

# Evaluating the Effectiveness of the European Union Emissions Trading System to Reduce Emissions from International Civil Aviation

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MD. TANVEER AHMAD\*

*The European Union (EU) launched its emissions trading system (ETS) in 2005 pursuant to Directive 2003/87, and extended the system to include international civil aviation from 2012 pursuant to Directive 2008/101. Such extension was made to reduce the growing greenhouse gas emissions from aviation that contribute to climate change. This unilateral initiative provoked opposition and protest from many governments, airlines, and trade associations. Due to such political pressure from non-EU States, the application of the EU ETS to aircraft of non-EU States was suspended in 2013 and the geographic scope curtailed in 2014 to cover only emissions from flights within the European Economic Area for the 2013–2016 period. This article assesses the effectiveness of the EU ETS to reduce emissions from international civil aviation, and argues that the EU ETS will have limited success in this respect. Political pressure is one of the main factors that will limit, and has already limited, its effectiveness. This will also negatively affect the value of the EU ETS applying to foreign*

*airlines, the existing friendly relationships among States, the EU's prospective role as a norm entrepreneur, and its ability to influence negotiations. However, in at least one respect, this unilateral move is successful; the initiative of the EU enhanced continuing international efforts to reduce emissions from aviation. This led to an agreement to develop a global market-based measure for international civil aviation, reached at the 38th session of the Assembly of the International Civil Aviation Organization in October 2013. Nevertheless, these developments have not established any multilateral market-based measure required to attain aviation's goal of achieving carbon neutral growth starting from 2020. To effectively tackle climate change and global warming from the aviation sector, we need either a well-designed, multilateral market-based measure or unilateral market-based measures of the same model adopted by economically powerful States, which have better prospects than the EU ETS for curbing emissions from international civil aviation.*

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\* Doctor of Civil Law Candidate & Boeing Fellow in Air and Space Law, McGill University, and Assad Kotaite Fellow, International Civil Aviation Organization. The author would like to thank his supervisor, Professor Dr Paul Stephen Dempsey, for his comments and assistance in improving this work. Naturally, all errors are solely those of the author.

*Conformément à la directive 2003/87, l'Union européenne (UE) a lancé un système communautaire d'échange de quotas d'émissions de gaz à effet de serre (SCEQE) en 2005. Aussi, conformément à la directive 2008/101, elle a également élargi ce système afin d'inclure les émissions de l'industrie de l'aviation civile internationale à partir de 2012. Ceci a pour objectif de réduire les émissions de gaz à effet de serre provenant de l'aviation qui contribuent aux changements climatiques. Cette initiative unilatérale a provoqué une opposition et des protestations de la part de nombreux gouvernements, de compagnies aériennes et d'associations commerciales. En raison de cette pression politique exercée par des états non-membres de l'Union européenne, l'application du SCEQE aux avions provenant de ces états a été suspendue en 2013. De plus, sa portée géographique a été réduite en 2014 pour couvrir seulement les émissions de vols au sein de l'espace économique européen pour la période de 2013-2016.*

*Cet article évalue l'efficacité du SCEQE dans la réduction des émissions provenant de l'aviation civile internationale et fait valoir que le système d'échange de quotas d'émission aura un succès limité à cet égard. La pression politique est l'un des principaux facteurs qui permettra de limiter, et a déjà limité, son efficacité. Cette pression*

*aura également une incidence négative sur la valeur du SCEQE vis-à-vis des compagnies aériennes étrangères, des relations amicales existantes entre les états et du rôle potentiel de l'UE comme un chef de file normatif ainsi que sa capacité à influencer des négociations.*

*Cependant, à au moins un égard, cette mesure unilatérale est une réussite : l'initiative de l'UE a accéléré la réduction internationale des émissions provenant de l'aviation. Cela a conduit à un accord pour le développement d'une mesure de réduction mondiale fondée sur le marché qui fut conclu lors de la 38e session de l'Assemblée de l'Organisation de l'aviation civile internationale en octobre 2013. Néanmoins, ces développements n'ont pas mis en place quelque mesure multilatérale que ce soit qui serait nécessaire à l'objectif de l'industrie, soit une croissance neutre en carbone à partir de 2020. Pour lutter efficacement contre les changements climatiques et le réchauffement planétaire découlant du secteur de l'aviation, nous avons besoin, soit d'une mesure de marché multilatérale bien développée, ou soit que des mesures de marché unilatérales soient adoptées par des états économiquement puissants, car ceux-ci sont plus à même de réduire les émissions provenant de l'aviation civile internationale que le SCEQE.*



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## 1. INTRODUCTION

The European Union (EU) has been a pioneer with respect to the adoption of legal and policy measures for the protection of the environment.<sup>1</sup> With the first European Community strategy to limit emissions of carbon dioxide (CO<sub>2</sub>) and improve energy efficiency, the measures dealing with climate change and global warming to reduce greenhouse gas emissions were commenced in 1991.<sup>2</sup> In 2003, the EU adopted *Directive 2003/87* that established the emissions trading system (ETS) of the EU.<sup>3</sup> According to the EU, the EU ETS is the “cornerstone”<sup>4</sup> of the EU’s policy to reduce the anthropogenic emissions of greenhouse

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<sup>1</sup> See also Louise Van Schaik & Simon Schunz, “Explaining EU Activism and Impact in Global Climate Politics: Is the Union a Norm- or Interest-Driven Actor?” (2012) 50:1 J Common Market Studies 169 at 169 (Wiley).

<sup>2</sup> See Giovanni Bo, “The US Challenge to the Inclusion of Aviation Activities within the EU Emissions Trading Scheme: A US-EU Dispute with Global Repercussions”, *Law, Justice and Development E-Newsletter* (September 2011), online: The World Bank <go.worldbank.org/TOM5W3VSK0>.

<sup>3</sup> EC, *Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC*, [2003] OJ, L 275/32 [*Directive 2003/87*].

<sup>4</sup> European Commission, “The EU Emissions Trading System (EU ETS)” (October 2013), online: European Commission <ec.europa.eu/clima/publications/docs/factsheet\_ets\_en.pdf>.

gases that accelerate climate change and global warming;<sup>5</sup> it is EU's "key tool"<sup>6</sup> for reducing such emissions from industrial sources in a cost-effective and economically efficient manner.<sup>7</sup> Launched on January 1, 2005, the EU ETS is the first and largest international market-based measure; it covers more than 11,000 power stations and industrial plants in 31 Member States of the European Economic Area (EEA),<sup>8</sup> as well as airlines.<sup>9</sup> Since January 2012, airlines from non-EU States have been included in this scheme through *Directive 2008/101*.<sup>10</sup> Environmental groups hail this initiative of the EU which these groups demonstrated through their support by joining the defendant, United Kingdom (UK) Secretary of State for Energy and Climate Change, as interveners in the case before the Court of Justice of the European Union (CJEU) concerning the legality of *Directive 2008/101*, which included aviation in the EU ETS.<sup>11</sup>

This article assesses the effectiveness of the EU ETS to reduce emissions from international civil aviation, and argues that the EU ETS will have limited success in achieving this environmental objective. Undoubtedly, the decision to include aviation in the EU ETS is a notable step taken by the EU for a noble cause, namely to reduce emissions from aviation that significantly contribute to climate change and global warming.<sup>12</sup> This article demonstrates, however, that the EU ETS will only be able to partially meet this objective of limiting emissions from aviation. The most significant factor contributing to the EU ETS's lack of complete success is that this decision was met with opposition and protest from a significant number of governments, airlines, and trade associations. This massive opposition and protest caused

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<sup>5</sup> See *ibid.*

<sup>6</sup> European Commission, "The EU Emissions Trading System (EU ETS): Policy", online: European Commission Climate Action <ec.europa.eu/clima/policies/ets/index\_en.htm> [European Commission, "EU ETS Policy"].

<sup>7</sup> See *ibid.* See also *Directive 2003/87*, *supra* note 3 at 34.

<sup>8</sup> The Member States of the EEA are all 28 EU Member States, and Iceland, Norway and Liechtenstein. See European Free Trade Association, "European Economic Area", online: EFTA <www.efta.int/eea>. According to the *EEA Agreement*, when a State becomes a member of the EU, it must also apply to become a party to the *EEA Agreement*. EC, *Agreement on the European Economic Area*, [1994] OJ, L 1/3, art 128 [*EEA Agreement*]. To learn more about the European Economic Area, particularly on how it works, see European Free Trade Association, "The Basic Features of the EEA Agreement", online: EFTA <www.efta.int/eea/eea-agreement/eea-basic-features> [European Free Trade Association, "The Basic"].

<sup>9</sup> European Commission, "EU ETS Policy", *supra* note 6.

<sup>10</sup> See EC, *Directive 2008/101/EC of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community*, [2009] OJ, L 8/3 at 17 [*Directive 2008/101*].

<sup>11</sup> See *Air Transport Association of America and others v Secretary of State for Energy and Climate Change*, C-366/10, [2011] ECR I-13833 [*ATA v Secretary of State*], where five environmental groups, namely, Aviation Environment Federation, WWF-UK, European Federation for Transport and Environment, Environmental Defense Fund, and Earthjustice, joined the defendant.

<sup>12</sup> See Daniel B Reagan, "Putting International Aviation into the European Union Emissions Trading Scheme: Can Europe Do It Flying Solo?" (2008) 35:2 Boston College Env'tl Aff L Rev 349 (HeinOnline) ("[t]he [decision] embodies a progressive and timely regulatory intent to apply a novel regulatory mechanism to a specific manifestation of the climate change effects of a commercial activity, a problem that increasingly attracts global attention" at 380).

the EU to significantly revise its original decision until at least 2016. It is argued, as well as demonstrated, that such resistance will hinder the effectiveness of the EU ETS with respect to foreign airlines, the existing friendly relationships among States, the EU's prospective role as a norm entrepreneur, and its ability to influence negotiations. Together, these will result in the limited effectiveness of the EU ETS in reducing emissions from aviation, thereby undermining its environmental value.<sup>13</sup>

The EU ETS is fully successful in one respect. This initiative brought the international actors to the negotiating table, and intensified the continuing international efforts to reduce emissions from aviation. This led to an agreement to develop a global market-based measure for international civil aviation, reached at the 38<sup>th</sup> session of the Assembly of the International Civil Aviation Organization (ICAO) in October 2013. Such enhancement, however, has yet to culminate in a multilateral market-based measure. Moreover, the EU has failed to convince non-EU States to agree to unilateral market-based measures. To effectively tackle climate change and global warming from the aviation sector, we need either a well-designed, multilateral market-based measure or unilateral market-based measures of the same model adopted by economically powerful States, both of which have better prospects than the EU ETS alone has for reducing emissions from international civil aviation.

The article commences with a brief introduction of the scheme, followed by a section dealing with the reasoning behind the EU's decision to include international civil aviation in the EU ETS. The fourth section discusses the authority of the EU to adopt unilateral environmental measures that apply to international civil aviation. The fifth section, which is the heart of this article, analyzes the effectiveness of unilateral measures with particular emphasis on the EU's unilateral actions and on international civil aviation. The sixth section provides the conclusion.

## 2. A BRIEF INTRODUCTION TO THE EU ETS

The EU was established and conferred legal personality by the *Treaty on European Union (TEU)*.<sup>14</sup> According to the *TEU*, the EU has an obligation "to work for the sustainable development of Europe based on", inter alia, "a high level of protection and improvement of the quality of the environment."<sup>15</sup> With respect to the world, the EU acts on behalf of its Member

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<sup>13</sup> Environmental effectiveness can be explained as "the extent to which a policy meets its intended environmental objective or realizes positive environmental outcomes". Sujata Gupta et al, "Policies, Instruments and Co-operative Arrangements" in Bert Metz et al, eds, *Climate Change 2007: Mitigation of Climate Change: Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2007) 745 at 751.

<sup>14</sup> *Consolidated version of the Treaty on European Union*, 7 February 1992, [2012] OJ, C 326/13, arts 1, 47 [*TEU*].

<sup>15</sup> *Ibid.*, art 3(3). "Sustainable development is set out in the Treaty as the overarching long-term goal of the EU." EC, Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Mainstreaming Sustainable Development into EU Policies: 2009 Review of the European Union Strategy for Sustainable Development*, COM(2009) 400 final (Brussels: EC, 2009) at 2, online: EUR-Lex <eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009DC0400&from=EN>.

States in the pursuit of, among others, common foreign policies, and actions that “ensure sustainable development” and aimed at helping to “develop international measures to preserve and improve the quality of the environment”.<sup>16</sup> According to the *Treaty on the Functioning of the EU (TFEU)*, which details the policies of the EU, the Union must share competence with its Member States in the areas of, inter alia, environment and transport,<sup>17</sup> i.e. the EU and its Member States “may legislate and adopt legally binding acts” in those areas.<sup>18</sup> The *TFEU* stipulates that environmental protection measures must be an integral part of the “definition and implementation of the [EU’s] policies and activities”,<sup>19</sup> while the EU committed itself to preserve, protect, and improve the quality of the environment, and to promote measures at international level to deal with global environmental problems, in particular, climate change.<sup>20</sup>

The EU approved the *United Nations Framework Convention on Climate Change*<sup>21</sup> (*UNFCCC*) in December 1993,<sup>22</sup> which requires stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.<sup>23</sup> This requirement is often referred to in EU legislation dealing with the EU ETS.<sup>24</sup> The Union also emphasizes that the parties to the *UNFCCC* are required “to formulate and implement national and, where appropriate, regional programs containing measures to mitigate climate change.”<sup>25</sup> The EU and its Member States agreed to fulfill their commitments under the *Kyoto Protocol*<sup>26</sup> jointly.<sup>27</sup> Under the *Kyoto Protocol*, the Union and its Member States committed to reduce their aggregate anthropogenic greenhouse gas emissions by 8 percent compared to 1990 levels in the 2008–2012 period.<sup>28</sup> To discharge all those responsibilities related to climate change arising under the EU Treaties and international agreements, the EU

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<sup>16</sup> *TEU*, *supra* note 14, art 21(2)(f).

<sup>17</sup> *Consolidated version of the Treaty on the Functioning of the European Union*, 25 March 1957, [2012] OJ, C 326/47, art 4(2) [*TFEU*].

<sup>18</sup> *Ibid*, art 2(2).

<sup>19</sup> *Ibid*, art 11. See also EC, *Charter of Fundamental Rights of the European Union*, 7 December 2000, [2012] OJ, C 326/391, art 37.

<sup>20</sup> *TFEU*, *supra* note 17, art 191(1).

<sup>21</sup> *United Nations Framework Convention on Climate Change*, 4 June 1992, 1771 UNTS 107, Can TS 1994 No 7 (entered into force 21 March 1994) [*UNFCCC*].

<sup>22</sup> See EC, *Council Decision 94/69/EC of 15 December 1993 concerning the conclusion of the United Nations Framework Convention on Climate Change*, [1994] OJ, L 33/11 at 11.

<sup>23</sup> *UNFCCC*, *supra* note 21, art 2.

<sup>24</sup> See e.g. *Directive 2003/87*, *supra* note 3 at 32; *Directive 2008/101*, *supra* note 10 at 3.

<sup>25</sup> *Directive 2008/101*, *supra* note 10 at 4.

<sup>26</sup> *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 11 December 1997, 2303 UNTS 148, 37 ILM 22 (entered into force 16 February 2005) [*Kyoto Protocol*].

<sup>27</sup> See EC, *Council Decision 2002/358/CE of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments thereunder*, [2002] OJ, L 130/1.

<sup>28</sup> *Directive 2003/87*, *supra* note 3 at 32.



launched the ETS. Most importantly, the EU ETS was an effort to contribute to meeting the commitments of the Union and its Member States under the *Kyoto Protocol* more effectively.<sup>29</sup>

The EU ETS was launched in 2005 pursuant to *Directive 2003/87*, and international civil aviation has been included within the scheme since January 1, 2012 in accordance with *Directive 2008/101*.<sup>30</sup> A binding obligation was imposed on the EU Member States to bring into force national laws, regulations, and administrative provisions required to comply with *Directive 2008/101* before February 2, 2010.<sup>31</sup> *Directive 2003/87* was incorporated into the *EEA Agreement*<sup>32</sup> in October 2007 through *EEA Joint Committee Decision 146/2007*.<sup>33</sup> The *EEA Agreement* established the EEA that brings together the EU Member States and three States of the European Free Trade Association (EFTA), namely Iceland, Liechtenstein, and Norway.<sup>34</sup> The agreement further enables these three EFTA States to participate fully in the European Single Market, and provides for the inclusion of EU legislation in all policy areas of the Single Market, including environment.<sup>35</sup> *EEA Joint Committee Decision 6/2011*<sup>36</sup> incorporated the aviation segment of the EU ETS, i.e. *Directive 2008/101*, into the *EEA Agreement*.

Since the EU ETS applies within the EEA, and not only within the EU, this article frequently uses the term “EEA Member States” or “EEA States” instead of “EU Member States” to denote all States that are party to the *EEA Agreement*. For the same reason, instead of using the term “non-EU States”, this article frequently uses the term “non-EEA States” to refer to those States who are neither EU Member States nor the three EFTA States who are party to the *EEA Agreement*.

The EU ETS resembles one of the three market-based measures introduced in the *Kyoto Protocol*, namely emissions trading.<sup>37</sup> The EU ETS works on the cap and trade principle under which “there is a ‘cap’, or limit, on the total amount of certain greenhouse gases that can be

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<sup>29</sup> See *ibid.*

<sup>30</sup> See *Directive 2008/101*, *supra* note 10 at 6, 8–9. See also Md Tanveer Ahmad, “EU Emissions Trading Scheme: Problems Presented to Canada”, *European Union Centres of Excellence Newsletter* 7:1 (Winter 2012) 1 at 1, online: Carleton University <carleton.ca/euce-network-canada/wp-content/uploads/V7-1-EUCE-Newsletter-Winter2012.pdf> [Ahmad, “EU Emissions”].

<sup>31</sup> *Directive 2008/101*, *supra* note 10 at 16.

<sup>32</sup> *EEA Agreement*, *supra* note 8.

<sup>33</sup> EC, *Decision of the EEA Joint Committee No 146/2007 of 26 October 2007 amending Annex XX (Environment) to the EEA Agreement*, [2008] OJ, L 100/92 [*Decision 146/2007*].

<sup>34</sup> See *EEA Agreement*, *supra* note 8; European Free Trade Association, “The Basic”, *supra* note 8.

<sup>35</sup> See *ibid.*

<sup>36</sup> EC, *Decision of the EEA Joint Committee No 6/2011 of 1 April 2011 amending Annex XX (Environment) to the EEA Agreement*, [2011] OJ, L 93/35 [*Decision 6/2011*].

<sup>37</sup> The *Kyoto Protocol* introduced three market-based measures as supplementary to national measures that can be used by States to fulfil their commitments under Protocol. The three measures are: emissions trading, the clean development mechanism, and joint implementation. See United Nations Framework Convention on Climate Change, “The Mechanisms under the Kyoto Protocol: Emissions Trading, the Clean Development Mechanism and Joint Implementation”, online: United Nations Framework Convention on Climate Change <unfccc.int/kyoto\_protocol/mechanisms/items/1673.php>.

emitted”<sup>38</sup> by different types of companies, including airline companies.<sup>39</sup> Within this cap, “companies receive emission allowances which they can sell to or buy from one another”<sup>40</sup> as required.<sup>41</sup> Limited amounts of international credits can be purchased as well.<sup>42</sup> Each company is required to surrender enough allowances to cover all of its emissions at the end of each year.<sup>43</sup> If a company reduces its emissions, it can either keep the spare allowances to cover its future needs or sell them to another company that is in need of allowance.<sup>44</sup> Failure to surrender sufficient allowances will lead to a fine of 100 euros per tonne of carbon emitted over the limit set by *Directive 2003/87*.<sup>45</sup> Failure to comply with these guidelines may lead to an operating ban on the respective company.<sup>46</sup>

Under the EU ETS, each airline company is administered by a single Member State for all of its aviation operations.<sup>47</sup> Originally under *Directive 2008/101*, 85 percent of emissions allowances were issued free of charge to participating airlines in 2012, which would reduce to 82 percent for the 2013–2020 period.<sup>48</sup> 15 percent of allowances were required to be auctioned off each year since 2012.<sup>49</sup> Although *Directive 2008/101* provides guidelines regarding the use of auction proceeds, EU Member States are accorded discretion regarding the use of such revenues.<sup>50</sup>

Originally under *Directive 2008/101*, all flights by aircraft with a certified maximum takeoff mass of more than 5,700 kg arriving into, or departing from, an aerodrome in the territory of an EU Member State were included unless they satisfied any of the exemption criteria.<sup>51</sup> However, in response to intense political pressure—mainly from the non-EU economically strong States<sup>52</sup>—the European Commission, on November 12, 2012, proposed to defer the

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<sup>38</sup> European Commission, “EU ETS Policy”, *supra* note 6.

<sup>39</sup> Ahmad, “EU Emissions”, *supra* note 30 at 1.

<sup>40</sup> European Commission, “EU ETS Policy”, *supra* note 6.

<sup>41</sup> Ahmad, “EU Emissions”, *supra* note 30 at 1.

<sup>42</sup> European Commission, “EU ETS Policy”, *supra* note 6.

<sup>43</sup> *Directive 2008/101*, *supra* note 10 at 11–12.

<sup>44</sup> See Ahmad, “EU Emissions”, *supra* note 30 at 1.

<sup>45</sup> See *Directive 2003/87*, *supra* note 3 at 37; *Directive 2008/101*, *supra* note 10 at 13.

<sup>46</sup> *Directive 2008/101*, *supra* note 10 at 13.

<sup>47</sup> *Ibid* at 6.

<sup>48</sup> See *ibid* at 8; European Commission, Press Release, Memo/11/631, “Questions & Answers on the benchmark for free allocation to airlines and on the inclusion of aviation in the EU’s Emission Trading System (EU ETS)” (26 September 2011), online: European Commission <europa.eu/rapid/press-release\_MEMO-11-631\_en.htm>.

<sup>49</sup> See *Directive 2008/101*, *supra* note 10 at 8.

<sup>50</sup> See *ibid* at 6, 9.

<sup>51</sup> See *ibid* at 5, 17.

<sup>52</sup> See Armand de Mestral & Md Tanveer Ahmad, “A Pre-Analysis of Canada–EU Aviation Relations post-ICAO Assembly Meeting Concerning Emissions Trading System”, Policy Brief, Carleton University Canada–Europe Transatlantic Dialogue (April 2013) at 2, online: Carleton University <labs.carleton.ca/canadaeurope/wp-content/uploads/sites/9/2013-04-brief-demestral-ahmad-mcgill-aviation-emissions.pdf>; Md Tanveer Ahmad, “The CJEU’s Radical ETS Judgment:

requirement for airlines to surrender emission allowances for flights into and out of Europe under the EU ETS until after the 38<sup>th</sup> ICAO Assembly meeting held in the autumn of 2013.<sup>53</sup> Consequently, this proposal to suspend was formally approved by the European Parliament and the Council of the EU.<sup>54</sup> Since the Assembly meeting, where an agreement to develop a global market-based measure for international civil aviation was reached,<sup>55</sup> the EU ETS with respect to aviation has been further amended.<sup>56</sup> According to these new amendments,<sup>57</sup> from 2013 to 2016, “only emissions from flights within the EEA fall under the EU ETS.”<sup>58</sup> Due to the latest amendments, the number of free allowances to be issued to airlines for the 2013–2016 period is reduced in proportion to the decreased scope of the scheme, and the number of allowances to be auctioned for the same period reduced “in proportion to the reduction in the total number of aviation allowances to be issued.”<sup>59</sup> Furthermore, “[e]xemptions for operators with low emissions have also been introduced.”<sup>60</sup>

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Destabilizing the Chicago Convention System” (2013) 13:1 *Issues in Aviation L & Policy* 139 at 139–40. See generally EC, Commission, *Commission Staff Working Document: Impact Assessment Accompanying the Document Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowances trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions*, SWD(2013) 430 final (Brussels: EC, 2013), online: European Commission <ec.europa.eu/clima/policies/transport/aviation/docs/swd\_2013\_430\_en.pdf> [*Impact Assessment 2013*].

<sup>53</sup> See EC, News Release, “Auctions for 2012 aviation allowances put on hold” (16 November 2012), online: European Commission Climate Action <ec.europa.eu/clima/news/articles/news\_2012111601\_en.htm>; EC, News Release, “Commission proposes to ‘stop the clock’ on international aviation in the EU ETS pending 2013 ICAO General Assembly” (12 November 2012), online: European Commission Climate Action <ec.europa.eu/clima/news/articles/news\_2012111202\_en.htm>.

<sup>54</sup> See EC, *Decision 377/2013/EU of the European Parliament and of the Council of 24 April 2013 derogating temporarily from Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community*, [2013] OJ, L 113/1. See also European Commission, “Reducing emissions from aviation”, online: European Commission Climate Action <ec.europa.eu/clima/policies/transport/aviation/index\_en.htm> [European Commission, “Reducing emissions”].

<sup>55</sup> See *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*, ICAO Assembly Res A38-18, 38th Sess, ICAO Doc 10022, I-68 at I-72, online: ICAO <www.icao.int/publications/Documents/10022\_en.pdf> [ICAO Res A38-18].

<sup>56</sup> See EC, *Commission Regulation (EU) 421/2014 of the European Parliament and of the Council of 16 April 2014 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions*, [2014] OJ, L 129/1 [Regulation 421/2014].

<sup>57</sup> See *ibid.* To learn more about the specific changes, see EC, Commission, *Frequently Asked Questions: 2013-2016 Regulation amending the EU Emissions Trading System for aviation* (Brussels: EC, 2014), online: European Commission <ec.europa.eu/clima/policies/transport/aviation/docs/faq\_aviation\_2013-2016\_en.pdf> [EC, *FAQ: amending EU ETS*].

<sup>58</sup> See also European Commission, “Reducing emissions”, *supra* note 54.

<sup>59</sup> See EC, *FAQ: amending EU ETS*, *supra* note 57 at 6, 7.

<sup>60</sup> See also European Commission, “Reducing emissions”, *supra* note 54.

### 3. THE MOTIVATING FACTORS FOR INTRODUCING THE EU ETS

Including aviation in the EU ETS was not a sudden and unexpected event.<sup>61</sup> Since the EU ETS was a massive “undertaking for the continent,”<sup>62</sup> and originally included major emitters except the aviation and maritime industries, “a sense of unease” commenced to develop within the EU, questioning the fairness of such exclusion.<sup>63</sup> According to the European Commission, “[e]missions from aviation are higher than from certain entire sectors covered by the EU ETS, for example refineries and steel production.”<sup>64</sup> Hence, in the Sixth Environment Action Programme 2002–2012,<sup>65</sup> the EU made it clear that it would undertake “to reduce greenhouse gas emissions from aviation if no such action is agreed within [ICAO] by 2002”.<sup>66</sup> Following a review of the policy options, the European Commission adopted a Communication in September 2005 that concluded that a comprehensive approach was necessary.<sup>67</sup> The main conclusion was that the EU ETS should be extended to include aviation.<sup>68</sup>

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<sup>61</sup> See Jos Delbeke, “A New Flightplan – Getting Global Aviation Climate Measures Off the Ground” (Key Note Speech delivered at the Getting Global Aviation Climate Measures Off the Ground Conference, Norway House, Brussels, 7 February 2012) [unpublished], online: European Commission <ec.europa.eu/clima/news/docs/speech\_en.pdf>; M Vittoria Giugi Carminati, “Clean Air & Stormy Skies: The EU-ETS Imposing Carbon Credit Purchases on United States Airlines” (2010) 37:2 Syracuse J Intl L & Com 127 at 127 (HeinOnline); Lorand Bartels, “The WTO Legality of the Application of the EU’s Emission Trading System to Aviation” (2012) 23:2 Eur J Intl L 429 at 433. See also Steven Truxal, “The ICAO Assembly Resolutions on International Aviation and Climate Change: An Historic Agreement, a Breakthrough Deal and the Cancun Effect” (2011) 36:3 Air & Space L 217 (Kluwer Law Online).

