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Legal Issues Concerning the EU Unilateral Aviation ETS: A Chinese Perspective

Wenqiong Liang* & Liying Zhang**

ABSTRACT: *Since January 2012, carbon emissions from international aviation have been formally included in the European Union Emission Trading Scheme (EU ETS). Airlines from outside the EU have struggled to find an escape from this arguably unfair decision. China, the United States, Russia, India, and representatives from nineteen other countries signed the Moscow Joint Declaration in February of 2012 to demonstrate opposition to the EU's unilaterally enacted aviation carbon tax. Originally, the EU had no intention of canceling or suspending its plan to tax the aviation industry's carbon emissions; however, after international pressure from a number of opposing countries and airlines, the EU decided to suspend the implementation of the aviation portion of the ETS. This article will discuss the legal issues surrounding the EU ETS and its potential impact on China's aviation industry.*

1. INTRODUCTION

International air transportation emissions from all flights taking off and landing in the European Union (EU) were to be included in the EU's Emissions Trading Scheme (ETS) Directive¹ beginning on January 1, 2012.² Based on a 2010 International Transport Forum report, carbon dioxide emissions from aviation inside the EU have grown much more than in other sectors of transportation, increasing by 85% from 1990 to 2004.³ The problem of greenhouse gasses from aviation should be solved inside the EU countries;⁴ however, many other countries have been influenced by the EU's [Directive](#). For example, China's airlines Air China, China Eastern Airlines, and China Southern Airlines are among the thirty-three airlines that the EU levied its carbon tax on.⁵

Implementation of the EU ETS is expected to increase operating costs of the aforementioned airlines⁶ by increasing costs associated with purchasing emission allowances, calculating historical annual emissions, establishing statistical systems, and creating and maintaining regulatory bodies. According to estimates from the International Air Transport Association (IATA), the EU ETS could impose increased costs of billions of dollars on the

¹ Directive 2008/101/EC of the European Parliament and of the Council of 19 Nov. 2008 Amending Directive 2003/101/EC so as to Include Aviation Activities in the Scheme for Greenhouse Gas Emission Allowance Trading Within Community, 2009 O.J. (L 8) 3 [hereinafter Directive 2008/101/EC].

² JANE A. LEGGETT ET AL., CONG. RESEARCH SERV., R42392, AVIATION AND THE EUROPEAN UNION'S EMISSION TRADING SCHEME 3 (2012).

³ The Org. for Econ. Cooperation and Dev. [\[OECD\]](#), *Reducing Transport Greenhouse Gas Emissions: Trends & Data* 12–13 (2010).

⁴ Annela Anger & Jonathan Köhlerb, *Including Aviation Emissions in the EU ETS: Much Ado About Nothing? A Review*, 17 *TRANSP. POL'Y* 38, 39–40 (2010).

⁵ See, e.g., Michael Martina, *EU Parries China's Jab on Aviation Emissions Scheme*, REUTERS, July 6, 2011, available at <http://www.reuters.com/article/2011/07/06/uk-china-eu-aviation-idUSLNE76502Z20110706> (“At least 16 Chinese airlines have the right to fly to Europe, with 11 operating regular services. Among the most affected will be Air China Ltd . . . , China Southern Airlines Co Ltd . . . and China Eastern Airlines Corp Ltd . . .”).

⁶ See, e.g., Hua Lan, *Comments on EU Aviation ETS Directive and EU - China Aviation Emission Dispute*, 45 *REVUE JURIDIQUE THEMIS* 589, 595, 600 (2011) (stating that the EU ETS “would dramatically increase the [Chinese] airlines’ operations costs and hinder further development of China’s burgeoning aviation industry.”).

international aviation industry as a whole.⁷ According to the Civil Aviation Administration of China (CAAC), the EU's carbon tax will impose an additional 8 million Chinese Yuan (CNY) (equivalent to over 1.2 million U.S. dollars (USD)) on China's airlines in 2012, 3 billion CNY per year by 2020, and 17.6 billion CNY in cumulative spending by 2020.⁸ Air China is expected to emit 740,000 more tons of carbon dioxide than they were allotted in 2012, which would be subject to taxation.⁹ According to the European Climate Exchange, allowances per ton of carbon dioxide were traded at 9.93 Euro (EUR) (equivalent to almost 11.5 USD) in 2012, and therefore Air China would pay 7.38 million EUR in EU carbon taxes that same year (equivalent to 64.76 million CNY).¹⁰ On February 6, 2012, the CAAC, without approval from the appropriate government departments, formally prohibited Chinese airlines from participating in the EU ETS, denouncing the carbon tax as a guise to raise taxes and fees.¹¹ Consequently, only governments can solve the controversy brought about by imposing carbon taxes on international aviation.

A significant amount of controversy has arisen regarding whether the International Civil Aviation Organization (ICAO) has the authority to control carbon emissions produced from international aviation. For example, in *Air Trans. Assoc. of America v. Sec. of State for Energy and Climate Change*,¹² the claimants argued that "the European Union is exceeding its powers under international law by not confining its emissions trading scheme to wholly intra-European

⁷ INT'L AIR TRANSP. ASS'N, FINANCIAL IMPACT OF EXTENDING THE EU ETS TO AIRLINES 1 (2007), available at <http://www.endseurope.com/docs/70606b.pdf> ("We estimate that this additional cost will average €3.48-7.47 per passenger on intra-EU markets and €18.77-40.12 per passenger on extra-EU markets.").

⁸ See, e.g., *Robbery in the Skies: Chinese Airlines to Pay EU 8 Million Yuan per Year in Carbon Tax*, CHINA ECON. WEEKLY (May 17, 2011), <http://www.chinanews.com/cj/2011/05-17/3044986.shtml>.

⁹ Zhikun Li & Xuezhu Wang, *Analysis of Impact to Aviation Industry from 29 Countries to Moscow Declaration Proposal*, CIVIL AVIATION RES. NET OF CHINA (Feb. 23, 2012), <http://news.carnoc.com/list/214/214795.html>.

¹⁰ *Id.*

¹¹ See *China Refuses to Pay the "Green Charge"*, INT'L HERALD TRIBUNE (Feb. 10, 2012), http://news.xinhuanet.com/herald/2012-02/10/c_131402943.htm.

¹² Case C-366/10, *Air Transp. Ass'n of Am. v. Sec'y of State for Energy & Climate Change*, 2011 ECJ EUR-Lex LEXIS 4905 (2011).

flights and by including within it those sections of international flights that take place over the high seas or over the territory of third countries.”¹³ The claimants also argued that the “[ETS] for international aviation . . . should be negotiated and adopted under the [framework] of the ICAO.”¹⁴ Cooperation between the EU and the ICAO may lead to opportunities that enable the ICAO General Assembly to make effective decisions, thereby encouraging the international community to find a better way to solve the [growing](#) problem of carbon emissions.¹⁵ Without going through the ICAO, the EU unilaterally incorporated international aviation in its ETS, including all flights departing and arriving in airports within its territory.¹⁶ Several affected parties immediately challenged whether this move violated the rules of international law.¹⁷

In addition to the challenge posed by the Air Transport Association of America (ATAA), many countries also demonstrated political and diplomatic opposition.¹⁸ On November 2, 2011, the ICAO urged the EU and its member countries to cooperate with the international community, explicitly voicing opposition to the EU’s unilateral scheme for the first time.¹⁹ In February 2012, twenty-three countries, including the United States, China, Brazil, and India, sent delegates to participate in an anti-carbon tax meeting in Moscow. There, they executed and adopted the "Joint Declaration of the Moscow Meeting" (Moscow Declaration) and objected to the inclusion

¹³ *Id.* at ¶ 42.

