

## COMPELLING THE EPA TO REGULATE GHG EMISSIONS UNDER THE ACT TO PREVENT POLLUTION FROM SHIPS

### I. Introduction

Shipping remains the only sector in the world not currently subject to any legally binding greenhouse gas emission (“GHG”) reduction measures. Ships currently emit around 1000 million tonnes of carbon dioxide (CO<sub>2</sub>) annually and represent over 3% of global GHG emissions.<sup>1</sup> Depending on future economic and energy developments, shipping emissions may increase between 50% and 250% by 2050.<sup>2</sup> If left unregulated, ships may represent over 20% of GHG emissions by 2050.<sup>3</sup>

On a positive note, the technical capacity to reduce emissions from ships exists. This could involve simple operational measures, such as reducing speed or switching to cleaner fuels, to adopting hull and propeller design features to increase fuel ecology.<sup>4</sup> But not enough shipping companies have voluntarily undertaken such measures.

Although GHG emissions from ships is considered a global problem due to its transitory nature, various legal tools have been suggested to compel the U.S. Environmental Protection Agency (“EPA”) to regulate GHG emissions from ships. The EPA has received at least three petitions asking the EPA to control GHGs from ocean-going ships and/or their fuel under the

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<sup>1</sup> International Maritime Organization, *Third IMO Greenhouse Gas Study*, p.1 (2014), available at <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Documents/Third%20Greenhouse%20Gas%20Study/GHG3%20Executive%20Summary%20and%20Report.pdf>.

<sup>2</sup> European Commission, *Reducing Emissions from the Shipping Sector*, available at [https://ec.europa.eu/clima/policies/transport/shipping\\_en](https://ec.europa.eu/clima/policies/transport/shipping_en).

<sup>3</sup> Jessica F. Green, *Why Do We Need Rules on Shipping Emissions? Well, 90 Percent of Global Trade Depends on Ships*, Washington Post (Apr. 17, 2018), available at [https://www.washingtonpost.com/news/monkey-cage/wp/2018/04/17/why-do-we-need-new-rules-on-shipping-emissions-well-90-of-global-trade-depends-on-ships/?utm\\_term=.e06ee00aed3a](https://www.washingtonpost.com/news/monkey-cage/wp/2018/04/17/why-do-we-need-new-rules-on-shipping-emissions-well-90-of-global-trade-depends-on-ships/?utm_term=.e06ee00aed3a).

<sup>4</sup> James E. McCarthy and Brent D. Yacobucci, *Cars, Trucks, and Climate: EPA Regulation of Greenhouse Gases from Mobile Sources* (R40506), Congressional Research Service, p.12 (Mar. 16, 2016), available at <https://fas.org/sgp/crs/misc/R40506.pdf>.

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Clean Air Act (“CAA”), 42 U.S.C. § 7401, *et seq.* Despite petitions and a subsequent lawsuit alleging an “unreasonable delay,” the EPA declined to regulate GHGs from ships while it supposedly waits for an international solution.

Left in a quagmire, commentators have raised the possibility of bringing a citizen suit to compel the Administrator of EPA (the “Administrator”) to regulate GHGs from ships under the Act to Prevent Pollution from Ships (the “APPS”), 33 U.S.C. § 1901, *et seq.* This legal tool has yet to be explored.

After examining the APPS and the International Convention for the Prevention of Pollution from Ships, now known as MARPOL and which the APPS implements, this article concludes that until there is an international agreement to reduce GHG emissions from ships, as well as amendments to MARPOL and the APPS, a citizen suit under the APPS will not be effective.

## **II. The Problem of GHG Emissions from Ships**

“Reducing GHG emissions is the key to avoiding the most catastrophic impacts of climate change.”<sup>5</sup> Major GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>).<sup>6</sup>

The Paris Agreement introduced limits on GHG emissions in order to keep global temperature

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<sup>5</sup> Naya Olmer, *et al.*, *Greenhouse Gas Emissions from Global Shipping, 2013-2015*, The International Council on Clean Transportation, p.1 (Oct. 2017), available at <https://www.theicct.org/publications/GHG-emissions-global-shipping-2013-2015>. For purposes of this study, greenhouse gas emissions included carbon dioxide, methane, nitrous oxide, and black carbon, even though black carbon is not strictly a gas. *Id.*

<sup>6</sup> Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66496 (Dec. 15, 2009), available at [https://www.epa.gov/sites/production/files/2016-08/documents/federal\\_register-epa-hq-oar-2009-0171-dec.15-09.pdf](https://www.epa.gov/sites/production/files/2016-08/documents/federal_register-epa-hq-oar-2009-0171-dec.15-09.pdf). In addition to GHGs, shipping produces other air emissions, including sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM). Jean-Florent Helfre and Pedro Andre Couto Boot, *Emission Reduction in the Shipping Industry*, Sustainalytics, p.4 (July 2013), available at [http://www.sustainalytics.com/sites/default/files/shippingemissions\\_july2013.pdf](http://www.sustainalytics.com/sites/default/files/shippingemissions_july2013.pdf).

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rise this century below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.<sup>7</sup> However, the Paris Agreement excluded international aviation and shipping from its purview.<sup>8</sup> Since then, government, industry, and civil society representatives reached an agreement to mitigate international aviation CO<sub>2</sub> emissions.<sup>9</sup> To date, there has been no agreement to reduce GHG emissions from ships.

At the same time, GHG emissions from ships are increasing.<sup>10</sup> According to the International Maritime Organization (IMO), “international shipping emitted 843 million metric tons of carbon dioxide, 2.7% of global CO<sub>2</sub> emissions, in 2007. Including domestic shipping and fishing vessels larger than 100 gross tonnes, the amount would increase to 1.019 billion metric tons, 3.3% of global emissions.”<sup>11</sup>

Ships also emit significant amounts of black carbon and nitrogen oxide, which contribute to climate change, due to the use of low-quality bunker fuel and the absence of pollution controls. Moreover, ships use refrigerants onboard (hydrofluorocarbons and perfluorocarbons—HFCs and PFCs), which are also potent GHGs when released to the atmosphere. The total

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<sup>7</sup> United Nations Climate Change, *Paris Agreement*, available at <https://unfccc.int/process/the-paris-agreement/what-is-the-paris-agreement>.