<sup>62</sup> Doaa Abdel Motaal, “Curbing CO<sub>2</sub> Emissions from Aviation: Is the Airline Industry Headed for Defeat?” (2012) 3:1 Climate L 1 at 8 (IOS Press).

<sup>63</sup> *Ibid.* See also Benoît Mayer, “Case C-366/10, Air Transport Association of America and Others v. Secretary of State for Energy and Climate Change”, Case Comment, (2012) 49:3 CML Rev 1113 at 1115–17.

<sup>64</sup> European Commission, Press Release, Memo/11/139, “Questions & Answers on historic aviation emissions and the inclusion of aviation in the EU’s Emission Trading System (EUETS)” (7 March 2011) at 4, online: European Commission <europa.eu/rapid/press-release\_MEMO-11-139\_en.htm>.

<sup>65</sup> EC, *Decision 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme*, [2002] OJ, L 242/1 at 1 [*Decision No 1600/2002*]. See also Paul Stephen Dempsey, *Public International Air Law* (Montreal: McGill University, Institute and Center for Research in Air & Space Law, 2008) at 471 [Dempsey, *Public International*].

<sup>66</sup> *Decision No 1600/2002*, *supra* note 65 at 7.

<sup>67</sup> See EC, Commission, *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Reducing the Climate Change Impact of Aviation*, COM(2005) 459 final (Brussels: EC, 2005), online: EUR-Lex <eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0459:FIN:EN:PDF> [EC, *Communication*, COM(2005) 459 final]; European Commission, “Air: Climate Change”, online: European Commission Mobility and Transport <ec.europa.eu/transport/modes/air/environment/climate\_change\_en.htm>.

<sup>68</sup> See EC, *Communication*, COM(2005) 459 final, *supra* note 67 at 4.

It is true that ICAO has yet to come up with effective measures to reduce emissions from international civil aviation.<sup>69</sup> Most importantly, no global market-based measure is in effect now for international civil aviation that is required to provide a temporary solution.<sup>70</sup> In 2004, the Committee on Aviation Environmental Protection (CAEP) of ICAO agreed at its sixth meeting that “an aviation-specific emissions trading system based on a new legal instrument under ICAO auspices “...seemed sufficiently unattractive that it should not be pursued further”.”<sup>71</sup> This outcome of the CAEP meeting has been referred to in the European Commission’s proposal to adopt a Directive to include aviation in the EU ETS,<sup>72</sup> which led to the adoption of

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<sup>69</sup> See Malte Petersen, “The Legality of the EU’s Stand-Alone Approach to the Climate Impact of Aviation: The Express Role Given to the ICAO by the Kyoto Protocol” (2008) 17:2 RECIEL 196 (EbscoHost) (“[a]lthough the ICAO has not been completely inactive in addressing the climate impact of aviation, it should be noted that these efforts have not led to any effective system to tackle the climate impact of aviation” at 203). See also Jane Barton, “Including Aviation in the EU Emissions Trading Scheme: Prepare for Take-off” (2008) 5:2 J Eur Envtl & Plan L 183 at 184 (HeinOnline) [Barton, “Including Aviation”].

<sup>70</sup> See ICAO Secretariat, “Overview – Market-Based Measures: Market-Based Measures” in ICAO, *ICAO Environmental Report: Aviation and Climate Change* (Montreal: ICAO, 2013) 138 at 138, online: ICAO <cfapp.icao.int/Environmental-Report-2013/> [ICAO Secretariat, “Market-Based Measures”]; Sam Brand, “An Introduction to Market-based Measures” (Presentation delivered at the ICAO Symposium on Aviation and Climate Change, “Destination Green”, Montreal, 14–16 May 2013) [unpublished], online: ICAO <icao.int/NACC/Documents/Meetings/2014/ENVSEMINAR/8.1.Introduction%20to%20MBMs.pdf>; Andreas Hardeman, “Reframing Aviation Climate Politics and Policies” (2011) 36 Ann Air & Sp L 1 at 16; Annie Petsonk, “A Global MBM for Aviation and Climate Change: The Time is Now!” (Presentation delivered at the ICAO Symposium on Aviation and Climate Change, “Destination Green”, Montreal, 14–16 May 2013) [unpublished], online: ICAO <www.icao.int/Meetings/Green/Documents/Forms/AllItems.aspx?RootFolder=%2FMeetings%2FGreen%2FDocuments%2FDAY%202%2FSession%204%20-%20Global%20emissions%20-%20MBM&InitialTabId=Ribbon%2EDocument&VisibilityContext=WSSTabPersistence>; Paul Steele, “Aviation – Benefits Beyond Borders – ICAO Destination Green” (Presentation delivered at the ICAO Symposium on Aviation and Climate Change, “Destination Green”, Montreal, 14–16 May 2013) [unpublished], online: ICAO <www.icao.int/Meetings/Green/Documents/DAY%202/Day%202%20PDF/MBM/4-Steele.pdf>; International Civil Aviation Organization, “Market-based Measures and Climate Change”, online: ICAO <cfapp.icao.int/tools/38thAssyikit/story\_content/external\_files/Flyer\_US-Letter\_ENV\_MBM\_2013-08-30.pdf> [ICAO, “MBMs and Climate Change”]; DS Lee, LL Lim & B Owen, “Mitigating future aviation CO<sub>2</sub> emissions – “timing is everything”” (Manchester, Centre for Aviation Transport and the Environment, 2013), online: Dalton Research Institute <www.cate.mmu.ac.uk/docs/mitigating-future-aviation-co2-emissions.pdf>; Md Tanveer Ahmad, “Environmental Effectiveness of ICAO’s Basket of Mitigation Measures to Arrest Emissions from International Civil Aviation” (2014) 39 Ann Air & Sp L 75 [Ahmad, “Environmental Effectiveness”].

<sup>71</sup> EC, Commission, *Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community*, COM(2006) 818 final – 2006/0304 (COD) (Brussels: EC, 2006) at 3, online: EUR-Lex <eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52006PC0818> [emphasis in original].

<sup>72</sup> See *ibid.*

*Directive 2008/101*,<sup>73</sup> as well as in the recital to that Directive.<sup>74</sup> Although a decision to develop a global market-based measure for aviation was reached at the latest ICAO Assembly meeting in 2013, such a measure, if agreed to by the ICAO contracting States at the next Assembly meeting in 2016, will only become effective in 2020.<sup>75</sup> Such delay at ICAO had always been criticized by the EU and, hence, it readily included aviation in the EU ETS without waiting for a global solution.<sup>76</sup> This unilateral action from the EU implies that ICAO has failed to take necessary action(s) with respect to reducing emissions from aviation.<sup>77</sup>

The EU's continued skepticism about ICAO's ability to effectively address environmental issues involving aviation is evident from the reservations filed by its Member States against ICAO Assembly Resolutions concerning environmental protection. The EU Member States filed reservations against Resolution A36-22,<sup>78</sup> which urged ICAO contracting States "not to implement an emissions trading system on other Contracting States' aircraft operators except on the basis of mutual agreement between those States",<sup>79</sup> and against paragraph 14 of Resolution A37-19, which urged States, inter alia, to engage in constructive bilateral and/or

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<sup>73</sup> *Directive 2008/101*, *supra* note 10.

<sup>74</sup> See *ibid* at 4.

<sup>75</sup> See ICAO Res A38-18, *supra* note 55 at I-72.

<sup>76</sup> See Claybourne Fox Clarke & Thiago Chagas, "Aviation and Climate Change Regulation" in David Freestone & Charlotte Steck, eds, *Legal Aspects of Carbon Trading: Kyoto, Copenhagen, and Beyond* (Oxford: Oxford University Press, 2009) 606 at 610; Martin Staniland, "Air Transports and the EU's Emissions Trading Scheme: Issues and Arguments" (2008-2009) 8:2 *Issues in Aviation L & Policy* 153 at 155 (HeinOnline); Matt Grote, Ian Williams & John Preston, "Direct Carbon Emissions from Civil Aircraft" (2014) 95:9 *Atmospheric Environment* 214 at 217 (Elsevier). In *ATA v Secretary of State*, the CJEU and Advocate General Kokott "explicitly explain that the EU ETS regime arose because of the failure of the International Civil Aviation Organisation (ICAO) to evolve a global regulatory scheme." Elaine Fahey, "The EU Trading Scheme and the Court of Justice: The 'High Politics' of Indirectly Promoting Global Standards" (2012) 13:1 *German LJ* 1247 at 1247 [footnote omitted] (HeinOnline)). See *ATA v Secretary of State*, *supra* note 11 at I-13854-I-13856; *Air Transport Association of America and others v Secretary of State for Energy and Climate Change*, C-366/10, [2011] ECR I-13765 at I-13821, Opinion of Advocate General Kokott.

<sup>77</sup> See also Carminati, *supra* note 61 at 137; Bartels, *supra* note 61 at 433-34; Truxal, *supra* note 61 at 237; Holly Preston, David S Lee & Paul D Hooper, "The Inclusion of the Aviation Sector within the European Union's Emissions Trading Scheme: What are the Prospects for a More Sustainable Aviation Industry?" (2012) 2 *Environmental Development* 48 at 48; *Directive 2008/101*, *supra* note 10.

<sup>78</sup> *Consolidated statement of continuing ICAO policies and practices related to environmental protection*, ICAO Assembly Res A36-22, 36th Sess, ICAO Doc 9902, I-54, online: ICAO <[www.icao.int/publications/Documents/9902\\_en.pdf](http://www.icao.int/publications/Documents/9902_en.pdf)> [ICAO Res A36-22].

<sup>79</sup> *Ibid* at I-73. To view the reservation, see EC, Press Release, Memo/07/39, "Written statement of reservation on behalf of the member states of the European Community (EC) and the other states members of the European Civil Aviation (ECAC) [made at the 36th Assembly of the International Civil Aviation Organization in Montreal, 18-28 September 2007]" (2 October 2007), online: Europa <[europa.eu/rapid/press-release\\_MEMO-07-391\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-07-391_en.htm?locale=en)>.

multilateral consultations and negotiations with other States to reach an agreement.<sup>80</sup> Recently, a reservation has been filed against paragraph 16(a) of latest Resolution A38-18,<sup>81</sup> which, like Resolution A37-19, requires States to “engage in constructive bilateral and/or multilateral consultations and negotiations with other States to reach an agreement” when designing new and implementing existing market-based measures.<sup>82</sup> This skepticism is revealed in the latest Union legislation that amended the EU ETS, namely *Regulation 421/2014*.<sup>83</sup> This Regulation provides:

The Commission shall regularly, and at least once a year, inform the European Parliament and the Council of the progress of the [ICAO] negotiations as well as of its efforts to promote the international acceptance of market-based mechanisms among third countries. Following the 2016 ICAO Assembly, the Commission shall report to the European Parliament and to the Council on actions to implement an international agreement on a global market-based measure from 2020, that will reduce greenhouse gas emissions from aviation in a non-discriminatory manner, including on information, with regard to the use of revenues, submitted by Member States in accordance with Article 17 of Regulation (EU) No 525/2013.

In its report, the Commission shall consider, and, if appropriate, include proposals in reaction to, those developments on the appropriate scope for coverage of emissions from activity to and from aerodromes located in countries outside the EEA from 1 January 2017 onwards. In its report, the Commission shall also consider solutions to other issues that may arise in the application of paragraphs 1 to 4 of this Article, while preserving the equal treatment of all aircraft operators on the same route.<sup>84</sup>

Some authors have argued that “[n]egotiations within the ICAO have...made little progress,”<sup>85</sup> and, compared to the International Maritime Organization (IMO), ICAO’s achievement in addressing emissions from aviation is not significant.<sup>86</sup> Few scholars even

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<sup>80</sup> See *Consolidated statement of continuing ICAO policies and practices related to environmental protection — Climate change*, ICAO Assembly Res A37-19, 37th Sess, ICAO Doc 9958, I-67 at I-71, online: ICAO <[www.icao.int/publications/Documents/9958\\_en.pdf](http://www.icao.int/publications/Documents/9958_en.pdf)> [ICAO Res A37-19]. To view the entire reservation, see Belgium, *Written Statement of Reservation by Belgium on behalf of the European Union (EU), its 27 Member States, and the 17 Other States Members of the European Civil Aviation Conference (ECAC) on Resolution A37-17/2: Consolidated Statement of Continuing ICAO Policies and Practices related to Environmental Protection – Climate Change*, online: European Commission <[ec.europa.eu/clima/policies/transport/aviation/docs/reservations\\_201010\\_en.pdf](http://ec.europa.eu/clima/policies/transport/aviation/docs/reservations_201010_en.pdf)>.

<sup>81</sup> See Lithuania, *Written Statement of Reservation by Lithuania on behalf of the Member States of the European Union and 14 other Member States of the European Civil Aviation Conference (ECAC) with regard to ICAO Assembly Resolution A38-18*, at 2, online: ICAO <[www.icao.int/Meetings/a38/Documents/Resolutions/Lithuania\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/Resolutions/Lithuania_en.pdf)> [*Reservation by Lithuania*].

<sup>82</sup> ICAO Res A38-18, *supra* note 55 at I-72. See also Barton, “Including Aviation”, *supra* note 69 at 185.

<sup>83</sup> *Regulation 421/2014*, *supra* note 56.

<sup>84</sup> *Ibid* at 4.

<sup>85</sup> Jacques Hartmann, “A Battle for the Skies: Applying the European Emissions Trading System to International Aviation” (2013) 82:2 *Nordic J Intl L* 187 at 189 [footnote omitted].

<sup>86</sup> At its 62nd session in July 2011, the IMO Marine Environment Protection Committee adopted mandatory measures to reduce emissions from international shipping. The Committee adopted

consider that, rather than facilitating the development of effective measures, ICAO “has served as much, if not more, as a forum for championing causes to preclude the sector from mandatory measures”<sup>87</sup> to reduce emissions from international civil aviation. For this reason, Clarke and Chagas argue that “ICAO has been accused of failing to be sufficiently proactive and of, in effect, holding up the development of substantive [greenhouse gas] reduction measures for the [aviation] sector.”<sup>88</sup>

Nevertheless, it has to be stressed that ICAO has been relentlessly working on the issue of emissions from aviation for the last decade.<sup>89</sup> The argument that ICAO’s achievements are not significant compared to IMO’s achievements cannot be entirely accepted. International shipping accounts for approximately 2.2 percent of global CO<sub>2</sub> emissions,<sup>90</sup> which is greater than the CO<sub>2</sub> emissions from international civil aviation, accounting for 2 percent of global CO<sub>2</sub> emissions.<sup>91</sup> With respect to reducing emissions from ships, Annex VI to the *MARPOL Convention*<sup>92</sup> addresses airborne emissions of certain gases from ships, namely sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), ozone depleting substances, and volatile organic compounds.<sup>93</sup> In 2011, the IMO adopted mandatory technical and operational energy efficiency measures for all ships of 400 gross tonnage and above, which entered into force on January 1, 2013 under Chapter 4 of Annex VI,<sup>94</sup> and are expected to significantly reduce CO<sub>2</sub> emissions from international shipping.<sup>95</sup> Nonetheless, the industry, academics, and non-governmental

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revisions to Annex VI to the *MARPOL Convention* introducing Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP). See *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*, Resolution MEPC.203(62), IMO, 62th Sess, Annex 19 (2011), online: IMO <[www.imo.org/MediaCentre/HotTopics/GHG/Documents/eedi%20amendments%20RESOLUTION%20MEPC203%2062.pdf](http://www.imo.org/MediaCentre/HotTopics/GHG/Documents/eedi%20amendments%20RESOLUTION%20MEPC203%2062.pdf)>.

<sup>87</sup> Clarke & Chagas, *supra* note 76 at 609.

<sup>88</sup> *Ibid* [footnote omitted].

<sup>89</sup> See e.g. ICAO, *Report of the Assessment of Market-Based Measures*, 1st ed, ICAO Doc 10018 (2013) at (vii), online: ICAO <[www.icao.int/Meetings/a38/Documents/10018\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/10018_en.pdf)> [*Report on Market-based Measures*]; Reagan, *supra* note 12 at 383.

<sup>90</sup> See IMO Secretariat, *Reduction of GHG Emissions From Ships: Third IMO GHG Study 2014 – Final Report*, Marine Environment Protection Committee, 67th Sess, Agenda Item 6, Doc MEPC 67/INF.3 (2014).

<sup>91</sup> See e.g. ICAO Res A38-18, *supra* note 55 at I-68; Air Transport Action Group, “Facts & Figures”, online: Air Transport Action Group <[www.atag.org/facts-and-figures.html](http://www.atag.org/facts-and-figures.html)>. But see Motaal, *supra* note 62 at 3–5.

<sup>92</sup> *International Convention for the Prevention of Pollution from Ships*, 2 November 1973, 1340 UNTS 184, UKTS 1983 [*MARPOL*].

<sup>93</sup> See *ibid*, Annex VI.

<sup>94</sup> See *ibid*, Annex VI, ch 4; IMO, Press Briefing, 34, “IMO’s MEPC progresses work on air pollution and energy efficiency” (23 October 2014), online: IMO <[www.imo.org/MediaCentre/PressBriefings/Pages/34-mepc-67-emissions.aspx#.VFbEdPnF-So](http://www.imo.org/MediaCentre/PressBriefings/Pages/34-mepc-67-emissions.aspx#.VFbEdPnF-So)>. These Regulations have made mandatory the Energy Efficiency Design Index (EEDI) for new ships, and the Ship Energy Efficiency Management Plan (SEEMP) for all ships. See *MARPOL*, *supra* note 92, Annex VI, ch 4.

<sup>95</sup> See IMO, “Air Pollution, Energy Efficiency and Greenhouse Gas Emissions”, online: IMO <[www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Default.aspx](http://www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Default.aspx)>.



organizations have criticized this “for being a weak measure that will fail to cut CO<sub>2</sub> emissions in absolute terms, at least without complimentary and stringent policy instruments.”<sup>96</sup> In July 2009, the Marine Environment Protection Committee (MEPC) at its 59<sup>th</sup> meeting recognized that “technical and operational measures would not be sufficient to satisfactorily reduce the amount of greenhouse gas (GHG) emissions from international shipping in view of the growth projections of world trade”, and, thus, agreed that a market-based measure “was needed as part of a comprehensive package of measure for the effective regulation of [such] emissions”.<sup>97</sup> However, still there is no market-based measure in place for the global maritime industry. At its 65<sup>th</sup> meeting in May 2013, the MEPC agreed to “suspend discussions on [market-based measures] and related issues to a future session.”<sup>98</sup>

In the case of aviation, volume II of Annex 16 addresses smoke, unburned hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NO<sub>x</sub>).<sup>99</sup> ICAO has adopted a basket of mitigation measures, which includes technological improvements, operational improvements, sustainable alternative fuels, and market-based measures.<sup>100</sup> Unlike the IMO measures, ICAO measures are not mandatory.<sup>101</sup> Nonetheless, compared to the IMO, ICAO has made major progress in the area of market-based measures. Whereas the IMO considered market-based measures but suspended discussions on the measures,<sup>102</sup> an agreement to develop a global market-based measure for international civil aviation was reached at the 38<sup>th</sup> session of ICAO Assembly in October 2013.<sup>103</sup> ICAO’s work on market-based measures is briefly discussed below.<sup>104</sup> Even in such circumstances, the EU has not included the maritime industry, but the aviation industry, in the EU ETS. The European Commission, in June 2013, has merely “set out a strategy for progressively integrating maritime emissions into the EU’s policy for reducing its domestic greenhouse gas emissions”<sup>105</sup> consisting of three consecutive steps.<sup>106</sup>

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<sup>96</sup> Paul Gilbert, “From Reductionism to Systems Thinking: How the Shipping Sector Can Address Sulphur Regulation and Tackle Climate Change” (2014) 43:6 *Marine Policy* 376 at 376–77.

<sup>97</sup> IMO, “Market-Based Measures”, online: IMO <[www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Market-Based-Measures.aspx](http://www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Market-Based-Measures.aspx)> [IMO, “Market-Based”].

<sup>98</sup> *Ibid.*

<sup>99</sup> See ICAO, (2008) 3 International Standards and Recommended Practices: Annex 16 to the Convention on International Civil Aviation: Volume 2, Aircraft Engine Emissions, part III, ch 2, 3.

<sup>100</sup> See ICAO Secretariat, “Market-Based Measures”, *supra* note 70 at 138.

<sup>101</sup> See e.g. Ahmad, “Environmental Effectiveness”, *supra* note 70.

<sup>102</sup> IMO, “Market-Based”, *supra* note 97.

<sup>103</sup> See ICAO Res A38-18, *supra* note 55 at I-72.

<sup>104</sup> See section 5.7, *below*.

<sup>105</sup> European Commission, “Reducing emissions from the shipping sector”, online: European Commission Climate Action <[ec.europa.eu/clima/policies/transport/shipping/index\\_en.htm](http://ec.europa.eu/clima/policies/transport/shipping/index_en.htm)>.

<sup>106</sup> *Ibid.* See EC, Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Integrating maritime transport emissions in the EU’s greenhouse gas reduction policies*, COM(2013) 479 final, (Brussels: EC, 2013), online: European Commission <[ec.europa.eu/clima/policies/transport/shipping/docs/com\\_2013\\_479\\_en.pdf](http://ec.europa.eu/clima/policies/transport/shipping/docs/com_2013_479_en.pdf)>. These steps are: (a) Monitoring, reporting and verification of CO<sub>2</sub> emissions from large ships using EU ports; (b) Greenhouse gas reduction targets for the maritime transport sector; and (c) Further measures, including MBMs, in the medium to long term.

As appears from the latest session—i.e. the 38<sup>th</sup> session—of the ICAO Assembly, it is not ICAO but its contracting States that deserve to be blamed for the slow progress in achieving a global solution to combat climate change and global warming from the aviation sector.<sup>107</sup> The differences between developed and developing States on certain issues, e.g., the principle of common but differentiated responsibility, the principle of special circumstances and respective capabilities, and the concept of *de minimis* threshold,<sup>108</sup> are liable for this unacceptable delay.<sup>109</sup>

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See *ibid.* Simultaneously, to implement the first step, the Commission has “put forward a legislative proposal to establish an EU system for monitoring, reporting and verifying (MRV) emissions from large ships using EU ports.” *Ibid.* See also EC, Commission, *Proposal for a Regulation of the European Parliament and of the Council on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport and amending Regulation (EU) No 525/2013*, COM(2013) 480 final – 2013/0224 (COD) (Brussels: EC, 2013), online: European Commission <ec.europa.eu/clima/policies/transport/shipping/docs/com\_2013\_480\_en.pdf>.

<sup>107</sup> For more discussion on this, see Ahmad, “Environmental Effectiveness”, *supra* note 70.

<sup>108</sup> According to this concept, airlines will be granted exemption from any proposed national or regional market-based measure on routes to and from developing States whose share of international civil aviation activities is below certain threshold before the implementation of any global market-based measure. See ICAO Res A38-18, *supra* note 55 at I-72.

<sup>109</sup> See generally Australia, *Reservation by Australia to Resolution A38/17/2 on international aviation and climate change* (5 November 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/Resolutions/Australia\_en.pdf> [*Reservation by Australia*]; Canada, *Statement of Canada’s Reservations Regarding the 38th International Civil Aviation Organization General Assembly Resolution: Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Climate Change* (1 November 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/Resolutions/Canada\_en.pdf>; United States, *Addressing the Climate Impacts of Aviation*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 234, Doc A38-WP/234/Ex/79 (20 August 2013) at 3, online: ICAO <www.icao.int/Meetings/a38/Documents/WP/wp234\_en.pdf>; United States, *Statement of Reservation of the United States of America regarding the 38th ICAO Assembly Resolution: Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Climate Change* (9 October 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/Resolutions/United\_States\_en.pdf>; Japan, *Japan’s Reservation regarding Assembly Resolution A38-18: Consolidated Statement of Continuing ICAO Policies and Practices related to Environmental Protection – Climate Change*, online: ICAO <www.icao.int/Meetings/a38/Documents/Resolutions/Japan\_en.pdf>; Republic of Korea, *Statement of Reservation of the Republic of Korea Regarding Resolution A38-17/2: Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate Change* (22 October 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/Resolutions/Korea\_en.pdf> [*Reservation of the Republic of Korea*]; *Reservation by Lithuania*, *supra* note 81; Lithuania, *A Comprehensive Approach to Reducing the Climate Impacts of International Aviation*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 83, Doc A38-WP/83/Ex/38 (31 July 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/WP/wp083\_en.pdf> [*Lithuania, A Comprehensive Approach*]; 54 African States, *Position of African States on Climate Change*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 272, Doc A38-WP/272/Ex/92 (11 September 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/WP/wp272\_en.pdf>; Aruba et al, *Civil Aviation Developments in Latin America in Support of Air Transport Sustainability in the Region*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 317, Doc A38-WP/317/Ex/109 (10 September 2013), online: ICAO <www.icao.int/Meetings/a38/Documents/WP/wp317\_en.pdf>; Argentina et al, *Consolidated Statement of Continuing ICAO Policies and Practices related to Environmental Protection – Climate Change*,

Such divergence of attitudes between developed and developing States is not unique in the field of aviation; this “is evident across the entire economic spectrum.”<sup>110</sup> The EU itself is not unaware of this fact; it also acknowledges this.<sup>111</sup> Hence, Professor Milde argues:

It would be grossly unfair to put any blame for the failure to find a solution on ICAO. ICAO is no more than a forum for its contracting States and those States so far failed to define a common ground—they hardly could have found a solution due to the vast economic disparities that are at the roots of the divergent opinions.<sup>112</sup>

#### 4. THE AUTHORITY OF THE EU TO ADOPT UNILATERAL ENVIRONMENTAL MEASURES: A BRIEF ANALYSIS

##### 4.1 STATES' SOVEREIGNTY OVER THEIR TERRITORIAL AIRSPACE

In international law, each State possesses the necessary authority to adopt unilateral measures to the extent that these apply to its sovereign territory.<sup>113</sup> This is primarily due to the doctrine of State sovereignty, according to which every State possesses the right to exercise its functions to the exclusion of other States within its territory.<sup>114</sup> It is a principle of customary

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ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 424, Doc A38-WP/424/Ex/139 (1 October 2013), online: ICAO <[www.icao.int/Meetings/a38/Documents/WP/wp424\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/WP/wp424_en.pdf)>; Kingdom of Saudi Arabia, *Expectations and Desirable Objectives of the 38th Session of the Assembly relating to International Aviation and Climate Change — Perspective of the Kingdom of Saudi Arabia*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 176, Doc A38-WP/176/Ex/67 (20 August 2013), online: ICAO <[www.icao.int/Meetings/a38/Documents/WP/wp176\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/WP/wp176_en.pdf)>; United Arab Emirates, *UAE's Views on Aviation and Climate Change*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 258, Doc A38-WP/258/Ex/85 (9 September 2013), online: ICAO <[www.icao.int/Meetings/a38/Documents/WP/wp258\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/WP/wp258_en.pdf)> [*UAE's Views*].

<sup>110</sup> Michael Milde, “The EU Emissions Trading Scheme: Confrontation or Compromise?: A Unilateral Action Outside the Framework of ICAO” (2012) 61:2 ZLW 173 at 176 [Milde, “Confrontation or Compromise?”].

<sup>111</sup> See e.g. EC, *Communication*, COM(2005) 459 final, *supra* note 67 at 5; *Impact Assessment 2013*, *supra* note 52 at 10 (“[t]he spill-overs from the UNFCCC negotiations have complicated the ICAO negotiations” at 10).

<sup>112</sup> Milde, “Confrontation or Compromise?”, *supra* note 110 at 178.

