NEOLINE

Wind powered Shipping

# NATURAL PROPULSION IN SHIP DESIGN CONFERENCE

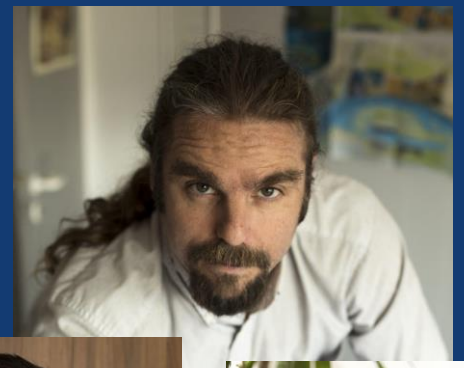
**Nov. 16th 2021**


Credits: Neoline / Mauric

# A pioneer shipowner centered around sustainability

- A French company created in 2015
- Inspired by **Michel Péry**
- 9 founders from shipping industry
- An operational team led by **Jean Zanuttini**
- A new shareholder since June 2020

SOGESTRAN GROUP



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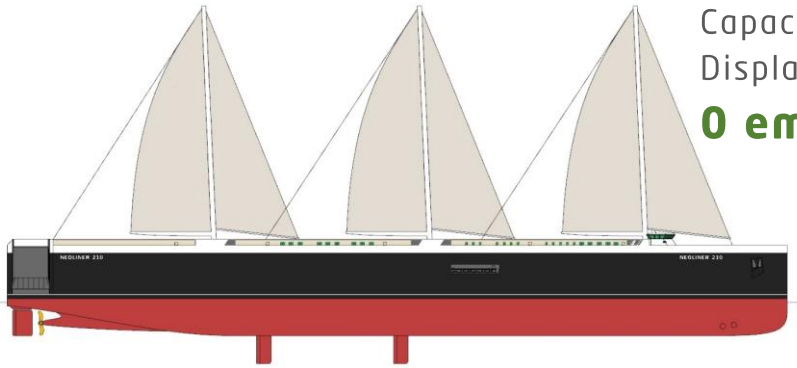
# OUR 2030 VISION

