

# The aviation and shipping exemptions in the Paris Agreement on climate change

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The Paris Agreement on climate change sets out ambitious goals for the reduction of greenhouse gas emissions. However, the goals do not include international aviation and shipping, which are left to the ICAO and the IMO, respectively. Which are the political and legal reasons why these exceptions are made and how have the two organisations dealt with the challenge? Rather than focusing on a target for global warming and the achievements of states, the approach of the ICAO and the IMO is much more focused on the emissions of individual ships and aircraft. While the ICAO has chosen a market-based approach, the IMO has focused on other routes.

## Exemption

In the Paris Agreement to reduce greenhouse gas (GHG) emissions,<sup>2</sup> exemption was made for international shipping and international aviation, with the intention for these emissions to be considered by the UN's International Maritime Organization (IMO) and the UN's International Civil Aviation Organization (ICAO). This article concerns this transport exemption.<sup>3</sup>

The transport exemption is not explicitly stated in the Paris Agreement, but it is well-documented that the exemption was intended to be part of the agreement.<sup>4</sup> The reporting rules (which to date are the same for both the Framework Convention<sup>5</sup> and the Paris Agreement) indicate that international shipping and aviation must be reported separately,<sup>6</sup> and that these two factors are not included in the calculation of how much a country has reduced the GHG emissions for which it is accountable.

The exemption applies to the transport of passengers and goods, but not to fisheries,<sup>7</sup> research vessels and military vessels, for example. A vessel's registration state (or flag) does not make any difference. The emissions exemption applies solely to international transport, defined as transport between two different countries, which means that, for example, transport of any kind between mainland Norway and Svalbard, or between Norway and the Antarctic dependencies, is not exempt.

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<sup>2</sup> Paris Agreement [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf).

<sup>3</sup> Concerning the transport exemption see <https://unfccc.int/topics/mitigation/workstreams/emissions-from-international-transport-bunker-fuels#eq-2>; see also Aldo Chircop, Meinhard Doelle and Ryan Gauvin 'Shipping and climate change international law and policy considerations' Special Report, Centre for International Governance Innovation (2018).

<sup>4</sup> See eg UN doc FCCC/SBSTA/2015/L.16.

<sup>5</sup> United Nations Framework Convention on Climate Change (UNFCCC) 1992.

<sup>6</sup> IPCC *Guidelines for National Greenhouse Gas Inventories* (2006) vol 2: 'Energy' ch 3 'Mobile combustion' Table 3.1.1. s 1A3. See in particular ss (a)(i) on international aviation (international bunkers) and (d)(i) on international waterborne navigation (international bunkers). The 2019 refinement to the Guidelines does not seem to have changed these subsections. See <https://www.ipcc-nggip.iges.or.jp/>.

<sup>7</sup> See IPCC (n 6) Table 3.1.1 s 1A4(c)(iii) on fishing (mobile combustion).

## 1. Why have exemptions?

As outlined above, there cannot in fact be many reasons for choosing to exempt international shipping and aviation.

First, there was probably too little time available during the Paris negotiations to include international transport, and no one seems to have taken the leadership on this issue.

Secondly, international shipping and aviation have often been viewed as domains that should be subject to full international regulation, so as to maintain fair competition (ie a level playing field) and to avoid states underbidding each other to strengthen their own industries (ie the race to the bottom). From the outset, therefore, it seems to have been clear that the exemptions should not only apply to reporting, but that uniform instruments in these areas should also be developed. Before the Paris Agreement, both the IMO and the ICAO were in the process of discussing international measures. It is ironic, therefore, that the IMO is now inviting plans for national measures.<sup>8</sup>

Thirdly, there is a certain tradition for special treatment of these areas. Similar exemptions can be found in EU rules concerning quotas<sup>9</sup> for GHG emissions; for aviation, the exemption nonetheless does not apply within the EEA.<sup>10</sup> The Kyoto Protocol exempts international transport.<sup>11</sup> In completely different international legal cooperation contexts, it is also often considered that shipping and aviation stand out as areas in which special consideration must be made and special expertise is required.

Fourthly, there is a strong lobby in these areas. Lobbyists may see an advantage in venues (such as UN organisations) where they can interact with business authorities, rather than climate authorities. Industry lobbyists may also have considered it an advantage to choose an alternative that defers the instruments.

Finally, legal concerns may also have played a role. This topic will be discussed in the next section.

