



Sailing into a dilemma

An economic and legal analysis of an EU trading scheme for maritime emissions



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ABSTRACT

On the basis of a joint economic and legal analysis, we evaluate the effects of a “regional” (European) emission trading scheme aiming at reducing emissions of international shipping. The focus lies on the question which share of emissions from maritime transport activities to and from the EU can and should be included in such a system. Our findings suggest that the attempt to implement an EU maritime ETS runs into a dilemma. It is not possible to design a system that achieves emission reductions in a cost efficient manner and is compatible with international law.

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1. Introduction

1.1. Background

Transport is a key contributor to global greenhouse gas (GHG) emissions (ITF/OECD, 2010). Despite the need for a comprehensive approach to fight global warming, so far, the global community has failed to agree on global mechanisms to reduce GHG emissions resulting from transport. To date, emissions from air and water transport are generally excluded from the United Nations Framework Convention on Climate Change (UNFCCC). According to Article 2(2) of the Kyoto Protocol to

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the UNFCCC, states shall pursue the limitation or reduction of emissions of GHG from aviation and marine bunker fuels, working through the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO). The duty of the contracting states to cooperate within IMO and ICAO refers to the potentially most effective way forward for international climate politics. However, a prohibition of unilateral measures such as the implementation of a regional regulation by the EU cannot be derived from the Kyoto Protocol.

Given this situation, the EU has decided to consider unilateral action. In fact, since 2012, air transport emissions are regulated in the EU by means of an inclusion of aviation activities in the existing European emission trading scheme (EUETS) (EU Directive 2009/29/EC). In addition, the EU has made clear that it is willing to regulate maritime emission as well if IMO does not develop a mechanism targeting shipping emissions in the near future (EU Decision 1600/2002/EC). Indeed, in summer 2013 the European Commission submitted a Proposal for a Regulation on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport and (European Commission Proposal 2013/0224 (COD), hereinafter referred to as MRV-Proposal). According to the Commission “a robust system for monitoring, reporting and verification (MRV) of greenhouse gas emissions from maritime transport is a prerequisite for any market-based measure or efficiency standard, whether applied at EU level or globally” (European Commission Proposal 2013/0224, p. 3). Thus, the provided regulation could be extended in the future and evolve into a mechanism aiming at reducing maritime emissions (cf. Engel, 2013). In 2014, the European Parliament has approved the proposal with amendments after first reading. The proceedings have not yet been concluded.

With respect to aviation in 2013 the EU has backed away from applying its scheme for aviation fully to flights to and from the EU to third party countries (EU Memo MEMO/12/854; EU Proposal 2012/328 (COD)) reacting to the difficult economic situation, the criticisms made by foreign states as the United States of America, China, India and Russia as well as the progress made at ICAO regarding a global mechanism. Instead, the EU now proposes amending the EUETS so that only the part of a flight that takes place in European airspace is covered by the EUETS (EU Proposal 2013/0344 (COD)). It is hence conceivable that the EU may choose a corresponding approach also for maritime emissions and may consider regulating only emissions generated by ships in EU waters in the future.

In this paper we evaluate the effects of a potential regional emission trading scheme (ETS) aiming at reducing emissions of international shipping. Thereby we focus specifically on a possible future scheme for maritime emissions by the EU and evaluate the implications of regulating different parts of voyages to and from EU ports. Building on a joint economic and legal analysis, we show that a comprehensive regional EU-scheme that regulates not only shipping emissions in the territorial waters of EU Member States but also in the Exclusive Economic Zones (EEZ) and on the High Sea could, in fact, contribute to a reduction of emissions and bring about an environmental benefit in an efficient manner. However, a trading scheme with such a wide field of application would presumably not comply with international law.

The remainder of this paper is organised as follows. First, we provide a brief overview of the literature discussing market-based mechanisms to reduce emissions from international shipping. Then we outline and briefly review the general setup of a possible European maritime emission trading scheme (EUMETS) seeking to reduce maritime emissions. The described ETS will serve as a basis for the subsequent analysis. Next and on the basis of different possible definitions of the scope, we study the environmental effectiveness, the economic rational and the legal feasibility of the scheme and discuss associated issues in detail. Subsequently, we contrast our findings from the different dimensions and elaborate the implications of our findings regarding the design of a regional scheme for maritime emissions. Finally, we conclude with a brief summary of our findings and relate them to the current developments at the EU and IMO level.

1.2. Current state of research

While there exists a rather broad literature with regard to regulating emissions from aviation using a regional emission trading scheme (e.g. Anger and Köhler, 2010; Klement, 2007; Pache, 2008; Athen, 2012), reducing maritime emissions by means of a market-based mechanism (MBM) has so far not attracted so much attention. However, there is a small set of economic and legal reports dealing with some form of European action to regulate shipping GHG emissions.

On the field of economic research, Miola et al. (2011) provide an overview of the instruments that are being discussed at IMO. Above all, they reason that due to its diversity and complexity, the maritime industry does not allow for a simple and clear-cut GHG reduction policy. As a result policy makers will have to dare to balance binding long-term targets with a high degree of flexibility with regard to the implementation of the measure.

In a technical support paper commissioned by the EU Commission, a consortium around CE Delft discusses various policy options to reduce CO₂ emissions from maritime transport (CE Delft, 2009). Overall, they conclude that an ETS or a tax for maritime emissions should be the instrument of choice when targeting a reduction of CO₂ emissions of maritime transport. Reports realised at the French Ministry of Transport (2012) and by Franc and Sutto (2014) investigate on the basis of a modelling exercise a cap-and-trade scheme in the maritime sector focusing on the effects of shipping lines and ports. Their findings suggest that an ETS restricted to Europe will lead to distortions and thus argue in favour of a global scheme. In this context, they point in particular to the risk of an undesired modal shift for inter-european transport services.

Koesler et al. (2012) in turn take the perspective of ship operators and evaluate the effects of an ETS for maritime emissions on the organisation and operations of shipping companies. According to their analysis which builds on a series of interviews among ship operators, it is unlikely that a maritime ETS will add significant overhead costs to shipping operations

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