



INNOVATION FUND

Driving clean innovative technologies towards the market

GO4ECOPLANET - KUJAWY

Go4ECOPLANET project, Carbon Capture and Storage project in Kujawy Cement Plant in Poland

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



Project summary

The Go4ECOPLANET project aims to fully decarbonise cement production at the Lafarge (Holcim Group member) plant in Kujawy (Poland) and thus to contribute to decarbonising the construction industry. The project involves a globally-unique technology for capturing and liquefying CO₂. The solution will capture 100% of the plant's CO₂ emissions, which will be transported to storage areas in the North Sea. The project is a key part of Holcim Group's decarbonisation roadmap to meet its Net Zero Pledge. Negative emissions linked to the fuel containing biogenic carbon (considered as carbon neutral) allows the project to obtain 105% relative greenhouse gas (GHG) emissions avoidance compared to the reference scenario.

COORDINATOR

Lafarge Cement S.A.

BENEFICIARY

Lafarge Cement S.A.

LOCATION

Bielawy, Poland

SECTOR

Cement and lime

GHG EMISSION AVOIDANCE

10 MT CO₂ eq

AMOUNT OF THE INNOVATION FUND GRANT

EUR 228 210 004

RELEVANT COSTS

EUR 380 350 000

TOTAL PROJECT COSTS

EUR 4 744 483 158

ESTIMATED CAPEX

EUR 264 632 772

STARTING DATE

1 April 2022

PLANNED DATE OF ENTRY INTO OPERATION

30 April 2027

One of the first net zero-emission cement plants in Europe

Lafarge's Go4ECOPlanet project will create a full CCS chain, starting from CO₂ capture at the Kujawy site to offshore storage in the North Sea. The vision is to be a net-zero plant by 2027, producing green cement for the European market. This will be possible thanks to Air Liquide's innovative CryoCap™ FG emission capture technology, which is helping to develop highly replicable and complete carbon capture solutions to drive decarbonisation of materials for the building sector. The ambitious project schedule assumes a significant medium-term effect, as 10% of the cement sector emissions in Poland are expected to be captured by 2027.

In the first phase, it is assumed that 2 800 tonnes of CO₂ will be transported daily by train from the Kujawy Cement Plant to the Port of Gdańsk. The CO₂ will then be taken by ship to the North Sea, where it will be injected into depleted oil or gas fields for permanent storage. In total, this one CCS installation will eliminate 10.2 Mt of CO₂ equivalent over ten years of operation.

The transportation and storage of CO₂ will be possible thanks to cooperation with Air Liquide, PKN Orlen, Lafarge and the Port of Gdańsk through a separate Project of Common Interest (PCI), which is independent from the Kujawy Go4ECOPlanet project and not covered by the EU Innovation Fund programme.

The investment will create 39 new jobs at Lafarge Cement S.A. and approximately 200 additional positions in companies all along the value chain.

Driving the cement sector decarbonisation in Poland

The cement industry in Poland is amongst the most modern of any region – not only in Europe, but globally, and has made significant progress in decarbonisation of its energy use. Furthermore, the Polish cement industry is one of the European leaders in the use of alternative fuels (replacing fossil fuels) and mineral additives in cement production, in order to reduce the consumption of high-emission clinker and save natural resources.

Still, innovative technologies such as emissions capture and storage are indispensable to tackle the process emissions, notably from decomposition of calcium carbonate in the production of cement clinker.

The Kujawy Go4ECOPlanet project is aligned with the Polish Energy Strategy up to 2040 as well as with the European Green Deal and related EU actions and legislation to achieve climate neutrality by 2050, including the intermediate target of at least 55% reduction in greenhouse gas emissions by 2030. There is a huge potential to replicate the carbon capture technology used in the project due to the presence of numerous energy intensive industries in Poland. For all of these actors, Kujawy Go4ECOPlanet will serve as a showcase example of an effective decarbonisation strategy.