Shipping and emission trading
the legal perspective

Dr. Mathias Mailänder
Hamburg, 22 March 2014
Overview

- WHICH amount of emissions is generated by shipping?
- WHAT has been achieved SO FAR?
- WHICH steps PRECEDED emission trading for shipping?
- WHY is the EU taking action?
- WHICH POLICY OPTIONS are being considered by the EU?
- WHICH are the benefits?
- WHICH course of action will be taken by the EU in the FUTURE?
- WHAT are the main OBJECTIONS?
WHICH amount of emissions is generated by shipping?

- share of European shipping:
  4% of European GHG-emissions

- Increase of CO$_2$-emissions from European shipping by 48% since 1990 until 2008

- Estimate until 2050: Increase of CO$_2$-emissions by up to 51% compared to 2010

- Share of shipping on a worldwide scale:
  less than 3% of global GHG-emissions
WHAT has been achieved SO FAR? (I)

- **SO FAR:** legal measures related to shipping by EU (i.e. Directive 1999/32/EC relating to a reduction in the sulphur content of certain liquid fuels) and by IMO

- what is **IMO**?
  - United Nations specialized agency based in London
  - established on 6 March 1948 by united nations convention
  - 170 member states
  - main objects:
    - prevention of marine pollution
    - improvement of maritime safety
WHAT has been achieved SO FAR? (II)

- **measures** undertaken by IMO:

  - **1997**: 15 member states ratify the “1997 Protocol“, thus
    - limiting sulphur oxide and nitrogen oxide emissions from ship exhausts
    - prohibiting deliberate emissions of ozone depleting substances
    - adding Annex VI to MARPOL (entered into force in 2005)

  - **2011**: amendments to MARPOL Annex VI introduce mandatory measures to reduce emissions (GHG) and “Regulations on energy efficiency for ships”
WHAT has been achieved SO FAR? (III)

- **measures** undertaken by IMO:

  - “Regulations on energy efficiency for ships” – minimum standards for new ships
    - EEDI (Energy Efficiency Design Index)
    - SEEMP (Ship Energy Efficiency Management Plan)
    - EEOI (Energy Efficiency Operational Indicator)
WHAT has been achieved SO FAR? (IV)

- **Energy Efficiency Design Index (EEDI)**
  - requiring a minimum energy efficiency level for **new ships** by stimulating continued technical development of all the components influencing fuel efficiency
  - tightening the demand for CO$_2$-reductions
WHAT has been achieved SO FAR? (V)

- Energy Efficiency Operational Index (EEOI)
  - based on the relation between emissions and transport capacity of existing ships
  - dependant on the actual utilization of transport
  - collecting data throughout the current operation
WHAT has been achieved SO FAR? (VI)

- Ship Energy Efficiency Management Plan (SEEMP)
  - cost-effective improvement of energy efficiency levels through application of the “PDCA-cycle” (plan-do-check-act)
  - covering both existing and new ships
WHICH steps PRECEDED emission trading for shipping? (I)

- **Kyoto Protocol**
  - international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC), which commits its parties by setting internationally binding emission reduction targets
  - Kyoto Protocol signed by EU on December 12, 1997
  - final target is reduction of global GHG-emissions by 50 % compared to the level of 1990 by 2050
  - EU agreed to reduce european GHG-emissions by 20 % compared to the level of 1990 by 2020
  - implementation of Kyoto Protocol led to establishment of a scheme for greenhouse gas emission allowance trading within the European Union (“EU ETS”)
WHICH steps PRECEDED emission trading for shipping? (II)

- **EU ETS** ("cap and trade"-principle)
  - **aims to put price tag on carbon** – thereby giving financial value to each ton of emissions saved
  - **cap set on the total amount of certain emissions** allowed to be emitted by installations
  - **cap** to be **reduced** over time so that total amount of **emissions** is reduced
  - within cap, operators are allotted or buy emission allowance certificates which may be **traded**
  - after each calendar year, operators **surrender allowances** to cover emissions generated – otherwise **sanctions are imposed**
  - **cap and trade principle** requires effective **monitoring, reporting and verification**
WHICH steps PRECEDED emission trading for shipping? (III)

