

Valencia. Tugboat powered by LNG

EV6

Continuing with the implementation of LNG in the port domain, EV6 will design a LNG tugboat. The ship will also implement other innovative technologies addressed to improve its optimal use of power.

In this case, the scope of this prototype will only cover the basic engineering.



Partners involved



The final engineering study of prototypes and pilots is already finalized.

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Tugs are usually fuelled by marine diesel oil. However, this fuel produces a number of polluting emissions. This new vessels will be designed by the Spanish tug owner Boluda and Engineering company Seaplace. This is one of the first tugs to be fuelled by the much more environmentally friendly liquefied natural gas (LNG) to eliminate sulphur emissions, bring particulate matter emissions down close to zero and reduce the discharge of CO₂ and NO_x by 26 per cent and 80-90 per cent respectively.

The new tug will be powered by lean-burn gas engines. These powerful gas engines are particularly robust, with a high degree of reliability and long intervals between overhaul. The lean-burn principle delivers high efficiency coupled with reduced exhaust emissions and low specific energy consumption.

Gas engine technology is not new having been proven in both land-based and large ship installations but the LNG fuelled tugs are trailblazers in this sector of the marine market demanding a significant step-forward in technical know-how above that of the average tug building yard. Always at the forefront of innovation and technological advance, Boluda is aimed to lead on all other specialist tug operators in the search for more eco-friendly and economic tug operation.

The systems will have had to meet the International Code of Safety for Gas Fuelled ships and the Bureau Veritas Classification Society rules. These involve such requirements as independent engine room spaces with ventilation of 30 air changes per hour, gas detection, automatic shutdown of gas supply and disconnection of electrical equipment, excess flow shutdown, ventilated double (sheathed) piping. Other special knowledge will be incorporated into the installation of the capacity double walled tank, cold boxes and gas heating systems.