<sup>113</sup> See Joshua Meltzer, “Climate Change and Trade – The EU Aviation Directive and the WTO” (2012) 15:1 J Intl Econ L 111 at 151–52 (Oxford Journals); Milde, “Confrontation or Compromise?”, *supra* note 110 at 178; Kati Kulovesi, “‘Make Your Own Special Song, Even if Nobody Else Sings Along’: International Aviation Emissions and the EU Emissions Trading Scheme” (2011) 2:4 Climate L 535 at 537. In international law, the “governing principle” is that States cannot adopt measures that have extraterritorial application without the consent of other States or except under the terms of a treaty. See Ian Brownlie, *Principles of Public International Law*, 7th ed (Oxford: Oxford University Press, 2008) at 309. See also *The Case of the SS “Lotus” (France v Turkey)* (1927), PCIJ (Ser A) No 10 at 18.

<sup>114</sup> See generally Jean Bodin, *Les six livres de la république*, 4th ed (Paris: Chez Jacques du Puys, 1576) at 125; JG Starke, *Introduction to International Law*, 10th ed (London: Butterworths, 1989) at 157; Sharon Anne Williams & Armand LC de Mestral, *An Introduction to International Law: Chiefly as Interpreted and Applied in Canada*, 2nd ed (Toronto: Butterworths, 1987) at 108; Ruwantissa Abeyratne, *Convention on International Civil Aviation: A Commentary* (London: Springer

international law that every State has complete and exclusive sovereignty over the airspace above its territory.<sup>115</sup> The *Chicago Convention*, which is the primary source of public international air law,<sup>116</sup> and is often regarded as the “Constitution”<sup>117</sup> of international civil aviation, has codified this principle of airspace sovereignty,<sup>118</sup> and has defined “territory” as “the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State.”<sup>119</sup> Article 2 of the *United Nations Convention on the Law of the Sea (UNCLOS)* also confirms sovereignty of coastal States over the airspace above their territorial waters or sea.<sup>120</sup> According to article 3 of *UNCLOS*, the breadth of territorial sea cannot exceed 12 nautical miles, measured from baselines.<sup>121</sup> In recognition of the principle of airspace sovereignty, article 6 of the *Chicago Convention* authorizes every State to regulate the entry of foreign aircraft engaged in scheduled international services into its airspace; special permission or authorization is required for aircraft of one contracting State to operate scheduled international air services over or into the territory of another contracting State and such operation must be performed pursuant to the terms of such permission or authorization.<sup>122</sup>

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International, 2014) at 17. However, some authors do not consider that the concept of sovereignty is a useful one to settle disagreements. See James Crawford, “Sovereignty as a Legal Value” in James Crawford & Martti Koskeniemi, eds, *The Cambridge Companion to International Law* (New York: Cambridge University Press, 2012) 117; Hartmann, *supra* note 85 at 216.

<sup>115</sup> See *Case concerning Military and Paramilitary activities in and against Nicaragua (Nicaragua v United States of America)*, [1986] ICJ Rep 14 at 111 [*Nicaragua Case*]; *ATA v Secretary of State*, *supra* note 11 at I-13885–I-13886; Brownlie, *supra* note 113 at 105.

<sup>116</sup> See generally Michael Milde, *International Air Law and ICAO* in Marietta Benkö, ed, *Essential Air and Space Law*, vol 4 (Utrecht: Eleven International Publishing, 2008) at 17 [Milde, “International Air Law”]; Elmar M Giemulla, “Chapter 1: Chicago System: Genesis and Main Characteristics” in Elmar M Giemulla & Ludwig Weber, eds, *International and EU Aviation Law: Selected Issues* (AH Alphen aan den Rijn: Kluwer Law International, 2011) 3 at 5.

<sup>117</sup> See Dempsey, *Public International*, *supra* note 65 at 69; Pablo Mendes de Leon, “Enforcement of the EU ETS: The EU’s Convulsive Efforts to Export its Environmental Values” (2012) 37:4 *Air & Space L* 287 at 289 (Kluwer Law Online).

<sup>118</sup> *Convention on International Civil Aviation*, 7 December 1944, 15 UNTS 295 Can TS 1944 No 36, ICAO Doc 7300/9, art 1 (entered into force 4 April 1947) [*Chicago Convention*]. Prior to the Chicago Convention, the principle was codified in article 1 of the Paris Convention. See *Convention Relating to the Regulation of Aerial Navigation*, 13 October, 1919, 11 LNTS No 297 at 173, art 1 (not in force) [*Paris Convention*].

<sup>119</sup> *Chicago Convention*, *supra* note 118, art 2.

<sup>120</sup> *United Nations Convention on the Law of the Sea*, 10 December 1982, 1833 UNTS 3, UKTS 1999 No 81, 21 ILM 1261, art 2 (entered into force 16 November 1994) [*UNCLOS*]. Although the term “territorial sea” is now generally accepted, “[o]ther terms employed to denote the same concept include ‘the maritime belt’, ‘marginal sea’, and ‘territorial waters’.” Brownlie, *supra* note 113 at 173 [footnote omitted].

<sup>121</sup> *UNCLOS*, *supra* note 120, art 3. Article 5 of *UNCLOS* provides that “the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State.” *Ibid*, art 5.

<sup>122</sup> *Chicago Convention*, *supra* note 118, art 6.

Therefore, the Member States of the EU possess the necessary authority to adopt unilateral environmental measures applicable within their sovereign airspace. However, the EU ETS was not launched by the Member States but by the EU which is neither a State nor a party to the *Chicago Convention*. The EU is a union of 28 Member States, all of whom are ICAO contracting States. It is a regional organization that is partly intergovernmental and partly supranational, since the Member States have surrendered power in certain areas to the EU.<sup>123</sup> As mentioned above,<sup>124</sup> the EU has been conferred legal personality by the Member States.<sup>125</sup> It acts on behalf of its Member States in the pursuit of, inter alia, common foreign policies and actions that “ensure sustainable development” and are aimed at helping to “develop international measures to preserve and improve the quality of the environment”,<sup>126</sup> and has been granted competence to “legislate and adopt legally binding acts” in the areas of environment and transport.<sup>127</sup> Hence, the EU possesses the necessary authority to adopt unilateral environmental measures in the area of transport to the extent that these apply within the sovereign territory of the Member States.

However, the EU does not possess the same authority with respect to the three EEA Member States, who are not EU Member States. To be applicable in the EEA, EU legislation must be incorporated into the *EEA Agreement* through EEA Joint Committee Decisions.<sup>128</sup> Moreover, those EFTA States do not have “formal access to the decision-making process within the EU institutions.”<sup>129</sup> However, at the initial stages of preparing a legislative proposal, those States are permitted to participate in shaping a decision.<sup>130</sup> This authority to participate in decision-shaping suggests that prior consent, albeit informal, is received from those three EEA Member States before passing any EU legislation that will affect those States. In this way, the EU obtains *informal* approval of those EEA States to adopt unilateral environmental measures applicable within the sovereign area of those States, which will be *formally* approved through incorporation into the *EEA Agreement* after enactment of such measures. As noted before, *Directive 2003/87*, which established the EU ETS, and *Directive 2008/101*, which added aviation to the EU ETS, were incorporated into the *EEA Agreement* through *Decision 146/2007* and *Decision 6/2011*, respectively.<sup>131</sup>

#### 4.2 LIMITS ON SOVEREIGNTY

It has to be noted that EU’s authority to adopt unilateral environmental measures is not unlimited. The Union needs to take into consideration, among others, established aviation

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<sup>123</sup> See e.g. Carleton University Centre for European Studies, “Extension: What Are International Organizations?”, *EU Learning*, online: Carleton University <carleton.ca/ces/eulearning/introduction/what-is-the-eu/extension-what-are-international-organizations/> [CES].

<sup>124</sup> See section 2, *above*.

<sup>125</sup> See *TEU*, *supra* note 14, arts 1, 47.

<sup>126</sup> *Ibid*, art 21(2)(f).

<sup>127</sup> See *TFEU*, *supra* note 17, arts 2(2), 4(2).

<sup>128</sup> See European Free Trade Association, “The Basic”, *supra* note 8.

<sup>129</sup> *Ibid*.

<sup>130</sup> See *ibid*.

<sup>131</sup> *Decision 146/2007*, *supra* note 33; *Decision 6/2011*, *supra* note 36.

law principles, several provisions of the *Chicago Convention*, established international law principles, bilateral and multilateral air transport agreements with non-EEA States, and the World Trade Organization (WTO) rules.

According to article 11 of the *Chicago Convention*, laws and regulations of a contracting State concerning admission to or departure from its territory or concerning operation and navigation “while within its territory”<sup>132</sup> of aircraft engaged in international air navigation “shall be applied to the aircraft of all contracting States without distinction as to nationality, and shall be complied with by such aircraft upon entering or departing from or while within the territory of that State.”<sup>133</sup> The EU ETS is administered by the Member States, and not by the EU itself.<sup>134</sup> In this regard, the Member States are required to bring into force national laws, regulations, and administrative provision necessary for implementation.<sup>135</sup> Hence, under article 11 of the *Chicago Convention*, the EU ETS must apply to all aircraft engaged in international air navigation while within the territory of the EEA Member States.

Under the EU ETS, exemption from the application of the scheme is granted to commercial airlines with either fewer than 243 flights per period for three consecutive four-month periods or flights with total annual emissions lower than 10,000 tonnes CO<sub>2</sub> per year.<sup>136</sup> However, this exemption clause does not violate article 11 of the *Chicago Convention*, since the exemption refers to airlines of all nationalities and not to any particular nationality. In fact, *Directive 2008/101* applies to airlines, not to States. However, Scott and Rajamani disagree, arguing that the Directive applies to States as well.<sup>137</sup> Acceptance of this claim implies that this exemption is contrary to the equality of opportunity and nondiscrimination principles of international aviation law.<sup>138</sup> Several provisions and the preamble of the *Chicago Convention* provide for

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<sup>132</sup> *Chicago Convention*, *supra* note 118, art 11 [emphasis added].

<sup>133</sup> *Ibid* [emphasis added].

<sup>134</sup> See *Directive 2003/87*, *supra* note 3; *Directive 2008/101*, *supra* note 10.

<sup>135</sup> *Directive 2003/87*, *supra* note 3 at 41; *Directive 2008/101*, *supra* note 10 at 16.

<sup>136</sup> See *Directive 2008/101*, *supra* note 10 at 17.

<sup>137</sup> Scott and Rajamani argue:

While the directive does apply to airlines active within the EU market, requiring them to surrender allowances as set out above, it also ‘applies’ to states. It does so because the application of the directive to a business (an airline) depends in part upon the behaviour of the airline’s home state. Where a third country adopts climate mitigation measures that meet the EU’s unilaterally imposed conditions, flights departing from this third country may be excluded from the ETS. The EU’s Aviation Directive is consequently a developed country measure that makes demands both of EU-active businesses *and* of their home states. Thus, when the EU considers granting a partial exemption for incoming flights from the ETS, and when it evaluates the environmental effect of third country measures put in place, the principle of CBDTRC should certainly apply.

Joanne Scott & Lavanya Rajamani, “EU Climate Change Unilateralism” (2012) 23:2 *Eur J Intl L* 469 at 480 [emphasis in original].

<sup>138</sup> See Armand de Mestral & Md Tanveer Ahmad, “Time to Support the EU ETS? - Some issues still need to be resolved”, Policy Brief, Carleton University Canada-Europe Transatlantic Dialogue (March 2014), online: Carleton University <labs.carleton.ca/canadaeurope/wp-content/uploads/

these principles.<sup>139</sup> States also recognize such principles, as reflected in several working papers submitted by States at the 38<sup>th</sup> session of the ICAO Assembly,<sup>140</sup> ICAO Assembly Resolutions,<sup>141</sup> and reservations to Resolutions.<sup>142</sup> Therefore, it can be argued that the EU ETS violates this general principle of international aviation law.<sup>143</sup>

However, States must appreciate the following facts. The *Chicago Convention* was signed at a time when environmental costs and benefits were considered incidental to broad economic concerns, e.g., the exploitation of living natural resources.<sup>144</sup> Emissions from aviation “emerged as a problem in the 1970s”,<sup>145</sup> and, hence, the need to protect the environment was not envisaged at the time of negotiation and drafting of the Convention in 1944. As a consequence, no explicit provisions on environmental protection were incorporated therein.<sup>146</sup> In contrast, international environmental law on the protection of the atmosphere is a relatively new area of international law and is still evolving. The principles of equality of opportunity and nondiscrimination are archaic, though established, principles, and are enshrined in a treaty, namely the *Chicago Convention*, which does not address a relatively recent global problem—climate change and global warming. Therefore, principles enshrined in this Convention should not appear as barriers to achieving environmental goals—in this case, reducing emissions from aviation that contribute to climate change and global warming.

Article 12 of the *Chicago Convention* can be put forward to question the validity of the EU ETS. Article 12 provides, inter alia, that contracting States have an obligation to adopt measures to ensure that all aircraft (whether national or foreign) flying over or maneuvering within its territory must comply with the rules and regulations concerning the flight and maneuver of aircraft there in force.<sup>147</sup> In these respects, contracting States undertake to keep their own regulations “uniform, to the greatest possible extent, with those established from time to time under this Convention”.<sup>148</sup> Since no market-based measure has been established under

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sites/9/Policy-brief1.pdf> [de Mestral & Ahmad, “Time to Support”] (“[e]nsuring equality of opportunity and non-discrimination is a general principle of international aviation law”).

<sup>139</sup> See e.g. *Chicago Convention*, *supra* note 118, arts 7, 9, 11, 15, 35, 44, Preamble.

<sup>140</sup> See e.g. *UAE’s Views*, *supra* note 109; Lithuania, *A Comprehensive Approach*, *supra* note 109.

<sup>141</sup> See e.g. ICAO Res A38-18, *supra* note 55; *Consolidated statement of continuing ICAO policies in the air transport field*, ICAO Assembly Res A38-14, 38th Sess, ICAO Doc 10022, III-1, online: ICAO <[www.icao.int/publications/Documents/10022\\_en.pdf](http://www.icao.int/publications/Documents/10022_en.pdf)>.

<sup>142</sup> See e.g. *Reservation of the Republic of Korea*, *supra* note 109; *Reservation by Australia*, *supra* note 109; United Arab Emirates, *UAE Reservation – Resolution 17/2 Environmental Protection – Climate Change* (4 October 2013), online: ICAO <[www.icao.int/Meetings/a38/Documents/Resolutions/UAE\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/Resolutions/UAE_en.pdf)>.

<sup>143</sup> See de Mestral & Ahmad, “Time to Support”, *supra* note 138.

<sup>144</sup> See Catherine Redgwell, “International Environmental Law” in Malcolm D Evans, ed, *International Law*, 3rd ed (New York: Oxford University Press, 2010) 687 at 687.

<sup>145</sup> Dempsey, *Public International*, *supra* note 65 at 444.

<sup>146</sup> See also ICAO, *The Convention on International Civil Aviation: Annexes 1 to 18*, online: ICAO <[www.icao.int/safety/airnavigation/NationalityMarks/annexes\\_booklet\\_en.pdf](http://www.icao.int/safety/airnavigation/NationalityMarks/annexes_booklet_en.pdf)>.

<sup>147</sup> *Chicago Convention*, *supra* note 118, art 12.

<sup>148</sup> *Ibid.*

the *Chicago Convention*, the obligation to keep regulations uniform with those established under the Convention cannot be discharged.

Several principles of international environmental law, which have attained the status of customary and/or general international law principles, require States to initiate action to reduce emissions from aviation. It is an established customary international legal principle that States have a sovereign right to exploit their own resources, and simultaneous responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.<sup>149</sup> Since emissions from aviation within the territory of States do not respect the national border, and contribute to climate change and global warming wherever they occur, States need to adopt measures to curb such emissions. The international environmental law principle of preventive action, which is a principle of general international law,<sup>150</sup> requires States to adopt measures to prevent “damage to the environment, and otherwise to reduce, limit or control activities that might cause or risk such damage.”<sup>151</sup> Therefore, this principle requires States to adopt preventive measures to reduce emissions from aviation. All of these international law principles should be honored by

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<sup>149</sup> See *Trail Smelter Arbitration (United States v Canada)* (1938) 3 RIAA 1905, 3 R Intl Arb Awards 1911, reprinted in 33 AJIL 182 (Arbitrators: Charles Warren, Robert A E Greenshields, Jan Frans Hostie); *Legality of the Threat or Use of Nuclear Weapons Case*, Advisory Opinion, [1996] ICJ Rep 226 at 241–42; *Corfu Channel Case*, [1949] ICJ Rep 4; *Award in the Arbitration regarding the Iron Rhine Railway (Belgium v Netherlands)* (2005) ICGJ 373 (Permanent Court of Arbitration) [*Iron Rhine Arbitration*]; *Declaration of the United Nations Conference on the Human Environment*, 1972, in *Report of the United Nations Conference on the Human Environment*, UNESCO, UN Doc A/Conf.48/14/Rev. 1 (1972), Principle 21; *Rio Declaration on Environment and Development*, UN Doc A/CONF.151/5/Rev.1 (1992), 31 ILM 874, Principle 2 [*Rio Declaration*]; *The Island of Palmas Case (or Miangas) (United States v Netherlands)* (1928), 2 UN Rep Intl Arbitral Awards 829 (Permanent Court of Arbitration) (Arbitrator: M Huber); *Report of the International Law Commission*, UNGAOR, 53rd Sess, Supp No 10, UN Doc A/56/10 (2001) [*ILC Report of 53rd Session*]. This principle “already forms the basis for” the *Long-Range Transboundary Air Pollution Convention*, the *Vienna Convention for the Protection of the Ozone Layer*, and the *UN Framework Convention on Climate Change*. Patricia Birnie, Alan Boyle & Catherine Redgwell, *International Law and the Environment*, 3rd ed (New York: Oxford University Press, 2009) at 339. See also Philippe Sands et al, *Principles of International Environmental Law*, 3rd ed (New York: Cambridge University Press, 2012) at 190–200; Michael Adam, “ICAO Assembly’s Resolution on Climate Change: A ‘Historic’ Agreement?” (2011) 36:1 Air & Space L 23 at 28 (Kluwer Law Online).

<sup>150</sup> In the *Iron Rhine Arbitration Case*, the arbitral tribunal of the Permanent Court of Arbitration asserted:

Environmental law and the law on development stand not as alternatives but as mutually reinforcing, integral concepts, which require that where development may cause significant harm to the environment there is a duty to prevent, or at least mitigate, such harm... This duty, in the opinion of the Tribunal, has now become a principle of general international law.

*Iron Rhine Arbitration*, *supra* note 149 at para 59. In the *Pulp Mills Case*, the International Court of Justice pointed out “the principle of prevention, as a customary rule”. *Case concerning Pulp Mills on the River Uruguay (Argentina v Uruguay)*, [2010] ICJ Rep 14 at 55, para 101. See also Sands et al, *supra* note 149 at 200–03.

<sup>151</sup> Sands et al, *supra* note 149 at 200 [footnotes omitted].



the EU given its responsibilities, as well as power conferred by its Member States, to deal with the issue of environmental protection. In one sense, these principles place limits on sovereignty since they impose obligations on States. Alternatively, these principles grant required authority to States to exercise sovereign power to protect the environment. In this sense, these principles confer a positive obligation on the Union to adopt measures to regulate emissions from aviation and, hence, justify the EU's unilateral action to include aviation in the ETS.

At the 38<sup>th</sup> ICAO Assembly meeting, it was resolved in Resolution A38-18 that States need to engage in consultations and negotiations with other States to reach an agreement when designing new—and implementing existing—market-based measures for international civil aviation.<sup>152</sup> Nevertheless, it should be borne in mind that resolutions are not binding *per se*,<sup>153</sup> and, as mentioned above, EU Member States filed reservations against this provision of the resolution.<sup>154</sup> Nonetheless, the bilateral and multilateral air transport agreements that the EU and the EEA States have with non-EEA States must facilitate the Union's unilateral action in this respect.<sup>155</sup> Therefore, this reservation would not lend any assistance to the EEA States. These States must conclude new bilateral and/or multilateral agreements with non-EEA States, or amend the existing ones, to give way to the application of the EU ETS to non-EEA aircraft, thereby avoiding friction.<sup>156</sup>

The EU must also ensure the compatibility of the EU ETS with its obligations under the WTO rules.<sup>157</sup> It should be noted that one of the retaliatory actions that the non-EEA States

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<sup>152</sup> See ICAO Res A38-18, *supra* note 55 at I-72.

<sup>153</sup> See e.g. Dinah Shelton, "Soft Law" in David Armstrong, ed, *Routledge Handbook of International Law* (Oxford: Routledge, 2009) 68 at 69–71; Alan Boyle, "Soft Law in International Law Making" in Malcolm D Evans, ed, *International Law*, 2nd ed (New York: Oxford University Press, 2006) 141 at 141–43; Milde, "International Air Law", *supra* note 116 at 169; Mark Weston Janis, *International Law*, 6th ed (New York: Wolters Kluwer Law & Business, 2012) at 55.

<sup>154</sup> See *Reservation by Lithuania*, *supra* note 81.

<sup>155</sup> See also Gilbert Schwarze, "Including Aviation into the European Union's Emissions Trading Scheme" (2007) 16:1 Eur Envtl L Rev 10 at 13 (Kluwer Law Online); Pietro Manzini & Anne Masutti, "The Application of the EU ETS System to the Aviation Sector: From Legal Disputes to International Retaliations?" (2012) 37:4-5 Air & Space L 307 at 316 (Kluwer Law Online); Jane Barton, "Tackling Aviation Emissions: the Challenges ahead" (2006) 3:4 J Eur Envtl & Plan L 316 at 319 (HeinOnline) [Barton, "Tackling"]. Professor Pablo Mendes de Leon argues:

Arguably, the provisions of the [Directive 2008/101] are liable to affect the *operation* of the agreed international air services as they may impact upon the pricing of the air services, depending on questions like price elasticity and price behaviour, the ability of airlines to manage their variable costs, the capacity which the designated airlines use, frequencies of the operations and in certain instances even upon the points to be served on the agreed routes because of the possible occurrence of the phenomenon of 'carbon leakage'.

de Leon, *supra* note 117 at 291 [footnotes omitted] [emphasis in original].

<sup>156</sup> See also de Leon, *supra* note 117 at 292.

<sup>157</sup> Meltzer and Bartels have comprehensively analyzed the compatibility of the EU ETS with the WTO rules: see Meltzer, *supra* note 113; Bartels, *supra* note 61. While Meltzer "has demonstrated that the application of the [EU ETS] to non-EU airlines raises some important questions about its WTO

have threatened to adopt against the EU ETS is “[d]etermining the consistency of the EU ETS with the WTO Agreements and taking appropriate action”.<sup>158</sup> Hence, ensuring consistency of the scheme with the WTO rules is crucial. Since the main purpose of this article is not to determine the validity of the EU ETS against the backdrop of international law, a detailed analysis of WTO rules has not been performed.

Thus, it can be concluded from the above discussion that the existing law does not prohibit the implementation of the EU ETS at its amended form, i.e. applying only within the EEA airspace over which the EEA Member States retain sovereignty, provided that:

- (a) it does not contravene any provisions of the existing bilateral and multilateral air transport agreements the EU and/or the EEA States have with non-EEA States; and
- (b) it is consistent with the WTO rules.

## 5. UNILATERALISM, EUROPEAN UNION, AND THE GLOBAL ENVIRONMENT

### 5.1 WHAT IS UNILATERALISM?

Unilateral action for the protection of the environment is not a new phenomenon and has always been a contentious issue.<sup>159</sup> The protection of the environment “is a breeding ground for unilateral measures.”<sup>160</sup> However, the term “unilateralism” is so disliked that characterizing “an action as ‘unilateral’ is to condemn it.”<sup>161</sup> In such cases, the trend is to regard such actions

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consistency”, Bartels argues that, although the scheme will violate those trade rules, such violations “can be justified on environmental grounds under the general exceptions in these agreements”: Meltzer, *supra* note 113 at 154; Bartels, *supra* note 61 at 437. See also Katelyn E Ciolino, “Up in the Air: The Conflict Surrounding the European Union’s Aviation Directive and the Implications of a Judicial Resolution” (2012-2013) 38:3 Brook J Intl L 1151 at 1166 (HeinOnline) (“even if the Directive is justified under GATT Article XX, the EU should refrain from imposing its program on non-EU airlines in the absence of a multilateral agreement on the regulation of aviation emissions” at 1181).

<sup>158</sup> *Joint Declaration of the Moscow Meeting on Inclusion of International Civil Aviation in the EU-ETS*, 22 February 2012, online: GREENAIR <[www.greenaironline.com/photos/Moscow\\_Declaration.pdf](http://www.greenaironline.com/photos/Moscow_Declaration.pdf)> [*Joint Declaration*].

<sup>159</sup> See e.g. Daniel Bodansky, “What’s So Bad about Unilateral Action to Protect the Environment?” (2000) 11:2 Eur J Intl L 339; Richard B Bilder, “The Role of Unilateral State Action in Preventing International Environmental Injury” (1981) 14 Vand J Transnat’l L 51 (HeinOnline) [Bilder, “Unilateral State Action”]; Richard B Bilder, “The Canadian Arctic Waters Pollution Prevention Act: New Stresses on the Law of the Sea” (1970-1971) 69:1 Mich L Rev 1 (HeinOnline); Philippe Sands, “‘Unilateralism’, Values, and International Law” (2000) 11:2 Eur J Intl L 291 at 293–94 [Sands, “Unilateralism”]; Laurence Boisson de Chazournes, “Unilateralism and Environmental Protection: Issues of Perception and Reality of Issues” (2000) 11:2 Eur J Intl L 315 at 319–21; Hartmann, *supra* note 85 at 217.

<sup>160</sup> de Chazournes, *supra* note 159 at 325.

<sup>161</sup> Bodansky, *supra* note 159 at 339. See e.g. de Chazournes, *supra* note 159 at 318. However, Bertele and Mey consider that the term “unilateralism” is “applauded or criticized – depending on one’s stand.” Manfred Bertele & Holger H Mey, “Unilateralism in Theory and Practice” (1998) 17:2 Comparative Strategy 197 at 197 (Taylor & Francis Online). For example, Professor Seigfried, who

as illegitimate, without even determining their legitimacy.<sup>162</sup> Unsurprisingly, the EU ETS suffers from the same difficulty. As a consequence, this unilateral action encountered so much resistance from the non-EEA States that the EU had to amend its ETS, keeping its geographic scope within the airspace of the EEA Member States. It should be noted that this is not the first time that the EU has initiated a unilateral action to protect the environment in the area of aviation. Previously, the Union unilaterally initiated action to restrict noise emissions from aviation, which did not fare well with the United States (US) since implementation of such noise restriction would hit the US flag carrier Northwest Airlines hardest.<sup>163</sup>

Several authors have attempted to define unilateralism in different ways, since no single legal definition of the term “unilateralism” exists.<sup>164</sup> For example, according to Bertele and Mey, “unilateralism can be described as an overarching method”, i.e. “a particular method by which a state or political actor interacts with the international environment”.<sup>165</sup> In other words, it is a method by which a State or political actor resolves “its international problems and manages its relations with partners and opponents.”<sup>166</sup> Unilateralism is, according to them, “more than an orientation that maximizes self-interest[;] it is a principle for action aimed at limiting commitments while maintaining autonomy of action.”<sup>167</sup> They point out that each political act, at least in the area of foreign and security policy, commences as “a one-sided and unilateral act”, since, behind every political act, there “is a unilateral definition of one’s own interests.”<sup>168</sup> In contrast to unilateralism, multilateralism “emphasizes common matters”.<sup>169</sup> Similarly, according to de Chazournes, “unilateralism, as broadly defined, is generally perceived as being part of the ‘normality’ of international relations: it is understood as a means of exercising sovereign rights.”<sup>170</sup> The nexus between unilateralism and international relations was also noted by Jennings and Watts. According to them, “[t]ransactions other than negotiations and treaties fall generally into the broad category of unilateral acts, [i.e.] acts performed by a single state, which nevertheless have effects upon the legal position of other states, particularly (but not exclusively) in their relations with the actor state.”<sup>171</sup> In a different fashion, Kuzmarov

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criticizes the US’s unilateral action of invading Iraq, asserts that “[u]nilateralism is underpinned by a naive belief in one’s goodness and a reflexive chauvinism”. Charlene Haddock Seigfried, “The Dangers of Unilateralism” (2006) 18:3 NWSA Journal 20 at 27 (JSTOR).

