

Emissions Trading for the Shipping Sector

Criticism of EU Plans for Unilateral Action

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In mid-2021, in order to reduce carbon emissions in the shipping sector, the EU Commission is expected to submit a proposal for its unilateral inclusion in the EU Emissions Trading System (EU ETS). This is inappropriate.

Core propositions

- ▶ Due to the global nature of shipping, the EU should refrain from taking unilateral climate policy action and instead push for the creation of global emissions trading under the auspices of the International Maritime Organisation (IMO). Otherwise there will be a threat of international conflicts, evasive action, distortions of competition and a rise in global carbon emissions (carbon leakage).
- ▶ If the EU nevertheless introduces emissions trading for the shipping sector on a unilateral basis, it should not incorporate shipping into the EU ETS but create a separate emissions trading scheme. Otherwise the risk of carbon leakage in many industrial sectors that are subject to global competition may increase further.

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1 Introduction

The maritime transport sector (“shipping”) is the only sector in which the EU has not committed itself yet to reducing carbon emissions (CO₂ emissions), either under the international law framework of the UN Paris Climate Convention¹ or under European law². In view of the international nature of the sector, the EU Commission does in principle consider global action under the auspices of the International Maritime Organisation (IMO)³ to be the most effective approach, but, due to the “relatively slow progress within the IMO”, it sees a need for EU measures.⁴

The EU Emissions Trading System (EU ETS) obliges a large proportion of industry, electricity generation and aviation in the European Economic Area (EEA) to acquire emission allowances for CO₂ emissions.⁵ In July 2019, the EU Commission President Ursula von der Leyen, announced that the shipping sector would be included in the EU ETS despite the EU having rejected this in 2018.⁶ For this purpose, the EU Commission intends to develop a legislative proposal by mid-2021.⁷ It ran through initial scenarios for this in an impact assessment⁸ in September 2020. Since then, the EU Parliament has proposed extending the EU ETS to include shipping.⁹ The shipping sector, on the other hand, is seeking a global carbon levy and rejects unilateral CO₂ emissions reduction measures by the EU, particularly EU emissions trading.¹⁰

The sector-specific circumstances and requirements for the unilateral reduction of CO₂ emissions in shipping by way of EU emissions trading remain largely unknown. This cepInput therefore explains generally how emissions trading systems work (Section 2), identifies the main challenges to the unilateral application of an emissions trading system to the shipping sector by the EU (Section 3) and makes recommendations (Section 4).

¹ UNFCCC, [Update of the Nationally Determined Contribution of the European Union and its Member States of 17 December 2020](#) [this and all other links were last accessed on 12 April 2021].

² EU Commission (2020), SWD(2020) 176 of 17 September 2020, Impact Assessment accompanying the Communication: Stepping up Europe’s 2030 climate ambition [EU-Commission (2020), Impact Assessment EU-2030 Climate Target], p. 23

³ IMO, [Greenhouse Gas Emissions](#) and [Historic Background](#).

⁴ EU Commission, [Reducing Emissions from the Shipping Sector](#); id. (2020), Communication COM(2020) 562 of 17 September 2020, Stepping up Europe’s 2030 climate ambition [EU-Commission (2020), Communication EU-2030 Climate Target], p. 15 et seq.; id. (2020), Impact Assessment EU-2030 Climate Target, p. 10.

⁵ Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading in the Union [EU ETS Directive]; for detailed analysis see Bonn, M. / Reichert, G. (2018), Climate protection by way of the EU-ETS, [cepInput 03/2018](#). In addition to the EU, the EU ETS also applies to the Member States of the European Economic Area (EEA) Iceland, Liechtenstein and Norway. The following submissions on the introduction of EU emissions trading for the shipping sector also therefore apply to these three EEA countries.

⁶ von der Leyen, U. (2019), A Union that strives for more: My Agenda for Europe – Political Guidelines for the Next European Commission 2019–2024, p. 6; see also EU Commission (2020), Communication COM(2020)789 of 9 December 2020, Sustainable and Smart Mobility Strategy, p. 12.

