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Briefing on the proposal to integrate maritime transport in the EU ETS

Study for the Air Pollution and Climate Secretariat (AirClim) and the Life ETX Consortium

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This policy brief provides an overview of the proposal by the European Commission to reform the EU ETS from July 2021. The proposal foresees the extension of the existing EU ETS to maritime transport by amending the Emissions Trading Directive (Directive 2003/87/EC) and by adjusting the EU MRV Regulation (2015/757). The proposal is part of the Fit-for-55 package, which also includes other proposals addressing the maritime sector, such as the FuelEU Maritime Initiative. Our policy brief outlines the importance of addressing maritime transport emissions, evaluates the proposal and puts it into context with developments on a global level.

Key recommendations

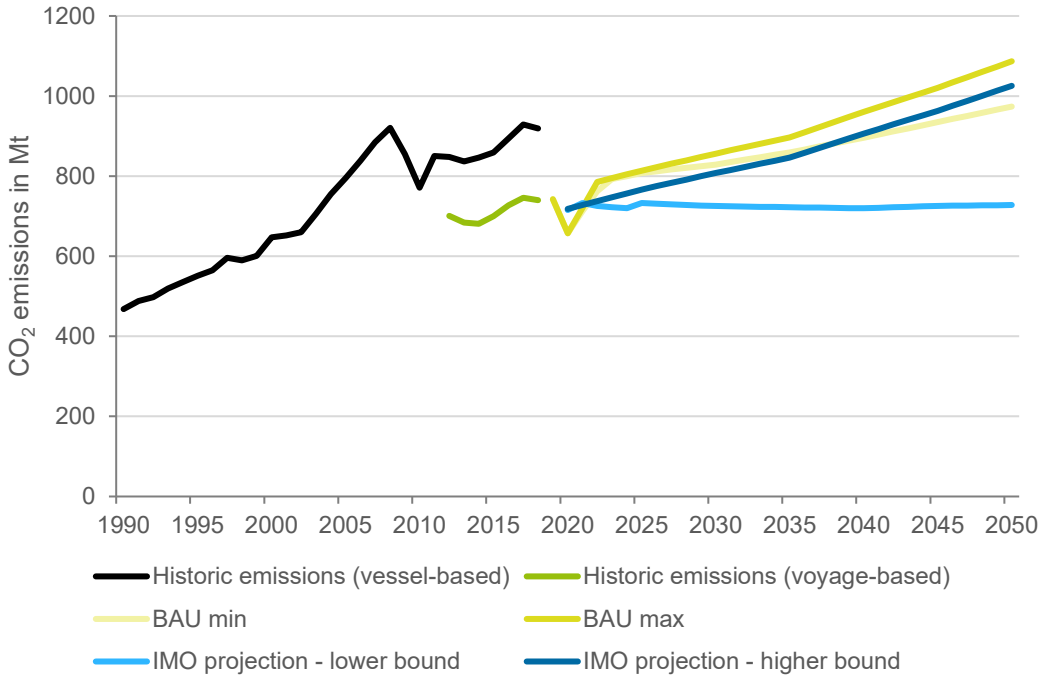
- Expanding the EU ETS to include maritime transport is an important step, which introduces carbon pricing in this sector and signals the relevance of its emissions to the EU's overall emissions and to the economy.
- The current proposal could be improved by:
  - including all relevant GHGs (CO_2, CH_4 and N_2O), and possibly also black carbon;
  - considering a step-wise inclusion of ships over 400 GT in a timely manner;
  - considering whether an expansion of the geographical scope is politically feasible given the experience with the aviation ETS;
  - abolishing the transitional phase for surrendering allowances;
  - adding emphasis or detail on how EU ETS revenues will be used to decarbonise the maritime sector (e.g., CCfD through a dedicated fund).
- The inclusion of international maritime transport in the EU NDC with the geographical scope of the maritime EU ETS could underscore the EU's ambition to reduce emissions and strengthen links between efforts under IMO and UNFCCC. The EU's forerunner role could serve as an incentive and proof-of-concept for an international policy.

