

Luther.

Shipping and  
emission trading  
the legal  
perspective

Dr. Mathias Mailänder  
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# 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<sub>2</sub>-emissions from european shipping  
**by 48 % since 1990 until 2008**
- estimate until 2050: increase of CO<sub>2</sub>-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<sub>2</sub>-reductions

# WHAT has been achieved **SO FAR?** (V)

- **Energy Efficiency Operational Index (EEOI)**
  - based on the relation between emissions und transport capacity of **existing ships**
  - dependant on tthe 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 CO<sub>2</sub>-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 CO<sub>2</sub>-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<sub>2</sub>-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 CO<sub>2</sub>-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 CO<sub>2</sub>-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 CO<sub>2</sub>-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**
  - configured 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)

Option	emissions until 2030 (Mt CO <sub>2</sub> )	reduction compared to baseline scenario
option 1: baseline scenario	223,0	-
option 2: monitoring based on fuel consumption	218,5	- 2 %
levy on emissions		
option 3a: levy on bunker fuel sales	217,0	- 3 %
option 3b: tax on emissions from fuel consumed	186,8	- 16 %
option 3c: contribution-based compensation fund	186,8	- 16 %

# WHICH are the benefits? (II)

Scenario	emissions until 2030 (Mt CO <sub>2</sub> )	reduction compared to baseline scenario
inclusion of shipping into the European Emission Trading Scheme (EU ETS)		
option 4a: closed ETS	175,7	- 21 %
option 4b: open ETS with allowances allocated free of charge	186,7	- 16 %
option 4c: open ETS with allowances auctioned completely	186,8	- 16 %
option 5: target based compensation fund	186,8	- 16 %

# WHICH course of action will be taken by the EU in the FUTURE? (I)

- which **measures** are stipulated by Commission proposal?
  - introduction of a so-called **MRV-system**: a system for the **monitoring, reporting** and **verification** of CO<sub>2</sub>-emissions from shipping
  - **main objective**: collection of **reliable data regarding CO<sub>2</sub>-emissions** from shipping
  - conclusion: **removal of market barriers** in order to reduce CO<sub>2</sub>-emissions and costs
  - Commission: introduction of the **MRV-system** expected to reduce **CO<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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](mailto:mathias.mailaender@luther-lawfirm.com)

# Luther.

Hits the mark. Luther.