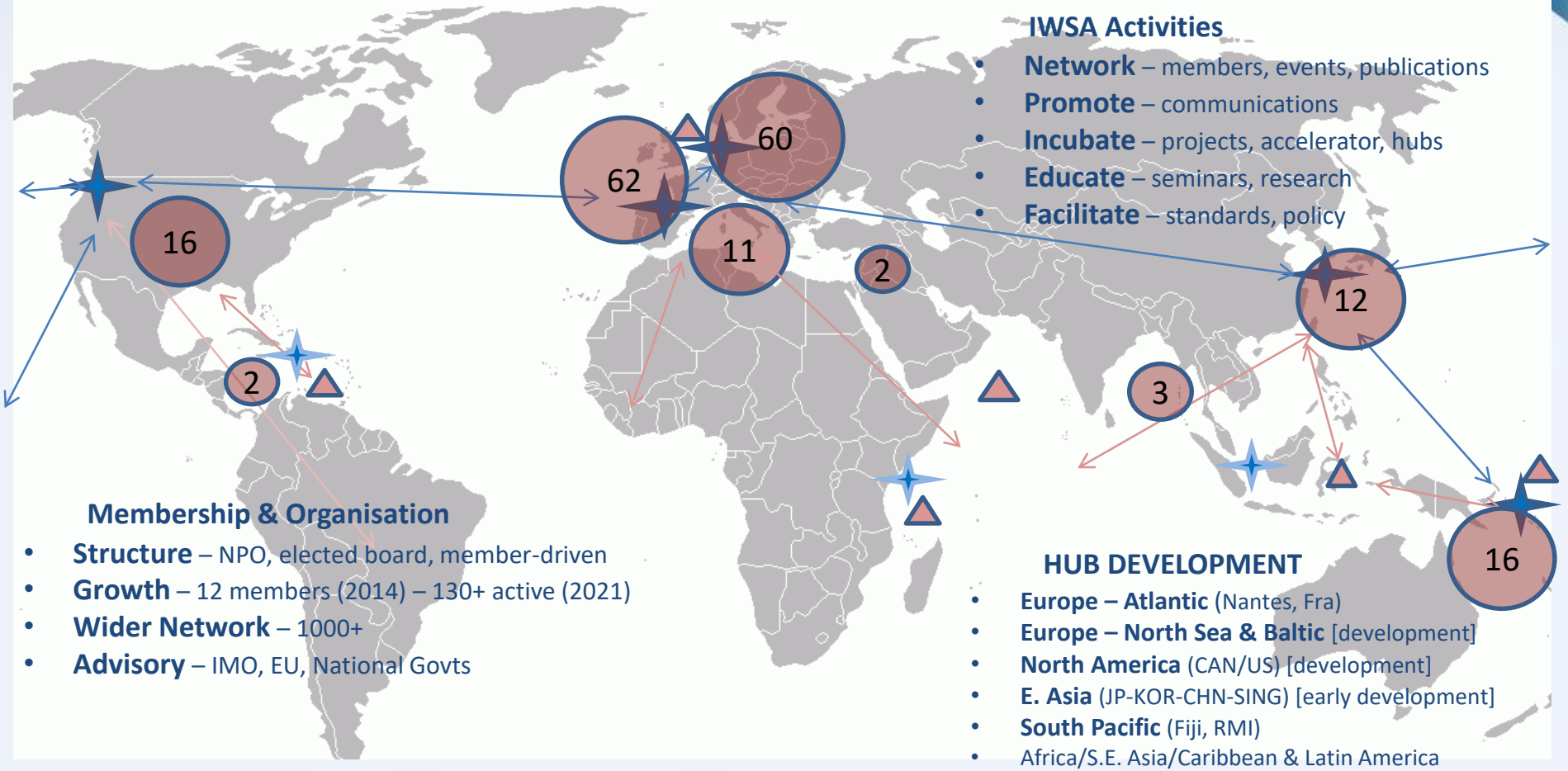
IWSA
International Windship Association
Decade of
Wind Propulsion
2021-2030
Delivery | Optimisation | Facilitation
www.decadeofwindpropulsion.org
K LINE