¹⁴ *Id.*

¹⁵ See Press Release, Eur. Comm’n, Stopping the Clock of ETS and Aviation Emissions Following Last Week’s International Civil Aviation Organization (ICAO) Council (Nov. 12, 2012), *available at* http://europa.eu/rapid/press-release_MEMO-12-854_en.htm (“Stopping the clock’ creates space for the political negotiations and demonstrates confidence on the side of the EU that together with international partners we will succeed in ICAO to agree on meaningful international action.”).

¹⁶ See Int’l Civil Aviation Org. [ICAO], *Inclusion of International Civil Aviation in the European Union Emissions Trading Scheme (EU ETS) and Its Impact 2*, ICAO Doc. C-WP/13790 (Sept. 30, 2011), *available at* http://www.greenaironline.com/photos/ICAO_C.194.WP.13790.EN.pdf (“The inclusion of international civil aviation in the EU ETS is a unilateral measure and in contravention to the articles of the Chicago Convention and its Preamble . . .”).

¹⁷ See *Air Transp. Ass’n of Am.*, 2011 ECJ EUR-Lex LEXIS at ¶ 3.

¹⁸ See discussion *infra* Part 5.1.

¹⁹ See ICAO, *supra* note 16, at 5–6 (“Representatives of [the signing countries] . . . [o]ppose the EU’s plan to include all flights by non-EU carriers . . . which is inconsistent with applicable international law.”).

of aviation emissions in the EU ETS.²⁰ The Moscow Declaration set forth nine measures detailing how countries could demonstrate their opposition.²¹ According to the EU ETS, airlines would not make their first tax payment to the EU until April 2013.²² However, on November 12, 2012, thanks to the efforts of the protesting countries, Connie Hedegaard, EU Commissioner for Climate Action, recommended the following to the twenty-eight EU member states: “The EU ‘stops the clock’ when it comes to enforcement of the inclusion of aviation in the EU ETS to and from non-European countries until after the ICAO General Assembly next autumn.”²³ In other words, the EU agreed to suspend imposing carbon emission taxes on flights of non-EU airlines in and out of the EU, while continuing to impose the tax on flights within the EU airspace.²⁴ However, the European Commission has already enacted the aviation carbon tax,²⁵ therefore, the aviation carbon tax has only been suspended, not canceled.

2 THE EU ETS UNDER THE KYOTO PROTOCOL FRAMEWORK

2.1 CARBON EMISSIONS TRADING UNDER THE KYOTO PROTOCOL FRAMEWORK

The EU ETS is based on a carbon ETS mechanism found in the Kyoto Protocol framework.²⁶ On November 19, 2008, the European Parliament and the Council of the EU proposed Directive 2008/101/EC.²⁷ This directive, which inducted the international aviation industry into the EU ETS system, became effective on February 2, 2009, and was formally

²⁰ Joint Declaration of the Moscow Meeting on Inclusion of International Civil Aviation in the EU-ETS, Feb. 22, 2012, *available at* http://www.greenaironline.com/photos/Moscow_Declaration.pdf [hereinafter *Moscow Declaration*].

²¹ Measures included “[s]uspending current and future discussions and/or negotiations to enhance operating rights for EU airlines/aircraft operators” and “[i]mposing additional levies/charges on EU carriers/aircraft operators.” *Id.*

²² *See* Directive 2008/101/EC, *supra* note 1, at 12.

²³ Press Release, Eur. Comm’n, *supra* note [15](#).

²⁴ *See id.*

²⁵ *See* Directive 2008/101/EC, *supra* note 1, at 14.

²⁶ Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 17, Dec. 11 1997, 2303 U.N.T.S. 148 [hereinafter *Kyoto Protocol*].

²⁷ Directive 2008/101/EC, *supra* note 1, at 3.

implemented on January 1, 2012.²⁸ Through this Directive, the EU unilaterally included international air transport into its ETS without the approval of the ICAO,²⁹ demanding that the carbon emissions of all flights taking off and landing in airports within EU territory *must* comply with relevant legislation. As one might imagine, this decision was challenged by many of the affected parties.

2.2 THE EU DIRECTIVE INCORPORATED THE AVIATION INDUSTRY INTO THE EU ETS

One of the EU's purposes for including aviation emissions trading into the EU ETS was to legitimize the practice of forcing a carbon emissions tax on the aviation industry. Nevertheless, the goal of eliminating greenhouse gas is implausible. Emissions trading is one of the three emissions reduction mechanisms used in the Kyoto Protocol.³⁰ The other two are the Clean Development Mechanism (CDM)³¹ and Joint Implementation (JI).³² These three mechanisms are applied to various emissions reduction projects, but the EU ETS is the first large international carbon ETS.³³ The EU initiated the ETS in 2005 to address global climate change.³⁴ The implementation of Directive 2008/101/EC will require aircraft arriving in or leaving the EU to pay for carbon emissions for its full range of flight (in excess of the allowances

²⁸ See *id.* at 16–17.

²⁹ See Case C-366/10, *Air Transp. Ass'n of Am. v. Sec'y of State for Energy & Climate Change*, 2011 ECJ EUR-Lex LEXIS 4905, ¶ 64 (2011).

³⁰ The Mechanisms Under the Kyoto Protocol: Emissions Trading, the Clean Development Mechanism and Joint Implementation, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/kyoto_protocol/mechanisms/items/1673.php (last visited Dec. 8, 2014).

³¹ See *id.*

³² See *id.*

³³ See A. Denny Ellerman & Barbara K. Buchner, *The European Union Emissions Trading Scheme: Origins, Allocation, and Early Results*, 1 REV. ENVTL. ECON. & POL'Y 66, 66 (2007).

³⁴ See 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) O.J. (L 275) 32.

according to the relevant quota standard of the trading system).³⁵

2.3 THE EU'S PURPOSE FOR INCLUSION OF THE AVIATION INDUSTRY IN ITS ETS

Some scholars saw the EU ETS as creating both economic and environmental policy; for example, P.h.D. candidate Michael Buenger asked whether the EU's policy should be considered to be “[g]reening the [p]lanet, [g]reen [p]rotectionism or [b]oth?”³⁶ He asserted that the EU aimed to “use its vast regulatory power . . . to drive its economies to progressively incorporate environmental concerns as root considerations in commercial policies.”³⁷ Buenger also asserted that the EU is attempting to protect its domestic economic interests, which could lead to establishing its dominance in the international aviation market.³⁸

First, in accordance with the provisions of Directive 2008/101/EC regarding allowance allocation, various airlines of the EU member countries will receive a higher number of allowances due to their considerably larger historical emissions.³⁹ This is because most EU countries fit within the Directive's “Grandfather Clause.”⁴⁰ According to some estimates, fees imposed on non-EU airlines will substantially exceed those of the airlines of EU member

³⁵ See Directive 2008/101/EC, *supra* note 1, at 4.

³⁶ Michael L. Buenger, *The EU's ETS and Global Aviation: Why "Local Rules" Still Matter and May Matter Even More in the Future*, 41 DENV. J. INT'L L. & POL'Y, 421, 428 (2013).

³⁷ *Id.* at 431.

³⁸ *Id.* at 462–63 (“The Aviation Directive seeks to achieve the dual goals of attacking climate change and protecting domestic economic interests by incentivizing alternative behavior making existing behavior more expensive to continue while capitalizing on the effort. If airlines must buy carbon credits and the cost of carbon increases, passengers are more likely to demand greater efficiency and innovation in the delivery of aviation services if for no other reason than to reduce associated expenses. And, if the EU is ahead of the pack in altering its behavior and transforming its economy, better for its citizens and its future economic prospects.”).

³⁹ See Intergovernmental Panel on Climate Change [IPCC], *Climate Change 2007- Mitigation of Climate Change (Working Group III Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change)*, at 758 (2007).

