International Association of Oil & Gas Producers

www.iogpeurope.org

IOGP Europe
Avenue de Tervueren 188A,
B-1150 Brussels, Belgium
T: +32 (0)2 790 7762
E: reception-europe@iogp.org

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CO_2 storage projects in Europe

Overview of existing and planned CO_2 storage projects in Europe

BULGARIA
1. ANRAV (IF)

CROATIA
1. Petrokemija Kutina*
2. Bio-Refinery Project*
3. CCGeo (IF)
4. **CO_2 EOR Project Croatia***
5. Geothermal CCS project (PCI)

CZECH REPUBLIC
1. CO2-SPICER

DENMARK
1. **Greensand***
2. Bifrost* (PCI)
3. Stenlille demo CO_2-storage
4. Norne (PCI)
5. Ruby

FRANCE
1. Pycasso* (PCI)

GREECE
1. Prinos CCS (PCI)

HUNGARY
1. MOL-Hungary CCS Project*

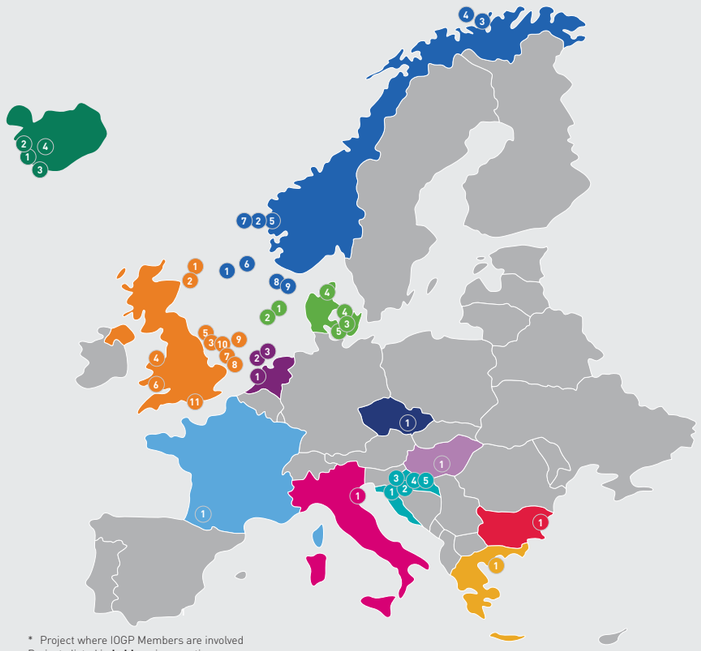
ICELAND
1. **Orca**
2. **Silverstone** (IF)
3. Coda Terminal (IF)
4. Mammoth

ITALY
1. Ravenna CCS (includes Callisto)* (PCI)

THE NETHERLANDS
1. Porthos* (PCI)
2. Aramis* (PCI)
3. L10 CCS*

NORWAY
1. **Sleipner***
2. Longship (includes Northern Lights)* (PMI)
3. Barents Blue (includes Polaris)
4. **Snøhvit***
5. Smeaheia*
6. Trudvang*
7. Luna*
8. Havstjerne*
9. Poseidon (NO)*

UK
1. Acorn*
2. Caledonia Clean Energy
3. Zero Carbon Humber*
4. HyNet*
5. Net Zero Teesside*
6. South Wales Industrial Cluster
7. Bacton Thames Net Zero initiative*
8. Poseidon (UK)
9. Viking CCS*
10. Orion
11. Solent Cluster*