International Windship Association Network

A unique, fast growing tech segment: significant decarbonisation & operational cost reduction potential



IWSA Activities

- **Network** – members, events, publications
- **Promote** – communications
- **Incubate** – projects, accelerator, hubs
- **Educate** – seminars, research
- **Facilitate** – standards, policy

Membership & Organisation

- **Structure** – NPO, elected board, member-driven
- **Growth** – 12 members (2014) – 130+ active (2021)
- **Wider Network** – 1000+
- **Advisory** – IMO, EU, National Govts

HUB DEVELOPMENT

- **Europe – Atlantic** (Nantes, Fra)
- **Europe – North Sea & Baltic** [development]
- **North America** (CAN/US) [development]
- **E. Asia** (JP-KOR-CHN-SING) [early development]
- **South Pacific** (Fiji, RMI)
- Africa/S.E. Asia/Caribbean & Latin America

Wind Propulsion Hubs | 2 IWSA Members | Traditional Sail Cargo Networks

Additional WP Hubs (proposed)

Direct Application of Wind Power

Wind Energy

Zero - **Emissions**
Zero - **Cost**
Zero - **Volatility**
Zero - **Infrastructure**
Zero - **Storage**

Wind Propulsion Technology

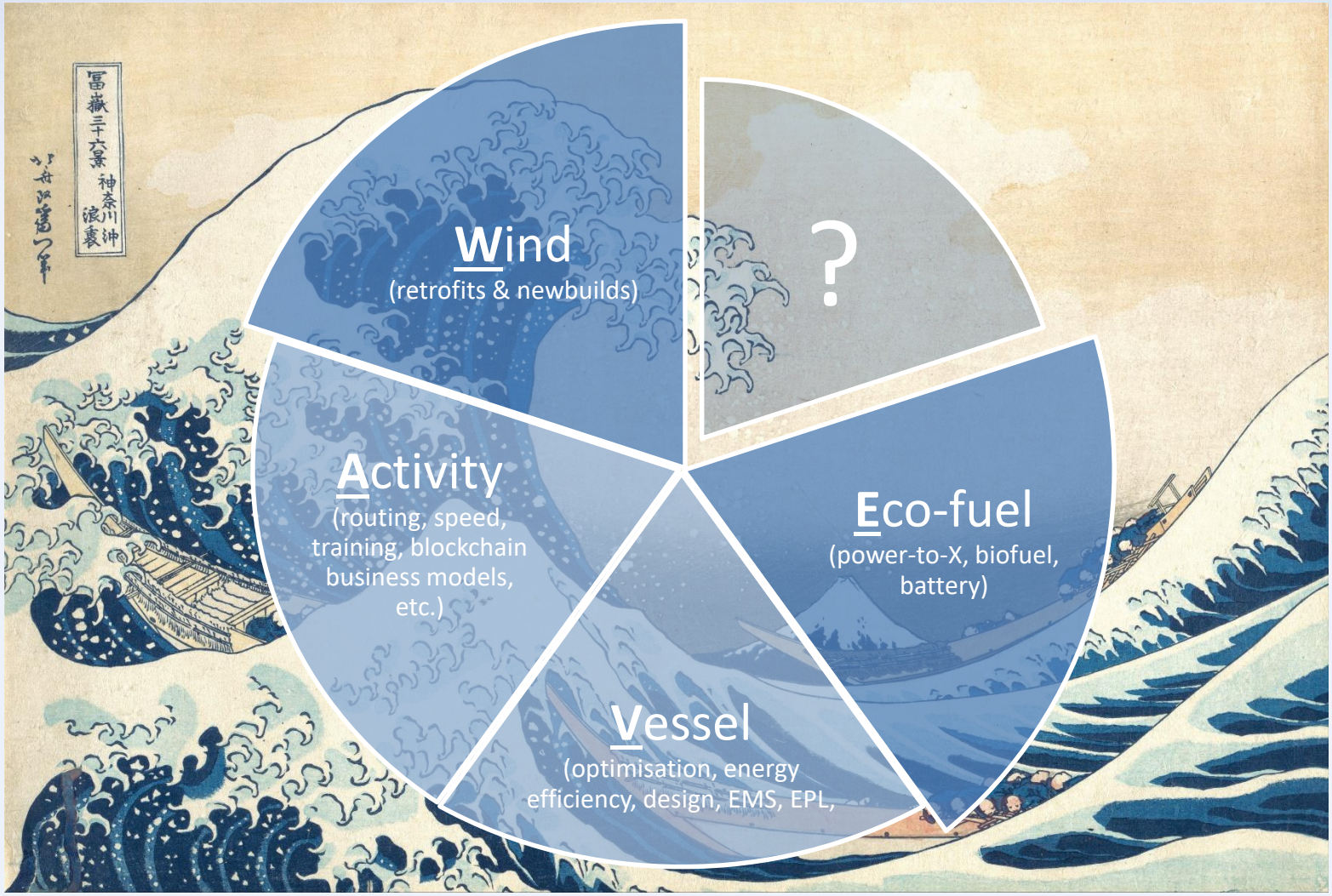
Zero - **Development Time**
Zero - **Compatibility Issues**
Zero - **Additional Crew**
Zero - **CAPEX?**