1 Importance of maritime transport emissions

Maritime transport contributes 2-3% to global greenhouse gas (GHG) emissions which corresponds to 1,076 $MtCO_2eq$ (IMO 2020). The majority of these emissions are CO_2 emissions (over 90%) and methane (CH_4), black carbon and nitrous oxide (N_2O). The major share of emissions stems from voyages in international waters. If international maritime transport were a country, it would be ranked the 7th largest CO_2 emitter globally, having produced 740 $MtCO_2$ in 2018 (Gütschow et al. 2021).

Figure 1 provides an overview of the CO_2 emissions development (from international maritime transport) to date and a range of emission projections up to 2050. In recent decades, annual CO_2 emissions from international maritime transport have increased on average. The business-as-usual (BAU) scenarios all show an increase in emissions in 2050 compared to today, with a wide range of projected emissions in 2050 (represented by the lower and upper bounds in Figure 1).

Figure 1 **Historic and projected CO_2 emissions from international maritime transport**



Source: Authors' own compilation based on CAT (2021), IMO (2009), IMO (2015), IMO (2020)

Note: Historic emissions are based on bottom-up data from the IMO of the activity of the global fleet. The latest IMO (2020) greenhouse gas study refines the methodology by using a voyage-based approach compared to the previous vessel-based approach which decreases the share of international maritime transport of the total maritime transport. The voyage-based approach makes use of AIS data whereas the vessel-based approach uses vessel type and size to assume if the ship is considered to be counted towards domestic or international shipping. Projections are based on business-as-usual data from the IMO and an analysis of the impact of the COVID-19 pandemic from Climate Action Tracker (2021).

The share of maritime transport emissions in the EU is comparable to the global level: CO_2 emissions from maritime transport constituted 3% (138 Mt) of overall emissions in the EU (EC 2020). The size of emissions is comparable to the emissions of Belgium. Within the EU transport sector, the share of maritime transport emissions

amounts to approx. 13% (EMSA; EEA 2021). In 2019, 7% of EU-related maritime CO_2 emissions occurred when ships were at berth; 32% of emissions occurred on (maritime) intra-EEA voyages; and 32% and 29% occurred on incoming and outgoing voyages from and to third countries respectively (EC 2021a). Most EU maritime emissions are thus from international voyages.

Maritime transport is currently very important to the economy of the EU (EMSA; EEA 2021):

- A substantial share of the global fleet is EU flagged or owned by EU member states (17.6% and 36.4% of dead weight tonnage respectively);
- Rotterdam, Antwerp and Hamburg are important global ports;
- 77% of all goods traded to and from the EU were handled via maritime transport in 2019;
- The EU is dependent on international maritime transport as a net-importer of goods.

To date, GHG emissions from maritime transport in the EU have not been subject to regulation –apart from a monitoring requirement through the EU Monitoring, Reporting and Verification system (EU MRV). This system was adopted in 2015 with a view to building a basis for developing and implementing market-based reduction policies. A future increase in emissions is expected because the demand for maritime transport is highly dependent on economic growth. The disruption of supply chains due to the COVID-19 pandemic and the obstruction of the Suez Canal by the Ever Given vessel have also highlighted the importance of maritime transport for the global economy. The proposal of the European Commission (EC) to integrate maritime transport in the EU Emission Trading System (EU ETS), along with other proposals of the Fit-for-55 package, is a step towards addressing the emissions of maritime transport.

2 IMO policies

On an international level, International Maritime Organization (IMO) is the body addressing GHG emissions from maritime transport. Under the United Nation Framework Convention on Climate Change (UNFCCC), Parties agreed to work through IMO to address these emissions, which are not accounted for in national totals (UNFCCC 1998).

