

Combined Efforts for Safer, Greener and More Fuel Efficient Ships

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About Danish Maritime

- Danish Maritime is a trade organization founded in 1919 for Danish shipyards and maritime equipment manufacturers
- Our members are involved in all facets of the industry – innovation, research, development, production, technical support, repairs and service
- Through policymaking, our aim is to collectively safeguard the common interests of businesses in the Danish maritime industry and to facilitate cooperation with other countries' industry



The Danish maritime industry

- is an innovative and competitive industry
- is at the forefront of creating green technology and maritime safety solutions for all. Many businesses are first movers
- invests in education and know-how for a highly skilled workforce
- supplies components and equipment to virtually all ships in service worldwide

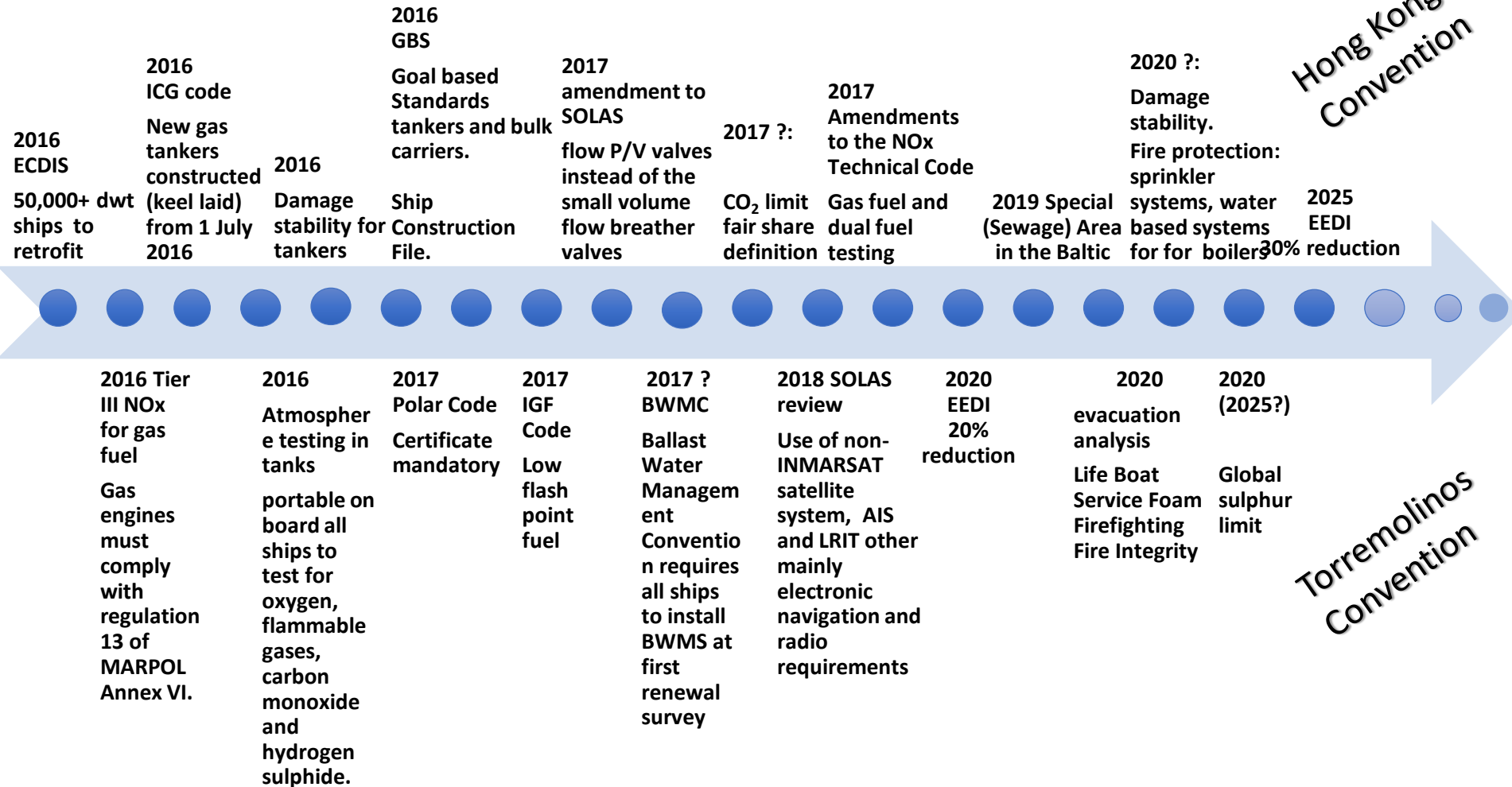


The Global Environmental confrontation

- Climate change poses a major challenge
- Growth in transport intensifies challenges
- Barriers to energy efficient shipping
- New solutions with competitive advantage
- High pace in technology, development and application
- Competing investments in less efficient technology



IMO future rules:



IMO MEPC 70 – October 2016

- Data Collection System for fuel approved.
- Additional CO₂ emissions measures be taken, based on DCS.
- Ballast Water: Entry into force expected 2017
- Sulphur global limit value of 0,5% date to be conformed at MEPC 70
- Decision to revise guidelines for scrubbers.



