

# Press Release

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## **Future-oriented pioneering project in inland waterway shipping: HGK Shipping develops Europe's first gas tanker for transporting cold liquefied ammonia and LCO<sub>2</sub>**

Duisburg. HGK Shipping is marking a further milestone in European inland waterway shipping with the construction of a completely new type of vessel. The planned new structure with the project name "Pioneer" will be equipped with a future-oriented tank and loading system technology. This will enable the company to transport gases both in a cold liquefied and pressure liquefied form. The vessel is setting new standards for safely and efficiently transporting the important source of energy, ammonia, obtained from "green" hydrogen at a time when the future of energy supplies is being put into place. The concept also allows for the removal of unavoidable quantities of carbon dioxide.

The market leader, HGK Shipping, is supporting European efforts to decarbonise the economy and society with the planned construction of this revolutionary type of vessel. The company will create improved transport services for industry for cold liquefied ammonia (NH<sub>3</sub>) and liquefied carbon dioxide (LCO<sub>2</sub>) on waterways through these models.

### **"We're offering the market efficient transport alternatives"**

"Thanks to this innovative type of vessel, we're already paving the way to meet the logistical requirements for sustainable inland waterway shipping," says Steffen Bauer, the CEO of HGK Shipping, explaining the plans being adopted by Europe's largest inland waterway shipping company. "It won't be possible to simply transport all the predicted volumes of hydrogen and its derivatives, such as ammonia, but also liquefied carbon dioxide, along pipelines. That's why we're offering the market efficient alternatives using inland waterway shipping as the mode of transport."

HGK Shipping's concept for a vessel focuses on the most important materials that will need to be transported if the energy revolution is going to be a success story – related to both supplies and disposal. It is only possible at the moment to transport a gas such as ammonia on board an inland waterway vessel from the ports to destinations further inland if the gas has been liquefied under pressure. Thanks to the new project – and the technology is also designed for coastal vessels – this will take place in cold liquefied form, that is to say, at temperatures as low as minus 33 degrees Celsius. This will also do away with elaborate

handling processes at the ports, which have been associated with energy-intensive heat treatment in the past. This new type of vessel has been specially developed for traffic between the ARA ports and destinations further up the river Rhine. The new vessel can accommodate significantly larger volumes than current gas tankers because it is 135 metres long and 17.5 metres wide.

Anke Bestmann, the Business Unit Director Gas Shipping at HGK Shipping, underlines the following, “Our many decades of expertise in transporting gases that have been liquefied under pressure are now being expanded thanks to the new kind of solution and it will enable us to transport them in a cold liquefied state too. This will further strengthen our market position in European gas tanker shipping.”

### **Removing unavoidable quantities of carbon dioxide**

The concept also paves the way for these new kinds of vessels to be able to remove the quantities of carbon dioxide, some of which are unavoidable, from industry’s production sites – in liquid form, i.e. as LCO<sub>2</sub>. Using the CCS methodology (the abbreviation stands for Carbon Dioxide Capture and Storage), handling and storage capacity is currently being created at factories and ports for the envisaged geological storage of carbon dioxide at suitable sites, including former oil storage depots and natural gas storage sites.

“The innovative tank and loading system for this special type of vessel is the result of intense development work in cooperation with international partners in the world of marine shipping and at our own design centre,” says Tim Gödde, the Business Unit Director Ship Management at HGK Shipping. “The technical innovations, which we’ve already used for previous new vessels, such as a diesel-electric drive concept and the shallow-water design, will also be integrated in this new type of model.”

### **Photo:**



**Caption:** HGK Shipping drives the development of Europe's first gas tanker for the transportation of cold liquefied ammonia and liquefied carbon dioxide in a groundbreaking pioneering project. (Copyright: HGK Shipping)

### **Contact details:**

Would you like some more information? You can contact the HGK spokesperson, Christian Lorenz, on +49 221 / 390 11 90 or send an e-mail to:

**About the HGK Group:**

Häfen und Güterverkehr Köln AG (HGK) is the logistics company within the City of Cologne's public utilities group. Formerly just a port operator, HGK has developed into a group that provides integrated transport and logistics services with operations across Europe. Structured in five divisions, Logistics & Intermodal, Shipping, Rail Operations, Infrastructure & Maintenance and Real Estate, the HGK Group operates the largest inland waterway port network in Germany, one of the largest private railway companies for transporting cargo, specialist logistics firms and terminals as well as its own railway network and workshops for railway goods traffic through its subsidiaries and holding companies. HGK Shipping GmbH is the largest inland waterway shipping company in Europe.

**About the HGK Shipping division:**

HGK Shipping is part of Häfen und Güterverkehr Köln AG. Its fleet comprises about 350 vessels, including owner-operated ships. The spectrum of goods transported ranges from liquid chemical products and liquefied gases to dry goods and even break-bulk cargo.