



**Prof. Michael Fan**

Chief Technology & Innovation Officer  
Tsakos Energy Navigation (TEN) Ltd.



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EUGENIDES FOUNDATION



# IMO's Net Zero Framework - NZF

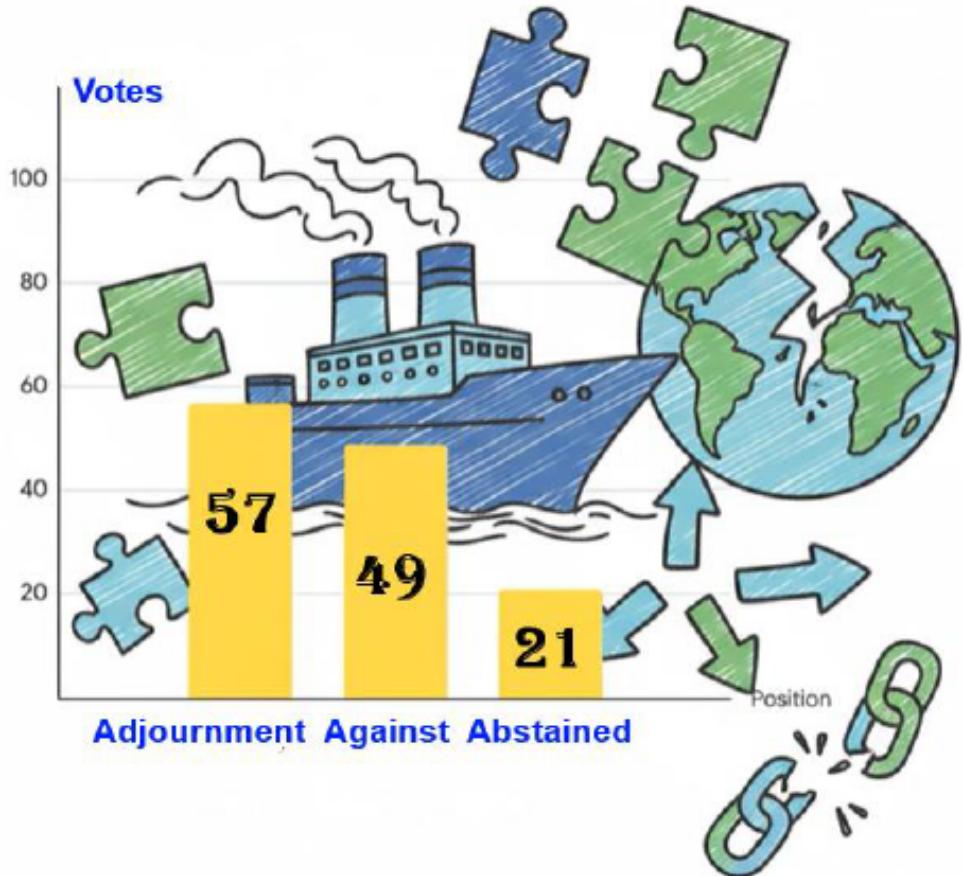


Deal **DELAYED?**

OR



Deal **DERAILED?**





# IMO's NZF – A Shipping Perspective

14 Oct 2025 – was it an existential moment for the IMO?



Path forward that is best for BOTH

- Environment AND
- Shipping

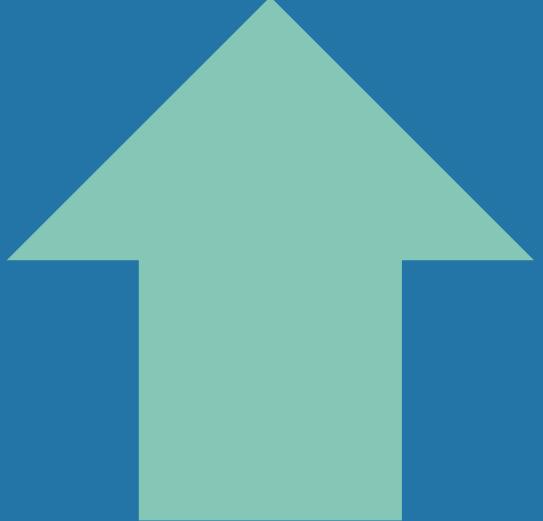


