

BREAKBULK

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PREPARE FOR LAUNCH

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MSC's carbon neutral program is open to all MSC's customers, including those who use the shipping line for project cargo solutions. CREDIT: MSC

BY FELICITY LANDON

NO TURNING BACK NOW

Sustainability Goals More Important than Ever

Sustainability and the drive for zero emissions: is this something we can afford as an industry? Roger Strevens, vice president, global sustainability, at Wallenius Wilhelmsen, turned that question on its head.

“The view we would take is quite different; we ask, how can anybody not afford to do this, at least over the medium to longer term? We are, whether we like it or not, ‘a smokestack industry,’ and that is inconsistent with the way the world is turning.”

At the same time it's important to note that shipping is one of the “hard to abate” sectors, he added: “What we

need to do isn't easy, and there aren't viable zero-emission solutions that are ready to go for whole swathes of the world fleet, including most transoceanic vessels. Also, this is a big, diverse industry insomuch as one size generally doesn't fit all.”



Roger Strevens

Wallenius Wilhelmsen

Strevens suggests five tests that should be applied to any sustainability

solution being put forward to determine its viability, whatever type of ship or segment of the industry.

First, does it make technical sense? “Take fuel, for example – will a new fuel run on the ships we have today or are we talking about entirely new ships?”

Second, is it operationally viable? “Fuel is most likely going to play an important role, although what fuel is still very unclear. The important point is, will the fuel be available where it needs to be, relating to operations and in the quantities needed?”

Third, cost is a huge part of this. “Clearly the cost relative to established



Wallenius Wilhelmsen ensures that its newest vessels are always more efficient than their predecessors.
CREDIT: WALLENIUS WILHELMSEN



solutions matters hugely, but it is also important to think further ahead, because we are dealing with a shifting frame of reference; what isn't financially viable today won't necessarily remain so." The frame of reference can change due to changes in regulation, innovation or demand, or some combination of the three.

For example, take regulation: just 12 months ago, there was no market for 0.50 percent sulfur fuel. Or take innovation: "There is nothing to say that the more sustainable fuel will always be the more expensive. The transition cost might be pretty steep but once it's established, it is not necessarily more expensive."

And then there is demand: this, Strevens said, is the point that is most often dismissed, "but it is an intriguing one because slowly, slowly we will see more interest in sustainable solutions from the market, even to include the point where there is a willingness to pay a bit more for that solution."

THE COMMERCIAL TEST

The regulatory and/or political aspect is the fourth test. "It doesn't necessarily apply to all types of solutions, but an example would be a nuclear-powered vessel; it may be safe and technically sound, but when it comes to politically charged issues, perception can be as important as fact. The same could also be considered for fuels that

are highly flammable, caustic or toxic, such as ammonia or hydrogen."

And finally, the fifth test: does it make commercial sense? "This tends to be left out of the consideration. If you deployed a certain low-emission technology on a vessel, would you be able to offer a service for which there is a demand, or which would still be competitive?" Strevens said.

Wind is a good example here, he said. "If you have a vessel using wind power and it takes 16 days to make a transoceanic crossing while all your higher-emission competitors offer a service at nine days, it may be very tough to compete."

That would be particularly tricky for liner services carrying cargo with multiple shippers. Could a slower speed make everyone happy every time? In contrast, of course, a one-cargo or one-customer shipment could be easier to determine. Even in a dedicated project cargo situation, however, it is likely that more than one customer's cargo is required to fill a vessel.

"Each of the five tests needs to be applied to each specific case," Strevens said. "The importance of the questions and the impact of the answers will vary enormously across the industry and over time. Although these questions can set a high bar, the good thing about them is that they lay bare what is necessary from a solution for it to succeed."

The challenge of getting a green solution up and running is demonstrated by the story of Hamburg's Port Feeder Barge, or PFB, initiative. The concept of shuttling containers between terminals and facilities within the port via a barge built with



Ulrich Malchow

Port Feeder Barge

its own gantry crane was put forward by PFB Managing Director Ulrich Malchow several years ago. "About 2 million TEU is transported within the Port of Hamburg each year, and 95 percent of that goes by truck," he said. "The most logical

thing would be to move these containers on the water."

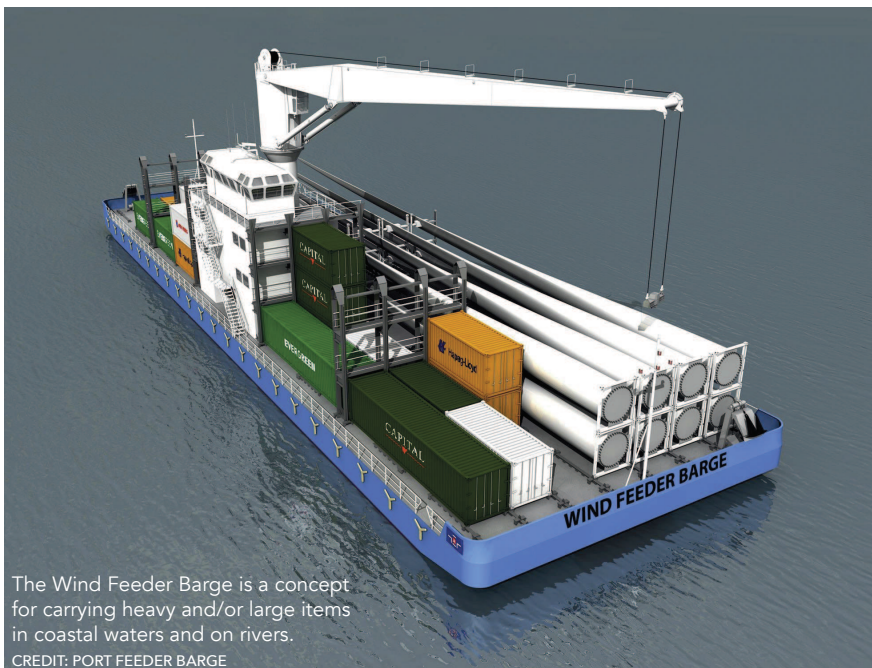
To get around the cost of using terminal gantry cranes, a double-ended, self-propelled barge was designed around its own full-size container crane. Terminal operator HHLA was initially a big supporter but is now opposed to the idea, so the plans remain on Malchow's desk.