⁷ EU Commission (2019), Communication COM(2019) 640 of 11 December 2019, The European Green Deal p. 11; Reichert, G. (2019), A European Green Deal, [cepAdhoc](#) of 26 November 2019.

⁸ EU Commission (2020), Impact Assessment EU-2030 Climate Target.

⁹ EU Parliament (2020), Amendments [P9_TA-PROV\(2020\)0219](#) of 16 September 2020 on Commission Proposal COM(2019)38 of 4 February 2019 amending Regulation (EU) 2015/757 [MRV Regulation] in order to take appropriate account of the global data collection system for ship fuel oil consumption data [EU-Parliament (2020), amendment to the Commission’s MRV proposal].

¹⁰ Cf. e.g. International Chamber of Shipping (2020), [Comments of 26 November 2020 on the Inception Impact Assessment for the proposed Amendment of the EU Emissions Trading System \(Directive 2003/87/EC\)](#); Deutsche Verkehrs-Zeitung of 27 January 2021, [EU-Schiffseignerverband sträubt sich weiter gegen Emissionshandel](#).

2 How emissions trading systems (ETS) work

Emissions Trading Systems (ETS) work according to the principle of “cap & trade”:¹¹ The maximum total amount of CO₂ emissions permitted in a specific period, in the sectors covered, is limited or “capped” by government (cap) and then gradually lowered (quantity control) until the desired level of CO₂ emissions is reached. The permitted amount of CO₂ is divided into emissions rights (allowances) which are tradeable (trade). As a result of the mandatory shortage and tradability of allowances, an allowance price emerges which in turn provides an incentive for cost-effective CO₂ emissions reduction. Thus, the most cost-effective options for avoiding CO₂ emissions are determined by the market: The more costly the CO₂ avoidance measures, the higher the price offered by companies. The companies whose avoidance costs exceed the resulting price will receive allowances, the rest will invest in CO₂ avoidance. Overall, CO₂ emissions will thus be reduced effectively – by the reduction in the cap – and efficiently – by the trade in allowances –, making it superior to other climate policy CO₂ reduction measures – such as regulatory requirements (rules and prohibitions), subsidies and carbon taxes.¹²

An ETS works independently of how the revenue from it is used.¹³ Decisions by companies are influenced by price signals: Even if revenue is used e.g. to promote research and development or the application of low-carbon technologies in the shipping sector, shipping companies would still have a financial incentive to reduce carbon by operational or technical measures¹⁴ simply due to the higher price of fossil fuels, as they can thus save money.

3 Challenges to EU emissions trading in the shipping sector

The introduction of an emissions trading system in the shipping sector requires three definitions: the specification of the shipping routes requiring allowances (geographical ETS coverage), the determination of the companies requiring allowances (company-based ETS coverage) and the stipulation of the activities of shipping that require allowances, and possibly of other sectors that are to be included together with shipping in an ETS (sectoral ETS coverage).

3.1 Geographical ETS coverage: shipping routes requiring allowances

Due to their limited geographical coverage, unilateral CO₂ reduction measures by the EU, including emissions trading, have less potential to reduce CO₂ emissions effectively and cost-efficiently. At the same time, unilateral action by the EU – as experience in the international aviation sector shows – gives rise to a significant risk of international conflicts, as well as evasive action and distortions of competition, due to unilateral climate protection costs which may overall result in an increase in CO₂ emissions (carbon leakage).

3.1.1 Global v. geographical ETS coverage

The global nature of shipping basically requires a global approach to CO₂ reduction, covering if possible all CO₂ emissions from all sectors or at least from the entire maritime transport sector. The most effective and cost-efficient way to achieve this, in terms of climate policy, is by pricing CO₂ emissions

¹¹ Menner, M. / Reichert, G. (2020), Reducing CO₂ emissions in maritime transport, [ceplInput 24/2020](#), Section 3.3.3.

¹² Ibid., Section 5.

¹³ Ibid., Section 3.3. 4.

¹⁴ Ibid., Section 2.2.

by means of global emissions trading.¹⁵ The worldwide uniform CO₂ price would provide all shipping companies with a level playing field.