All in all, there can be many reasons for special rules for international shipping and aviation in the Paris Agreement.

## 2. Legal issues?

As stated above, it must be asked whether making states accountable for GHG emissions from international shipping and aviation entails legal issues.

The most straightforward is the *assignment issue*, ie the question of whether it is legally possible to assign accountability to a particular state for one aspect of distinctly international activities such as shipping and aviation. It may be possible to assign emissions from ships and aircraft to the flag state, although the large flag-state nations – such as Norway for shipping – would probably deem such a policy unfair and politically inadvisable. Another option would be to assign GHG emissions to an international journey's point of departure or arrival, or to assign half of the emissions to each of these locations, regardless of the state in which the means of transport is registered. In the fisheries sector, the assignment issue has been resolved by attributing the emissions to the country where bunkers (fuel) was purchased.<sup>12</sup>

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<sup>8</sup> IMO res MEPC.327(75) 'Encouragement of member states to develop and submit voluntary national action plans to address GHG emissions from ships'. IMO resolutions are available online; other IMO documents must be downloaded from <https://docs.imo.org/>.

<sup>9</sup> Concerning GHG reduction quota systems see <https://www.regjeringen.no/no/tema/klima-og-miljo/klima/innsiktsartikler-klima/klimakvoter/id2076655/#:~:text=En%20klimavote%20er%20en%20tillatelse,klimagasser%20totalt%20sett%20blir%20mindre>.

<sup>10</sup> See art 2 of Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for GHG emission allowance trading within the Community and amending Council Directive 96/61/EC with subsequent amendments. The EU as such is not a member of the ICAO and the IMO, but Member States act on a coordinated basis in these organisations, and the European Commission has observer status.

<sup>11</sup> Kyoto Protocol to the UNFCCC (1997) art 2.

<sup>12</sup> IPCC (n 6) Table 3.1.1 s 1A3(a)(i).



If these assignments were to be applied, it would be relatively straightforward to calculate a state's obligations to reduce its GHG emissions, without this presenting legal problems, and this could resolve the assignment issue. However, since there is also an ambition to develop uniform instruments in these areas,<sup>13</sup> there is also a *jurisdiction issue*. Can a state implement measures for ships and aircraft whose GHG emissions are assigned to it? If not, it may be claimed that it is not reasonable for a state to be held accountable for the emissions from ships and aircraft it cannot influence because it lacks jurisdiction.

Lack of jurisdiction is not really a problem in this context, however. At the points of departure and arrival, local authorities will have full jurisdiction over foreign vessels, and can, for example, withhold (or arrest) a vessel until GHG reduction quotas have been purchased or taxes based on GHG emissions have been paid.<sup>14</sup> It is also possible to deny entry for ships or aircraft that do not pay such environmental taxes. Notwithstanding these possibilities, the aircraft owner or shipowner can still be held accountable, albeit not with an enforcement mechanism that is as effective as enforcement against the ship or aircraft.

Once taxes and behaviour-regulating sanctions could be enforced and, in this author's opinion, it will not matter much whether the behaviour to be regulated has taken place outside the jurisdiction of the state in question or not. The fact that only the flag state may enforce measures against the ship (or, more impracticably, the aircraft) outside any country's jurisdiction does not mean that other countries may not impose legal consequences for actions taking place there. This reasoning is the basis for, among other things, the EU's GHG quota regulation for aircraft which has been approved by the ECJ,<sup>15</sup> and is also the basis for the work of the IMO and the ICAO (below).

In the *Norstar* case before the International Tribunal for the Law of the Sea (ITLOS), however, the majority took a more restrictive view.<sup>16</sup> The Panama-registered ship *Norstar* had purchased tax-free fuel for yachts in Italy on the condition that this fuel would not be used in Italy. The fuel was then carried outside the territorial limits and used to refuel Italian yachts there. When the ship (and the yachts) returned to Italian waters, sanctions for violating Italian tax laws were imposed against the ship. The majority found that Italy could not impose sanctions because doing so would be an illegal curtailment of the freedom of the seas. A large minority did not draw these conclusions from the rules of the UNCLOS concerning the freedom of the seas.<sup>17</sup>

It does not necessarily follow from this judgment that a port state cannot refuse calls or berthing of vessels that have not paid environmental taxes or purchased GHG quotas or, for example, that it cannot calculate port fees based on estimated emissions since the last port of call. Such measures do not limit behaviour on the open seas, even if that behaviour has economic or other consequences. In legal terms, therefore, there is an opportunity to enforce behaviour-regulating environmental taxes or quotas. Nor can what is referred to above as the jurisdiction issue justify that the Paris Agreement does not apply to international shipping and aviation.