- monitoring, reporting and verification
  - operators are required to monitor annual emissions based on monitoring plan approved by competent authority
  - operators must submit an emission report covering the annual emissions of the reporting period
  - emission reports is verified by competent authority in order to review and improve monitoring plans and implementation

- surrendering of allowances
  - operators must surrender allowances equal to the total emissions generated in preceding calendar year as verified by the competent authority
  - failure to surrender allowances results in sanctions and publication of operator name by relevant Member State (“naming and shaming“)
WHICH steps PRECEDED emission trading for shipping? (IV)

- EU ETS launched in 2005

- **Trading (trial) Period 1**: 2005 to 2007
  - covered only CO₂-emissions from heavy energy-using installations in power generation and manufacturing industry
  - 100% of allowances allocated to operators **free of charge**
  - sanctions for failure to surrender allowances set at **40 Euro per ton**
  - caps set individually for Member States
  - caps set on the basis of **best guesses** due to lack of information
  - total **allocation of allowances exceeded demand** by a sizeable margin
  - price of Trading Period 1-allowances dropped to **zero**
WHICH steps PRECEDED emission trading for shipping? (V)

- **Trading period 2: 2008 to 2012**
  - 90% of allowances allocated to operators **free of charge**
  - **auctions for allowances** introduced by several Member States
  - **sanctions** for failure to surrender allowances increased to **100 Euro per ton**

- **aviation sector: 2012 (Trading period 1)**
  - **aviation sector** included into EU ETS on **1 January 2012** through legislation adopted in 2008
  - 85% of allowances allocated to aircraft operators **free of charge**
WHICH steps PRECEDED emission trading for shipping? (VI)

- **aviation sector:** “stopping the clock”

- EU deferred obligation to surrender emissions allowances from air traffic **to and from EU for a period of one year beginning in April 2012**

- **monitoring and reporting** obligations also deferred for such flights

- International Civil Aviation Organization (ICAO) agreed to **develop by 2016 global market-based mechanism** addressing international aviation emissions **to be applied by 2020**

- **temporary exemption** to be extended until 2016

- obligations relating to all operators’ activities within EU remained **intact**
WHICH steps PRECEDEd emission trading for shipping? (VII)

- **Trading Period 3:** 2013 to 2020
  - single, EU-wide cap on emissions applies replacing previous system of individual caps for Member States
  - more than 40% of allowances to be auctioned instead of being allocated free of charge
  - harmonized allocation rules apply for free allocations based on EU-wide benchmarks of emissions performance

- **maritime sector:** Monitoring Period 1
  - introduction of MRV-system for the maritime sector
WHY is the EU taking action? (I)

- IMO: operational and technical measures introduced by IMO supposed to reduce GHG-emissions from shipping by up to 75 % [The Second IMO Greenhouse gases study, 2009]

- Increase in global GHG-emissions from shipping by 51 % until 2050 compared to 2010 expected

- Kyoto Protocol fails to include shipping into emission trading

- European Union: measures under European law aiming at a reduction in CO₂-emissions from shipping as a yardstick for future measures at international level
WHY is the EU taking action? (II)

- mandate for action derived from climate and energy package as agreed in 2008

- if no international agreement through IMO has been approved by Member States or no such agreement through UNFCCC has been approved by the Community by 31 December 2011

- Commission to make proposal to include international maritime emissions in the Community reduction commitment
WHY is the EU taking action? (III)

- adoption of measures to reduce greenhouse gas emissions and fuel consumption is hampered by market barriers
- lack of reliable information on fuel efficiency of ships or of technologies available for retrofitting ships
- lack of access to finance for investments into ship efficiency
- split incentives as ship owners would not benefit from their investments into ship efficiency when fuel bills are paid by operators
WHICH POLICY OPTIONS are being considered by the EU? (I)