⁴⁰ See Michael Faure, *Effectiveness of Environmental Law: What Does the Evidence Tell Us?*, 36 WM. & MARY ENVTL. L. & POL'Y REV. 293, 308 (2012)

countries.⁴¹ Secondly, the EU is hoping to assume a favorable position in the allocation of carbon emission allowances. The European Commission monitors allowance allocation⁴² and distributes such allowances based on historical ton-kilometer data.⁴³ Consequently, the EU is both the referee and the athlete; in other words, the fair and equitable implementation of Directive 2008/101/EC is questionable. The deeper purpose behind the EU's decision is its desire to have a louder voice in negotiations on international policy, market mechanisms, and strategies to combat climate change.⁴⁴ Indeed, Buenger argues that the "ETS is evidence of the EU's effort to link environment well-being to the Common Market's economic interests."⁴⁵

3 THE QUOTA STANDARD OF THE EU ETS AND ITS IRRATIONALITY

3.1 THE QUOTA STANDARD OF THE EU ETS

The EU ETS is the largest market of carbon in the world.⁴⁶ From 2005 to 2009, the volume of traded carbon increased from 322 million tons to 6,326 million tons, and its value

⁴¹ Press Release, Latin Am. & Caribbean Air Transp. Ass'n, ALTA, the Latin America and Caribbean Air Transport Association Urges Latin American Governments to Strongly Reject Unilateral EU Emissions Trading Scheme (June 6, 2011), *available at* <http://www.alta.aero/2010/sites/default/files/ALTA%20EU-ETS%20060711%20English.pdf> ("The EU-ETS favors European airlines over non-EU airlines, which will have to pay for a greater proportion of their credits, and favors non-European airlines operating a hub adjacent to the territory of the EU, as credits are only required for the leg of the flight that enters or leaves the EU. The airlines that will be most adversely affected are those that are situated furthest from Europe, without a nearby hub."); *but cf.* Martin Schaefer et al., *The Economic Impact of the Upcoming EU Emissions Trading System on Airlines and EU Member States—an Empirical Estimation*, 2 EUR. TRANSP. RES. REV. 189, 189 (2010) ("European network carriers will be affected by a competitive disadvantage compared to non-EU airlines.").

⁴² See Directive 2008/101/EC, *supra* note 1, at 19.

⁴³ See *id.* at 8.

⁴⁴ See ECOLOGIC INST., INST. FOR EUR. ENVTL. POL'Y, & CENT. EUR. U., FINAL REPORT FOR THE ASSESSMENT OF THE 6TH ENVIRONMENT ACTION PROGRAMME 119 (2011) ("In relation to international environmental governance, it should be noted that the EU emerged as a global 'green leader' in the second half of the 1980s. Observers have identified, among other factors, the withdrawal of the U.S. as a leader in international environmental policy making, the EU's (competitive) interest in promoting its own rather stringent environmental standards at the international level, and the EU's desire to shape its identity as a civilian world power as possible reasons for the active role of the EU in international environmental policy making.") (internal citations omitted).

⁴⁵ Buenger, *supra* note 36, at 432.

⁴⁶ See Zhen-Hua Feng, et al., *Estimating Risk for the Carbon Market Via Extreme Value Theory: An Empirical Analysis of the EU ETS*, 99 APPLIED ENERGY 97, 98 (2012).

grew from 8.2 billion USD to 1,184.74 billion USD.⁴⁷ Each unit of emission quota represents a great value, therefore the allocated quota is particularly important. While the EU officially began to impose the aviation carbon emissions tax on January 1, 2012, the Union Registry system was not adopted until May 2, 2013.⁴⁸ Airlines may now register and open an account in the EU to obtain emissions allowances free of charge by their administering member state.⁴⁹ In 2012, the EU was expected to allocate 181 million emissions allowances to airlines.⁵⁰

The EU ETS originally had three stages of implementation: the first trading period between January 1, 2005, and December 31, 2007; the second trading period between January 1, 2008, and December 31, 2008; and the third trading period between January 1, 2013, and December 31, 2020.⁵¹ According to the provisions of Article 3a, Chapter II, of the Directive,⁵² the aviation industry was included in the EU ETS as of January 1, 2012. However, the year stipulated in the Directive is the last year of the second trading period of the EU ETS. Therefore, the period from January 1, 2012, to December 31, 2012, is actually the first stage of the aviation emissions trading system, and in the following eight years (from January 1, 2013, to December 31, 2020), the aviation industry will begin the third stage of the aviation ETS within the EU ETS.

According to the Directive, the EU's total annual allowances for the aviation industry can be divided into two parts: free allowances, allocated to the aircraft operators of the member

⁴⁷ *Id.*

⁴⁸ Richard T. Ainsworth, *Phishing & VAT Fraud in CO2 Permits: DICE in the EU-ETS Now, DICE in Power Tomorrow* 4 (Boston University School of Law, Working Paper No. 14-74, 2014).

⁴⁹ Oliver Heaton, *Carbon Markets Update*, GREEN AVIATION (June 29, 2014, 5:58 AM), <http://greenaviation.org/news>.

⁵⁰ Xue Yanping, *The Fallout of EU Aviation Carbon Emission Quotas*, CHINA TODAY, http://www.chinatoday.com.cn/ctenglish/se/txt/2011-10/28/content_401393.htm (last visited Jan 9, 2015).

⁵¹ EUR. COMM'N, *THE EU EMISSIONS TRADING SYSTEM (EU ETS) 4* (2013), *available at* http://ec.europa.eu/clima/publications/docs/factsheet_ets_en.pdf.

⁵² Directive 2008/101/EC, *supra* note 1, at 8, 17.

countries, and auction allowances.⁵³ The total number of EU allowances allocated to the aviation industry in 2012 represents 97% of their “historical aviation emissions,” or the average of the annual emissions from international aircraft operating within EU territory between 2004 and 2006.⁵⁴ Fifteen percent of the total allowances were to be reserved for auction,⁵⁵ therefore, the proportion of the free allowances received by aircraft operators in 2012 should be 85% of the total number available.⁵⁶

In the third trading period, the total number of allowances will be reduced to 95% of their historical aviation emissions.⁵⁷ This period still has an auction quota of 15%; however, this percentage could increase along with the upward shift in the overall environmental objectives of the EU as a whole.⁵⁸ In addition, during this stage 3% of the total allowances will “be set aside in a special reserve for aircraft operators” who have initiated EU-bound flights for the first time after 2012, or to those aircraft operators whose average annual growth rate of ton-kilometer data exceeded 18% from 2010 to 2014.⁵⁹ Therefore, within the third trading period, the free allowances received by aircraft operators will be 82% of the total amount available.⁶⁰

The European Commission and its member countries determine the allocation of free annual allowances to aircraft operators.⁶¹ Specifically, this is done in accordance with the test

⁵³ See *id.* at 6.

⁵⁴ *Id.* at 8.

⁵⁵ *Id.*

⁵⁶ See Ling-Yun He & Yi-Xuan Gao, *Including Aviation in the European Union Emissions Trading Scheme: Impacts on Industries, Macro-economy and Emissions in China*, 4 INT'L J. ECON. & FIN. 91 (2012) (“85% of these allowances are granted for free [in the first trading period].”).

⁵⁷ *Id.* “For the period referred to in Article 11(2) beginning on 1 January 2013 . . . the total quantity of allowances to be allocated to aircraft operators shall be equivalent to 95% of the historical aviation emissions multiplied by the number of years in the period.” *Id.*

⁵⁸ Directive 2008/101/EC, *supra* note 1, at 10.

⁵⁹ *Id.* at 8.

⁶⁰ *Id.* at 8, 10.

⁶¹ See *Monitoring, Reporting and Verification of EU ETS Emissions*, EUR. COMM’N, http://ec.europa.eu/clima/policies/ets/monitoring/index_en.htm (last updated Dec. 11, 2014).

reports on the historical ton-kilometer data, as submitted by the aircraft operators in those countries.⁶² Aircraft operators of the countries pay for carbon emission rights in excess of the free quota portion in accordance with the emission test reports annually issued by the EU.⁶³ As stated above, the EU is both the referee and the athlete under that system; therefore, the fairness of the arrangement is questionable at best.

