
IMO London
11-12 Sept 23
SHIPZERO28
LISW
When, Where, and How is Absolute Zero Shipping Possible Now?
OUTCOMES
10 YEARS
11-15 SEPTEMBER 2023
LONDON INTERNATIONAL
SHIPPING WEEK
ZESTAs.

Situation: Ocean Health and Climate

Richard Hixson

The IMO has ramped up ambition: **zero GHG by 2050, but is this enough?**

The ocean is our biggest hope.

“By absorbing carbon, phytoplankton are our greatest ally in combating climate change” - David Attenborough 2021

Ocean acidified by 33% since 1850 and rising. Cause of extinction and plankton die-off.

Phytoplankton and cetaceans - key to arresting climate change

To stop acidification, we must stop all marine pollution.

Shipowners Challenge


Danielle Southcott

Veer Voyage: disruptive first mover

- Navigating new energy: the emerging hydrogen economy
- Securing long-term contracts
- How to capitalise on carbon credits


William Fairclough

Wah Kwong: traditional bulk fossil fuel carrier

- Fuel availability and distribution
- Commercial viability
- Impact of decarbonization on cargo demand
- Regulatory and Safety backdrop

ZESTAs.

Oceans of Energy:
All shipping's energy needs are at sea

- Offshore wind
- Lhyfe: offshore hydrogen production
- Drift: swarms of wind powered autonomous ships harvesting green fuel delivered at point of use
- Electrolysis is ramping up: Air Liquide with Siemens Energy have 1 GW under construction, current price at 5-7€/kg
- Electrolyser development is global - every continent and every major shipping line
- Developing countries have huge renewable energy potential

Delivering green energy onto ships

Hydrogen supply chain

- Chart Industries has been shipping and storing liquid hydrogen since the 1960s and built 900 out of 1100 LH2 tanks
- Liquefaction plants can be built off the shelf in 2 months - currently at 30 tons/hour and soon at 100 tons/hour - scales up with demand and lowers cost
- Bunkering: Unitrove building flexible, mobile infrastructure to derisk - fuelling as a service business model

Electric charging

- Offshore charging by MJR - TRL8, 2MW for CTVs then 4-8 MW in 2024
- Batteries as a service - Shift's business model - JVs with ports

Ships: We've got the tech onboard and it's getting bigger

- FPS: ZE partnership success story with cargo owner Nike: 1st ship took 4 years, 2nd ship 6 months
- FC production is scaling up
- Shortsea shipping is just around the corner with hydrogen and wind propulsion combined.
- Hydrogen-electric hybridisation to 6.5 MW now, 13 MW tomorrow
- Wind propulsion growing exponentially, class and finance ready

For shipowners: look at what has already been done

Finance: Capital is there

West must partner with Asia and Middle East

Digitalisation and transparency will enable customers and cargo owners to better understand and avoid emissions - but we don't need to wait for data

Specific funding instruments are in place for specific ship types, operations and development stages

Tech enables leasing business models - Containerised modular propulsion solutions to easily switch out ICE for FC, Wind-ready design

Turning Threats into Opportunities

How to scale up fast enough → put pressure on cargo owners

Developing countries feeling left behind → transfer authority and autonomy

Resistance from vested interests in fossil fuels → war on talent, economic interest

Key Takeaways

- Cargo owners are crucial: NHS, IKEA, UPS were in the room - partner
- Partnerships and Joint Ventures for knowledge transfer, learning and win-win cost reduction
- Finance is coming in behind - specific funding exists for all types of projects, operations and development stages, capital is out there, must partner with diverse financiers

Conclusion: Energy in the Ocean, Energy in the Room

Elisabeth Munck af Rosenschöld

“Shipping is all about energy - not only the energy used to fuel the vessels but also the energy we need as people in this industry to keep the momentum and the engagement in the transformational journey that we’re on. This event has given me a lot of energy”

Elisabeth Munck af Rosenschöld, Leading Sustainability in IKEA Supply Chain Operations, Inter IKEA Group