

The vessel "Tosca" with LNG propulsion is a convincing example of the new environmental investment of Gefo.

The shipping company Gefo is building a range of new specialized tankers at shipyards in China, Turkey, Romania and the Netherlands. The total amount invested comes to \in 400 million and will result in 26 new-build vessels and 13 purchases of modern tonnage. According to the company, competitive construction prices could only be achieved in the countries mentioned. by Gefo—18.3 million t in 2021 are all 'dangerous goods' with explosive or toxic contents. The steadily growing environmental awareness among chemical and mineral oil shippers and tanker shipping lines is what encouraged the shipping company to make the €400 million investment, the largest in its history.

The vessels destined for the open sea include a total of nine new chemical tankers, of which three are ships with a 7,500 tons deadweight (tdw) while six are chemical tankers with 3,800 tdw. All nine seagoing vessels are built with stainless-steel tanks so that they can be used for any kind of liquid chemical products, including acids and alkalis. Five tankers have been acquired by purchase, also for sailing with high-grade chemicals.

Five new gas tankers and 12 chemical tankers, 11 of which are also equipped with stainless-steel cargo tanks, are being built for service on intra-European waterways. Eight additional purchases have been made. One third of the new chemical tankers have already been chartered out to chemical shippers on a long-term basis.

Gefo is a leading logistics company in the European chemicals and mineral oil industries and had revenue of €430 million in 2021, of which 80% came from products in the chemicals industry. With the newly built vessels, it expects a throughput of 20.0 million t and revenue of €500.0 million in the future. All units destined for the sea and for the Rhine, especially also for the chemical triangle ARA (Antwerp-Rotterdam-Amsterdam) are built with double hulls for environmental and safety reasons. The products shipped

Youngest Special Tanker Fleet

In 1961 Gefo was founded as Gesellschaft für Öltransporte (Oil Transport Company). Today, it's fleet con-



sists of 150 specialized tankers, half of which are owned vessels and the other half chartered vessels. With an average age of 9 years for the sea fleet and 13.2 years for the river fleet, the company will have the youngest special tanker fleet in Europe. The operations of the fleets, which can be categorized as chemical shipping, mineral oil shipping and gas shipping, are coordinated from Hamburg, Antwerp, Duisburg and Luxembourg. 25 sea tankers are primarily employed in the voyage between the ports of the North Sea, the Baltic Sea and the western Mediterranean.

From the large number of the new seagoing vessels that have already been delivered from the shipyards the "Tosca" with LNG propulsion is an outstanding example of the new environmental investment. It reduces emissions of particulate matter by 100%, of sulfur oxides by 100%, of nitrogen oxides by 80%, and of carbon dioxide by 25% compared with conventional marine gas oil (MGO) propulsion.

Going Carbon Neutral

In accordance with the Paris Agreement Gefo is endeavoring to make its ships carbon-neutral by 2045. This will require the successive replacement of the entire current four fleets of seagoing and inland waterway vessels with new buildings powered by green hydrogen, green methanol or green ammonia or battery operation in 20 to 25 years. In Gefo's professional opinion, retrofitting the current existing fleets with new, non-polluting engines would not be a worthwhile undertaking since the fleets would then be a quarter of a century old or older.

Thanks to its experience in shipping gas, with 20 gas tankers in service, the company is currently involved in the development of methods for shipping and disposing of CO_2 at underground storage facilities in the seas (carbon capture and storage, CCS). A process that is not yet possible in Germany, though it is already practiced in other countries such as Norway.

The hydrogen propulsion equipment modalities for a Gefo sea-going vessel have been submitted to the classification society DNV for approval. The German government supports the project. Realization would mean the first zero-emission seagoing cargo ship since the end of sailing.(sa)

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