Nevertheless, both the EU Commission and the EU Parliament are unilaterally seeking to include shipping in the existing EU ETS even before the “market-based measures” for CO₂ reduction envisaged for 2023-2030 are introduced globally by the IMO.¹⁶ At the same time, the two EU institutions have different ideas regarding geographical ETS coverage:

- The EU Commission wants allowances to be required for 100% of the CO₂ emissions on all shipping routes between EU ports (intra-EU shipping). In addition, it is also considering an allowance requirement for 50% of the CO₂ emissions between the EU and third countries (extra-EU shipping).¹⁷
- The EU Parliament wants to introduce an allowance requirement for 100% of the CO₂ emissions from both intra-EU and extra-EU shipping.¹⁸

3.1.2 Experience with aviation: potential for international disputes

The unilateral inclusion of extra-EU shipping in an EU emissions trading system gives rise to considerable potential for international disputes. This was demonstrated by the EU’s ultimately unsuccessful attempt to unilaterally include international aviation in the EU ETS.

Thus, in 2012, the allowance requirement applicable to extra-EU flights between EU airports and third countries, for the CO₂ emissions of the entire flight route, met with considerable international opposition from influential countries such as USA, China, India and Russia.¹⁹ Although the European Court of Justice (CJEU) ruled²⁰ that such a broad geographical coverage by the EU ETS was in line with international law, these countries rejected it as an infringement of their national sovereignty and threatened retaliatory measures. In view of this opposition, which made the allowance obligation for extra-EU flights basically unenforceable²¹, the EU initially decided to suspend it and – in consideration of the development of global CO₂ reduction measures decided by the International Civil Aviation Authority (ICAO) – to restrict it to intra-EU flights for the time being.²² This will initially apply until the end of 2023.²³ Until then, the impact of the ICAO’s global CO₂ compensation scheme, “Carbon Offsetting and Reduction Scheme for International Aviation” (CORSIA)²⁴ will be examined, which only

¹⁵ On this in general Bonn, M. / Menner, M. / Voßwinkel, J. (2017), Globalisierung des Klimaschutzes, [cepInput 07/2017](#), p. 5 et seq.

¹⁶ Menner, M. / Reichert, G. (2020), Reducing CO₂ emissions in maritime transport, [cepInput 24/2020](#), Section 2.3.1.

¹⁷ EU Commission (2020), Impact Assessment EU-2030 Climate Target, p. 24.

¹⁸ EU Parliament (2020), Amendment to the Commission’s MRV proposal, Amendment 60 in conjunction with Amendments 34 and 35.

¹⁹ For detailed analysis see, Dröge S. / Richter, P. (2012), Emissionshandel für den Luftverkehr – Internationaler Widerstand gegen den Alleingang der EU, SWP-Aktuell 55; Politico of 11 March 2012, [Chinese threaten to cancel Airbus orders in ETS row](#).

²⁰ CJEU, Case No. C-366/19, Air Transport Association of America u.a., Judgement of 21 December 2010, ECLI:EU:C:2011:864.

²¹ Decision No. 377/2013/EU of 24 April 2013 derogating temporarily from Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community [“Stop the Clock” Decision].

²² Regulation (EU) No. 421/2014 of 16 April 2014 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions, Recital 3; on Commission proposal COM(2013) 722 of 16 October 2013 cf. [cepPolicyBrief 04/2014](#).

²³ Regulation (EU) 2017/2392 of 13 December 2017 amending Directive 2003/87/EC to continue current limitations of scope for aviation activities and to prepare to implement a global market-based measure from 2021.

²⁴ ICAO, [Carbon Offsetting and Reduction Scheme for International Aviation \(CORSIA\)](#).

provides for compensating additional CO₂ emissions as compared with the average for 2019 and 2020, but not CO₂ reduction. The EU thereby wants to maintain pressure on third countries to expedite global measures for the reduction of CO₂ emissions in aviation.²⁵

The EU Commission is also now pursuing a similar two-tier strategy on international shipping.²⁶ Thus, the EU will push for effective CO₂ reduction at global level within the framework of the IMO, by the introduction of the “market-based” measures²⁷ envisaged for 2023-2030. The Commission is intending to submit a proposal on this in 2022.²⁸ Prior to that, in order to put pressure on third countries in this regard, the Commission additionally wants to unilaterally include extra-EU shipping in an ETS.