## Industrial Competitive 0 emissions

### Neoliner 136m

Capacity of 1500 lm or 540 cars
Displacement : 11 000t

**80% to 90% of consumption reduction**



### Neoliner 210m

Capacity of 9000 lm or 4200 cars
Displacement : 35 000t

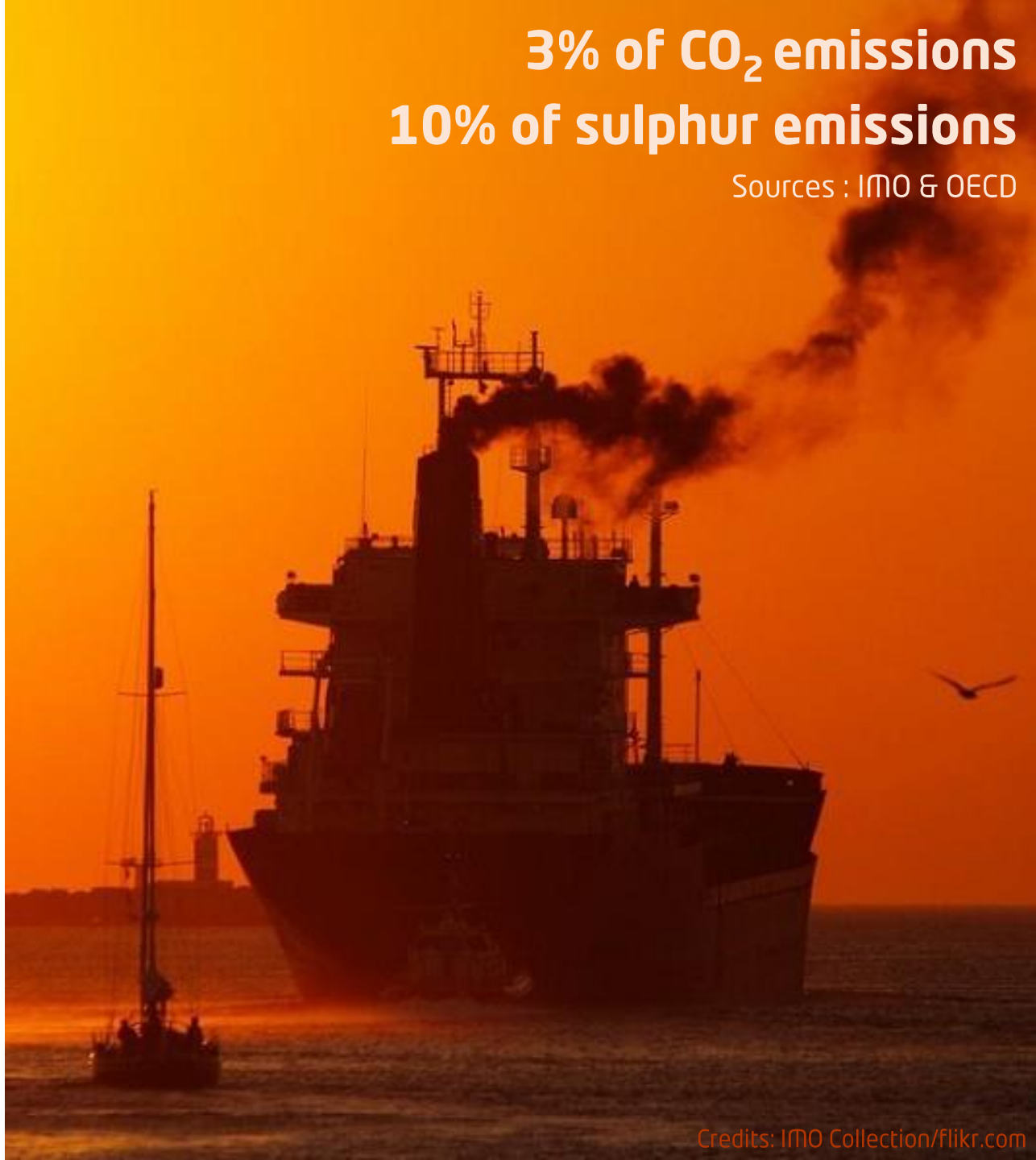
**0 emission**

**First « shipper partner » : GROUPE RENAULT**

Illustration Pierre Zanuttini

## A sector in question

- Societal and regulatory constraints
- Transport costs incertainties
- Maritime transport concentration