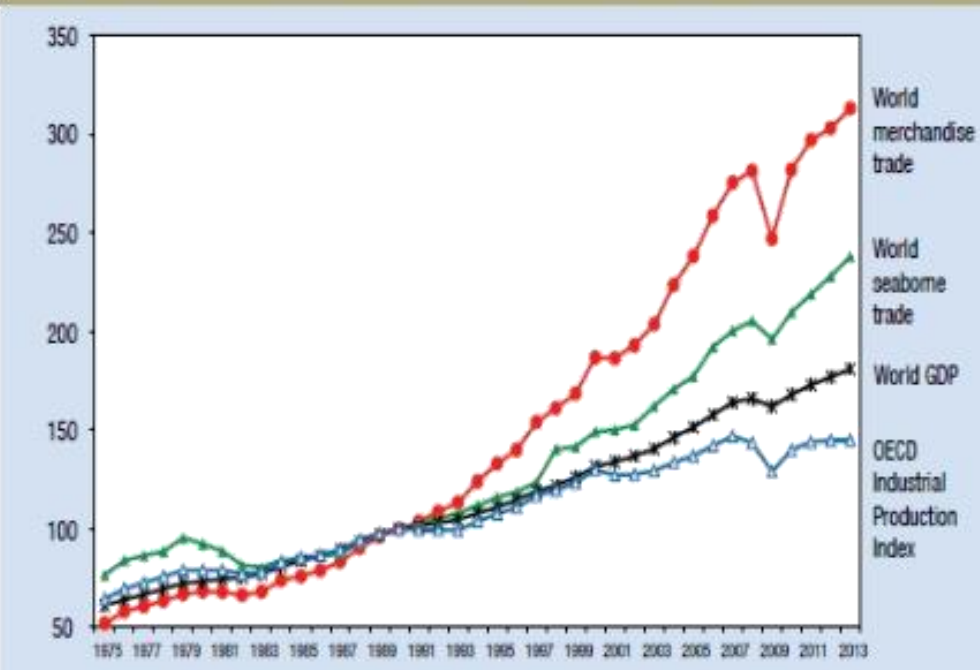
Fuel Prices, Economic Growth and Trade

WORLD ECONOMIC SITUATION AND SEABORNE TRADE TRENDS



delivering freight reliably port terminals

The OECD industrial production index and indices for world GDP, merchandise trade and seaborne shipments (1975–2013), (1990 = 100)



- >90% of world merchandise trade is carried by sea
- Industrial production world GDP, merchandise trade and seaborne shipments continue to move in tandem.
- With demand for shipping services being "derived", the performance of maritime transportation and seaborne trade is largely determined by developments in the world economy and international trade.
- Developing countries are playing a bigger role globally as well as regionally, with deeper South–South linkages and trade integration.

Industry preferences

1. Maintain 2020 entry into force of 0.5% global sulphur limit.
2. Incentives to ensure First Movers being rewarded.
3. New regulations for safety and improved Polar code
4. Green Technology encouraged.
5. Research on sustainable global maritime transport.
6. Increase business innovation, productivity and competitiveness
7. Greater governance coherence, better coordination and less uncertainty
8. Even stronger ties between Danish maritime industry and companies abroad



Technology and Environment

Shipping is a major contributor to environmental impact

Restraint is worthwhile

Fuel saving technology

- competes with alternative investments
- fuel prices fluctuate

Unprofitable technologies

- NOx abatement
- Ballast water treatment

Transition from emerging to mature technologies is getting faster

But implementation of legislation is getting slower.



12.000
ships
30 bio. USD

40.000 MW W
ind Farm Energy
60 bio. USD

Annual CO₂-savings:

100 mio. tons

100 mio. tons

Academia / Industries Cooperation

- <https://www.interreg-baltic.eu/home.html> grant to international research network on green shipping
- Builds on best practice efficiencies from producers to shippers, shipowners, customers, ports, and local communities
- Sustainability expectations are growing in shipping, - together we must explore opportunities for progress





'Green Ship of the Future' is a Danish joint industry project for innovation and demonstration of technologies and methods that makes shipping more environmental friendly.

It was conceived as an industry contribution to the COP 15 in Denmark

A GSF project is

A collaboration between several GSF partners

Presents ambitious goals for innovation

Considers the business case at an early stage

Cutting edge green solutions for and beyond compliance

Its is a Danish initiative but foreign companies have participated in GSF projects and studies

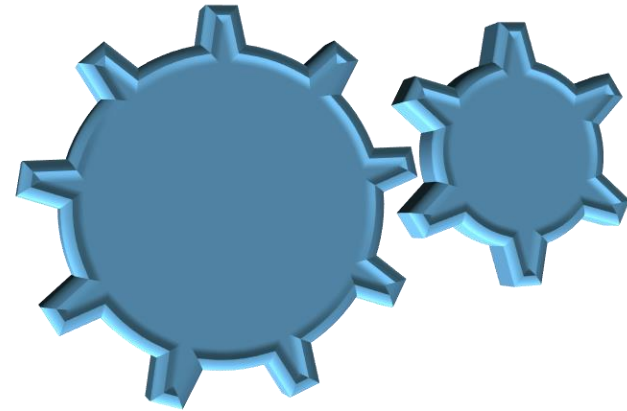


Cooperation Opportunities

- Already strong common focus on maritime technology.
- Future shipbuilding technology projects for greener ships and ships with unique capabilities.
- A cooperation agreement at industry and government level
- Industry events, supplier development tours and B2B meetings.



Thank you!



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