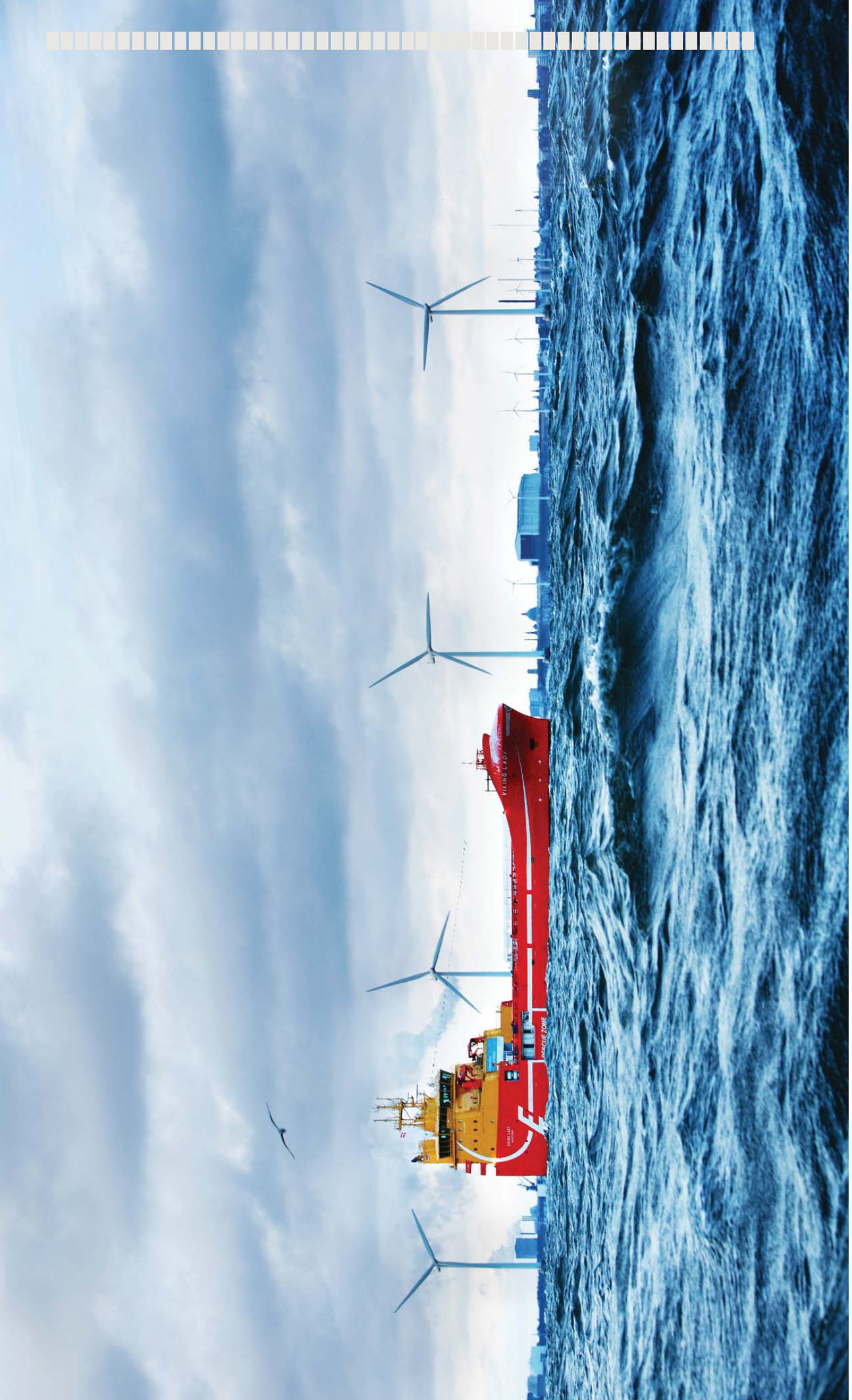

HYBRID SHIPS

→ A Prius for the sea? Researchers in Norway have developed a hybrid energy system for merchant ships that couples a fuel cell with advanced batteries, saving fuel and reducing emissions.

ECONOMIC

Should boost confidence in fuel cell and battery technology among investors, ship owners, and policymakers, and allow ship owners to hedge against increasing fuel costs.

SOCIAL

Significant reduction of air pollutants will improve public health for populations living in proximity to ports.

ENVIRONMENTAL

Potential to slash CO_2 emissions by half and eliminate NOx, SOx, and particulates.

THE SOLUTION

! If hybrid energy systems can improve the fuel efficiency of cars such as the Toyota Prius, why can they not do the same for merchant ships? The Norway-based FellowSHIP project, an R&D collaboration between DNV, Wartsila, and Eidesvik, is demonstrating the use of a fuel cell integrated with a battery pack aboard the Viking Lady.

First, the ship was equipped with a 330-kW fuel cell – the first large-scale fuel installed on a merchant ship. Later, in another first, researchers will test how the system performs when partnered with batteries. The Viking Lady will be outfitted with a 500-kWh battery pack capable of producing 5MW over short periods. At commercial scale, the hybrid energy system would likely include a 2-3-MWh battery pack.

Researchers expect the full-scale installation to reduce CO2 emissions by up to 50 pct. and boost fuel efficiency by up to 30%. over conventional maritime propulsion systems.

WHY A SUSTAINIA100 SOLUTION?

? Commercial shipping is one of the fastest-growing sources of carbon emissions. The FellowSHIP maritime hybrid energy system, pairing a fuel cell with batteries, can reduce emissions by up to 50%.

NORWAY

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