Marine Fuel Standards Now and in the Future: What Can We Expect?

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Overview

• MARPOL Annex VI
  – Current & future fuel standards
  – The North American Emission Control Area
• Climate
  – What can we expect the IMO to do on climate and how will this effect the trans-oceanic trades?
• Will new technology and fuels change the game?
MARPOL Annex VI

- MARPOL Annex VI
  - International Convention for the Prevention of Pollution from Ships
- 6 Annexes to Treaty
- Annex VI: Air Emissions from Ships
  - Regulates NOx, SOx, PM, and other pollutants
  - Adopted in 1997
  - Entered into force 2005
  - New fuel standards adopted in 2008
  - Standards effective in July 2010 and later
New International Standards

New Standards are significant

**Fuel Sulphur Limits** (SOx and PM):
- Current standards: 1% in ECAs & 3.5%
- 2015: ECA limit falls to .1%
- 2020: Global cap falls to .5%
  - subject to review in 2018

New engines:
- Tier 3 NOx Standards: 80% reduction from Tier 1 in 2016
  - Geographic standard – applies in Emission Control Areas (ECAs)

- **California** stnd. at 24 miles, falls to .1% in 2014, then sunsets with introduction of .1% MARPOL limits
Questions begin in 2015

• Costs are already notable, but will be far greater in 2015;
• While significant, the costs should be uniform across competitors*.
• Requirements to burn cleaner distillate fuel in ECAs will lead to significant costs when compared to residual fuel bills, but cost is limited to the operating time within a given ECA.
What Can We Expect in 2020?

• In 2020 MARPOL calls for all marine fuels used across the globe to meet a .5% (5000 ppm) sulphur limit.
• Subject to availability review to be concluded by 2018.
• If implemented, the costs will be massive.
• Large ocean carriers would encounter a multi-billion dollar annual increase in fuel costs.
• Benefits – if compared to more focused geographic standards – likely to be very low.
Current Discussions at the IMO

- Shift in the debate to focus on what practical measures may be taken in the existing fleet.
- Consideration being given to the development of efficiency standards for the existing fleet.
- What does this mean and what are the trade implications?
- Will we see a fuel levy applied in the marine sector?
## The IMO Climate Debate: Potential Impacts on Trade

### Different Proposals at the IMO:
- New-Build Standards
- Operational Efficiency standards for the existing fleet
- Fuel levy
- Emissions Trading

### What are the challenges?:
- How do you design a standard that is equitable among different ship types?
- Do you create a de-facto speed limit?
- Does the system in fact reduce emissions or just generate money?
- Potential to drive incremental increases in air, rail, and road traffic
CO2 Generation in the Global Supply Chain

- Marine transportation accounts for some 2-4% of total anthropogenic CO2 emissions worldwide.

- Generation in the transoceanic leg is tremendously low when compared to rail and truck

- Ship sizes are increasing – in some cases dramatically, further improving the economy of scale and CO2 generated per TEU/mile.
How will new technologies and alternative fuels impact the market?

**Technology:**
- Exhaust gas scrubbing technology;
  - wet systems
  - dry systems
- Improved engine design;
- Improved vessel designs; and
- Vessel speed.

**Alternative fuels:**
- LNG;
- Methane;
- Other …
- ECA fuel costs after 2014 will be very significant.

- Enforcement will be key to maintaining a level playing field for the commercial sector.

- Global distillate standard (2020 / 2025), if implemented, would change industry costs dramatically.

- Efficiency standards for the existing fleet now under consideration. Implications for trade will depend on the nature of the standards to be adopted.