INTEGRATING SHIPPING INTO THE EU EMISSIONS TRADING SCHEME?

Tim Bäuerle[1]

1. Introduction

Although the actors of global climate policy have had and still have considerable difficulties to come to an agreement on how the Post-Kyoto era should be created in order to keep global warming under control, at least on the political level there has been some notable progress: At the climate conference in Cancún in 2010 the Parties of the UNFCCC decided 'to hold the increase in global average temperature below 2°C above pre-industrial levels'.[2] At the same conference, the European Union pledged to reduce unilaterally its emissions by at least 20% of 1990 levels by 2020. The European Union further offered to reduce emissions to 30% by 2020, on the condition that other major emitting countries commit to fair emission reductions in a future global climate agreement.

Although emission reductions from international aviation and international shipping are not accountable under the national emissions registries of CO_2-equivalent emissions set up under the Kyoto-Protocol, the European Union has taken all efforts to include the emissions of international transport into the international emission reduction commitments. The reasons for these efforts are obvious: All models predict considerable growth of emissions from the aviation and shipping sectors.[3] In case of emissions from aviation, it is long known that the upper layers of the atmosphere react much more sensitively to aviation emissions and that the radiative forcing of emissions from aviation is therefore two- to four-fold of the radiative forcing caused by land-based CO_2-emissions.[4] With

[1] LL.M., Rechtsanwalt, Heidelberg.

[2] Report of the Conference of the Parties on its sixteenth session, Decision 1/CP 16, FCCC/CP/2010/7/Add.1, I 4. 15 March 2011.

[3] Business-as-usual projections for 2020 are about 0.6 to 1.2 $GtCO_2$ per year from aviation and 1.1 to 1.3 $GtCO_2$ per year from shipping, UNEP, 'Bridging the Emissions GAP' (November 2011) 11. <www.unep.org/publications/ebooks/bridgingemissionsgap/> accessed 28 February 2012.

[4] IPCC, 'Aviation and the Global Atmosphere' (1999) 8<www.ipcc.ch/ipccreports/sres/aviation/index.php?idp=8> accessed 28 February 2012; WGBU—German Advisory Council

respect to emissions from shipping it is generally accepted that the negative environmental impact of the bunker fuels used in international shipping is more than considerable. Not only CO_2-emissions, but also black carbon,[5] SO_2 and NO_x-Emissions from international shipping have serious negative impacts on the atmosphere, the marine environment as well as on terrestrial ecosystems and the human health.[6] With respect to CO_2-emissions, various experts have shown that the reduction of emissions can be reached at very low—even negative—costs.[7] And finally policy makers of the European Union are interested to avoid any distortion of competition in the various sectors of the economy or in different modes of transport. From a European perspective, the inclusion of emissions from international transport largely caused by or in the interest of European citizens is also a question of equity.

Although the European Union increased the pressure on the negotiations that according to the UNFCCC should have begun immediately after the convention came into force, the results so far remained unsatisfactory. This is true for the negotiations at ICAO as well as for the results that could be achieved at IMO. In 2008, the European Parliament and European Council enacted Directive 2008/101/EC in order to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community. One year later, as a consequence of the difficult negotiations at IMO, the European Parliament and the European Council in 2009 took the following common decision in order to put pressure on IMO and its member states:

---

on Global Change, 'Charging the Use of the Global Commons' (Special Report 2002) 7 <www.wbgu.de/en/special-reports/sr-2002-charging-the-use/> accessed 28 February 2012.

[5] Black carbon emissions from ships alone are thought to be responsible for up to 60.000 premature cardiopulmonary and lung cancer deaths annually, DLR, 'SeaKlim (Einfluss von Schiffsemissionen auf Atmosphäre und Klima)' (Final Report, 2011) <www.dlr.de/Portaldata/1/Resources/standorte/oberpfaffenhofen/dokumente/SeaKLIM_Nachwuchsgruppe_Final_Report.pdf> accessed 19 April 2012. The German NABU (Nature And Biodiversity Conservation Union) has helped to inform the public about the serious impacts of the use of bunker fuels in international shipping with a campaign that criticises the use of bunker fuel—especially in cruisers—and has gained considerable public attention <www.nabu.de/themen/verkehr/schifffahrt/mirstinkts> visited 19 April 2012.

[6] BMT, 'Study on the Economic, Legal and Practical Implications of a European Union System to Reduce Ship Emissions of SO_2 and NO_x' (2000) <http://ec.europa.eu/environment/enveco/taxation/ship_emissions/pdf/mainfinal.pdf> accessed 19 April 2012.