<sup>8</sup> Fred Pearce, *After Paris, A Move to Rein in Emissions by Ships and Planes*, Yale Environment360 (May 19, 2016), available at [https://e360.yale.edu/features/reduce\\_co2\\_emissions\\_shipping\\_aviation\\_regulation\\_paris](https://e360.yale.edu/features/reduce_co2_emissions_shipping_aviation_regulation_paris).

<sup>9</sup> International Civil Aviation Organization, *Historic Agreement Reached to Mitigate International Aviation Emissions* (Oct. 6, 2016), available at <https://www.icao.int/Newsroom/Pages/Historic-agreement-reached-to-mitigate-international-aviation-emissions.aspx>.

<sup>10</sup> Naya Olmer, *et al.*, *Greenhouse Gas Emissions from Global Shipping, 2013-2015*, The International Council on Clean Transportation, p.viii (Oct. 2017), available at <https://www.theicct.org/publications/GHG-emissions-global-shipping-2013-2015>.

<sup>11</sup> McCarthy, *supra* note 4, at p.11. “International shipping” is defined as “shipping between ports of different countries, as opposed to domestic shipping. International shipping excludes military and fishing vessels.” International Maritime Organization, *Third IMO Greenhouse Gas Study* (2014), available at <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Documents/Third%20Greenhouse%20Gas%20Study/GHG3%20Executive%20Summary%20and%20Report.pdf>. “Domestic shipping” is defined as “shipping between ports of the same country, as opposed to international shipping. Domestic shipping excludes military and fishing vessels.” *Id.*

impact of ships on climate may well exceed the above estimate of 3.3% of global CO<sub>2</sub> emissions.<sup>12</sup>

Nonetheless, the technical capacity to reduce emissions from ships exists.<sup>13</sup> A wide variety of measures might be undertaken to reduce emissions from ships. These include simple operational measures, including reducing speed or using cleaner fuels, to various hull and propeller design features that would improve fuel economy.<sup>14</sup> Reducing speed can also significantly reduce fuel consumption which, in turn, would reduce CO<sub>2</sub> emissions.<sup>15</sup>

A.P. Moller-Maersk voluntarily undertook some of these measures with respect to its fleet of containerships.<sup>16</sup> Maersk reported that reducing speed 5-10% reduced fuel consumption and CO<sub>2</sub> emissions by more than 15%, although doing so increased the number of days at sea.<sup>17</sup> Between 2007-2015, Maersk decreased its CO<sub>2</sub> emissions per container shipped by 42%.<sup>18</sup> The company also reduced emissions through “operational optimization,” newer (more efficient) vessels, and reductions of energy use in ports.<sup>19</sup>

But to date, voluntary undertakings by shipping companies have not adequately reduced GHG emissions from ships. Therefore, regulatory measures must also be considered.

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<sup>12</sup> McCarthy, *supra* note 4, at p.12.

<sup>13</sup> Daniel J. Metzger, *NOTE: Private Governance Can Increase Shipping's Efficiency and Reduce Its Impacts*, 49 Vand. J. Transnat'l L. 1143, 1150 (2016).

<sup>14</sup> McCarthy, *supra* note 4, at p.12.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* Others suggest “improved fleet deployment planning, use of shore-side power while in port, heat recovery systems, the use of sails as supplemental propulsion sources, and NOx controls, such as selective catalytic reduction (SCR) or exhaust gas recirculation, as potential emission control measures.” *Id.*

### III. EPA Has Not Regulated GHG Emissions from Ships under the Clean Air Act

In the United States, the CAA enables EPA to regulate GHG emissions from ships.<sup>20</sup> Section 213(a)(4) of the CAA provides general authority to the Administrator to promulgate standards for emissions other than carbon monoxide, oxides of nitrogen, and volatile organic compounds from “nonroad engines and vehicles.”<sup>21</sup> Fuels are addressed separately under section 211 of the CAA.<sup>22</sup>

Under section 213(a)(4) of the CAA, if the Administrator determines that emissions of GHGs from ships significantly contribute to air pollution which may reasonably be anticipated to “endanger public health or welfare” (i.e., if the Administrator makes an endangerment finding), the Administrator may promulgate such regulations as the Administrator deems “appropriate.”<sup>23</sup> There is no level of stringency (such as best available control technology) specified for prospective regulations.<sup>24</sup> The Administrator may establish classes or categories of ships for the purposes of regulation.<sup>25</sup>

The CAA does not set a deadline for the promulgation of standards. In setting standards, the Administrator may consider costs, noise, safety, and energy factors associated with the application of technology.<sup>26</sup> Even without a deadline, the CAA enables petitioners seeking

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<sup>20</sup> Richard Hildreth and Alison Torbitt, *International Treaties and U.S. Laws as Tools to Regulate the Greenhouse Gas Emissions from Ships and Ports*, 461, 482 (2014). Appearing in Jon M. Van Dyke, *Governing Ocean Resources: New Challenges and Emerging Regimes: A Tribute to Judge Choon-Ho Park* (2014), available at <https://ebookcentral.proquest.com/lib/columbia/detail.action?docID=1192535>.

<sup>21</sup> McCarthy, *supra* note 4, at p.12.

<sup>22</sup> *Id.*

<sup>23</sup> 42 U.S.C.S. § 7547(a)(4).