- Regulatory baseline scenario (option 1)
  - Relying on the present set of regulatory instruments
  - No removal of any market barriers

- Note: None of the member states has taken advantage of the option for Procedures for unilateral inclusion of additional activities and gases as set out in Art. 24 of Directive 2003/87/EG establishing a scheme for greenhouse gas emission allowance trading within the Community
WHICH POLICY OPTIONS are being considered by the EU? (II)

- monitoring, reporting and verification – the so-called MRV-system (option 2)
  - monitoring, reporting and verification of CO$_2$-emissions from shipping based on fuel consumption
  - removal of the market barrier related to the lack of reliable information on fuel efficiency of ships
  - note (again): none of the member states has taken advantage of the option for Procedures for unilateral inclusion of additional activities and gases as set out in Art. 24 of Directive 2003/87/EG establishing a scheme for greenhouse gas emission allowance trading within the Community
WHICH POLICY OPTIONS are being considered by the EU? (III)

- levy on bunker fuel sales (option 3a)
  - based on fuel sales as reported by bunker fuel suppliers for taxation purposes
  - carbon constraint set through payment of a contribution to a fund (in € / t CO₂-equivalent emitted) to incentivise emissions reductions
  - removal of the market barrier related to the access to finance for improving the fuel efficiency of ships
WHICH POLICY OPTIONS are being considered by the EU? (IV)

- tax on emissions from fuel consumed (option 3b)
  
  - carbon constraint set through payment of a tax (in € / t CO₂-equivalent emitted) to incentivise emissions reductions
  
  - generated revenues go to the national budget
  
  - removal of the market barriers related to the access to finance for improving the fuel efficiency of ships and the split incentives-dilemma
WHICH POLICY OPTIONS are being considered by the EU? (V)

- contribution-based compensation fund (option 3c)
  - carbon constraint set through payment of a fixed (semi-)voluntary contribution (in € / t CO₂-equivalent emitted) to incentivise emissions reductions
  - complementary instrument (speed limits, introduction of a maritime emission trading system) set up to ensure participation in the contribution-based compensation fund as the more attractive instrument
  - removal of all market barriers related to the lack of reliable information on fuel efficiency of ships, the access to finance for improving the fuel efficiency of ships and the split incentives-dilemma
WHICH POLICY OPTIONS are being considered by the EU? (VI)

- inclusion of shipping into the European Emission Trading Scheme (EU ETS) (option 4)
  - emissions from shipping tied to certificates
  - configurated either as a closed system (allowances authorized to be surrendered are only new allowances created for the maritime sector) or as an open system
  - allowances allocated free of charge or auctioned
  - removal of the market barriers related to the lack of reliable information on fuel efficiency of ships and the split incentives-dilemma
  - auctioning of allowances: also removal of the market barrier related to the access to finance for improving the fuel efficiency of ships
WHICH POLICY OPTIONS are being considered by the EU? (VII)

- target based compensation fund (option 5)
  
  - entire fleet has to comply with an emission reduction target
  - target is assumed to be set up at the same level of a maritime emission trading system
  - compliance is ensured by an obligation to surrender offsets to a competent authority according to the emissions of the maritime transport sector reported for the previous calendar year
  - contribution to fund serves to improve fuel efficiency of ships
  - transgression of emission reduction target to be sanctioned
  - removal of all market barriers related to the lack of reliable information on fuel efficiency of ships, the access to finance for improving the fuel efficiency of ships and the split incentives-dilemma
### WHICH are the benefits? (I)

