INTERNATIONAL SYMPOSIUM ON THE OCEAN, GREEN SHIPPING AND SUSTAINABLE ENERGY

Institut océanographique de Paris
28-29 April 2011

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Marine transportation meets sustainable development

Navigating the Future of Marine Transportation

" A voyage through future uncertainties "

Peter M Swift

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Mankind's dependence on marine transportation

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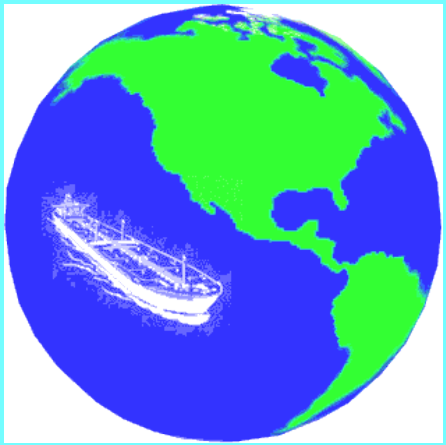
Global dependence on marine transportation



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Sustainable Marine Transportation
Meeting society's expectations - Safe, Reliable, Environmentally Responsible and Cost Effective

With Goals aligned to those of the IMO

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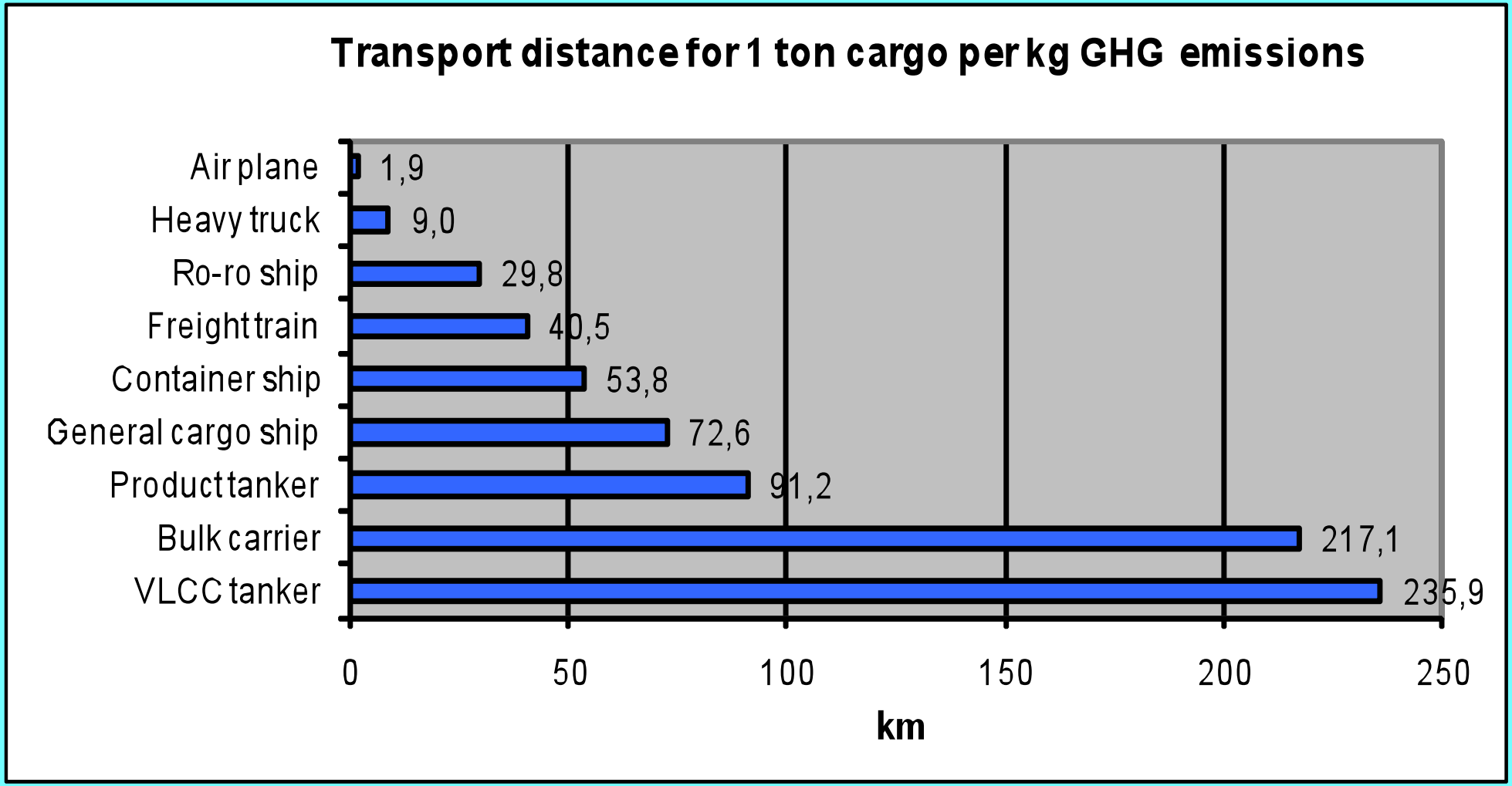
Shipping is energy efficient