[7] IMO, 'Second IMO Greenhouse Gas Study' (2009) 199 <www.imo.org/blast/blastDataHelper.asp?data_id=27795&filename=GHGStudyFINAL.pdf> accessed 28 February 2012.

> Developed countries, including the EU Member States, should continue to take the lead by committing to collectively reducing their emissions of greenhouse gases in the order of 30% by 2020 compared to 1990. [...] In the event that no international agreement which includes international maritime emissions in its reduction targets through the International Maritime Organisation has been approved by the Member States or no such agreement through the UNFCCC has been approved by the Community by 31 December 2011, the Commission should make a proposal to include international maritime emissions in the Community reduction commitment with the aim of the proposed act entering into force by 2013. Such a proposal should minimize any negative impact on the Community's competitiveness while taking into account the potential environmental benefits.[8]

So, whereas the European Union has taken action in the field of aviation, political action with respect to CO_2-emissions of international shipping is still pending. This situation gives the chance to take into account the experiences that so far have been made with the inclusion of emissions from aviation into the European Emission Trading System. However, the question of whether the European Union will take action in the field of maritime emissions can probably still be decided at IMO.

2. Political Progress and Backlashes at IMO

The efforts at IMO to take common action with respect to a regulation of greenhouse gases from international shipping go back to 1997. It took two studies on greenhouse gases from shipping to bring serious momentum into the negotiations on abatement measures. The work at the Marine Environment Protection Committee (MPEC) was soon divided into three elements: the technical, the operational and the market based measures. Under pressure from the European Union, IMO achieved a breakthrough at the 62th session of the MPEC in July 2011. The Committee adopted amendments to MARPOL Annex VI for the inclusion of a binding Energy Efficiency Design Index that should become binding for all merchant ships of 400 gross tonnage or above and will require new ships to be at least 10% more energy efficient from 2015, 20% more efficient from 2020 and 30% from 2025. Additionally MPEC decided to make mandatory a Ship Energy

[8] Decision 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 [2009] OJ L 140/136.

Efficiency Management Plan (SEEMP) for all ships in action. These results of MPEC 62 shall come into force from the beginning of 2013.[9] However, in the working field of market based measures negotiations were once more adjourned at MPEC 62. Whether the Parties to IMO can come to a common understanding with respect to the introduction of an international regime of market based measures in order to limit the strong increase of emissions from shipping as prognosticated by the second greenhouse gas study[10] remains far from certain, although the secretary and at least part of the Member States openly acknowledge that a binding Energy Efficiency Design Index (EEDI) is not sufficient in order to regulate the greenhouse gas emissions of international maritime shipping. There are at least three strong arguments for additional market based measures: First, the EEDI will only cover new ships and therefore has no impact on vessels already on sea. As the investment circle for vessels is relatively long, it will take up to thirty years until all ships on sea have adapted to an EEDI that by then will be no longer state of the art. Second, all studies forecast a very strong growth in maritime shipping, that will offset the positive effects of an obligatory EEDI. And, probably most important, it is well known that the costs for a reduction of greenhouse gases from maritime shipping are quite low, in many cases even negative. All recent studies show that the growth of emissions could be reduced or even reversed considerably if all measures with negative costs would be applied.[11]

Considering the long time it took to reach an agreement on a binding EEDI at IMO and given the ambitious aims the European Union set itself with respect to the reduction of greenhouse gas emissions in the maritime sector,[12] it is more than understandable that the European Union as international actor has the feeling that—even if taking an optimistic view—it may take some time until the Member States of IMO take measures that regulate international shipping in a way that shipping bears an adequate

[9] <www.imo.org/ourwork/environment/pollutionprevention/airpollution/pages/breakthrought-at-mepc-62.aspx> accessed 20 April 2012.

[10] IMO (n. 7).

[11] The different results of the Studies reflect different assumptions on the development of bunker fuel prices and the costs of technical abatement measures.

[12] The Commission has declared that the GHG emissions from international shipping can be reduced by 40% by 2050 (compared to 2005 levels), European Commission, 'White Paper on Transport' (2011) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF> accessed 20 April 2012. The European Council set as a target a reduction of 20% by 2020 compared to 2005 levels (Environmental Council Conclusion 2009), Council Conclusions on EU position for the Copenhagen Climate Conference (7–18 December 2009), 2968th Environment Council meeting, 21 October 2009, <http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/110634.pdf> accessed 20 April 2012.