<sup>24</sup> McCarthy, *supra* note 4, at p.12.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

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GHG regulation of these mobile sources to file a suit against EPA for unreasonable delay in responding to rulemaking petitions.<sup>27</sup>

In 2007, the Supreme Court defined the contours of EPA's authority to regulate GHGs under the CAA in *Massachusetts v. EPA*.<sup>28</sup> In its 5-4 decision, the Supreme Court held that EPA can regulate GHGs as "air pollutants" under the CAA.<sup>29</sup> Following the *Massachusetts v. EPA* decision, EPA received petitions requesting EPA to regulate GHGs from mobile source categories.<sup>30</sup> These petitions included at least three petitions asking EPA to control GHGs concerning ocean-going ships (i.e., marine engines and vessels) and (in two of the petitions) their fuel.<sup>31</sup>

In 2010, petitioners filed an "unreasonable delay" suit against EPA for failing to respond to three separate petitions submitted in 2007 for GHG emissions rulemaking to cover marine vessels, nonroad vehicles, and aircraft engines.<sup>32</sup> In 2011, a federal district court ruled that section 213 of the CAA provides EPA with discretion as to whether to issue endangerment findings for GHG emissions from marine vessels and nonroad vehicles.<sup>33</sup> The court explained

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<sup>27</sup> Linda Tsang, *U.S. Climate Change Regulation and Litigation: Selected Legal Issues* (R44807), Congressional Research Services, p.10 (Apr. 3, 2017), available at <https://fas.org/sgp/crs/misc/R44807.pdf>. Section 304(a)(3) of the Clean Air Act provides that "the district courts of the United States shall have jurisdiction to compel . . . agency action unreasonably delayed," and requires that any person intending to file a legal action against the Administrator for unreasonable delay must provide notice of his or her intention to sue 180 days before commencing such action. 42 U.S.C. § 7604; see 40 C.F.R. pt. 54. When notice of intent to sue is based on a failure to act, the notice must identify the provisions of the Clean Air Act that require the agency to take action and describe the agency's failure to perform. 40 C.F.R. § 54.3(a).

<sup>28</sup> Tsang, *supra* note 27, at p.3. For additional discussion of this case, see *The Supreme Court's First Climate Change Decisions: Massachusetts v. EPA*, Congressional Research Services (RS22665) (Mar. 10, 2014), available at [https://www.everycrsreport.com/files/20140310\\_RS22665\\_c825a3589a61fc3d43c80972b7597deb076360c8.pdf](https://www.everycrsreport.com/files/20140310_RS22665_c825a3589a61fc3d43c80972b7597deb076360c8.pdf).

<sup>29</sup> Tsang, *supra* note 27 (citing *Massachusetts v. EPA*, 549 U.S. 497 (2007)).

<sup>30</sup> *Id.* (citing 5 U.S.C. §553(e)). For a list of these petitions, see McCarthy, *supra* note 4, Table 2.

<sup>31</sup> *Id.*

<sup>32</sup> Tsang, *supra* note 27, at p.11 (Apr. 3, 2017), available at <https://fas.org/sgp/crs/misc/R44807.pdf> (citing Complaint, *Ctr. for Biological Diversity et al. v. EPA*, No. 10-00985 (D.D.C. Jun. 6, 2010)).

<sup>33</sup> *Id.* (citing *Ctr. for Biological Diversity et al. v. EPA*, 794 F. Supp. 2d 151, 157-158 (D.D.C. 2011)).

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that section 213(a)(4) of the CAA is “simply silent as to when—or whether— EPA must make endangerment findings; it merely says what EPA ‘may’ do ‘if’ an affirmative finding is made.”<sup>34</sup>

In 2012, EPA reportedly exercised its discretion to deny the petitions to regulate GHGs and black carbon emissions from non-road engines and vehicles, including marine vessels and engines in the near or medium term.<sup>35</sup> EPA stated that should it decide in the future to initiate such action, it would expect to establish the scope, schedule, and other plans for the proceeding at that time.<sup>36</sup> EPA concluded that regulating GHG and black carbon emissions would require extensive agency resources and that so directing these resources would detract from addressing more pressing environmental issues in the mobile source area.<sup>37</sup> Furthermore, based on past practices, if EPA made an endangerment and significant contribution finding for nonroad GHG sources, the development of a regulatory program to set appropriate emissions standards for them would immediately follow.<sup>38</sup>

EPA found it in the best interests of the United States and the international shipping sector to first pursue a strategy of pursuing international approaches to achieve climate change goals. The EPA said doing so would not only provide concrete results in the goal of reducing GHGs from ships, but would also simplify EPA’s task of adopting any standards under the CAA

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<sup>34</sup> *Id.* (quoting *Ctr. for Biological Diversity*, 794 F. Supp. 2d at 157-158). The court ruled, however, that EPA does not have discretion under section 231 of the CAA over whether to make determinations regarding endangerment from aircraft GHG emissions. *Ctr. for Biological Diversity*, 794 F. Supp. 2d at 159-62.

<sup>35</sup> Tsang, *supra* note 27, at p.11 (citing EPA Memorandum in Response to Petitions Regarding Greenhouse Gas and other Emissions from Marine Vessels and Nonroad Engines and Vehicles (June 18, 2012), *available at* [https://www.eenews.net/assets/2012/06/18/document\\_pm\\_06.pdf](https://www.eenews.net/assets/2012/06/18/document_pm_06.pdf)).

<sup>36</sup> EPA Memorandum in Response to Petitions Regarding Greenhouse Gas and other Emissions from Marine Vessels and Nonroad Engines and Vehicles (June 18, 2012), *available at* [https://www.eenews.net/assets/2012/06/18/document\\_pm\\_06.pdf](https://www.eenews.net/assets/2012/06/18/document_pm_06.pdf).

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

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in the future, should this prove appropriate.<sup>39</sup> EPA left open the door of regulating GHGs from ships in the future.<sup>40</sup> In the meantime, it is important to consider whether there are other tools that could compel EPA to regulate GHG emissions from ships.<sup>41</sup>

#### **IV. Could a Citizen Suit under the APPS Compel the Administrator to Regulate GHG Emissions from Ships?**

A potential tool to compel EPA to regulate GHG emissions from ships could be a citizen suit under the APPS. According to Richard Hildreth and Alison Torbitt, current literature and case law does not address the viability of a citizen suit under the APPS.<sup>42</sup> This section explores the potential for such an action under the APPS.