The outlook for this strategy is doubtful at the very least. With aviation, the EU was virtually forced to suspend the unilateral allowance requirement so as not to jeopardise the progress of global CO₂ reduction measures. A unilateral approach by the EU on international shipping also has considerable potential for causing international disputes which may have a counter-productive effect on climate negotiations taking place under the auspices of the IMO. To prevent this, the EU should take a more active role in the IMO negotiations by making constructive proposals on market-based CO₂ reduction measures and at least refrain from including extra-EU shipping in the ETS.

3.1.3 Evasive action, distortions of competition and carbon leakage

In addition, as a result of the necessarily limited geographical coverage of the ETS, the unilateral introduction of an EU emissions trading system for international shipping also gives rise to a high risk of evasive action to avoid allowance costs, and distortions of competition, which may have the overall effect of increasing the global CO₂ emissions in international shipping (carbon leakage).

Thus, ships with comparatively low fuel consumption and CO₂ emissions, as prescribed by the IMO for new vessels²⁹, will be primarily used on routes falling within the geographical area covered by the ETS whilst less fuel-efficient ships will be used to a greater extent on external routes without CO₂ costs or incentives for CO₂ reduction.

Furthermore, ships could travel more slowly within the area of ETS coverage to reduce CO₂ and correspondingly faster on other routes to catch up the time lost. Since fuel consumption and CO₂ emissions increase disproportional to speed, this may result in an overall increase in CO₂ emissions from international shipping worldwide.

In addition, in order to avoid the allowance requirement, foreign ships may call into ports in third countries that are on the EU’s doorstep – such as the United Kingdom, Morocco or Turkey – rather than straight into EU ports. There, cargo would be transferred onto other ships which would then serve the ports of destination in the EU, in short-sea shipping, on the short residual routes – which require allowances for intra-EU shipping. Container ports in the EU specialising in ship-to-ship transfer, such as Algeciras in Spain, would lose out significantly as a result of such relocations. And the incentive which the ETS provides for foreign ships to reduce their CO₂ would consequently cease to exist. Outside

²⁵ EU Commission (2020), Impact Assessment EU-2030 Climate Target, p. 10.

²⁶ Ibid., p. 23 and 49.

²⁷ Menner, M. / Reichert, G. (2020), Reducing CO₂ emissions in maritime transport, [ceplnput 24/2020](#), Section 2.3.1.

²⁸ EU-Commission, Communication COM(2020) 789 of 9 December 2020, Sustainable and Smart Mobility Strategy, Annex, p. 2

²⁹ Menner, M. / Reichert, G. (2020), Reducing CO₂ emissions in maritime transport, [ceplnput 24/2020](#), Section 2.3.1.

the shipping sector, indirect distortions of competition would also emerge. Thus, products manufactured in the EU would become more expensive than competing products from third countries.

Even if the geographical area of ETS coverage were limited to intra-EU shipping, this could also lead to evasive action, distortions of competition and carbon leakage, such as when it comes to choosing a transshipment port in which cargoes arriving on deep-sea ships are to be loaded onto other ships in order to distribute them to smaller ports in the EU. In this case, transshipment ports in third countries, such as Tangiers, would win out over transshipment ports in the EU, such as Algeciras, because the routes into the EU would not require allowances.

Short-sea shipping, in which goods are transported by lorry in roll-on-roll-off ferries (RoRo transport), could lose cargo to road hauliers particularly if the latter do not have to bear the corresponding CO₂ costs. As experience with the existing EU ETS shows³⁰, counteracting such distortions of competition – e.g. by allocating free allowances or compensation payments to companies that are particularly susceptible to carbon leakage – will be a major challenge for the actual design of an ETS for shipping. Thus, it is all the more important to achieve a global ETS as soon as possible. The EU should therefore give careful consideration to whether unilateral action, even with an allowance obligation only for intra-EU maritime transport, is really going to be expedient.