	2005	2020	2030	
Source		IMO 2009	DNV 2010	CE Delft
Maximum abatement potential of all measures	955 Mt	−10.5% to +8.9%	−30%	−29.7% to +10.6%
Maximum abatement potential of measures whose cost efficiency is negative		−7.3% to +16.7%	+7.8%	−26.7% to +16.6%

Source: European Climate Change Programme—WG Ships: Background document: The level of reduction in the maritime sector.[13]

load part in the international efforts to reduce greenhouse gas emissions. Under these circumstances it remains very likely that—in line with Directive 2008/101/EC—the Commission will recommend taking unilateral action in order to regulate international maritime shipping from and to the European Union as a first step.

3. Actual Activities of the European Commission

Following Directive 2008/101/EC, the Commission had to observe that by the end of 2011 a binding agreement had neither been approved of at IMO nor within the UNFCCC. Therefore, the European Commission was obliged to take action with a view to initiate adequate measures with an aim to develop a proposal to include international maritime emissions in the Community reduction commitment as indicated in the Directive:

- Under the ECCP II Programme (European Climate Change Programme II) the Commission established a special working group (Working Group 6—Reducing Greenhouse Gas Emissions from Ships). The working group shall assess and develop measures to reduce greenhouse gas

[13] The background document of the ECCP—WG 6 is available under: <http://ec.europa.eu/clima/events/0047/level_reduction_en.pdf> accessed 19 April 2012. The background document summarizes important results of the major studies recently done in the field of greenhouse gas emission reduction, CE Delft et al., 'Technical Support for European Action to reducing Greenhouse Gas Emissions from International Maritime Transport' (2009) <http://ec.europa.eu/clima/policies/transport/shipping/docs/ghg_ships_report_en.pdf> accessed 19 April 2012; IMO (n. 7) and DNV (Det Norske Veritas AS), 'Pathways to low carbon shipping—abatement potential towards 2030' (2010) <www.dnv.com/binaries/pathways_to_low_carbon_shipping_tcm4-420472_tcm4-428628.pdf> accessed 19 April 2012.

emissions from shipping and to mainstream such measures into the European Climate Policy.[14]

- In parallel, the Commission started consultations within the different General Directions by establishing a High Level Platform with the competent commissioners, Vice President Siim Kallas (DG Transport) and Commissioner Hedegaard (DG Climate Action).[15]
- In January 2012, the Commission started an online-consultation on possible measures to reduce greenhouse gas emissions from shipping.[16]

As a result of the online-consultation it is very likely that the Commission will decide which kind of policy it will take in order to include maritime emissions into the European climate policy.

In the ECCP, Commission and participants already identified some possible measures. At the last meeting of the EECP (WG 6) the Commission provided a background paper on the 'main possible policy actions' that identified four main measures that could bring the results the Commission is aiming at.[17]

3.1. *Levy / Compensation Fund*

This policy option would aim at a levy on fuel for the maritime industry. Two possible models of this option are in discussion: One concept is designed as straight levy on fuel, the other concept is designed as a 'voluntary' fund managed by the shipping industry, but coupled with a tax of punitive character for those ships that do not take part in the 'voluntary' fund. In both concepts the proceeds of the levy would go to a compensation fund that has the objective of financing measures for the emission reduction in the shipping industry. The design of this measure follows an industry managed NO_x- fund that has been set up by Norway with some success.[18]

---

[14] <http://ec.europa.eu/clima/policies/eccp/second/stakeholder/index_en.htm> accessed 19 April 2012.

[15] <http://ec.europa.eu/clima/events/0037/index_en.htm> accessed 19 April 2012.

[16] <http://ec.europa.eu/clima/news/articles/news_2012011901_en.htm> accessed 19 April 2012.

[17] It must be pointed out that the Commission emphasizes that the decision making process within the Commission is still open and that the background document does not indicate any preference of the Commission. European Climate Change Programme—WG Ships, 15–16 November 2011, Background Document: Main possible policy options <http://ec.europa.eu/clima/events/0047/policy_options_en.pdf> accessed 19 April 2012. The following overview is based on the background document of the Commission.

[18] Ibid.

