Will 2025 be the year of the WAPS?

Will 2025 be the year when wind-assisted propulsion becomes a technology of choice for shipowners looking to comply with the ever-increasing roster of decarbonization regulations and ongoing uncertainty over alternative fuel viability?

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In August 2023 the CEO of a major wind equipment supplier boldly predicted that by 2025 "half the new-build ships will be ordered with wind propulsion". Whilst 2024 has seen a significant increase in large commercial vessels being fitted with some form of WAPS, up to approximately 50 to date, the newbuilding numbers are still a long way short of that prediction. But is there reason for optimism that 2025 will be the year of the WAPS?

In 2024 we saw a host of announcements from shipowners in almost every segment of the market about the inclusion of WAPS on newbuilds or the retrofitting on existing vessels. For example, in May, Mitsui O.S.K Lines (MOL) stated that seven newbuild bulk carriers and multi-purpose vessels would be fitted with WAPS equipment. In June, Union Maritime announced that BAR Technologies would be installing its WindWings rigid sails on 34 newbuilds, comprising installed 14 LR2 tankers, 12 chemical tankers, and eight MR tankers In October, Klaveness Combination Carriers announced that it would be installing two bound4blue suction sails on its third CABU III newbuilding. In November, Maersk Tankers announced it would be retrofitting five separate MR tankers with 20 of bound4blue's 26-metre tall suction sails across over the course of 2025 and 2026.

The International Windship Association recently stated that it anticipates there will be over 100 large wind-assisted powered vessels by the end of 2025, a doubling from current numbers. The rationale for the deployment of WAPS is becoming clearer.

More installations are reporting significant fuel savings achieved: the Pyxis Ocean, an 81,000 dwt bulk carrier fitted with two BAR Technologies rigid sails, recorded fuel savings of up to 32% per nautical mile and achieved overall savings of 3mt/day over a six-month test period operating worldwide. The TR Lady, an 82,000 dwt Kamsarmax bulk carrier retrofitted with three Anemoi rotor sails, recorded fuel savings on its 2023 maiden voyage which led to predictions of an average annual fuel saving of 10%.

The regulatory framework is favourable

The regulatory environment is becoming more conducive to fitting WAPS. From January 2024 the EU ETS trading scheme expanded to include shipping. This has seen real numbers on GHG emissions and corresponding payments to owners or purchase of EU Allowances by charterers. Those costs are presently only at 40% of the emission reported for 2024, increasing to 70% for 2025 and 100% from 2026. Fuel savings from the deployment of WAPS will also result in reduced EU Allowances having to be surrendered.

Similarly, the introduction of the FuelEU Maritime regulations in January 2025 brings the potential of significant financial penalties if the GHG intensity of the energy used exceeds the permitted level. Those penalties will be determined, in part, by the quantity of fuel consumed. In the near term, a 'Wind Reward Factor' factor of between 1-5%, depending upon the design power of WAPS installed onboard, can ensure compliance with FuelEU and avoid penalties up to 2030. In the longer term, the reduced fuel consumption should lessen any penalties.

Also on the horizon are the IMO's mid-term measures, which should be finalized in Spring 2025. Whilst there are competing options, the solution is likely to comprise some form of GHG fuel intensity element and a carbon pricing mechanism (similar to

the FuelEU and EU ETS, respectively).

Lack of available alternative fuel points supports installation of WAPS

A further factor pointing towards the faster deployment of WAPS is the slower-than-needed progress of alternative fuel projects leading to greater uncertainty about future fuel availability and cost which means that decisions over which technology to invest in are likely to be delayed. Even if a shipowner might have been willing to make that choice now, across all sectors the order-to-delivery times are growing: approaching three years for tankers, over three years for containerships and close to five years for LNG carriers. In these circumstances, retrofitting WAPS is a potential solution to extend the life of the vessel.

Maturing market development

In an August 2024 report, Lloyd's Register identified that the WAPS market was nearing a tipping point for rapid adoption. Its analysis suggested that this requires standardization of the measurement of the propulsive energy of differing systems to enable effective comparison, a scaling-up of the supply chain, together with a great number of shipyards developing their capabilities to retrofit WAPS equipment. The installation of WAPS equipment should be compatible with scheduled maintenance, and therefore it offers a potential new source of revenue to shipyards without requiring additional berthing or drydocking facilities (albeit space will be needed for storage of the WAPS equipment before it is fitted).

There is a risk that as WAPS equipment is manufactured at scale and more shipyards undertake these activities, the quality of components and installations drops, but this should be balanced by greater knowledge of potential problems from the prototype projects both in terms of the equipment itself and its operation. To date, there have been relatively few incidents and claims involving WAPS; fewer than might have been expected with the introduction of new equipment, especially when as large and exposed as the sails and rotors being fitted on decks, often positioned alongside hatch covers and other cargo-related equipment. These incidents have included failures during the installation and testing phase, heavy weather damage, and allisions with berth equipment. The former two should be reduced through alterations to designs or their operation, whilst the latter are likely to be reduced through changes to ship-shore interactions.

The proliferation of WAPS onboard existing vessels and scheduled for newbuilds and retrofits means that insurers will inevitably be approached during the 2025 renewal season to provide insurance for the equipment. Their willingness to do so should ensure that 100 installations are passed during 2025. That milestone should make it possible to say that 2025 was the year of the WAPS.

Gard as both a Hull and Machinery and a P&I liability insurer supports our insureds in the energy transition including the use of WAPS.

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