Source: Danish Shipowners Association 2009/10

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Navigating the Future of Marine Transportation

Future Uncertainties

- Economic
- Environmental
- Legislative and governance
- Labour
- Representation

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Future Cost-Effectiveness

Scale opportunities:

1. **Maximising designs within physical constraints**
2. **Mega Carriers with fewer constraints**

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Future Cost-Effectiveness

Improved design/operating efficiency

- **More efficient engines ? - *more efficient over wider power range, with a flatter specific fuel consumption curve***
- **Better integration of auxiliary power units ?**
- **More efficient hulls ? – *designed for a wider spectrum of operating conditions***

Driven in part by IMO's Energy Efficiency Design Index – *although conflicting with some of above*

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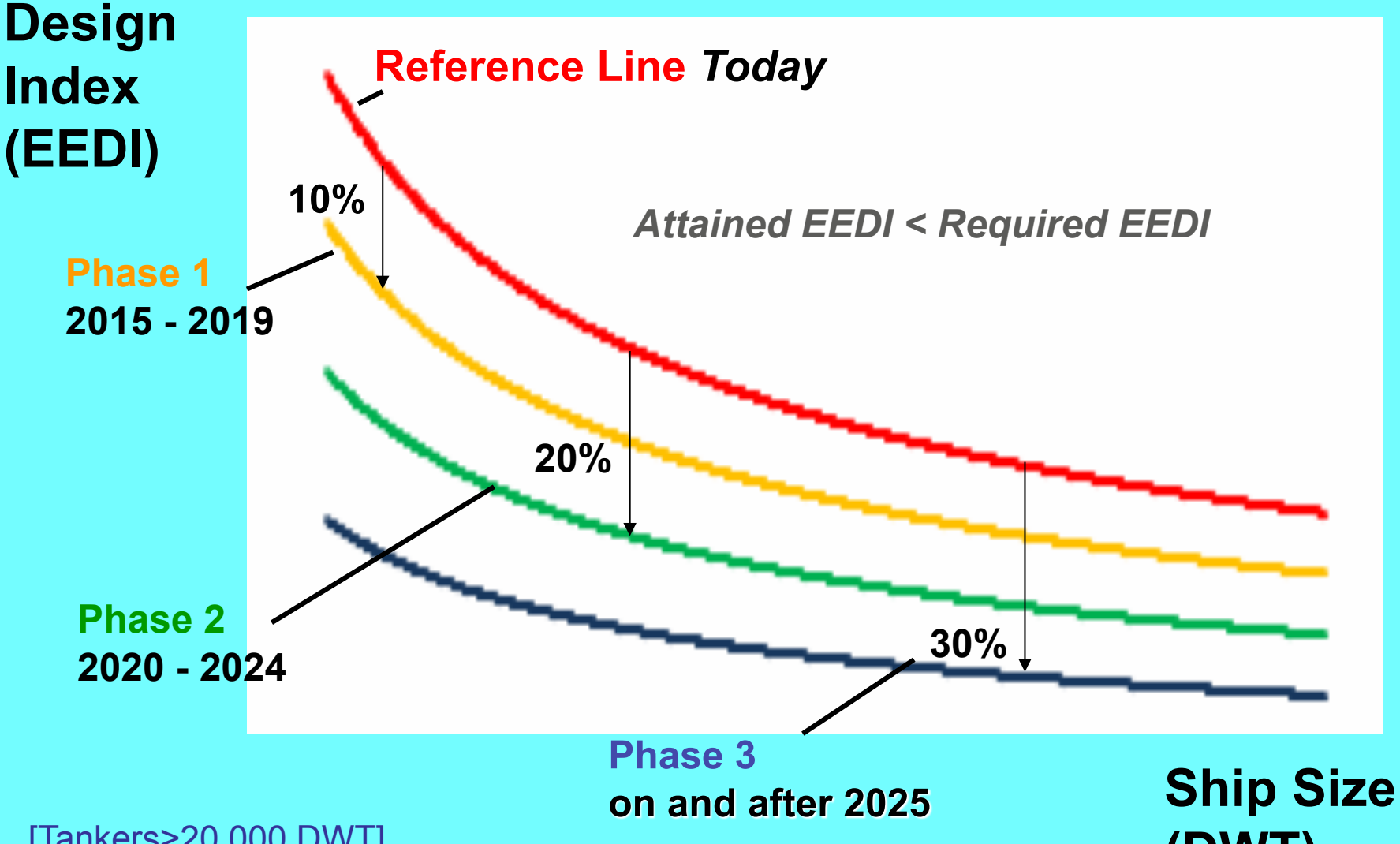
Targetted reductions in EEDI – leading to lower GHG emissions on new ships by 30% by 2025



