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Rotterdam CCUS
Project Porthos: CO₂ transport and storage
Climate agreement

The Netherlands has clear climate objectives: the emission of greenhouse gases must be reduced by 49% in 2030 and by 95% in 2050 compared with 1990. One way to achieve the climate objectives is to capture CO\(_2\) for use or for storage underground (Carbon Capture Utilisation and Storage, CCUS in short). The Dutch coalition agreement and the National Climate Agreement underline the importance of CCUS for the energy transition.

Porthos is preparing a project to transport CO\(_2\) from industry in the Port of Rotterdam and store this in empty gas fields beneath the North Sea. Porthos is a partnership between the Port of Rotterdam Authority, Gasunie and EBN, and stands for Port of Rotterdam CO\(_2\) Transport Hub and Offshore Storage.

Energy transition

The National Climate Agreement contains a broad package of measures for CO\(_2\) reduction. Examples include a sharp increase in renewable energy, use of residual heat and geothermal energy, increased insulation for buildings, electric vehicles, process industry efficiency and recycling. A choice was also made in the Climate Agreement to develop capture, transport and storage of CO\(_2\).

For a section of the industry, CCUS is currently the fastest way to substantially reduce CO\(_2\) emissions into the atmosphere for relatively low costs. CCUS is an important technique for the chemical sector, hydrogen producers and refineries to significantly reduce their production process impact in the short term, while working on innovations to their production processes. The long-term objective continues to be sustainability.

Over 16% of CO\(_2\) emissions in the Netherlands take place in the Rotterdam port area, making the region’s contribution to the national climate objectives extremely important. As well as CCUS, the options of putting CO\(_2\) to good use will also be examined. A relatively small amount of CO\(_2\) from Rotterdam industry is already being used by greenhouse horticulture in South Holland, where it enables plants to grow faster. The Porthos infrastructure will also be suitable for transporting CO\(_2\) for use by industry, if there is demand for this in the future.

Planning

In 2020, Porthos will focus on three main issues. These issues must be concluded so that a final investment decision can be taken in 2021:

- Technical development of the transport and storage infrastructure;
- Environmental Impact Assessment and permits;
- Agreements with companies to supply CO\(_2\) and with the government to enable CCUS.

As soon as the investment decision has been taken, the construction of the infrastructure will start. It is expected that the system will be operational by the end of 2023.