



Shipping and the Environment

Energy supply and shipping scenario's

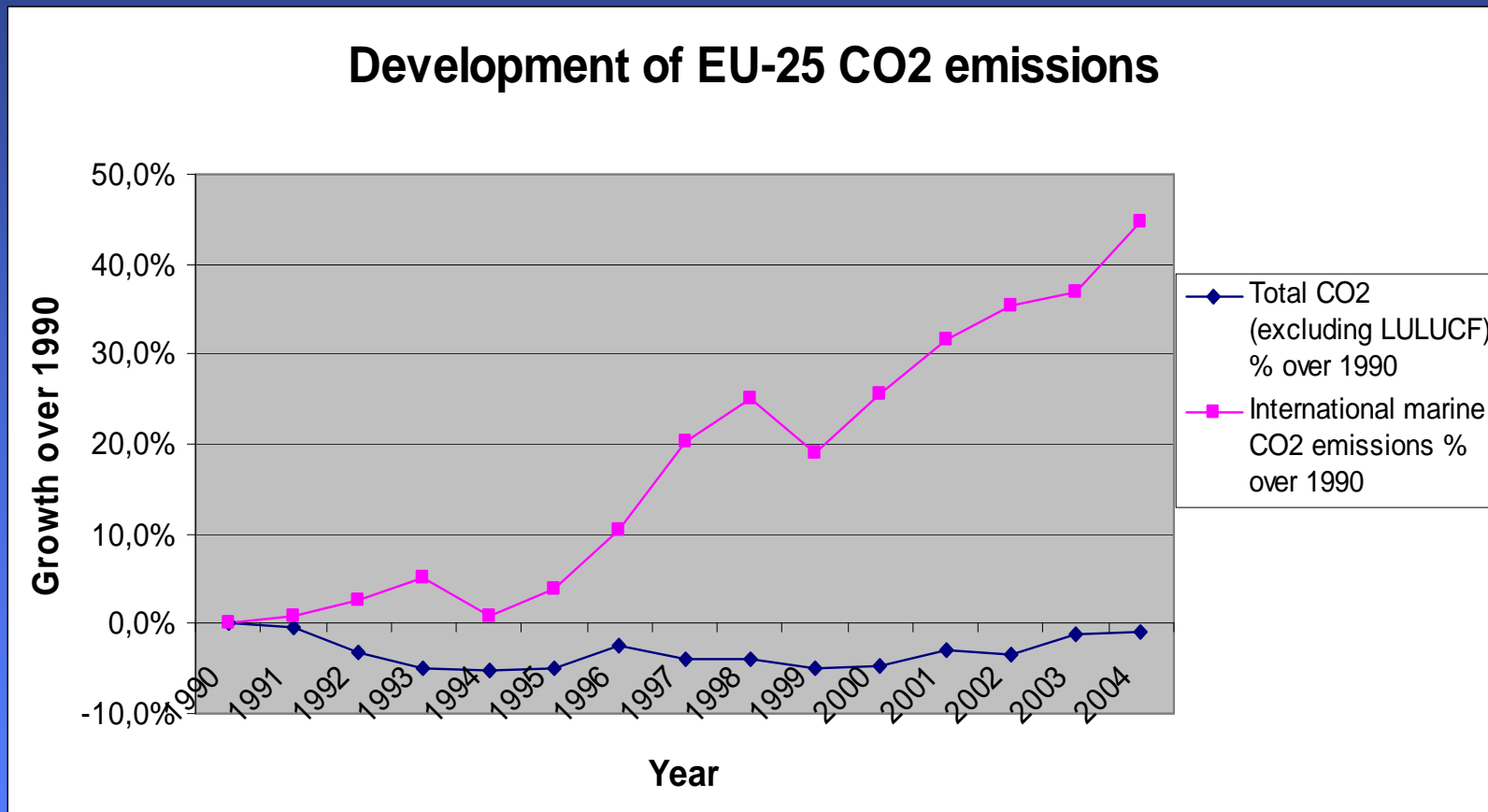
Amending EC sulphur in fuel directive
State of play on GHG emissions from ships

DNV seminar, 8 June 2009

Hans Meijer
European Commission



The case for reductions from ships





Brief policy history

- **Maritime emissions strategy (2002) and Thematic Strategy on Air Pollution (2005) calls for reduction of SO_x, NO_x and CO₂**
 - **European Parliament and Council endorsed the objectives, asking the Commission “*not to wait for IMO to take action*” after 2004/2006**
 - **Commission preferred a global solution**
 - **In 2008 IMO agreed amendment to MARPOL Annex VI; no results yet or soon to be expected on CO₂**
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IMO agreement (1)

- **IMO MEPC 57 agreed in April 2008 to amend MARPOL Annex VI, adopted 10 October 2008, entry into force 1 July 2010**
 - **NO_x emissions (new ships only!):**
 - 15-22% reduction as of 2011
 - 80% reduction (regional basis) as of 2016
 - **NO_x emissions ships built between 1990 – 2000: upgrade to tier 1 *if available***
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IMO agreement (2)

SO_x emissions (cars/trucks/inland ship. 0.001%):

- **1-7-2010: in SECAs (regional) reduction to equivalent of sulphur in fuel level from 1.5% to 1.00%**
 - **2012: Global cap from 4.5% to 3.50% (av 2.7%)**
 - **2015: In SECAs from 1.00% to 0.10%**
 - **2020: Global cap from 3.50% to 0.50%
(tech. equivalent allowed/review 2018 – 5 y delay)**
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Commission planning

- Proposal to amend Directive 1999/32/EC on sulphur in fuel mid next year.
- Studies ongoing: Refinery impacts, costs/benefit & general issues; possible influence on mode shift.
- Formal stakeholder consultation early 2010
- Adoption by EP and Council 2011?