<sup>162</sup> See Bodansky, *supra* note 159 at 339. See also de Chazournes, *supra* note 159 at 320.

<sup>163</sup> For further discussion, see Dempsey, *Public International*, *supra* note 65 at 425–26, 711–19; Section 5.4, *below*.

<sup>164</sup> See Bernhard Jansen, “The Limits of Unilateralism from a European Perspective” (2000) 11:2 Eur J Intl L 309 at 309; de Chazournes, *supra* note 159 at 315.

<sup>165</sup> Bertele & Mey, *supra* note 161 at 198.

<sup>166</sup> *Ibid.*

<sup>167</sup> *Ibid.*

<sup>168</sup> *Ibid.*

<sup>169</sup> *Ibid.*

<sup>170</sup> de Chazournes, *supra* note 159 at 316.

<sup>171</sup> Sir Robert Jennings & Sir Arthur Watts, eds, *Oppenheim’s International Law*, 9th ed (Harlow, Essex: Longman, 1992) vol 1, parts 2-4 at 1187–88 [footnote omitted].

considers that unilateral acts are “political acts which may contribute to the formation of law, but are themselves outside of the law.”<sup>172</sup>

It appears that, though sharing few common features, these definitions differ from each other. Professor Philippe Sands aptly notes that, at the international level, unilateralism “is a term of art”<sup>173</sup> for three reasons: the issues are not constructed “in terms of international constitutional authority,”<sup>174</sup> “the territorial limits to the exercise of sovereign autonomy remain in a state of flux,”<sup>175</sup> and “the standards set by international law remain incomplete in many areas and ambiguous and open textured in many others.”<sup>176</sup> Nonetheless, reading all the above definitions together, unilateralism can be defined in the following way: Unilateralism is a political act of a single State in the exercise of its sovereign rights, which is adopted mainly (but not exclusively) to maximize its self-interest, and has effects upon the legal position of foreign States though those States have not consented to such effects. Furthermore, unilateral acts may be outside of the law but can contribute to the formation of law. What matters, therefore, is the consent of foreign State(s), though none of these definitions specifically mention that. In the absence of mutual agreement, the actions of any State that can affect the actions and legal positions of foreign States can be termed as unilateral actions. However, as discussed below, since unilateralism can be classified in several ways, it is not necessary that an action must affect the actions of foreign States to be categorized as a unilateral one. Moreover, it should be noted that, in the area of environmental protection, such actions often maximize the interest of other States or international community at large. A better environment will benefit the global community – the State(s) taking the unilateral action, the States affected by that action, and even the States that are not affected by the action.

Although these definitions consider only acts of an individual State, unilateral actions can be adopted by different actors, such as groups of States, regional organizations, international organizations, and non-governmental organizations.<sup>177</sup> This article concerns the unilateral action of the EU, a regional organization of States, which is partly intergovernmental and partly supranational,<sup>178</sup> in the field of environmental protection. Inclusion of aviation in the

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<sup>172</sup> Betina Kuzmarov, “Unilateral Acts in International Relations: Accepting the Limits of International Law” (2005) 8:1 YB NZ Jurisprudence 77 at 96 (HeinOnline).

<sup>173</sup> Sands, “Unilateralism”, *supra* note 159 at 293.

<sup>174</sup> *Ibid.*

<sup>175</sup> *Ibid.*

<sup>176</sup> *Ibid.*

<sup>177</sup> See de Chazournes, *supra* note 159 at 317–18; Gregory Shaffer & Daniel Bodansky, “Transnationalism, Unilateralism and International Law” (2012) 1:1 Transnational Environmental L 31.

<sup>178</sup> An intergovernmental organization “is composed of nation-states and it promotes voluntary co-operation and coordination among its members.” John McCormick, *The European Union: Politics and Policies*, 2nd ed (Boulder, Colo: Westview Press, 1999) at 10. However, decisions and agreements reached in an intergovernmental organization cannot be enforced, since the members do not surrender any power. In contrast, with respect to supranational organizations, member States “do surrender power in specific areas to the higher organization”, hence member States must obey any decision taken by such organizations. See CES, *supra* note 123.

EU ETS is considered a unilateral act, since the flag carriers of non-EEA States were included in the scheme without the consent of those States.

### 5.2 CLASSIFICATION OF UNILATERALISM

Several classifications of unilateralism are possible. According to Bertele and Mey, unilateral actions can take one of two forms: passive unilateralism and active unilateralism.<sup>179</sup> de Chazournes identified three facets of unilateralism, namely the “normative” facet, the “policy-forging” facet, and the “implementation and enforcement” facet.<sup>180</sup> Unilateral acts, “such as promises, declarations, protests or recognitions as generating rights or obligations,”<sup>181</sup> fall within the “normative” facet of unilateral acts.<sup>182</sup> Unilateral actions, which endeavor to “shape a given legal regime and its application in a way that is more”<sup>183</sup> consistent with the interests that the State(s) adopting the action endeavors to defend, fall within the “policy-forging” facet of unilateralism.<sup>184</sup> The unilateral claim by an individual State or group of States of “the capacity or even the right to enforce rules, either in its own interests or in those of the international community as a whole”,<sup>185</sup> falls within the “implementation and enforcement” facet of unilateralism.<sup>186</sup> In this regard, “it is important to distinguish unilateral action taken within the framework of a given legal structure which itself authorizes (or at least tolerates) such action, from behaviour which ignores, bends or contravenes...applicable rules.”<sup>187</sup> de Chazournes argues that the “policy-forging” and the “implementation and enforcement” facets “appear to raise more contentious issues.”<sup>188</sup> Jennings and Watts have noted several types of unilateral acts that include four general kinds: declarations, notifications, protests, and renunciation.<sup>189</sup>

In the realm of environmental protection, unilateralism can be classified in six ways, as Bilder has identified. These are: “the motive of the state taking unilateral action”;<sup>190</sup> “location of [the] principal and immediate effect” of unilateral actions;<sup>191</sup> “the relative duration or permanence of the [unilateral] action”;<sup>192</sup> “the nature of the environmental threat to which [the unilateral actions] are ostensibly a response”;<sup>193</sup> the impact of the unilateral actions on the

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<sup>179</sup> See Bertele & Mey, *supra* note 161 at 199–200.

<sup>180</sup> de Chazournes, *supra* note 159 at 316–17.

<sup>181</sup> *Ibid* at 316 [footnote omitted].

<sup>182</sup> *Ibid.*

<sup>183</sup> *Ibid* at 317.

<sup>184</sup> *Ibid.*

<sup>185</sup> *Ibid* at 316.

<sup>186</sup> *Ibid.*

<sup>187</sup> *Ibid.*

<sup>188</sup> *Ibid* at 317.

<sup>189</sup> See Jennings & Watts, *supra* note 171 at 1188.

<sup>190</sup> Bilder, “Unilateral State Action”, *supra* note 159 at 59.

<sup>191</sup> *Ibid* at 61.

<sup>192</sup> *Ibid.*

<sup>193</sup> *Ibid.*

interests of other States;<sup>194</sup> and the “apparent consistency or inconsistency [of the unilateral actions] with present or emerging international law”.<sup>195</sup> These actions can be further classified, according to Bilder, into five types in terms of motivation of the State:

1. Actions “primarily intended to protect the state’s own territory or jurisdiction”;<sup>196</sup>
2. Actions “primarily intended to protect the territories or nationals of other states from threats of environmental injury” that arise chiefly from the activities of the State taking the action or its citizens while under its jurisdiction;<sup>197</sup>
3. Actions “primarily intended to protect certain international environments...from threats of environmental injury” which arise mainly from the activities of the State adopting the action or its citizens while within its territory or jurisdiction;<sup>198</sup>
4. Actions “primarily intended to protect the acting state’s own territory and nationals from threats of environmental injury” that arise mainly from the activities of foreign States or their citizens;<sup>199</sup> and
5. Actions “primarily intended to protect the territory of other states, international regions..., or broader international community environmental concerns from threats of environmental injury” which arise chiefly from the activities of other States or their citizens.<sup>200</sup> In this instance, the State acts to “protect foreign states, the international commons, or the global environment as a whole from the environmentally harmful activities of others.”<sup>201</sup>

The actions of more than one State, where they adopt such actions as a group or through a competent regional organization like the EU, can be classified in the same way.

It is the last two classes of unilateral actions that give rise to controversy, since these actions endeavor to control the actions of foreign States or their nationals without negotiation or, if there was negotiation, without their consent.<sup>202</sup> It is contended that such unilateral actions represent “a kind of hegemony and imperialism.”<sup>203</sup> While the EU ETS falls within all the classes delineated above, extension of the scheme to airlines of non-EEA States falls within the

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<sup>194</sup> *Ibid.*

<sup>195</sup> *Ibid* at 62.

<sup>196</sup> *Ibid* at 59.

<sup>197</sup> *Ibid.*

<sup>198</sup> *Ibid* at 59–60.

<sup>199</sup> *Ibid* at 60.

<sup>200</sup> *Ibid.*

<sup>201</sup> *Ibid.*

<sup>202</sup> See also *ibid*; Bodansky, *supra* note 159 at 341; Sands, “Unilateralism”, *supra* note 159 at 292–93.

<sup>203</sup> Bodansky, *supra* note 159 at 341.

last two classes. Such an extension would attempt to regulate the activities of the airlines from non-EEA States in order to protect the territory and citizens of EEA Member States, as well as the broader international community, from the danger of climate change and global warming.

### 5.3 A BRIEF COMPARISON BETWEEN UNILATERALISM AND MULTILATERALISM

Both unilateralism and multilateralism have their advantages and disadvantages.<sup>204</sup> In multilateralism, the chief advantage is that multilateral actions can more effectively protect the environment than unilateral actions, since the necessary element of State consent is present. In such a circumstance, the question of extraterritorial application does not arise, and friendly and harmonious relationships among States are preserved. Compared to unilateral actions, “the scope, intensity and geographic extent”<sup>205</sup> of multilateral actions can be extensive. Through multilateral environmental agreements, new environmental legal norms/values in international environmental law can acquire recognition from States, and such norms can then be used in national and regional environment-related schemes.<sup>206</sup>

However, the prime disadvantage of seeking a multilateral regime is that the process is slow; it takes years, sometimes decades, to agree on a solution that is acceptable to all States. Obtaining the necessary political will is a complicated process. Frequently, States fail to agree on any effective solution. One vivid example is the failure of States to agree on a binding post-Kyoto Protocol regime. Even when concluded, multilateral measures “often result in weak standards, which commit states to do little if anything more than they intended to do anyway.”<sup>207</sup> For example, in the case of global climate change regime, which comprises the *UNFCCC* and the *Kyoto Protocol*,<sup>208</sup> the *UNFCCC* did not establish any quantitative commitments to limit greenhouse gas emissions; it “ultimately established only an aspirational commitment from industrialized countries to control these emissions in the future.”<sup>209</sup> Unlike the *UNFCCC*, the

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<sup>204</sup> See generally Bilder, “Unilateral State Action”, *supra* note 159 at 79–86; Bodansky, *supra* note 159; Ruwantissa Abeyratne, “Emissions Trading – Recommendations of CAEP/7 and the European Perspective” (2007) 32:4-5 Air & Space L 358 at 367–68 (Kluwer Law Online) [Abeyratne, “Emissions”]; Bertele & Mey, *supra* note 161; Shaffer & Bodansky, *supra* note 177; Ciolino, *supra* note 157; Md Tanveer Ahmad, “Achieving Global Safety in Civil Aviation: A Critical Analysis of Contemporary Safety Oversight Mechanisms” (2012) 37 Ann Air & Sp L 81 [Ahmad, “Achieving Global Safety”]. “Both unilateral and multilateral approaches can serve the ‘public interest’ and both can fail.” José E Alvarez, “Multilateralism and Its Discontents” (2000) 11:2 Eur J Intl L 393 at 408.

<sup>205</sup> Bertele & Mey, *supra* note 161 at 200.

<sup>206</sup> See Ciolino, *supra* note 157 (“[e]ven non-binding multilateral environmental agreements can play a role in developing ‘recognition of environmental values’” at 1183).

<sup>207</sup> Shaffer & Bodansky, *supra* note 177 at 32–33.

<sup>208</sup> *UNFCCC*, *supra* note 21; *Kyoto Protocol*, *supra* note 26.

<sup>209</sup> Sean T Fox, “Responding to Climate Change: The Case for Unilateral Trade Measures to Protect the Global Atmosphere” (1996) 84:7 Geo LJ 2499 at 2499 [footnote omitted] (HeinOnline). Article 2 of *UNFCCC* provides: “The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. *UNFCCC*, *supra* note 21, art 2.

*Kyoto Protocol* established quantitative restrictions on emissions from industrialized economies, which mended the weakness of the *UNFCCC*.<sup>210</sup>

In contrast to multilateralism, unilateralism does not suffer from this slow process. Unilateral measures can influence other States to change their policies.<sup>211</sup> Unilateralism can trigger actions from other States, often resulting in a multilateral action/regime or the development of customary norm for the protection of the environment.<sup>212</sup> From this perspective, the State(s) taking unilateral action acts like a norm entrepreneur,<sup>213</sup> and “gains a first-mover advantage by its ability to use its norms to define the problem at issue and propose a solution.”<sup>214</sup> Interestingly, Fox suggests that the development of a multilateral agreement is often contingent upon “the strategic use of [unilateral] trade measures during the negotiation and implementation of such an agreement.”<sup>215</sup> Hence, proponents of unilateralism equate this strategy with leadership,<sup>216</sup> and argue that the EU’s unilateral initiative to include aviation in the EU ETS “reflects a move towards a leadership style”.<sup>217</sup> Thus, in the field of international environmental law, a relatively

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<sup>210</sup> Article 3 of the *Kyoto Protocol* requires Annex I Parties to ensure, individually or jointly, that:

[T]heir aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B...with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the [first] commitment period 2008 to 2012.

*Kyoto Protocol*, *supra* note 26, art 3(1). Also, “[e]ach Party...shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.” *Ibid*, art 3(2).

<sup>211</sup> See Ciolino, *supra* note 157 at 1183.

<sup>212</sup> See Bodansky, *supra* note 159 at 344–46 (“unilateral action can play a catalytic role in the development of an international regime” at 339); Reagan, *supra* note 12 at 380. See also Fox, *supra* note 209; de Chazournes, *supra* note 159 at 319–20. Interestingly, Kuzmarov argues that, although unilateral acts represent such prospect, “they are not in and of themselves “legal”.” Kuzmarov, *supra* note 172 at 95.

<sup>213</sup> The concept of “norm entrepreneurship” was introduced by Professor Sunstein who calls “norm entrepreneurs” those people who are “interested in changing social norms”. See Cass R Sunstein, “Social Norms and Social Roles” (1996) 96:4 Colum L Rev 903 at 909 (JSTOR). Professor Sunstein states that “[e]xisting social conditions are often more fragile than might be supposed, because they depend on social norms to which... people may not have much allegiance [and] *norm entrepreneurs*... can exploit this fact.” *Ibid* [emphasis in original]. He describes Martin Luther King, Jr., William Bennett, Louis Farrakhan, Catharine MacKinnon, Ronald Reagan, and Jerry Falwell as norm entrepreneurs. See *ibid* at 929.

<sup>214</sup> Ciolino, *supra* note 157 at 1188 [footnotes omitted].

<sup>215</sup> Fox, *supra* note 209 at 2501.

<sup>216</sup> See e.g. Bertele & Mey, *supra* note 161; Bodansky, *supra* note 159. However, Bertele and Mey warned that “[s]uch leadership is not without risk. If leadership becomes excessive, it can lead to the buildup of resisting forces and can destroy a coalition... At the same time, too little leadership can make it impossible to actively pursue common interests—the alliance becomes useless.” Bertele & Mey, *ibid* at 200.

<sup>217</sup> Kulovesi, *supra* note 113 at 541–42.



new branch of international law, unilateralism can be viewed as a blessing when States fail to agree on a multilateral regime necessary to protect the environment.<sup>218</sup>

Nonetheless, unilateral actions frequently encounter opposition from foreign States and can mar motivation of other States to engage in multilateral discussion to reach an effective solution.<sup>219</sup> In this regard, the geographical scope of unilateral action becomes limited to the territory of the State(s) initiating the action, which happened to the EU ETS with respect to aviation. The scope and intensity of such measures become limited as well. For example, in the case of the EU ETS, the Union could not execute its plan to extend the scheme to include aviation emissions of nitrogen oxides (NO<sub>x</sub>),<sup>220</sup> since the original scheme addressing only CO<sub>2</sub> emissions has encountered massive resistance from non-EEA States. Moreover, as mentioned,<sup>221</sup> implementation of the EU ETS to airlines of non-EEA States had to be suspended in the very first year of its application, in response to political pressure. Climate change and global warming are global problems, and can be exacerbated through the emissions of greenhouse gases occurring anywhere in the world. Again, CO<sub>2</sub> is not the only greenhouse gas that drives these processes.<sup>222</sup>

To redress global environmental problems, we need measures that have the potential to effectively address those problems. To be effective, such measures should, among others, set robust standards, have extensive scope, intensity, and geographic extent, and have more participation of States. To address issues like climate change and global warming that are happening at a much greater speed than before, such measures have to be adopted and implemented without further delay. It can be observed from the above comparison that multilateralism can be more effective than unilateralism in addressing global environmental problems, since the former can have wider scope, intensity and geographic extent, and have

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<sup>218</sup> In the area of global climate change, Fox argues and demonstrates that unilateral environmental trade measures are especially appropriate. See Fox, *supra* note 209.

<sup>219</sup> Bertele and Mey argue that “unilateralism in the sense of complete freedom of action without commitment to compromise or cooperation is largely counterproductive.” Bertele & Mey, *supra* note 161 at 198. They refer to two reasons for this outcome: “First of all, not even the most powerful states are immune to the resistance of others. Second, many of today’s new, global challenges are best addressed cooperatively.” *Ibid.* See also Ciolino, *supra* note 157 at 1187; Reagan, *supra* note 12 at 382. Abeyratne states:

As for drawbacks, the [unilateral] approach has the disadvantage that it may be disputed, with potential consequential delays and/or lack of uniformity. It could also encourage aircraft operators to avoid the Scheme, which could also potentially lead to competitive distortion, trade disruptions and an increase in emissions. The application of this approach, which may be appropriate for a State or group of States, may not be appropriate for other States given the divergent approaches and circumstances of different States.

Abeyratne, “Emissions”, *supra* note 204 at 368.

<sup>220</sup> See *Directive 2008/101*, *supra* note 10 at 5–6.

<sup>221</sup> See section 2, *above*.

<sup>222</sup> See Ulrich Cubasch et al, “Introduction” in Thomas F Stocker et al, eds, *Climate Change 2013: The Physical Science Basis: Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (New York: Cambridge University Press, 2013) 119 at 123–29 [Stocker, *The Physical Science Basis*].

more participation of States. Hence, multilateral actions should be preferred to unilateral ones in addressing climate change and global warming, which are global issues. Nonetheless, unilateralism should not be abandoned. Multilateralism often sets weak standards, and the processes involved to reach multilateral agreements are very slow. Hence, in the absence of strong standards or multilateral agreements to deal with global environmental issues that warrant immediate vigorous action, States, especially economically powerful ones, should take the lead by resorting to unilateralism to combat those issues. In this respect, those States should ensure that their unilateral moves drive forward, not frustrate, multilateral processes.

#### 5.4 EU UNILATERALISM: THE CASE OF NOISE EMISSIONS FROM AVIATION

As previously mentioned, the EU had previously acted unilaterally in the field of aviation to regulate aircraft noise before it adopted *Directive 2008/101* to include aviation in the EU ETS. Did that action successfully produce the international regime or standard that the EU Member States were looking for? ICAO noise standards are promulgated under volume I of Annex 16 to the *Chicago Convention*.<sup>223</sup> In 1999, the EU passed *Regulation 925/1999*,<sup>224</sup> which sought “to ban hushkitted aircraft which had been recertified as compliant with Chapter 3 of [volume I of] Annex 16 from its territory.”<sup>225</sup> Thus, by this Regulation, the EU attempted to set higher “standards for noise emissions than the ICAO standards... demand.”<sup>226</sup> This contravenes article 33 of the *Chicago Convention* that requires ICAO contracting States to meet minimum standards.<sup>227</sup> Such a move would hit the US flag carrier Northwest Airlines hardest since that carrier “had invested most heavily in “hushkitting”, rather than replacing, its aging fleet”.<sup>228</sup> A dispute arose between the US and the EU, and, on March 14, 2000, the US filed a formal complaint with the ICAO Council against the EU Member States under article

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<sup>223</sup> For ICAO noise standards, see ICAO, (2014) 7 International Standards and Recommended Practices: Annex 16 to the Convention on International Civil Aviation: Volume 1, Aircraft Noise [*Annex 16: Volume 1*].

<sup>224</sup> EC, *Council Regulation (EC) 925/1999 of 29 April 1999 on the registration and operation within the Community of certain types of civil subsonic jet aeroplanes which have been modified and recertificated as meeting the standards of volume I, Part II, Chapter 3 of Annex 16 to the Convention on International Civil Aviation, third edition (July 1993)*, [1999] OJ, L 115/1.

<sup>225</sup> Dempsey, *Public International*, *supra* note 65 at 425.

<sup>226</sup> *Ibid* at 712 [footnote omitted].

<sup>227</sup> See *Chicago Convention*, *supra* note 118, art 33. See also Dempsey, *Public International*, *supra* note 65 at 426.

<sup>228</sup> Dempsey, *Public International*, *supra* note 65 at 714 [footnote omitted]. Old aircraft engines are retrofitted with a device called a hush kit to reduce the engines noise emissions. This process of retrofitting is frequently referred to as “hushkitting”. “Most hush kits address the process by which high-velocity hot jet exhaust clashes with cooler ambient air, generating the thunderous roar associated with jets. Slowing that exhaust, or spreading out the area in which the rumble takes place, is the goal. Sound-absorbing materials...enclose not only the exhaust but also the engine fan and intake cowl to reduce the noise projected forward.” Roger A Mola, “Hush Kits: Engineer to airplane: Stifle”, *Air & Space Magazine* (January 2005), online: Air & Space Smithsonian <[www.airspacemag.com/how-things-work/hush-kits-8747402/](http://www.airspacemag.com/how-things-work/hush-kits-8747402/)>.

84 of the *Chicago Convention*.<sup>229</sup> Since the EU is not and cannot be a party to the *Chicago Convention*,<sup>230</sup> the complaint was filed against the EU Member States, and not against the Union.

The ICAO Council denied all objections that were raised by the EU Member States,<sup>231</sup> but did not comment on the validity of the Regulation.<sup>232</sup> Consequently, these Member States filed their counter-memorial instead of opting to appeal the Council's decision to the International Court of Justice.<sup>233</sup> In response, both parties were invited by the ICAO Council's order "to resume negotiations to resolve the dispute",<sup>234</sup> and they agreed.<sup>235</sup> Finally, in 2001, the US and the EU reached an agreement; the EU backed off by repealing *Regulation 925/1999* and by enacting *Directive 2002/30*,<sup>236</sup> and the US withdrew its complaint.<sup>237</sup> In June 2001, the ICAO Council updated Annex 16, volume 1, by adopting a new noise standard, namely Chapter 4.<sup>238</sup> Nevertheless, the updates did not ban hushkitted aircraft as desired by the EU. Even today, aircraft can be hushkitted to meet the ICAO standard.<sup>239</sup> This can be viewed as a failure of the Union to achieve its goal of banning hushkitted aircraft by its unilateral action. Is the EU heading in the same direction with respect to the EU ETS?

#### 5.5 RESPONSE TO THE EU'S UNILATERAL INCLUSION OF AVIATION IN THE EU ETS

The EU claims that aviation has been included in the ETS to discharge it of its responsibilities to reduce greenhouse gas emissions from aviation.<sup>240</sup> According to the EU, such

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<sup>229</sup> See Dempsey, *Public International*, *supra* note 65 at 714. See *Chicago Convention*, *supra* note 118, art 84.

<sup>230</sup> See *Chicago Convention*, *supra* note 118, arts 91–93 (only States can become parties to the Convention).

<sup>231</sup> See Dempsey, *Public International*, *supra* note 65 at 717–18.

<sup>232</sup> See *ibid* at 426.

<sup>233</sup> See *ibid* at 718.

<sup>234</sup> *Ibid*.

<sup>235</sup> See *ibid*.

<sup>236</sup> EC, *Directive 2002/30/EC of the European Parliament and of the Council of 26 March 2002 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community airports*, [2002] OJ, L 85/40.

<sup>237</sup> See Dempsey, *Public International*, *supra* note 65 at 426, 718.

<sup>238</sup> See e.g. Joana Chiavari, Sirini Withana & Marc Pallemerts, "The Role of the EU in Attempting to 'Green' the ICAO", Environmental Policy Integration and Multi-Level Governance Paper No 35 (2009) at 24, online: Basque Ecodesign Center <[www.basqueecodesigncenter.net/Documentos/Noticias/DEE85B2F-4AC2-4F04-9774-8ABFB9E11881/EPIGOV\\_PAPER\\_35\\_CHIAVARI\\_ET\\_AL.PDF](http://www.basqueecodesigncenter.net/Documentos/Noticias/DEE85B2F-4AC2-4F04-9774-8ABFB9E11881/EPIGOV_PAPER_35_CHIAVARI_ET_AL.PDF)>.

<sup>239</sup> See *Annex 16: Volume 1*, *supra* note 223, c 14; *Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality*, ICAO Assembly Res A38-17, 38th Sess, ICAO Doc 10022, I-54 at I-62, I-63, I-64, online: ICAO <[www.icao.int/publications/Documents/10022\\_en.pdf](http://www.icao.int/publications/Documents/10022_en.pdf)>.

<sup>240</sup> See *Directive 2008/101*, *supra* note 10 ("[t]he objective of the amendments made to Directive 2003/87/EC by this Directive is to reduce the climate change impact attributable to aviation by including emissions from aviation activities in the Community scheme" at 5).

responsibilities arise from the following: the objective of the *UNFCCC* to stabilize greenhouse gas concentrations in the atmosphere;<sup>241</sup> the requirement under the *UNFCCC* to formulate and implement national and, where appropriate, regional programs containing climate change mitigation measures;<sup>242</sup> EU's "firm independent commitment...to reduce its greenhouse gas emissions to at least 20% below 1990 levels by 2020";<sup>243</sup> and the *Kyoto Protocol* that requires Annex I developed States to pursue the limitation or reduction of greenhouse gas emissions from aviation, working through ICAO.<sup>244</sup> Reducing greenhouse gas emissions from aviation, the EU believes, will essentially contribute to meeting the Union's own firm independent commitment.<sup>245</sup> To bolster its position with respect to *Kyoto Protocol*, the EU has referred to the slow progress of ICAO processes, and the failure of such processes to develop a market-based measure for international civil aviation.<sup>246</sup> As mentioned before, the EU ETS was launched to more effectively contribute to fulfilling the commitments of the EU and its Member States under the *Kyoto Protocol*.<sup>247</sup>

However, the EU's claim has failed to please non-EEA States for various reasons. These include: the *UNFCCC* does not specifically address emissions from aviation; non-EEA States cannot be made subject to EU's own commitment; only Annex I developed State parties to the *Kyoto Protocol* have an obligation that has to be discharged working through ICAO;<sup>248</sup> developing States cannot be made subject to the EU ETS in recognition of the principle of common but differentiated responsibility;<sup>249</sup> not all States, particularly the US and Canada, are parties to the *Kyoto Protocol*;<sup>250</sup> and the EU ETS originally had extraterritorial scope.<sup>251</sup> Worth mentioning is the fact that the issue of extraterritorial application of the scheme was the main reason why States objected to the inclusion of aviation in the EU ETS.<sup>252</sup> However, according

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<sup>241</sup> See *ibid* at 3.

<sup>242</sup> See *ibid* at 4.