The APPS implements the International Convention for the Prevention of Pollution from Ships, which is now known as MARPOL. APPS applies to all U.S.-flagged ships anywhere in the world and to all foreign flagged vessels operating in navigable waters of the United States or while at port under U.S. jurisdiction.<sup>43</sup> The APPS prohibits violations of MARPOL, APPS, and the regulations promulgated thereunder.<sup>44</sup> The regulatory mechanism established in APPS to implement MARPOL supplements other federal environmental laws.<sup>45</sup>

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<sup>39</sup> *Id.* Although EPA denied the petitioners' request to regulate GHGs and black carbon, EPA clarified that EPA is not stating that it will never take the actions requested and EPA may take action in the future consistent with the requests. However, EPA said that it will not do so at this time. *Id.*

<sup>40</sup> "A complicating factor in the regulation of emissions from ocean-going vessels would be that, for the most part, their GHG emissions occur in international waters, and the sources (the ships) are not registered in the United States." McCarthy, *supra* note 4, at p.12.

<sup>41</sup> It should be noted that EPA has made some progress in tightening the regulations in section 213 of the CAA governing marine vessels. Some argue that these improvements, combined with the designation of U.S. waters as a SOx Emission Control Area, will have substantial health and climate change-related benefits. *See* Hildreth, *supra* note 20, at 462.

<sup>42</sup> *Id.* at 476.

<sup>43</sup> Claudia Copeland, *Cruise Ship Pollution: Background, Laws and Regulations, and Key Issues* (RL32450), Congressional Research Service Report for Congress, p.8 (Feb. 6, 2008), available at <http://www.cep.unep.org/publications-and-resources/databases/document-database/other/cruise-ship-pollution-background-laws-and-regulations-and-key-issues.pdf/view>.

<sup>44</sup> *Mylonakis v. M/T Georgios M.*, 909 F. Supp. 2d 691, 719 (S.D. Tex. 2012).

<sup>45</sup> Copeland, *supra* note 43.

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“Almost all environmental statutes contain citizen suit provisions that allow any person to act as a private attorney general to enforce government regulations.”<sup>46</sup> “These statutory provisions authorize private citizens to sue persons alleged to be in violation of their statutory or regulatory obligations or to sue government agencies alleged to have failed to perform nondiscretionary duties.”<sup>47</sup> The benefits of citizen suits include “the creation of new regulatory programs, the shift in emphasis of existing regulatory programs, the expansion of existing regulatory programs, or the accelerated implementation of existing regulatory programs.”<sup>48</sup>

Like most other environmental statutes, the APPS contains a citizen suit provision. The APPS contains a separate section titled “Legal Actions,” which provides for citizens suits subject to certain limitations.<sup>49</sup> As pertinent here, 33 U.S.C. § 1910(a) provides for a person with an adversely affected interest to bring an action against the Administrator “where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary[.]”<sup>50</sup> To trigger the citizen suit provision, a plaintiff must allege a nondiscretionary act or duty of the Administrator under the APPS.<sup>51</sup> “A district court’s jurisdiction over a citizen suit ‘depends on the existence of a duty alleged to be nondiscretionary with the Administrator; if no nondiscretionary duty exists, then neither can a citizens’ suit.’”<sup>52</sup>

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<sup>46</sup> *Shields v. Babbitt*, 229 F. Supp. 2d 638, 666 (W.D. Tex. 2000).

<sup>47</sup> Robert L. Glicksman, *The Value of Agency-Forcing Citizen Suits to Enforce Nondiscretionary Duties*, 10 Widener L. Rev. 353, 353 (2004).

<sup>48</sup> *Id.* at 358.

<sup>49</sup> *Angelex Ltd. v. United States*, 123 F. Supp. 3d 66, 71 (D.D.C. 2015) (citing 33 U.S.C. § 1910).

<sup>50</sup> Specifically, the APPS provides, “Any person having an interest which is, or can be, adversely affected, may bring an action on his own behalf” against the Administrator. 33 U.S.C. § 1910(a)(3). Any “person” means “an individual, firm, public or private corporation, partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body[.]” 33 U.S.C. § 1901(a)(10).

<sup>51</sup> See *United States v. Sensient Colors, Inc.*, No. 07-1275 (JHR), 2009 U.S. Dist. LEXIS 11070, at \*12 (D.N.J. Feb. 13, 2009).

<sup>52</sup> *Id.* (quoting *Fairview Township v. EPA*, 773 F.2d 517, 525 (3d Cir. 1985)).

No court has interpreted the required acts or duties of the Administrator under the APPS. Whether a nondiscretionary act or duty exists is a matter of statutory construction.<sup>53</sup> “Obviously, the scope of the agency-forcing provisions turns on the distinction between a discretionary and a nondiscretionary duty.<sup>54</sup> But distinguishing between discretionary and nondiscretionary duties has been challenging.<sup>55</sup> “One court has characterized nondiscretionary duties as involving ‘purely ministerial acts,’ while labeling as discretionary determinations that are ‘judgmental.’”<sup>56</sup> When interpreting a statute, “a court should first look to the plain meaning of the statutory language.”<sup>57</sup> “In determining the meaning of the statutory language, the court also must look to the language and design of the statute as a whole.”<sup>58</sup>

The regulatory duties of the Administrator are set forth in 33 U.S.C. § 1903(c)(2):

(2) In addition to the authority the Secretary has to prescribe regulations under this Act, *the Administrator shall also prescribe any necessary or desired regulations to carry out the provisions of regulations 12, 13, 14, 15, 16, 17, 18, and 19 of Annex VI to the Convention.*<sup>59</sup>

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<sup>53</sup> *Monongahela Power Co. v. Reilly*, 980 F.2d 272, 276 (4th Cir. 1992) (citing *Sierra Club v. Train*, 557 F.2d 485, 488 (5th Cir. 1977) (“The substantive issue in this case is one of statutory construction, specifically whether [the Act] imposes a discretionary or non-discretionary duty on the EPA Administrator.”)).

<sup>54</sup> McCarthy, *supra* note 4, at p.12.

<sup>55</sup> Glicksman, *supra* note 47, at 356 (quoting *Env'tl. Def. Fund v. Thomas*, 870 F.2d 892, 899 (2d Cir. 1989), *cert. denied*, 493 U.S. 991 (1989)).

<sup>56</sup> *Id.*

<sup>57</sup> *Raymond Proffitt Found. v. United States EPA*, 930 F. Supp. 1088, 1097 (E.D. Pa. 1996) (citations omitted).

