Rotor sail ship "E-Ship 1" saves up to 25% fuel

Measurement results presented from project promoted by Deutsche Bundesstiftung Umwelt.

The rotor sails on the ENERCON-developed "E-ship 1" allow operational fuel savings of up to 25% compared to same-sized conventional freight vessels. These are the results of the analysis of the comprehensive measurement data compiled during numerous voyages through various waters around the globe in conjunction with a project supported by the Deutsche Bundesstiftung Umwelt (DBU). These were presented in Emden on 19 July.

Since its maiden voyage in 2010, the "E-Ship 1", developed for transporting ENERCON wind turbine components, has covered more than 170,000 sea miles – primarily in the North and Baltic Sea, North and South Atlantic Ocean and the Mediterranean Sea. Using the Magnus Effect, the four innovative Flettner rotors provide the main engine with additional drive and account for more than 15 percent of the savings. Other innovations such as the streamlined ENERCON-developed propeller and helm as well as the sleek lines of the hull and deck superstructures also contribute to significantly reducing fuel consumption.

The average savings potential of up to 25% means the ship has an annual fuel savings potential of up to 1,700 tons and annual CO² savings of up to 5,100 tons. With "E-Ship 1" technology, shipping companies could save up to 1.3 million dollars in fuel costs annually. And if a supertanker were to be equipped with the "E-Ship 1" technology, it would be possible to save up to 9,000 tons of fuel (approx. 27,000 tons CO²), which adds up to roughly 5 million dollars per year.

"It is really impressive to see just how successful ENERCON-developed systems for reducing energy consumption in commercial transport vessels have proven to be," says ENERCON Managing Director, Nicole Fritsch-Nehring. ENERCON intends to maintain this technology and continue investing in further development work. As soon as the current retrofitting work on the "E-Ship 1" has been completed, the vessel will again be sailing the seven seas delivering ENERCON wind energy converters.