### 3. Different types of instruments

Under the Paris Agreement, states are free to choose the instruments they wish to use to reduce GHG emissions, and they might have a special interest in reducing the GHG emissions assigned to them. Similarly, the ICAO and the IMO are free to choose instruments to reduce GHG emissions from aviation and shipping, respectively.

<sup>13</sup> See s 1 above.

<sup>14</sup> Norwegian Maritime Code s 91(2) and (possibly) s 51(1)(2) (whether GHG taxes can be integrated into port fees); Norwegian Aviation Act No 101/1993 s 13-2.

<sup>15</sup> Case C-366/10 *Air Transport Association of America and Others v Secretary of State for Energy and Climate Change* ECLI:EU:C:2011:864; Christina Voigt 'Up in the air: aviation in the EU ETS and the question of jurisdiction (2011–2012) 14 *Cambridge Yearbook of European Legal Studies* 475; Anne Fougner Helseth 'Rocking the boat: the question of jurisdiction for applying the European Emissions Trading System to international shipping' (2017) 480 *Marlus* 1.

<sup>16</sup> *M/V Norstar (Panama v Italy)* (Judgment) ITLOS Reports [2019] ss 224–25.

<sup>17</sup> *ibid.* See Joint Dissenting Opinion of Judges Cot, Pawlak, Yanai, Hoffmann, Kolodkin and Lijnzaad and Judge *ad hoc* Treves.

An important distinction in the use of instruments lies between market-based measures and non-market-based measures. Market-based measures may be taxes on GHG emissions in the form of fuel taxes equivalent to the GHG emissions they are expected to generate, or mandatory orders for the purchase of GHG reduction quotas (licences) equivalent to the emissions caused by the business. Non-market-based measures may include speed limits, emission limits and the mandatory use of particular motors or fuel types. While the ICAO has emphasised market-based instruments for aviation, the IMO has been more hesitant.<sup>18</sup>

Two downsides of non-market-based instruments are that they are vulnerable to errors in decision-making processes, and that they can also affect other factors besides GHG emissions. There have been several instances of how particular environmental measures that were initially considered relatively good by the authorities turned out perhaps not to be quite so beneficial after all, compared with alternatives; in Norway, the initial favouring, but subsequent dethronement, of diesel cars and environmental diesel is an example of this. The fact that non-market-based measures can affect factors other than GHG emissions can be illustrated by the example of a speed limit for ships. For a shipping line which, in order to serve the market, has to employ a new ship owing to the speed limit, the speed limit will have a completely different effect, in both business economics and environmental terms, than for another shipping line that has not had to employ a new ship. Non-market-based instruments make policy-makers vulnerable to their lack of complete oversight and knowledge, and can be a goldmine for lobbyists who want to promote special interests.

Market-based instruments are neutral in that they more directly concern the desired outcome (here, reduction of GHG emissions), and it is up to the players in the market to determine how to do this. The idea is for everyone to minimise their costs, with optimum adaptation from both a business economic and socio-economic viewpoint. The cost of GHG emissions to society should thus be 'internalised' in the individual activities and treated like any other cost.

Even though market-based instruments present the advantage of not steering behaviour in a particular direction, there is no guarantee that they will always place the burden of reducing GHG emissions where this can be achieved at the least cost to society.<sup>19</sup> The latter applies even if, to a great extent, the burden can be redistributed in a free market. Of relevance to the IMO and the ICAO, however, is the assumption that it must be possible significantly to reduce emissions originating from international shipping and international aviation, respectively. Since there is not much difference in the costs to society of emission reductions in the various parts of these industries, the choice will be between market-based and non-market-based instruments (or a combination thereof).

There are also problems with market-based instruments. For GHG quota trading, there is the particular problem that, when the system was started up, free quotas may have been distributed to existing businesses. Parties who shut down a business (for whatever reason) would achieve an unearned gain from selling the GHG quotas. The requirement for new GHG quotas may also be a barrier to otherwise sound development, and players who opt out of this transformation will avoid being affected by this barrier. On the other hand, fuel taxes will require some costly and time-consuming control mechanisms (for example, was the fuel purchased from a source that imposes a tax?). There is also considerable scepticism in the industry concerning new taxes, regardless of whether they are earmarked for business measures and should not serve fiscal considerations. Market-based mechanisms are not as simple as one might think.