[Tankers>20,000 DWT]

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Future Cost-Effectiveness

Future Costs

- **Bunker Fuel costs** – ***rising ?***
  - ***Speeds optimised***
  - ***Potential for alternative fuels – LNG ?***
  - ***Potential for Exhaust Scrubbers ?***
- **Port / logistics efficiency** – ***improved ?***
- **Manning** – ***levels reduced ?***
- **Repairs and Maintenance – challenged ?**
- **Ship Price** – ***reduced ?***

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Future Cost-Effectiveness

Shipbuilding

A sellers' or a buyers' market ??

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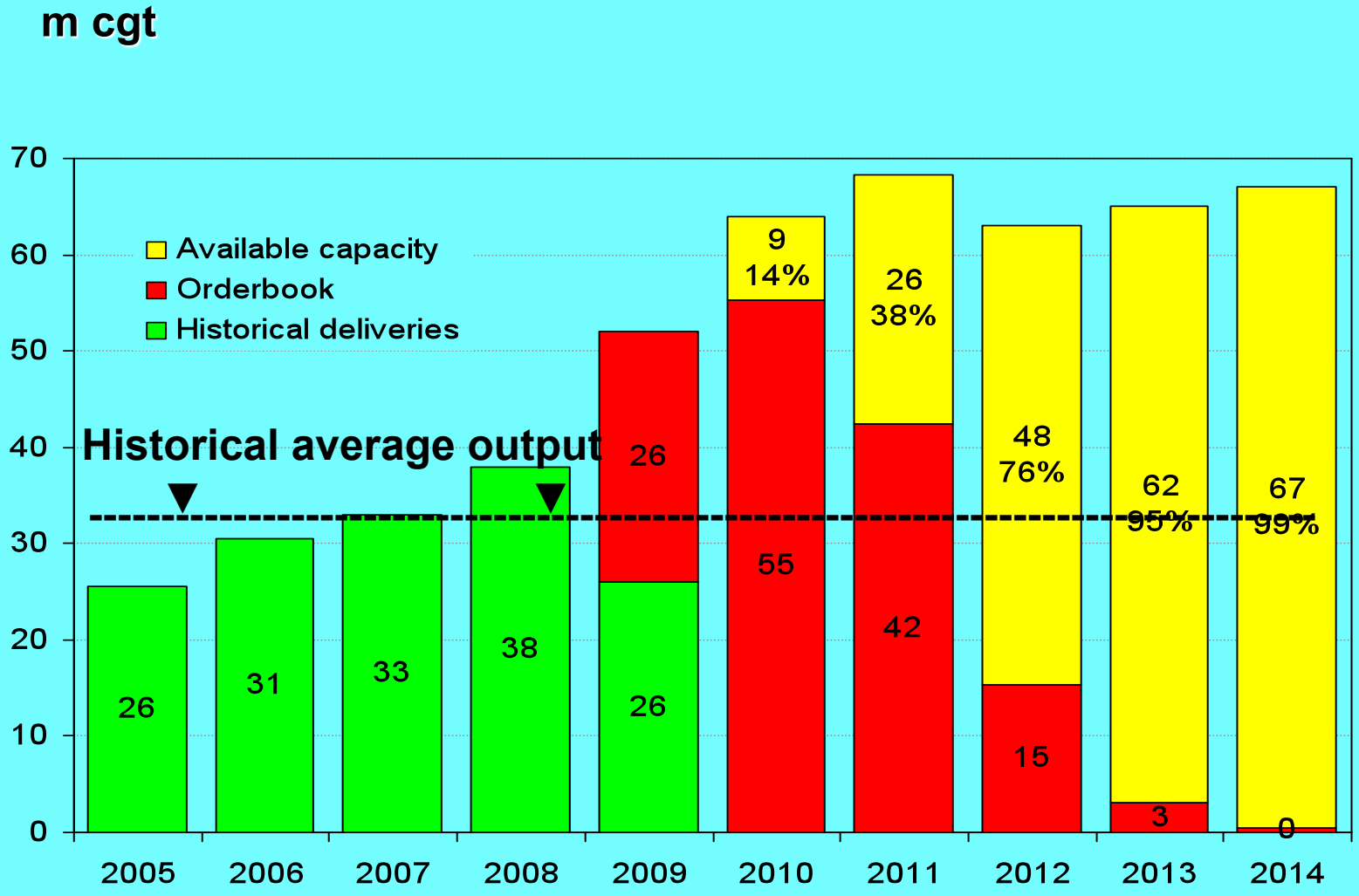
Shipbuilding :
Future capacity surplus ?



