

Maersk ponders CO₂ tankers

Is CO₂ transportation set to become a new area of activity for the shipping industry? One of the world's largest shipping companies, Denmark's A. P. Moller-Maersk Group, evidently seems to think so. The Danes are planning to start building custom-built CO₂ tankers for transporting CO₂ to depleted offshore oil and gas reservoirs, either for permanent storage or for enhanced oil recovery. 'We want to develop innovative and creative ways to limit carbon emissions,' says Christian Ingerslev, director in the gas division of Maersk Tankers.

Maersk has the largest product tanker fleet in the world, including 11 gas tankers (LPG and LNG) as well as ample experience in offshore oil and gas production in Denmark and Norway and countries like Qatar, Algeria and Kazakhstan. In addition, the Danes are involved in exploration projects in Norway, Oman, Brazil and the US (Gulf of Mexico). Against this background, Maersk believes it is well prepared for the new venture. Ingerslev: 'Maersk Tankers has studied the business case for transporting CO₂, using the Danish North Sea as an example. However, we are ready to offer our services anywhere in the world.' The study found that '15 handy-size gas carriers (of 20,000 m³) could transport more than half

of Denmark's annual CO₂ emissions for storage in the North Sea, the equivalent of all CO₂ from large Danish stationary emission sources. According to Maersk's calculations, CO₂ emissions from the major power plants around the North Sea total approximately 750 million tons per annum. Transporting CO₂ by tanker would be more cost-effective than pipelines over longer distances or with smaller volumes. It would also be more flexible. According to a study of the Intergovernmental Panel on Climate Change (IPCC), if 6 million tons of CO₂ are transported annually over 20 years, transport via pipeline would be cheaper than by tanker up to a distance of approximately 900km, transportation via an offshore pipeline would cost about \$15 per ton of CO₂. This would still be cheaper than by ship. But as the distances increase, transportation by tanker becomes cheaper. For a distance of 3,500 km, the costs of tanker transport would stand at just under \$25 per ton, while those for the offshore pipeline would exceed \$50.

However, for CO₂ transportation, a new type of tanker is needed. According to Maersk, the cost of building a CO₂ tanker are 25 to 35 per cent higher than that of a traditional gas tankers. This is mainly due

'to the new equipment needed to hook up with the storage facilities at sea.' For port-to-port transport, a CO₂ tanker would 'only be slightly more expensive.' But, in collaboration with a 'leading international shipyard' Maersk has 'developed specifications for such tonnage.' No one in Copenhagen was prepared to disclose the name of this shipyard. In shipping circles, people are pointing in the direction of South Korea, where Maersk and others cooperate with Daewoo.

Maersk has indicated that it is already talking about the plans with potential customers. No names have been mentioned here either. The building of a new CO₂ tanker would take at least two years. Maersk does not anticipate this new business area to become profitable before 2020.

The Danish company is also getting involved in carbon capture and storage. Michael Engell-Jensen, head of the climate and carbon department at Maersk Oil says: 'Many of our depleting oil fields have the capacity to store CO₂. Our vision for the North Sea is that it becomes the prime area for permanent offshore storage of CO₂ for Northern Europe.' ■

Reiner Gatermann