<sup>18</sup> See below in section 5.

<sup>19</sup> Dieter Schmidtchen and others 'The internalisation of external costs in transport: from the polluter pays to the cheapest cost avoider principle' Center for the Study of Law and Economics (2007) <http://ssrn.com/abstract=1069622>; Robert H Frank and Edward Cartwright *Microeconomics and Behaviour* (McGraw-Hill Education 2013 new edn 2016?) 572. For a broader analysis of possible instruments see Erik Røsæg 'Measures for the sustainable shipping of goods' in Ellen Eftestøl-Wilhelmsson, Suvi Sankari and Anu Bask (eds) *Sustainable and Efficient Transport* (Edward Elgar Publishing 2019) 19–33.



The biggest problem with market-based mechanisms, however, is that it is neither obvious nor even certain that politically-determined environmental taxes or the prices generated for GHG quotas are high enough to reflect the economic costs of GHG emissions. It is possible that the result will be poorer climate adjustments than for non-market-based instruments. This possibility applies particularly to industries with large, long-term investments, such as shipping and aviation. If the economic costs of GHG emissions are under-priced, these investments may have objectives other than just reducing emissions.

The excellent flexibility of market-based instruments also has a drawback: The owner of a ship or aircraft can opt out of investments to reduce GHG emissions if alternative investments improve profitability or ensure faster and more secure repayment of investments. The probability of such alternatives being available will decrease if environmental taxes or similar measures are set high enough. Environmentally beneficial investments may also be preferred, if key market participants insist on them, by including these in freight contracts or loan agreements, for example.<sup>20</sup> The preference for investments that reduce GHG emissions can also be strengthened by better documentation so that the investments are effective and will ensure the required return.<sup>21</sup>

On this basis, it would seem that market-based instruments have a great deal going for them, as well as for both the IMO and the ICAO, provided they are strong enough.

#### 4. ICAO work

The ICAO's solution for GHG emissions is market-based. A separate GHG quota scheme has been created for international aviation. The reporting under the Paris Agreement must still be national, but otherwise separate from overall emissions.<sup>22</sup> This means that individual states cannot easily be held accountable for the ICAO's GHG emission scheme reducing GHG emissions sufficiently, in the light of the general objective to prevent global warming.

The ICAO has set the current targets for maximum GHG emissions from aviation.<sup>23</sup> The targets are not directly related to temperature increases, as in the Paris Agreement, nor is the intention for anything to be measured against them. The targets entail a real reduction from the current emission levels, but must be viewed in the light of the fact that emissions can also be expected to be reduced as a consequence of new technology and perhaps a reduction in international aviation.

International aviation cooperation is based on the Chicago Convention,<sup>24</sup> which does not include rules for GHG quota schemes or for binding rules to be introduced by majority decisions.<sup>25</sup> But there is a mechanism for adopting technical standards (standards and recommended practices, or SARPs), and their definition is probably broad enough to include rules that aircraft must purchase GHG quotas equivalent to their emissions.<sup>26</sup> Such standards are binding in the sense that aircraft from countries that do not implement the standards for GHG quotas may be rejected by other countries.<sup>27</sup> For this reason, these are convincing rules. It is imperative, however, that individual registration states implement and enforce the rules, and that other states actually refuse to allow aircraft without GHG quotas to land. There is no control mechanism to ensure verification of implementation and enforcement by the registration states.

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<sup>20</sup> See the Poseidon Principles <https://www.poseidonprinciples.org/#home>.

<sup>21</sup> See the VERDE project <https://www.dnvgl.com/research/review2019/featured-projects/verification-for-decarbonization.html>.

<sup>22</sup> See s 1 above.

<sup>23</sup> ICAO res A40-18 preamble s 12: 'Consolidated statement of continuing ICAO policies and practices related to environmental protection – climate change'.

<sup>24</sup> Convention on International Civil Aviation (1944).

<sup>25</sup> Pablo Mendes de Leon 'Possible legal arrangements to implement a global market based measure for international aviation emissions' Study for the Directorate General Climate Action of the EU Commission (2015) [https://ec.europa.eu/clima/sites/clima/files/transport/aviation/docs/gmbm\\_legal\\_study\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/transport/aviation/docs/gmbm_legal_study_en.pdf).