Source: Worldyards/INTERTANKO

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Implications of shipyard capacity surplus for years to come ?

- **Lower prices ?**
- **Quality and standards maintained or weakened, and with pressure on suppliers and sub-contractors ?**
- **Greater customer focus & customisation ?**
- **Standardised or customised designs ? (Designed by whom ?)**
- ***Government interventions ?***

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Implications of shipyard capacity surplus for years to come ?

Design implications – *who will drive future designs ?*

Incorporation of features that are not mandatory ?

- **Accommodation and habitability standards – (> ILO: MLC 2006)**, ***including recreation facilities***
- **Personal communications for crews** ***with access to (cost-effective) internet and private communication***
- **Better shipboard training facilities** ***to facilitate development and career enhancement***
- **Anti-Piracy designs and layout**

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Navigating the Future of Marine Transportation

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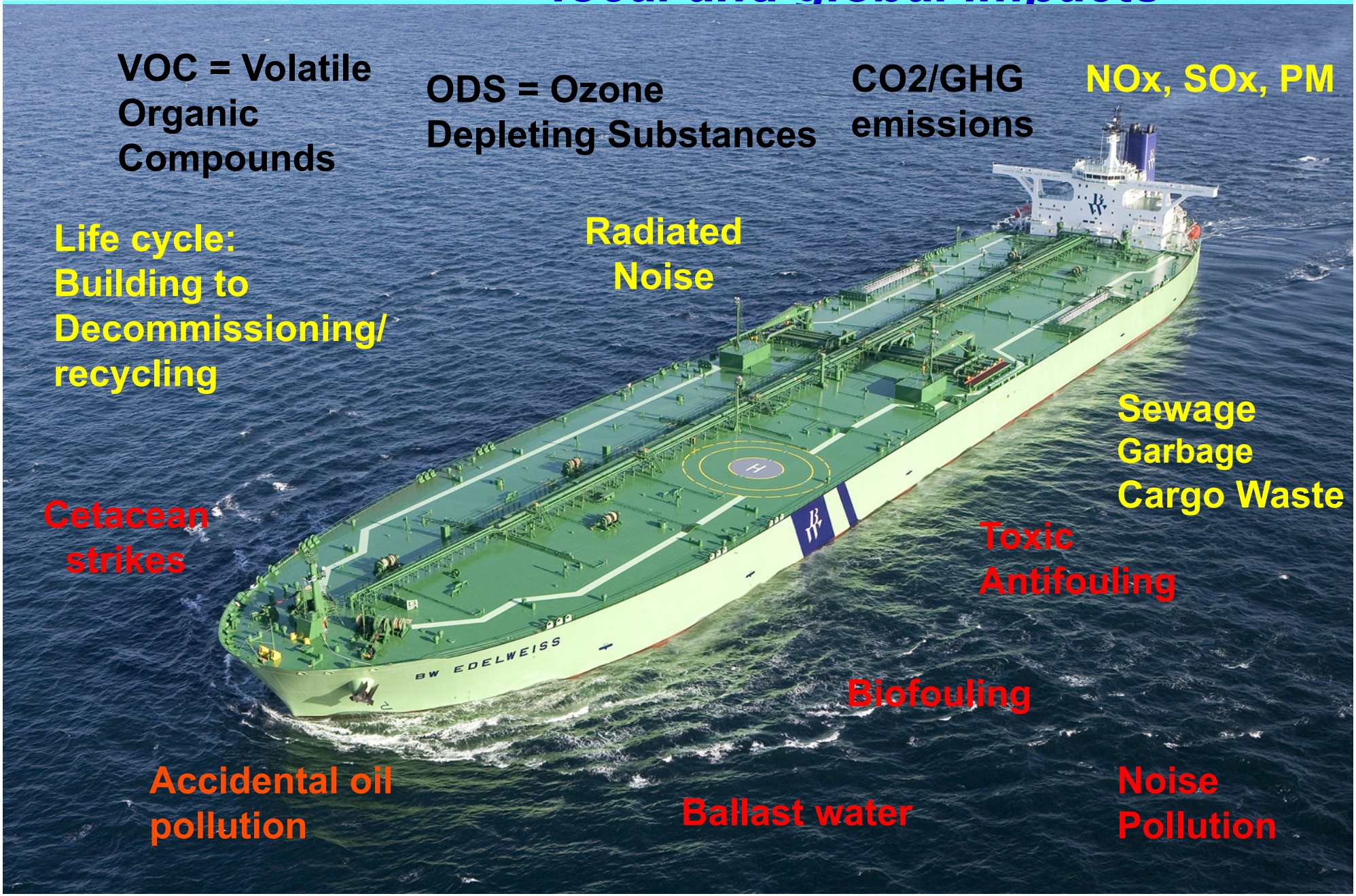
Environmental Challenges for Shipping
– *local and global impacts*



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Environmental Challenges for Shipping

PLUS Challenges to regulate (globally) on the land side

Examples:

- **Reception facilities (adequate and affordable)**
- **Fuel supply (and availability)**
- **Ship recycling HSE standards in breaking yards**