3.2. *Emission Trading Scheme*

Considering the policy the Commission pursued in the field of aviation, it is obvious that inclusion of the maritime transport sector into the European emissions trading systems is one of the policy options under discussion. However, due to the characteristics of the maritime industry, the details of an emission trading scheme that covers greenhouse gas emissions from vessels would pose some difficult decisions:

- Which entity should be responsible for providing the necessary allowances (ship owner, ship operator or ship manager)?
- Which emissions should be covered by a trading scheme (based on the actual last trip(s) or a certain period of time)?
- Which vessels should be covered (only very large vessels)?
- Should the system be open, semi-open or closed vis-à-vis the existing ETS, i.e. should allowances from other sectors be used for shipping (and vice versa)?
- How should allowances be distributed (auction vs. grand fathering)?[19]

3.3. *Taxation on Fuel or Greenhouse Gas Emissions*

Another option is the taxation of fuels for maritime shipping or on greenhouse gas emissions of ships. Such a tax could be fuel-based or emission-based. In the case of a fuel-based tax it would be likely that the fuel-supplier would be the payer of the tax. For an emission-based tax, it would be more likely that the take is made payable by the vessel as legal entity (i.e. ship owner, ship operator or ship-manager).[20]

3.4. *Mandatory Ship-level Emissions Reduction*

The last proposal under examination aims at a mandatory emissions reduction on ship-level. That would mean that every vessel visiting European harbours would come under an obligation to fulfill a special emissions reduction plan. This plan would probably depend on certain vessel characteristics, e.g. age, type of ship, emissions etc. The proposal could be

[19] These questions have been discussed in some detail in a study commissioned by the German Ministry of Environment: Öko-Institut, Margareta Kulessa, Matthias Oschinski and Tim Bäuerle, 'Integration of Marine Transport into the European Emissions Trading System' (2010) <www.umweltdaten.de/publikationen/fpdf-l/3942.pdf> accessed 19 April 2012.

[20] European Commission (n. 17).

coupled with an incentive system for 'overachievers', who then could sell additional abatement achievements on a market provided by the Commission or the Member States.

3.5. *Other Measures under Discussion*

Most other measures under discussion no longer seem to play a decisive role in the deliberations of the Commission. This is especially true for proposals that aim at a direct regulation of the speed of vessels.[21] It probably soon became clear that an indirect regulation (by a fuel tax, a levy or an ETS) would be more efficient. Furthermore, speed regulation would pose serious legal problems in terms of prescriptive and enforcement legislation for the European Union. It would be very difficult to argue that compliance to the regulation of shipping speed in international waters can be understood as a valid condition to entry into EU-ports.

3.6. *Relevant Legal Aspects in the Decision-Making Process of the Commission*

Apart from technical and administrative aspects there are at least two legal aspects that will influence the outcome of the decision-making process of the Commission: One will be the internal legislative procedure within the European Union and especially the question whether a certain measure will require unanimity or whether legislation could be enacted with majority voting according to Art. 205 II TFEU, whereas the introduction of a tax or a levy would require unanimity of all Member States.[22]

The second legal aspect influencing the outcome of the decision making process of the Commission will be the compatibility of the measure planned with international law.

[21] See for example the proposal by Sea at Risks, 'Speed Limits for Ship—Possible EU Options for tackling GHG Emissions from Ships' (ECCP Ship Working Group 2, 22 June 2011) <http://ec.europa.eu/clima/events/0036/speed_en.pdf> accessed 19 April 2012.

[22] The differences in the legislative procedure were already taken into account by the Commission when drafting the Background paper on main possible policy options (n. 17).

4. Learning from Aviation—The Judgement of the ECJ (Case 366/10)

In 2008, the European Parliament and the council amended directive 2003/87/EC so as to include aviation activities in the existing emission trading system of the European Union ('EU-ETS'). Opponents to the inclusion of aviation into the EU-ETS always held that the UNFCCC had transferred the matter of a regulation of emissions from international aviation to ICAO. Furthermore the opponents brought forward that the inclusion of emissions into the EU-ETS that are caused by planes outside the territory of the Member States of the European Union was not lawful. Similar objections have already brought forward against any unilateral action of the European Union with respect to the regulation of GHG-emissions from international shipping. When deciding on action in the shipping sector, the Commission therefore will take into account the experiences that have been found in the aviation sector.

4.1. *Legal Arguments against Measures in European Ports*

There are two main arguments against unilateral measures by the European Union for the reduction of greenhouse gases, both in the field of aviation as well as in the field of maritime transport. One argument is that any action that is aimed at the regulation of greenhouse gases emitted outside the territory of the European Union amounts to unlawful extraterritorial action. Other objectors point out, that under the UNFCCC all activities related to greenhouse gas emissions in the field of aviation and maritime transport have been referred to the competent international organisations i.e. ICAO and IMO, and this decision taken in the UNFCCC should be understood to be binding on the Member States of the UNFCCC. The judgment of the European Court of Justice on aviation has dismissed both arguments in very clear language.[23]

