



MARPOL-2020

Industry Perspective

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Background

- 1997 ... 2008 ... 2015 ... 2016 ... **2020 ... 2025 ... 2050**
- **Options**
 - **LSFO**
 - **Alternative fuels**
 - **Scrubbers**
- **Perspective ... 2025 looking back**
- **More questions than answers**
- **The “right” side of the debate, in my view, embraces a future for shipping that minimises contamination of either the air or the oceans, and prioritises the health of seafarers – while remaining financially sustainable.**



The case for LSFO

Question 1 – How much?

- *Widely divergent estimates*
- *\$24-\$60bn per annum?*
- *\$6000-\$18000 per day?*
- *As 2020 approaches, we should get a better idea*



Question 2 – Who pays?

- *Refiners?*

Development costs \$1bn per plant?

- *Ship owners?*

Fuel costs, vessel values, operating efficiencies

- *Freight-owners?*

Sharing, stability of service, ability to feed costs through to broader global economy

- *Governments?*



Question 3 – Scrubbers?

- *Breakeven - Will the LSFO premium justify the investment?*
Spike, sustainability, what about 2025
- *How prevalent?*
About 10-15% of the world fleet
- *Permissibility in key ports (open loop)*
Dumping into the sea vs emitting into the air
- *Disposal options (safety and seafarer health)*
- *Wrong side of the argument*
Favour low HFO, high LSFO – opposite to the IMO objectives



2025 looking backwards

- *“New new” of low emission emphasis*
- *Non-availability of HFO – trend towards LNG*
- *Ship design and propulsion technology advances (propulsion, automation)*
- *Price stability (excl. oil price speculation)*