RETROFIT
5-20% propulsive energy
& optimised up to 30%

OPTIMISED NEWBUILD
50-80%+ possible with
operational changes

Win-Win-Wind Situation

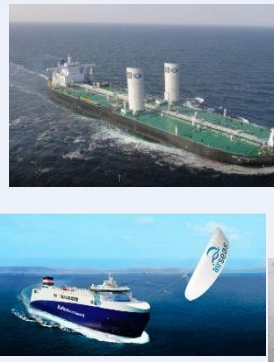
Hybrid W.A.V.E.

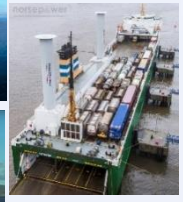

Wind
(retrofits & newbuilds)
?
Activity
(routing, speed, training, blockchain business models, etc.)
Eco-fuel
(power-to-X, biofuel, battery)
Vessel
(optimisation, energy efficiency, design, EMS, EPL,

Large Vessel Installations Today…

19 Ocean Going Vessels with Wind-Assist Systems installed by Q2 2022

& 1 Wind-ready + more than 20 small sail cargo, fisheries & cruise vessels in operation

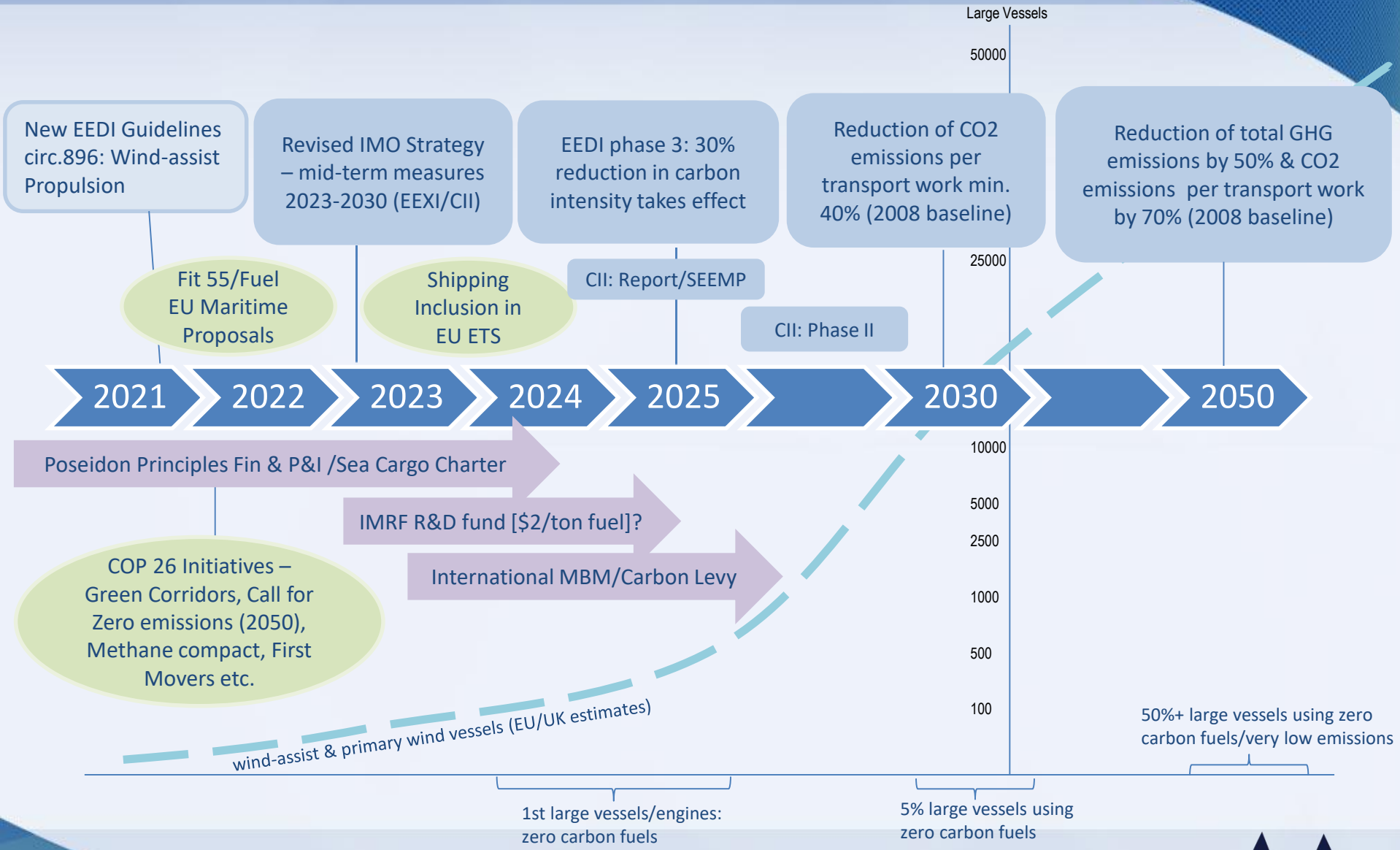




Ship Types
Tankers x 2 (1 x pending newbuild + 2 order) 1 x VLCC, 1 x LR2 Tanker
Bulkers x 2 (+1) (6 x pending + 5 order) 1 x VLOC, 1 x Ultramax 1 x Kamsarmax (wind ready)
RoRo x 4 (2 x pending + 1 new build)
Ferry/Cruise x 3
General Cargo x 7 (3 x pending) Various sizes: 2–12,000dwt
Large Fishing Vessel x 1

NOTE: *More large WPT vessels in operation than all new alternative fuelled ships combined (excluding tankers & LNG/LPG)*