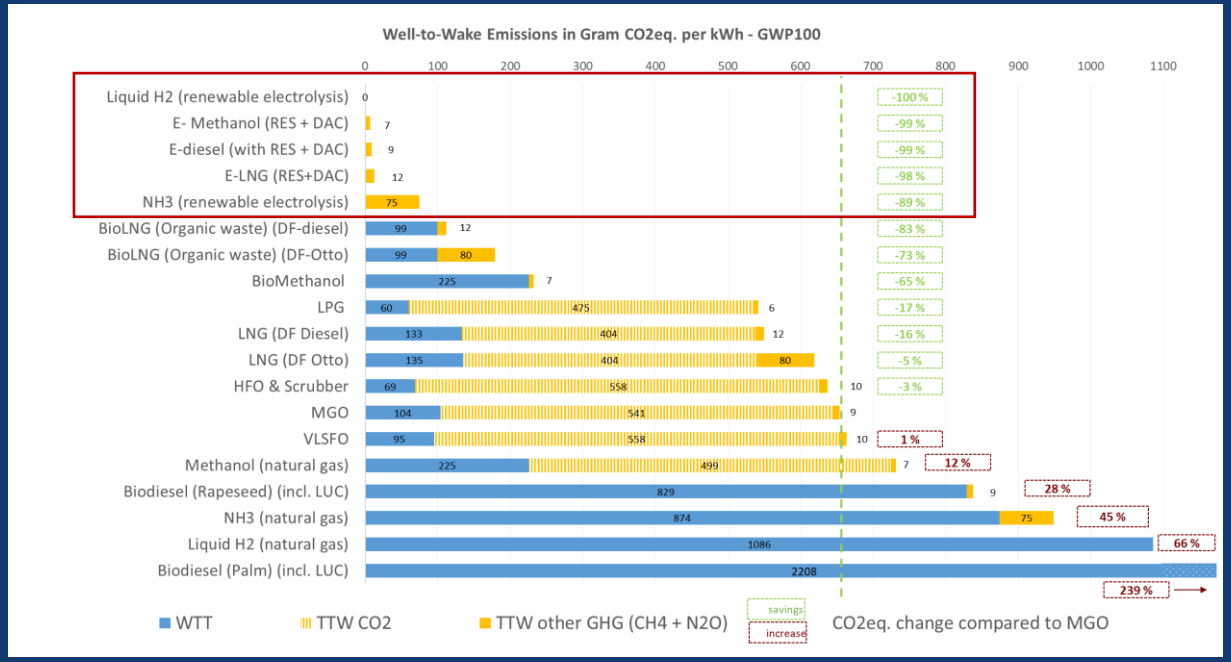


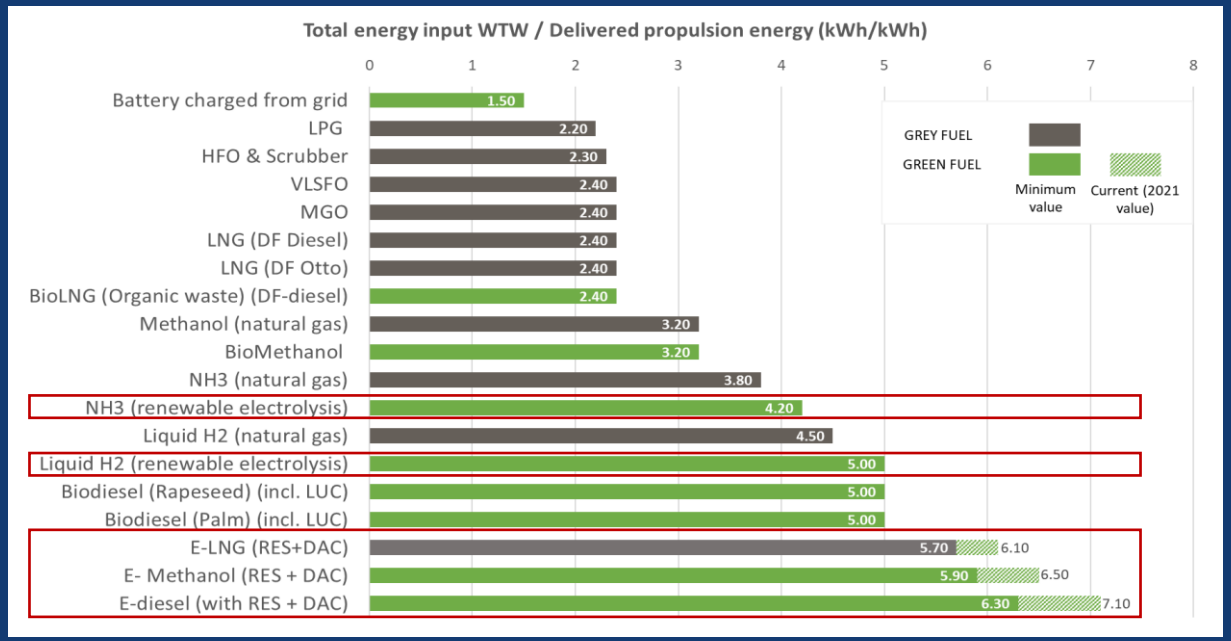
# A difficult equation toward 0 emission

- Only e-fuels can really reduce GHG emission
- However, they need 2 to 3 times more energy
- Availability will be insuffiscient

