
Press release

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MAN Compressor Technology to Support Major Dutch Carbon-Capture Project

MAN Energy Solutions' compression technology expertise bound for carbon capture, utilization and storage (CCUS) project in the Netherlands

MAN Energy Solutions in Berlin has been awarded a contract for the engineering of three RG compressor trains for a carbon capture, utilization and storage project in the Netherlands. The Port of Rotterdam Authority, Energie Beheer Nederland B.V. (EBN) and N.V. Nederlandse Gasunie are jointly developing the 'Porthos' (Port of Rotterdam CO₂ Transport Hub and Offshore Storage) project, which has been recognized by the European Union as a Project of Common Interest (PCI).

Porthos is planning to store approximately 2.5 million tons of CO₂ per year under the North Sea. The CO₂ will be captured by various companies in the Rotterdam port area – a region that accounts for over 16% of the CO₂ emissions in the Netherlands.

"CCUS is a stand-out technology with the potential to decarbonize major industries", stated Uwe Lauber, CEO of MAN Energy Solutions. "We are excited and proud to be part of the Porthos project and to contribute to a low-carbon future for Europe. This order also proves that we are steadily consolidating our technology leadership position as a provider of state-of-the-art CO₂ compression solutions."

At the end of 2019, the Porthos organization signed agreements with a number of companies interested in reducing their environmental footprints by capturing their CO₂ emissions and feeding them into the collective Porthos pipeline that will run for approximately 30 - 33 kilometres through the Rotterdam port area. The CO₂ will then be transported to a platform located approximately 20 kilometres off the Dutch coast. There, the CO₂ will be pumped into the exhausted P18 gas fields, which are expected to have a storage capacity of ~37 million tons of CO₂. Additionally, the Porthos system enables the use of the captured CO₂ for other industrial applications, such as within greenhouse horticulture to foster faster plant growth.

MAN Energy Solutions' scope of work for Porthos covers the engineering of two RG 25-4 and one RG 31-4 type compressor trains with an order for three additional units intended at a later stage. The compressor trains will be located at a compressor station on Maasvlakte, the man-made, western extension to Europoort. There, the CO₂ will be pressurized to ~132 bar in order to transport and inject the gas into the fields that are located about 3,200 to 3,500 metres below the North Sea. The compressors can handle up to 285 tons of CO₂ per hour, depending on how many units are running.

Porthos is expected to store the first CO₂ under the North Sea by the end of 2023. The finalization of MAN's engineering contract is scheduled for late-summer 2020, whereas the material order is expected for the Q2 2021.

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Numerous CCUS plants have already employed MAN compression systems, such as the 1999 Dakota Gasification Corporation project where, since the turn of the century, two high-pressure RG compressors have delivered CO₂ for the production of synthetic gas from coal in North Dakota, USA.

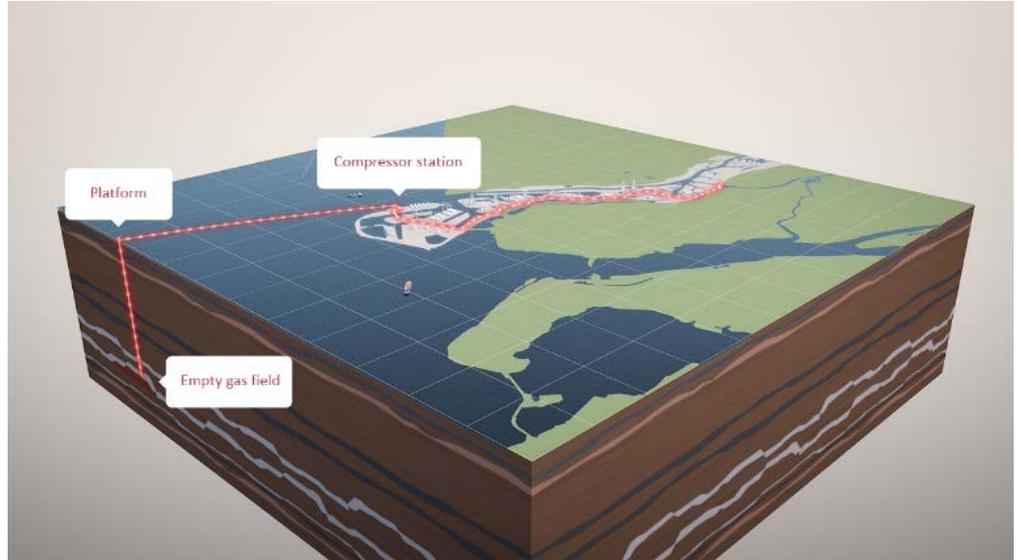
Tamer Bayri – Head of Sales & Execution Industries/Refineries – MAN Energy Solutions, Berlin, explained: “There are now 18 large-scale facilities in commercial operation around the world – eight of which use MAN’s CO₂ compression technology. Decades of operation and the proven benefits of our integrally-gear centrifugal-compressor systems have become an important reference attracting international attention.”

Similarly, in 2013, Shell Canada commissioned MAN with the delivery of an RG integrally-gear compressor for use in the world’s first, commercial-scale CCUS project to tackle carbon emissions. Located at an oil-sand operation in Alberta, Canada, the ‘Quest’ project has captured and injected more than one million tons of CO₂ underground annually since 2015.

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow’s challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.



RG compressor system for carbon capture and storage by MAN Energy Solutions



Porthos is a project to transport CO₂ from industry in the Port of Rotterdam and store it in empty gas fields beneath the North Sea.