<table>
<thead>
<tr>
<th>Option</th>
<th>emissions until 2030 (Mt CO₂)</th>
<th>reduction compared to baseline scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>option 1: baseline scenario</td>
<td>223,0</td>
<td>-</td>
</tr>
<tr>
<td>option 2: monitoring based on fuel consumption</td>
<td>218,5</td>
<td>- 2 %</td>
</tr>
<tr>
<td>levy on emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>option 3a: levy on bunker fuel sales</td>
<td>217,0</td>
<td>- 3 %</td>
</tr>
<tr>
<td>option 3b: tax on emissions from fuel consumed</td>
<td>186,8</td>
<td>- 16 %</td>
</tr>
<tr>
<td>option 3c: contribution-based compensation fund</td>
<td>186,8</td>
<td>- 16 %</td>
</tr>
</tbody>
</table>
### WHICH are the benefits? (II)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>emissions until 2030 (Mt CO₂)</th>
<th>reduction compared to baseline scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>inclusion of shipping into the European Emission Trading Scheme (EU ETS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>option 4a: closed ETS</td>
<td>175,7</td>
<td>- 21 %</td>
</tr>
<tr>
<td>option 4b: open ETS with allowances allocated free of charge</td>
<td>186,7</td>
<td>- 16 %</td>
</tr>
<tr>
<td>option 4c: open ETS with allowances auctioned completely</td>
<td>186,8</td>
<td>- 16 %</td>
</tr>
<tr>
<td>option 5: target based compensation fund</td>
<td>186,8</td>
<td>- 16 %</td>
</tr>
</tbody>
</table>
WHICH course of action will be taken by the EU in the FUTURE? (l)

- which measures are stipulated by Commission proposal?
  - introduction of a so-called MRV-system: a system for the monitoring, reporting and verification of CO₂-emissions from shipping
  - main objective: collection of reliable data regarding CO₂-emissions from shipping
  - conclusion: removal of market barriers in order to reduce CO₂-emissions and costs
  - Commission: introduction of the MRV-system expected to reduce CO₂-emissions by up to 2 % and aggregated net costs by up to 1,2 billion Euro until 2030
WHICH course of action will be taken by the EU in the FUTURE? (II)

- inclusion of emissions from shipping into the emission reduction target in three steps:
  
  - **step 1:** establishing an MRV-system for CO$_2$-emissions
  
  - **step 2:** setting emission reduction targets for shipping
  
  - **step 3:** introducing a market-based mechanism
WHAT are the main OBJECTIONS? (I)

- inclusion of shipping into EU ETS only provides for CO$_2$-emissions monitoring and reporting system
- MRV-system including shipping contains no obligation to surrender emission allowances
- sanctions ultimately aimed only at removal of market barriers disproportionate
- scope of the Commission proposal disputable in terms of international law
- MRV-system including shipping supposed to cover voyages beyond waters under the jurisdiction of member states
WHAT are the main OBJECTIONS? (II)

- inclusion of shipping into EU ETS not comparable to inclusion of aviation into EU ETS
- inclusion of aviation into EU ETS based on international contract law (Chicago Convention – Kyoto Protocol – “Open Skies” convention)
- no binding regime on the grounds international contract law for shipping – at least not without IMO
WHAT are the main OBJECTIONS? (III)

- grounds of **international customary law insufficient** to justify extension of MRV-system or EU ETS including shipping **beyond waters** under the jurisdiction of **member states** to the **high seas** or even **foreign nations**
- obligations to **monitor and report** the units of **time spent at sea, cargo carried** and **transport work** potentially **misleading and unsuitable**
Thank you
Discussion
Our offices in Germany

Berlin
Luther Rechtsanwaltsgesellschaft mbH
Friedrichstraße 140
10117 Berlin
Telefon +49 30 52133 0
Telefax +49 30 52133 110
berlin@luther-lawfirm.com

Essen
Luther Rechtsanwaltsgesellschaft mbH
Gildehofstraße 1
45127 Essen
Telefon +49 201 9220 0
Telefax +49 201 9220 110
essen@luther-lawfirm.com

