

The New York Times

Published: April 20, 2008

KITE-SAILING TANKERS:

The last wind-powered cargo ships sailed around Cape Horn in the 1940s, having been relegated to nostalgic obsolescence by steam and then internal-combustion engines. But if a German company called SkySails succeeds, wind energy will once again power the global shipping trade. Instead of sails mounted on masts, huge, computer-controlled kites flying 1,000 feet over the water will harness the wind. Attached to ships by polyethylene-fiber ropes, SkySails' oval-shaped kites are similar in design to those used by kite surfers and paragliders. With an area of 1,615 to 10,764 square feet, the kites can generate up to 6,800 horsepower and, in ideal conditions, cut a ship's fuel consumption by as much as a third. Ninety percent of global trade in goods is moved by sea, and the high-sulfur diesel fuel used by most of the world's 90,000 cargo ships accounts for an estimated 4.5 percent of the global output of carbon dioxide and 20 percent of the sulfur dioxide. The shipping industry burns 2.1 billion barrels of oil annually. SkySails claims that a universal application of its technology could keep 146 million tons of carbon out of the atmosphere each year. (An American company called KiteShip is working on a cargo-kite concept of its own.) But would that be worth the effort? While shipping's proponents hold that bulk freight by sea is far more efficient by volume than other means of transportation, it has been estimated that the shipping industry's CO₂ emissions could increase by a third by 2020. Critics of the kites contend that other projects to reduce emissions could have greater impact and that the sail technology would never work on the largest ships, half-million-ton oil tankers. Still, cargo kites aren't merely a question of green religion; they're also about plain old economics. Fuel costs are at an all-time high, and those savings could help a shipping company's bottom line. To prove the technology's potential, last December a 10,000-ton merchant ship called the Beluga SkySails left the port of Bremerhaven, Germany, for Venezuela. Its engine power was supplemented by a 1,700 square-foot kite. The computer-controlled kite system can cost \$395,000 to nearly \$4 million, but Stephan Wrage, the inventor and managing director of SkySails ("My friends called me an eco-freak," he says), claims it can save around \$1,500 or more a day in fuel costs. The ship made the crossing on time and under budget.

MATTHEW POWER