CLIMATE CHANGE AND SHIPPING: PROBLEMS OF REGIME COMPATIBILITY

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LEGAL FRAMEWORK FOR SHIPPING AND CLIMATE CHANGE

- CLIMATE CHANGE
  - 1992 UNFCCC
  - 1995 Kyoto Protocol

- SHIPPING
  - 1982 LOSC
  - IMO Conventions
CO$_2$ World emissions from international aviation and maritime transport

(SoSource: EIAurce IEA)
CO₂ emissions: Annex I and non-Annex I Parties

Year: 2004
CO$_2$ emissions: Annex I and non-Annex I Parties

Year: 2004
1992 UNFCCC

The “ultimate” objective of the UNFCCC is provided in part in Article 2 as “to achieve… stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. “ and “ within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.
UNFCCC Principles

- Common but differentiated responsibilities,
- Equity (historical responsibility)
- Inter-generational principle,
- Precautionary approach,
- Developed countries take the lead in combating climate change and its adverse effect
- Recognize the specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change.
UNFCCC AND KYOTO

- ANNEX I & ANNEX II COUNTRY PARTIES
- DEVELOPING COUNTRY PARTIES
- ANNEX B ASSIGNED UNITS
The Kyoto Protocol delegated responsibility to reducing GHG emissions from bunker fuels to the IMO and ICAO by requiring the Annex I Parties to:

“pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

Furthermore, bunker fuels were not made part of the Kyoto target.

Bunker fuels (Defined in GHG Inventory Guidelines adopted by the COP)
- Problem of adequate and consistent inventories
- How to allocate of emissions
CO₂ Emissions by Ships

1. UNFCCC Process
   - no international regulation yet
   - High-Level Advisory Group has recognized maritime transport as a strong potential source of revenue

2. IMO
   Three categories of measures:
   (1) Technical measures
       Energy Efficiency Design Index (EEDI)
   (2) Operational measures
       Ship Energy Efficiency Management Plan (SEEMP)
   (3) Market-based measures
       analysis of 10 proposals
IMO Constitution

Article 1 of the Convention lists the purposes of the IMO:

“to provide a machinery for co-operation among Governments in the field of governmental regulation and practices related to technical matters of all kinds affecting shipping…” and

“to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution…

“to encourage the removal of discriminatory action and unnecessary restrictions by Governments affecting shipping engaged in international trade….
IMO and Climate Change

- 1997 GHG Study
- 2009 GHG Study
- MARPOL Annex VI
  - maximum sulphur content of 0.5% by 2020
  - Permits countries to establish, from 2015, more stringent local Emission Control Areas (ECAs) where sulphur limits would be 0.1%.
  - 11 proposals
    - market based mechanisms
    - energy efficiency improvement
    - regulatory (levies)

- Establishment of a GHG Fund
- Adoption of a new IMO Convention.
- All party ships engaged in international trade and emissions from all marine fuels
- Requires the registration of bunker fuel *suppliers* located within the territory of a State Party.
- Ships when taking bunker will be required to make a GHG contribution to the Fund by either the bunker supplier or the ship
- The Fund administrator responsible for the allocation of revenues according to decisions of the Parties.
- Also the Fund administrator would keep a ship–specific registry or account; and maintain a list of all registered bunker fuel suppliers and submit an annual report
Leveraged Incentive Scheme to Improve the Energy Efficiency of Ships based on the International GHG Fund–Japan (MEPC 60/4/37)

This proposal aims to target “direct” reduction of CO$_2$ emission from the shipping sector. Part of the GHG contribution is refunded to “good performance ship.” (positive incentive)

Creates a dual incentive:
- incentive to reduce use of fuel in order to reduce GHG contribution and
- second, an incentive to receive the refund. In essence, it is a GHG Fund with an additional refund incentive.

The criteria for “good performance ships” are those ships with the highest level of energy efficiency. The question is how at the technical level ships will be monitored and assessed.

- New IMO Convention.
- Levy a uniform emissions charge on all ships calling at the respective ports based on the amount of fuel consumed on that voyage.
- The charge would be levied on the ship (irrespective of owner, charterer or operator) and not the bunker suppliers (ports of convenience?).
- Fuel consumed on the ship is to be regularly monitored and recorded.
- The fee would be structured to reward good performance ships along the lines of the Japanese proposal.
Ship Efficiency and Credit Trading [SECT]: The United States (MEPC 60/4/12)

- Aims to promote increase ship efficiency through imposition of a phased-in mandatory energy efficiency standards on ships rather than cap-and-trade or surcharges.
- Builds on the IMO Energy Efficiency Design Index (EEDI) for design standards for new ships.
- Trading of credits for those ships whose efficiency exceeds the requirement for the compliance period.
- Ships not meeting the requirements can purchase credits, which maximizes in-sector offsets.
**Vessel Efficiency System (VES)– World Shipping Council (WSC) (MEPC 60/4/39)**