3.2 EXEMPTION ARRANGEMENTS AND THEIR PURPOSE

In accordance with the provisions of the Directive, “[w]here a third country adopts measures for reducing the climate change impact of flights departing from that country which land in the [European] Community, the Commission . . . shall consider options available in order to provide for optimal interaction between the [ETS] and that country’s measures.”⁶⁴ In other words, countries that have adopted “equivalent measures” to control carbon emissions may receive tax exemptions.⁶⁵ For example, if third countries use energy efficient and environmentally friendly products, they can obtain tax-free status.⁶⁶ By offering this alternative, EU countries could receive an additional benefit reflective of another economic and strategic intention of the Directive: the hope that airlines around the world will use energy-efficient products. This notion may also stimulate the export of the EU’s most advanced equipment, featuring low-carbon and energy-saving characteristics.

⁶² See Directive 2008/101/EC, *supra* note 1, at 9.

⁶³ See *id.* at 16.

⁶⁴ *Id.* at 14.

⁶⁵ See *id.* at 5 (“The Community and its Member States should . . . encourage third countries to take equivalent measures. If a third country adopts measures, which have an environmental effect at least equivalent to that of this Directive, to reduce the climate impact of flights to the Community, the Commission should consider the options available in order to provide for optimal interaction between the Community scheme and that country’s measures . . .”).

⁶⁶ See Press Release, Eur. Comm’n, Revision of Energy Taxation Directive – Questions and Answers (Apr. 13, 2011), available at http://europa.eu/rapid/press-release_MEMO-11-238_en.htm?locale=en.

3.3 IRRATIONALITY IN DETERMINING THE BASE PERIOD

The allowances of the EU ETS are granted by means of the baseline allocation method.⁶⁷ For example, at the outset of the third trading period, the average international aircraft emissions of EU countries from 2004 to 2006 is used as the base, a 5% reduction is set against that base as the emissions reduction target, and then a portion of the remaining 95% is allocated to the aircraft operators of various countries.⁶⁸ The allowances are initially made according to the 2010 ton-kilometers data test reports submitted by aircraft operators and are then allocated to aircraft operators based on the ton-kilometers emission ratio.⁶⁹

This allocation method allows the aircraft operators that have [generated](#) greater historical emissions on EU routes to receive more free emission allowances during the base period. This undoubtedly provides an advantage to major EU aircraft operators.⁷⁰ The EU ETS base period for China begins at the initial stage of China's civil aviation industry, [which is](#) marked by low historical emissions.⁷¹ [Therefore](#), China's civil aviation industry is unlikely to obtain many free allowances.⁷² Additionally, because Chinese airlines use relatively new aircraft with high passenger capacities,⁷³ there will be more overall routes and flights over the next few years.⁷⁴

⁶⁷ See *Guidance on Allocation Methodologies*, at 7–8 (Apr. 14, 2011), available at ec.europa.eu/clima/policies/ets/cap/allocation/docs/gd2_allocation_methodologies_en.pdf.

⁶⁸ *Id.* at 45.

⁶⁹ See He & Gao, *supra* note 56, at 91.

⁷⁰ See He Wang & Jia Yuan Kun, *The EU Carbon Tax Disproportionately Impacts International Airlines*, CARNOC NEWS (Mar. 30, 2011), <http://cdn.carnoc.com/list/187/187285.html>.

⁷¹ See Xiaoqin Zhu & Jun Wang, *An Analysis of EU ETS and China's Countermeasures*, 14:5 J. JIANGSU U. 13, 15 (2012).

⁷² See, e.g., Melanie Hart, *Europe Moves to Limit Aviation Emissions, China Follows*, CTR. FOR AM. PROGRESS (Aug. 1, 2011), <http://www.americanprogress.org/issues/green/news/2011/08/01/10195/europe-moves-to-limit-aviation-emissions-china-follows/> (Identifying China's argument "that any attempt to hold Chinese airlines to the same emission standards as developed countries would violate the UNFCCC guiding principle of 'common but differentiated responsibilities.'").

⁷³ See *China's Aviation Industry Only Receives 3% of the Carbon Tax Exemptions*, 21ST CENTURY BUS. HERALD (Dec. 27, 2011), <http://finance.jrj.com.cn/industry/2011/12/27020911917351.shtml>.

⁷⁴ See, e.g., INT'L TRANSP. FORUM, STATISTICS BRIEF: TRENDS IN THE TRANSPORT SECTOR 2 (Dec. 2013), available at <http://www.internationaltransportforum.org/statistics/StatBrief/2013-12-Trends-Perspective.pdf> ("The biggest

Therefore, allocations obtained according to base period data will likely [be insufficient](#) to meet China's developing needs. Data from 2010 reveals that Chinese airlines only receive about 3% of the available allowances, whereas several major EU airlines obtain as much as 10%.⁷⁵ This illustrates the imbalance inherent in the initial allocations.

Because Chinese airlines use relatively new aircraft, their per capita emission levels are below average.⁷⁶ It therefore follows that Chinese airlines should have fewer tax burdens due to [their](#) lower carbon emissions. However, according to the EU's current allowance allocation criteria, Chinese airlines must pay a hefty amount in order to purchase emission allowances,⁷⁷ which directly weakens China's competitiveness in the market.⁷⁸ In accordance with the current Directive, China's civil aviation industry will have to continue its high-speed development with fewer allocations, fighting to compete with the EU aviation industry while paying higher costs in carbon emissions control.⁷⁹

3.4 THE UNREASONABLE NATURE OF THE CARBON PENALTY AND ITS DEEPER PURPOSE

According to the operational procedures of the Directive, "carbon emission taxes are only calculated from the last stop before landing in Europe."⁸⁰ This [results](#) in a tendency to punish long haul direct flights. Airlines may transfer or increase stopover points, select an airport closer to Europe as a stopover point, or adjust the flight schedule to avoid recording higher carbon

growth in passenger numbers took place in markets linked to emerging economies [in 2011]. China, the second largest domestic passenger air transport market, recorded the strongest growth. Traffic expanded by 9.5% reaching 85.8 billion passenger-kilometers in 2012.").

⁷⁵ *China's Aviation Industry Only Receives 3% of the Carbon Tax Exemptions*, *supra* note 73 ("Data shows that Chinese airlines only receive about 3% of carbon quotas, while their EU counterparts receive around 10%.")

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ He & Gao, *supra* note 56, at 96–97.

⁸⁰ *Study Finds ETS Would Likely Withstand WTO Challenge*, AERO-NEWS NETWORK (Apr. 14, 2012), <http://www.aero-news.net/index.cfm?do=main.textpost&id=3c2fd5da-b7fd-452b-ae11-1d69b964e743>.

emissions.⁸¹ This arrangement will in fact lead to increased carbon emissions.⁸² The true purpose of such arrangements is to weaken the competitiveness of the air transport industry of other countries,⁸³ because passengers would normally choose EU airlines for the last leg of their trip into the EU.⁸⁴ Furthermore, such arrangements that increase carbon emissions are contrary to the emissions reduction objectives of the Kyoto Protocol.⁸⁵

According to the quota allocation method provided for in the Directive, airlines will receive a proportion of free allowances that correspond to their reported ton-kilometer data in respect to the benchmark for the reporting base year.⁸⁶ If the airlines fail to report this data, they receive no allowances and any allowances for carbon dioxide emissions discharged during flights over Europe must be purchased at auction.⁸⁷ Furthermore, if the airlines flying into the EU fail to submit their data within the prescribed time, they will face a penalty imposed by their administering member country.⁸⁸ Take the following civil penalties imposed by the United Kingdom for example: Aircraft operators who failed to submit emissions monitoring plans by

⁸¹ See Sascha Albers et al., *Will the EU-ETS Instigate Airline Network Reconfigurations?*, 15 J. AIR TRANSP. MGMT. 1, 3 (2009); LEGGETT ET AL., *supra* note 2, at 21; Interview with Barry Moss, Dir., AVOCET Ins. Consultants, CAPA Cntr. for Aviation (May 27, 2011), <http://centreforaviation.com/analysis/eu-ets-and-the-aviation-industry-between-a-rock-and-a-hard-place-52146> (discussing ways airlines avoid the EU ETS).