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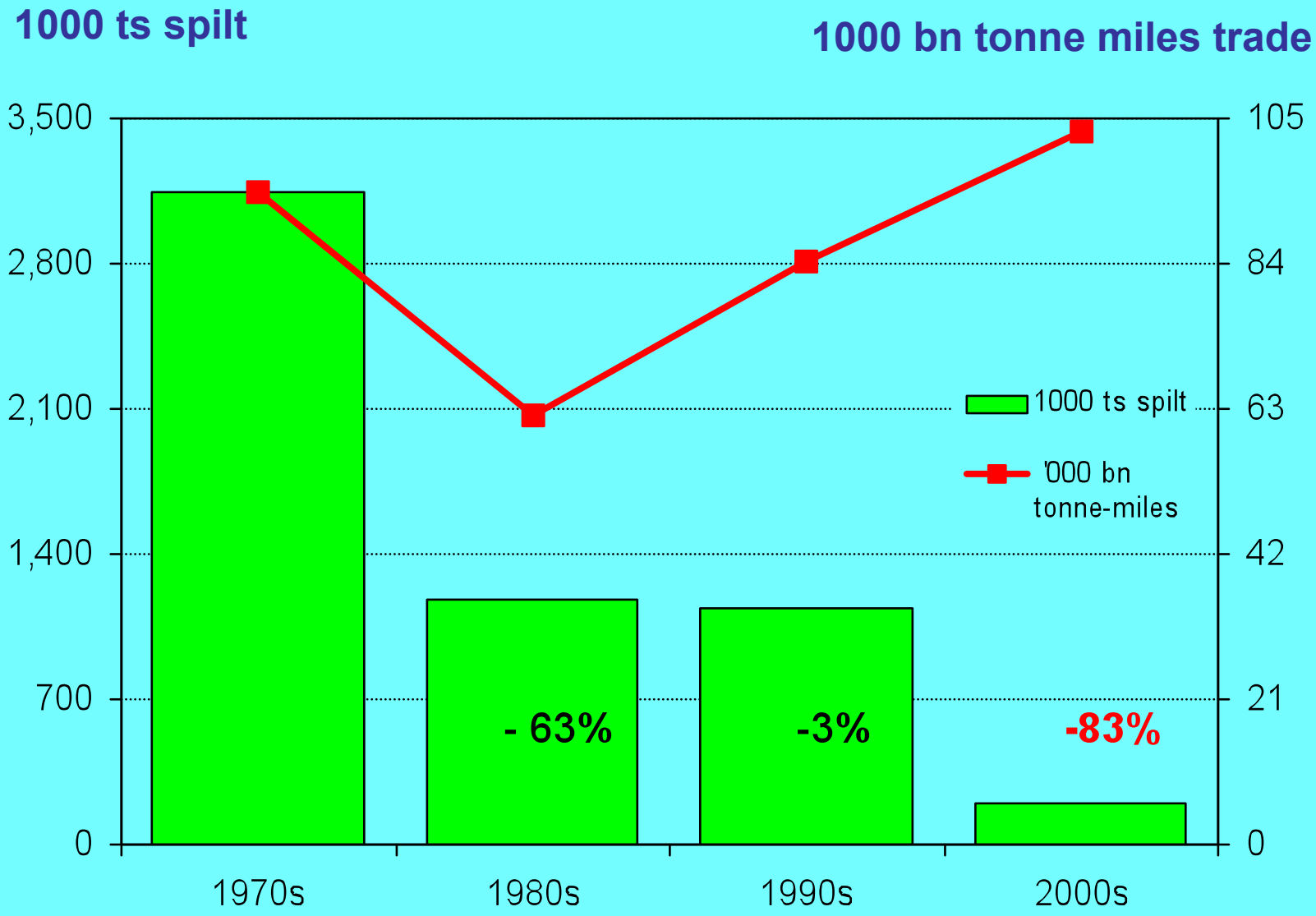
Oil pollution from tanker shipping



Based on ITOPF/Fearnleys