**GLOBAL Regulation is paramount for a Global Industry like SHIPPING!**



# IMO's NZF – A Shipping Perspective

## cont'd 2

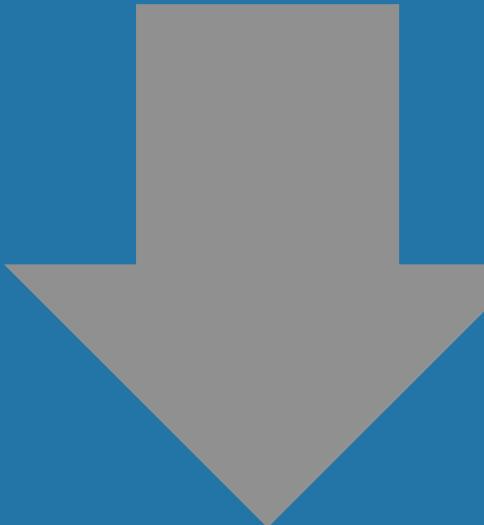


**SHIPPING is:**

- Owning
- Managing
- Operating



**CANNOT & SHOULD NOT be contingent on production and/ or trading of fuels**

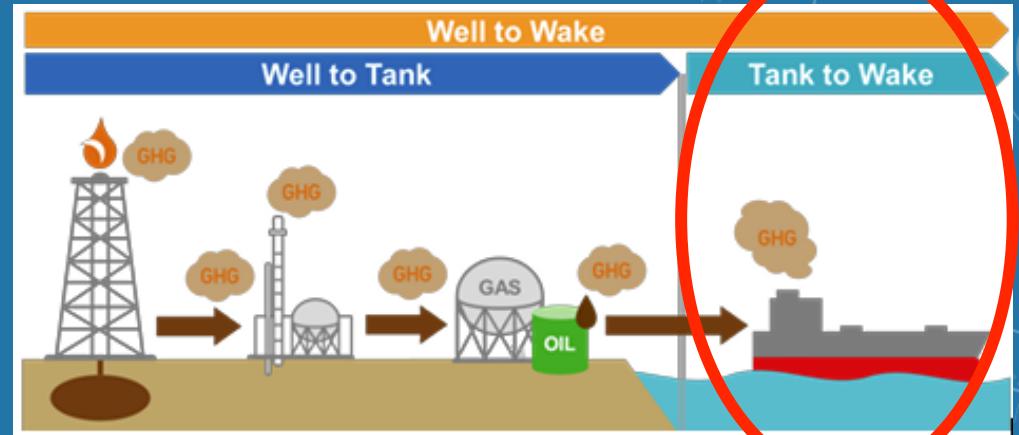
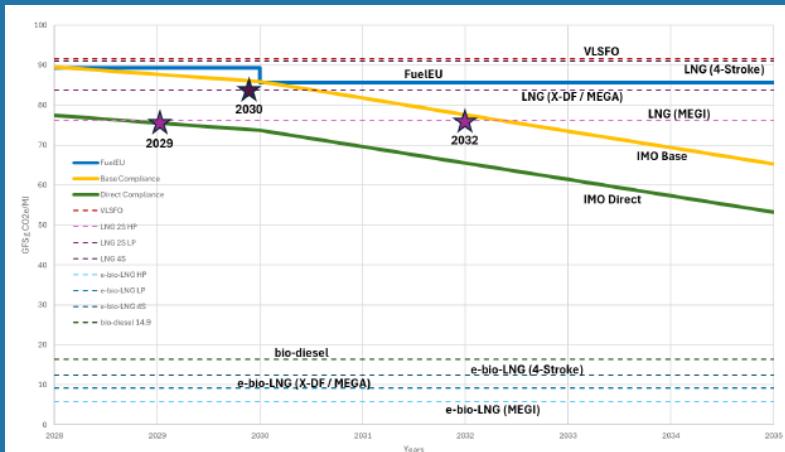




# IMO's NZF – A Shipping Perspective

## cont'd 3

W2W is not fair for shipping.  
T2W emissions should be the only measure on shipping.