In 2018, the IMO adopted the initial GHG strategy (IMO 2018). In this strategy, IMO member states agreed on an absolute emission reduction goal and energy efficiency goals. The long-term absolute goal is “to peak greenhouse gas emissions from international shipping as soon as possible and to reduce the total annual greenhouse gas emissions by at least 50 % by 2050 compared to 2008 whilst pursuing efforts towards phasing them out” (IMO 2018, p. 5). The IMO Member States also agreed to reduce the average carbon intensity (CO_2 emissions per transport work) by at least 40% by 2030, and 70% by 2050, compared to 2008. It is planned that a revision of the GHG strategy will be completed by the end of 2023. At the recent meeting of the Marine Environmental Protection Committee (MEPC 78), further increases in the ambition of the Initial GHG Strategy were discussed. Various submissions to the previous MEPC meetings included different zero or net zero GHG emissions targets for 2050 as well as interim targets. Also at MEPC 78, a major share of IMO member states advocated

for enhancing the ambition by achieving zero GHG emissions by 2050 or earlier (Shaw and Smith 2022). Reaching a conclusion on this matter was postponed to the MEPC 80 in 2023.

The IMO's Initial GHG Strategy includes 20 candidate measures to mitigate GHG emissions from international shipping (IMO 2018). 'Short-term measures' have already been discussed; it is planned that 'mid-term measures' will be agreed by 2030 and 'long-term measures' after 2030. The actual implementation date might be much later, however, than the adoption date. Until recently, submissions to the MEPC have focused on short-term measures. According to the Initial GHG Strategy, short-term measure encompass, for example, the improvement of Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP) as well as speed optimization and speed reduction (IMO 2018). Mid-term measures include technical and operational energy efficiency for new and existing ships (in the form of the Energy Efficiency Index for Existing Ships (EEXI) and Carbon Intensity Indicator (CII) already agreed), implementation programme for the uptake of zero-carbon fuels and market-based measures. The development and provision of zero-carbon fuels and innovative emission reduction mechanism are mentioned as potential long-term measures.

An overview of existing policies from the IMO to reduce GHG emissions is provided in Table 1.

Table 1 Overview of existing policies at IMO

Description	Type of measure	Type of policy	Applicability
EEXI	Ship design	Standard	Mandatory, existing ships
CII	Ship operation	Rating/Standard	Mandatory, ships in operation
EEDI	Ship design	Standard	Mandatory, new-built ships
SEEMP	Ship design	Standard	Mandatory, new-built and existing ships
DCS	Monitoring	MRV	Mandatory, all ships with IMO number > 5,000 GT
ITCP	Capacity building (workshops etc.)	Voluntary effort by countries	Voluntary, national/regional
GHG TC Trust Fund	Capacity-building	Subsidy	Voluntary
National Action Plans	Monitoring	Voluntary effort by countries	Voluntary

Source: Own compilation, ITCP = Integrated Technical Co-operation Programme, GT = gross tonnage

Some of the policies are voluntary, such as the capacity-building programme ICTP, a fund for technical cooperation on the implementation of the Initial GHG Strategy[1] and national action plans[2]. The IMO has set up the Data Collection System (DCS), which requires ships to collect and report data on fuel consumption from 2019 onwards and report it to their flag state. The introduction of the DCS followed the start of the EU's

1 IMO – Greenhous gas emissions: https://www.imo.org/en/OurWork/Environment/Pages/GHG-Emissions.aspx.
2 IMO – National action plans: https://www.imo.org/en/OurWork/Environment/Pages/RELEVANT-NATIONAL-ACTION-PLANS-AND-STRATEGIES.aspx.

MRV system (section 4). In recent years, the IMO has adopted several mandatory policies targeting the energy efficiency of ships (Lloyd's Register 2020):

- The EEDI sets compulsory energy efficiency standards for new ships built after 2013;
- The SEEMP requires ships to develop a plan for monitoring and possibly improving their energy efficiency;
- The EEXI requires every operator to improve the technical energy efficiency of existing ships. The energy efficiency level of those ships needs to improve to a level comparable to a new ship of the same type and deadweight in correspondence with the applicable EEDI;
- The CII regulates operational carbon intensity by requiring a linear reduction of in-service carbon intensity of a ship (of 5 000 GT or larger) between 2023 and 2030.