<sup>243</sup> *Ibid* at 3. Recently, the EU has made another firm binding commitment to reduce EU's "domestic greenhouse gas emissions by at least 40% below the 1990 level by 2030." European Commission, "2030 framework for climate and energy policies", online: European Commission Climate Action <[ec.europa.eu/clima/policies/2030/index\\_en.htm](http://ec.europa.eu/clima/policies/2030/index_en.htm)>.

<sup>244</sup> See *Directive 2008/101*, *supra* note 10 at 4.

<sup>245</sup> See *ibid* at 3.

<sup>246</sup> See *ibid* at 4.

<sup>247</sup> See *Directive 2003/87*, *supra* note 3 at 32.

<sup>248</sup> See *Kyoto Protocol*, *supra* note 26, art 2(2).

<sup>249</sup> See e.g. Hua Lan, "Comments on EU Aviation ETS Directive and EU – China Aviation Emission Dispute" (2011) 45:3 RJT 589 (HeinOnline); Scott & Rajamani, *supra* note 137.

<sup>250</sup> See United Nations Framework Convention on Climate Change, "Status of Ratification of the Kyoto Protocol", online: United Nations Framework Convention on Climate Change <[unfccc.int/kyoto\\_protocol/status\\_of\\_ratification/items/2613.php](http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php)> (the US never ratified the Kyoto Protocol, and Canada withdrew from the instrument on December 15, 2011 that became effective on December 15, 2012).

<sup>251</sup> See e.g. Christina Voigt, "Up in the Air: Aviation, the EU Emissions Trading Scheme and the Question of Jurisdiction" (2011–2012) 14 Cambridge YB Eur Leg Stud 475 at 483ff.

<sup>252</sup> See also Ines Litzenberger, "Trade War in the Skies: *Air Transport Association of America and others v Secretary of State for Energy and Climate Change*", Case Comment, (2012) 13:2 Business L Intl

to the latest amendments, the scheme will not have extraterritorial effect until the end of 2016. Only emissions from flights between aerodromes situated in the territory of EEA Member States will be covered during that period.

The decision to include aviation in the EU ETS spurred opposition and protest from many governments, airlines, and trade associations.<sup>253</sup> Those responses came both collectively and individually. The following three subsections provide a brief list of those responses.

#### 5.5.1 RESPONSE FROM STATES

Several States objected to the inclusion of non-EEA airlines in the EU ETS “as a violation of their sovereignty.”<sup>254</sup> States collectively pursued the following actions:

- In September 2011, twenty-six States,<sup>255</sup> including Brazil, Russia, China, India, South Africa, Canada, Japan, and the US, convened in New Delhi to discuss moves on how to oppose the EU ETS and, consequently, adopted an agreement, known as the New Delhi Declaration. Twenty-one States signed the agreement.<sup>256</sup> The Declaration stated that “the inclusion of non-EU states into the scheme was inconsistent with applicable international law and the states would present their opposition in a working paper to the ICAO Council for consideration.”<sup>257</sup>

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209 at 220 (HeinOnline); Patrick Secor, “European Union Law – EU Emissions Standards May Be Applied to Third-State Airlines Departing from Member States - Case C-366/10, *Air Transp. Ass’n of Am. v. Sec’y of State for Energy & Climate Change*, 49(3) C.M.L.R. 1113 (2011)”, Case Comment, (2012) 35:2 *Suffolk Transnat’l L Rev* 505 at 508–09 (HeinOnline); Scott & Rajamani, *supra* note 137 at 475; Hartmann, *supra* note 85 at 193; Ciolino, *supra* note 157 at 1153. See generally Verki Michael Tunteng et al, “Legal Analysis of the Inclusion of Civil Aviation in the European Union Emissions Trading System (EU ETS)” (2012) 24:3 *Envtl L & Mgmt* 119.

<sup>253</sup> See e.g. *Impact Assessment 2013*, *supra* note 52 at 9; Preston, Lee & Hooper, *supra* note 77 at 48; Secor, *supra* note 252 at 508–09; Lan, *supra* note 249 at 601; Armand de Mestral & Md Tanveer Ahmad, “EU Emissions Trading Scheme: Problems Presented to Canada”, Commentary, Carleton University Canada-Europe Transatlantic Dialogue (April 2013) at 1, online: Carleton University <labs.carleton.ca/canadaeurope/wp-content/uploads/sites/9/2012-07-eu-ets-scheme-ahmad-demestral.pdf> [de Mestral & Ahmad, “EU Emissions”].

<sup>254</sup> Hartmann, *supra* note 85 at 187.

<sup>255</sup> The twenty-six States are: Argentina, Brazil, Canada, China, Chile, Colombia, Cuba, Egypt, Japan, Republic of Korea, Malaysia, Mexico, Nigeria, Paraguay, Peru, Philippines, Qatar, Russian Federation, Saudi Arabia, Singapore, South Africa, Thailand, Turkey, the United Arab Emirates, and the United States. See India, Ministry of Civil Aviation, Press Release, 76388, “International Meeting of ICAO Council and Non-EU Member States on Inclusion of Aviation in EU-ETS Held” (30 September 2011), online: Government of India Press Information Bureau <pib.nic.in/newsite/erelease.aspx?relid=76388> [India MCA, “International Meeting”].

<sup>256</sup> See Robert Wall & Madhu Unnikrishnan, “Update: 21 Nations Sign Declaration Opposing EU ETS”, *Aviation Week* (30 September 2011), online: Aviation Week Intelligence Network <aviationweek.com/awin/update-21-nations-sign-declaration-opposing-eu-ets>.

<sup>257</sup> “BRICS, United States and others join in Delhi declaration to oppose EU’s imposition of ETS on their airlines”, *GREENAIRonline.com* (3 October 2011), online: GREENAIR <www.greenaironline.com/news.php?viewStory=1344>. See India MCA, “International Meeting”, *supra* note 255.

- In November 2011, the ICAO Council joined these twenty-six States by adopting a declaration, presented as a working paper by these States,<sup>258</sup> which opposed the EU ETS.<sup>259</sup>
- The last collective response of States was the Moscow Declaration on February 22, 2012, where twenty-three States not only opposed the EU ETS, but also listed possible retaliatory actions unless the EU decided to cease implementation of the scheme to aircraft of non-EEA States.<sup>260</sup> This Moscow Declaration followed the decision of the CJEU that declared *Directive 2008/101* legal.<sup>261</sup> This move from non-EEA States thus demonstrated their rejection of that judicial

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<sup>258</sup> Argentina et al, *Inclusion of International Civil Aviation in the European Union Emissions Trading Scheme (EU ETS) and its Impact*, ICAO Council, 194th Sess, Subject No 50, Working Paper Doc C-WP/13790 (2011). These 26 States are: Argentina, Brazil, Burkina Faso, Cameroon, China, Colombia, Cuba, Egypt, Guatemala, India, Japan, Malaysia, Mexico, Morocco, Nigeria, Paraguay, Peru, Republic of Korea, Russian Federation, Saudi Arabia, Singapore, South Africa, Swaziland, Uganda, the United Arab Emirates, and the United States.

<sup>259</sup> See Bill Carey, "ICAO Joins Airlines, Nations in Opposing Emissions Trading Scheme", *AIN online* (7 November 2011), online: AIN online <[www.ainonline.com/aviation-news/ain-air-transport-perspective/2011-11-07/icao-joins-airlines-nations-opposing-emissions-trading-scheme](http://www.ainonline.com/aviation-news/ain-air-transport-perspective/2011-11-07/icao-joins-airlines-nations-opposing-emissions-trading-scheme)>.

<sup>260</sup> *Joint Declaration*, *supra* note 158. The twenty-three States are: Armenia, Argentina, Republic of Belarus, Brazil, Cameroon, Chile, China, Cuba, Guatemala, India, Japan, Republic of Korea, Mexico, Nigeria, Paraguay, Russian Federation, Saudi Arabia, Seychelles, Singapore, South Africa, Thailand, Uganda, and the United States. These States threatened to adopt the following nine retaliatory actions:

1. Filing an application to the ICAO Council under Article 84 of the *Chicago Convention* for the resolution of the dispute.
2. Using existing or new national measures to prohibit its own flag carriers from participating in the EU ETS.
3. Holding meetings with the EU carriers and/or aviation-related enterprises in their respective States and apprise them about the concerns arising out of the EU ETS and the possibility of reciprocal measures that could be adopted by the State, which may adversely affect those airlines and/or entities.
4. Mandating EU carriers to submit flight details and other data.
5. Determining the consistency of the EU ETS with the WTO Agreements and taking appropriate action.
6. Reviewing bilateral air services agreements with EU Member States and reconsidering the implementation or negotiation of the 'Horizontal Agreement' with the EU.
7. Suspending current and future discussions and/or negotiations to enhance operating rights for EU airlines/aircraft operators.
8. Imposing additional levies/charges on EU carriers/aircraft operators as a form of countermeasure.
9. Any other actions/measures.

See *ibid*, Attachment A.

<sup>261</sup> See *ATA v Secretary of State*, *supra* note 11.

decision.<sup>262</sup> Worth mentioning is the fact that the legality of *Directive 2008/101* was not challenged by any State but by three US airlines supported by one US airline trade association.<sup>263</sup>

The Moscow Declaration was not the end; States in their individual capacity commenced to initiate retaliatory actions:

- *China*: In February 2012, i.e. after the CJEU's decision, China banned its flag carriers from complying with the EU ETS.<sup>264</sup> In March 2012, China blocked a large number of aircraft orders from the European airframe manufacturer, Airbus.<sup>265</sup> By May 2012, it appeared that China's flag carriers refused to participate in the EU ETS.<sup>266</sup> Back in June 2011, China had threatened to take legal action against the EU for including aviation in the scheme.<sup>267</sup>
- *Russia*: In February 2012, Russia commenced steps to forbid its flag carriers from complying with the EU ETS and "threatened to deny Siberian overflight rights to European carriers".<sup>268</sup> Later in June 2012, Russia in fact withheld "free of charge"

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<sup>262</sup> See e.g. Sanja Bogojević, "Legalising Environmental Leadership: A Comment on the CJEU's Ruling in C-366/10 on the Inclusion of Aviation in the EU Emissions Trading Scheme" (2012) 24:2 J Envtl L 345 at 345–46; "US rejects European Court ruling on airline emissions", *BBC News* (21 December 2011), online: BBC News <[www.bbc.co.uk/news/business-16282692](http://www.bbc.co.uk/news/business-16282692)>. However, environmental groups applauded this decision. See Transport & Environment, Press Release, "Environmental Groups Hail Court Decision on Aviation Climate Law" (21 December 2011), online: Transport & Environment Pressroom <[www.transportenvironment.org/press/environmental-groups-hail-court-decision-aviation-climate-law](http://www.transportenvironment.org/press/environmental-groups-hail-court-decision-aviation-climate-law)>.

<sup>263</sup> See *ATA v Secretary of State*, *supra* note 11.

<sup>264</sup> See Chris Buckley, "China bans airlines from joining EU emissions scheme", *Reuters US* (6 February 2012), online: Reuters <[www.reuters.com/article/2012/02/06/us-china-eu-emissions-idUSTRE81500V20120206](http://www.reuters.com/article/2012/02/06/us-china-eu-emissions-idUSTRE81500V20120206)>; Mavis Toh, "China bans airlines from complying with EU ETS", *Flight Global* (6 February 2012), online: Flight Global <[www.flightglobal.com/news/articles/china-bans-airlines-from-complying-with-eu-ets-367796/](http://www.flightglobal.com/news/articles/china-bans-airlines-from-complying-with-eu-ets-367796/)>.

<sup>265</sup> See Tim Hepher, "China halts 10 more Airbus orders: sources", *Reuters US* (15 March 2012), online: Reuters <[www.reuters.com/article/2012/03/15/us-china-europe-ets-idUSBRE82E11620120315](http://www.reuters.com/article/2012/03/15/us-china-europe-ets-idUSBRE82E11620120315)>. "Reportedly, Lufthansa has not received permission to operate flights on A380 to Shanghai". de Leon, *supra* note 117 at 293.

<sup>266</sup> See "Regulatory – Chinese Carriers Shun EU ETS Rules Warning; Signals Retaliation", *Air Transport World* (17 May 2012), online: Aviainform <[www.aviainform.org/industrynews/14-industrynews/2205-regulatory-chinese-carriers-shun-eu-ets-rules-warning-signals-retaliation.html](http://www.aviainform.org/industrynews/14-industrynews/2205-regulatory-chinese-carriers-shun-eu-ets-rules-warning-signals-retaliation.html)>.

<sup>267</sup> See "China threat over EU airline emissions trading", *BBC News* (6 June 2011), online: BBC News <[www.bbc.co.uk/news/business-13668567](http://www.bbc.co.uk/news/business-13668567)>.

<sup>268</sup> Tom Zait Sev, "Russia moves to ban carriers from complying with EU ETS", *Flight Global* (23 February 2012), online: Flight Global <[www.flightglobal.com/news/articles/russia-moves-to-ban-carriers-from-complying-with-eu-368690/](http://www.flightglobal.com/news/articles/russia-moves-to-ban-carriers-from-complying-with-eu-368690/)>. Russia threatened "EU carriers to raise transit charges through its Siberian airspace". de Leon, *supra* note 117 at 293 [footnote omitted]. See also Reuters, "European Airlines Denied Overflight", *The Moscow Times* (13 June 2012), online: The Moscow Times <[www.themoscowtimes.com/business/article/european-airlines-denied-overflight/460211.html](http://www.themoscowtimes.com/business/article/european-airlines-denied-overflight/460211.html)>.

rights for EU airlines “to fly over Siberia in breach of its free-trade commitments in protest against” the EU ETS.<sup>269</sup>

- *India*: In March 2012, India also considered prohibiting its flag carriers from participating in the EU ETS,<sup>270</sup> and India’s Civil Aviation Minister stated that Indian flag carriers had not and would not comply with the requirement to submit emission details of their aircraft by March 31, 2012 under the scheme.<sup>271</sup> Previously in 2011, India suggested adopting a decision at the Durban Climate Change Conference held in November/December 2011 that would prohibit unilateral trade measures.<sup>272</sup> India refused “to ratify the horizontal agreement on certain aspects of air services with the EU and its Member States and to grant new transit rights to EU air carriers”.<sup>273</sup>
- *Canada*: Canada seriously considered “placing limitations on the polar flights performed by EU carriers.”<sup>274</sup>
- *Algeria*: Algeria brought action against *Directive 2008/101* “before the French courts, demanding compensation for the equipment necessary to comply with the EU ETS demands.”<sup>275</sup>
- *Australia*: In August 2012, the House of Representatives of Australia, the lower house of the Australian legislature, “passed a non-binding resolution calling on the Australian government to use all legal and diplomatic means to stop the application of ETS to international airlines.”<sup>276</sup>
- *Kingdom of Saudi Arabia*: On October 2012, Saudi Arabia ordered its national air carrier not to comply with the EU ETS.<sup>277</sup>

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<sup>269</sup> Christina Zander, “Russia Withholds EU Air Traffic Rights in Growing CO2 Trade Spat”, *4-traders* (7 June 2012), online: 4-traders <[www.4-traders.com/SAS-AB-9058794/news/Russia-Withholds-EU-Air-Traffic-Rights-in-Growing-CO2-Trade-Spat-14361417/](http://www.4-traders.com/SAS-AB-9058794/news/Russia-Withholds-EU-Air-Traffic-Rights-in-Growing-CO2-Trade-Spat-14361417/)>.

<sup>270</sup> See Mavis Toh, “India could ban airlines from complying with EU ETS”, *Flight Global* (20 March 2012), online: Flight Global <[www.flightglobal.com/news/articles/india-could-ban-airlines-from-complying-with-eu-ets-369673/](http://www.flightglobal.com/news/articles/india-could-ban-airlines-from-complying-with-eu-ets-369673/)>.

<sup>271</sup> See Mavis Toh, “Indian airlines will not submit emission details for EU ETS”, *Flight Global* (23 March 2012), online: Flight Global <[www.flightglobal.com/news/articles/indian-airlines-will-not-submit-emission-details-for-eu-369865/](http://www.flightglobal.com/news/articles/indian-airlines-will-not-submit-emission-details-for-eu-369865/)>.

<sup>272</sup> See Kulovesi, *supra* note 113 at 536.

<sup>273</sup> de Leon, *supra* note 117 at 293.

<sup>274</sup> Isavella Maria Vasilogeorgi, “27 Against The World: The EU ETS as Discord’s Apple Within ICAO” (2012) 65:2 RHD 531 at 546 (HeinOnline).

<sup>275</sup> *Ibid.*

<sup>276</sup> Madhu Unnikrishnan, “EUETS Under Attack from Australian Lawmakers”, *Aviation Week* (21 August 2012), online: Aviation Week <[aviationweek.com/awin/eu-ets-under-attack-australian-lawmakers](http://aviationweek.com/awin/eu-ets-under-attack-australian-lawmakers)>.

<sup>277</sup> See Wael Mahdi, “Saudi Arabia Said to Order Airline to Reject EU Carbon Rules”, *Bloomberg News* (2 October 2012), online: Bloomberg Business <[www.bloomberg.com/news/articles/2012-10-02/saudi-arabia-said-to-order-airline-to-reject-eu-emission-rules](http://www.bloomberg.com/news/articles/2012-10-02/saudi-arabia-said-to-order-airline-to-reject-eu-emission-rules)>.



- *The United States*: On November 27, 2012, President Obama signed a bill into law obliging the US Secretary of Transport to prohibit US flag carriers from participating in the EU ETS if “the Secretary determines the prohibition to be, and in a manner that is, in the public interest”.<sup>278</sup>

The 2013 Impact Assessment of the EU ETS on aviation, commissioned by the European Commission, disclosed that “Chinese mainland airlines and most Indian airlines have not complied with the EU ETS requirements”<sup>279</sup> since 2011. Even after the decision to defer the requirement of surrendering emission allowances under the EU ETS in April 2013, “China and India were the only two States from where no airline complied in 2012.”<sup>280</sup>

### 5.5.2 RESPONSE FROM AIRLINES AND TRADE ASSOCIATIONS

Airlines and trade associations demonstrated their protests against the EU ETS in various ways.<sup>281</sup> It is worth noting that they had initiated actions before the non-EEA States did so. As mentioned above, three US flag carriers, namely, American Airlines, Continental Airlines, and United Airlines, backed by the Air Transport Association of America (now Airlines for America (A4A)),<sup>282</sup> challenged the legality of *Directive 2008/101*. In December 2009, they filed a suit in the UK High Court of Justice, Queen’s Bench Division (Administrative Court).<sup>283</sup> This case was later referred to the CJEU for a preliminary ruling that declared it valid.<sup>284</sup> Two airline trade associations, namely the International Air Transport Association (IATA) and the National Airlines Council of Canada,<sup>285</sup> joined the applicants as interveners. In fact, the IATA, which is a trade association of two hundred and fifty airlines that represent eighty-four percent of the total worldwide air traffic,<sup>286</sup> has been critical of the Union’s decision to include aviation

<sup>278</sup> *European Union Emissions Trading Scheme Prohibition Act of 2011*, Pub L No 112–200, § 2, 126 Stat 1477 at 1477 [*ETS Prohibition Act 2011*]. See also Paul Lowe, “U.S. Officially Prohibits ETS Participation”, *Aviation International News* (3 January 2013), online: AIN Online <[www.ainonline.com/aviation-news/aviation-international-news/2013-01-03/us-officially-prohibits-ets-participation](http://www.ainonline.com/aviation-news/aviation-international-news/2013-01-03/us-officially-prohibits-ets-participation)>; Aaron Karp, “Obama signs bill enabling US airlines to skirt EU ETS”, *Air Transport World* (27 November 2012), online: Aviation Week <[atwonline.com/aeropolitics/obama-signs-bill-enabling-us-airlines-skirt-eu-ets](http://atwonline.com/aeropolitics/obama-signs-bill-enabling-us-airlines-skirt-eu-ets)>.

<sup>279</sup> *Impact Assessment 2013*, *supra* note 52 at 12.

<sup>280</sup> *Ibid* at 13.

<sup>281</sup> “Industry reaction [to the EU ETS] has been, if anything, even more condemnatory.” Brian F Havel & John Q Mulligan, “The Triumph of Politics: Reflections on the Judgment of the Court of Justice of the European Union Validating the Inclusion of Non-EU Airlines in the Emissions Trading Scheme” (2012) 37:1 *Air & Space L* 3 at 7–8 [footnote omitted] (Kluwer Law Online).

<sup>282</sup> Airlines for America, “History”, online: Airlines for America <[www.airlines.org/about-us/history/](http://www.airlines.org/about-us/history/)>.

<sup>283</sup> See “Three major US airlines and ATA file suit in London against UK Government over inclusion in EU ETS”, *GREENAIRonline.com* (18 December 2009), online: GREENAIR <[www.greenaironline.com/news.php?viewStory=702](http://www.greenaironline.com/news.php?viewStory=702)>.

<sup>284</sup> See *ATA v Secretary of State*, *supra* note 11.

<sup>285</sup> The National Airlines Council of Canada is a trade association representing Canada’s largest passenger air carriers, including Air Canada, Air Transat, Jazz Aviation LP, and WestJet. National Airlines Council of Canada, “Home”, online: National Airlines Council of Canada <[www.airlinecouncil.ca/](http://www.airlinecouncil.ca/)>.

<sup>286</sup> See International Air Transport Association, “Home”, online: IATA <[www.iata.org/Pages/default.aspx](http://www.iata.org/Pages/default.aspx)>.

in the EU ETS since its inception.<sup>287</sup> In October 2008, the IATA “blasted” the EU’s decision to include aviation in the scheme.<sup>288</sup> The trade association’s position with respect to the scheme has not altered since then, as apparent from the statements of Tony Tyler, Director General and CEO of IATA, rendered on various occasions.<sup>289</sup> Like the IATA, other airline trade associations, e.g., the Association of Asia Pacific Airlines,<sup>290</sup> and the African Airlines Association,<sup>291</sup> continue to oppose the EU ETS.<sup>292</sup> Air Algérie “brought proceedings before the *Conseil d’état* (State Council) in France”,<sup>293</sup> contesting the legality of the French national legislation that transposes *Directive 2008/101*.<sup>294</sup>

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<sup>287</sup> “The EU is facing criticism from many airline trade organizations regarding the new proposal. At the forefront of protestors is the International Air Transport Association (IATA)”. Janelle Veno, “Flying the Unfriendly Skies: The European Union’s New Proposal to Include Aviation in their Emissions Trading Scheme” (2007) 72:3 J Air L & Com 659 at 682 [footnote omitted] (HeinOnline).

<sup>288</sup> International Air Transport Association, Press Release, 50 (24 October 2008), online: IATA <[www.iata.org/pressroom/pr/Pages/2008-10-24-02.aspx](http://www.iata.org/pressroom/pr/Pages/2008-10-24-02.aspx)>.

<sup>289</sup> See “EU proposal to unilaterally regulate international flights in EU ETS puts global scheme at risk, says ‘shocked’ IATA”, *GREENAIRonline.com* (20 December 2013), online: GREENAIR <[www.greenaironline.com/news.php?viewStory=1803](http://www.greenaironline.com/news.php?viewStory=1803)>; Jens Flottau, “Critical Of EC, Tyler Warns Of ETS Distraction”, *Aviation Daily* (13 December 2013), online: Aviation Week <[aviationweek.com/awin/critical-ec-tyler-warns-ets-distraction](http://aviationweek.com/awin/critical-ec-tyler-warns-ets-distraction)>; Aaron Karp, “IATA DG Tyler: EU ETS ‘poisoning the atmosphere’ in global aviation”, *Air Transport World* (6 November 2012), online: ATW Plus <[atwonline.com/operations/iata-dg-tyler-eu-ets-poisoning-atmosphere-global-aviation](http://atwonline.com/operations/iata-dg-tyler-eu-ets-poisoning-atmosphere-global-aviation)>; Tierney Smith, “Opposition Mounts Over Aviation’s Inclusion in EU ETS”, *RTCC News* (2 October 2012), online: RTCC <[www.rtcc.org/2012/10/02/opposition-mounts-over-aviation%E2%80%99s-inclusion-in-eu-ets/](http://www.rtcc.org/2012/10/02/opposition-mounts-over-aviation%E2%80%99s-inclusion-in-eu-ets/)>; Gwyn Topham, “Airline Industry: EU Emissions Trading Scheme ‘could risk trade war’”, *The Guardian* (11 June 2012), online: The Guardian <[www.theguardian.com/world/2012/jun/11/airline-industry-eu-emissions-trading-trade-war](http://www.theguardian.com/world/2012/jun/11/airline-industry-eu-emissions-trading-trade-war)>.

<sup>290</sup> The Association of Asia Pacific Airlines is a not-for-profit association of Asia Pacific carriers. See Association of Asia Pacific Airlines, “Profile”, online: AAPA <[aapairlines.org/Profile.aspx](http://aapairlines.org/Profile.aspx)>.

<sup>291</sup> The African Airlines Association is a trade organization of airlines of African States. There are currently forty members of the Association. See African Airlines Association, “Background”, online: AFRAA <[www.afraa.org/index.php/about-us/background](http://www.afraa.org/index.php/about-us/background)>.

<sup>292</sup> See Association of Asia Pacific Airlines, Press Release, Issue 2013:16, “AAPA Comments on Proposed Revisions to EU ETS” (17 October 2013), online: Association of Asia Pacific Airlines Media Centre <[www.aapairlines.org/resource\\_centre/AAPA\\_PR\\_Issue16\\_EU\\_ETS\\_17Oct13.pdf](http://www.aapairlines.org/resource_centre/AAPA_PR_Issue16_EU_ETS_17Oct13.pdf)>; Association of Asia Pacific Airlines, Press Release, Issue 2012:21, “AAPA Welcomes Suspension of EU ETS: Focus rightly shifts to ICAO” (13 November 2012), online: Association of Asia Pacific Airlines Media Centre <[www.aapairlines.org/resource\\_centre/AAPA\\_PR\\_Issue21\\_Environment\\_EU\\_ETS\\_Suspension\\_13Nov12.pdf](http://www.aapairlines.org/resource_centre/AAPA_PR_Issue21_Environment_EU_ETS_Suspension_13Nov12.pdf)>; Association of Asia Pacific Airlines, Press Release, Issue 2011:22, “AAPA Calls for Renewed Political Dialogue on EU ETS: CJEU decision fails to calm international political furor” (23 December 2011), online: Association of Asia Pacific Airlines Media Centre <[www.aapairlines.org/resource\\_centre/AAPA\\_PR\\_Issue22\\_AviationEnvironmentEUETSandCJEU\\_23Dec11.pdf](http://www.aapairlines.org/resource_centre/AAPA_PR_Issue22_AviationEnvironmentEUETSandCJEU_23Dec11.pdf)>; Fredrick Obura, “African airlines oppose EU emissions trading scheme”, *Standard Digital* (16 January 2012), online: Standard Digital <[www.standardmedia.co.ke/?id=2000050064&cid=14&articleID=2000050064](http://www.standardmedia.co.ke/?id=2000050064&cid=14&articleID=2000050064)>.

<sup>293</sup> de Leon, *supra* note 117 at 293 [emphasis in original].

<sup>294</sup> See *ibid*.

### 5.5.3 RESPONSE FROM WITHIN THE EU

The EU encountered resistance from inside as well:

- In April 2011, Lufthansa, the flag carrier of Germany, stated that “too many problems remain unresolved”<sup>295</sup> concerning the implementation of *Directive 2008/101*, and warned that such an initiative would “become a “fiasco” when it [went] into effect” in January 2012.<sup>296</sup> Earlier, Lufthansa “threatened to relocate to Zurich, Switzerland – a [non-EEA State] – to sidestep the [EU] ETS”<sup>297</sup> after the European Commission had proposed for a Directive to include aviation in the scheme.<sup>298</sup>
- In February 2012, European airlines increased pressure on the Union to suspend the ETS for aviation “following concern that EU carriers will be the “major losers” in the event of a trade war.”<sup>299</sup>
- In March 2012, Airbus blamed the EU ETS row for the cancellation of Chinese orders.<sup>300</sup>
- On November 15, 2013, both left- and right-wing Members of the European Parliament [MEPs] slammed the European Commission’s proposal to amend the EU ETS that would hold airlines accountable for their emissions occurring within the EEA airspace.<sup>301</sup> Commenting on the proposal, Jacqueline Foster, Conservative MEP, stated “We look ridiculous”.<sup>302</sup> Additionally, she said that “[t]he scheme was never going to save CO<sub>2</sub> [emissions]”;<sup>303</sup> “[t]he majority in ICAO voted against, and you didn’t like what the majority said. You don’t like mutual consent”.<sup>304</sup>

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<sup>295</sup> Aaron Karp, “Lufthansa: Airlines’ inclusion in EU ETS in danger of becoming ‘fiasco’”, *Air Transport World* (11 April 2011), online: Air Transport World <atwonline.com/operations/lufthansa-airlines-inclusion-eu-ets-danger-becoming-fiasco>.