Scenario's considered

- Should NO_x Emission Control Areas be included in this Directive?
- Is there a case for a SO_x – ECA in the Mediterranean or in the Black Sea?
- Lower S levels for fuel oil and gas oil used in land based installations



Preliminary results studies

- **Study on general issues does seem to indicate possible problems with fuel changeover from HFO to 0.1% sulphur for ships at berth as of 1-1-2010.**
- **Study on impact on EU refining industry confirms that IMO bunker fuel specification changes are a challenge to the refining industry Investment requirements will probably exceed previous product specification requirements.**



More preliminary results refinery

- **Compared to investments foreseen and already needed:**
\$ 13,2 billion additional in 2015
\$ 16,7 billion in 2020.
 - **Increase CO₂: 6.9 MT (2015) or 5%**
 - **Increase unit operation cost 1-4% (\$ 0.04 – 0.13/barrel)**
 - **Price increase 0.1%: \$250 - \$300 per tonne**
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Greenhouse gas emissions from ships



Key background GHG

- **Preference for global measures**
- **No decision on European action (but under evaluation/preparation)**
- **Strong political support for action**
- **Package of measures necessary**
- **Environment and Transport Council**
Conclusions – agree measures in 2010, adopt measures in 2011, entry into force 2013



‘Climate and Energy’ Directives (December 2008)

- **The European Council ... commitment to reduce GHG emissions by at least 20% below 1990 levels by 2020, and by 30% provided similar engagement other developed countries**
- **By 2050, global greenhouse gas emissions should be reduced by at least 50% below their 1990 levels.**



‘Climate and Energy’ Directives (December 2008)

- **All sectors of the economy should contribute to achieving these emission reductions, including international maritime shipping and aviation.**
- **Aviation is contributing to these reductions through its inclusion in the Community scheme.**



‘Climate and Energy’ Directives (December 2008)

- If no agreement at IMO or UNFCCC has been approved by the Community by 31 December 2011, the Commission should make a proposal to include international maritime emissions according to harmonised modalities in the Community reduction commitment with the aim of its entry into force by 2013.**



Towards a global agreement?

- **Clear preference but issues remaining are:**
 - **IMO ‘no more favourable treatment’ vs UNFCCC ‘common but differentiated responsibilities’**
 - **Engage countries outside Europe**
 - **Costs** - allocation?
- acting late = higher reduction + costs
 - **Reduction targets?**
 - **EU Policy: limit global warming to 2 degrees**
 - **Timing (new convention through IMO → 10 years!)**
 - **Fairness – other sectors act since 2005 (2012)**



UNFCCC negotiations

- **Launched in December 2007 – Bali Roadmap**
- **Comprehensive post 2012 Climate Change regime**
- **Scope:**
 - **Enhanced commitments / new commitments**
 - **Mitigation**
 - **More states**
 - **Financing**
 - **New gases,**
 - **New sectors**
 - **Adaptation**
 - **Legal issues**
 - **Response measures**
 - **Flexible mechanisms**
 - **Reporting**
- **MEM, G8**



IMO Process

- **Excellent report in 2000**
- **MEPC 55 – MEPC 59**
- **No reporting**
- **Operational index – voluntary**
- **Best Practice**
- **Management Plan**
- **Energy Efficiency Design Index formula**
 - **Application?**
 - **Legal instrument?**
 - **What reductions**
 - **Which vessels?**



IMO Process

- **Market Based Measures**
 - **First discussion at MEPC 59**
 - **ETS / Levy**
 - **Link to carbon price**
 - **Registry**
 - **Reporting of fuel purchased / fuel used**
 - **Port state control**
 - **Economic incentive**
 - **Offsetting 'gap'**
 - **Fund (destination / management)**
 - **Differences**



Comprehensive action on transport

- **All sectors need to make a contribution**
- **Comprehensive (and fair) approach**
- **EC action on transport GHG**
 - **Aviation proposed 2006, agreed 2008**
 - **Fuel Quality Directive proposed 2007, agreed 2008**
 - **CO₂ and cars proposed 2007, agreed 2008**
 - **Car Labelling (under preparation)**
 - **Heavy Duty Vehicles (under preparation)**
 - **Maritime Transport (if required)**



Regional action

- **Sub optimal solution – preference for global measures**
- **More difficult to design/implement than global action**
- **Less effective**
- **No distortion of competition**
- **Not disadvantage EU maritime interests**
- **Step towards ‘global’ action**



Study EU Policy Options

- **5 selected from ‘long list’ of 27**
- **Detailed design and analysis in second stage of study**
- **Selection criteria: Environmental effectiveness, cost effectiveness, legal analysis, ‘implementability’**



Options selected

Selection:

- **Emissions trading,**
- **An emission tax (levy) with hypothecated revenues.**
- **Mandatory operational efficiency index or design index.**
- **A baseline and credit system, including differentiated harbour dues.**
- **A 'package' including operational improvements, technical improvements, speed reduction, voluntary actions, R&D funding to improve maritime infrastructure, ships and innovation.**



Conclusion

- **Preference / need for global measures**
 - **Compatibility of MBM with technical / operational measures – package of measures**
 - **All that is required is a fair contribution from shipping**
 - **Prepare for a mixed solution – UNFCCC / EU / IMO / US**
 - **Global = no action?**
 - **US ‘cap and trade’ expected 2012**
 - **EC action being prepared**
 - **No decision taken on which EC measures**
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Further information can be found at:

<http://ec.europa.eu/environment/air/transport/ships.htm>

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Thank you for your attention!