**Need to drastically reduce energy consumption**

**Need to use a more direct renewable energy**




Source: SINTEF Ocean AS Dr. Elizabeth Lindstad

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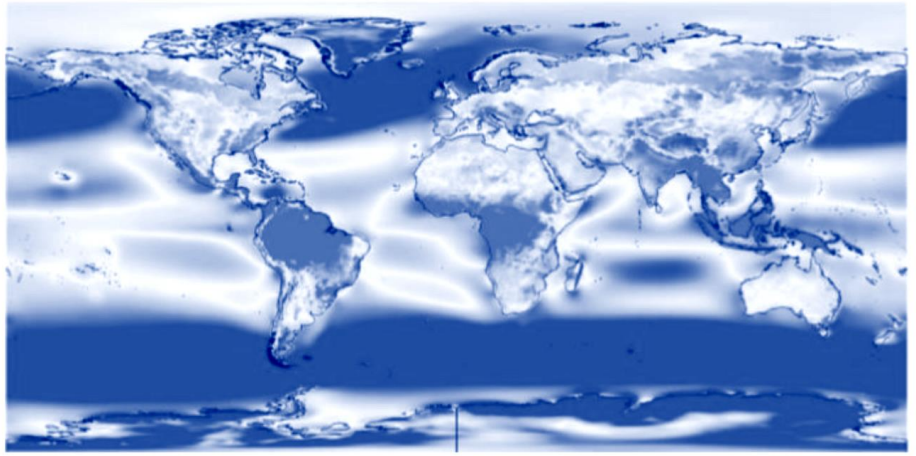
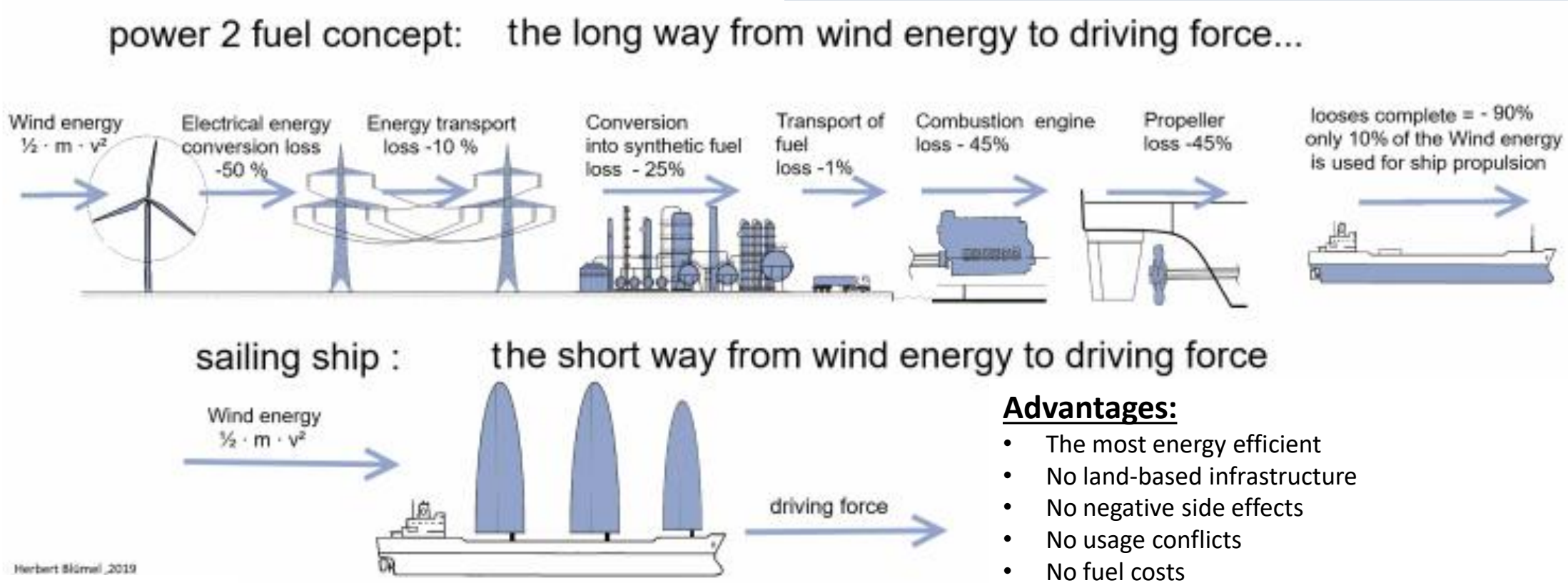
# WHY USING WIND ?