<sup>26</sup> Chicago Convention art 37.

<sup>27</sup> *ibid* arts 39–40.

The basis for the GHG quota scheme is a resolution of the ICAO General Assembly.<sup>28</sup> The resolution does not concern complete regulation of the area.<sup>29</sup>

The scheme will be introduced on a voluntary basis in an initial phase in 2021–23 and a first phase in 2024–26. In the second phase, from 2027 to 2035, it is intended that all countries will be involved.

In the ICAO's system, GHG emissions multiplied by a growth factor are subject to a quota requirement.<sup>30</sup> Higher growth gives a greater obligation to purchase quotas. The system is designed gradually to give greater weight to the growth of individual operators than to sector growth. Greenhouse gas quotas can be purchased in an existing market.<sup>31</sup> The price of the quotas is not currently high enough to constitute a significant element of the airlines' costs.<sup>32</sup> No free quotas are granted for existing activity at the time of the establishment of the system.

Aviation in 2020 was intended to serve as the starting point for the calculations of what would be considered an increase in activity (which in turn would trigger an obligation to purchase GHG quotas). The models may need to be adjusted slightly, owing to changes in aviation in 2020 and the following years as a consequence of Covid-19, and some adjustments have already been made.<sup>33</sup>

There is no discount for developing countries in the ICAO system. The principle of 'common but differentiated responsibilities' (CBDR) has no effect either, which may be related to the difficulties in implementing the principles of a GHG quota system, and how opponents of those principles stand relatively more strongly in ICAO than in UNFCCC.<sup>34</sup>

In addition to this market-based instrument, non-market-based instruments are also discussed. An important aspect is the investigation of alternative fuels.<sup>35</sup>

The ICAO has made good progress in this respect, and it seems that the EU will join this arrangement instead of expanding the scope of its own quota system.<sup>36</sup> It is possible to exchange quotas between the two systems.<sup>37</sup>

## 5. The work of the IMO

The IMO's efforts to reduce GHG emissions have been considerably less effective than the ICAO's efforts, and some impatience with the IMO can be noted in the EU system.<sup>38</sup> Like the ICAO, the IMO has its own emissions targets<sup>39</sup> without reporting duties for states, and the set-up is mostly for non-market-based instruments. There are no legal effects concerning whether the targets are achieved or not, and the targets are placed far into the future. It may well be the case that the targets will be achieved solely through technological development, so that the instruments needed to achieve the targets may not necessarily affect the market participants' activity levels.

<sup>28</sup> See ICAO res A40-17: 'Consolidated statement of continuing ICAO policies and practices related to environmental protection – general provisions, noise and local air quality'; ICAO res A40-18 (n 23); ICAO res A40-19: 'Consolidated statement of continuing ICAO policies and practices related to environmental protection – carbon offsetting and reduction scheme for international aviation' (CORSIA).

<sup>29</sup> See supplementary rules in ICAO, Annex 16 to the Convention on International Civil Aviation: 'Environmental Protection vol IV CORSIA' (October 2018); ICAO doc 9501 Environmental Technical Manual vol 4: 'Procedures for demonstrating compliance with the CORSIA scheme (2019).

<sup>30</sup> ICAO res A40-19 s 11.

<sup>31</sup> See ICAO doc 'CORSIA emissions unit eligibility criteria' (March 2019) [https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO\\_Document\\_09.pdf](https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO_Document_09.pdf).

<sup>32</sup> [https://www.icao.int/environmental-protection/pages/a39\\_corsia\\_faq3.aspx](https://www.icao.int/environmental-protection/pages/a39_corsia_faq3.aspx).

<sup>33</sup> <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-and-Covid-19.aspx>.

<sup>34</sup> See inter alia the USA's reservation in the document at [https://www.icao.int/Meetings/a40/Documents/Resolutions/a40\\_res\\_sum\\_en.pdf](https://www.icao.int/Meetings/a40/Documents/Resolutions/a40_res_sum_en.pdf).

<sup>35</sup> <https://www.icao.int/environmental-protection/pages/SAF.aspx>.

<sup>36</sup> [https://ec.europa.eu/clima/policies/transport/aviation\\_en](https://ec.europa.eu/clima/policies/transport/aviation_en).

<sup>37</sup> See above in this section.