<sup>58</sup> *Id.*

<sup>59</sup> 33 U.S.C. § 1903(c)(2) (emphasis added). Additional regulatory duties of the Administrator are set forth in 33 U.S.C. § 1902(e):

(e) Regulations. The Secretary or the Administrator, consistent with section 4 [33 USCS § 1903] of this Act, shall prescribe regulations applicable to the ships of a country not a party to the MARPOL Protocol (or the applicable Annex), including regulations conforming to and giving effect to the requirements of Annex V and Annex VI as they apply under subsection (a) of this section, to ensure that their treatment is not more favorable than that accorded ships to parties to the MARPOL Protocol.

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“Convention,” as defined in 33 U.S.C. § 1901(a)(5), means “the International Convention for the Prevention of Pollution from Ships, 1973, including Protocols I and II and Annexes I, II, V, and VI thereto, including any modification or amendments to the Convention, Protocols, or Annexes which have entered into force for the United States.”

Under the plain language of 33 U.S.C. § 1903(c)(2), the Administrator “shall . . . prescribe any necessary or desired regulations to carry out the provisions of regulations 12, 13, 14, 15, 16, 17, 18, and 19 of Annex VI to the Convention.”<sup>60</sup> The use of the word “shall” in statutory language has been interpreted to mean that the relevant person or entity is under a mandatory duty.<sup>61</sup> Therefore, the use of “shall” in 33 U.S.C. § 1903(c)(2) could be interpreted as imposing a mandatory, nondiscretionary duty on the Administrator “to prescribe any necessary or desired regulations to carry out the provisions of regulations 12, 13, 14, 15, 16, 17, 18, and 19 of Annex VI to the Convention.”<sup>62</sup>

Regulations 12 through 18 of Annex VI to the Convention fall under Chapter 3 titled, “Requirements for Control of Emissions from Ships.” These regulations pertain to the following subjects: Regulation 12 *Ozone Depleting Substances*, Regulation 13 *Nitrogen Oxides (NO<sub>x</sub>)*,

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<sup>60</sup> See *Alaska v. Kerry*, 972 F. Supp. 2d 1111, 1148 (D. Alaska 2013).

<sup>61</sup> *Raymond Proffitt Found.*, 930 F. Supp. at 1097 (citing *United States v. Monsanto*, 491 U.S. 600, 607 (1989) (By using “shall” in a civil forfeiture statute, “Congress could not have chosen stronger words to express its intent that forfeiture be mandatory in cases where the statute applied . . .”); *Pierce v. Underwood*, 487 U.S. 552, 569-70 (1988) (noting that Congress’s use of “shall” in a statute was “mandatory language”); *Barrentine v. Arkansas-Best Freight Sys., Inc.*, 450 U.S. 728, 739 n.15 (1981) (same); *United States v. Martinez-Zayas*, 857 F.2d 122, 128 (3d Cir. 1988) (stating that Congress clearly and unambiguously expressed its intent by stating that the court “shall” impose a mandatory sentence and that this created a mandatory legal duty to impose the sentence); *United States v. Troup*, 821 F.2d 194, 198 (3d Cir. 1987) (stating that Congress’s use of the word “shall” was “mandatory”); *United States ex rel. Senk v. Brierley*, 471 F.2d 657, 659-60 (3d Cir. 1973)).

<sup>62</sup> It should be noted that nondiscretionary duties are most often found when there is also a specified deadline to complete the duty. Brian Crossman, *Note: Resurrecting Environmental Justice: Enforcement of EPA’s Disparate-Impact Regulations Through Clean Air Act Citizen Suits*, 32 B.C. Env’tl. Aff. L. Rev. 599, 636 (2005). However, no such deadline appears in the APPS.

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Regulation 14 *Sulphur Oxides (SO<sub>x</sub>) and Particulate Matter*, Regulation 15 *Volatile Organic Compounds (VOCs)*, Regulation 16 *Shipboard Incineration*, Regulation 17 *Reception Facilities*, and Regulation 18 *Fuel Oil Availability and Quality*.<sup>63</sup> Regulation 19 *Application* falls under Chapter 4 titled, “Regulations on Energy Efficiency for Ships.”<sup>64</sup>

Pursuant to its authority under 33 U.S.C. § 1903(c), the Administrator implemented certain regulations with respect to Regulations 13, 14, and 18 of Annex VI to the Convention.

Specifically, 40 C.F.R. § 1043.1 provides:

The Act to Prevent Pollution from Ships (APPS) requires engine manufacturers, owners and operators of vessels, and other persons to comply with Annex VI of the MARPOL Protocol. *This part implements portions of APPS as it relates to Regulations 13, 14 and 18 of Annex VI.* These regulations clarify the application of some Annex VI provisions; provide procedures and criteria for the issuance of EIAPP certificates; and specify requirements applicable to ships that are not registered by Parties to Annex VI. This part includes provisions to apply the equivalency provisions of Regulation 4 of Annex VI with respect to Regulations 14 and 18 of Annex VI. Additional regulations may also apply with respect to the Annex VI, such as those issued separately by the U.S. Coast Guard. Note that references in this part to a specific subsection of an Annex VI regulation (such as Regulation 13.5.1) reflect the regulation numbering of the 2008 Annex VI (incorporated by reference in § 1043.100).<sup>65</sup>

However, the Administrator has not yet implemented regulations with respect to Regulations 12, 15, 16, 17, and 19 of Annex VI to the Convention.<sup>66</sup> Separate regulations would be needed to implement these regulations of Annex VI. Because the APPS states that the Administrator “shall . . . prescribe any necessary or desired regulations” to carry out the

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<sup>63</sup> *Revised Annex VI to MARPOL*, 6A Benedict on Admiralty DOC. No. 6-1B (2018).

<sup>64</sup> *Id.*

<sup>65</sup> 40 C.F.R. § 1043.1(emphasis added).