<sup>296</sup> *Ibid.*

<sup>297</sup> Reagan, *supra* note 12 at 369.

<sup>298</sup> See *ibid.*

<sup>299</sup> Kirsty McGregor, “European airlines step up opposition to EU ETS”, *Flight Global* (9 February 2012), online: Flight Global <www.flightglobal.com/news/articles/european-airlines-step-up-opposition-to-eu-ets-368019/>.

<sup>300</sup> See Will Nichols, “Airbus blames EU carbon trading row for falling Chinese orders”, *The Guardian* (9 March 2012), online: The Guardian Environment Network <www.theguardian.com/environment/2012/mar/09/airbus-eu-carbon-trading-chinese>.

<sup>301</sup> See “EU aviation emissions proposals attacked from all sides”, *EurActiv.com* (15 November 2013), online: EurActiv.com <www.euractiv.com/transport/commission-fails-comprehensive-p-news-531697>.

<sup>302</sup> *Ibid.*

<sup>303</sup> *Ibid.*

<sup>304</sup> *Ibid.*

#### 5.5.4 UPDATE ON RESPONSE: IS A TRADE WAR AHEAD?

No new objections to the EU ETS have been heard from non-EEA States since the last amendment to the scheme, which restricted its scope to the EEA airspace. The situation is becoming calmer than before, as is apparent from the deal reached between China and Airbus on March 26, 2014, which granted Airbus the right to assemble A320 aircraft in China until 2025, and “unblocked orders for larger jets worth more than \$6 billion”.<sup>305</sup> The EU’s 2013 Impact Assessment of the ETS on aviation accepted that the “stop-the-clock” option adopted by the Union in April 2013, which restricted the scope of application of the EU ETS to emissions from “intra-EEA flights and flights to and from closely connected areas but not flights to other non-EEA” States,<sup>306</sup> already proved “in practice to be accepted by large majority of international partners”.<sup>307</sup>

Nevertheless, it can be predicted that a trade-war will erupt between the EEA Member States and non-EEA States by reason of the application of the EU ETS to aircraft of the latter. In April 2014, Germany ordered 61 airlines, including flag carriers of Russia, China, and the US, to pay fines for the violation of the EU ETS.<sup>308</sup> The Netherlands followed in the steps of Germany by initiating the process of charging a Chinese airline for “failing to submit an annual emissions report for 2012.”<sup>309</sup> As mentioned before, US law authorizes the Secretary of Transport to forbid its air carriers from participating in the EU ETS if in the public interest,<sup>310</sup> Russia had commenced steps to do the same, and China already banned its flag carriers from

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<sup>305</sup> Cyril Altmeyer, “China extends Airbus production venture, unblocks A330 deal”, *Reuters US* (26 March 2014), online: Reuters <[www.reuters.com/article/2014/03/26/us-france-china-airbus-idUSBREA2P1HZ20140326](http://www.reuters.com/article/2014/03/26/us-france-china-airbus-idUSBREA2P1HZ20140326)>.

<sup>306</sup> *Impact Assessment 2013*, *supra* note 52 at 23.

<sup>307</sup> *Ibid* at 47. “The “stop-the-clock” option shows the lowest coverage of only 25 %. It has been accepted in 2012 by most international partners, as a step forward from any of those countries compared to their earlier positions.” *Ibid* at 48.

<sup>308</sup> See Ewa Krukowska & Birgit Jennen, “Germany Levies Fines on Aircraft Operators Over Emissions”, *Bloomberg* (30 April 2014), online: Bloomberg Business <[www.bloomberg.com/news/2014-04-30/germany-levies-fines-on-aircraft-operators-over-emissions.html](http://www.bloomberg.com/news/2014-04-30/germany-levies-fines-on-aircraft-operators-over-emissions.html)>; “EU States tread warily on naming and shaming Aircraft Operators that have failed to comply with EU ETS Rules”, *GREENAIRonline.com* (15 December 2014), online: GREENAIR <[www.greenaironline.com/news.php?viewStory=2021](http://www.greenaironline.com/news.php?viewStory=2021)>.

<sup>309</sup> See “Netherlands and Germany fine foreign airlines over ETS”, *Transport & Environment* (30 May 2014), online: Transport & Environment <[www.transportenvironment.org/news/netherlands-and-germany-fine-foreign-airlines-over-ets](http://www.transportenvironment.org/news/netherlands-and-germany-fine-foreign-airlines-over-ets)>.

<sup>310</sup> In determining whether or not the prohibition will be in the public interest, the Secretary of Transportation has to take into account the following three criteria:

1. the impacts on U.S. consumers, U.S. carriers, and U.S. operators;
2. the impacts on the economic, energy, and environmental security of the United States; and
3. the impacts on U.S. foreign relations, including existing international commitments.

See *ETS Prohibition Act 2011*, *supra* note 278, § 2(a). If a positive determination has been reached, the Secretary is required to “hold a public hearing at least 30 days before imposing any prohibition.”

complying with the scheme. Aeroflot, Russia's flag carrier, already sent a "protest" letter to the European Parliament and was preparing to lodge an appeal.<sup>311</sup> Few EEA Member States have commenced to publish non-compliance list of airlines. At the time of this writing, Italy and Germany have published a non-compliance list of airlines administered by these two States for the purposes of the EU ETS.<sup>312</sup> However, none of these lists includes any major carriers from non-EEA States. These lists include few small operators from the Russian Federation and the US.<sup>313</sup> Though Aeroflot and Air China, Russian and Chinese flag carriers, respectively, were ordered to pay fines by German authority in 2014, they do not appear in the list probably because they have challenged the penalty notices.<sup>314</sup> The UK, which administers Indian flag carriers, has announced to publish a non-compliance list by 30 June 2015.<sup>315</sup> In response to UK's announcement, India's representative to the ICAO Council has stated that Indian airlines "would not be complying with the scheme, even under the reduced intra-EEA scope."<sup>316</sup>

These actions of EEA Member States may trigger retaliatory action from the US, Russia, and China that would have dire consequences. Meltzer contends that "[s]uch tit-for-tat trade retaliation could lead to increased trade protectionism, an outcome that would reduce global

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*Ibid.*, § 2(b). In this respect, any determination to prohibit is not final; the law reserves provision for reassessment on the happening of any of the following three events:

- (a) any amendment to the EU ETS;
- (b) the adoption of any international agreement; and
- (c) enactment of a public law or issuance of a final rule after formal agency rulemaking, in the US to address aircraft emissions. *Ibid.*, § 2(c).

<sup>311</sup> "Russia's Aeroflot to Appeal Environmental Fine for Flights Over Europe", *Sputnik News* (25 July 2014), online: Sputnik International <en.ria.ru/business/20140725/191246005/Russias-Aeroflot-to-Appeal-Environmental-Fine-for-Flights-Over.html> ["Russia's Aeroflot"].

<sup>312</sup> To view the Italian list, see Italy, Ministero dell'Ambiente e della tutela del territorio e del mare, *Il Comitato nazionale per la gestione della Direttiva 2003/87/CE e per il supporto nella gestione delle attività di progetto del Protocollo di Kyoto*, online: Ministero dell'Ambiente e della tutela del territorio e del mare <www.minambiente.it/sites/default/files/archivio/allegati/emission\_trading/comunicato\_operatori\_aerei\_sanzione\_rev2.pdf>. To view the German list, see Deutsche Emissionshandelsstelle (DEHSt), "Informationen zur Sanktionierung", online: DEHSt <www.dehst.de/DE/Teilnehmer/Anlagenbetreiber/Berichterstattung-2013-2020/\_functions/Sanktionsverfahren\_2005-2013.html>.

<sup>313</sup> See *ibid.*

<sup>314</sup> See "Germany fines Aircraft Operators \$5.9 million as it publishes first Aviation EU ETS non-compliance list", *GREENAIRonline.com* (5 March 2015), online: GREENAIR <www.greenaironline.com/news.php?viewStory=2054>.

<sup>315</sup> See UK, Department of Energy & Climate Change, *Implementing the Aviation EU Emissions Trading System Regulation (421/2014) in UK Regulations* (Consultation Response Document, URN 14D/423) (London: Department of Energy & Climate Change, 2014) at 8, online: GOV.UK <www.gov.uk/government/uploads/system/uploads/attachment\_data/file/377689/Government\_response\_to\_consultation\_on\_Greenhouse\_Gas\_Emissions\_Trading\_Scheme\_Regulations\_\_Amendments\_\_2014.pdf>.

<sup>316</sup> "EU States tread warily", *supra* note 308.

economic growth and welfare.”<sup>317</sup> Ultimately, the environmental objective of the EU ETS to curb emissions from aviation will remain elusive. It was predicted before the implementation of *Directive 2008/101* that this unilateral action would damage “the friendly development of [the] international aviation industry”,<sup>318</sup> “damage...confidence-building efforts in [climate change] negotiations, or even lead to unhealthy competition between various jurisdictions for legal influence and retaliation.”<sup>319</sup> Some of these predictions have already come true.

The EU is well-aware of this risk and, hence, its Member States have been hesitant to take action against non-compliant aircraft operators of non-EEA States.<sup>320</sup> Although Germany published its list of non-compliant airlines in early 2015, it originally announced to publish that list in July 2014.<sup>321</sup> In the case of the UK, the Environment Agency was expected to publish the list of non-compliant aircraft operators by the end of June 2014 for the 2012 period.<sup>322</sup> However, the authority “declined to do so on the grounds that all appeals procedures had not been exhausted.”<sup>323</sup>

States adopted the *Chicago Convention* with the intention “to create and preserve friendship and understanding among the nations of the world” through the development of international civil aviation, and “to avoid friction and to promote that cooperation between nations and peoples”.<sup>324</sup> However, rather than creating and preserving friendship and understanding between the EEA Member States and non-EEA States, the EU ETS is causing friction between these groups, undoubtedly against the intention of the parties as expressed in the preamble of the Convention. As Professor Milde puts it, by adopting this unilateral measure, the EU has shown disrespect “towards the visionary aims of the Convention and towards the ICAO and its Member States”.<sup>325</sup>

#### 5.6 IMPACTS OF THE RESISTANCE FROM NON-EEA STATES

Massive opposition to the EU ETS and retaliatory actions from non-EEA economically powerful States with established airline industries would largely limit the effectiveness of the scheme in the realm of aviation. Such actions imply that these non-EEA States do not consider the inclusion of aviation in the EU ETS as legitimate. According to Shaffer and Bodansky, the effectiveness of unilateral measures will often be determined by “perceptions of legitimacy”: “Where a rule or norm advanced unilaterally is deemed to be illegitimate, it will spur greater resistance...undermining its effectiveness.”<sup>326</sup> They contend that the EU’s unilateral action on

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<sup>317</sup> Meltzer, *supra* note 113 at 123. See also Kulolesi, *supra* note 113 (“[a] tit-for-tat dynamic is hardly conducive to confidence-building and laying a solid foundation for a global, comprehensive, and effective climate treaty” at 558).

<sup>318</sup> Lan, *supra* note 249 at 600.

<sup>319</sup> Kulolesi, *supra* note 113 at 557 [footnote omitted]. See also Reagan, *supra* note 12.

<sup>320</sup> See “EU States tread warily”, *supra* note 308.

<sup>321</sup> See *ibid.*

<sup>322</sup> See *ibid.*

<sup>323</sup> *Ibid.*

<sup>324</sup> *Chicago Convention*, *supra* note 118, Preamble.

<sup>325</sup> Milde, “Confrontation or Compromise?”, *supra* note 110 at 178.

<sup>326</sup> Shaffer & Bodansky, *supra* note 177 at 41.

the climate change issue is legitimate on the basis that the US never ratified the *Kyoto Protocol* whereas the Union advanced its implementation.<sup>327</sup> Nevertheless, the enormous resistance that *Directive 2008/101* has encountered leads one to conclude that such unilateral action is “deemed to be illegitimate” and, hence, will be less effective. As mentioned before, following this pressure from both inside and out, the EU first deferred the requirement of surrendering emission allowances under the ETS and, thereafter, amended it by significantly limiting its territorial scope for the 2013–2016 period.<sup>328</sup>

It should be stressed that the dispute that arose between the EU and non-EEA States by reason of including aviation in the EU ETS is “the first real clash concerning unilateral measures to combat climate change.”<sup>329</sup> Moreover, as Professor Pablo Mendes de Leon puts it, “[t]he number and intensity of the reactions are unprecedented in the history of international civil aviation.”<sup>330</sup> In the field of the environment, EU environmental protection is regarded as “both a value and normative aspiration.”<sup>331</sup> The EU is considered as having “the potential to serve as a “norm entrepreneur” and transfer its environmental values to its trade partners”.<sup>332</sup> Failure of the Union to achieve the necessary objective, namely, substantial abatement of emissions from international civil aviation that contribute to climate change and global warming by adopting market-based measures, will definitely harm its role as a norm entrepreneur.<sup>333</sup> In the arena of global climate politics, the EU has already lost much influence after it unsuccessfully endeavored to upload its preferred environmental norms.<sup>334</sup> Ultimately, as Shaffer and Bodansky argue, the impact of a unilateral measure “depends on whether it is persuasive in shaping norms of behaviour.”<sup>335</sup> Before adopting any unilateral measure, States need to know whether the right time has arrived to resort to such measures that will encourage other States to take action.<sup>336</sup>

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<sup>327</sup> See *ibid* at 39. Although it was the US who was concerned with the inclusion of emissions trading in the *Kyoto Protocol*, it did not ratify the Protocol even after its inclusion. On the other hand, while the EU did not support the concept of emissions trading at the beginning, it ratified the Protocol. To learn more about the negotiating history of the Protocol, see generally Sebastian Oberthür & Hermann E Ott, *The Kyoto Protocol: International Climate Policy for the 21st Century* (New York: Springer-Verlag, 1999).

<sup>328</sup> From 2013 to 2016, only emissions from flights within the EEA would fall under the EU ETS. See *Regulation 421/2014*, *supra* note 56.

<sup>329</sup> Hartmann, *supra* note 85 at 187.

<sup>330</sup> de Leon, *supra* note 117 at 294.

<sup>331</sup> Elaine Fahey & Ester Herlin-Karnell, “EU Law qua Global Governance Law? Deciphering Regulatory and Constitutional Competence Between EU Environmental Law and Global Governance” (2012) 13:11 German LJ 1147 at 1147 [footnote omitted] (HeinOnline).

<sup>332</sup> Ciolino, *supra* note 157 at 1185–86. See also Ester Herlin-Karnell, “The EU as a Promoter of Values and the European Global Project” (2012) 13:11 German LJ 1225 at 1242ff (HeinOnline).

<sup>333</sup> See Hartmann, *supra* note 85 at 187; Van Schaik & Schunz, *supra* note 1 at 183.

<sup>334</sup> See e.g. Van Schaik & Schunz, *supra* note 1 at 182.

<sup>335</sup> Shaffer & Bodansky, *supra* note 177 at 41.

<sup>336</sup> See Kulovesi, *supra* note 113 (“[t]he dilemma related to unilateral measures is therefore to know how much multilateralism must be attempted before resorting to unilateralism, in other words, when will unilateralism be useful in terms of encouraging other countries to take action and when will it only make things worse” at 559).

They must strike a balance between two possibilities that the adoption of such measures may cause: the possibility of creating environmental norms and the possibility of causing friction and frustrating efforts to reach a multilateral solution at the global level.<sup>337</sup> In the case of international civil aviation, it appears from the above discussion that the perfect time has yet to arrive that would permit the EU to adopt such unilateral environmental measures.<sup>338</sup>

#### 5.7 THE INFLUENCE OF THE EU'S UNILATERAL ACTIONS IN SHAPING GLOBAL ENVIRONMENTAL NORMS

In the area of environmental protection, although the EU has the potential to act as a norm entrepreneur and export its environmental values to non-EEA States, it has yet to succeed in this respect.<sup>339</sup> For example, though the Union “played a leading role in driving negotiations forward”<sup>340</sup> with respect to the *Kyoto Protocol's* second commitment period, and the *Copenhagen Accord*,<sup>341</sup> it could not successfully “convince the other parties to the negotiations to adopt its positions on how to address global climate change.”<sup>342</sup> Until now, the success of the EU is limited to “getting international actors to the negotiating table”,<sup>343</sup> which is also the case in international civil aviation.<sup>344</sup> At the negotiating table, the EU “has largely failed to influence the global climate regime through exporting its policy solutions to

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<sup>337</sup> See also Ciolino, *supra* note 157 at 1185.

<sup>338</sup> Koh argues that extending the EU ETS to international civil aviation “will only serve to weaken diplomatic relations with the EU and delay the achievement of a global solution to aviation emissions.” Stephanie Koh, “The Case Against Extending the EU Emissions Trading Scheme to International Aviation” (2012) 30 *Sing L Rev* 125 at 129 (HeinOnline).

<sup>339</sup> See Van Schaik & Schunz, *supra* note 1 at 183 (“Europe’s attainment is normative rather than empirical’ in the domain of climate change: the EU’s predominantly norm-driven approach yielded little practical impact” at 183); Ciolino, *supra* note 157 at 1185–86; Fahey & Herlin-Karnell, *supra* note 331 (“[t]he promotion of EU external values is subject to variable – even weak – enforcement, and a lack of global consensus” at 1148 [footnote omitted]).

<sup>340</sup> Ciolino, *supra* note 157 at 1186. See also Charles F Parker & Christer Karlsson, “Climate Change and the European Union’s Leadership Moment: An Inconvenient Truth?” (2010) 48:4 *J Common Market Studies* 923 (“[t]he EU has attempted to be the global standard bearer on climate change by laying out bold unilateral goals, vigorously supporting the Kyoto Protocol and pushing hard for an ambitious post-2012 successor agreement” at 924).

<sup>341</sup> *Copenhagen Accord*, 18 December 2009, in UNFCCC, *Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009. Addendum. Part Two: Action taken by the Conference of the Parties at its fifteenth session*, UNFCCC Conference of the Parties, 15th Sess, FCCC/CP/2009/11/Add.1 (2010), 4, online: UNFCCC <unfccc.int/documentation/documents/advanced\_search/items/6911.php?preref=600005735>.

<sup>342</sup> Ciolino, *supra* note 157 at 1186 [footnote omitted]. For a detailed discussion, see Van Schaik & Schunz, *supra* note 1 at 178–82. One of the reasons for this failure may be that the EU Member States have yet to meet their obligations under the *Kyoto Protocol* thereby undermining the credibility and effectiveness of EU’s climate leadership. See Parker & Karlsson, *supra* note 340.

<sup>343</sup> Ciolino, *supra* note 157 at 1186.

<sup>344</sup> See also Preston, Lee & Hooper, *supra* note 77 at 54–55.



the global level”.<sup>345</sup> Furthermore, the Union has failed to convince the non-EEA States “to buy into its position on global environmental governance.”<sup>346</sup>

In the area of aviation emissions, unlike the hushkit dispute discussed above,<sup>347</sup> the EU has been successful in getting ICAO contracting States to the negotiating table to more effectively negotiate the matter. Additionally, the EU has been successful in ensuring that ICAO accelerates its activities in this respect. This led to the agreement to develop a global market-based measure that, if agreed to at the next session of the ICAO Assembly scheduled to be held in 2016, will be effective from 2020.<sup>348</sup>

The increased speed of ICAO processes can be observed if one looks at the number of meaningful activities the Organization undertook after the EU had adopted *Directive 2008/101* on January 13, 2009. In October 2009, the High-level Meeting on International Aviation and Climate Change was held by ICAO.<sup>349</sup> Since the 37<sup>th</sup> session of the ICAO Assembly held in 2010, the Assembly has been adopting two, instead of one,<sup>350</sup> resolutions dealing with aviation environmental issues where one resolution is devoted to, and earmarked, climate change.<sup>351</sup> The issue of climate change has been segregated from other environmental issues to demonstrate ICAO’s increased seriousness on the former issue. On July 10, 2012, a CO<sub>2</sub> metric system, which characterizes the CO<sub>2</sub> emissions for aircraft types with varying technologies, was unanimously agreed on by ICAO’s CAEP.<sup>352</sup> In early 2012, six potential

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<sup>345</sup> Van Schaik & Schunz, *supra* note 1 at 169.

<sup>346</sup> Ciolino, *supra* note 157 at 1186.

<sup>347</sup> See section 5.4, *above*. See also Andrea Gattini, “Between Splendid Isolation and Tentative Imperialism: The EU’s Extension of its Emission Trading Scheme to International Aviation and the ECJ’s Judgment in the ATA Case” (2012) 61:4 ICLQ 977 at 990.

<sup>348</sup> “Of course, one could think that the EU Commission had strategically decided to push through Directive 2008/10 as a bargaining tool in the ICAO negotiations towards a global market-based mechanism for aviation emissions reduction...” Gattini, *supra* note 347 at 990 [footnote omitted].

<sup>349</sup> To view the documents of this meeting, see ICAO, “Archived Meetings: High Level 2009”, online: ICAO <[www.icao.int/Meetings/AMC/MA/Forms/AllItems.aspx?RootFolder=%2fMeetings%2fAMC%2fMA%2fHigh%20Level%202009&FolderCTID=0x0120008FBF5BD6E74225408C846CE885FC7730](http://www.icao.int/Meetings/AMC/MA/Forms/AllItems.aspx?RootFolder=%2fMeetings%2fAMC%2fMA%2fHigh%20Level%202009&FolderCTID=0x0120008FBF5BD6E74225408C846CE885FC7730)>.

<sup>350</sup> Prior to 37<sup>th</sup> session, the practice was to adopt one resolution to address aviation environmental issues. Resolutions A36-22 and A35-5 are examples of such resolutions. See ICAO Res A36-22, *supra* note 78; *Consolidated statement of continuing ICAO policies and practices related to environmental protection*, ICAO Assembly Res A35-5, 35th Sess, ICAO Doc 9848, I-37, online: ICAO <[www.icao.int/publications/Documents/9848\\_en.pdf](http://www.icao.int/publications/Documents/9848_en.pdf)>.

<sup>351</sup> See ICAO Res A37-19, *supra* note 80; ICAO Res A38-18, *supra* note 55.

<sup>352</sup> See ICAO, News Release, COM 15/12, “New Progress on Aircraft CO<sub>2</sub> Standard” (11 July 2012), online: ICAO Newsroom <[www.icao.int/Newsroom/Pages/new-progress-on-aircraft-co2-standard.aspx](http://www.icao.int/Newsroom/Pages/new-progress-on-aircraft-co2-standard.aspx)>. The development of CO<sub>2</sub> certification requirement, including a CO<sub>2</sub> metric system and procedures, has been accomplished. The CAEP already delivered agreement on the certification procedures. CO<sub>2</sub> standards setting process that comprises stringency levels, technology responses, cost effectiveness assessments and interdependencies is underway. The new CO<sub>2</sub> aircraft standard will result in a new volume, namely volume III, of Annex 16. See Jane Hupe, “Aviation and Environment: Developments Since the Last Assembly” (Presentation delivered at the ICAO Symposium on Aviation and Climate Change, “Destination Green”, Montreal,

options for a global market-based measure scheme were identified and those options were reduced to three by the ICAO Council in June 2012.<sup>353</sup> During the 2012–2013 period, the ICAO performed a significant number of important studies concerning market-based measures that had not been previously undertaken.<sup>354</sup> In November 2012, a High-level Group, comprising officials from seventeen States, was set up “to provide near-term recommendations on a series of policy issues”<sup>355</sup> that arose in the course of performing those important studies.<sup>356</sup> At the ICAO Assembly’s 37<sup>th</sup> session, an agreement to *develop a framework* for market-based measures in international civil aviation was also reached,<sup>357</sup> and at the 38<sup>th</sup> session in 2013 an agreement to *develop* a market-based measure for international civil aviation was reached. It is doubtful whether such progress at ICAO would have happened without the EU’s unilateral action. The EU has taken the first step that is necessary to reduce growing emissions from aviation.<sup>358</sup> Worth noting is the fact that one of the three measures under consideration by ICAO is emissions trading. This implies that the EU gained a first-mover advantage through the inclusion of aviation in the ETS. This unilateral move enabled the Union to use the EU ETS to define the problem of emissions from aviation and to propose global emissions trading scheme as one of the solutions to that problem.

It should be noted that the EU has played a leading role in the area of maritime pollution as well. In international maritime law, the strong bargaining position of the EU at the IMO led

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14–16 May 2013) [unpublished], online: ICAO <[www.icao.int/Meetings/Green/Documents/day%201pdf/opening%20speeches/Opening-Hupe.pdf](http://www.icao.int/Meetings/Green/Documents/day%201pdf/opening%20speeches/Opening-Hupe.pdf)>; ICAO, News Release, COM 4/13, “ICAO Environmental Protection Committee Delivers Progress on New Aircraft CO<sub>2</sub> and Noise Standards” (14 February 2013), online: ICAO Newsroom <[www.icao.int/Newsroom/Pages/ICAO-environmental-protection-committee-delivers-progress-on-new-aircraft-CO<sub>2</sub>-and-noise-standards.aspx](http://www.icao.int/Newsroom/Pages/ICAO-environmental-protection-committee-delivers-progress-on-new-aircraft-CO2-and-noise-standards.aspx)>.

<sup>353</sup> See *Report on Market-based Measures*, *supra* note 89 at (vii).

<sup>354</sup> Examples of these studies include: *Report on Market-based Measures*, *supra* note 89; ICAO, “Report on Geographic Scope of Market-based Measures (MBMS): Analysis of proposed approaches for the coverage of international aviation emissions under a market-based measure” (July 2013), online: ICAO <[www.icao.int/Meetings/a38/Documents/REPORT%20ON%20GEOGRAPHIC%20SCOPE%20OF%20MBMs.pdf](http://www.icao.int/Meetings/a38/Documents/REPORT%20ON%20GEOGRAPHIC%20SCOPE%20OF%20MBMs.pdf)> [ICAO, “Geographic Scope”]; ICAO, “Offsets for International Aviation Emissions” (August 2012), online: ICAO <[www.icao.int/Meetings/a38/Documents/Offsets%20for%20International%20Aviation%20Emissions.v10.14%20August.pdf](http://www.icao.int/Meetings/a38/Documents/Offsets%20for%20International%20Aviation%20Emissions.v10.14%20August.pdf)>; ICAO, “Eligibility of civil aviation projects under the Clean Development Mechanism (CDM)” (June 2012), online: ICAO <[www.icao.int/Meetings/a38/Documents/CDM\\_Report.pdf](http://www.icao.int/Meetings/a38/Documents/CDM_Report.pdf)>.

<sup>355</sup> ICAO, News Release, COM 20/12, “New ICAO Council High-level Group to Focus on Environmental Policy Challenges” (15 November 2012), online: ICAO Newsroom <[www.icao.int/Newsroom/Pages/new-ICAO-council-high-level-group-to-focus-on-environmental-policy-challenges.aspx](http://www.icao.int/Newsroom/Pages/new-ICAO-council-high-level-group-to-focus-on-environmental-policy-challenges.aspx)>.

<sup>356</sup> See *ibid.* See also “ICAO appoints 17 countries to new High-level Group to hammer out important policy issues on aviation MBMs”, *GREENAIRonline.com* (28 November 2012), online: GREENAIR <[www.greenaironline.com/news.php?viewStory=1626](http://www.greenaironline.com/news.php?viewStory=1626)>.

