Environmental Benefits of:

A Reliable and Transparent Hull and Propeller Performance Measurement Standard

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Founding Member Clean Shipping Coalition

Hull and Propeller Workshop, London 9-10th May 2013

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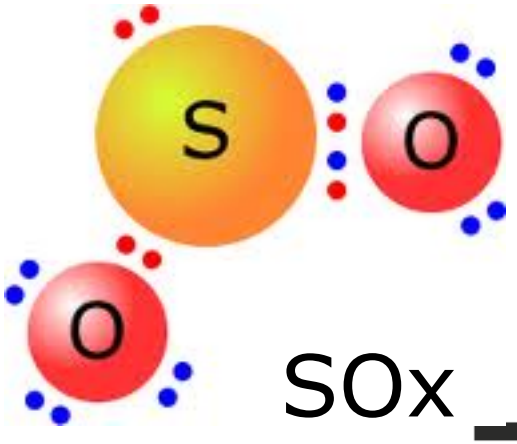
Greenhouse gas emissions

Black Carbon

Why Clean Shipping Coalition raised this issue?

NOx



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Day I Thursday 9 May

09.30 *General Introduction:* Svend Søyland, Bellona Foundation

10.00 Presentation of the ISO New Work Item Proposal – Geir Axel Oftedahl, Jotun Hull Performance Solutions

11.00 Status on, and the way forward for, the New Work Item Proposal at ISO, Mr Koichi Yoshida, Chairman ISOTC8SC2 and Knut Aune, Standards Norway

- **Coffee Break**

12.00 *Tiered approach- what are the relevant tiers in a Hull and Propeller Performance Measurement Standard?* Trevor Solomon, International Paints

12.30 *Moderated workshop discussions*

- Refining details of purpose how to use,
- High level requirements to each part of the standard (given purpose)
- What are the implications of the tiered approach on these requirements?

13.00 LUNCH Jamie's at Minories River House, Function Room

16.45 End of day 1

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Day II Friday 10 May

- 9.00 Summary of day 1 and agenda for day 2

- *09.30 Presentations of, and discussions on, current approaches to measuring hull and propeller performance, including their applicability to different parts of a Hull and Propeller Measurement Standard.*

- Lucy Aldous, IMarEST: *Method for establishing Fuel Savings*
- 15 minute presentations
- 15 minute discussion

- 13.00 Concluding discussions

- 13.30 End of day 2

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Introduction to second workshop

Background –

- Reduce the carbon footprint of the maritime industry
- Find pragmatic climate solutions
- Lack of transparency hampers innovation and a level playing field

- Work so far: MEPC submissions IMO side-event , Oslo workshop, GIST 2013 Hamburg, London workshop

- Next: ISO Ballot in late May, ISO Technical Committee 8 Meeting in Oslo “Starting the clock”, Lloyds Maritime Academy

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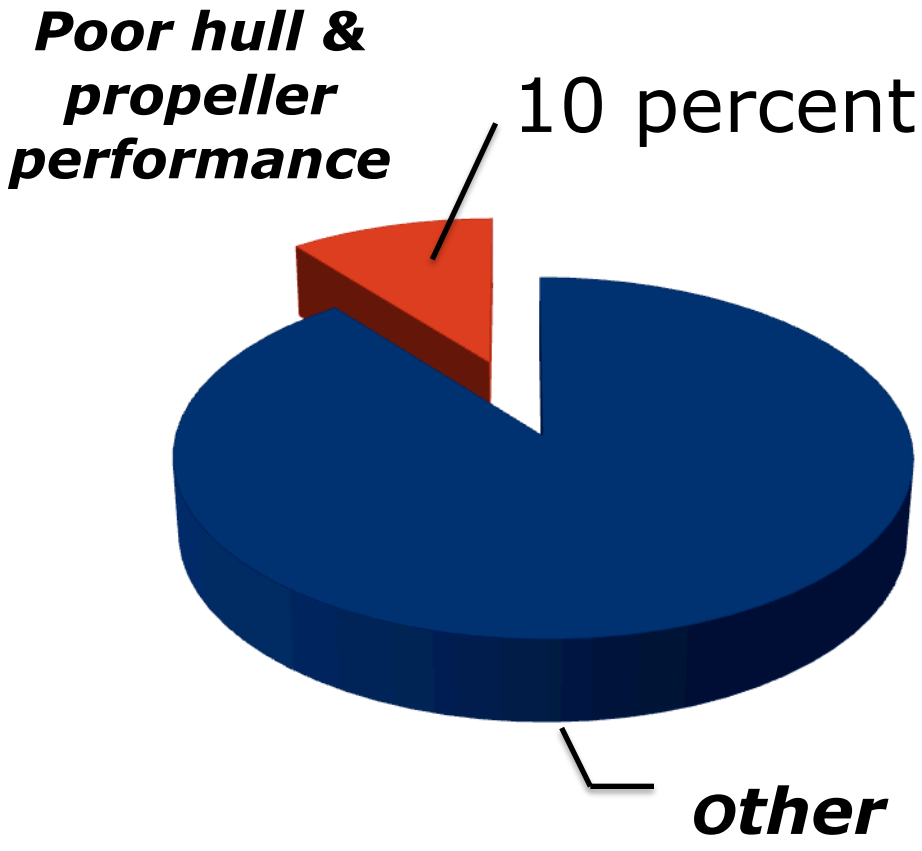
Oslo workshop conclusions

- Measuring hull and propeller performance would offer both economic and environmental benefits.
- Dual purpose of enabling performance based contracting and inter-company reporting and learning.
- All performance monitoring technology companies able and willing to establish support for a standard in their systems and solutions.
- Tiered approach to reflect different levels of accuracy and thereby increase the general applicability of the standard. Strike a balance accuracy and general applicability.
- Purpose of this standard would be to establish a reliable method of measuring ships against themselves.
- It **not** intended to create ranking of ships within classes, nor to be a precursor for regulations by governments or international treaties.