As part of the mid-term measures, market-based policies have gained attention again at IMO as part of a basket of mid-term measures needed to achieve the targets of the IMO GHG Strategy (Shaw and Smith 2022). Between 2007 and 2010, IMO member states already discussed market-based policies, but a conclusion was not reached. After a 10-year gap, discussions have resumed. Although not labelled as a market-based policy, a proposal was submitted to establish an International Maritime Research Board Fund with a contribution of merely US$2 per tonne of fuel (approx. EUR 0.60 per tonne of CO_2) to finance research and development (ICS et al. 2019). Other proposals for a market-based policy followed: an emissions cap and trade system proposed by Norway, a levy starting at $100 per tonne of CO_2 by the Marshall and Solomon Islands, and a 'feebate' system proposed by Japan. A GHG fuel standard is being discussed as another mid-term measure. The proposals will be considered further at the upcoming meetings, with a conclusion reached at MEPC 80 at the earliest. A timetable with key dates is provided below based on the Initial GHG Strategy and a workplan agreed at MEPC 76.

Table 2 Timeline IMO processes

Topic	Meeting	Date
Agreement on higher/revised ambition goals	MEPC 80	June/July 2023
Potential agreement on finalization of a market-based policy and discussion of other mid-term measures	MEPC 80	June/July 2023
Assessment and selection of (priority) mid- and long-term measures (Phase 2)	MEPC 79/80	2023
Further development of agreed measures to be finalized within (an) agreed target date in line with GHG Strategy (Phase 3)	-	Starting after Phase 2
Agreement on mid-term measures (Initial GHG Strategy)	-	By 2030
Agreement on long-term measures (Initial GHG Strategy)	-	Beyond 2030

Source: Own compilation based on IMO (2018), Shaw and Smith (2022) and workplan agreed at MEPC 76

3 Proposal for including shipping into the EU ETS

3.1 Proposal by the EU Commission

In July 2021, the EC presented its proposal to reform the EU ETS and align it with the new climate target of reducing emissions by at least 55% by 2030 compared to 1990 (EC 2021b). The proposal foresees the extension of the existing EU ETS to maritime transport by amending the Emissions Trading Directive (Directive 2003/87/EC) and by adjusting the EU MRV Regulation (2015/757). The proposal is part of the Fit-for-55 package, which also includes other proposals addressing the maritime sector, such as the FuelEU Maritime Initiative (EC 2021c). The proposal to expand the EU ETS to include maritime transport is presented as the next step in addressing emissions from the sector following the introduction of the EU MRV system in 2018 and also as a response to the lack of climate action at the IMO (section 4).

Depending on the length of the trialogue negotiations, the maritime sector should be integrated into the existing EU ETS starting in 2024. The ETS cap would therefore be increased by 79 million in 2024. The number of allowances is derived from the CO_2 emissions from maritime transport in 2018, for which the 4.2% Linear Reduction Factor (LRF) applicable in the EU ETS will be applied retrospectively from 2020 onwards. Allocation would take place entirely via regular auctions, with no free allocation to the shipping industry (as agreed by all three key EU institutions). The EC proposed a transition phase, meaning that between 2023 and 2026 the share of emissions for which emission allowances must be surrendered will gradually increase. It is questionable, however, whether a transition phase is really needed considering the urgency of the climate crisis, the existing experience with the EU ETS from other sectors and that this regulatory step from the EC was anticipated. According to the accompanying impact assessment (Pons et al. 2021), most emission reductions in the sectors covered by the EU ETS will not take place in the maritime sector due to the expected allowance prices. Only about a third of the emissions from maritime transport would be reduced in the sector and the majority would be covered by purchase of allowances (Pons et al. 2021).

The EU ETS for maritime transport would cover only CO_2 emissions from a tank-to-wake perspective and larger ships with a gross tonnage (GT) over 5,000. Implementing the proposal in this way would though lead to lower effectiveness and wrong incentives. Covering only CO_2 emissions and not all relevant GHG emissions from shipping (section 1) ignores the full picture of shipping's climate impact and favours fuels which reduce CO_2 emissions upon combustion but still emit considerable amounts of other GHGs, like CH_4 emissions from LNG-fuelled vessels (Wissner et al. 2021). A tank-to-wake perspective is in line with the way in which the current EU ETS works, but does not take upstream emissions into account (e.g. methanol made from fossil fuels). For example, by making use of guarantees of origin for e-fuels and adjusting the respective emissions factors used in the EU ETS and EU MRV, the well-to-wake approach could be integrated (Wissner et al. 2021).