## Available everywhere




## Efficient



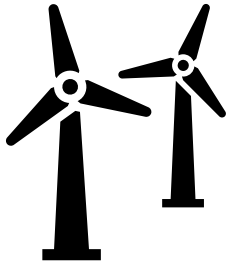

**Advantages:**

- The most energy efficient
- No land-based infrastructure
- No negative side effects
- No usage conflicts
- No fuel costs
- Less dependency on fuel producers

Herbert Blümel - 2019

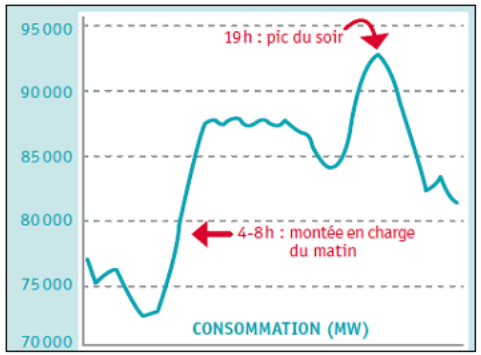
# WHY USING WIND ?

## Uncontrolled intermittency vs Managed intermittency



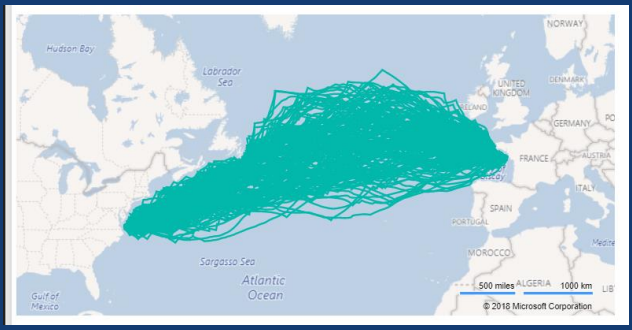
Fixed

« non-negociable » consumption

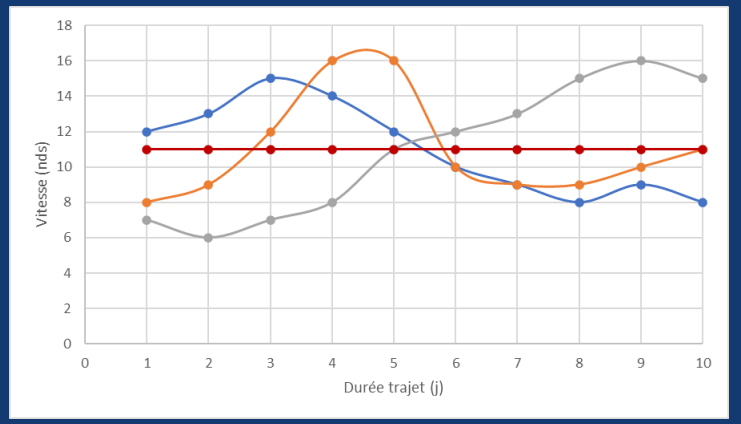



Need to provide controlable energy most of time

Adjustable consumption profile

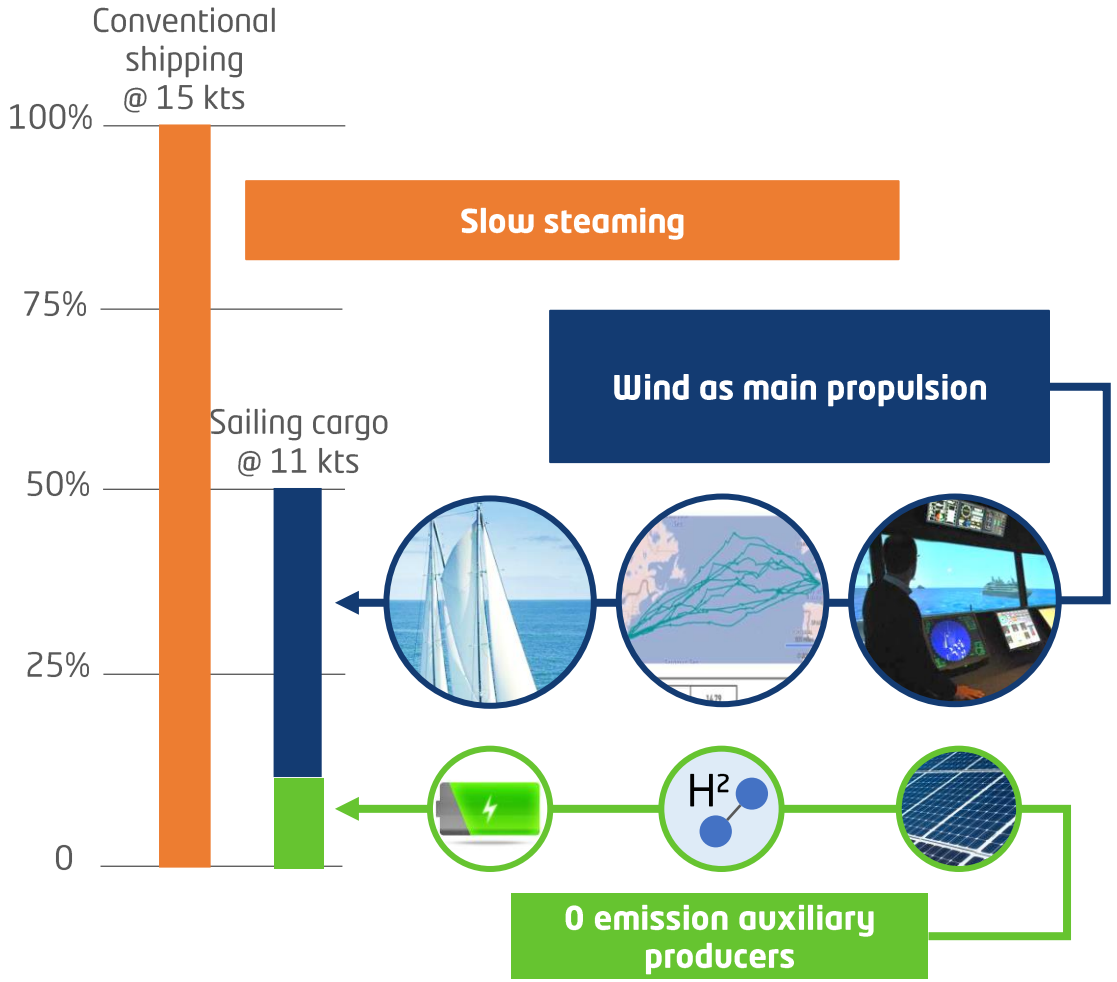



Optimized routing