4.1.1. *Unilateral Regulation in Ports Amounts to Unlawful Extraterritorial Action*

Some legal observers have raised concerns that any action on side of single states that aims at emission reduction outside the territory of that state

[23] ECJ Case C-366/10 *The Air Transport Association of America and others*.

would amount to an unlawful exercise of extraterritorial jurisdiction.[24] Other commentators have been more optimistic that such action, notwithstanding its extraterritorial character, could be justified under international law.[25] The European Court of Justice however, somewhat surprising, holds on this question:

> 124. On the other hand, European Union legislation may be applied to an aircraft operator when its aircraft is in the territory of one of the Member States and, more specifically, on an aerodrome situated in such territory, since, in such a case, that aircraft is subject to the unlimited jurisdiction of that Member State and the European Union. . . . .
>
> 125. . . . [The Directive] does not infringe the principle of territoriality or the sovereignty of third States from or to which such flights are performed have over the airspace above their territory, since those aircraft are physically in the territory of on the of the Member States of the European Union and are thus subject to the unlimited jurisdiction of the European Union.

As it is widely acknowledged that States have the same unlimited jurisdiction over vessels that are physically in a port of a certain State, the decision of the European Court of Justice can be transferred directly to the shipping sector: All market based measures actually under discussion within the Commission can be based directly on the territoriality principle.[26]

4.1.2. *The Kyoto Protocol Gives IMO (Exclusive) Competence to Regulate International Maritime Emissions*

Although the decision of the Court of Justice itself remains silent on the question, whether the provisions in the Kyoto Protocol hinder unilateral

---

[24] For example, Philip Roche and Emma Humpries from Norton Rose LL.P., London, have pointed out the risks of any extraterritorial action of the European Union with respect to measures aimed at a reduction of greenhouse gas emissions on the High Sea or in the EEZ of third countries, even if such measures are applied within the ports of the European Union. See C.E. Delft, 'Technical Support for European action to reducing Greenhouse Gas Emissions from international maritime transport' (2009) Annex B <www.cedelft.eu/publicatie/technical_support_for_european_action_to_reducing_greenhouse_gas_emissions_from_international__maritime_transport/1005> accessed 20 April 2012.

[25] See Henrik Ringbom, 'Global Problem—Regional Solution? International Law Reflections on an EU CO_2 Emissions Trading Scheme for Ships' (2011) 26 The International Journal of Marine and Coastal Law 1, 20 et seq. and Öko-Institut, Margareta Kulessa, Matthias Oschinski and Tim Bäuerle (n. 19) 85 et seq.

[26] There remain doubts as to whether the judgement of the European Court of Justice is well founded in this point. As the acts that give rise to the regulation of the European Union (in part) takes place within the territory of the third States and the regulation of these acts are the direct objective of the legislation of the European Union, there are strong arguments to classify such legislation as extraterritorial and justifiable, if balanced with the interests of the third states concerned.

activities of its Member States, the legal opinion of advocate general Kokott gives some indication on how that issue should be answered.[27] Advocate general Kokott points out that the efforts of the European Union to find an international solution within ICAO in no way are reduced by the legislation enacted. As UNFCCC expressly acknowledges, Member States should take national measures in order to reduce greenhouse gas emissions. Thus, Art. 2 (2) of the Kyoto-Protocol cannot be interpreted so as to give IMO or ICAO an exclusive mandate to regulate greenhouse gas emissions of shipping or aviation respectively. This means that the European Union is free to regulate international shipping—within the limits of the jurisdiction of its Member States—at least until IMO is taking adequate international action, but probably even if the European Union is of the opinion that stricter regulation of maritime activities is necessary.

5. Conclusion

Considering the judgment of the European Court of Justice in the Air Transport Association Case it is quite clear that the legal constraints of international law in the design of a scheme for the reduction of greenhouse gas emissions in the shipping sector are quite weak. This, however, does not mean that the Commission can act without considering the interest of third States that could be affected negatively by the respective legislation. Experiences in the aviation sector show that third States may react with unpredictable countermeasures on European legislation that they perceive as an interference into their internal affairs. The tools provided by international law for assessing the limits of extraterritorial jurisdiction therefore could prove to be helpful for the Commission when deciding on the right measures: By balancing the interests of the European Union with the known interests of third States in advance, diplomatic tensions can be reduced. This is especially the case if States that play an important role in international maritime transport are adequately included in the consulting process that leads to the final legislation.

[27] Art 2 (2) of the Kyoto-Protocol states: 'The Parties included in Annex I shall 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 Organisation and the International Maritime Organisation, respectively.'