The scope of the maritime ETS would cover 100% of emissions at berth, 100% of emissions from voyages between EEA ports, and 50% of emissions from voyages to or from EEA ports. This semi-full scope in comparison to the EU MRV coverage (approx. 100 $MtCO_2$, Wissner et al. (2021)) seems appropriate given the small amount of emissions of an intra-EEA-only scope (section 1), and considering that a full scope

will probably face more opposition like the aviation ETS – though it would be more environmentally effective.

All ships engaging in commercial transport of freight and passenger would be subject to the EU ETS. Warships, naval auxiliaries, vessels used to catch or process fish, timber vessels of simple design, vessels not propelled by machinery or state-owned vessels used for non-commercial purposes would be exempted. The ETS would be expanded to include maritime transport only, without covering inland navigation. The inclusion of some of the exempted vessel types should be considered at a later review of the maritime ETS since it has been shown that emissions from offshore and fishing vessels in particular are considerable (Armstrong and Simon 2022).

The regulated entity would be the shipping company, defined as the "*shipowner or any other organisation or person, such as the manager or the bareboat charterer, that has assumed the responsibility for the operation of the ship from the shipowner and that, on assuming such responsibility, has agreed to take over all the duties and responsibilities imposed by the International Management Code for the Safe Operation of Ships and for Pollution Prevention*".

The EC proposed that the European innovation and modernisation funds should be increased and the award rules adjusted. Additionally, carbon contracts for difference (CCfDs) and technologies and infrastructure for the decarbonisation of maritime transport should be supported via the Innovation Fund.

Generally, the proposal strongly builds on the existing EU MRV regulation and modifications to it. Since 2019, the EU MRV regulation has itself been undergoing a revision process which has not been completed yet. The EU ETS would rely on the verification process established in the EU MRV and refers to the EU MRV regulation for the definition of the point of regulation, covered ship type and size as well as covered GHG emissions. This has implications for future changes to the EU ETS as these can be implemented through changes to the EU MRV; an amendment of the whole EU ETS Directive would not be needed for many aspects. The proposals further foresees that the EC would be able to adopt further rules within the EU MRV regulation via delegated acts. Member States and members of the European Parliament would thus not be formally involved in the adoption of new rules and many details are regulated separately in the EU MRV regulation. It is also unclear how the ongoing EU MRV review process is influenced by the EU ETS proposal. Furthermore, if the overall ambition of the EU ETS were strengthened, this would also impact the maritime sector covered in the EU ETS.

3.2 Proposals by EU Parliament and Council

The European Parliament (EP) adopted a text on the proposal of the EC End of June 2022. The text includes a range of changes to the proposed changes to the ETS Directive and the EU MRV Regulation. This section will highlight some of the proposed changes. The EP does not support a transition phase for the sector and proposes that shipping companies should surrender allowances for all their emissions starting in 2024. Instead of funding the decarbonisation of maritime transport through the Innovation Fund (section 3.1), the EP proposes to establish a dedicated fund for maritime transport, the Ocean Fund, funded by 75% of revenues from the maritime ETS and any penalties under the FuelEU Maritime. The Ocean Fund should finance dedicated Carbon Contracts for Difference (CCfD) for alternative fuels and investments in

decarbonisation technologies. Given the large price gap between fossil marine fuels and future alternative fuels, dedicated financing options like CCfD for boosting the supply of these fuels should be explored. Additionally, it is proposed that the Ocean Fund can be used by shipping companies to surrender allowances by a yearly membership contribution (instead of surrendering individually). The Ocean Fund would surrender allowances on their behalf. It is questionable whether this is necessary or whether small- and medium-sized shipping companies could use intermediaries to acquire allowances as is already the case in the existing ETS for many companies (Wissner et al. 2021). Further, the EP advocates an extension of the scope of the maritime ETS by covering:

- not only CO_2 but also CH_4 and N_2O;
- ships of 400 GT and over in the MRV from 2024 and, based on a feasibility report by the EC, also in the ETS from 2027 onwards;
- 100% of emissions on voyages from and to third countries from 2027 onwards but with exemptions for 50% emissions coverage (as proposed by EC) if a carbon mechanism exists in the third country, or if the country is a Least Developed Country or Small Island Developing State (based on a GDP limit);
- 100% coverage of emission on voyages to third-country ports if less than 300 nautical miles from EEA-port starting 2024.