Controlable energy rarelly needed

# Reaching 0 emission with wind:





Crédits: Neoline / Mauric

# A clean, safe and efficient transport tool

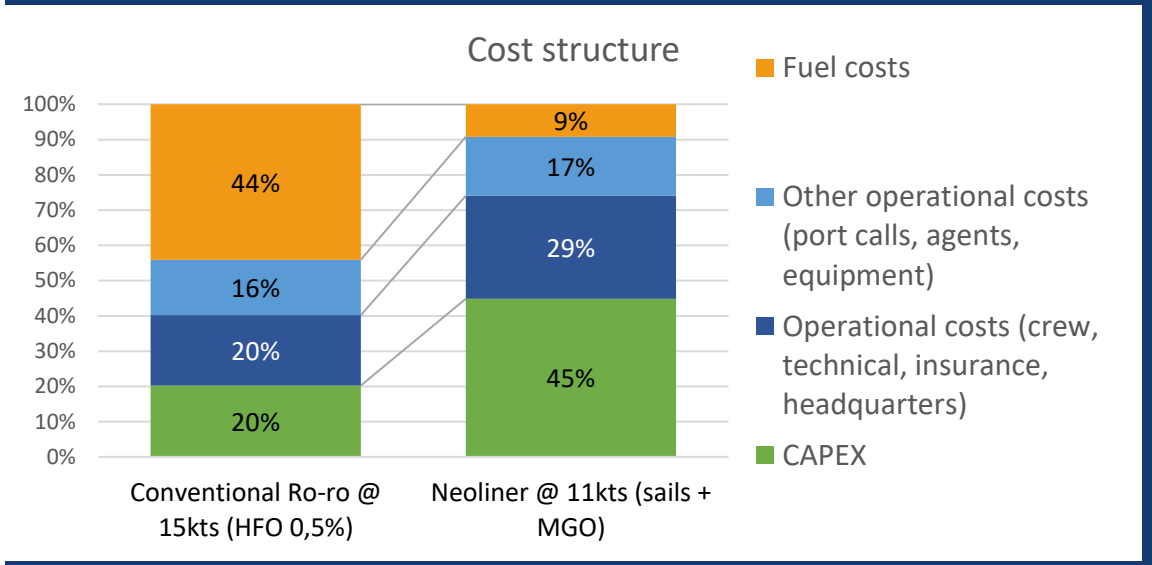
- Main features
  - **Dimensions……..136 m x 24,2 m (446ft x 78,64ft)**
  - **Sails surface……..4200 sqm**
  - Auxiliary propulsion……..diesel-électric 4000 kw
  - Air Draft ……reductible to 41,5 m (134,51')
  - Draught……reductible to 5,5 m (16,40')
  - Crew……14 (+12 passengers)
- Specialized for oversized and heavy frets
  - Height (max)……9,80 m (29,52 ft)
  - Roro capacity……1700 lm
  - Breakbulk……5 300 T
  - Cars capacity……540 cars
  - Container capacity……273 TEU's

