

ECONOWIND

Wind Assited
Ship propulsion

ECONOWIND

MAIDEN VOYAGE ON MV LADY CHRISTINA



Ship design since 1952

The logo for ECONOWIND is located in the bottom left corner. It features the word "ECONOWIND" in white, bold, capital letters on a black background. Above the "O" in "ECONOWIND", there are two horizontal bars: a red one on top and a blue one below it.

ECONOWIND

MAIDEN VOYAGE ON MV LADY CHRISTINA



Extreme fuel efficient vessels





- Studied Wind Assisted Ship propulsion 2009 – 2015
- Econowind developed 2016 - 2019


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MAIDEN VOYAGE ON MV LADY CHRISTINA





SKYSAILS



FLETTNER ROTORS



TURBO-SAIL



ECOLINER

Conclusion 2015:

- Wind assisted propulsion is feasible
- Up to 25% fuel reduction

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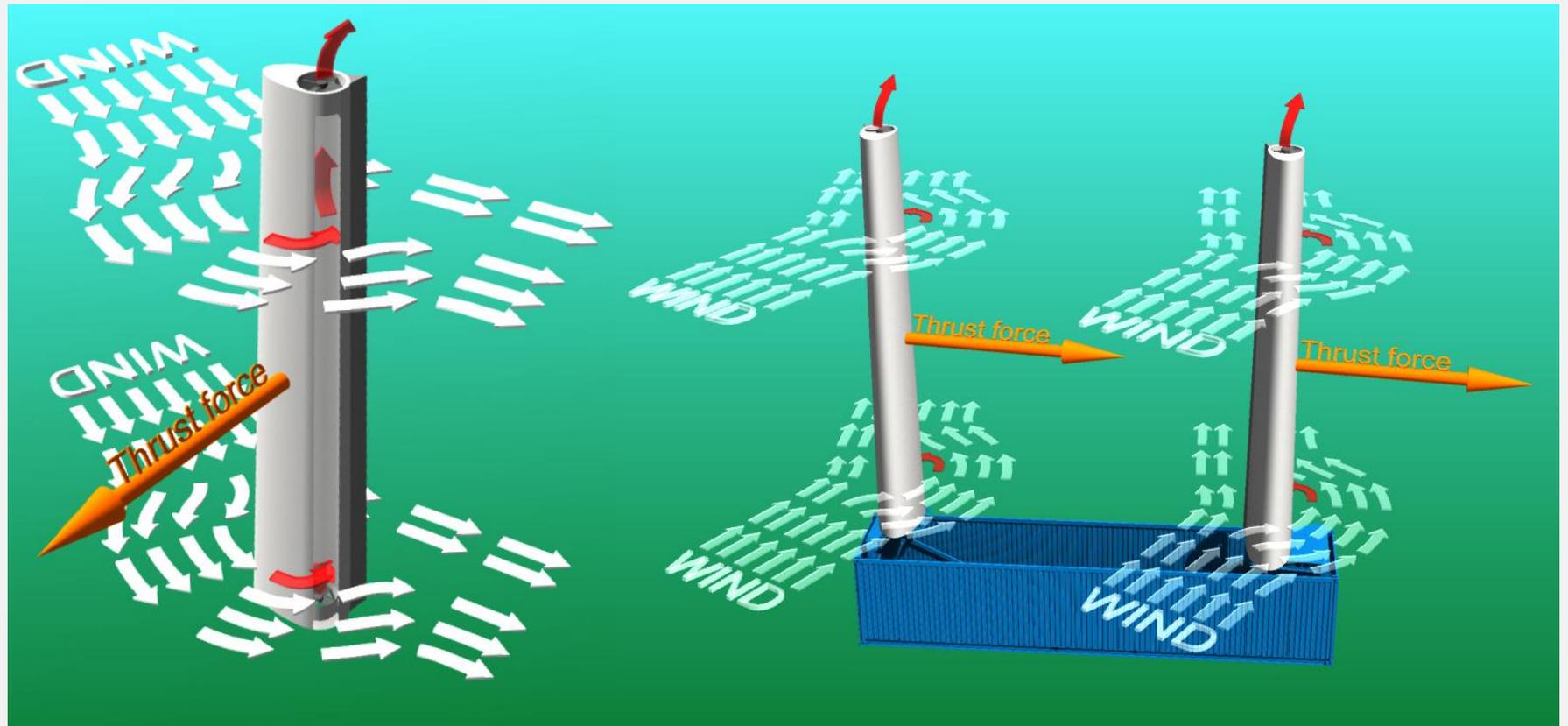
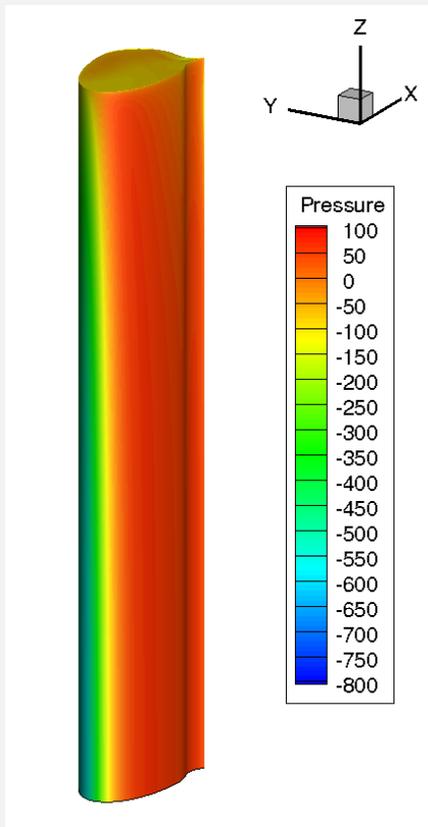
Wind Assisted
Ship propulsion