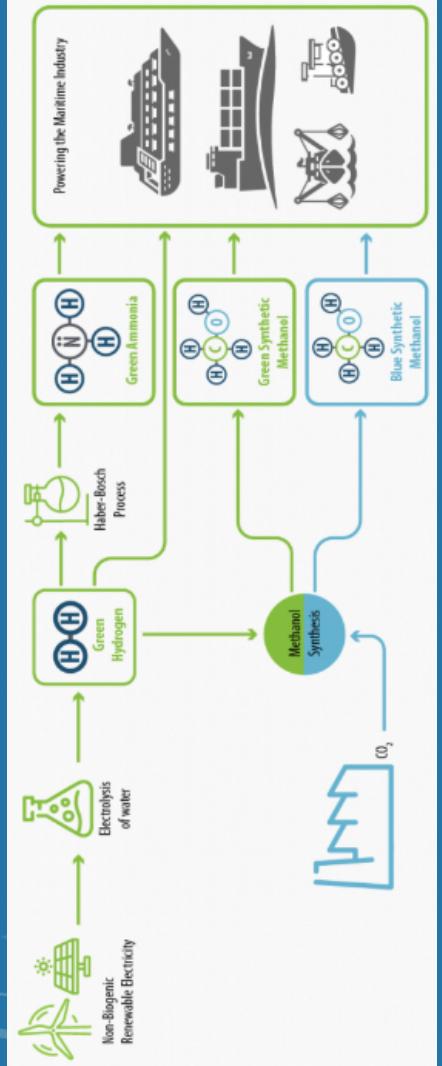
Proposed GFI trajectories are unrealistic.

Implementation is highly bureaucratic & costly – burden heaviest on SMEs.