Hannover
Luther Rechtsanwaltsgesellschaft mbH
Berliner Allee 26
30175 Hannover
Telefon +49 511 5458 0
Telefax +49 511 5458 110
hanover@luther-lawfirm.com

München
Luther Rechtsanwaltsgesellschaft mbH
Karlstraße 10-12
80333 München
Telefon +49 89 23714 0
Telefax +49 89 23714 110
munich@luther-lawfirm.com

Dresden
Luther Rechtsanwaltsgesellschaft mbH
Radeberger Straße 1
01099 Dresden
Telefon +49 351 2096 0
Telefax +49 351 2096 110
dresden@luther-lawfirm.com

Frankfurt a. M.
Luther Rechtsanwaltsgesellschaft mbH
An der Welle 10
60322 Frankfurt a.M.
Telefon +49 69 27229 0
Telefax +49 69 27229 110
frankfurt@luther-lawfirm.com

Köln
Luther Rechtsanwaltsgesellschaft mbH
Anna-Schneider-Steig 22
50678 Köln
Telefon +49 221 9937 0
Telefax +49 221 9937 110
cologne@luther-lawfirm.com

Stuttgart
Luther Rechtsanwaltsgesellschaft mbH
Augustenstraße 7
70178 Stuttgart
Telefon +49 711 9338 0
Telefax +49 711 9338 110
stuttgart@luther-lawfirm.com

Düsseldorf
Luther Rechtsanwaltsgesellschaft mbH
Graf-Adolf-Platz 15
40213 Düsseldorf
Telefon +49 211 5660 0
Telefax +49 211 5660 110
dusseldorf@luther-lawfirm.com

Hamburg
Luther Rechtsanwaltsgesellschaft mbH
Gänsemarkt 45
20354 Hamburg
Telefon +49 40 18067 0
Telefax +49 40 18067 110
hamburg@luther-lawfirm.com

Leipzig
Luther Rechtsanwaltsgesellschaft mbH
Grimmaische Straße 25
04109 Leipzig
Telefon +49 341 5299 0
Telefax +49 341 5299 110
leipzig@luther-lawfirm.com
Our international offices

Brüssel
Luther Rechtsanwaltsgesellschaft mbH
Avenue Louise 326
1050 Brüssel
Telefon +32 2 6277 760
Telefax +32 2 6277 761
brussels@luther-lawfirm.com

London
Luther Rechtsanwaltsgesellschaft mbH
7 Pilgrim Street
London EC4V 6LB
Telefon +44 207 002 53 35
london@luther-lawfirm.com

Shanghai
Luther Law Offices
21/F ONE LUJIAZUI
68 Yincheng Middle Road
Pudong New Area, Shanghai
Shanghai 200121
Telefon +86 21 5010 6580
Telefax +86 21 5010 6590
shanghai@cn.luther-lawfirm.com

Budapest
Luther in Kooperation mit:
Walde, Fest & Partners
Attorneys at Law
Kossuth Lajos tér 13-15
1055 Budapest
Telefon +36 1 381 0000
Telefax +36 1 381 0001
budapest@luther-lawfirm.com

Luxemburg
Luther
Aerogolf Center, 1B, Heienhaff
L-1736 Senningerberg
Telefon +352 27484 1
Telefax +352 27484 690
luxembourg@luther-lawfirm.com

Singapur
Luther LLP
4 Battery Road
#25-01 Bank of China Building
Singapur 049908
Telefon +65 6408 8000
Telefax +65 6408 8001
singapore@luther-lawfirm.com
Your Contact

Dr. Mathias Mailänder

Practice Group Environmental, Planning and Regulatory

Luther Rechtsanwaltsgesellschaft mbH
Gänsemarkt 45
20354 Hamburg
Telefon: +49 40 18067 12618
Telefax: +49 40 18067 110
mathias.mailaender@luther-lawfirm.com
Hits the mark. Luther.