



# ADRIATICO<sub>2</sub>

# Marcegaglia AdriatiCO<sub>2</sub> Project



Funded by the European Union  
Emissions Trading System  
Innovation Fund

Innovation Fund NZT-2023 Projects - Project 101191172 - PIC 903201145



**MARCEGAGLIA**

# WE ARE INTERNATIONAL

6.5 MILLION TONNES OF FINISHED PRODUCT  
7.5 BILLION EUROS IN TURNOVER  
7,800 EMPLOYEES  
36 PLANTS ACROSS 4 CONTINENTS  
15,000 CUSTOMERS

1<sup>st</sup> PLAYER IN STEEL PROCESSING SECTOR IN THE WORLD

1<sup>st</sup> PRODUCER OF STAINLESS STEEL  
WELDED TUBES IN THE WORLD

1<sup>st</sup> PRODUCER OF CARBON STEEL  
WELDED TUBES IN EUROPE

1<sup>st</sup> SERVICE CENTER IN ITALY

## APPLICATIONS

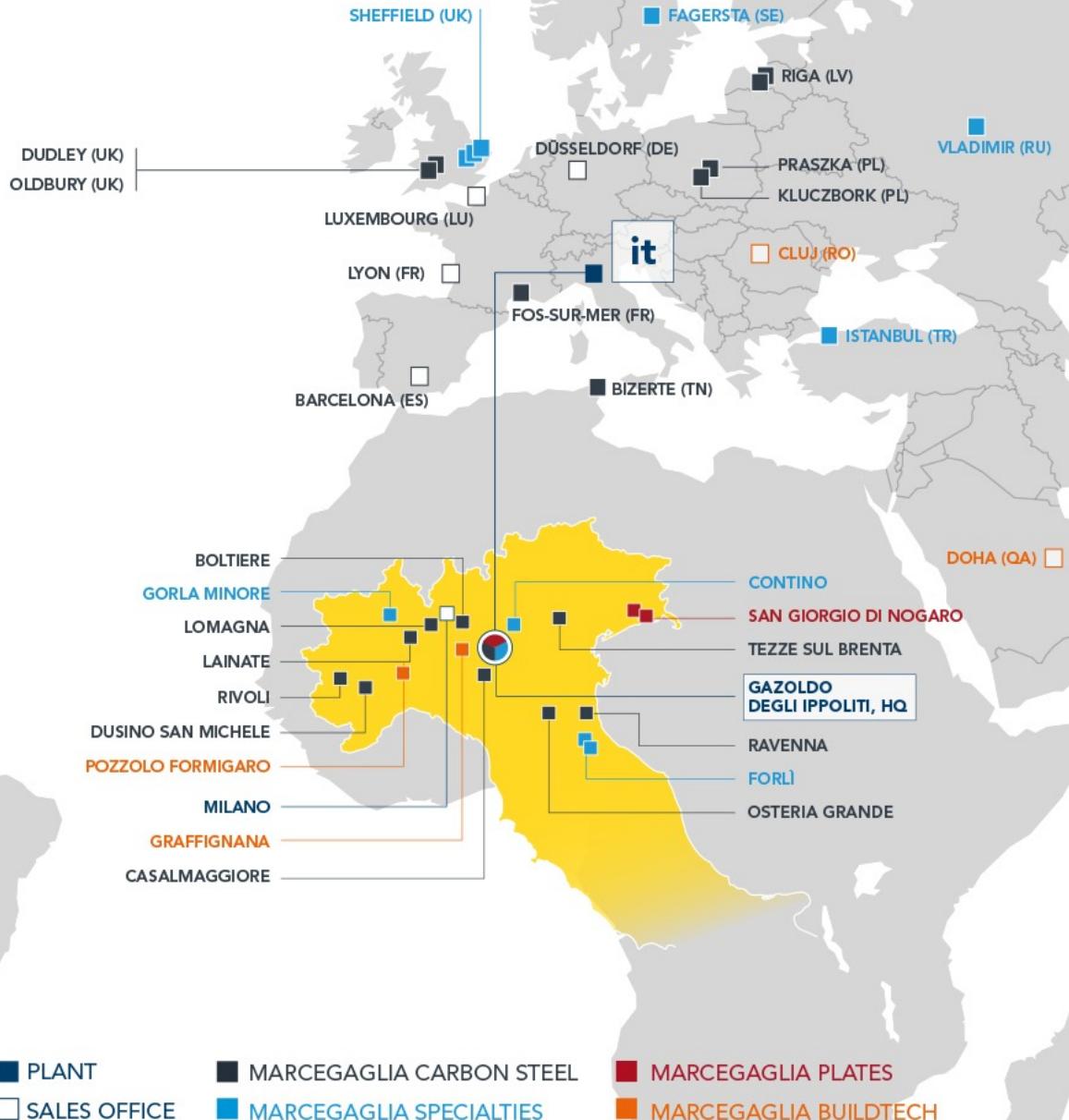
19%	BUILDING, CARPENTRY
13%	AUTOMOTIVE
9%	FOOD AND DAIRY
9%	TRADING
8%	HOUSEHOLD APPLIANCES
8%	MECHANICAL ENGINEERING
6%	AGRICULTURE
30%	OTHER (CHEMICAL, PLUMBING, FURNITURES, ENERGY)

