gas as input to supply the company with

COORDINATOR

MARCEGAGLIA RAVENNA S.P.A.

LOCATION

Italy

CATEGORY

Carbon capture and geological storage (CCS)

SECTOR

Iron & steel

AMOUNT OF INNOVATION FUND GRANT

EUR 31,238,542

EXPECTED GHG EMISSIONS AVOIDANCE

1,233,307 tonnes CO₂ equivalent

STARTING DATE

01 April, 2025

FINANCIAL CLOSE DATE

30 November, 2026

ENTRY INTO OPERATION DATE

31 December, 2028

CALL NAME

InnovFund-2023-NZT

* Calculated vs. the 2021-2025 ETS benchmark of 6.84 tCO₂e/tH₂, not taking into account additional carbon abatement due to substitution effects in the H₂ end use application, i.e. conservative estimate.

electrical and thermal energy. The green DRI facility will also use biochar, instead of coal of fossil origin, as a chemical agent to produce DRI for the first time in a commercial plant. These two applications significantly amplify the CCUS plant's impact, pushing it beyond carbon neutrality and towards a net carbon-negative footprint. AdriatiCO2 thus effectively contributes to Europe's 2050 net-zero targets while aspiring to set up a new benchmark for decarbonisation in Italy's industrial steel sector. Because it considers the area's emerging transport and storage infrastructure, the project also offers an integrated logistics solution.

Aligned with the REPowerEU Plan and the European Green Deal, AdriatiCO2 supports the decarbonisation of hard-to-abate sectors, particularly steel production. The project also contributes to Italy's first

geological CO2 storage infrastructure by relying on the Ravenna CCUS project, which is expected to serve as a critical CO2 sink for Southern Europe and the Mediterranean. Thus, the project is a frontrunner in deploying industrial solutions that respond to current and future regulatory developments within European industrial and climate policies.

AdriatiCO2 will create significant economic value by fostering the development of CO2 capture and storage infrastructure that will benefit the company and others requiring CCUS for their decarbonisation efforts in the Ravenna industrial district. By establishing a CO2 value chain in the region, the project provides a scalable model for deployment across other steel production facilities and hard-to-abate industries in Italy and beyond.

| Participants

MARCEGAGLIA RAVENNA S.P.A.

Italy

Additional information on the [EU Funding and Tenders Portal](#).