Credits: Neoline / Mauric

# Economic model

## Cost structure

- Less OPEX, more CAPEX
- Equivalent costs when fuel price is about $60

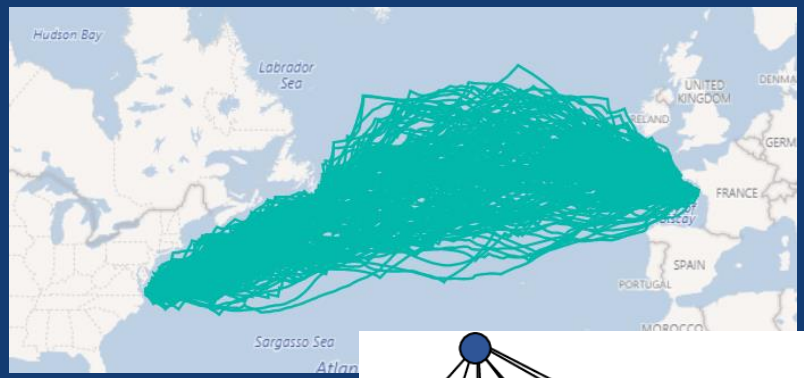


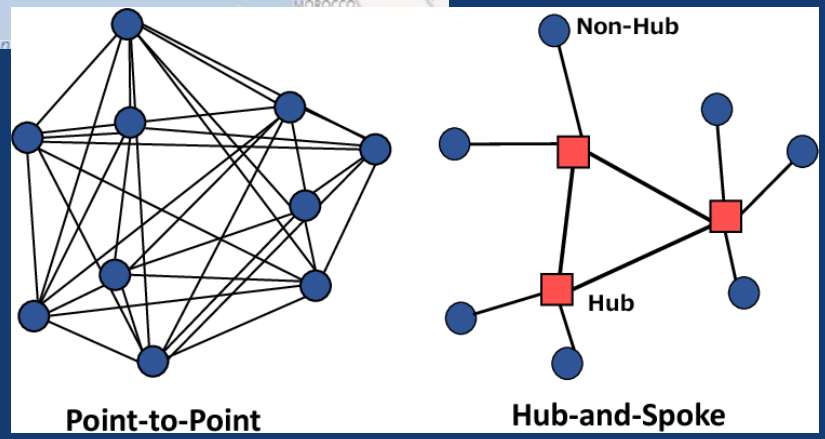

## Advantages for shippers

- Highest standard for shipper's CSR policy
- Independant from fuel prices (no BAF)
- Image and marketing advantage
- High quality transport, comply with standard logistics procedures

## Drawbacks can be overcome

- Wind intermittency => weather routing and auxiliary propulsion
- Lower speed => « point to point » secondary routes (vs hub logic)
- Smaller vessels => savings on pre-haulage and higher filling rate