Founded 2016

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MAIDEN VOYAGE ON MV LADY CHRISTINA

Conoship developed eConowind-unit & VentiFoil-Suction Wing + initiated Econowind BV



ECONOWIND

Wind Assisted
Ship propulsion

- Containerized
- Foldable
- Suction wing

Installation in 45 minutes



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MAIDEN VOYAGE ON MV LADY CHRISTINA

Voyage:
Emden – Plymouth – Finland.

Results of 1 unit:

800lt / day at same speed

400 lt/day at 0,5 knot extra speed

At 11 kn, this is on LC -8%



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MAIDEN VOYAGE ON MV LADY CHRISTINA

Retrofit 10m

Feb 2020
Jan van Dam
shipping



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Retrofit

**extended
16 m
summer-2020**



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Flatrack

Movable by
Hatchcrane

Summer 2020
Boomsma Shipping





Design steps into the future



Scale up of existing technology

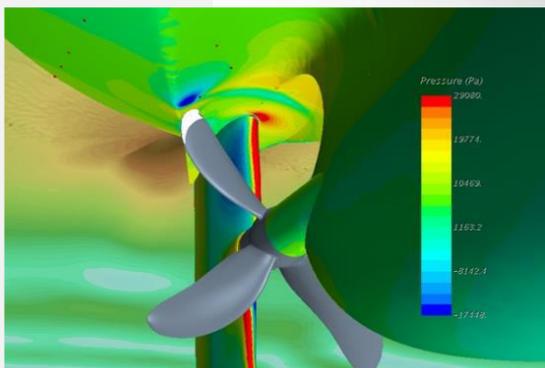
Optimization study KAMSARMAX 82.000 Dwt , speed 10 kn

10 VentiFoil XL
30m (foldable)
saving up to 35%
fuel/CO2 route-
related

Hybrid:
batteries &
LNG or
Methanol
(CO2
capture)



Optimal hull + Large
Diameter Propeller
saving up to 8%



Conoship 33000 ZE Dry Cargo

Loa 220m x B 23,75m x D 14,50m

Deadweight 33.000 ton

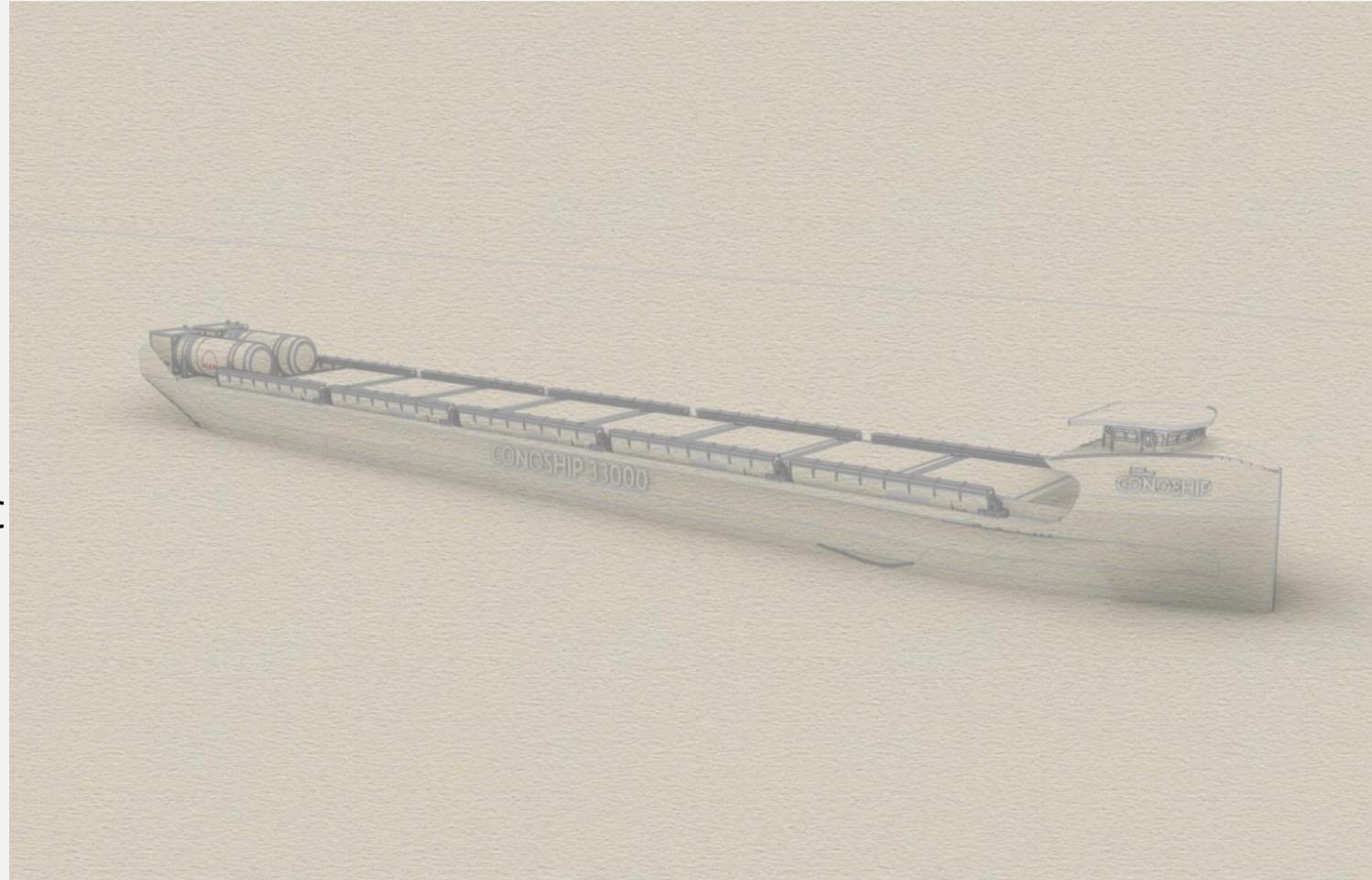
10 x 30m 'VentiFoil XL' suction wings mounted on PS and SB (foldable)