<sup>38</sup> [https://ec.europa.eu/clima/policies/transport/shipping\\_en](https://ec.europa.eu/clima/policies/transport/shipping_en).

<sup>39</sup> IMO res MEPC.304(72) s 3.1.3.



In the first phase of the work, there was good support for market-based measures.<sup>40</sup> Norway presented an outline for a quota-trading system,<sup>41</sup> and a fund financed by climate taxes was also proposed.<sup>42</sup> A German report<sup>43</sup> summarised the discussions concerning market-based measures in a sound way. There do not appear to have been major objections to market-based measures on the basis of either principle or technology, but there was considerable political scepticism.<sup>44</sup> Objections to public funds that might be used unwisely, or for purely fiscal purposes, were probably the reason for the political scepticism.

Some delegations have raised the issue of whether market-based instruments may conflict with the obligations of states that are members of the World Trade Organization (WTO).<sup>45</sup> The key conventions<sup>46</sup> in this respect include obligations not to favour any particular trading partners<sup>47</sup> nor their own goods and service providers,<sup>48</sup> and to allow transit,<sup>49</sup> avoid quantitative import restrictions<sup>50</sup> and grant market access.<sup>51</sup> There are also separate anti-discrimination rules,<sup>52</sup> rules to prevent unnecessary technical trade barriers<sup>53</sup> and certain mandatory requirements for adhering to international standards.<sup>54</sup> Some states may have undertaken additional obligations to open port services, for example.<sup>55</sup> There are, however, a number of general exemptions for measures necessary to protect life, health and nature.<sup>56</sup> Finally, the GATS is only partially applied to shipping.<sup>57</sup> All in all, it should not be difficult to design and practise market-based measures to reduce GHG emissions from shipping within this framework, as has been done in other areas.

When the IMO finally devised a strategy for reducing GHG emissions from ships,<sup>58</sup> market-based measures were barely mentioned, probably as a result of the scepticism towards them. The strategy is to plan when identification of instruments to be used in the short, medium and long term is to take place. This planning will take place in the period from 2018 to 2023 (for short-term instruments), from 2023 to 2030 (for medium-term instruments) and after 2030 (for long-term instruments). Market-based instruments are mentioned as an opportunity to be discussed in the period from 2023 to 2030.

There are considerable ambitions for the strategy in terms of investigating the effectiveness of each individual measure (see section 6.3 of the strategy). Much work has been done to collect data, and

<sup>40</sup> IMO res A.963(23) s 1(d); 'IMO policies and practices related to the reduction of greenhouse gas emissions from ships (2003); IMO doc MEPC 59/24 ss 4.92 and 4.106; 'Report of the Marine Environment Protection Committee on its fifty-ninth session (2009); IMO doc MEPC 60/4/8 s 4; 'An international fund for greenhouse gas emissions from ships' (2010).

<sup>41</sup> IMO doc MEPC 60/4/22 'Prevention of air pollution from ships. a further outline of the EU ETS for international shipping' (2010).

<sup>42</sup> IMO doc MEPC 60/4/8 (n 40).

<sup>43</sup> IMO doc MEPC 63/INF.14 'Reduction of GHG emissions from ships: design and implementation of a worldwide maritime emission trading scheme' (2011).

<sup>44</sup> IMO doc MEPC 63 (n 43) 46.

<sup>45</sup> See IMO doc MEPC 65/INF.18, with further references.

<sup>46</sup> General Agreement on Tariffs and Trade (GATT); General Agreement on Trade in Services (GATS); and Technical Barriers to Trade Agreement (TBT).

<sup>47</sup> GATT art I, GATS art II.

<sup>48</sup> GATT art III; GATS art XVII.

<sup>49</sup> GATT art V.

<sup>50</sup> *ibid* arts XIII and XI.

<sup>51</sup> GATS art XVI.

<sup>52</sup> TBT art 2.1.

<sup>53</sup> *ibid* art 2.2.

<sup>54</sup> *ibid* art 2.4.

<sup>55</sup> GATS art XVIII.

<sup>56</sup> GATT art XX; GATS art XIV.

<sup>57</sup> WTO doc S/L/24 (96-2539) 'Trade in services: decision on maritime transport services'.