# A new regular transatlantic route France <-> North America

- Original secondary route
- Ideal from wind perspective
- New hinterlands proximities

## Shippers allready involved:

- Transport contracts:
  - **Groupe Renault**
  - **Groupe Bénéteau**
  - **Manitou Group**
  - **Michelin**
  - **HENNESSY**
  - **Clarins**
  - **Longchamp**



# Routing studies

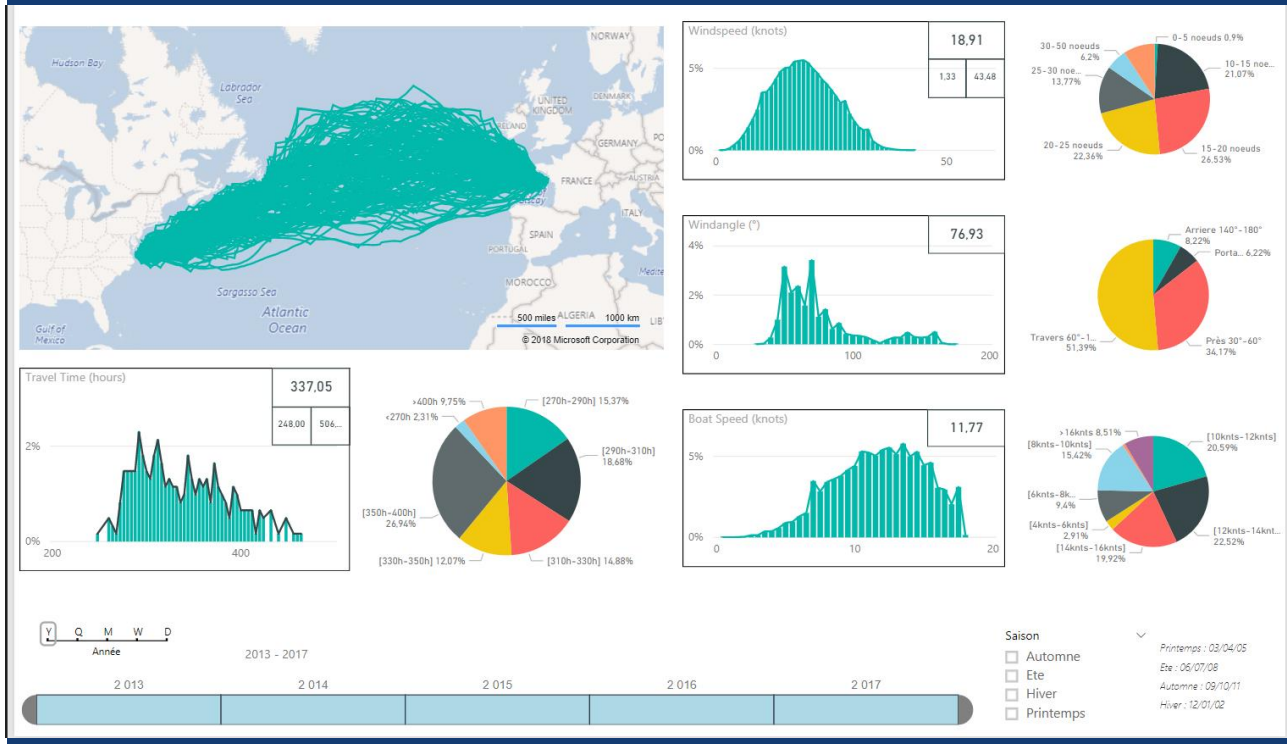
- ✓ **50% of time at 12kts under sails only**
- ✓ **24% westbound route lengthening**
- ✓ **16% eastbound route lengthening**

- ✓ For a trip at 11kts of commercial mean speed:
  - ➢ Mean fuel consumption: **34t**
  - ➢ Fuel consumption of Classical vessel at 11kts : **119t**

    **71% of reduction**
  - ➢ Fuel consumption of classical vessel at 15kts : **216t**

    **84% of reduction** (93% winter)

- ✓ **50% of fuel consumption for onboard electricity**




D - ICE ENGINEERING

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www.neoline.eu


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