3.2 Company-related ETS coverage: Which companies require allowances?

A further challenge to the design of emissions trading in international shipping is the decision on which actual companies should require allowances (company-related ETS coverage): Fuel distributors or shipping companies? And in the latter case: Ship owners or ship operators? In addition, in view of the costs involved in an emissions trading system for shipping, the question is whether small and medium-sized shipping enterprises should be exempt.

3.2.1 Fuel distributors or shipping companies (“upstream” or “downstream”)?

The obligation to hold allowances for CO₂ emissions can, in principle, be imposed at every stage of the supply chain for fossil fuels, particularly at the beginning when fuel is placed on the market by fuel companies such as refineries or ship refuelling bases (“bunkers”), and at the end when it is used by shipping companies for the purpose of combustion in ships’ engines. The former is referred to as “upstream emissions trading”, the latter as “downstream emissions trading”.

Upstream emissions trading takes advantage of the fact that the CO₂ emissions released are strictly proportional to the amount of fossil fuel consumed.³¹ The number of ETS participants required to hold allowances can therefore be limited and the transaction and administration costs – e.g. for the participation in allowance trading – kept low. The companies covered by upstream emissions trading will add the allowance costs to the fuel price and these will then be passed along the entire supply chain right down to the end user. The latter therefore have an *indirect* incentive to reduce fuel consumption and thereby also CO₂ emissions.

In shipping, however, – unlike e.g. road transport - using a purely upstream approach is problematic because ships can travel long distances without refuelling which means they can circumvent the EU

³⁰ Bonn, M. / Reichert, G. (2018), Climate protection by way of the EU-ETS, [ceInput 03/2018](#); p. 5 et seq.

³¹ For a full analysis of the advantages of upstream emissions trading for road transport cf. Nader, N. / Reichert, G., Extend emissions trading! Effective and efficient reduction of greenhouse gases in road transport, [ceInput 05/2015](#).

allowance requirement by getting refuelled outside the geographical area of ETS coverage – in a third-country port or at sea from tankers or platforms (“fuel tourism”).³² Thus, CO₂ emissions will not be reduced and the EU fuel industry will be harmed. In view of these consequences, the upstream approach should not be considered.

Instead, the EU should use the downstream approach. Then the shipping companies³³ that are responsible for operating the ship are subject to the allowance requirement as end users and thus have a *direct* incentive to take operational or technical measures to reduce the CO₂ emissions which they cause.³⁴ This approach - despite the fact that more companies will be obliged to have allowances than with the upstream approach - is also basically feasible for shipping because the relevant data for calculating fuel consumption, and thus CO₂ emissions, for shipping routes requiring allowances is already recorded by the IMO’s Data Collection System (DCS) and, for shipping to and from EU ports, by the MRV Regulation.³⁵

3.2.2 Ship owners or ship operators (“split incentives”)?

For downstream trade it is necessary to determine whether it is the ship owner or ship operator that requires allowances because in shipping the two functions are often separate – particularly in the case of the widely used time charter³⁶ – which gives rise to the problem of “split incentives”: On the one hand, ship owners bear responsibility for the investment decision regarding fuel-efficient technologies, on the other, however, it is not they but the ship operators who gain from the lower fuel costs resulting from lower fuel consumption brought about by the increase in efficiency. Ship owners therefore lack this incentive to invest in clean ships - unless they operate the ships themselves or have special long-term contracts with ship operators who guarantee them a share of the savings.³⁷

If the ship owner has to pay the CO₂ price, he will have a direct incentive to invest in fuel-efficient ships but virtually no influence on the behaviour of the ship operator. The latter, on the other hand, will receive no CO₂ price signals so will have no incentive for fuel-efficient ship operation. Ship owners do however have an incentive to make contractual agreements which, firstly, oblige a crew not just to carry but also apply the Ship Energy Efficiency Management Plan (SEEMP)³⁸ prescribed by the IMO, and secondly regulate how the resulting cost savings should be divided.³⁹ The resulting incentive for fuel-efficient ship operation will not generally be as strong as if the ship operator were to assume the full allowance costs because it is not possible to regulate every detail in every situation, whereas if the ship operator were required to hold the allowances he would have the full cost incentive in every situation.

