

Rigid Sail Integration on an LNG Carrier

CLIENT BOUND4BLUE

YEAR 2026

PLATFORM TYPE

LNG Carrier

CLASS

SOW

Feasibility, Hazard-Area Assessment, Class Coordination



4

VESSEL TYPES IN FEASIBILITY SCOPE

20°

MAX. COMBINED VISIBILITY OBSTRUCTION

5–10%

EXPECTED FUEL SAVINGS FOR WAPS ON GAS CARRIERS

Assessing rigid sail integration for an LNG carrier

GLO Marine is carrying out a feasibility study for the integration of Bound4blue rigid sails as a Wind-Assisted Propulsion System (WAPS) retrofit.

The first contracted phase focuses on an LNG carrier, assessing whether the sails can be safely and effectively integrated within the vessel's existing arrangement. Depending on the outcome, the scope may be extended to additional vessel types.

Integrating WAPS within LNG carrier safety constraints

LNG carriers introduce specific integration challenges due to hazardous areas created by gas-tank venting. As the rigid sails incorporate onboard electrical systems, their position must be assessed against these zones to manage potential ignition risks.

At the same time, sail positioning affects bridge visibility, structural requirements and the vessel's power system. The feasibility study therefore needs to consider several interconnected constraints before a final configuration can be selected.

Key considerations include:

- Hazardous areas created by gas-tank venting
- Proximity of sail electrical systems to flammable-gas zones
- Individual and combined visibility obstruction
- Static versus folding sail configurations
- Structural reinforcement requirements
- Electrical or hydraulic power-system requirements

Project phases

01. Integration Feasibility

The vessel arrangement and operational constraints are assessed to establish suitable options for rigid sail integration.

- Review of potential sail locations
- Assessment of static and folding configurations
- Identification of key integration constraints
- Definition of further engineering requirements

02. Hazard-Area Assessment

The interaction between the sail systems and the LNG carrier's hazardous areas is assessed as an early design priority.

- Review of hazardous zones generated by gas-tank venting
- Assessment of sail electrical equipment within or near hazardous areas
- Identification of potential ignition risks
- Definition of integration constraints for sail positioning

03. Visibility Analysis & Class Coordination

Potential visibility obstruction from the sails is evaluated against Class requirements.

- Individual sail obstruction assessment
- Combined visibility obstruction assessment
- Coordination against the 20° combined obstruction limit
- Class consultation on mitigation measures
- Assessment of camera-based solutions where required

04. Structural Integration

Once sail positions and configurations are confirmed, structural requirements can be developed accordingly.

- Assessment of loads introduced by the sails
- Review of supporting vessel structure
- Definition of reinforcement requirements
- Adaptation of structural scope to the selected configuration

05. Power & Energy Assessment

The sail power requirements will be evaluated once the final power-system concept is confirmed.

- Review of electrical or hydraulic power requirements
- Energy load-balance analysis
- Assessment of vessel-system interfaces
- Input to final integration feasibility

The outcomes

Project status

The feasibility study has been contracted for an LNG carrier, establishing the engineering framework for assessing rigid sail integration within the vessel's existing safety and operational constraints.

The hazardous-area assessment has been completed, while visibility-obstruction analysis and consultation with Class are currently underway.

The final sail configuration and power-system type remain to be confirmed. These decisions will define the subsequent structural reinforcement and energy-analysis scope, with potential extension of the feasibility work to additional vessel types.

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