<sup>66</sup> Hildreth, *supra* note 20, at 476 n.13.

regulations of Annex VI to the Convention, the promulgation of these additional regulations could be considered nondiscretionary duties of the Administrator.<sup>67</sup>

A citizen suit may be brought in the District Court for the District of Columbia to compel the Administrator to promulgate regulations to fulfill the nondiscretionary duties under 33 U.S.C. § 1903(c)(2) if other statutory requirements are satisfied. Among other things, the plaintiff must give notice, in writing and under oath, to the Administrator of the plaintiff's claim more than 60 days before commencing an action under 33 U.S.C. § 1910(a).<sup>68</sup>

In addition, any person may only bring a citizen suit in federal court if they have “standing to sue.” To establish standing, the courts have required proof of three elements.<sup>69</sup>

First, the plaintiff must have suffered an “injury in fact”—an invasion of a legally protected interest which is (a) concrete and particularized and (b) “actual or imminent, not ‘conjectural’ or ‘hypothetical.’”<sup>70</sup> Second, there must be a causal connection between the injury and the conduct complained of—the injury has to be “fairly . . . trace[able] to the challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party not before the court.”<sup>71</sup> Third, it must be “likely,” as opposed to merely “speculative,” that the injury will be “redressed by a favorable decision.”<sup>72</sup> Courts have found standing where a plaintiff or a member of a plaintiff organization lives or recreates in the area affected by a pollution source.<sup>73</sup>

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<sup>67</sup> *Id.*

<sup>68</sup> *Angelex Ltd.*, 123 F. Supp. 3d at 71 (quoting 33 U.S.C. § 1910(b)(1)).

<sup>69</sup> *See Massachusetts*, 549 U.S. at 517; *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 181 (2000); *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992).

<sup>70</sup> *Lujan*, 504 U.S. at 560.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *See, e.g., Interfaith Community. Org. v. Honeywell Int'l*, 399 F.3d 248 (3d Cir. 2005), *cert. denied* 545 U.S. 1129 (2005); *Am. Canoe Ass'n v. City of Louisa Water & Sewer Comm'n*, 389 F.3d 536 (6th Cir. 2004); *NRDC v.*

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Assuming the satisfaction of various requirements, a citizen suit could be maintained to compel the Administrator to promulgate regulations to fulfill the nondiscretionary duties under 33 U.S.C. § 1903(c)(2) regarding Regulations 12, 15, 16, 17, and 19 of Annex VI. However, the below section discusses the limitations of such an action.

**V. Key Challenge: Annex VI to the MARPOL Convention Focuses on Acid Rain and Ozone Depletion as Opposed to GHGs**

By way of background, in 1948, the United Nations created the IMO to promote international shipping and ensure maritime safety.<sup>74</sup> The IMO, comprised of 170 member states, including the United States, adopted 53 conventions and numerous guidelines and codes.<sup>75</sup> In the 1960s, the IMO started to focus on marine pollution from vessels.<sup>76</sup> In 1973, the IMO established the Marine Environment Protection Committee (MEPC).<sup>77</sup> The MEPC, consisting of member states within the IMO, works on maritime safety and security and the prevention of marine pollution.<sup>78</sup> The MEPC develops regulations to prevent ships from polluting the ocean and the atmosphere.<sup>79</sup>

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*Southwest Marine, Inc.*, 236 F.3d 985 (9th Cir. 2000); *Ecological Rights Foundation v. Pacific Lumber, Co.*, 230 F.3d 1141 (9th Cir. 2000); *Texans United for a Safe Economy Education Fund v. Crown Central Petroleum Corp.*, 207 F.3d 789 (5th Cir. 2000).

<sup>74</sup> Daniel Bodansky, *Regulating Greenhouse Gas Emissions from Ships: The Role of the International Maritime Organization*, p.8 (May 1, 2016). Forthcoming in *Ocean Law Debates: The 50-Year Legacy and Emerging Issues for the Years Ahead*, eds. H. Scheiber, N. Oral and M. Kwon, available at <https://ssrn.com/abstract=2813785>.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> United States Environmental Protection Agency, *International Standards to Reduce Emissions from Marine Diesel Engines and Their Fuels*, available at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/international-standards-reduce-emissions-marine-diesel>.

<sup>79</sup> Chul-hwan Han, *Strategies to Reduce Air Pollution in Shipping Industry*, *The Asian Journal of Shipping and Logistics*, p.13 (June 2010), available at [https://ac.els-cdn.com/S2092521210800094/1-s2.0-S2092521210800094-main.pdf?\\_tid=0c261a22-720d-4b34-b8a1-6c631c6db35f&acdnat=1523802582\\_8fd5be1d7279715313a1791e8f7ed68e](https://ac.els-cdn.com/S2092521210800094/1-s2.0-S2092521210800094-main.pdf?_tid=0c261a22-720d-4b34-b8a1-6c631c6db35f&acdnat=1523802582_8fd5be1d7279715313a1791e8f7ed68e).

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In 1973, the IMO adopted the International Convention for the Prevention of Pollution from Ships, now known as MARPOL.<sup>80</sup> In 1978, MARPOL came into effect after the adoption of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships.<sup>81</sup> MARPOL “‘attempts to strike a balance between the need to protect and preserve the marine environment and the desire not to impose laws which make shipping prohibitively expensive.’ The agreement attempted to take into account the conflicting interests of environmentalists and oil importers, coastal states and flag states.”<sup>82</sup>

MARPOL originally had five regulatory annexes: Annex I (Regulations for the Prevention of Pollution by Oil); Annex II (Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk); Annex III (Regulations for the Prevention of Pollution by Harmful Substances Carried By Sea in Packaged Forms, or in Freight Containers, Portable Tanks or Road and Rail Tank Wagons); Annex IV (Regulations for the Prevention of Pollution by Sewage from Ships); and Annex V (Regulations for the Prevention of Pollution by Garbage from Ships).<sup>83</sup>

In the late 1980s, interest in reducing air pollution from ships led to initial discussions of an “Air Pollution Annex” to MARPOL.<sup>84</sup> The issue of air pollution from ships created controversy when first raised at the IMO. Some thought air pollution expanded the IMO’s remit

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<sup>80</sup> International Maritime Organization, *Pollution Prevention*, available at <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Pages/Default.aspx>.

<sup>81</sup> Bodansky, *supra* note 74, at p.7.

