

## Leading Dutch maritime consortium receives subsidy for advanced “LNG-ZERO” concept

"Come back stronger" is a necessary part of the Dutch Maritime Masterplan (*R&D Mobility recovery fund*), as recognized by the partners in the project proposal of LNG-ZERO.

The LNG-ZERO project includes the development of a complete cycle for the application of an advanced LNG-ZERO concept, which was originally introduced by TNO.

To do this successfully, we combine efforts of the energy and infrastructure developers (Shell, Carbon Collectors, end users (Heerema, Anthony Veder) and important suppliers & system integrators (VDL AEC Maritime with Carbotreat, Conoship International).

TNO, along with the technical universities of Twente and Delft, are the research partners working on the eco topics.

Safety and performance standards will be developed in conjunction with Lloyd's Register.

LNG-ZERO is an ambitious research project, in addition to the running international Carbon capture research project like Everlong, which has the goal to develop technology and strategy that are needed for reducing exhaust emissions in order to contribute to a sustainable shipping industry.

This will be achieved by a threefold strategy: capture the carbon dioxide (CO<sub>2</sub>), significant reduction of methane slip (CH<sub>4</sub>) / N-emissions and bringing the captured carbon to shore for new applications (*e.g. as base material for production of synthetic fuel*) or directly offshore for permanent geological storage, through which we will achieve massive reduction of GHG in the complete chain. Any residual emissions are offset by the use of bio-LNG.

The technologies for capturing carbon and reducing N-emissions can also be applied for ships running on conventional fuels.

The companies working on this project have created a budget of 6,1 Mio euro, on which the Dutch government has granted a subsidy of 4,4 Mio euro.

With LNG-ZERO we aim for high impact: the clear request from the European commission for reducing emissions in the maritime industry calls for action. LNG-ZERO is ahead of future IMO regulation and in this project we're developing technology which can ensure total decarbonisation of the maritime industry – which enables us to fight the worldwide challenge regarding the climate crisis.

This consortium is supported by two essential companies:

- Shell, who, without benefitting from the subsidy, wants to support this consortium with economic and infrastructural studies.;
- PortXL (from Rotterdam) wants, as an accelerator of new technologies, to contribute by bringing these developments quicker to the market from this consortium.

The research is a first step to sustainable shipping as is written in the Dutch Maritime Masterplan, with a goal to realizing an emission-free shipping industry.