⁸² See ERNST AND YOUNG & YORK AVIATION, INCLUSION OF AVIATION IN THE EU ETS: CASES FOR CARBON LEAKAGE 40 (2008) (“The traffic deviation/carbon leakage via a non-EU hub will result in an additional 112 kg CO₂ per passenger. This represents 13% extra CO₂ per passenger This type of traffic deviation/carbon leakage is not only environmentally harmful but also economically detrimental.”).

⁸³ He & Gao, *supra* note 56, at 92.

⁸⁴ See IATA, *supra* note 7, at 2. “This means the average fare for an intra-EU return flight will increase by €2.6 and €5.6, which is rather lower than the assessment of the EC. On a typical economy return fare of €219 this represents an increase of 1.2[%]-2.6%. For extra-EU flights, when the scheme widens in 2012, the increase of €14-[€]30 on the typical economy return fare of €650 represents a more significant 2.2[%]- 4.6% rise.” *Id.*

⁸⁵ See generally Kyoto Protocol, *supra* note 26, at 1–3 (explaining general principles encouraging reduction of carbon emissions and setting forth the framework to accomplish this goal).

⁸⁶ See Directive 2008/101/EC, *supra* note 1, at 8, 9.

⁸⁷ ECONOMETRICA, SUMMARY PAPER: INTRODUCTION OF AVIATION INTO THE EUROPEAN UNION EMISSIONS TRADING SCHEME 2 (2009), available at http://ecometrica.com/assets//aviation_eu_summary.pdf.

⁸⁸ See Directive 2008/101/EC, *supra* note 1, at 13 (“Member States shall ensure that any operator or aircraft operator who does not surrender sufficient allowances by 30 April of each year to cover its emissions during the preceding year shall be held liable for the payment of an excess emissions penalty.”).

January 1, 2012, were punished with a minimum civil fine of 1,500 British pounds (GBP) (equivalent to over 2,200 USD).⁸⁹ Furthermore, the United Kingdom charged an additional 150 GBP penalty for each day of delay for up to ninety days, followed by an initiation of civil collection proceedings.⁹⁰ Therefore, non-compliance with the EU ETS causes airlines to encounter unbearably large penalties, which are passed on to passengers or airway freight clients.⁹¹

4 THE ILLEGALITY OF EU COLLECTION OF AVIATION EMISSION TAXES TO BE LEVIED ON AIRLINES OUTSIDE THE EU'S JURISDICTION

4.1 COLLECTION OF AVIATION CARBON EMISSION TAXES IS A VIOLATION OF THE SOVEREIGNTY OF OTHER COUNTRIES

The EU ETS has unilaterally included the carbon emissions of airlines from various countries that enter into, or depart from the EU into its carbon emissions calculation system without receiving either consent or authorization from the ICAO.⁹² Therefore, the EU ETS violates the jurisdiction of other countries regarding their aviation greenhouse gas emissions within their own borders. It also violates the joint administrative rights of those countries over their public domain and airspace.⁹³ However, the EU [believes](#) its legislation has committed no such violations,⁹⁴ as it [concluded that](#) it did not interfere with the airspace of other countries when developing the aviation emissions legislation, and the airspace of other countries will

⁸⁹ See Aviation Greenhouse Gas Emissions Trading Scheme Regulations, 2009, 2009 No. 2301, Part 5, ¶ 24, available at http://www.legislation.gov.uk/ukxi/2009/2301/pdfs/ukxi_20092301_en.pdf (providing that a failure to submit or a late application for an emissions plan before January 1, 2012, results in a civil penalty of 500 GBP; after January 1, 2012, the fine increases to 1,500 GBP plus 150 GBP each day that it is late.).

⁹⁰ *Id.*

⁹¹ Alison Leung & Harry Suhartono, *China Airlines Won't Pay EU Carbon Tax*, REUTERS (Jan. 6, 2012, 11:39 PM), <http://www.reuters.com/article/2012/01/07/uk-airlines-carbon-tax-asia-idUSLNE80600Y20120107>.

⁹² XI WANG, INTERNATIONAL ENVIRONMENTAL LAW 108 (2d ed. 2005) (on file with author).

⁹³ See *id.* at 109.

⁹⁴ See, e.g., *Climate Change/Aviation: EU Will Have Hard Time Imposing ETS Globally*, EUR. INFO. SERV. (Oct. 9, 2013) (explaining that the EU believes it can impose the EU ETS on other countries “particularly as the directive was validated with respect to international law by [] EU Court of Justice ruling [Case C-366/10].”) (on file with author).

continue to be recognized by the EU.⁹⁵ The international community generally believes that the collection of aviation carbon emission taxes involving the airspace of other countries should be carried out on a bilateral or multilateral basis.⁹⁶ As Prashant Sukul, the Joint Secretary of the India Ministry of Civil Aviation, pointed out, “market-based measures, such as charging [for] emissions on routes to/from India [and Europe], should be discussed and agreed upon on a bilateral basis and included in bilateral agreements.”⁹⁷ The ICAO explained that the EU’s decision to unilaterally enact legislation to include the aviation industry in the EU emission rights trading mechanism disregarded the concerns of non-EU countries, and violated Article 1 of the Chicago Convention [with respect to the](#) principle of national sovereignty.⁹⁸

The authors believe that, in accordance with the principle of sovereignty, a state has jurisdiction over its territory, people, things, and events within its [borders](#). Therefore, no country may violate the sovereignty of another country while exercising its own sovereignty. Here, the EU ETS has included the airlines of several non-EU countries. Regarding airspace, an entire flight from one country to airports in certain EU member countries—which could cover thousands of kilometers—is subject to carbon emission calculations. In reality, the air route involving EU airspace is only a small section of the journey, which undoubtedly infringes upon the sovereignty of other countries. According to a calculation performed by ATAA, a flight from San Francisco to London would discharge 29% of its emissions over United States airspace, 37% over Canadian airspace, 25% over the high seas, and only 9% over EU airspace.⁹⁹

⁹⁵ See *Greening the Skies, European Transport Policy*, ECONOMIST (Jan. 7, 2012), available at <http://www.economist.com/node/21542454>.

⁹⁶ See LEGGETT ET AL., *supra* note 2, at 22.

⁹⁷ Cathy Buyck, *More than 20 Countries to Declare Joint Opposition to EU ETS*, AIR TRANSP. WORLD (Oct. 3, 2011), <http://atwonline.com/international-aviation-regulation/news/more-20-countries-declare-joint-opposition-eu-ets-1003>.

⁹⁸ ICAO, *supra* note 16, at 3–4.

⁹⁹ See Lauren E. Mullen, *The European Union Overstepping Its Bounds and Borders: The Extraterritorial Effect of*

This information shows that the EU has made an excessive regulatory expansion by upholding its aviation ETS. The EU's unilateral inclusion of the full range aircraft emissions from flights flying to, and leaving from the EU in its trading system results in de facto jurisdiction being exercised over pollutant emissions of aircraft flying over other countries' airspace. By creating legislation that implicates the interests of other countries, the EU is violating the notion of the sovereignty of other countries.