If, on the other hand, the allowance obligation were borne by the ship operators, they would have an incentive to charter more efficient ships and operate them in a more low-carbon manner. Market

³² Kachi, A. / Mooldijk, S. / Warnecke C. (2019), [Carbon pricing options for international maritime emissions](#), New Climate Institute [Kachi, A. et al. (2019)], p. 12.

³³ “Shipping companies” under Art. 3 (d) MRV Regulation refers to both the “ship owner” and any organisation or person which has assumed the responsibility for the operation of the ship (“ship operator”).

³⁴ Menner, M. / Reichert, G. (2020), Reducing CO₂ emissions in maritime transport, [ceplnput 24/2020](#), Section 2.2

³⁵ *Ibid.*, Sections 2.3.1 and 2.3.2.2.

³⁶ *Ibid.*, Section 2.2.

³⁷ Rehmatulla, N. / Smith, T. (2015), [Barriers to energy efficient and low carbon shipping](#), Ocean Engineering Vol. 110 (B), p. 102–112.

³⁸ Menner, M. / Reichert, G. (2020), Reducing CO₂ emissions in maritime transport, [ceplnput 24/2020](#), Section 2.3.1.

³⁹ Mensah, E. N. O. (2017), [Optimising energy efficiency: split incentives in the context of the implementation of SEEMP](#), World Maritime University Dissertations, p. 577.

forces could then ensure the corresponding supply: The increased demand for fuel-efficient ships increases pressure on the owners to improve the efficiency of ships by way of appropriate refits or new vessels as inefficient ships will no longer be chartered or only at much lower charter rates. This in turn gives an incentive to shipyards to develop more fuel-efficient ships.⁴⁰ The problem of split incentives for saving fossil fuels can also be reduced by means of model contracts which give both the ship owner and the operator a share in the fuel savings achieved by CO₂ reduction measures.

The general rule however: there is no ideal solution; the aforementioned trade-offs are unavoidable where ship owner and ship operator are two different entities.

3.2.3 Opt-outs for small and medium-sized shipping enterprises (SMEs)?

Due to the downstream allowance requirement, shipping companies incur costs for registration and account management on the trading platform, trading activities and for market surveillance and estimation of the future need for allowances. These costs are not particularly significant for ships operated by major ship owners themselves on scheduled services. In the case of smaller charterers, however, who carry cargo on established shipping lines or compete in the spot markets for cargo on various routes with various speed specifications, they are not negligible.⁴¹ The latter case, in particular, primarily involves small and medium-sized enterprises (SMEs) with only a few ships. By contrast with ship operators on scheduled services, it is difficult for them to anticipate future CO₂ emissions and they would be hit harder by fluctuations in the price of allowances. They are also less able to act strategically on the allowance market than large shipping companies, especially in the case of an ETS that only covers shipping (shipping-only ETS). Appropriate precautions must be taken in this case.

To solve these problems with SMEs, the EU Parliament has suggested an “opt-out” so that – like small industrial and electricity generating companies excluded from the EU ETS – they would be excluded from the allowance requirement.⁴² Under this suggestion, shipping companies will have the option - instead of having to hold allowances under the EU ETS - to pay an annual CO₂ cost contribution to cover their annual CO₂ emissions, and this would be based on the highest allowance price from the previous year. Thus, small and medium-sized shipping enterprises could avoid the cost burden caused by the ETS. The actual design of such opt-out solutions should, however, ensure that, ultimately, SMEs are no worse off as a result than they would be under the ETS. Otherwise they will have failed in their purpose.

3.3 Sectoral ETS coverage: sectors requiring allowances?

The Commission and the EU Parliament have so far only considered incorporating shipping into the existing EU ETS⁴³ which limits CO₂ emissions from high-carbon industrial installations and energy producers and from aviation (EU-ETS sectors). CO₂ emissions from the other sectors – transport⁴⁴, buildings, agriculture and forestry (non-EU-ETS sectors) – are to be reduced by way of “effort sharing”

⁴⁰ Kachi, A. et al. (2019), p. 13.

⁴¹ Ibid., p. 25.