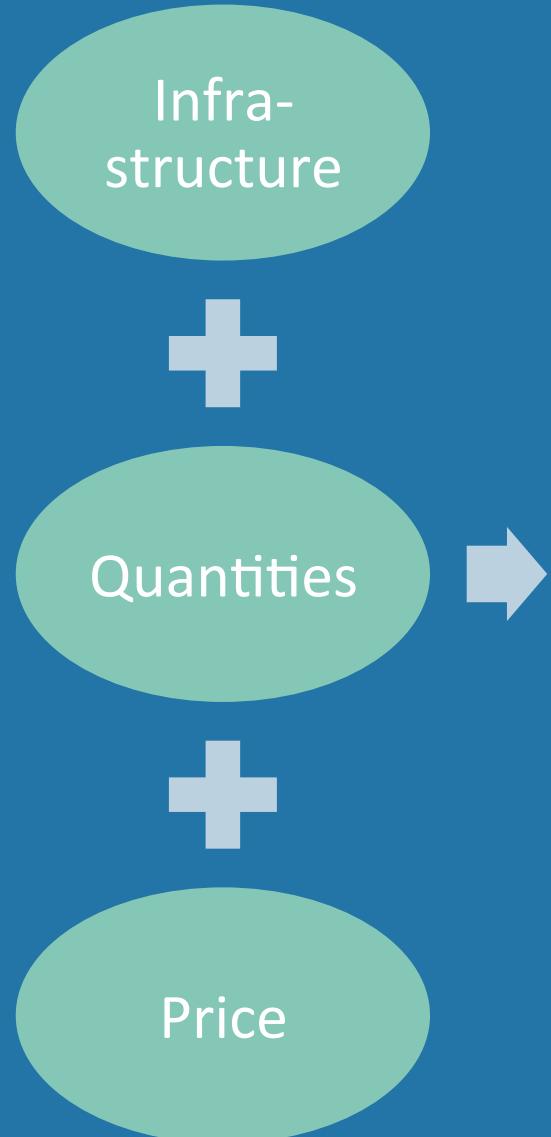


# IMO's NZF – A Shipping Perspective

cont'd 4



**NON-EXISTENT**  
For  
Green Fuels



**TAXATION**  
on Shipping  
without direct  
environmental  
benefit



# IMO's NZF – A Shipping Perspective cont'd 5



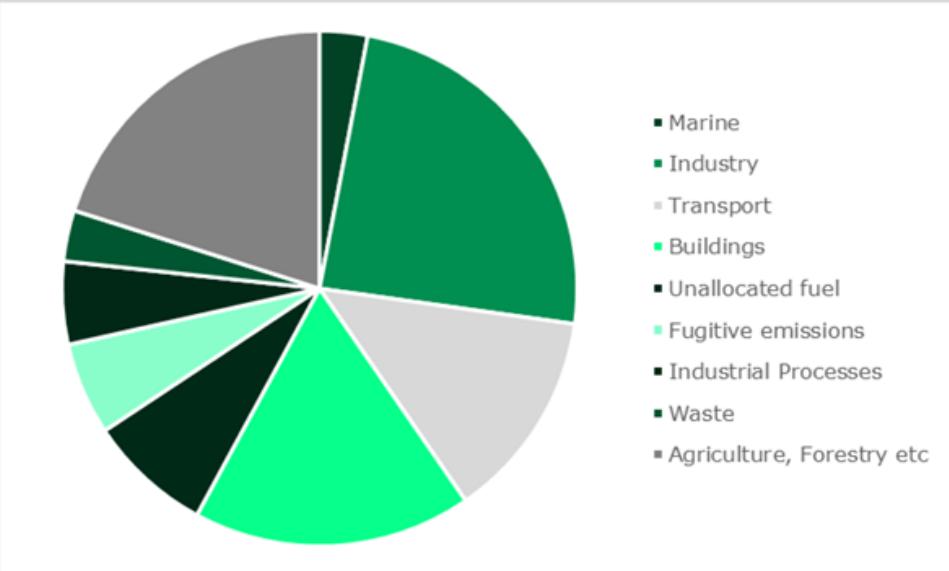
disadvantages for proven, safe & readily available  
transitional fuels – e.g. LNG!

No assurances re.  
simultaneous  
withdrawal of  
regional regulations.



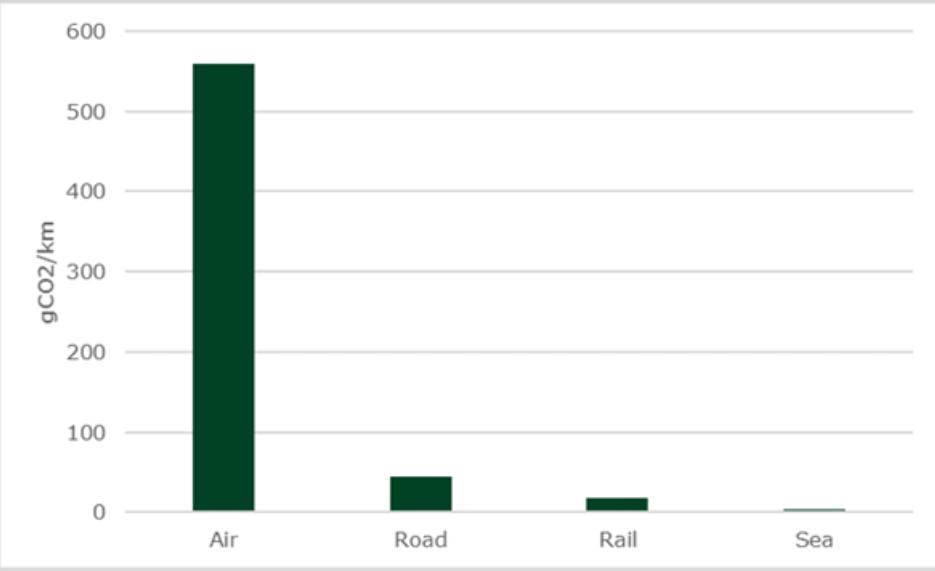
# Marine Emissions Perspective

**Marine Emissions vs Global Total Emissions**



Source: Climate Watch, the World Resources Institute, IMO

**CO2 emissions per km**



Source: CMS



# TSAKOS Decarbonisation Strategy



- Fleet renewal;
- Reduce existing fleet's carbon intensity through technical & operational measures;
- Establish decarbonisation pathway by using transitional alternative fuels;
- R&D towards net-zero or carbon neutral technologies.