<sup>82</sup> *United States v. Apex Oil Co.*, 132 F.3d 1287, 1291 (9th Cir. 1997) (quoting Andrew Griffin, *MARPOL 73/78 And Vessel Pollution: A Glass Half Full or Half Empty*, 1 Ind. J. Global Legal Stud. 489, 490, 512-13 (1994)).

<sup>83</sup> *Id.* at p.9.

<sup>84</sup> Aaron Leigh Strong, *Tackling Maritime Bunker Fuel Emissions: The Evolution of Global Climate Change Policy at the International Maritime Organization*, p.20, Tufts University (Unpublished Thesis) (2011), available at <http://environment.tufts.edu/wp-content/uploads/AaronStrongThesis.pdf>.

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of environmental protection from strictly preventing marine pollution from ships (as in MARPOL) to pollution from ships in general.<sup>85</sup>

In July 1991, the MEPC discussed a framework for an “Air Pollution Annex.”<sup>86</sup> In September 1991, the IMO first discussed GHG emissions from ships.<sup>87</sup> In 1992, however, the MEPC decided not to include GHGs in the new Air Pollution Annex, partly due to anti-regulatory interests within the shipping industry.<sup>88</sup> This missed opportunity to incorporate GHG reductions into the ongoing process of establishing MARPOL Annex VI placed air pollution (acid rain and ozone depletion) regulations on a separate track from carbon dioxide emissions (climate change).<sup>89</sup>

In 1997, the parties to MARPOL adopted Annex VI (Regulations for the Prevention of Air Pollution from Ships).<sup>90</sup> In May 2005, Annex VI took effect.<sup>91</sup> In 2009, Annex VI entered into force for the United States.<sup>92</sup> “Annex VI focused on the problems of acid rain and ozone depletion, establishing regulatory requirements to limit emissions of the main contributors to acid rain, sulphur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>), and prohibiting emissions of ozone-depleting substances.”<sup>93</sup> Annex VI does not address other common pollutants and GHGs, including particulate matter (PM), black carbon (BC), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), or methane (CH<sub>4</sub>).<sup>94</sup>

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<sup>85</sup> *Id.*

<sup>86</sup> *Id.* at pp.20-21.

<sup>87</sup> *Id.* at p.22.

<sup>88</sup> *Id.* at p.3.

<sup>89</sup> *Id.* at p.27.

<sup>90</sup> Bodansky, *supra* note 74, at p.9.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> Eric V. Hull, *Article: Missing the Boat on Protecting Human Health and the Environment: A Re-Evaluation of the EPA's Emissions Policy on Large Ocean-Going Vessels*, 81 Temp. L. Rev. 1035, 1051 (2008).

The international standards for NO<sub>x</sub> emissions and fuel sulphur content codify existing industry practices.<sup>95</sup> In a 2007 report, the International Council on Clean Transportation noted that “MARPOL’s Annex VI original standards for NO<sub>x</sub> emissions and fuel sulphur content required only modest improvements in unregulated engines and have now been achieved by the average engine.”<sup>96</sup> In fact, the costs and benefits associated with current IMO regulations have been characterized as “negligible” by the U.S. EPA compared to a business-as-usual baseline.<sup>97</sup>

In 2009, the MEPC approved a set of voluntary efficiency measures.<sup>98</sup> These included guidelines for an Energy Efficient Design Index for New Ships (EEDI), a Ship Energy Efficiency Management Plan (SEEMP), and an Energy Efficiency Operational Indicator (EEOI).<sup>99</sup> In 2011, the IMO adopted an amendment to Annex VI that included EEDI and SEEMP as legally binding regulations addressing designed efficiency and operational efficiency, respectively, based on the voluntary guidelines approved in 2009.<sup>100</sup>

The EEDI applies only to new ships, limiting its coverage, at least initially.<sup>101</sup> A study commissioned by the IMO estimates that the amendments, if fully implemented, would reduce emissions from business-as-usual levels by only about 13% in 2020 and 39% in 2050.<sup>102</sup> But these reductions do not reverse the overall trend of increasing emissions from international

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<sup>95</sup> International Council on Clean Transportation, *Air Pollution and Greenhouse Gas Emissions from Ocean-Going Ships: Impacts, Mitigation Options and Opportunities for Managing Growth*, p.44 (2007), available at [https://www.theicct.org/sites/default/files/publications/oceangoing\\_ships\\_2007.pdf](https://www.theicct.org/sites/default/files/publications/oceangoing_ships_2007.pdf).

<sup>96</sup> Hildreth, *supra* note 20, at 471.

<sup>97</sup> International Council on Clean Transportation, *supra* note 95.

<sup>98</sup> Metzger, *supra* note 13, at 1158.

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> Bodansky, *supra* note 74, at p.15.

<sup>102</sup> *Id.*

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shipping.<sup>103</sup> As a result, there is broad agreement that the IMO's actions to date are not enough.<sup>104</sup>

Because the anti-regulatory interests of the IMO succeeded in excluding GHG emissions from Annex VI to MARPOL, and the APPS merely implements MARPOL, a citizen suit under the APPS would unfortunately not be effective in compelling the Administrator to regulate GHG emissions. A citizen suit could, however, be effective in compelling the Administrator to promulgate regulations regarding ozone depleting substances, volatile organic compounds, shipboard incineration, and reception facilities.

## **VI. Recent Developments at the IMO and Final Thoughts**

The shipping industry has generally opposed international regulation of ships' GHG emissions.<sup>105</sup> Following the Paris Agreement reached in December 2015, the International Chamber of Shipping urged the IMO to adopt a sector-wide pledge to reduce international shipping emissions.<sup>106</sup> A group of South Pacific and European member states also began pressuring the IMO to reduce and ultimately eliminate GHG emissions from shipping.<sup>107</sup>

When the MEPC met in April and October 2016, they took no action on GHGs other than to require large ships to report their annual CO<sub>2</sub> emissions and fuel consumption.<sup>108</sup> However, the IMO did agree to develop an initial comprehensive strategy to reduce GHG emissions in the

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<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> McCarthy, *supra* note 4, at p.17.