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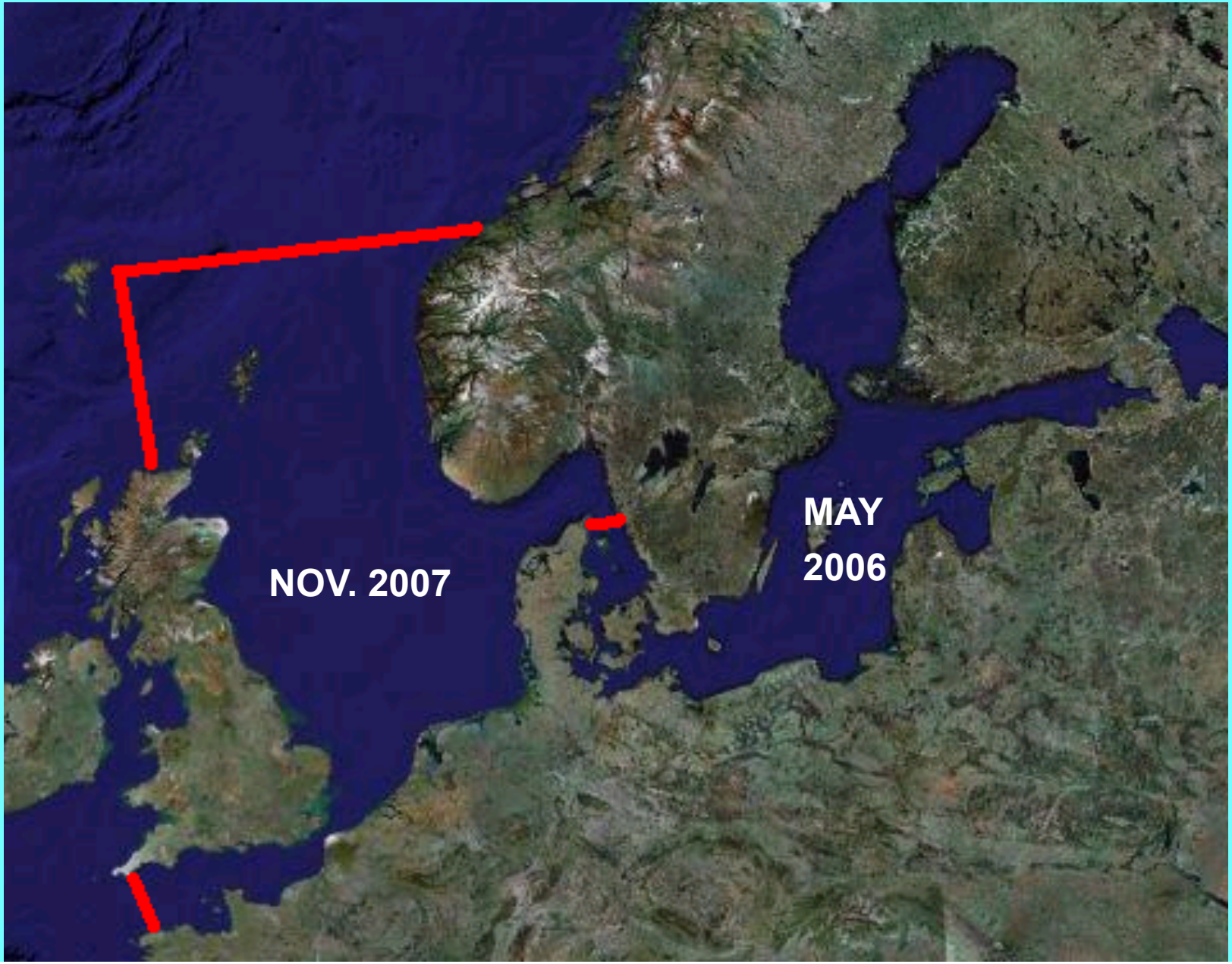
IMO MARPOL Annex VI: Baltic and North Sea ECAs