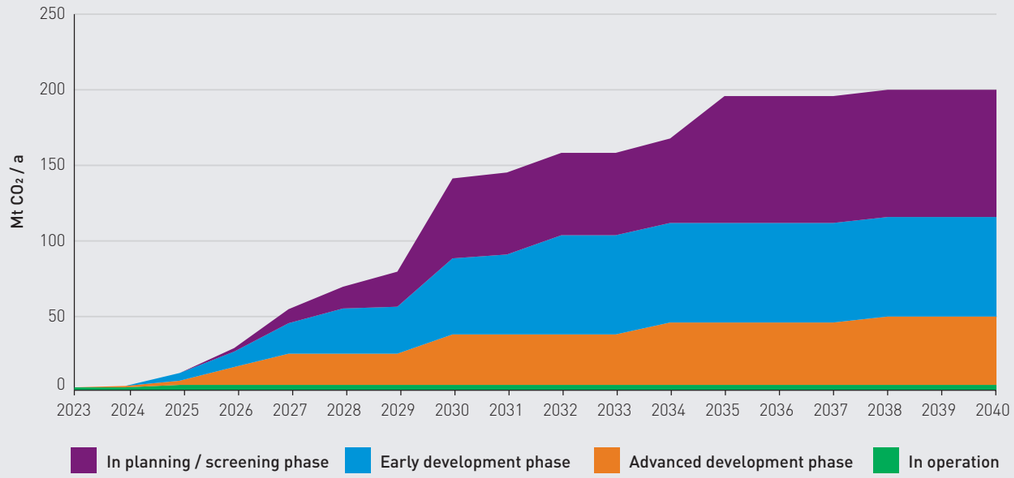


* Project where IOGP Members are involved
Projects listed in **bold** are in operation

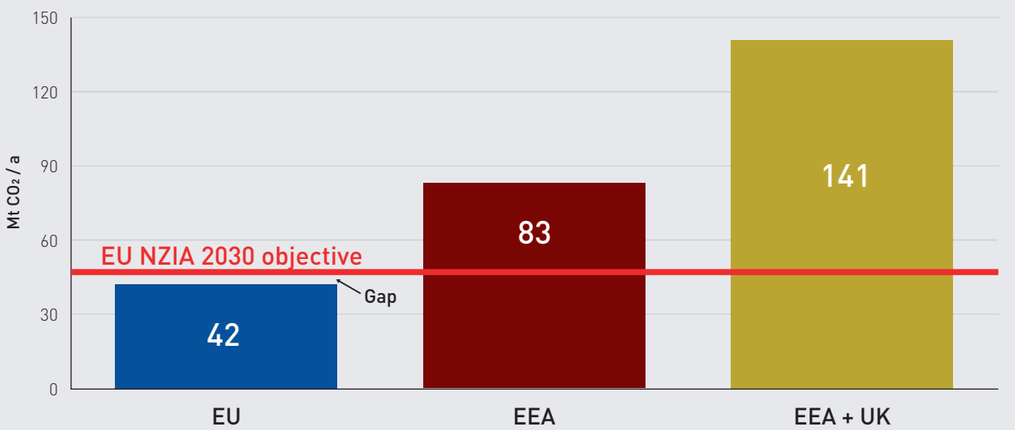
(PCI) – Project of Common Interest
(PMI) – Project of Mutual Interest
(IF) – Project supported by the EU Innovation Fund

EU	**19 projects** - 42 MtCO2/yr by 2030
Europe	**43 projects** - 141 MtCO2/yr by 2030

Build-up of CO_2 storage injection capacity in Europe



Regional breakdown of CO_2 storage injection capacity by 2030



Key numbers

EU

19 **CO_2 STORAGE PROJECTS**

9 **COUNTRIES WITH CO_2 STORAGE PROJECTS**

42 **MT CO_2/YEAR** CO_2 storage injection capacity by 2030

Europe

43 **CO_2 STORAGE PROJECTS**

12 **COUNTRIES WITH CO_2 STORAGE PROJECTS**

141 **MT CO_2/YEAR** CO_2 storage injection capacity by 2030

Carbon Capture, and Storage

CCS is a set of technologies that enable the Capture, Transport and Storage of CO_2.