Ship speed 10 ~11 kn on North Atlantic

CO2 & fuel reduction with 10 VentiFoil XL :

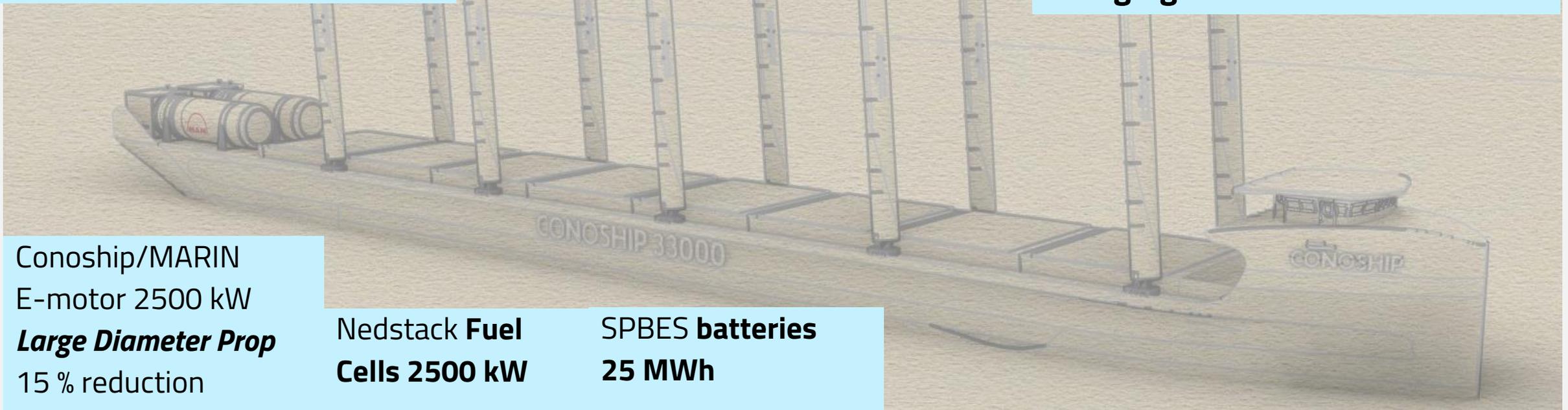
11kn @ favourable Bft 5: "**~125%!!**"

North Atl. annual average: **~44%**



MAN Cryo
Liquid H2 tanks 2 x 400 m3.

10 x 30m VentiFoils North Atl.
11kn @ favourable Bft 5:
Charging batteries ~250 kW



Conoship/MARIN
E-motor 2500 kW
Large Diameter Prop
15 % reduction

Nedstack **Fuel Cells 2500 kW**
SPBES **batteries 25 MWh**

Zero Emission Conoship 33000 ZE : av. Speed 11kn North Atlantic
Hybrid propulsion: 10 x 30m **VentiFoils** & **E-motor**/generator & **batteries** & **FuelCells**
Liquid H2 in 2 x 400 m3 'Type C-like tanks'