This proposed expansion of the originally proposed scope would increase the effectiveness of the policy. In particular, the inclusion of CH_4 and N_2O emissions is important in order to reflect the complete climate impact of shipping. At a later stage, the inclusion of black carbon emissions should also be considered based on, for example, emission factors proposed by Comer and Osipova (2021). The plan to expand the scope to include ships over 400 GT in a step-wise process is useful since these emissions would otherwise not be covered by any EU regulation and are likely significant relative to the total amount of EU-related shipping emissions (Armstrong and Simon 2022).

The EP also proposes making a special case for ice-class ships by covering 100% of their emissions from 2030 onwards and giving them specific decarbonisation support through the Ocean Fund. Also, the list of exempted ship types should be extended to include ships for civil protection and search and rescue purposes.

The power of the EC to adopt changes through delegated acts (section 3.1) should only be valid for 5 years after the revised MRV regulation has entered into force, and thereafter an extension of this power should be discussed every 5 years.

The EP is also demanding a new article on contractual arrangements which includes a binding clause in shipping contracts for the purpose of passing on the costs so that the entity that is ultimately responsible for the decisions influencing the emissions of a ship is held accountable for covering the compliance costs paid by the shipping company under the directive. The article requires Member States to take necessary measures so that shipping companies actually recover these costs. While the EC proposal already addresses the debate about the way in which ship owners could pass on the additional costs fairly with the chosen definition of the regulated entity (section 3.1) (T&E 2021), it is unclear how the additional article demanded by the EP would be implemented by Member States. Overall, the changes by the EP aim at increasing the mitigation ambition of the proposal for maritime transport. The proposed changes

in scope and phase-in aspects would increase the emissions coverage by more than 400 $MtCO_2eq$, according to Armstrong et al. (2022).

The European Council adopted a general approach regarding the EC proposal at the end of June 2022. A first analysis of the Council's proposal was carried out by Armstrong et al. (2022) and included the exemption of domestic voyages to outermost regions, a potential delay in the phase-in period, and an adjustment of the ETS scope due to IMO action. In a worst case scenario estimated in the analysis, the Council proposal would potentially even decrease the emissions coverage up to 2030 compared to the EC proposal. A first exchange of views on the Fit-for-55 package was conducted at an informal meeting in mid-July 2022.[3] The trialogue will continue negotiations in autumn 2022.

3.3 Interaction with other Fit-for-55 policies

The Fit-for-55 package includes other elements in addition to the expansion of the scope of the EU ETS which shall influence the maritime transport sector.

The purpose of the **FuelEU Maritime Regulation** is to further the use of renewable and low-carbon alternative fuels in the sector. The regulation would set an emission intensity standard from 2025 onwards: the average GHG intensity of energy used (g CO_2equivalent/megajoule) on ships must decrease every 5 years (by 2% in 2025 and by 75% in 2050 compared to 2020). The EU ETS and the FuelEU Maritime Regulation address the same point of regulation and cover the same scope (geographical, ship type/size). However, the FuelEU Maritime Regulation considers more GHG emissions (CH_4 and N_2O as well as upstream emissions (well-to-wake approach)). An obligation to use on-shore power supply or zero-emission technology in port for container and passenger ships (with exceptions) from 2030 is also foreseen.

The **Energy Taxation Directive** (ETD) should be amended so that the exemption of fuels used in intra-EU maritime transport (and also in inland navigation) is phased out from 2023. Alternative fuels such as renewable fuels of non-biological origin (RFNBOs) will be exempted from the tax for 10 years. Member States should be authorised to exempt onshore power supply in ports from tax.