<sup>58</sup> IMO res MEPC.304(72) 'Initial IMO strategy on reduction of GHG emissions from ships' (2018). The strategy is based on a time schedule, MEPC 70/18/Add.1 Annex 11 'Roadmap for developing a comprehensive IMO strategy on reduction of GHG emissions from ships' (2016). There is also a specification of the follow-up on the strategy; see MEPC 73/19/Add.1 Annex 9 'Programme of follow-up actions of the initial IMO strategy on reduction of GHG emissions from ships up to 2023' (2018).

there are four major reports.<sup>59</sup> So far, the reports do not appear to have had any major impact on the discussions.

Under some IMO conventions, rules can be added by majority decision without this requiring ratification by the individual flag states. The International Convention for the Prevention of Pollution from Ships (MARPOL) provides such an opportunity, also with regard to GHG emissions.<sup>60</sup> Once such a majority decision has been made, the flag states must implement the rules or terminate the Convention. In practice, flag states choose not to terminate, not least because the rules will still be enforced against their ships when under port state control. As can be seen, in many ways the IMO has an easier starting point than the ICAO for enforcing rules.

The work of the IMO to reduce GHG emissions from ships is now run by a working group that reports to the IMO's Marine Environment Protection Committee (MEPC),<sup>61</sup> and here there are a number of possible instruments on the table.

Even before the Paris Agreement, it was decided that new ships should have 'energy labelling' in the form of the Energy Efficiency Design Index (EEDI), for which the rules were implemented by majority decision in MARPOL.<sup>62</sup> Energy labelling is used in the IMO system to set ever stricter requirements that are intended to phase out the least energy-efficient ships among the types of ships with the largest emissions. A number of rules and guidelines have been drawn up in this respect.<sup>63</sup> A similar energy labelling scheme for existing ships in the form of the Energy Efficiency Existing Ship Index (EEXI) is now being worked on,<sup>64</sup> and is expected to be adopted in the spring of 2021.

Together with the EEDI, requirements were also laid down in MARPOL for an onboard energy plan (the ship energy efficiency management plan (SEEMP)).<sup>65</sup> The idea of a SEEMP is that GHG emissions can be reduced if a ship can be operated on a more energy-efficient basis, subject to the condition that the opportunities have been investigated and documented. A useful aid developed by the IMO in this regard is an indicator of energy use, the known as the energy efficiency operational indicator (EEOI).<sup>66</sup> The strategy also mentions the development of other aids, such as the annual efficiency ratio (AER), the energy efficiency per service hour (EESH), the individual ship performance indicator (ISPI) and the fuel oil reduction strategy (FORS). The IMO has also developed and offers a number of courses in energy-efficient operation of ships.

A scheme has also been created for the registration of individual ships' energy consumption.<sup>67</sup> The data is recorded in the IMO ship fuel oil consumption database, which is part of the global integrated shipping information system (GISIS). The data may naturally be used later in connection with market-based instruments, such as the obligation to purchase GHG quotas.

<sup>59</sup> IMO doc MEPC 45/8; IMO doc MEPC 59/INF.10 (see also IMO doc MEPC 59/INF.10/Corr.1); IMO doc MEPC 67/INF.3 (see also the summary in IMO doc MEPC 67/6); and IMO doc MEPC 75/7/15.

<sup>60</sup> International Convention for the Prevention of Pollution from Ships 1973/1978/1997. The relevant provisions regarding GHGs are Annex VI ch 4: 'Regulations on energy efficiency for ships'.

<sup>61</sup> See the latest report from the working group in IMO doc MEPC 75/WP.3 and the latest report from MEPC in IMO doc MEPC 75/18, in particular s 7, which MEPC endorsed. See IMO doc MEPC 75/18 ss 7.9 and 7.12. The working group is headed by Sveinung Oftedal from the Norwegian delegation.

<sup>62</sup> IMO res MEPC.203(62) 'Amendments to the Annex of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto (inclusion of regulations on energy efficiency for ships in MARPOL Annex VI)' (2011).

<sup>63</sup> See <https://www.imo.org/en/OurWork/Environment/Pages/Index-of-MEPC-Resolutions-and-Guidelines-related-to-MARPOL-Annex-VI.aspx#4>. A carbon intensity indicator (CII), which is a type of energy efficiency rating system with an obligation to draw up an improvement plan for poor ratings, is expected to be adopted in the spring of 2021; see IMO res MEPC.203(62) (n 62).

<sup>64</sup> IMO doc MEPC 75/18/Add.1 Annex 5 'Draft amendments to MARPOL Annex VI on mandatory goal-based technical and operational measures to reduce carbon intensity of international shipping'.