# Strategic Decarbonisation Outlook: Fleet Renewal

## Divestments

- **17 vessels Sold**
  - 1 x LNG Carrier
  - 2 x Suezmax
  - 2 x Aframax
  - 6 x MR Product
  - 5 x Handy Product
  - 1 x Capesize Bulker

Average Age: **19.5 years**  
Total DWT: **1.3 million**

## Growth

- **40 vessels (Contracted/Acquired/LOI)**
  - 10 x NB DP2 Shuttle
  - 3 x NB VLCCs
  - 5 x NB LR1 Panamax
  - 2 x NB MR Product
  - 4 x NB DF LR2\*
  - 2 x DF LR2\*
  - 2x NB DP2 Shuttle\*
  - 3 x Suezmax\*
  - 2 x Aframax\* (1A Ice-Class)
  - 6 x Containers\* 2800 teu
  - 1 x Capesize bulker

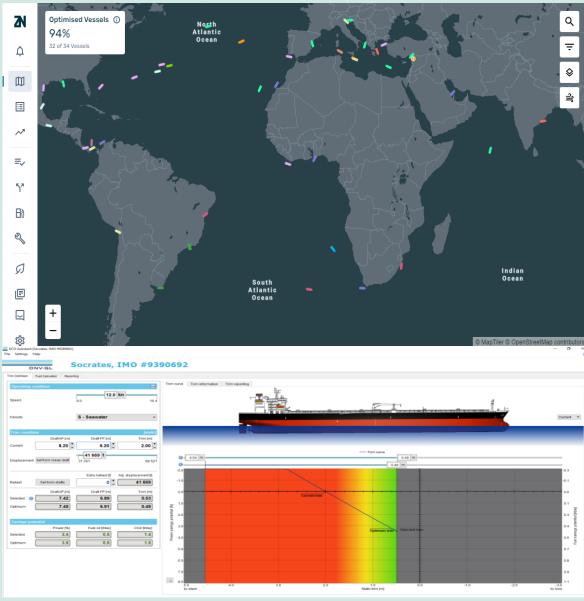
\* Delivered Vessels

Average Age: **Newbuildings**  
Total DWT: **4.9 million**

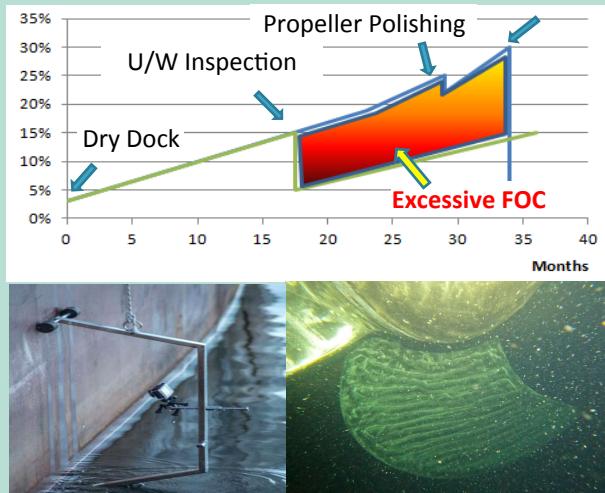


# Energy Efficiency Measures - Operational

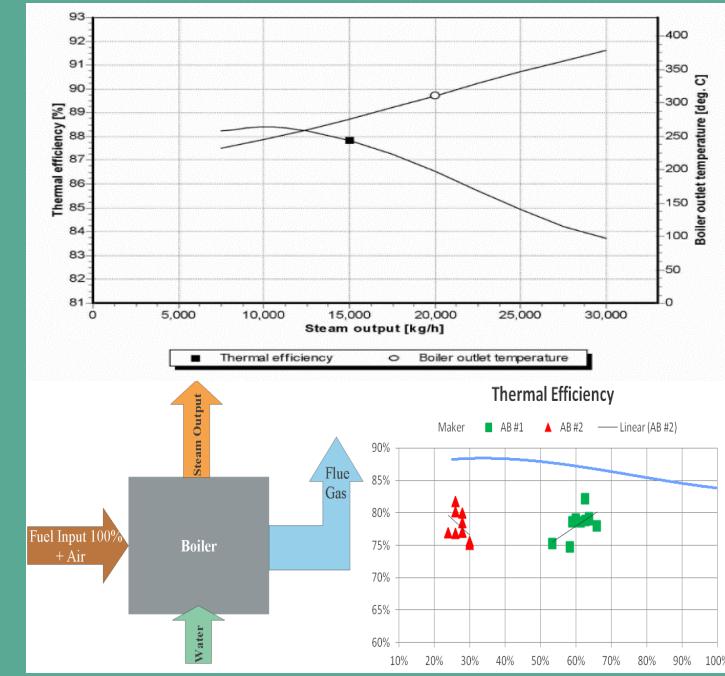
- ❑ Just-In-Time arrival; optimum speed selection.
- ❑ Weather routing & voyage optimisation.
- ❑ Trim optimisation.
- ❑ Optimised cargo heating management (tankers).



- ❑ Underwater maintenance:
  - ❑ Hull condition monitoring & assessment (telemetry, speed performance tests, remote inspection, divers' inspection)
  - ❑ Propeller polishing
  - ❑ Hull cleaning



- ❑ Main engine performance evaluation.
- ❑ Auxiliary engine load management.
- ❑ Auxiliary boilers thermal efficiency.



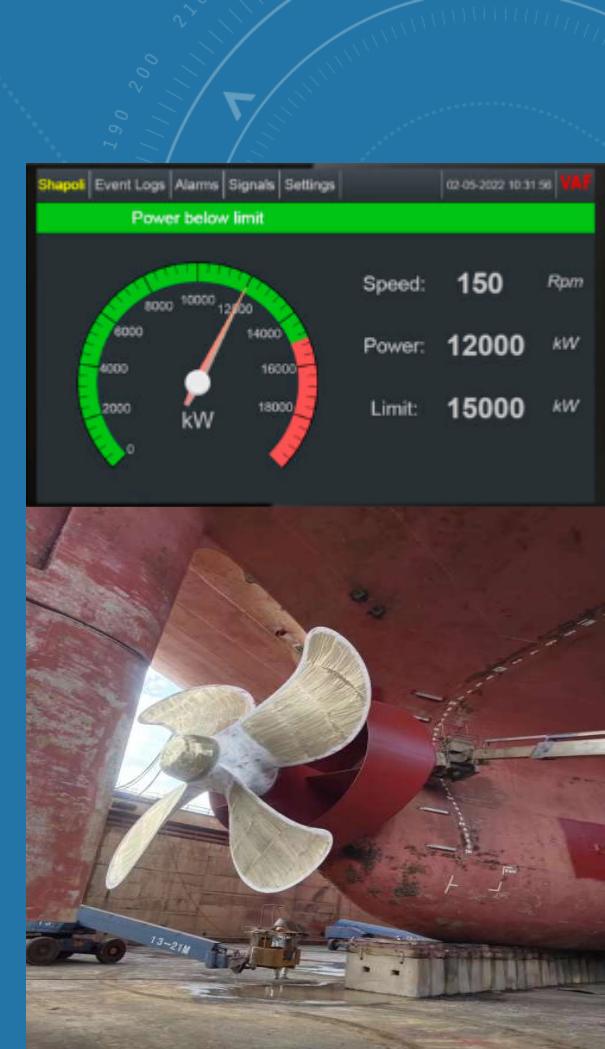


# Energy Efficiency Measures - Technical

- Installation of Shaft Power Limitation (SHaPoLi) systems, where required in the context of the EEXI regulation.
- Installation of Energy Saving Devices on several ships, depending on their design and trading profile, such as Becker Mewis duct, Schneekluth duct, rudder bulb, rudder fins, EBC.
- Use of ultra-low frictional resistance (SPC) antifouling coatings on various ships, depending on the ships' trading profile.
- Installation of Variable Frequency Drives on specific pumps and Engine Room fans.
- LED lighting in accommodation spaces.
- Program for replacement of volumetric flow meters with mass flow meters at various ships.



