

Cargill is ushering new era of sustainable shipping to uphold its decarbonization efforts

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Cargill is ushering in a new era in sustainable shipping, placing innovation and collaboration at the heart of its mission to move goods responsibly around the world. Cargill is setting the standard by developing wind-assisting propulsion technologies, dual-fuel methanol-powered vessels, and digital solutions to help the industry reach the IMO's net-zero 2050 goal. By combining technical expertise with a commitment to industry-wide partnerships, Cargill is helping to future-proof the shipping industry while supporting customers in achieving their sustainability goals.

Jan Dieleman, president of Cargill's Ocean Transportation business said "Our role extends beyond freight services; we aim to catalyze an industry-wide shift toward sustainable practices. Through strategic investments in advanced technology and robust partnerships, we are accelerating the path to net-zero shipping emissions."

Innovating with wind-assisted propulsion: the Pyxis Ocean and beyond

A leader in wind-assisted propulsion, Pyxis Ocean—the first dry bulk vessel equipped with BAR Technologies' WindWings—completed her maiden voyage in 2023. WindWings are large, rigid sails that harness wind power to reduce fuel consumption and emissions.

In addition to WindWings, Cargill has expanded its wind-assisted technologies program with VentoFoil vertical suction sails on the NBA Magritte and rotating sails on the TR Lady. With these three vessels, the company is experimenting and learning before implementing technical, operational and commercial aspects at scale. These technologies harness wind power to reduce fuel dependency and emissions, in line with the IMO's goal of sourcing 5-10% of maritime energy from renewable sources by 2030.

Cargill believes wind can contribute to achieving decarbonization goals in the short, medium and long term. Dieleman says that while the cost of fuels that can contribute to a carbon-free future may remain high, developing, testing and improving wind-assisted propulsion technologies ahead of their availability can reduce reliance on them.

Transforming fuels: biofuels and methanol powered ships

In addition to wind propulsion, Cargill is transforming fuel usage across its fleet. The company is leading the way with renewable biofuels, such as fatty acid methyl esters (FAME), which offer a drop-in fuel option to reduce emissions without extensive engine modifications. In 2023, the company transitioned from testing these fuels to frequent execution as it prepared for scale. Nearly 172,000 tons of biofuel blends, containing 63,000 tons of FAME, were processed in 2023.

Cargill is also the first dry bulk charterer to sign commercial agreements for dual-fuel methanol-powered vessels, which will be operational within two years. Methanol, a low-carbon alternative, offers a scalable route to zero-emission shipping. These methanol-powered vessels—the first in commercial service—underscore Cargill's proactive approach to embracing sustainable fuel solutions to support both its own and its customers' ambitious Scope 3 emissions reduction goals.

Digital solutions for efficiency and sustainability

Digital innovation is also central to Cargill's decarbonization efforts. The company uses advanced digital tools, including voyage optimization technologies, to create virtual twins of its ships. This enables optimal speed and route planning to reduce fuel consumption and emissions. In partnership with ZeroNorth, Cargill is leveraging these digital solutions to improve operational efficiency and sustainability. This is reinforcing its commitment to data-driven progress toward net zero.