

Acting as Port States for the Protection of the Environment

**How to Make the Sea Green
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Flexible instruments needed

- The expected remaining life of individual ships varies
- The frequency of calling at EU ports varies between short sea shipping and ships on transoceanic routes
- Ships ability to take action differ greatly
- Economic instruments may provide the flexibility needed for cost-efficient abatement policies

Will the IMO act?

- Close to 10 years have passed since Kyoto – IMO may deliver something in 2009 or 2010
- Will the IMO come out of the review of Marpol Annex VI with some good results?
- The EU must be prepared for unilateral action on both issues

Legal opportunities for unilateral action

- EU Member States may not violate UNCLOS Art. 19, which guarantees the **right of innocent passage** and therefore cannot act as **coastal states**
- **Member States** can act as **port states** and **make calls** at its ports **conditional** on ships meeting certain conditions

Examples of earlier unilateral conditions for port entry

- US Oil Pollution Act
- EU ban on single-hull tankers
- Stockholm agreement on stability requirements for Ro-Ro ferries
- US ballast water requirements
- EU sulphur limit for fuel used by ferries
- EU sulphur limit of 0.1% while at berth
- Swedish fairway dues

Proposal for CO2 emissions

- Based on Kågeson, *Linking CO2 Emissions from International Shipping to the EU ETS*, Nature Associates, 2007
- Commissioned by the **German Federal Environment Agency**

Linking to the ETS?

- The ETS is an existing scheme and has established trading places
- The Commission has declared that emissions from European aviation will be included and the EP says maritime emissions should too
- However, the potential inclusion of emissions from international shipping is complicated

Allocation of emissions

- Difficult to know where to put the cap in the absence of reliable fuel sales data
- However, all ships above 400 GT must carry bunker delivery notes
- It should be possible after a trial year to establish a cap that corresponds with actual emissions based on delivery notes data
- Allowances under that cap should be sold on auction by the EU

Make the ships liable

- Make it conditional for entry of EU ports to participate in a maritime CO2 emission trading scheme that is linked to the ETS
- Make the ship (owner, operator, charterer or ships master) provide CO2 allowances equal to fuel bunkered since its latest call at a participating port (for up to 6 months) – thereby covering emissions from return trips to any part of the world

Invite others to participate

- By deciding on a regulation (rather than a directive), the EU could open its maritime emissions trading scheme to the participation of other ports and countries
- Norway and the candidate countries
- Environmentally progressive US states (e.g. west coast + British Columbia)
- Thereby covering up to 2/3 of global emissions
- Eventually turning into an IMO scheme

Effects on fuel costs per ton

HFO today	\$300/ton fuel	Index 100
+ 25% on HFO	\$375/ton	125
+ 50% on HFO	\$450/ton	150
ETS €20/ton CO ₂	€61/ton	120
ETS €50/ton CO ₂	€153/ton	153

Recycle the revenues

- The revenues from auctioning allowances could be returned to the shipping industry:
 - Grants to R&D and forerunners
 - A small fixed amount to all ships making use of IMO's CO2 index
 - On the basis of GT, ton or passenger kilometers produced
 - Or spent on something else

Distance-related NOx charges

- Based on Kågeson, *Reducing Emissions from Ships in the Baltic Sea Area*, 2005, T&E 05/2
- *Economic instruments for reducing shipping emissions, A pilot project for the Baltic Sea*, Presented at OECD, November 2006
- Ongoing work commissioned by the **German Federal Environment Agency**

Pilot scheme for the Baltic Sea

- Based on time traveled in the Baltic Sea and the emissions of NO_x/kWh at 85% engine capacity
- Distance/time counted from the latest port in the area or from the border between the Baltic Sea and the North Sea
- Collected by ports on behalf of a common authority

Methods for measuring emissions

- MARPOL's Annex VI includes a mandatory **NOx technical Code**
- Sweden has since 1998 registered the specific emissions of NOx and the sulphur content of bunker oils in ships asking for reduced fairway dues
- The Automatic Identification System (**AIS**) can be used for registering the distance and time traveled

Many ways of adjusting

- Basic IEM (Internal Engine Modification)
- Advanced IEM
- Direct Water Injection (DWI)
- Exhaust Gas Recirculation (EGR)
- Humid Air Motor (HAM)
- Selective Catalytic Reduction (SCR)

Recycle revenue in a way not disturbing the function of the charge

1. In relation to:
 - GT kilometers
 - Ton/passenger kilometers
2. As a baseline cap and credit system
3. As grants for investment in abatement technologies

Is a unanimous EU vote required?

- NOx charges are not taxes
- The scheme does not necessarily require an EU decision at all
- The port states concerned can form an alliance based on the principle of subsidiarity

SOx emissions

- Preferred solution is to make SECA rules gradually more stringent
- Charges are the second best option
- However, no alternative to changing fuel
- Scrubbers less effective in brackish water
- Infrequent visitors may choose to use high sulphur fuel (1.5%) and pay a higher fee

Conclusions

- Don't wait too long
- There is a legal basis for acting unilaterally
- The US has acted as port state on several auctions - has no reason to protest
- Invite others to participate in the Maritime Emissions Trading Scheme (**METS**)
- Start a NO_x pilot scheme in the Baltic Sea