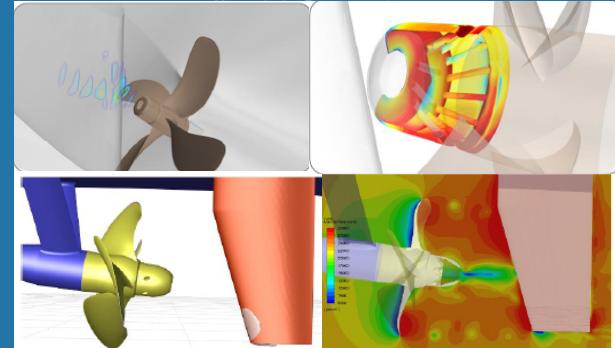
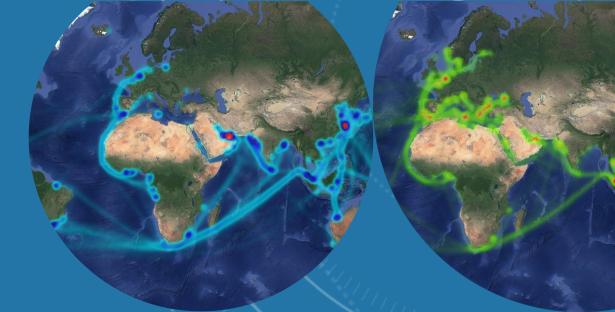
Use of LNG and Biofuels





# TSAKOS R&D Program

- T-PerMOS - development of an in-house weather routing & vessel performance optimization platform utilizing high frequency telemetry data together with first principles and machine-learning algorithms to optimize the energy efficiency of the fleet (in progress).
- Pilot testing of a novel ECO Propeller Boss Cap (EBC), which is custom designed for a vessel, utilises enhanced hydrodynamics to optimise the flow through pressure relief holes, thus improves performance, and reduces fuel consumption and emissions.
- Partners in the EU Horizon Orcelle Project on wind propulsion. Working with NTUA on the development of a feasible wind assistance plan for one of our Kamsarmax bulk carriers.





# Pioneering Work?

Today's Energy Industry participants need to operate like early explorers

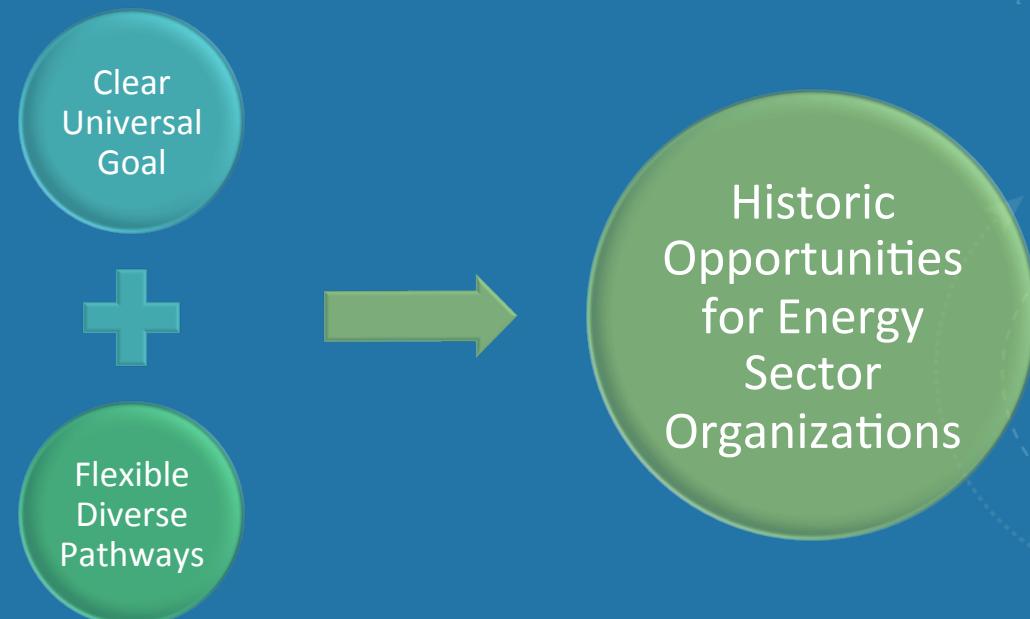
Clear Goal: DECARBONIZE THE WORLD

- Moving forward without a detailed map
- Only a high-level idea of the energy system we are building