- It is similar to US in that it imposes mandatory efficiency standards on new and existing ships.
- Ships that fail to meet the efficiency standards are assessed a cost per tone (non-compliance fee).
- Fees go into a fund. The revenues can be used for R&D, out-of-sector CO\(_2\) reductions or however the Parties decide.
- Port State Control would be limited to verification of certificates, record books and Bunker Delivery Notes.
- Ships that fail compliance must pay fees on a regular interval through the fuel supplier or directly by the ship.
Global Emission Trading System for International Shipping (ETS): Norway

- Classic “cap and trade” system.
- A new mechanism would be created under the auspices of the IMO.
- Cap on total ship emissions. A target year (commitment period) would be established.
- ETS Registry for shipping
- Ships would have to provide an annual emission report and keep control of bunker consumption,
- The system would allow to other UN emission credits such as CDM credits.
- Exemption clause for certain voyages to developing countries such as SIDS/LDCs.
- Exemptions would be approved by the IMO to prevent leakage
- A Fund would be established by auctioning of emission allowances.
- The Fund would be administered by an international entity (not the IMO?) that would be under the control of the Parties to the system (seems to leave it open to the UNFCCC regime). The GHG Fund can be used for climate change mitigation and adaptation purposes on developing countries as well as technical cooperation activities under the IMO framework.
**ETS – United Kingdom (MEPC 60/4/26)**

- Ship operators would be responsible for compliance evidenced by a Greenhouse Gas Certificate they would be required to keep on board ship at all time.
- An overall global cap with fixed allowances for ship emissions determined and then allowances auctioned.
- Ship operators would be required to keep record of fuel purchases by using a Bunker Delivery Note mechanism that is already part of MARPOL Annex VI.
- The ETS would be linked to the global carbon economy permitting allowances and project credits from other sectors to be purchased and used in the shipping sector.
Further Elements for the Development of an Emissions Trading System for International Shipping–France (MEPC 60/4/41)

Supplements the Norwegian proposal.

- creating a global cap and not a cap on specific parties or individual ships. Based on the cap a number of shipping units will be
- based on an open market system that will allow ships to use credits from other regulated carbon market, in particular CDM credits.
- An administrative body under the control of the Parties (COP?) would be created. The administrative body would have the responsibility of managing the shipping Co₂ registry.
- Each ship would be given an account in the registry identified by its IMO number. Ships would be required to have on board at all times a Bunker Delivery Note that indicates the amount of CO₂ units due by a ship for each bunkering action.
- A GHG Fund would be established with the auctioned revenues and managed by the administrative body. The GHG Fund would be used for climate change mitigation and adaptation actions in developing countries as well as technical cooperation under the IMO
Market-based Instruments: A penalty on Trade and Development—The Bahamas (MEPC 60/4/10)

- Is against market-based mechanisms (MBM) as a restraint on trade and development
- Favors operational and technical measures (EEDI) + future high oil prices = GHG emission reductions
- MBM must be based on proportionality to ship emissions (only 2.7% of total GHG FUND from ship source emissions)
- Shipping should not be source of climate change funds
A Rebate Mechanism for a Market–based Instrument for International Shipping–IUCN (MEPC 60/4/55)

- Aims to reconcile shipping regime and climate change regimes
- Developing countries would benefit from a rebate
- Rebate Mechanism that favors developing countries
Decision to amend Annex VI on air pollution
New Chapter 4 regulating energy efficiency for ships
Energy Efficiency Design Index (EEDI) mandatory for new ships 400 gross tons and above engaged in international voyages (1 January 2013)
Ship Energy Efficiency Management Plan (SEEMP) for all ships.
All ships will be required to keep on board a SEEMP, which can be part of the Ship Safety Management Plan
Inter–regime Compatibility

- CBDR
- Equity (HR)
- More favorable treatment of developing countries
- Right of sustainable development of Developing Countries
- Duty of developed countries to take the lead
- Annex/Non–Annex system
- Flexible Mechanisms
- Role of the COP

- No discrimination
- NMFT
- Flags/Ports of convenience
- Non–commercial role of the IMO (UNCTAD)
- IMO Assembly and Council
Conclusions

- The UNFCCC and IMO regimes are fundamentally different.
- The UNFCCC framework is expressly based on discrimination between developed and developing countries as reflected in the principles of CBDR.
- The objective of non-discrimination and NMFT in shipping is to avoid market distortions and the problems of flags or ports of convenience.
- The alternative that would best meet the needs of the UNFCCC and Kyoto Protocol without compromising the legal and institutional framework of the IMO is through MARPOL 73/78.
- July 2011 the IMO amended Annex VI of MARPOL 73/78 by instituting mandatory Ship EEID for new vessels and SEEMP for all vessels.