IMO

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IMO MARPOL Annex VI: North American ECA

IMO

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Will the Shipping Industry remain under an intense spotlight ?

Watched by:

- Regulators
- Politicians
- Public

With Licences to trade rigorously applied by:

- Flag states
- Classification Societies
- Insurers
- Charterers

Monitored by:

- Coastal and Port states

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Global Governance Structures for a Global Industry

International shipping seeks:

- **A consistent framework of rules, regulations and standards, implemented uniformly and applied in the same time frame.**

Why ?

- **To ensure a level playing field**
- **To avoid uncertainty, confusion and complications**
- **To facilitate trade**

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Consistent regulations and standards

– *the ideal world*

- International Regulations (via IMO, ILO, UNCLOS)
- Flag State – requirements, interpretation and application
- Port State Control
- Classification Societies – rules and interpretations
- Liability Regimes
- Civil and Criminal Penalties
- Commercial Inspection Practices
- Operating procedures and manuals – especially for safety critical items

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Consistent regulations and standards – *the real world*

Nationally / Regionally

EU

Commission and Parliament keen to drive regional solutions and legislation – environmental, class, liability, compensation…..

US

Federal programmes historically not fully aligned to IMO conventions, and with individual states prepared to pre-empt Federal legislation……..

Elsewhere

Australasia, Norway et al have introduced local laws – principally environmental

Port State Control regimes not harmonised

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Ways found to accommodate "local" pressures in international regimes

IMO

- MARPOL – opt-out for flag and port states on tanker phase-out deadlines
- Emission control areas (SECAs and latterly ECAs)
- Sensitive and particularly sensitive sea areas
- "Voluntary" member state audit
- Pilotage "recommendations"
- Port State Control – regional regimes

IOPC

- Voluntary supplementary fund

UNFCC

- Common but differentiated responsibilities

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IMO Member State Audit scheme – moving from voluntary to compulsory ?

Aim is to bring consistency and transparency to Flag and Coastal States

Findings and recommendations of the audit to be made public ?

Implementation plan followed through and the results confirmed ?

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Consistent regulations and standards – future challenges

Paris MOU on Port State Control

Port State Control

- regional without international oversight

IACS
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES LTD.