4.2 THE EU ETS IS IN VIOLATION OF THE PROVISION OF THE CHICAGO CONVENTION ON AVOIDANCE OF UNILATERAL IMPOSITION OF GREENHOUSE GAS EMISSION CHARGES

As noted previously, under the EU ETS, participants must purchase quotas at auction or through the carbon trading market. These purchases are equivalent to a disguised form of collecting charges and taxes.¹⁰⁰ In Article 15 of the Chicago Convention and the two guiding policy documents promulgated by the ICAO,¹⁰¹ there are provisions on avoiding unilateral implementation of greenhouse gas emission charges. The resolutions of the ICAO General Assembly also explain that the only way an ETS should be implemented is on the basis of mutual consent between the implicated countries.¹⁰² In response, the EU stated that its act is only of an administrative nature and constitutes no charges whatsoever.¹⁰³ The EU also argued that it has accorded a sufficient right of refusal to the parties concerned, namely that they can

the Emissions Trading System and Its Call for Multilateral Action, 74 U. PITT. L. REV. 783, 784 (2013).

¹⁰⁰ See Glen Plant, *Air Transport Association v. Secretary of State for Energy and Climate Change*, 107 AM. J. INT'L L. 183, 184, 190–91 (2013).

¹⁰¹ Convention on International Civil Aviation, art. 15, Dec. 7, 1944, 61 Stat. 1180, 15 U.N.T.S. 295 [hereinafter Chicago Convention]. See ICAO, *Policy and Guidance Material on the Economic Regulation of International Air Transport*, ICAO Doc. 9587 (3d ed. 2008); ICAO, *Manual on the Regulation of International Air Transport*, ICAO Doc. 9626 (2d ed. 2004).

¹⁰² See ICAO, *Assembly Resolutions in Force (as of 4 October 2013)*, at I-94, ICAO Doc. 10022 (2014).

¹⁰³ See Erin Hale & Damian Carrington, *EU Hails Airline Emissions Tax Success*, GUARDIAN (May 15, 2012), <http://www.theguardian.com/environment/2012/may/15/eu-airline-emissions-tax-success>.

choose to limit emissions within the scope of their free allowances.¹⁰⁴ However, countries can also choose to be charged for emissions in excess of the scope of allowances.¹⁰⁵ Furthermore, although the EU countries have acceded to the Chicago Convention, the EU, as a whole, is not a signatory and is therefore not bound by it.¹⁰⁶ The EU pointed out that if other ICAO emission reduction programs are ultimately adopted, then the EU would be willing to modify its own emission reduction programs.¹⁰⁷

The authors are of the view that the right to choose to either purchase quotas at auction or through the carbon trading market is built on the basis of an unfair design. This is because countries with emerging economies developing at a later stage will inevitably be subject to unfair treatment under such arrangements.¹⁰⁸ According to the EU ETS, carbon emissions from 2004 to 2006 will be used as an upper limit in 2012, and any emission beyond this limit must be offset by purchasing allowances.¹⁰⁹ Although developing countries have relatively few existing air routes, their flight frequency is expected to increase.¹¹⁰ Consequently, the proportion of emission allowances available for purchase is likely to gradually increase. Due to the relatively small scale of historical emissions of developing countries, only a small amount of free allowances are

¹⁰⁴ See Plant, *supra* note 100, at 184.

¹⁰⁵ See Hale & Carrington, *supra* note 103.

¹⁰⁶ LEGGETT ET AL., *supra* note 2, at 24.

¹⁰⁷ *Hearing on the European Union's Emissions Trading System Before the S. Comm. on Commerce, Science, and Transportation*, 112th Cong. (2012) (written testimony of Jos Delbeke, Director-General, DG Climate Action, Eur. Comm'n), available at http://www.commerce.senate.gov/public/?a=Files.Serve&File_id=c0d84739-9b7b-4bac-af43-fd02658ad3c9.

¹⁰⁸ See, e.g., Press Release, Latin Am. & Caribbean Air Trans. Ass'n, *supra* note 41 ("With the EU-ETS, Latin American and Caribbean airlines will need to pay significantly higher fees to conduct the same number of flights as the European airlines currently operate.").

¹⁰⁹ See *id.* at 12; Wei Wei, *Aviation Carbon Tax Dispute in the Final Game*, CHINA SEC. NEWSPAPER (June 13, 2012), http://www.cs.com.cn/xwzx/hg/201206/t20120613_3369703.html.

¹¹⁰ See, e.g., AIRBUS, NAVIGATING THE FUTURE: GLOBAL MARKET FORECAST 2012-2031, at 4-5 (2012), available at http://www.airbus.com/company/market/forecast/?eID=dam_frontend_push&docID=25773 ("An Airbus survey conducted recently[] showed that of the 10,000 people questioned worldwide, the majority believed that [they] would fly more in the future. In China and India[,] this number totaled more than 80% of respondents. . . . As well as more flyers, we forecast a continuing expansion of the [w]orld's aviation network, with greater aviation connectivity and more capacity between major population centers helping to drive benefits in terms of jobs, prosperity, and economic growth.").

available, which will not fit the increasing scale of the aviation industries.¹¹¹ In other words, because some countries are developing their own aviation industries, their greenhouse gas emissions will increase and require larger purchases of emission allowances.

Regarding whether the EU is a signatory to the Chicago Convention and bound to the clauses thereof, the authors believe that the EU member countries have acceded to and acknowledged the Convention through a variety of ways, despite the fact that the Chicago Convention was executed before the establishment of the EU. Although the European Court of Justice (ECJ) stated that the ATAA could not use the Chicago Convention to challenge the validity of the Directive,¹¹² its decision was controversial. For example, Glen Plant, a barrister writing for the American Journal of International Law, stated that the ECJ “failed to examine customary norms[,] applying special jurisdictional rules to visits to a foreign country of civil aircraft (and, by way of carefully drawn analogy, ships), where concurrent criminal and quasi-criminal jurisdiction exists in principle in both the territorial state and the state of registry (or flag).”¹¹³ The EU considers itself eligible to act on behalf of its member countries and holds bilateral air services agreement negotiations with other countries, but it also denies that its member countries are eligible to do so.¹¹⁴ However, the bilateral air services agreement is subject to the Chicago Convention’s constraints.¹¹⁵ Thus, if the EU exercises such power, then it would be acting contrary to its obligations under the Chicago Convention.¹¹⁶

¹¹¹ See Xingshan Ma & Dongmei Jiang, *Study on the Emissions Reduction Impacts on International Airlines of China’s Civil Aviation and Its Combating Strategy*, 6 ECOLOGICAL ECON. J. 38, 39 (2012).

¹¹² See LEGGETT ET AL., *supra* note 2, at 24.

¹¹³ Plant, *supra* note 100, at 189.

¹¹⁴ Mark Bisset & Georgina Crowhurst, *Is the EU’s Application of Its Emissions Trading Scheme to Aviation Illegal?*, CLYDE & CO. LLP (Mar. 31, 2011), <http://www.clydeco.com/news/articles/is-the-eus-application-of-its-emissions-trading-scheme-to-aviation-illegal>.

¹¹⁵ *See id.*

¹¹⁶ *See id.*

4.3 THE EU ETS IS CONTRARY TO THE PRINCIPLE OF “COMMON BUT DIFFERENTIATED RESPONSIBILITIES”

The principle of "common but differentiated responsibilities"¹¹⁷ (CBDR) is the basic principle adopted by the Kyoto Protocol.¹¹⁸ On May 15, 2012, the EU issued warnings to ten Chinese and Indian airlines for failing to submit their previous carbon emissions by the deadline, later determining that these failures were sanctionable offenses that warranted punishment.¹¹⁹ The EU included developing countries like China into its aviation ETS without first obtaining its consent. Such actions clearly violate the principle of CBDR, established by the UN Framework Convention on Climate Change.¹²⁰ Furthermore, this action violates the provisions of the Kyoto Protocol which state that developing countries do not have emission reduction obligations.¹²¹ In order to promote the emission reduction objectives of developed countries, the Kyoto Protocol also provides for the use of three emission reduction mechanisms: joint implementation, emissions trading, and the CDM.¹²² Emission trading is the practice where countries that have exceeded their emissions quotas purchase allowances from other countries that have not. As a result, the total emissions are still maintained or capped within the set limit.¹²³ Therefore, the EU ETS has not treated developed and developing countries equally.