The **Alternative Fuels Infrastructure Regulation** (AFIR) is also being revised and aims to ensure that alternative fuels and onshore power supply are increasingly available for maritime transport in EU ports. By making alternative fuels increasing available, the mitigation of emissions within the sector is facilitated rather than the buying of emission allowances.

The **Renewable Energy Directive** (RED) is also currently under revision. The RED transport target includes fuel provided to maritime transport. The RED and the EU ETS are linked via the use of alternative fuels in maritime transport both for the reduction of the surrender obligation in the EU ETS and for target fulfilment of the RED.

[3] https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-revision-of-the-eu-emission-trading-system-(ets).

4 EU proposals in face of progress at IMO

GHG emissions from international shipping have not been sufficiently regulated to date. The legislative proposals of the Fit-for-55 package can be regarded as the next logical step after the introduction of the EU MRV system in addressing emissions of maritime transport.

EU's forerunner role could serve as a strong incentive for action at the IMO and can provide a clear proof-of-concept. This has already worked in the past when the DCS was introduced at global level in 2019 following the implementation of the EU MRV in 2018. The EU's Sulphur Directive was also very important to the IMO decision in 2016 to implement a global 0.5% sulphur cap in 2020.

It is currently foreseen that the maritime chapter of EU ETS Directive would be reviewed if the IMO were to decide on a global market-based policy. The EC proposed that a report on any relevant IMO developments must be compiled by the end of September 2028, which should potentially include amendments to the Directive, e.g. to make allowances from other ETS eligible or to adjust the scope.

A policy for addressing emissions from international shipping within the Fit-for-55 package is likely to be implemented faster than a policy at IMO. Discussions on mid-term measures, including a potential market-based policy, are still in their infancy. Even if IMO member states were to agree which policy should be finalized at the next possible decisive meeting in summer 2023 (Shaw and Smith 2022), it would still take longer for IMO to implement the policy than the EU would need with potential implementation of the ETS in 2023 or 2024. This is because any amendments to the MARPOL treaty (in which environmental issues are regulated) need to be circulated as a draft for a minimum six months before adoption and they can enter into force after a minimum 16 months following adoption.[4]

Currently, emissions of international maritime transport are reflected neither in national GHG inventories nor in the Nationally Determined Contributions (NDCs). To further facilitate increases in the ambition of emission reductions in international maritime transport, key maritime countries could include the sector in their NDCs and commit to the same reduction ambition as for other sectors. This would underscore the importance of this sector and strengthen the linkages between efforts under IMO and UNFCCC to reduce global GHG emissions. The EU Climate Law states that the EU's NDC covers all emissions which are regulated by EU legislation. The inclusion of shipping in the EU ETS would cover all intra-EEA plus (at least) 50% of each incoming and outgoing voyages, thereby covering emissions from international maritime transport. It would therefore be appropriate to include international maritime transport with precisely this scope in the next update of the NDC.

[4] https://imo-newsroom.prgloo.com/news/imo-working-group-agrees-further-measures-to-cut-ship-emissions

Conclusions

The EC proposal to include maritime transport in the EU ETS is – along with other Fit-for-55 proposals – a major step forward in addressing the significant emissions from international transport. In the face of insufficient ambition and slow progress at IMO, the EU's forerunner role could serve as an incentive and proof-of-concept for an international policy.

The current legislative proposal by the EC could, however, be improved in order to strengthen the ambition. As proposed by the EP, all relevant GHG and particles should be included to avoid wrong incentives, e.g. the use of fossil LNG, as well as smaller vessel sizes. It is questionable whether the shipping sector still needs a transitional phase for the surrendering of allowances given the urgency of the climate crisis and the notice given by the proposal. As very high allowances prices would be needed to make measures for emission reductions attractive in the maritime sector, the use of ETS revenues for decarbonising the sector is crucial.

International maritime transport could be included in the EU NDC with the geographical scope of the maritime EU ETS. This could enhance ambitions to reduce emissions and strengthen links between efforts under IMO and UNFCCC.

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