Classification Societies

- through IACS have adopted Common Structural Rules, Unified Requirements and Interpretations, but may struggle to maintain unity

OCIMF

Commercial

- OCIMF's SIRE Programme well respected but also challenged by other regimes, CDI, Rightship et al

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Sustainable Marine Transportation: THE SEAFARER – *our principal asset*

Future Challenges

- **More than just the availability of future resources !**
- **The industry requires well-qualified, properly trained and motivated seafarers**
- **Measures needed to better assess competency, *including training and experience beyond statutory minima* ?**

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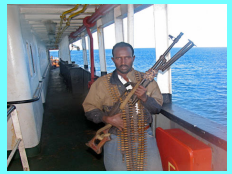
THE SEAFARER – *our principal asset*

Challenges and threats to be addressed to help ensure the welfare and well-being of ships' crews

- **Criminalisation & Fair Treatment**
- **Piracy & armed robbery**
- **Isolation** – ***live at sea to be a close as possible to life at home with access to social media, etc.***
- **On board living conditions**
- **Fatigue**
- **Bureaucracy** – ***including excessive paperwork, - too many inspections, etc.***



2010
YEAR OF THE SEAFARER

A strong case can be made for future rollovers of the IMO's 2010 Year of the Seafarer campaign

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THE SEAFARER – *our principal asset*

The challenges of designs, equipment, systems and operating manuals NOT fit for purpose –especially for safety critical and environmental management items

Examples:
Waste management systems; Oily water separators / oil discharge measurement equipment; Incinerators; Lifeboats; Loading calculators; Cranes and more
Manuals with language issues; incomplete in content; inconsistent in functional scope; and sometimes simply not available

Will more consideration be given to the ramifications <u>for the seafarer</u> of new regulations and legislation at IMO and elsewhere, e.g. ballast water, multi-fuels, emission abatement technologies, etc. ?

The seafarer has to make it work – or risk being penalised if it does not !

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A unified voice for the maritime industry ?

Future focus on “IMAGE” or “VOICE” ?

- **Who will speak for shipping ?**
- **Who will speak for the maritime industries ?**
- **Future consolidation among the representative bodies**
  - **internationally or by region ?**
  - **by sector or by industry ?**

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Marine transportation – a long voyage

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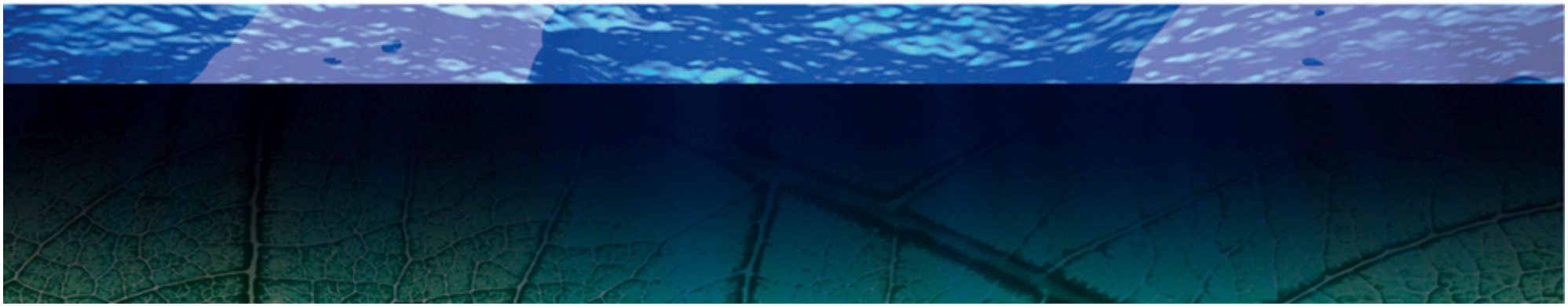
Thank you

www.saveourseafarers.com

www.maritimeindustryfoundation.com



Sustainability: Environmental

Drivers for change

- frequently originate with the concerns of local communities:

- *coastal oil and other pollution*
- *invasive species transfers (including biofouling)*
- *antifoulant (tin) deposits*
- *sewage discharges*
- *sulphur deposition and atmospheric pollution*
- *noise pollution (ship generated)*

- others reflect more regional/global concerns:

- *nitrogen deposition*
- *waste management*
- *HSE standards in recycling yards*
- *greenhouse gas emissions*

Sustainability: Governance

The view of industry:

The shipping industry routinely is self regulating, with standards based on the best practices of the more responsible operators.

The shipping industry generally welcomes soundly based, workable global regulation, but it is must be implemented in a timely manner and applied consistently.

The shipping industry notes that marine legislation frequently places obligations on third parties, including governments and others, in order to be effective.