¹¹⁷ “States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.” United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), Principle 7 (Aug. 12, 1992).

¹¹⁸ See Kyoto Protocol, *supra* note 26, at 9.

¹¹⁹ See Wei Wei, *supra* note 108.

¹²⁰ See *id.*

¹²¹ See John Feldon, *The Black Hole in the Kyoto Protocol: Was the Exclusion of Black Carbon Regulation a “Fatal Flaw”?*, 7:2 CLIMATE L. REP. 60, 60 (2007).

¹²² See CLIMATE DEV. AND KNOWLEDGE NETWORK, *THE GLOBE CLIMATE LEGISLATION STUDY: A REVIEW OF CLIMATE CHANGE LEGISLATION IN 33 COUNTRIES* 164 (2013).

¹²³ See, e.g., *The EU Emissions Trading System (EU ETS)*, EUR. COMM’N, http://ec.europa.eu/clima/policies/ets/index_en.htm (last updated Dec. 19, 2014) (“[w]ithin the cap, companies

4.4 INAPPROPRIATENESS OF PROCEDURES

According to Article 2.2 of the Kyoto Protocol, parties shall seek to reduce carbon emissions through the appropriate international institution: the ICAO.¹²⁴ While the EU acknowledges this, it has not confined itself to the ICAO framework when addressing carbon emissions. In accordance with the provisions on the interpretation of the Vienna Convention on the Law of Treaties, no provisions stating "through the [ICAO]" can be interpreted as "not through the [ICAO]."¹²⁵ Neither systematic nor literal interpretation methods are able to justify the viewpoints held by the EU. The EU still lacks a legal basis for bypassing the ICAO and unilaterally addressing an obviously multilateral problem.

In 2009, the ATAA and related airlines took legal action in Britain's High Court, demanding that the EU revoke its aviation ETS.¹²⁶ Britain's High Court asked the ECJ to provide guidance on the matter.¹²⁷ In 2011, the ECJ ruled against the ATAA,¹²⁸ while the CAAC prohibited airlines within the territory of China from participating in the EU ETS.¹²⁹

5 WAYS AND MEANS TO ADDRESS DISPUTES CONCERNING THE EU AVIATION ETS

Several countries and organizations have criticized the EU ETS, and have taken appropriate countermeasures in a widespread manner. For example, the ICAO Council failed to address the EU ETS in its Annual Report, seemingly denying its legitimacy.¹³⁰ Furthermore, the

receive or buy emission allowances which they can trade with one another as needed. . . . The limit on the total number of allowances available ensures that they have a value.”)

¹²⁴ See Kyoto Protocol, *supra* note 26, at 2.

¹²⁵ See Vienna Convention on the Law of Treaties, art. 31, May 23, 1969, 1155 U.N.T.S. 331.

¹²⁶ See Nicola Clark, *Carbon Emission Fees for Flights Upheld*, N.Y. TIMES, Dec. 22, 2011, at B1.

¹²⁷ See *id.*

¹²⁸ See Jed Odermatt, Note, *Case C-366/10 Air Transport Association of America and Others v. Secretary of State for Energy and Climate Change*, 20 COLUM. J. EUR. L. 143, 143 (2013).

¹²⁹ See *China Refuses to Pay the “Green Charge”*, *supra* note 11.

¹³⁰ See ICAO, Annual Report of the Council: 2011, ICAO Doc. 9975 (2012), available at

U.S. airline industry challenged the EU aviation ETS in the United Kingdom,¹³¹ and the U.S. Congress passed a bill prohibiting U.S. airlines from complying with it.¹³² In addition, on February 6, 2012, China's State Council authorized the CAAC to make a public announcement prohibiting Chinese airlines from participating in the EU ETS.¹³³ The China Air Transport Association (CATA) made a similar announcement, declaring that it will never participate in the EU ETS.¹³⁴

The tug-of-war with carbon taxes lasted for nearly a year before hitting a turning point in November 2012, when the European Commission decided to suspend the collection of carbon emission taxes against flights in and out of Europe.¹³⁵ The ICAO General Assembly noted that any attempt to design the new implementation or existing market-based measure (MBM) must be agreed upon by the other members, indirectly rejecting the EU's unilateral carbon tax plan by the MBM agreement.¹³⁶ This is the new result of efforts by the international community to protest the EU ETS. However, the EU approved a new amendment for its Directive. Peter Liese,

http://www.icao.int/publications/Documents/9975_en.pdf.

¹³¹ Case C-366/10, *Air Transp. Ass'n of Am. v. Sec'y of State for Energy & Climate Change*, 2011 ECJ EUR-Lex LEXIS 4905 (2011).

¹³² See generally *European Union Emissions Trading Scheme Prohibition Act of 2011*, Pub. L. No. 112-200, 126 Stat. 1477 (prohibiting U.S. civil aircraft from participating in the EU emissions trading scheme).

¹³³ See Chris Buckley, *China Bans Airlines from Joining EU Emissions Scheme*, REUTERS (Feb. 6, 2012, 5:55 AM) <http://www.reuters.com/article/2012/02/06/us-china-eu-emissions-idUSTRE81500V20120206>.

¹³⁴ See Peter Simpson, *Chinese Airlines Warn They Will Refuse to Pay EU Carbon Tax*, TELEGRAPH (Jan. 5, 2012, 3:05 PM), <http://www.telegraph.co.uk/earth/energy/emissions/8994947/Chinese-airlines-warn-they-will-refuse-to-pay-EU-carbon-tax.html> (“[CATA] was more militant in its response – declaring its members would not co-operate with the ETS and refuse to pay the added tax. It also said it would seek legal action and try and attempt to form an international alliance to scrap the scheme.”).

¹³⁵ See Tristan North, *EU Announces One-Year Delay of Air Carrier Carbon Tax Plan*, WORLDWIDE ERC (Jan. 30, 2013, 10:08 AM), <http://www.worldwideerc.org/Blogs/MobilityLawBlog/Lists/Posts/Post.aspx?List=c020aee5-48ad-47b2-8295-a4cf71ba9e34&ID=166> (reporting that the EU delayed the original carbon tax implementation at a press conference on Nov. 12, 2012); *EU Puts Airline Carbon Tax on Hold for a Year*, PHYS.ORG (Mar. 21, 2013), <http://phys.org/news/2013-03-eu-airline-carbon-tax-year.html> (reporting that the EU suspended implementation until April 2014); *E.U. Reverses Plan for Carbon Tax on U.S. Airlines*, AERO NEWS NETWORK (Mar. 8, 2014), <http://www.aero-news.net/index.cfm?do=main.textpost&id=970beb93-d430-4daf-89ca-0e042371f31f> (reporting that the EU delayed implementation for U.S. flights until 2017).

¹³⁶ *Dramatic MBM Agreement and Solid Global Plan Endorsements Help Deliver Landmark ICAO 38th Assembly*, ICAO (Oct. 4, 2013), <http://www.icao.int/Newsroom/Pages/mbm-agreement-solid-global-plan-endorsements.aspx>.

rapporteur of the European Parliament's Committee on the Environment (ENVI), insisted that the Commission “should act after the next ICAO assembly, in 2016, because there's absolutely no guarantee that the ICAO will have resolved the problem.”¹³⁷ The ENVI voted on the proposal on January 30, 2014.¹³⁸

5.1 FORMING A COALITION TO BOYCOTT THE EU AVIATION DIRECTIVE

In February of 2012, delegates from twenty-three countries, including China, the U.S., Russia, and India, drafted and adopted the Moscow Declaration, unanimously opposing the inclusion of aviation emissions into the ETS, and introducing a package of alternative measures.¹³⁹ The Moscow Declaration encourages signatory countries to employ specific countermeasures, including prohibiting domestic airlines from participating in the ETS, modifying the Open Skies Agreements with EU countries, and suspending or modifying negotiations on expanding the rights of commercial flights.¹⁴⁰ The execution and effective implementation of the Moscow Declaration indicates that jointly responding to the EU Directive through an international coalition was an effective technique. In August 2012, the U.S. State Department and Department of Transportation hosted a meeting with delegates of seventeen other non-European countries in Washington, D.C. to further discuss opposition to the EU ETS.¹⁴¹

Since countries with developed aviation industries outside of the EU received no

¹³⁷ Anne Eckstein, *Aviation in ETS: Liese Backs Commission but Says EU Should be Prepared to Act*, EUROPOLITICS (Nov. 27, 2013), <http://europolitics.eis-vt-prod-web01.cyberadm.net/liese-backs-commission-but-says-eu-should-be-prepared-to-act-art357372-15.html>.