"Any shipyard could immediately start to construct this barge, but it doesn't make sense to start with HHLA opposing. So we have looked at other places and other purposes."

He has received a good number of requests for information from other ports, but he says that without a reference it is difficult to sell just from a drawing. "Nobody wants to be the guinea pig in a project that doesn't run yet," he said. However, he sees room for optimism with the amount of money being made available for infrastructure investments in Germany in response to Covid-19. "That might help."

TAKING WIND TO FEEDERS

The concept has been adapted to create a Wind Feeder Barge, or WFB, concept for carrying heavy and/or large items in coastal waters and on rivers.



The Wind Feeder Barge is a concept for carrying heavy and/or large items in coastal waters and on rivers.
CREDIT: PORT FEEDER BARGE

This would lift items up to 100 tonnes using its onboard crane, while heavier cargoes could be loaded by roll-on, roll-off, or ro-ro, with access from all sides.

“The WFB is on the drawing board and has already attracted quite some interest from offshore logistics/heavy-lift industry,” Malchow said. “The PFB is designed to move containers within and around ports in a sustainable manner, shifting from road to waterway. The WFB is based on the same principle but is bigger, has a heavy-lift crane and has one full length deck, 95 meters by 32 meters. The crane and superstructure are side-mounted and there is ro-ro capability with ramps on three sides.

For offshore wind logistics, the WFB would be ideal for moving large tower segments and other large components from manufacturing to assembly site, he says, replacing the need for towed barges and hired heavy-lift cranes at either end of the route.

There is definitely demand, he said – the idea was actually initiated by two players in the industry. “The emerging offshore wind activities in the U.S. or Taiwan would be a good application as well.” The WFB would be useful for other project and heavy-lift cargoes, as well as containers and even lightering operations, he added.

INTERNATIONAL R&D BOARD

In December 2019, a proposal to form a US\$5 billion R&D board to cut CO₂ emissions from international shipping was put forward at the IMO’s Marine Environment Protection Committee. The International Maritime Research and Development Board is an initiative of leading shipowners’ associations, including the International Chamber of Shipping, BIMCO, INTERTANKO, CLIA, INTER-CARGO, IPTA, INTERFERRY and the World Shipping Council.

As the joint announcement pointed out, international maritime trade is responsible for about 2 percent of the world’s CO₂ emissions. “To achieve the Paris Agreement’s climate change goals, rapid decarbonization is vital.”

The shipping industry’s growing focus on environmental issues and decarbonization, combined with trends in technology, regulation and trading patterns, will all shape the maritime industry over the next decades, said Noora Luotola, MSC’s sustainability communications adviser.

MSC’s long-term approach to sustainability is wrapped around four pillars, she said: social inclusion, environment, occupational health and safety, and business ethics and protection of human rights.

“To help meet the industry’s decarbonization goals, we are actively

exploring and trialing a range of alternative fuels and technologies – biofuels, for example – on top of some significant energy efficiency improvements across our fleet.”

However, even with massive investment to increase energy efficiency and reduce emissions across its fleet, MSC recognizes that marine transport of goods still causes unavoidable CO₂ emissions. In response, since early 2019, it has been offering customers a carbon neutral program.

“We wanted to ensure that our customers had an option to compensate CO₂ emissions to help bridge the gap between shipping today and the zero-carbon future we all aspire to,” Luotola said.

MSC is believed to be the first shipping line to partner with climate solutions provider South Pole, a decision made to ensure full transparency and verification, she said.

Customers can compensate for emissions from the transport of their cargo by financially contributing to selected projects that reduce emissions. South Pole cancels the same amount of carbon credits generated by these projects, which are audited and third-party certified.

The carbon neutral program is open to all MSC’s customers, including those who use the shipping line for project cargo solutions. “No matter whether clients have a requirement for heavy-lift cargo, or for oversized cargo, we make it simple for our customers to offset unavoidable carbon emissions for their cargo,” Luotola said.

PRAGMATIC AND PROGRESSIVE

Wallenius Wilhelmsen is looking for progressive outcomes, “but we want them to be pragmatic as well,” Strevens said. The company reduced its carbon intensity by 32.5 percent between 2008 and 2019. Factors that have played a part include ongoing fleet renewal, as the company’s newest vessels are always more efficient than their predecessors. Also, the Panama Canal extension has enabled the introduction of vessels with greater beam. That, in turn, means those vessels are inherently more stable and require less ballast, which results in an improvement in design efficiency.