RICHBURG (US)

QUERÉTARO (MX)

FUNZA (CO)

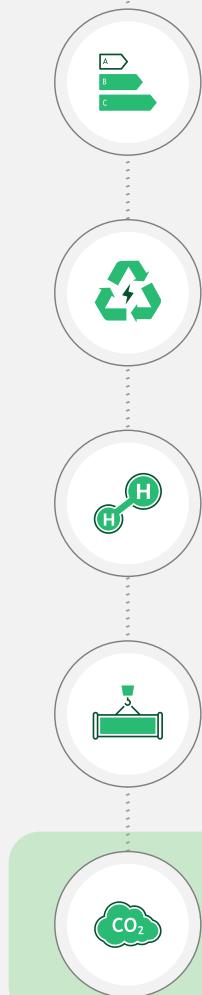
GARUVA (BR)





# Marcegaglia is a decarbonization pioneer in the steel processing industry

## Scheduled actions for CO<sub>2</sub> reduction by 2030



### Energy saving and process innovation (SCOPE 1)

- Energy efficiency projects
- Electrification of thermal plants

### Renewable energy (SCOPE 2)

- Production and supply of green energy

### Alternative energy sources (SCOPE 1)

- Feasibility study of using green hydrogen in static annealing/hot dip galvanizing

### Raw material supply (SCOPE 3)

- H2 Green Steel (H2GS): innovative steel plant to produce green steel
- Incentive to purchase from virtuous suppliers
- Off-take agreements beyond H2GS

### Capture of CO<sub>2</sub> emissions (SCOPE 1 and 2)

- Carbon Capture Utilization and Storage (CCS) project in the Ravenna facility

**AdriatiCO<sub>2</sub> project  
embraces holistic  
decarbonization by  
leveraging 3  
innovative solutions  
with relevant  
synergies embedded,  
within a broader  
transition strategy  
undertaken by  
Marcegaglia group**

A



CCUS on Co-  
Generator and  
Green DRI<sup>2</sup> Plant

>

Installation of a CCS plant with Amine-based technology to capture CO<sub>2</sub> emissions from Co-generator plant and Biogenic CO<sub>2</sub> emissions from DRI plant

B



Green DRI  
(I-Smelt)  
Production

>

Production of carbon neutral DRI through reduction of ferrous oxides, biochar & starch

C



Bio Energy Carbon  
Capture and  
Storage (BECCS)

>

Utilization of biomethane as input in Co-Gen plant as partial replacement of methane