SHIPPING has been on a race towards ZERO:

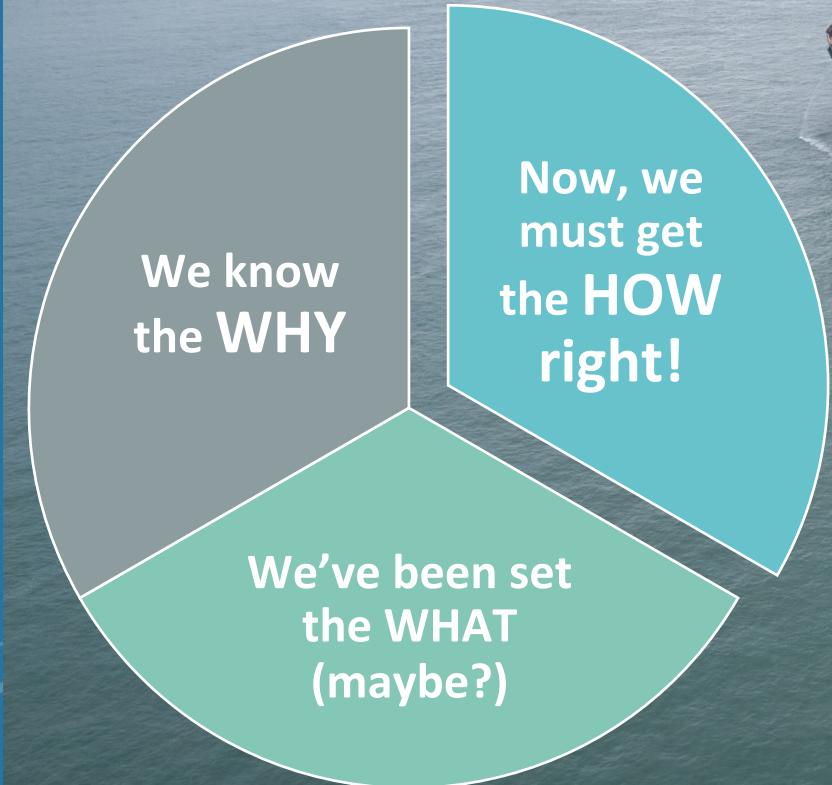
ZERO emissions...

But Regulators must ensure that this does  
NOT mean ZERO margins!





# Thank You!



Prof. Michael Fan  
Chief Technology & Innovation Officer  
E: [mfan@tsakoshellas.gr](mailto:mfan@tsakoshellas.gr)



# Biofuels Consumption Q1-Q3 2025

## BIOFUELS CONSUMED WITHIN Q1-Q3 2025 & EFFECT ON CII

Vessel	BIOFUELS (MT)	Results
PENTATHLON until CoO on 26/03/2025	495 (B30)	<b>CII Rating consuming Biofuel: B → 4.4% reduction</b>
		CII Rating without consuming Biofuel: C
SPYROS K	1000.7 (B24) + 973.4 (B24)	<b>CII Rating consuming Biofuel: C (closer to B) → 3.8% reduction</b>
		CII Rating without consuming Biofuel: C (closer to D)
DIMITRIS P	977 (B24)	<b>CII Rating consuming Biofuel: C (closer to B) → 2.0% reduction</b>
		CII Rating without consuming Biofuel: C (closer to D)
EURO	515.1 (B30) + 1170.1 (B24) + 518.3 (B24)	<b>CII Rating consuming Biofuel: D (closer to C) → 5.7% reduction</b>
		CII Rating without consuming Biofuel: D (closer to E)