

DECARBONIZING OUR OPERATIONS WITH CCUS

GO4ECOPLANET

Becoming one of Europe's first zero-emission cement plants



 **KUJAWY, POLAND**



Co-funded by the European Union
Emissions Trading System
Innovation Fund



GO4ECOPLANET



The Go4ECOPlanet project will install a unique facility to capture 100% of CO₂ emissions generated during the production of clinker – the key ingredient in cement production. The installation will also capture biogenic CO₂ emitted during the combustion of fuels containing biomass. This will enable the plant to effectively capture 105% of reported greenhouse gas emissions.

From 2027, the plant in Kujawy, Poland aims to capture around 1.2 million tons of CO₂ per year and become one of the first net-zero cement plants in Europe. The Go4ECOPlanet project contributes to meeting the European Green Deal objectives and aligns with EU regulations targeting climate neutrality by 2050. The project was awarded a €228 million grant from the EU Investment Fund in 2022.

The technology behind the project

The air needed for fuel combustion in the clinker burning process will be partially replaced with oxygen, resulting in a higher concentration of CO₂ in the exhaust gases. The project will take flue gas and process it in a CO₂ capture facility with Air Liquide's Cryocap™ FG technology. This uses increased pressure to separate out the CO₂ contained in the clinker kiln flue gases. The CO₂ will then be liquified at an extremely low cryogenic temperature. Lastly, the liquified CO₂ will be purified to remove residual air components.

The 99.9% pure liquified CO₂ will be transported to the North Sea for storage under the seabed in caverns left from the extraction of gas and oil.

At a glance



NET-ZERO
by 2027



FUNDING
€228 million from the EU
Innovation Fund



ANNUAL CO₂ CAPTURE
Around
1.2 million tons



INNOVATION
1st deployment of
Cryocap™ FG technology
in the cement sector



PATHWAY
Storage



TECHNOLOGY
Cryocap™ FG

To maximize circularity, we will recover condensates from flue gas to reuse in the cement production process. The resulting water and sulphate and nitrate compounds can also be reused in cement or agriculture.

Our Partner

Air Liquide for their development of the Cryocap™ FG technology

We are part of the consortium behind the ECO2CEE project to develop an L-CO₂ hub at the port of Gdańsk and create a complete carbon capture and storage value chain.

“The Go4ECOPlanet project will enable us to decarbonize cement production at the Kujawy plant, contributing to the decarbonization of the entire building sector.”



Jolanta Zdunowska
CCS Projects
Technical
Director



Kujawy cement plant