# AdriatiCO<sub>2</sub> is a pivotal project across 3 key dimensions



## 1 Environmental, Social & Economic Impact



CCUS allowing to **capture large volume of CO<sub>2</sub>** (up to 112 kt of CO<sub>2</sub> captured per year, cutting more than 40% of Marcegaglia Ravenna Scope 1 emissions)



Project delivering **social and economic benefits** for national economy



## 2 Exceptional degree of innovation



BECCS<sup>1</sup> not yet developed in Italy and Southern Europe



Capture of biogenic CO<sub>2</sub> flowrates leading to **net negative emissions**



## 3 Optimal logistics integrated solution



T&S<sup>2</sup> infrastructure present in the plant's **immediate vicinity**



Eni and Snam **collaborating** for pipeline and wells management



# AdriatiCO<sub>2</sub> will be a pioneer in BECCS deployment in Italy & Southern Europe, reducing net CO<sub>2</sub> released in atmosphere

AdriatiCO<sub>2</sub> will leverage BECCS with a twofold strategy



**ADRIATICO<sub>2</sub>**



Partial replacement of co-generator consumption with biomethane

Utilization of biochar to fuel the new Green DRI plant operations

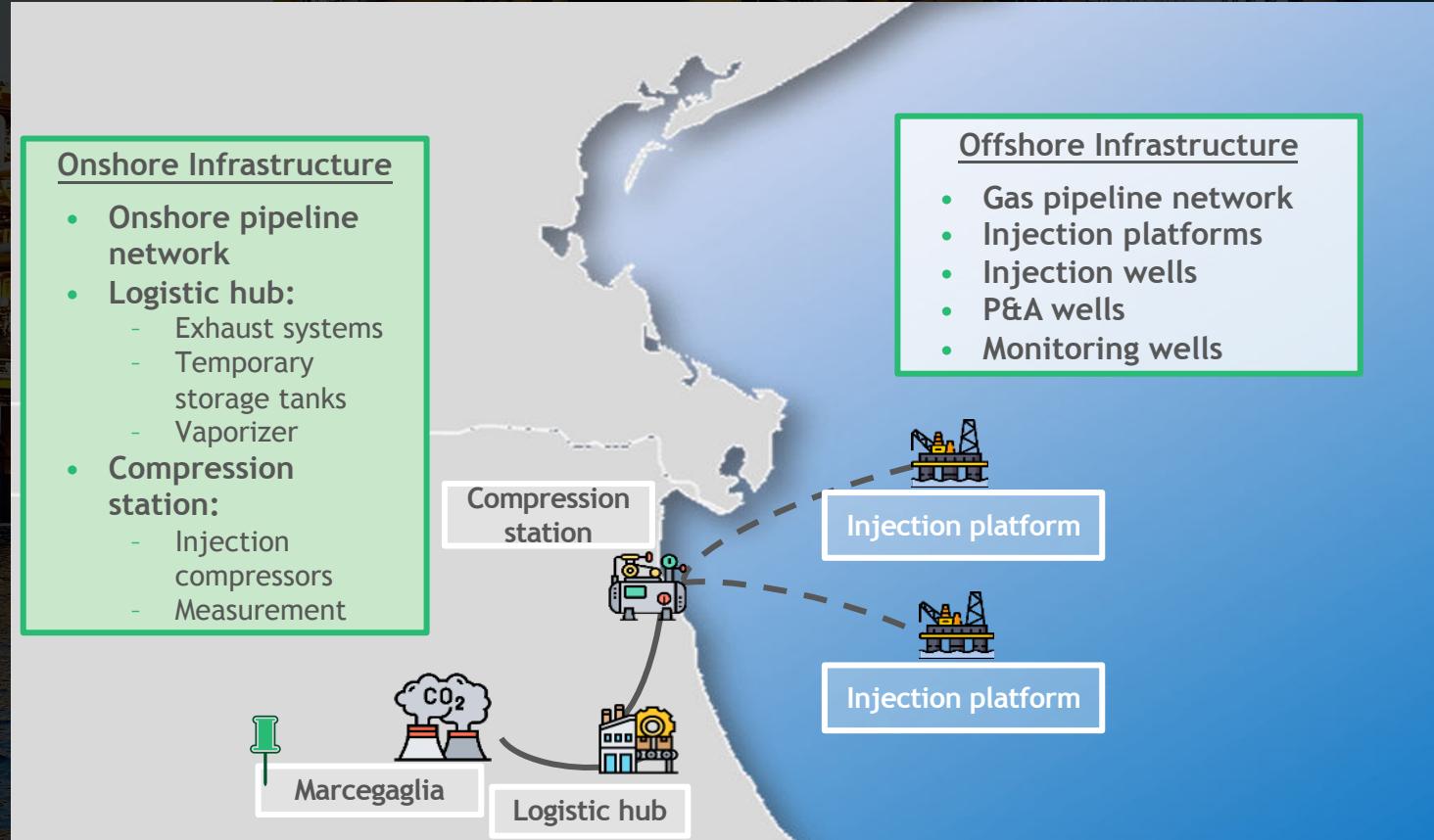


The project is a pivotal step for Marcegaglia's goal to attain a **negative carbon footprint** across the entire Ravenna facility in the future



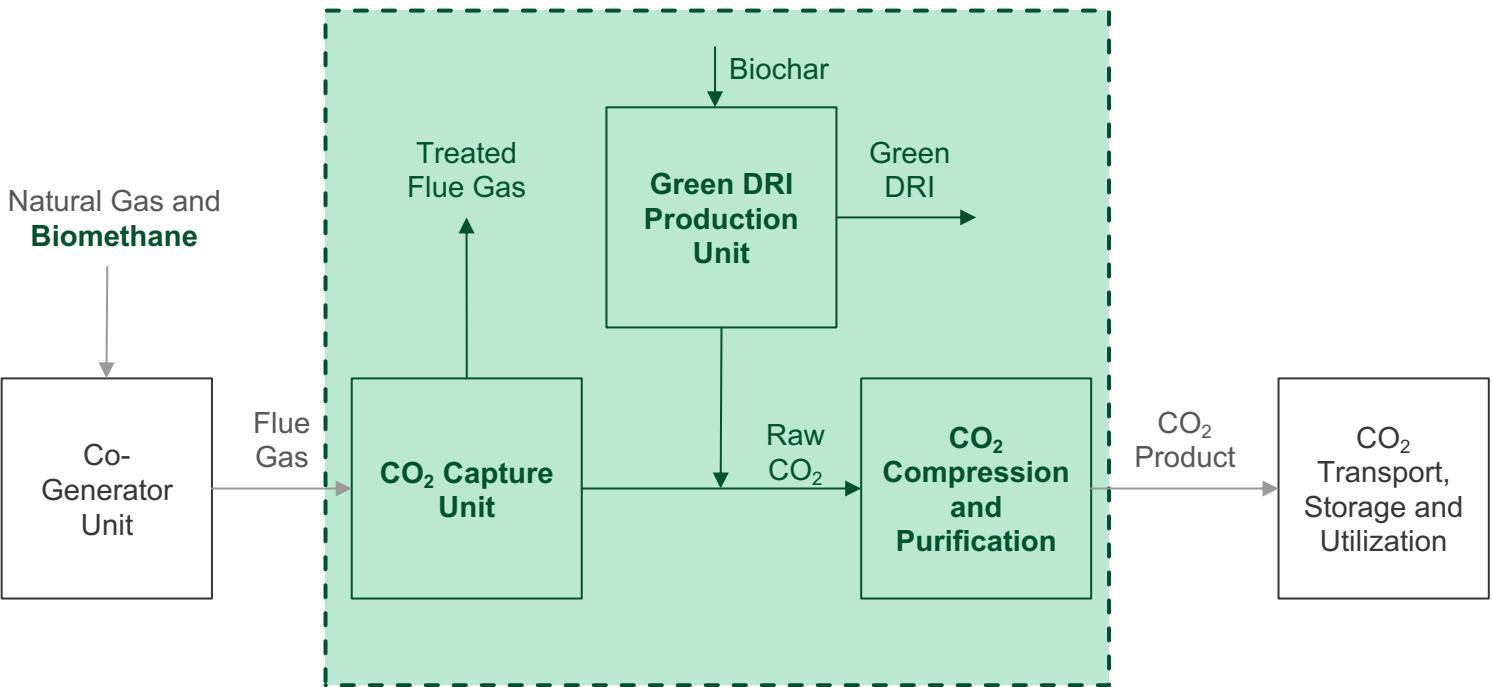
# AdriatiCO<sub>2</sub> will benefit from infrastructural synergies given proximity to primary CO<sub>2</sub> compression and storage sites

