



BREAKFAST MEETING:

ACCELERATING ADOPTION OF DOUBLE DIGIT FUEL SAVING TECHNOLOGIES

DANISH MARITIME DAYS 2014

Breakfast Meeting: SHiFT Technology Breakfast, Hosted by Jose Maria Figueres, Carbon War Room, UCL Energy Institute, and Danish Shipowner's Association

- Time: 7 am Wednesday, 8 October, as part of Danish Maritime Days
- Location: Danish Shipowner's Association, Amaliegade 33, 1256 Copenhagen
- Free to attend, but space is limited - please RSVP to vstulgis@carbonwarroom.com
- Taxis will be arranged to provide transportation to the Danish Maritime Forum

Join the Carbon War Room, UCL Energy Institute, Danish Shipowner's Association and technology entrepreneurs for a networking breakfast and an opportunity to discuss double-digit fuel saving technologies.

Agenda and Format:

7:15 – 8:45

- Welcome from Jan Fritz Hansen, Danish Shipowner's Association and Jose Maria Figueres, Carbon War Room
- Dr. Tristan Smith, UCL Energy Institute, on wind technologies and futures modelling: understanding wind assistance technology's competitiveness and commercial viability under different future scenarios
- Presentations and open Q&A from clean technology companies mainly looking for strategic partnerships and shipowners interested in game-changing fuel-saving technologies.

What is the SHiFT program?

The Shipping Innovation Fast Tracker (SHiFT) is a joint collaboration between University College London Energy Institute and the Carbon War Room, which aims to accelerate the deployment of technologies that yield double-digit savings fuel savings and GHG emission reductions.

The challenge

Key barriers to wide scale adoption of the above solutions are:

- Suboptimal information regarding fuel-savings attributable to technology solutions
- Split-incentives due to contractual arrangements
- Lack of access to capital for clean tech providers and shipowners





Company: Turbosail Pte Ltd.

Technology: Turbosail

Suggested savings:

10% - 35%



The Turbosail produces a very high drive force and consists of an elongated hollow body, a mobile flap to improve fluid separation, and an aspiration system to generate a vacuum and increase the system efficiency.

Company: Eco Marine Power

Technology: Aquarius MRE

Suggested savings:

8% - 10%



The Aquarius MRE System is an integrated system of rigid sails, solar panels, energy storage modules and computer systems that tap into renewable energy by harnessing the power provided by the wind and sun.

Company: Magnuss

Technology: VOSS

Suggested savings

10% - 35%



The Magnuss VOSS™ (Vertically-variable Ocean Sail System System) is a 100-foot tall, spinning, hollow, retractable steel cylinder installed on a ship's deck that creates forward thrust.

Company: Norsepower

Technology: Rotor sail

Suggested savings

10% - 20%



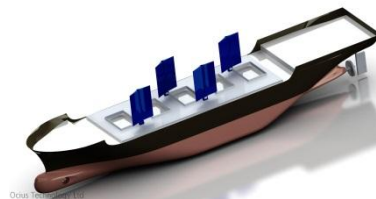
The Norsepower Rotor Sail solution technology is based on the concept of the Flettner rotor, which has been completely re-engineered using best known materials and control systems.

Company: OCIUS Tech.

Technology: Opening rigid sail

Suggested savings

25% - 40%



Rugged patented opening sails allow alterations in camber and surface area, folding down for seaworthiness. These are larger (30m) versions of 12m Solarsails already operating on commercial vessels.

Company: Oceanfoil

Technology: Wingsails

Suggested savings:

10% - 20%



A wingsail consists of three or four aerodynamically efficient vertical planes or wings, similar to an aircraft wing, mounted together with a tail-fin that create forward thrust.

