



Intergroup on Sustainable Development Strasbourg 23rd May 2007

Air Emissions from Shipping

The German Perspective



Policy Considerations

In particular aim at:

- Address environmental need → ambitious standards with best environmental net benefit
- Simple rules easy to comply with by shipping industry
- Easy to enforce by authorities
- Long term predictability and sufficient lead time for all industries involved



SO_x

Which way to go?

- SECA Concept
 - Expansion and strengthening as short term solution
- Introduction of Fuel Oil Specification
 - Minimum Fuel Quality Standard
 - Change to distillate fuels globally as long term solution



NO_x

New Builds:

- **Tier II from [2010]:**
 - 20-30% reduction from current Tier I by in-engine control
- **Tier III from [2015]:**
 - up to 40/50% making use of optimized in-engine control depending on engine size and design or
 - up to 70 – 90 % making use of after treatment technology and/or
 - NECA Concept



Existing Engines

Existing Engines

- Problem: long life of engines 25 – 30 years average
→ slow change over to new generation

Possible Options:

- Requirement of Tier I standard **for NOx**
 - but: verification and retrofit necessary
 - need to identify possible engines for retrofit
(DK/D initiative for BLG Intersessional planned)
- **or SOx, PM and NOx: fuel oil specification → use of distillates**



Particulate Matter (PM)

How to address Particulate Matter?

- Still a challenge!
- What is technologically feasible?
- Sulphur content decisive
- Introduction of fuel oil specification necessary
- Use of distillates reduces ashes and heavy metals in PM significantly



Fuel Oil Specification

Key Fact!

- Shipping is the only mode of transport with no concrete fuel oil specification with a view to the environment so far (e.g. ISO 8217 only max. values of sulphur and ashes)



Why make cleaner fuel sense?

Holistic view: why do we think that cleaner fuel makes sense?

- Many advantages as regards environment and ship operation
 - low Sulphur Content: less SO_x Emissions
 - less ashes and less heavy metals : less PM Emissions
 - better performance of after treatment technology, indirectly less NO_x Emissions
 - less emissions by existing fleet without retrofit
 - less CO₂ emissions by shipping



Why make cleaner fuels sense?

- less bureaucratic burden for compliance control for administrations
- less maintenance cost and burden
- less sludge and other oily wastes
- less abatement technology on board necessary



...holistically seen

- Refineries are included in an Emission Trading Scheme
- Pre-heating and fuel separation processes on board not needed
- Energy for de-sulphurization of residual fuels not needed
- Residuals should be used or disposed off land based
 - easier to handle in an environmentally sound way



...another positive side effect

Less heavy fuel oils transported by ships

→as cargo

→as bunker fuel

**Effect: reduction of risk of heavy fuel
accidental oil spills such as Prestige,
Erika or Server**



...important

- **Availability for cleaner fuels, i.e. distillates**
 - Lead time decisive
 - responsibility of mineral oil industry to contribute
- **Competition not to be disturbed**
 - global regulations
 - strengthen IMO as regulatory body for shipping



Next steps

...all to be considered at the

International Maritime Organisation

- MEPC 56 from 9th - 13th July 2007
- possibly: BLG Intersessional Oct./Nov 2007 hosted by Germany
- BLG 12 March 2008
- MEPC 57 April 2008 (Approval)
- MEPC 58 October 2008 (Adoption)

Thank you for your attention!