- Transport, liquefaction, and storage infrastructure in the vicinity of Marcegaglia plant
- Facilities managed by ENI and Snam

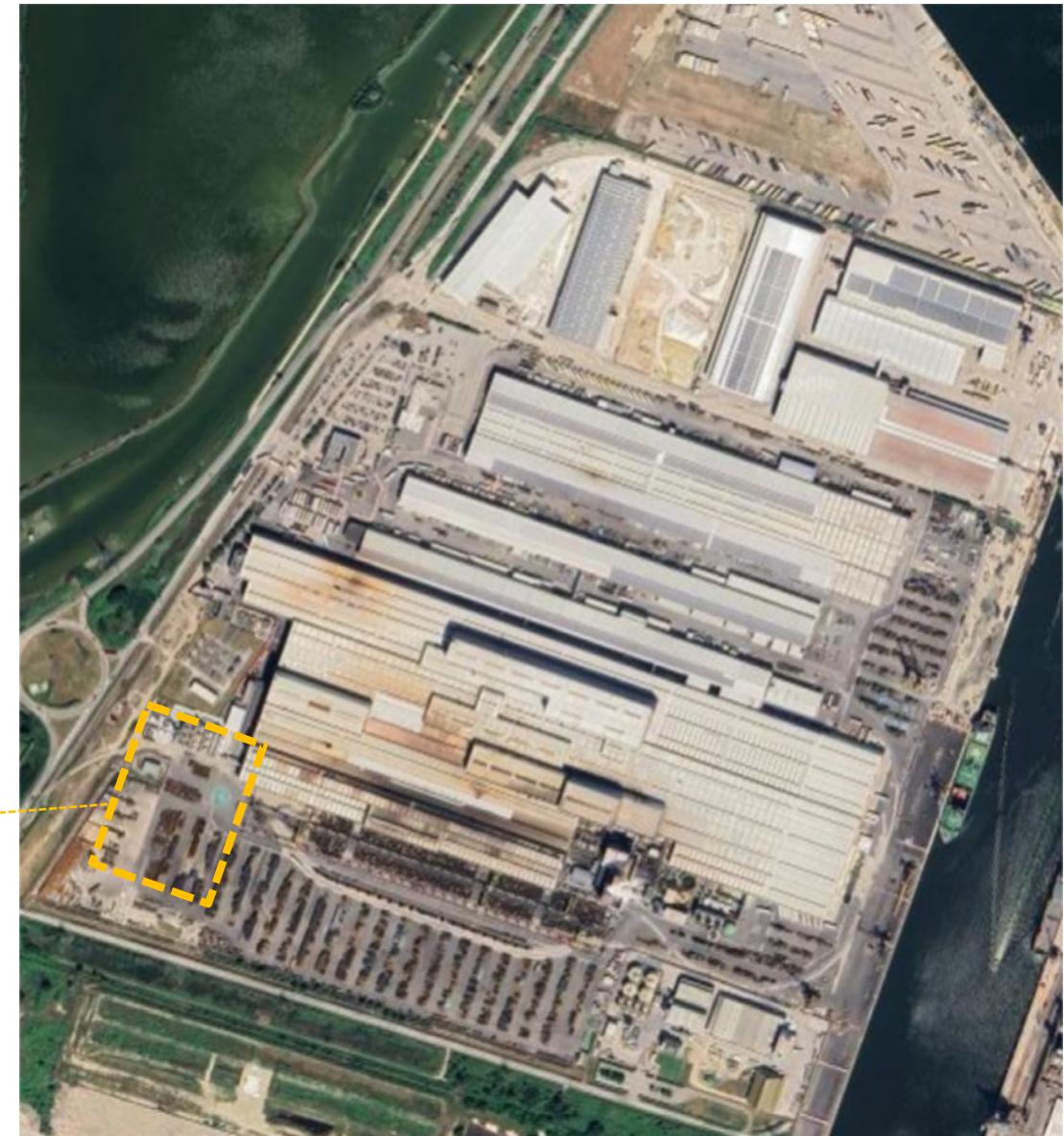
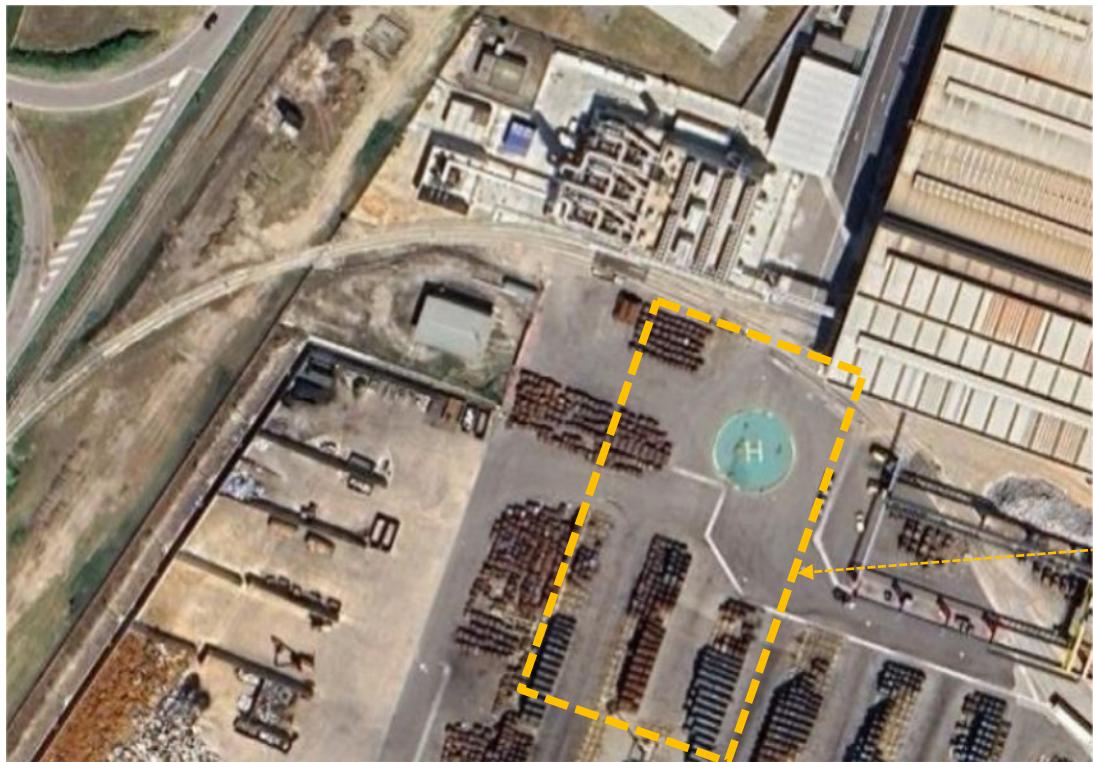


# AdriatiCO<sub>2</sub>

## Schematic view of the technical project



## Location of CC unit and Green-DRI plant in Ravenna facility



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# MARCEGAGLIA