Future role of this informal group

- Do we have a mandate?
- Increase comfort level
- Reflect priorities of all relevant stakeholders
- Solve methodological issues for TC8

Hull and propeller performance – key to improving ship efficiency.



- **1/10** of world-fleet energy costs and GHG emissions.
- Implications:
  - ~$30 billion increase in energy cost
  - ~0.3% increase in man-made carbon emissions

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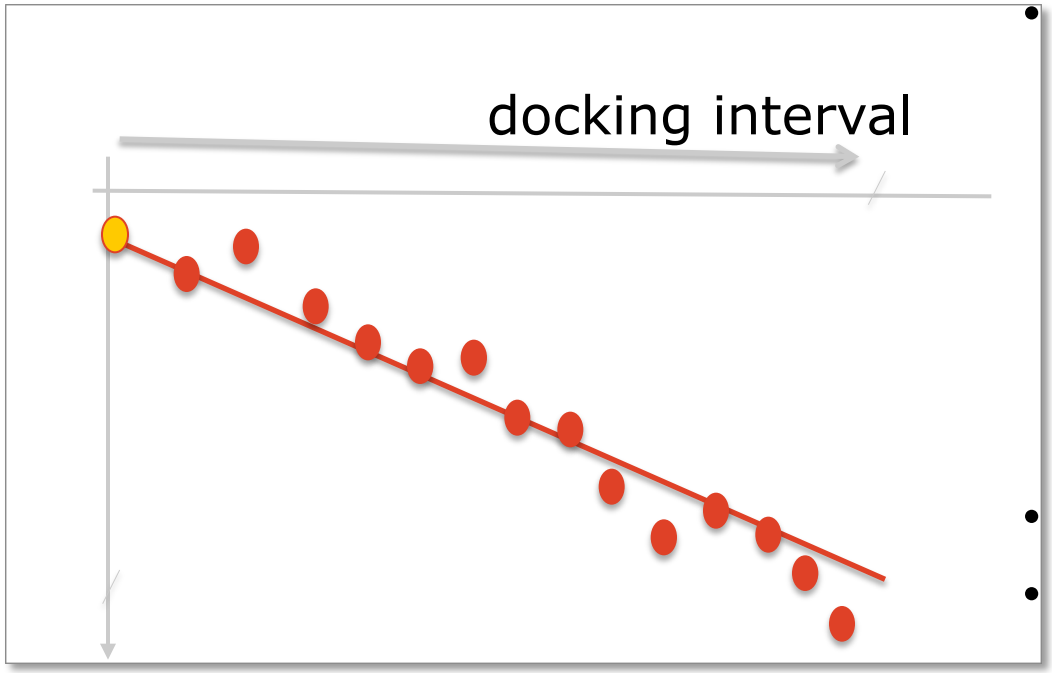
Performance drop: bio-fouling & dings.



- Average over period drop in propulsion efficiency caused by bio-fouling and mechanical damage:
  - Marintek: **~ 15%**
  - Jotun (avg. 60 months): **~18%**
  - Propulsion Dynamic (tankers): **~ 20%**

- **CSC in MEPC 63-4-8:**
- 15 to 20% loss in propulsion efficiency → **9 to 12%** increase in energy cost and GHG emissions.

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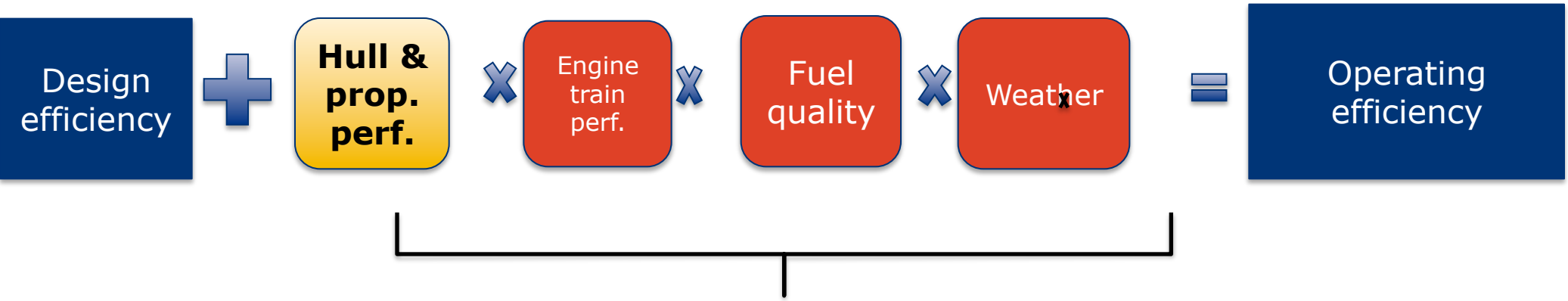
Performance-enhancing technologies, products and solutions are available. Why still poor performance?



SEA TRIAL/ EEDI

SEA MARGIN / NOISE

ACTUAL CONSUMPTION/ EEOI

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Thank you

http://www.bellona.org/articles/articles_2013/propeller_workshop