Policy Pipeline & Wind Propulsion

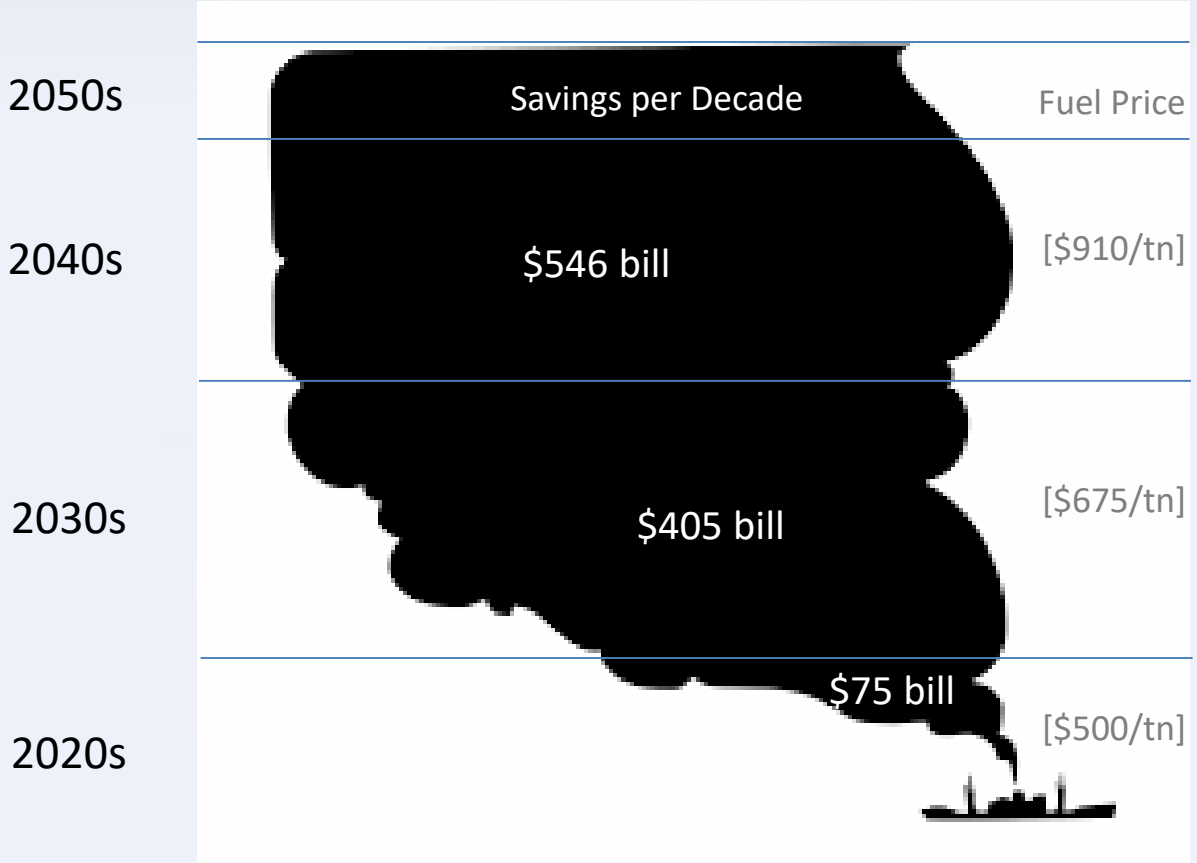


Example: Primary Wind: Larger Vessels

Name	Neoliner	Silenseas 210	Oceanbird	Wind Hunter
Size	136m x 24m 11,000GT/5,000dwt	190m x 25m 300pax 23,000GT	200m x 45m 7,000 car capacity	Not currently specified
Type	RoRo	Expedition Cruise	Car Carrier	Tanker
Wind System	Solid Sail	SolidSail: reefable rigid sail system	Rigid Wingsail: retractable	Rigid 'Windchallenger' Sails: retractable
Performance	Up to 80% wind power 11kn sail, 14kn engine	Up to 70% wind power. Max speed under sail 17kn	Up to 90% wind power at 10kn	100%+: capture excess wind energy – H2 fuel
Build/ Operation	2022 // 2023/4	Build ready – full scale rig testing 2022	Design 2023, first operations 2025	Initial system testing 2021/2, 60m test vessel 2024, full-size by 2030
Route	Initial: North Atlantic	Various	Initial: North Atlantic	Pacific+

The Shipping Decarbonisation Challenge….

Could Wind Propulsion Fund the Decarbonisation Transition of the Fleet?



- *Static fleet size*: 60,000
- *Fuel:* 300mill tn/yr
- *CO2*: 1bill tn/yr
- *Price*: $500/tn (VLSFO/04 May 21)
- *Increase*: 35%/decade from 2030s
- *Wind*: 20% (inc. operation change)

NOTE: No IRR/Currency rates etc included

UMAS/ETC Report (Report Link)
IMO2050 (50%) = $1trill
100% Decarbonisation = $1.4-$1.9 trill

[$1.4 trill = 23 mill per ship]

WPT cost = $5 mill/ship = **$300bill**
+ Reduce total cost by 10-20%

Article Link

$300 bill invested (2020s+) = **$1trillion**+ savings by 2050 + lowers total cost to **$1.1-1.7 trillion**

Win-Win-Wind Propulsion….

www.wind-ship.org

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