⁴² EU-Parliament (2020), Amendments to the Commission’s MRV proposal; on this Menner, M. / Reichert, G. (2020), Reducing CO₂ Emissions in Maritime Transport, [ceplInput 24/2020](#), Section 2.3.2.4.

⁴³ EU Commission (2020), Impact Assessment EU-2030 Climate Target, p. 27 et seq.; EU Parliament (2020), Amendments to the Commission’s MRV proposal, Amendment 60.

⁴⁴ The transport sector includes CO₂ emissions from road vehicles in particular. In the case of electric vehicles - e.g. trains and electric cars - CO₂ emissions from fossil fuels used in electricity production are attributed to the electricity producers and thus the EU ETS sectors.

within the EU⁴⁵ which provides Member States with different targets for CO₂ reduction in non-EU-ETS sectors and largely leaves it up to the Member States to decide how to achieve them.

The advantage of an ETS that covers as many sectors as possible is that CO₂ emissions are effectively reduced across all the included sectors by lowering the cap, and the most cost-effective CO₂ avoidance options are fully utilised as a result of trading under a uniform allowance price. This basically supports the inclusion of shipping in the existing EU ETS. However, this would also mean that shipping – as soon as it becomes a net purchaser of allowances as a result of the expected continuous rise in transport volume⁴⁶ – would push up the allowance price for all the other sectors.⁴⁷ A higher allowance price increases the risk of carbon leakage from industrial companies subject to international competition because it increases the cost differential with competitors from third countries that are not subject to any, or only a very low, CO₂ price or similar costly emission reduction obligations. This increases the risk that production, together with the associated CO₂ emissions, will be relocated giving rise to a corresponding loss of output and employment in the EU and – if production technology is less efficient – an overall rise in CO₂ emissions.

In order to avoid this situation, shipping should have its own ETS separate from the EU ETS. This could take the form of either a dedicated shipping ETS or an ETS that includes other sectors – such as transport and buildings – and possibly also aviation which is currently regulated under the EU ETS.

4 Recommendations

In order to reduce CO₂ emissions from international shipping, the EU should consider the following key points:

- Due to the global nature of international shipping, a global approach to reducing CO₂ emissions is appropriate. The most effective and cost-efficient way to achieve this, in terms of climate policy, is by pricing CO₂ emissions by means of global emissions trading which is superior to other climate-policy CO₂ reduction measures – such as regulatory requirements (rules and prohibitions), subsidies or carbon taxes. The EU should therefore campaign, within the framework of the IMO, for the introduction of a global emissions trading system for shipping.
- The EU's plan to go it alone on climate policy is not only less effective and efficient per se than a global approach to CO₂ reduction in international shipping but also gives rise to a significant risk of international disputes, evasive action, distortions of competition and thus carbon leakage. To avoid this, the EU should preferably refrain from its planned unilateral action and instead take a more active role in the IMO negotiations by making constructive proposals on market-based CO₂ reduction measures particularly in the form of a global emissions trading system.
- If the EU nevertheless introduces an emissions trading system for the shipping sector on a unilateral basis, it should not include refineries or ship refuelling bases but make the shipping companies, that are responsible for ship operations, subject to the allowance requirement (downstream trade) because, as end users of fuel and the ones causing CO₂ emissions, they have a direct incentive to reduce these by operational or technical measures.

⁴⁵ For a detailed analysis see Bonn, M. / Reichert, G. (2018), Climate Protection outside the EU ETS, [ceplnput 04/2018](#).

⁴⁶ CE Delft (2020), [Fourth IMO Greenhouse Gas Study](#).

⁴⁷ On this generally see Menner, M. / Reichert, G. (2019), Wirksame CO₂-Bepreisung, [cepStudy](#), p. 20 et seq.

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- As small and medium-sized shipping enterprises face disproportionately high costs for participating in emissions trading, the EU should create exceptions for them, e.g. by way of “opt-outs” with alternative forms of CO₂ pricing.
 - As the plans of the EU Commission and the EU Parliament to include shipping in the existing EU ETS may significantly increase the risk of carbon leakage for certain high-energy industrial companies that compete internationally, shipping should be covered by an ETS that is separate from the existing EU ETS.

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