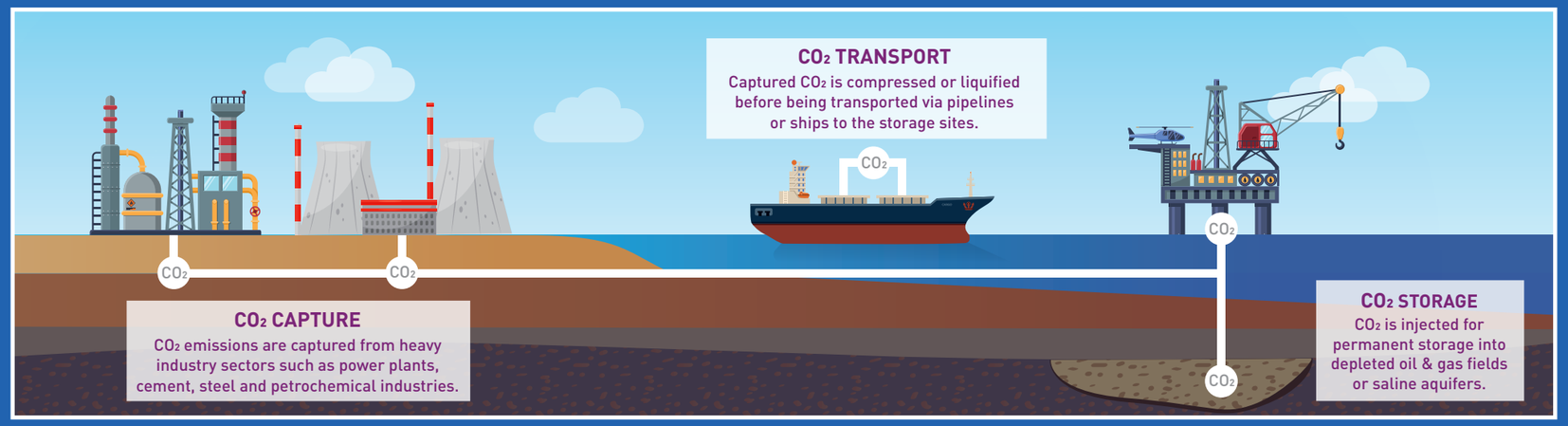
CCS is a proven and safe technology. CO_2 has been captured, transported and stored in Europe successfully since 1996 (Sleipner project, Norway).

It is a key technology for Europe to meet climate neutrality.

More CCS resources at iogpeurope.org

How it works

The 3 segments of the CCS value chain



CCS be deployed at scale, often repurposing existing infrastructures

Where can CCS make a difference?

Decarbonisation of hard-to-abate industries

In the EU, steel, cement, chemical and refining sectors emit 37% of total CO_2 industrial emissions. CCS is one of the only technological options to enable emission reductions in hard-to-abate industries.

Energy transition

CCS can be applied to gas-fired power plants which provide flexibility to an electricity grid with a higher share of intermittent renewables.

Low carbon hydrogen production

Hydrogen production based on natural gas decarbonized with CCS is the most cost-effective. It can supply industrial sectors and decarbonize sectors which cannot be electrified such as aviation and maritime transport.

Negative emissions

Large scale negative emissions can be achieved when BioEnergy production is combined with CCS (BECCS) or when Direct Air Capture is combined with CCS (DACCS).

A European CO_2 storage ambition

IOGP Europe promotes an ambition on CO_2 storage injection capacity availability.

Ambition level of 0.5 to 1.0 $GtCO_2$ storage availability per year by 2050

Scope covering EU, EEA and the UK

Requires a comprehensive EU policy framework

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IOGP Europe
Avenue de Tervueren 188A, B-1150 Brussels, Belgium
T: +32 (0)2 790 7762
E. reception-europe@iogp.org

IOGP Headquarters
T. +44 (0)20 3763 9700
E: reception@iogp.org

IOGP Americas
T: +1 713 261 0411
E: reception-americas@iogp.org

IOGP Asia Pacific
T: +60 3-3099 2286
E: reception-asiapacific@iogp.org

IOGP Middle East & Africa
T: +20 120 882 7784
E: reception-mea@iogp.org

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