<sup>65</sup> IMO res MEPC.203(62) (n 62).

<sup>66</sup> IMO doc MEPC.1/Circ.684 'Guidelines for voluntary use of the ship energy efficiency operational indicator (EEOI)'.

<sup>67</sup> IMO res MEPC.278(70) 'Amendments to the Annex of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto; amendments to MARPOL Annex VI on data collection system for fuel oil consumption of ships' (2016).



Other related topics are also still subject to discussion.<sup>68</sup> Judging by the documents, at times the discussions have resembled brainstorming more than decision-making.

Measures in the strategy where discussions have not yet resulted in an instrument include (as keywords):

- programme for the development of the existing fleet
- GHGs other than CO<sub>2</sub>
- development of schemes for sustainable onshore power for ships in port ('cold ironing')
- development of the supply of low-carbon fuel (bunkers) for ships and life cycle studies of greenhouse effects of bunkers
- optimisation of logistics chains to reduce GHG emissions
- technical research programmes
- incentives for first users of new technology ('first movers').

In the IMO, there has been some concern as to how the instruments affect the contractual conditions in shipping.<sup>69</sup> If a fee or an investment is required from the shipowner, this extra cost might affect price formation, for example in the freight agreements for the ship, and this might subsequently to some extent be passed on to costs. Whoever ultimately bears the cost burden might be entitled to the decision-maker's attention.<sup>70</sup> As stated in section 4, however, it seems to have been taken for granted that the instruments should target the shipowner in the first instance, without closer consideration of the consequences of this targeting.

In some cases, the incentive structure in a ship's contracts has the opposite effect from that which the mandatory orders from the authorities are seeking to achieve. The simplest example is energy economies to enforce speed reduction, either as a direct mandatory requirement or, for example, to reduce purchases of GHG quotas. In this respect, freight contracts will typically still provide incentives to ensure that the ship sails at a good speed.<sup>71</sup> If the rules of public law are to be effective, the parties must have time to adapt the contracts to the new reality and, in some cases, go further than the new reality requires. If a ship reduces its speed, it must not suffer the consequence that it loses its place in the queue in the unloading port. As a rule producer, the IMO should consider this connection.<sup>72</sup>

All in all, it can be seen that there is a long way to go before the IMO can adopt effective measures for GHG emissions from shipping.

## 6. Conclusion

Regulating international shipping and aviation separately from the general Paris Agreement on GHG emissions was possibly a necessary measure. Separating these two sources of GHG emissions has led to a greater focus on the instruments to be used than on countries' contributions to the global climate objectives.

Work in the aviation sector has progressed more quickly than the work in shipping, but overall, the work has probably progressed faster than it would have done if individual countries and the EU had needed to develop and implement their own rules with regard to third countries. There is nonetheless

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<sup>68</sup> See eg IMO doc ISWG-GHG 7/2/4 'An analysis of limiting engine power as a short-term measure to reduce CO<sub>2</sub> emissions from existing ships'; IMO doc ISWG-GHG 7/2/5 'An analysis of limiting engine power to reduce CO<sub>2</sub> emissions from existing ships'; and IMO doc ISWG-GHG 7/2/12 'A proposal for and an initial impact assessment of a goal-based approach to realize the substantial speed-related GHG emission reductions that are urgently needed in the short-term and to provide a framework for the full decarbonization of shipping in the longer-term'.

<sup>69</sup> Such questions are only exceptionally mentioned; see IMO doc MEPC 63/INF.14 (n 43) 53.

<sup>70</sup> At any rate when the measures are still not followed for commercial reasons. Speed reduction is thus common, regardless of the order; see the Norwegian Maritime Law Commission in NOU 2012:10 at 44.

<sup>71</sup> See Erik Røsæg 'A system for queuing in ports' [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1697404](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1697404).

<sup>72</sup> Note the bullet point above regarding the IMO strategy for optimisation of logistics chains in order to reduce GHG emissions.

reason to believe that rules developed in cooperation between industry and authorities, as takes place within the IMO and the ICAO, will create better and more uniform rules that are more easily accepted and internalised, and therefore more easily implemented.

The IMO has a noteworthy lack of focus on market-based rules, with the consequence that negotiations take time, and that new rules may also affect the market in completely different areas to GHG emissions. The consequential delays and market distortions are probably welcomed by some, but not by everyone.