<sup>357</sup> ICAO Res A37-19, *supra* note 80 at I-71.

<sup>358</sup> See Kulovesi, *supra* note 113 at 537.

to the amendment of the *MARPOL Convention*,<sup>359</sup> concerning prevention of pollution from ships, by adding Chapter 4 to Annex VI,<sup>360</sup> which, as mentioned above, imposes technical and operational energy efficiency measures for all ships of 400 gross tonnage and above.<sup>361</sup> However, unlike aviation, the EU has not included shipping in the ETS. This is surprising due to the following facts mentioned earlier:<sup>362</sup> the global shipping industry emits more greenhouse gases than international civil aviation does; the MEPC of the IMO recognized that the current technical and operational measures are insufficient to satisfactorily reduce such emissions from shipping; the MEPC, therefore, agreed that a market-based measure was required as part of a package of measures to effectively regulate such emissions; the IMO has to date only considered such measures in contrast to ICAO where an agreement to develop such measure has been reached; and the MEPC, however, agreed to postpone discussions on market-based measures for a future session. The IMO MEPC's agreement in 2013 to postpone discussions on market-based measures can be equated with ICAO CAEP's agreement in 2004 not to further pursue an aviation-specific emissions trading system. Although that agreement of ICAO's CAEP served as one of the motivating factors for including aviation in the EU ETS, no significant motivation can be observed on the part of the EU to include shipping in the scheme after the IMO's MEPC postponement agreement. It is argued that the European Commission has yet to include the shipping industry in the EU ETS being deterred by massive protests from non-EEA States against its endeavor "to cover [emissions from] international flights".<sup>363</sup> It can be inferred that this opposition from non-EEA States has negatively affected the EU's prospective role as a norm entrepreneur and its ability to influence negotiation in the maritime industry.

In the case of aviation, although the EU has been successful in getting ICAO contracting States to the negotiating table and in ensuring that the Organization accelerates its activities in the area of aviation emissions, it can be observed from the last session of the ICAO Assembly that the Union has failed to convince non-EEA ICAO contracting States to allow any State to develop and implement new and existing market-based measures, respectively, without mutual agreement.<sup>364</sup> As mentioned before, according to Assembly Resolution A38-18, States

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<sup>359</sup> *MARPOL*, *supra* note 92. This agreement was amended before entry into force by *Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973*, 17 February 1978, 1340 UNTS 61 (entered into force 2 October 1983). These multilateral instruments were both adopted after the US threatened "to impose unilaterally double-hull standards on oil tankers entering its ports". Bodansky, *supra* note 159 at 344.

<sup>360</sup> See *MARPOL*, *supra* note 92, Annex VI, ch 4.

<sup>361</sup> See Gattini, *supra* note 347 at 990.

<sup>362</sup> See section 3, *above*.

<sup>363</sup> Dirk Böhler, "The EU Emissions Trading Scheme - Fixing A Broken Promise" (2013) 15 *Env'tl L Rev* 95 at 101 (HeinOnline).

<sup>364</sup> Although implementing the EU ETS on the basis of mutual agreement would ensure more effectiveness of the measure, this can have several disadvantages. Abeyratne writes:

The drawbacks of this approach are that if a State wanted to include all airlines operating on a given route, the mutual agreement approach would have the disadvantage of requiring that State to negotiate agreements with all States whose carriers operate on that route. This could be time-consuming and may increase

need to engage in consultations and negotiations with other States to reach an agreement when designing new and implementing existing market-based measures for international civil aviation.<sup>365</sup> It has been pointed out that ideological differences between the EEA Member States and non-EEA States are responsible for this: whereas environmental protection has become one of the top most concerns for the EU,<sup>366</sup> non-EEA States are more concerned with their national economic interests rather than the protection of the environment.<sup>367</sup> Due to these differences, the negotiation process cannot succeed in reaching a viable solution; uncertainty and distrust pervade the process leading the “parties to become suspicious of their opponents potential ulterior motives.”<sup>368</sup> This suspicion renders States less compromising to reach a solution, which often leads to a stalemate.<sup>369</sup> The last session of the ICAO Assembly revealed, as noted earlier, that differences between developed and developing States on certain issues are delaying the formation and implementation of a global market-based measure for international civil aviation. Although such differences have not led to a stalemate, they are nonetheless delaying the process.

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the risk of a fragmented approach. The potential for State(s) to not accede to the inclusion of its carriers could result in the nonequal application of the Scheme and competitive distortion between carriers on the same route. There could also be additional complications such as avoidance behaviour if airlines change leasing or code-share arrangements.

Abeyratne, “Emissions”, *supra* note 204 at 368.

<sup>365</sup> See ICAO Res A38-18, *supra* note 55 at I-72.

<sup>366</sup> Van Schaik & Schunz, *supra* note 1 at 178, argue:

EU climate change policymaking was above all shaped by its norms. The predominant logic of social action underpinning EU external activity on climate change is thus not one of consequence as its expected (political, economic, security) gains from early climate action are at best mixed. Despite uncertainty about gains and cost, the Union has embarked on the endeavour to lead the world on climate change in line with its normative foundations. The EU’s international climate policy is primarily guided by what it considers appropriate action.

<sup>367</sup> Ciolino explains why there is a gap between EU’s environmental goals and its ability to export these norms in the following terms:

There are several explanations for the gap between the EU’s environmental goals and its ability to transfer these norms to other international actors. The first is a result of a conflict of values between the EU and other key actors in climate negotiations. The EU is a “norm-driven actor,” and shapes its climate policy around its concerns for protecting its “environmental, economic, and security-related” interests in the long-term, even if it is necessary to incur costs in the short-term. In contrast, countries such as the United States, Japan, and four of the larger developing economies, Brazil, South Africa, India and China (BASIC), are “interest-driven actors,” focused on protecting their short-term economic interests.

Ciolino, *supra* note 157 at 1186 [footnotes omitted]. See also Van Schaik & Schunz, *supra* note 1.

<sup>368</sup> Ciolino, *supra* note 157 at 1186 [footnote omitted].

<sup>369</sup> See *ibid* at 1186–87.

## 5.8 UNILATERAL MARKET-BASED MEASURES VS MULTILATERAL MARKET-BASED MEASURES

Market-based measures are cost-effective environmental measures that can help to reduce emissions from aviation.<sup>370</sup> As economic measures, market-based measures can put pressure on industry to adopt various initiatives, mainly technical measures, to decrease its environmental footprint. A well-designed market-based measure for international civil aviation can “use emissions banking, trading, offsetting to spur innovation”,<sup>371</sup> “reward those who achieve real emission reductions”,<sup>372</sup> “save money...by promoting competition to achieve reductions better, cheaper, faster”,<sup>373</sup> and “provide certainty that environmental targets will be met”.<sup>374</sup> It is now well understood that, without effective global market-based measures, ICAO’s goal of achieving carbon neutral growth from 2020 will remain a dream.<sup>375</sup> The forecasts by ICAO’s CAEP show that, even after the implementation of technology and operational improvements and assuming three percent use of alternative fuels, “the emissions gap from carbon neutral growth in 2020 would be on the order of 500 Mt by 2040”.<sup>376</sup> Hence, ICAO argues that market-based measures are essential “to fill this emissions gap, together with sustainable alternative fuels”.<sup>377</sup> ICAO’s assessment reports on three market-based measures under consideration by the Organization, namely global mandatory offsetting, global mandatory offsetting with revenue, and global emissions trading, concluded that all of those measures are cost-effective, are technically feasible, will have marginal impact on future growth, and have the capacity to contribute to achieving ICAO’s environmental goals.<sup>378</sup>

However, for a market-based measure to be effective, extensive geographic coverage and participation from all States in such measures are essential.<sup>379</sup> Such coverage and participation

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<sup>370</sup> The suitability of market-based measures for international civil aviation has long been recognized. See *Impact Assessment 2013*, *supra* note 52 at 9.

<sup>371</sup> Petsonk, *supra* note 70. Lykotrafiti argues that the initiative of the EU to include aviation in the EU ETS “has functioned as a catalyst for innovation in the [aviation] sector.” Antigoni Lykotrafiti, “EU Innovation Policy: Lessons Learned from the Inclusion of Aviation in the EU Emissions Trading Scheme” (2013) 40:4 LIEI 339 at 339 (Kluwer Law Online).

<sup>372</sup> Petsonk, *supra* note 70.

<sup>373</sup> *Ibid.*

<sup>374</sup> *Ibid.* See also ICAO Secretariat, “Market-Based Measures”, *supra* note 70 at 138. However, “many governments in the developing world are questioning whether market approaches are able to deliver on the needs they have for sustainable development.” Andrew Howard, “Status and Structure of the Carbon Market” in ICAO, *ICAO Environmental Report 2010: Aviation and Climate Change* (Montreal: ICAO, 2010) 132 at 135, online: ICAO <[www.icao.int/environmental-protection/Documents/Publications/ENV\\_Report\\_2010.pdf](http://www.icao.int/environmental-protection/Documents/Publications/ENV_Report_2010.pdf)>.

<sup>375</sup> *Supra* note 70. However, Russia does not believe the same. See Russian Federation, *Market-Based Measures as the Factor of an Increase of Greenhouse Gas Emissions in the Sector of International Civil Aviation*, ICAO Assembly, 38th Sess, Agenda Item 17, Working Paper No 250, Doc A38-WP/250/Ex/83 (20 August 2013), online: ICAO <[www.icao.int/Meetings/a38/Documents/WP/wp250\\_en.pdf](http://www.icao.int/Meetings/a38/Documents/WP/wp250_en.pdf)>.

<sup>376</sup> ICAO, “MBMs and Climate Change”, *supra* note 70.

<sup>377</sup> *Ibid.*

<sup>378</sup> See *Report on Market-based Measures*, *supra* note 89.

<sup>379</sup> See ICAO, “Geographic Scope”, *supra* note 354 at 9.

cannot be obtained by any unilateral market-based measure like the EU ETS: such measures cannot be implemented beyond the national border(s) of the State(s) adopting the measure without consent from foreign State(s), and not all airlines of all States fly to a specific State or region. The 2013 Impact Assessment of the Union's ETS on aviation also acknowledged the limited scope of the scheme in addressing emissions from aviation. The application of full-scope EU ETS, i.e. including emissions from aircraft over the high seas and the territory of non-EEA States, would cover "35% of global emissions (i.e. emissions from domestic and international flights) and about 50% of emissions from international aviation."<sup>380</sup> The 2013 Impact Assessment concluded that, without further market-based measures, "not even the target of stabilisation at 2020 levels would be reached because 50% of the emission growth would not be addressed".<sup>381</sup>

The EU eventually had to back off from its original legislation, namely *Directive 2008/101*, which covered emissions over the high seas as well as over the territory of non-EEA States, and restrict the coverage to intra-EEA flights only. Hence, the amended EU ETS will cover twelve and a half percent of emissions from international civil aviation.<sup>382</sup> The EU ETS does not apply to overflights and, due to the latest amendment, to flights that either arrive at or depart from an aerodrome situated in the territory of an EEA Member State. Unless airlines from non-EEA States exercise their fifth freedom rights,<sup>383</sup> this scheme would not have any impact on them. Such limited applicability of the EU ETS will fail to render significant change in terms of reduction of emissions from international civil aviation. The application of the EU ETS to all emissions from aircraft occurring within the EEA airspace would render the scheme more effective; it will cover more than fifty percent of emissions from international civil aviation. Any endeavor by airlines to evade the EEA airspace, e.g., by detouring, or by shifting their

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<sup>380</sup> *Impact Assessment 2013*, *supra* note 52 at 9. An earlier impact study, conducted by Annela Anger of the Cambridge Centre for Climate Change Mitigation Research, that applied the Energy–Environment–Economy Model for Europe suggested that "total CO<sub>2</sub> emissions in 2020 from the air transport sector will diminish in response to increasing costs by a measure of 0.3%, 3.4% and 7.4% in response to an allowance price of €5, €20 and €40". Annela Anger, "Including Aviation in the European Emissions Trading Scheme: Impacts on the Industry, CO<sub>2</sub> Emissions and Macroeconomic Activity in the EU" (2010) 16:2 J Air Transport Management 100 at 103. A later study performed by Anger and Köhler found that "CO<sub>2</sub> emissions are expected to decline by a maximum of 3.8%" due to the inclusion of aviation in the EU ETS. See Annela Anger & Jonathan Köhler, "Including Aviation Emissions in the EU ETS: Much Ado About Nothing? A Review" (2010) 17:1 Transport Policy 38 at 38. To learn about more impact studies published between 2005 and 2009, see Anger & Köhler, *ibid.*

<sup>381</sup> *Impact Assessment 2013*, *supra* note 52 at 9.

<sup>382</sup> The 2013 Impact Assessment of the EU ETS on aviation reported that the application of the scheme to flights between aerodromes situated in the territory of the EEA Member States will cover only 25 percent of emissions compared to the application of the scheme to aviation in its original form under *Directive 2008/101*. See *ibid.* at 23, 46, 48.

<sup>383</sup> Fifth freedom right authorizes an airline to carry passengers, mail, and cargo between two States outside its own State of registry so long as the flight originates or terminates in its own State of registry. See *International Air Transport Agreement*, 7 December 1944, 171 UNTS 387, art 1(1); Dempsey, *Public International*, *supra* note 65 at 24. Unless the concerned States are parties to the *International Air Transport Agreement*, *ibid.*, such right has to be negotiated and, consequently, granted through bilateral air services agreement between States.

hubs from European cities to cities of non-EEA States close to the EU, so that they can avoid application of the EU ETS, will only increase their costs.<sup>384</sup> In the case of detouring, the costs will increase since aircraft will need to fly more distances that will, in effect, require more fuel. Unless the EU ETS costs more than the fuel costs,<sup>385</sup> airlines would not resort to such flight plan.<sup>386</sup>

Commercial airlines are in a profit-making business and will employ every method possible to ensure lesser emissions in intra-EEA flights without declining profit. Airlines do not make money when their aircraft are on the ground; they make money when their birds fly. Moreover, replacing older aircraft with newer ones involves huge investment.<sup>387</sup> Therefore, the European routes, where the EU ETS applies, will be served by most fuel-efficient, younger aircraft and other routes by less fuel-efficient, older aircraft.<sup>388</sup> Such a possibility was also foreseen by the EU in its 2006 Impact Assessment of the ETS on aviation.<sup>389</sup> Unfortunately, the consequences of such practices were not considered in that Assessment.<sup>390</sup> These would include carbon-leakage since use of less fuel-efficient, older aircraft will keep emissions at their present level.<sup>391</sup> Since emissions occurring anywhere on earth can accelerate climate change and

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<sup>384</sup> See also Meltzer, *supra* note 113 at 120–21; Jan Vespermann & Andreas Wald, “Much Ado about Nothing? – An Analysis of Economic Impacts and Ecologic Effects of the EU-Emission Trading Scheme in the Aviation Industry” (2011) 45:10 Transportation Research Part A: Policy and Practice 1066 at 1074.

<sup>385</sup> “[C]ost containment is among the most important objectives for airlines in the 21st century.” Paul Stephen Dempsey & Laurence E Gesell, *Airline Management Strategies for the 21st Century*, 2d ed (Chandler, Ariz: Coast Aire Publications, 2006) at 493. For more discussion on airline’s costs, see *ibid*, ch 11.

<sup>386</sup> See Meltzer, *supra* note 113 at 121–22; Havel & Mulligan, *supra* note 281 (“such avoidance manoeuvres are not likely to prove commercially sensible” at 19).

<sup>387</sup> For the new Airbus aircraft list prices for 2014, see Airbus, Press Release, “New Airbus aircraft list prices for 2014” (13 January 2014), online: Airbus Press Centre <[www.airbus.com/presscentre/pressreleases/press-release-detail/detail/new-airbus-aircraft-list-prices-for-2014/](http://www.airbus.com/presscentre/pressreleases/press-release-detail/detail/new-airbus-aircraft-list-prices-for-2014/)>. For the prices of Boeing commercial aircraft, see Boeing, “Commercial Airplanes: Jet Prices”, online: Boeing <[www.boeing.com/company/about-bca/index.page%23/prices#/prices](http://www.boeing.com/company/about-bca/index.page%23/prices#/prices)>.

<sup>388</sup> See e.g. Meltzer, *supra* note 113 at 120; Gudo Borger, “All things not being equal: Aviation in the EU ETS” (2012) 3:3–4 Climate L 265 at 280 (IOS Press); Vespermann & Wald, *supra* note 384 at 1074.

<sup>389</sup> See EC, *Commission Staff Working Document: Accompanying document to the Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community: Impact Assessment of the inclusion of aviation activities in the scheme for greenhouse gas emission allowance trading within the Community*, SEC(2006) 1684 (Brussels: EC, 2006) at 52, online: European Commission <[ec.europa.eu/clima/policies/transport/aviation/docs/sec\\_2006\\_1684\\_en.pdf](http://ec.europa.eu/clima/policies/transport/aviation/docs/sec_2006_1684_en.pdf)>.

<sup>390</sup> In fact, the 2006 Impact Assessment was criticized by aviation representatives: “EU aviation interests...argued that the study did not adequately account for the economic effects of extending the ETS to aviation. Non-EU interests...argued that the study gave insufficient consideration to the impacts of extending the ETS to international aviation felt outside of the EU.” Reagan, *supra* note 12 at 381 [footnotes omitted].

<sup>391</sup> See Meltzer, *supra* note 113 at 120; Veno, *supra* note 287 at 686.

global warming, the potential for national or regional efforts like the EU ETS to significantly reduce emissions is doubtful.

In contrast to unilateral measures, a multilaterally agreed-to market-based measure can extend beyond the border of any State and can even cover aircraft emissions over the high seas over which no State has jurisdiction.<sup>392</sup> Participation in such a measure will be greater than any unilateral measure since multilateral measures are adopted with necessary consent from States.<sup>393</sup> If every State develops its own model of market-based measures, it will not bring any benefit to the environment. Implementation of such measures to foreign companies before obtaining necessary consent from the respective foreign State can be risky, which can be observed from the above discussion.<sup>394</sup> Such national or regional measures may or may not have any connection with the protection of the environment:<sup>395</sup> “as the impact of climate change becomes more severe, climate change may serve as a pretext for all kinds of protectionist policies.”<sup>396</sup> More unilateral measures will give rise to more fragmented approaches worldwide, creating chaos.<sup>397</sup> Hardeman argues that a global framework for aviation is required chiefly to

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<sup>392</sup> See e.g. Theodore Konstadinides, “When in Europe: Customary International Law and EU Competence in the Sphere of External Action” (2012) 13:11 German LJ 1177 at 1192–93 (HeinOnline) (“it is a long-established principle of customary international law that no state may unilaterally subject any part of the high seas to its sovereignty since the open sea is not part of its territory” at 1192).

<sup>393</sup> See Abeyratne, “Emissions”, *supra* note 204 (“[a]n inherent advantage of mutual agreement is that it provides for certainty in relation to the participation of the covered foreign aircraft operators and facilitates the enforcement of obligations under the Scheme” at 368). Reagan argues that, “as nearly all countries with international aviation operators are members of the ICAO, developing emissions reduction measures through the ICAO would increase participation from all primary international aviation stakeholders.” Reagan, *supra* note 12 at 381 [footnote omitted].

<sup>394</sup> See section 5.5, *above*.

<sup>395</sup> See Shaffer & Bodansky, *supra* note 177 (“[u]nilateral action can often be tailored to benefit national economic interests over foreign ones, bestowing a competitive advantage on particular states and their constituencies, especially powerful ones” at 40); de Chazournes, *supra* note 159 (“[a] point to be borne in mind is that environmental protection is seldom the only motive for [unilateral] measures: political, strategic, social and especially, economic considerations may also be present” at 319).

<sup>396</sup> Hartmann, *supra* note 85 at 187. See also de Chazournes, *supra* note 159 at 321; Meltzer, *supra* note 113 at 117.

<sup>397</sup> Hemington argues that, “without a global approach to emissions regulation, airlines could ‘be subject to a patchwork of varying, unilateral programs throughout the world.’” Tate L Hemington, “Why Airlines Should Be Afraid: The Potential Impact of Cap and Trade and Other Carbon Emissions Reduction Proposals on the Airline Industry” (2010) 75:3 J Air L & Com 741 at 772 [footnote omitted] (HeinOnline). Ciolino argues:

A second concern with the authorization of the Directive, as a unilateral environmental measure, is its potential to lead to fragmentation of measures to address aviation emissions. This fragmentation, with different programs adopted by individual countries, will create a “political maelstrom,” and instigate repeat challenges within the WTO on whether the imposition of these measures on members, without their consent, is based on protectionist motives.



“avoid a patchwork of conflicting and potentially overlapping national and regional policies”.<sup>398</sup> Such unilateral measures will encounter more challenges creating “a period of uncertainty and increased tensions due to these competing regulatory measures”.<sup>399</sup> This will not only halt “any forward action in efforts to address climate change, but also [undermine] the effectiveness of these [unilateral] measures as tools to address environmental problems.”<sup>400</sup> Coordination among States is warranted to effectively check emissions from aviation that contribute to climate change and global warming.

As economic measures, market-based measures concern money. Hence, any unilateral market-based measure like the EU ETS will encounter opposition from other States in the absence of clear guidelines concerning the use of revenues generated through such measures. No State likes to contribute to the national treasury of another State without consent. Concurrently, no State is authorized to dictate how another State may use its funds even if the former has any contribution. The principle of sovereignty permits every State to freely take decisions on its internal or external affairs, which include the choice of an economic system.<sup>401</sup> The principle of non-intervention prohibits “all States or groups of States to intervene directly or indirectly in internal or external affairs of other States.”<sup>402</sup> In contrast to unilateral measures, the question of transparency would not arise in a multilaterally agreed-to measure with clear guidelines, due to the requirement of consent of other States. With States’ consent, a separate international body or a new branch/section within the established bodies, e.g., ICAO, can be set up to deal with the revenues generated from such multilateral measure. As stated before,<sup>403</sup> although guidelines regarding the use of auction proceeds are provided, EU Member States are accorded discretion regarding the use of such revenues generated from auction under the EU ETS.<sup>404</sup> Certainly, this failed to please the non-EEA States and was one of the reasons that ignited the abovementioned responses and retaliatory actions.<sup>405</sup>

To achieve their environmental goals, market-based measures need to cover a variety of gases that contribute to the environmental problem the measure attempts to redress. With necessary consent from States to cover a number of gases, the scope of multilateral market-based measures can be greater than unilateral ones. In the absence of such consent, it is highly likely that any endeavor to include various gases in any unilateral market-based measure will meet with widespread resistance from foreign States. In aviation, apart from CO<sub>2</sub>, aircraft emissions of relevance to climate change and global warming include water vapor (H<sub>2</sub>O),

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Ciolino, *supra* note 157 at 1182 [footnotes omitted]. See also Koh, *supra* note 338 at 139.

<sup>398</sup> Hardeman, *supra* note 70 at 27.

<sup>399</sup> Ciolino, *supra* note 157 at 1182.

<sup>400</sup> *Ibid* [footnote omitted].

<sup>401</sup> See *Nicaragua Case*, *supra* note 115 at 108.

<sup>402</sup> *Ibid*.

<sup>403</sup> See section 2, *above*.

<sup>404</sup> See Ahmad, “EU Emissions”, *supra* note 30 at 1; *Directive 2008/101*, *supra* note 10 at 6, 9.

<sup>405</sup> See e.g. Obura, *supra* note 292. In July 2014, while speaking about Aeroflot’s plan to lodge an appeal against the fine charged by the EU against that Russian flag carrier, Vitaly Savelyev, Director General of Aeroflot, stated “Who will tell us where these funds will go?” “Russia’s Aeroflot”, *supra* note 311.

nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>),<sup>406</sup> sulfur oxides (SO<sub>x</sub>O), and soot.<sup>407</sup> Compared to CO<sub>2</sub>, the other gases and particles emitted by aircraft have shorter atmospheric residence times and remain concentrated near flight routes.<sup>408</sup> Nonetheless, these emissions can lead to radiative forcing<sup>409</sup> that is regionally located near the flight routes for some components, e.g., ozone (O<sub>3</sub>),<sup>410</sup> and contrails,<sup>411</sup> contrary to emissions that are globally mixed, e.g., CO<sub>2</sub> and methane (CH<sub>4</sub>).<sup>412</sup> Aircraft emitted nitrogen oxides (NO<sub>x</sub>), i.e. NO and NO<sub>2</sub> jointly, participate in ozone chemistry and accelerate climate change and global warming.<sup>413</sup> Aircraft emitted water vapor, sulfur oxides (that form sulfate particles), and soot play both direct and indirect roles in ozone chemistry.<sup>414</sup> However, compared to CO<sub>2</sub>, science has not developed enough to determine with sufficient certainty the actual effects of non-CO<sub>2</sub> gases on climate change and global warming.<sup>415</sup> These non-CO<sub>2</sub> gases must nevertheless be taken into account, since emissions of non-CO<sub>2</sub> gases will increase over time, if left unregulated, and, as mentioned

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<sup>406</sup> Nitric oxide and nitrogen dioxide are jointly termed nitrogen oxides (NO<sub>x</sub>).

<sup>407</sup> The World Bank, “Air Transport and Energy Efficiency”, Transport Papers, TP – 38 (February 2012) at 31, online: World Bank <siteresources.worldbank.org/INTAIRTRANSPORT/Resources/TP38.pdf> [The World Bank]; IPCC, “Summary for Policymakers: Aviation and the Global Atmosphere” in Joyce E Penner et al, eds, *Aviation and the Global Atmosphere: A Special Report of IPCC Working Groups I and III in collaboration with the Scientific Assessment Panel to the Montreal Protocol on Substances that Deplete the Ozone Layer* (Cambridge: Cambridge University Press, 1999) 1 at 3 [IPCC, “Summary: Aviation”]. See also ICAO, “Environmental Protection: Contaminants”, online: ICAO <www.icao.int/environmental-protection/Pages/Contaminants.aspx>.

<sup>408</sup> IPCC, “Summary: Aviation”, *supra* note 407 at 3.

<sup>409</sup> Radiative forcing is defined as “the change in net (down minus up) irradiance (solar plus longwave; in W m<sup>-2</sup>) at the tropopause after allowing for stratospheric temperatures to readjust to radiative equilibrium, but with surface and tropospheric temperatures and state held fixed at the unperturbed values.” It is a measure for “quantifying and ranking the many different influences on climate change”. Radiative forcing provides “a limited measure of climate change as it does not attempt to represent the overall climate response.” Nonetheless, since “climate sensitivity and other aspects of the climate response to external forcings remain inadequately quantified, it has the advantage of being more readily calculable and comparable than estimates of the climate response.” Piers Forster et al, “Changes in Atmospheric Constituents and in Radiative Forcing” in Susan Solomon et al, eds, *Climate Change 2007: The Physical Science Basis: Working Group I Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (New York: Cambridge University Press, 2007) 129 at 133.

<sup>410</sup> Ozone is one of the greenhouse gases and one of the common air pollutants. See *ibid* at 135.

<sup>411</sup> See The World Bank, *supra* note 407 at 31–32. Contrails, which are triggered from aircraft emitted water vapor, “tend to warm the Earth’s surface, similar to thin high clouds.” IPCC, “Summary: Aviation”, *supra* note 407 at 7.

<sup>412</sup> See IPCC, “Summary: Aviation”, *supra* note 407 at 3.

<sup>413</sup> Aircraft emitted NO<sub>x</sub> more effectively produces ozone in the upper troposphere than do an equivalent amount of emissions at the surface. In response to NO<sub>x</sub> increases, ozone in the upper troposphere and lower stratosphere – the flying zone of subsonic aircraft – is expected to increase. In these regions, ozone precursor (NO<sub>x</sub>) residence times rise with altitude. See *ibid* at 3, 6.

<sup>414</sup> See *ibid* at 4.