<sup>106</sup> *Id.*

<sup>107</sup> International Council on Clean Transportation, *The International Maritime Organization's Initial Greenhouse Gas Strategy* (Apr. 2018), available at [https://www.theicct.org/sites/default/files/publications/IMO\\_GHG\\_StrategyFinalPolicyUpdate042318.pdf](https://www.theicct.org/sites/default/files/publications/IMO_GHG_StrategyFinalPolicyUpdate042318.pdf).

<sup>108</sup> *Cars, Trucks, Aircraft, and EPA Climate Regulations*, Congressional Research Services (R40506), p.17 (Feb. 8, 2017), available at [https://www.everycrsreport.com/files/20170208\\_R40506\\_4dc3f23d1e84eeaa6c41353f0103a00ddab0ac24.pdf](https://www.everycrsreport.com/files/20170208_R40506_4dc3f23d1e84eeaa6c41353f0103a00ddab0ac24.pdf).

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spring of 2018, including “a broad goal of decarbonization; emission reduction targets (including, potentially a cap on international shipping emissions); a list of candidate short-, mid-, and long-term measures to reduce emissions; and additional measures to reduce the burden on developing countries.”<sup>109</sup> In 2017, the MEPC reportedly continued to build on the IMO’s efforts to address GHG emissions from international shipping, still with the intent to adopt an initial IMO strategy on the reduction of GHG emissions from ships in 2018.<sup>110</sup>

On April 13, 2018, after two weeks of negotiations, the IMO adopted a compromise text for the IMO’s initial strategy for reduction of GHG emissions from ships.<sup>111</sup> Specifically, the IMO adopted an initial strategy to reduce the shipping industry’s GHG emissions by at least 50% by 2050, as compared to 2008 levels.<sup>112</sup> The Marshall Islands and the European Union advocated for carbon emissions reductions of between 70–100% by 2050, as compared to 2008 levels.<sup>113</sup> This 70-100% goal is said to be necessary in order for shipping to achieve the goals of the Paris Agreement.<sup>114</sup> But opposition to such goals was voiced by the United States, Panama, and Saudi Arabia, amongst others.<sup>115</sup> Jeffrey Lantz, the Coast Guard official who led the talks

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<sup>109</sup> International Council on Clean Transportation, *supra* note 107.

<sup>110</sup> International Maritime Organization, Marine Environment Protection Committee (MEPC), 71st session (July 3-7, 2017), available at <http://www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-71.aspx>.

<sup>111</sup> *Compromise Found on “Initial IMO Strategy on Reduction of GHG Emissions from Ships”*, Hellenic Shipping News (Apr. 18, 2018), available at <https://www.hellenicshippingnews.com/compromise-found-on-initial-imo-strategy-on-reduction-of-ghg-emissions-from-ships/>.

<sup>112</sup> International Maritime Association, *UN Body Adopts Climate Change Strategy for Shipping* (Apr. 13, 2018), available at <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/06GHGinitialstrategy.aspx>.

<sup>113</sup> Joshua S. Hill, *Global Shipping Body Adopts 50% GHG Emissions Reduction Target*, Clean Technica (Apr. 16, 2018), available at <https://cleantechnica.com/2018/04/16/global-shipping-body-adopts-50-ghg-emissions-reduction-target/>.

<sup>114</sup> Jonathan Saul and Nina Chestney, *U.N. Shipping Agency Reaches Deal to Cut CO<sub>2</sub> Emissions*, Reuters (Apr. 13, 2018), available at <https://www.reuters.com/article/us-imo-emissions/u-n-shipping-agency-reaches-deal-to-cut-co2-emissions-idUSKBN1HK20F>.

<sup>115</sup> *Id.*

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for the United States stated in opposition to the resolution, “We do not support the establishment of an absolute reduction target at this time.”<sup>116</sup>

The IMO’s initial strategy announces a general ambition for the sector, with no formal obligation for parties to meet the emissions goal.<sup>117</sup> According to the IMO, the final strategy will be released in 2023.<sup>118</sup> The IMO’s initial strategy includes a list of measures that could be implemented to meet its emission targets.<sup>119</sup> These measures are categorized as short-, mid-, or longterm, and would not be finalized and implemented until from 2018 to 2023, 2023 to 2030, and 2030 or after, respectively.<sup>120</sup> These measures need to be made mandatory under an IMO convention before they become legally binding.<sup>121</sup>

The strategy also identified measures that could indirectly support reducing GHG emissions, including the following:

1. Supporting the development and update of national action plans;
2. Encouraging ports to facilitate GHG reductions from shipping;
3. Initiating and coordinating R&D activities by establishing an International Maritime Research Board (IMRB);
4. Pursuing zero-carbon or fossil-free fuels for the shipping sector and developing robust lifecycle GHG/carbon intensity guidelines for alternative fuels;

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<sup>116</sup> Jean Chemnick, *U.N. Agency Agrees to Path for Shipping Emissions Cuts*, Scientific American (Apr. 16, 2018).

<sup>117</sup> Michael Holder, *The Shipping Industry has Quietly Gone Without a Climate Plan—Until Now*, GreenBiz (Apr. 14, 2018), available at <https://www.greenbiz.com/article/shipping-industry-has-quietly-gone-without-climate-plan-until-now>.

<sup>118</sup> International Maritime Association, *supra* note 112.

<sup>119</sup> International Council on Clean Transportation, *supra* note 107.

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

5. Undertaking additional GHG emission studies to inform policy decisions and to estimate Marginal Abatement Cost Curves for each measure (if appropriate); and
6. Encouraging technical cooperation and capacity-building activities, as appropriate.<sup>122</sup>

Although a step in the right direction, the IMO's initial strategy does not provide a comprehensive solution to the increasing problem of GHG emissions from ships. The IMO must ultimately take action and incorporate these approaches into Annex VI to allow party States to enforce them within their waters.<sup>123</sup> Unless MARPOL and the APPS are officially amended, this recent positive development at the IMO will unfortunately not increase the viability of a citizen suit under the APPS to compel the Administrator to regulate GHG emissions from ships. In the meantime, to combat this pressing problem, other legal tools will need to be further explored.

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<sup>122</sup> *Id.*

<sup>123</sup> Hildreth, *supra* note 20, at 488.