<sup>415</sup> See *ibid* at 6; Preston, Lee & Hooper, *supra* note 77 at 52–53. See also Barton, “Tackling”, *supra* note 155 at 320–21.

above, non-CO<sub>2</sub> emissions can lead to radiative forcing.<sup>416</sup> Non-governmental organizations have criticized the EU ETS for leaving aviation's non-CO<sub>2</sub> impacts unaddressed.<sup>417</sup>

Nonetheless, where the higher scientific understanding of the effects of CO<sub>2</sub> failed to lead to any global market-based measure addressing CO<sub>2</sub>, it would be very difficult to include non-CO<sub>2</sub> gases emitted by aircraft in the EU ETS,<sup>418</sup> which has already encountered substantial opposition from non-EEA States. In fact, as noted before,<sup>419</sup> the EU planned to address emissions of NO<sub>x</sub> through legislation to be proposed by the European Commission in 2008.<sup>420</sup> However, no such legislation has ever been proposed. Regulating non-CO<sub>2</sub> emissions from aviation would be easier through a multilateral mechanism, due to the requirement of consensus, than it would be through a unilateral one. It is suggested that a multilateral measure should address non-CO<sub>2</sub> impacts of aviation in the near future, in order to effectively restrain emissions from international civil aviation.<sup>421</sup>

The effectiveness of any legal mechanism hinges on the compliance and enforcement of that mechanism and, to ensure compliance and enforcement, provisions on non-compliance and their effective implementation are necessary. The EU ETS contains the following relevant provisions: failure to surrender enough allowances to cover all its emissions at the end of each year will lead to a fine of 100 euros per tonne of carbon emitted over the limit set by *Directive 2003/87*, and continued failure may lead to an operating ban on the delinquent airline. However, as discussed earlier, it is highly likely that exercise of these rights under *Directive 2008/101* will bring about a trade war that is detrimental to the environment.<sup>422</sup> Again, one can question the legitimacy of the operating ban since such ban cannot be justified under the *Chicago Convention* or, in the absence of necessary environmental provisions to this effect, under the bilateral or multilateral agreements that the EU and the EEA States

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<sup>416</sup> See Preston, Lee & Hooper, *supra* note 77 at 53.

<sup>417</sup> See *ibid* at 48. In fact, the European Parliament and a significant number of NGOs have urged the European Commission to propose the inclusion of nitrous oxide. See Staniland, *supra* note 78 at 159.

<sup>418</sup> See also Preston, Lee & Hooper, *supra* note 77 at 53.

<sup>419</sup> See section 5.3, *above*.

<sup>420</sup> See *Directive 2008/101*, *supra* note 10 at 5–6.

<sup>421</sup> Preston, Lee & Hooper, *supra* note 77 at 53, state:

If we consider that the level of scientific understanding regarding CO<sub>2</sub> is high, and yet international policy commitment to its mitigation took many years to negotiate then it is fair to assume that policy to address the non-CO<sub>2</sub> impacts will take some time. This creates a dilemma as to whether to focus policy efforts on CO<sub>2</sub> alone or whether this focus should be split between the CO<sub>2</sub> and the non-CO<sub>2</sub> impacts of aviation, at the risk of making political consensus all the more difficult. This challenging issue has yet to be resolved, yet for the industry to be seriously considered as moving towards a sustainable future, it is imperative that these non-CO<sub>2</sub> impacts are addressed.

See also Barton, "Tackling", *supra* note 155 at 320–21.

<sup>422</sup> See section 5.5.4, *above*.

have with non-EEA States.<sup>423</sup> Under the *Chicago Convention*, failure to meet minimum ICAO standards is the only ground that can justify imposing an operating ban on the airlines of foreign States.<sup>424</sup> However, no ICAO standard that resembles the EU ETS has yet to be set. The establishment of a multilateral market-based measure for international civil aviation would set standards that could justify imposing an operating ban. A multilateral mechanism should contain non-compliance provisions. Compared to unilateral mechanisms, such provisions will be easier to enforce in such a case due to the necessary consent of States, the lesser presence of resistance to the mechanism, and thereby the absence of the risk of legitimate retaliatory action from another State.

It appears that ICAO prefers multilateralism to unilateralism since, inter alia, Assembly Resolutions dealing with climate change always suggest this preference of the Organization, and the ICAO Council did not hesitate to join the twenty-six non-EEA States against the EU ETS by adopting a declaration in November 2011 that opposed the scheme. Like ICAO, most international organizations support and promote multilateralism. The United Nations (UN) also supports multilateralism in addressing environmental issues.<sup>425</sup> Principle 12 of the *Rio Declaration* provides, inter alia, that:

Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.<sup>426</sup>

The same language can be found in *Agenda 21*,<sup>427</sup> which was produced simultaneously to the *Rio Declaration* by the 1992 Rio Conference on Environment and Development.<sup>428</sup> Although *Agenda 21* is not legally binding, “it is potentially relevant to interpretation of treaties

<sup>423</sup> For a good discussion on the issue of operating ban under the EU ETS, see de Leon, *supra* note 117 at 297–301.

<sup>424</sup> *Chicago Convention*, *supra* note 118, art 33.

<sup>425</sup> See also Matthew D Kasper, “The Air Transport Association’s Challenge to the European Union’s Extension of Its Emissions Trading Scheme to International Aviation: A Legal Analysis” (2010) 10:1 *Issues in Aviation L & Policy* 145 at 167 (HeinOnline); Ciolino, *supra* note 157 at 1181, n 190.

<sup>426</sup> *Rio Declaration*, *supra* note 149, Principle 12.

<sup>427</sup> “Agenda 21” in *Report of the United Nations Conference on Environment and Development*, vol 1, Resolutions adopted by the Conference, Annex II, UN Doc A/CONF.151/26/Rev.1 (1993) 12 at para1.1, online: UNEP <[www.unep.org/Documents.Multilingual/Default.asp?documentid=52](http://www.unep.org/Documents.Multilingual/Default.asp?documentid=52)>. *Agenda 21* “is a programme of action covering many issues, including climate change...” Birnie, Boyle & Redgwell, *supra* note 149 at 52.

<sup>428</sup> Nonetheless, Sands et al argue that “[t]he Rio Declaration and Agenda 21 did not, however, prohibit *per se* all unilateral environmental measures, an approach which was subsequently endorsed by the WTO Appellate Body (subject to certain conditions being satisfied) and in the WSSD Plan of Implementation.” Sands et al, *supra* note 149 at 195 [footnotes omitted] [emphasis in original]. Likewise, Fox argues: “Notably, however, the language of these documents suggests that unilateral action might be necessary in certain circumstances. By limiting the reach of the principle to those instances when international consensus is “possible,” the statement suggests that unilateral measures may be acceptable when circumstances prevent countries from developing a mutually acceptable approach to a global environmental problem.” Fox, *supra* note 209 at 2519–20. See also Sands, “Unilateralism”, *supra* note 159 at 295–96.

and other instruments adopted in accordance with its provisions.”<sup>429</sup> The *UNFCCC* has not borrowed the same language from the *Rio Declaration*. Nonetheless, one of the principles of the *UNFCCC* is:

The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.<sup>430</sup>

Likewise, the WTO also prefers multilateral environmental agreements to unilateral action.<sup>431</sup> For example, in the *Shrimp-Turtle* decision, the WTO Appellate Body stated that “Clearly, and “as far as possible”, a multilateral approach is strongly preferred.”<sup>432</sup> Additionally, although the decision provides for the adoption of unilateral measures for the protection of the environment, one of the three criteria that have to be satisfied to adopt such measures with extraterritorial effect is that diplomatic efforts to enter into an agreement with the State that is the subject of the measures must have been exhausted before such adoption.<sup>433</sup> Preference for multilateralism in addressing environmental issues by international organizations stems from the fact that environmental problems are global in nature and cannot be effectively dealt with by any single State.<sup>434</sup>

<sup>429</sup> Birnie, Boyle & Redgwell, *supra* note 149 at 52.

<sup>430</sup> *UNFCCC*, *supra* note 21, art 3(5).

<sup>431</sup> See Ciolino, *supra* note 157 at 1181, n 190. However, I am not suggesting that the WTO prohibits unilateral actions for the protection of the environment. In fact, as Shaffer and Bodansky assert, “WTO rules are likely to permit unilateral regulation of greenhouse gas emissions”, particularly when a State has “engaged in multilateral processes in good faith and these processes have stalemated”. However, such regulation has to be applied in “a non-discriminatory manner and meet procedural safeguards of transparency and due process.” Shaffer & Bodansky, *supra* note 177 at 40 [footnote omitted].

<sup>432</sup> *United States – Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 of the DSU by Malaysia (Complaint by Malaysia, India, Pakistan, Thailand)* (2001), WTO Doc WT/DS58/AB/RW at para 124 (Appellate Body Report), online: WTO <docs.wto.org/dol2fe/Pages/FE\_Search/FE\_S\_S006.aspx?Query=%28@Symbol=%20wt/ds58/ab/rw\*%20not%20rw2\*%29&Language=ENGLISH&Context=FomerScriptedSearch&languageUIChanged=true> [*Shrimp-Turtle*].

<sup>433</sup> According to the *Shrimp-Turtle* decision, *ibid*, unilateral action for the protection of the environment is justified subject to three conditions:

- The State taking the measure must have a legitimate interest in the resource that it is seeking to protect;
- The resource concerned must be the subject of international measures aiming to protect them from further endangerment; and
- The State taking the measures must have exhausted prior diplomatic efforts to enter into an agreement with the State that is the subject of the measures.

See Sands, “Unilateralism”, *supra* note 159 at 299–300.

<sup>434</sup> See e.g. Ciolino, *supra* note 157 at 1181.

The principle of cooperation is a principle of international law and, accordingly, one of the important principles of international environmental law.<sup>435</sup> This principle “is the foundation for equitable utilisation, management, and conservation of shared natural resources.”<sup>436</sup> Since the atmosphere is one of the shared natural resources, this principle plays a vital role in the case of any environmental measure dealing with climate change and global warming. This principle essentially requires States to cooperate in addressing climate change and global warming. All international environmental agreements, whether bilateral or multilateral, or whether having regional or global application, affirm this obligation to co-operate.<sup>437</sup> As far as climate change and global warming are concerned, the principle of cooperation can be found in the *Rio Declaration* and the *UNFCCC*.<sup>438</sup> Moreover, the principle of cooperation is “reflected in the decisions and awards of international courts and tribunals”.<sup>439</sup> The International Law Commission’s 2001 *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*,<sup>440</sup> which “essentially codify existing obligations of environmental impact assessment, notification, consultation, monitoring, prevention, and diligent control of activities likely to cause transboundary harm”,<sup>441</sup> requires States to: (a) cooperate to the adoption of appropriate measures “to prevent or minimize the risk of transboundary harm or to minimize its effect”;<sup>442</sup> and (b) consult with States likely to be affected “with a view to agreeing measures to minimize or prevent the risk of harm”.<sup>443</sup> Therefore, all ICAO contracting States must cooperate to reach a multilateral solution that offers better prospects for reducing emissions from aviation than a unilateral one.<sup>444</sup>

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<sup>435</sup> See Birnie, Boyle & Redgwell, *supra* note 149 at 175–84; Sands et al, *supra* note 149 at 203–05. See also Pierre-Marie Dupuy, “The Place and Role of Unilateralism in Contemporary International Law” (2000) 11:1 Eur J Intl L 19 at 22–23.

<sup>436</sup> Birnie, Boyle & Redgwell, *supra* note 149 at 176 [footnote omitted].

<sup>437</sup> See Sands et al, *supra* note 149 at 204. See also Birnie, Boyle & Redgwell, *supra* note 149 at 176.

<sup>438</sup> *Rio Declaration*, *supra* note 149, Principles 7, 27; *UNFCCC*, *supra* note 21, arts 3(3), (5), 4(1), Preamble.

<sup>439</sup> Sands et al, *supra* note 149 at 204. See *Lac Lanoux Arbitration (France v Spain)* (1957), 12 RIAA 281, 24 ILR 101 (Arbitral Tribunal); *MOX Plant Case (Ireland v United Kingdom)*, Case No 10, Provisional Measures (3 December 2001) (International Tribunal for the Law of the Sea); *Case concerning Land Reclamation by Singapore in and around the Straits of Johor (Malaysia v Singapore)*, Case No 12, Provisional Measures (8 October 2003) (International Tribunal for the Law of the Sea); Birnie, Boyle & Redgwell, *supra* note 149 at 176.

<sup>440</sup> “Draft articles on prevention of transboundary harm from hazardous activities” in *ILC Report of 53rd Session*, *supra* note 149, 146 [“Draft articles on prevention”].

<sup>441</sup> Birnie, Boyle & Redgwell, *supra* note 149 at 141.

<sup>442</sup> *Ibid* at 142; “Draft articles on prevention”, *supra* note 440 at 146, arts 3, 4.

<sup>443</sup> Birnie, Boyle & Redgwell, *supra* note 149 at 142; “Draft articles on prevention”, *supra* note 440 at 147, art 9.

<sup>444</sup> Bertele & Mey, *supra* note 161 at 203, contend that, since “[t]he power of political implications of... ecological change have the potential to generate significant upheaval – spiritual and philosophical, as well as economic and social[,] [t]he Western industrial societies, far from being able to truly solve these global problems, will need to band together strategically, simply to ensure their own preservation.”

It will be inappropriate to assume that the unilateral extension of the EU ETS to cover emissions from aviation implies that the EU prefers unilateralism to multilateralism and, hence, does not respect the principle of cooperation. All the EU legislation dealing with emissions from aviation negate that inappropriate assumption. For example, it is stated in *Directive 2008/101*, which originally included aviation in the EU ETS, that the Union, along with its Member states, “shall continue to seek an agreement on global measures to reduce greenhouse gas emissions from aviation”.<sup>445</sup> It is also acknowledged that an international agreement “remains the best way of addressing” the issue of emissions from aviation.<sup>446</sup> Similarly, it is acknowledged in *Regulation 421/2014*, which amended the aviation segment of the EU ETS, that “[a] global approach to addressing emissions from international aviation offers the best prospects for ensuring sustainability in the long run.”<sup>447</sup> It is mentioned that the EU is endeavoring “to secure a future international agreement to control greenhouse gas emissions from aviation”,<sup>448</sup> and the European Commission, on behalf of the Union, will continue to pursue bilateral and multilateral contacts with non-EEA States “in order to promote the use of market-based mechanisms to reduce emissions from aviation”.<sup>449</sup> As discussed, the unilateral initiative was adopted mainly due to the delay at ICAO to reach an agreement on a global market-based measure and, specifically, after ICAO’s CAEP had decided in 2004 to shelve the matter.<sup>450</sup> The EU unilateralism resumed the discussion of global market-based measures at ICAO. In this respect, at least, the EU’s unilateral move deserves admiration.

At present, airlines are willing to reduce their emissions through a single global market-based measure, and have already recommended to States to adopt the same for aviation, as appears from the resolution endorsed at the 69<sup>th</sup> Annual General Meeting of IATA.<sup>451</sup> Since it is the airlines who will be regulated under any prospective market-based measure, it is expected that this willingness on the part of the airlines and their recommendation to governments would motivate States to reach an agreement on a global market-based measure for international civil aviation at ICAO for implementation in 2020.

The foregoing discussion demonstrates that multilateral market-based measures should be preferred to unilateral ones for various reasons. However, unilateral measures should not be rejected in toto. If States follow one single model of market-based measure as the EEA Member States have done, it can bring significant benefit to the environment. The EU ETS can serve as a model in this respect.<sup>452</sup> If non-EEA economically powerful States, like the US, Canada,

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<sup>445</sup> *Directive 2008/101*, *supra* note 10 at 15 [emphasis added].

<sup>446</sup> *Ibid* at 6.

<sup>447</sup> *Regulation 421/2014*, *supra* note 56 at 1.

<sup>448</sup> *Ibid*.

<sup>449</sup> *Ibid* at 2.

<sup>450</sup> See section 3, *above*.

<sup>451</sup> See International Air Transport Association, Press Release, 34, “Historic Agreement on Carbon-Neutral Growth” (3 June 2013), online: IATA <[www.iata.org/pressroom/pr/Pages/2013-06-03-05.aspx](http://www.iata.org/pressroom/pr/Pages/2013-06-03-05.aspx)>; Fiona Harvey, “Airlines agree to curb their greenhouse gas emissions by 2020”, *The Guardian* (4 June 2013), online: The Guardian <[www.theguardian.com/environment/2013/jun/04/airlines-agree-to-curb-greenhouse-gas-emissions](http://www.theguardian.com/environment/2013/jun/04/airlines-agree-to-curb-greenhouse-gas-emissions)>.

<sup>452</sup> See also *Directive 2008/101*, *supra* note 10 at 5. Shaffer & Bodansky, *supra* note 177 at 33, observe that “[o]ther countries frequently model their laws on those” of the US or the EU.

China, and Russia, come forward by adopting their own emissions trading scheme of the same model,<sup>453</sup> it will significantly reduce emissions from aviation globally. Furthermore, airlines from those non-EEA States will be able to avoid complying with the EU ETS, since adoption of such measures by non-EEA States having “an environmental effect at least equivalent to that of”<sup>454</sup> the EU ETS renders airlines of those non-EEA States qualified for exemption from the scheme.<sup>455</sup> A concerted practice of this nature, in the absence of a global market-based measure, can give rise to a global model that will significantly reduce emissions from aviation.<sup>456</sup> Such national or regional, in other words “unilateral”, measures of the same model adopted by economically powerful States will induce other States either to comply with these schemes or, if they want to be exempted, to develop and implement their own schemes following the same model. This inducement will occur because non-compliance by airlines from economically weak States will lead to banning of these airlines by those economically powerful States that will, in consequence, isolate these airlines from the global economy.<sup>457</sup> In addition to ensuring access to these lucrative markets, States will model their market-based measure on the EU ETS

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<sup>453</sup> This author, in a policy paper regarding Canada-EU relationship co-authored by Professor Armand de Mestral, recommended that “Canada might introduce an emissions trading scheme applicable only to Canadian aircraft.” de Mestral & Ahmad, “EU Emissions”, *supra* note 253 at 6. Motaal, *supra* note 62 at 24, argues: “Even if the aviation industry chooses to attack the EU aviation ETS, a constructive way to do so would be to explore the built-in “exit” from the scheme that the EU crafted—that of “equivalent measures”. The EU says that any airline belonging to a country that takes equivalent climate-mitigation measures to those of the EC can be exempted from the ETS. Why have the airlines not explored this option?” See also Koh, *supra* note 338 at 140.

<sup>454</sup> *Directive 2008/101*, *supra* note 10 at 5.

<sup>455</sup> See *ibid* at 5, 14.

<sup>456</sup> The EU itself has recognized such potential. See *ibid* (“[b]ilateral arrangements on linking the Community scheme with other trading schemes to form a common scheme or taking account of equivalent measures to avoid double regulation could constitute a step towards global agreement” at 5).

<sup>457</sup> On the issue of blacklisting by the US and the EU for safety reasons, Dempsey argues that, “[w]hen economically powerful States, such as the [US] and the [EU], blacklist a nation’s carriers, the economic impact can be severe.” Dempsey, *Public International*, *supra* note 65 at 79. This author explained how blacklisting by the US and the EU can affect economically feeble States in the following terms:

It is true that the global economy does not reside exclusively in the US or Europe. However, a huge portion of global economy resides exclusively in the US or the EU. The US and most of the EU countries fall within the High Income and the Upper Middle Income category, according to the classification prepared by the World Bank. The currencies of these economically strong countries are stronger than those of most economically weak countries. Hence, most feeble countries desire to obtain access to the markets of these economically strong countries to generate more revenue. These feeble countries export their products mainly to economically strong countries, such as the US and the EU countries, to get more value of their products. If the US or the EU countries impose a ban on those countries, it is highly likely that these feeble countries will lose money for want of suitable buyer. One can appreciate that more suitable buyer, more profit; less suitable buyer, less profit.

Ahmad, “Achieving Global Safety”, *supra* note 204 at 110 [footnotes omitted].



simply because it is easier to adopt an existing system, which has been “developed through relatively sophisticated technical administrative processes”, than to attempt to reinvent a system without possessing the necessary resources available to the US and Europe.<sup>458</sup>

As mentioned, the European Commission, on behalf of the EU, will continue to pursue bilateral and multilateral contacts with non-EEA States “in order to promote the use of market-based mechanisms to reduce emissions from aviation”.<sup>459</sup> It is suggested that, rather than stubbornly imposing the EU ETS, the Union should spend more time and effort in pursuing such contacts with non-EEA States. If States fail to reach an agreement in 2016, the EU should vigorously attempt to convince non-EEA economically powerful States to adopt national or regional market-based measure modelled on the EU ETS.<sup>460</sup> So far, the Union has not been successful in this respect, as discussed above.<sup>461</sup>

While developing a market-based measure modeled on the EU ETS, it needs to be assured that any new measure must not suffer from surplus of emission allowances that largely weakened the scheme. More surplus of allowances cause the carbon price to drop and, without a higher carbon price, companies included in the scheme will not find the necessary incentive to change their behavior. A higher carbon price is one of the requisites for an emissions trading scheme, like the EU ETS, to work effectively to achieve its environmental objective. This observation equally applies to multilateral market-based measures.<sup>462</sup> The EU is aware of this weakness of the EU ETS and is taking action to deal with the surplus of emission allowances.<sup>463</sup>

## 6. CONCLUSION

By reason of its unilateral action, the EU has gained a first-mover advantage in international civil aviation by its ability to use its norms, namely, the necessity of reducing emissions from international civil aviation, to define the problem with emissions from aviation that contribute to climate change and global warming, and to propose a solution, namely, a global market-based measure for international civil aviation. For the same reason, States have shown up at the negotiating table at ICAO, are discussing the issue of aviation emissions more vehemently than before, and have reached an agreement to develop a global market-based measure for international civil aviation. Importantly, due to the EU ETS, ICAO has speeded up its processes toward the reduction of emissions from international civil aviation.

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<sup>458</sup> Shaffer & Bodansky, *supra* note 177 at 33.

<sup>459</sup> *Regulation 421/2014*, *supra* note 56 at 2.

<sup>460</sup> Van Schaik & Schunz, *supra* note 1 at 172, argue that, “[f]or the EU to be considered as an effective normative power, it would have to act predominantly according to norms, use its norms in its external policies and manage to define what is normal (that is, exert influence) at the international level.” According to them, to successfully exercise its power, the EU must have the capacity to influence the non-EEA States, “influence [being] defined as the ‘modification of an actor’s behavior, beliefs or preferences by acts of another actor exerted for the purpose of reaching the latter actor’s aims’”. See also *ibid* at 183–84.

<sup>461</sup> See section 5.7, *above*.

<sup>462</sup> See also Allan Cook, “Accounting for Emissions: From Costless Activity to Market Operations” in Freestone & Steck, *supra* note 76, 59.

<sup>463</sup> See European Commission, “Structural reform of the European carbon market”, online: European Commission <[ec.europa.eu/clima/policies/ets/reform/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/reform/index_en.htm)>.

Nonetheless, it has been demonstrated that the success of unilateral measures, like the EU ETS, in achieving their environmental goals is limited. Although unilateral environmental measures can produce new environmental norms, they frequently face protest from other States that often leads to trade war and damages necessary multilateral efforts. Additionally, the scope, intensity, and geographic extent for the mitigation of emissions is lesser in the case of unilateral measures than it is in the case of multilateral measures.<sup>464</sup> For example, the geographic scope of such measures is limited to the sovereign territory of State or group of States, whereas emissions occurring anywhere in the world hasten climate change and global warming due to the “transboundary nature of emissions”.<sup>465</sup> In the case of the EU ETS, it appears from the above discussion that the inclusion of aviation in the scheme has encountered objection from non-EEA States, giving rise to friction. It has thus been temporarily amended to limit its area of application to only within the EEA airspace.

The importance of the retreat of the EU from its original proposal, due to intense political pressure from non-EEA economically powerful States, should not be underestimated. This will affect its role as norm entrepreneur in other sectors. For example, although the EU has an obligation to reduce emissions from both aviation and maritime sectors under the *Kyoto Protocol*—working through ICAO and the IMO, respectively<sup>466</sup>—the European Commission has yet to include the shipping industry in the EU ETS, because, arguably, it is frightened by huge political pressure in attempting to cover international aviation.<sup>467</sup>

To preserve its leading role in addressing climate change and global warming, the EU should change its course of action. Rather than only becoming successful in getting non-EEA States to the negotiating table, the EU should devote more time and effort to ensuring the smooth progression of that negotiation toward the achievement of an effective multilateral regime.<sup>468</sup> In international civil aviation, such a regime to effectively combat climate change and global warming can be achieved by agreeing to a global market-based measure. The EU’s 2013 Impact Assessment of ETS on aviation, which was followed by the proposal from the European Commission to amend the scheme, suggested:

To address the problem of the global “gap” in emission coverage, any amendments to the EU ETS for aviation should aim to further facilitate the transition to a global [market-based measure] and to remove the political obstacles at the international

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<sup>464</sup> See Preston, Lee & Hooper, *supra* note 77 (“[a] global ETS could...have a greater scope for emissions mitigation and further the cause of a more sustainable aviation industry more effectively than regional initiative such as the EU ETS” at 54).

<sup>465</sup> *Ibid* at 53.

<sup>466</sup> *Kyoto Protocol*, *supra* note 26, art 2(2).

<sup>467</sup> See Böhler, *supra* note 363 at 101.

<sup>468</sup> Reagan *supra* note 12 at 351–52, argues that, rather than including international aviation in the EU ETS, the EU “should vigorously pursue multilateral international aviation emissions reductions through the International Civil Aviation Organization (ICAO).” Van Schaik & Schunz, *supra* note 1 at 178, argue that, to be regarded as a normative power, the EU “would also need to successfully upload these norms, or the positions derived from them, to the global level.” See also Reagan, *supra* note 12 at 383–84.

level without compromising on the environmental integrity and the principle of non-discrimination.<sup>469</sup>

A negotiation cannot be successful if any of the parties to that negotiation remains adamant to its position.<sup>470</sup> The EU has already recognized this and, as a consequence, first deferred the application of the ETS to airlines of non-EEA States for one year, and finally amended the scheme by limiting its scope of application to intra-EEA flights only. Now, non-EEA States have to recognize the same by making any compromise that is necessary to reach an agreement regarding the implementation of a global market-based measure from or, if possible, before 2020 since, according to the Intergovernmental Panel on Climate Change, “[w]arming of the climate system is unequivocal”,<sup>471</sup> and the processes of climate change and global warming are continuing at a much higher speed than before.<sup>472</sup> All ICAO contracting States must collaborate among themselves, recognizing the international law principle of cooperation, and must endeavor to reconcile the differences between developing and developed States that appears to be the stumbling block in this respect. They must move the negotiation forward at a much higher speed than before.

Finally, although the EU ETS cannot effectively diminish emissions from aviation, the fact that it will cover twelve and a half percent of emissions from international civil aviation should not be neglected. In the absence of a global market-based measure, the lead that the EU has taken deserves admiration from an environmental perspective since it addresses a substantial amount of global emissions.<sup>473</sup> As discussed, adoption of market-based measures of the same type by economically powerful States, in the absence of a global market-based measure, can significantly reduce emissions from aviation. The EU has taken the lead; other economically powerful States should step in to consolidate the global effort against climate change and global warming.

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<sup>469</sup> *Impact Assessment 2013*, *supra* note 52 at 11.

<sup>470</sup> The International Court of Justice, in the *North Sea Continental Shelf Cases*, asserted that insistence on one’s “own position without contemplating any modification to it” cannot lead to a meaningful negotiation. *North Sea Continental Shelf Cases (Federal Republic of Germany v Denmark; Federal Republic of Germany v Netherlands)*, [1969] ICJ Rep 3 at para 85.

<sup>471</sup> “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased”. IPCC, “Summary for Policymakers” in Stocker, *The Physical Science Basis*, *supra* note 222, 3 at 4.

<sup>472</sup> See *ibid.*

<sup>473</sup> See e.g. Fahey, *supra* note 76 (“in all, EU ETS represents a major success on the part of the EU to regulate where other global governance mechanisms had failed” at 1260).