¹³⁸ See *Member States Should Follow MEPs and Back Airspace Emissions Proposals*, VERKEERS WERELD (Jan. 30, 2014), <http://verkeerswereld.nl/milieu/member-states-should-follow-meps-and-back-airspace-emissions-proposal/>.

¹³⁹ Moscow Declaration, *supra* note 20.

¹⁴⁰ *Id.*

¹⁴¹ Christopher F. Schuetze, *U.S. Fights Against E.U. Airline Emissions Plan Heats Up*, N.Y. TIMES (Aug. 6, 2012, 8:25 AM), <http://rendezvous.blogs.nytimes.com/2012/08/06/u-s-fight-against-european-airline-emissions-plan-heats-up/>.

exemption through the process of litigation and negotiations with the EU, their resistance took the form of boycotts. Developing countries like China and India also took similar measures, asking their own domestic airlines to participate in a boycott of the EU ETS.¹⁴² Similarly, the CATA and several Chinese airlines issued a joint statement denouncing the requirements of the EU ETS.¹⁴³

5.2 TECHNICAL MEASURES RELATED TO CARBON EMISSIONS ON AIR ROUTES

The allocation of EU ETS allowances from 2012 to 2020 is based on the revenue ton kilometer (RTK) for the monitoring year, 2010.¹⁴⁴ China has prohibited its domestic airlines from participating in the EU ETS; consequently, Chinese airlines should not take part in arrangements for obtaining higher portions of free allowances. The authors believe that it is advisable to monitor the annual increase of flights; it is also important to note that under the EU aviation ETS, an increase in flights might not guarantee an increase of RTK.¹⁴⁵ If the airlines of various countries should increase the number of flights in the monitoring year, the additional allowances they are eligible to receive will depend on the comparative growth of the RTK increases of other airlines.¹⁴⁶ The EU ETS favors flights with stopovers in countries closer to EU members, potentially increasing the number of stopovers for EU-bound flights.¹⁴⁷ This will actually cause aircraft to burn more fuel and generate more greenhouse gas emissions, resulting

¹⁴² Anurag Kotoky, *India Joins China in Boycott of European Emissions Scheme*, REUTERS (Mar. 22, 2012, 3:10 PM), <http://www.reuters.com/article/2012/03/22/india-eu-emissions-idUSL3E8EM4P920120322>.

¹⁴³ *CATA & Various Parties Announce Joint Statement in Fight Against EU-ETS*, WORLD CIVIL AVIATION RES. NET (Aug. 1, 2011), <http://www.wcarn.com/news/15/15265.html>.

¹⁴⁴ *See, e.g.*, AIR FRANCE-KLM, MANAGEMENT REPORT 2012 84 (2013) (“In 2010, for the first time, air transport operators were . . . required to declare their CO₂ emissions together with their traffic data (revenue ton-kilometers). On the basis of these declarations, the Air France-KLM Group obtained some 23 million free annual quotas for the 2012-2020 period.”).

¹⁴⁵ *See* Andreas Schröder, *Incorporating Aviation into the EU Emissions Trading System - An Assessment of the Economic Impact on Cargo Airlines* (Nov. 30, 2008) (unpublished master’s thesis, Vrije Universiteit Amsterdam).

¹⁴⁶ *See id.*

¹⁴⁷ *See* Albers, *supra* note 81, at 3.

in increased transportation costs and decreased market competitiveness in the aviation industry.¹⁴⁸ This practice is contrary to China's stated intentions,¹⁴⁹ as well as its commitment to reducing greenhouse gas emissions.¹⁵⁰

5.3 IMPROVING MARKET-ORIENTED RESPONSE CAPABILITIES THROUGH THE CLEAN DEVELOPMENT MECHANISM

Under the Kyoto Protocol, it is possible to achieve energy conservation and emission reduction via the Clean Development Mechanism (CDM).¹⁵¹ As of 2012, China had registered for the highest number of CDM projects (1,858 total) and achieved the highest emission reduction (367,754,013 CO₂e/year) out of all participating countries.¹⁵² In accordance with the expanding scale of the Chinese airlines, the airline companies may be required to purchase carbon emission allowances from the carbon trading market. Essentially, the aviation industry seeks “optimal interaction [with] the EU ETS” through alternative mechanisms in order to achieve a dynamic balance in market operational levels between the EU and China.¹⁵³

In formulating the development strategy of Chinese airlines, the authors suggest utilizing environmentally conscious energy projects in order to offset carbon emission. For example, on

¹⁴⁸ See Yan Lu, *The Initial Study on Direct Flights*, 4 CHINA CIV. AVIATION 55, 55 (2007).

¹⁴⁹ See SECOND NATIONAL COMMUNICATION ON CLIMATE CHANGE OF THE PEOPLE'S REPUBLIC OF CHINA 1 (Jan. 1, 2012), available at <http://unfccc.int/resource/docs/natc/chnnc2e.pdf> (explaining that China's government “always attaches great significance to fulfilling its international commitments” including the Kyoto Protocol).

¹⁵⁰ China has “recently adopted air quality policies” such as the “Airborne Pollution Prevention and Control Action Plan in which the Chinese government” acknowledged the need for decreasing coal consumption through “provincial action plans” that cap coal emissions at varying levels for different provinces. LI SHUO & LAURI MYLLYVIRTA, GREENPEACE, THE END OF CHINA'S COAL BOOM – 6 FACTS YOU SHOULD KNOW 3 (2014), available at <http://www.greenpeace.org/international/Global/international/briefings/climate/2014/The-End-of-Chinas-Coal-Boom.pdf>.

¹⁵¹ The CDM is a program under the Kyoto Protocol that allows developing countries to voluntarily participate in climate change mitigation by selling their emission reduction credits to industrialized countries. See Paula Castro, *Does the CDM Discourage Emission Reduction Targets in Advanced Developing Countries?*, 12:2 CLIMATE POL'Y 198, 198–99 (2012).

¹⁵² U.N. Framework Convention on Climate Change, Benefits of the Clean Development Mechanism 2012, at 30 (2012), available at https://cdm.unfccc.int/about/dev_ben/ABC_2012.pdf. India is in second place with 805 total projects (67,474,383 CO₂e/year). *Id.*

¹⁵³ LEGGETT ET AL., *supra* note 2, at 18.

October 28, 2011, Air China, Boeing, PetroChina, and Honeywell UOP cooperated jointly to launch the first ever Chinese test flight using sustainable aviation biofuels at Beijing Capital International Airport.¹⁵⁴ Air China used a Boeing 747-400 airliner fueled by “jatropha,” a plant sourced in China, for a test flight that lasted two hours.¹⁵⁵ This test flight represented an important step towards a more widespread commercial application of biofuels. As an ideal candidate to replace high-polluting fossil fuels, biofuels have long attracted the attention of several countries like Brazil, the U.S., South Korea, Indonesia, and those of the EU. These countries have all unveiled development strategies that support the popularization of biofuels in order to contribute to the reduction of carbon emissions.¹⁵⁶

6 CONCLUSION

The EU ETS is a financial market-trading mechanism created by the EU under the guise of environmental protection, while being primarily focused on economics more than environmental concerns. It is important for non-EU countries to voice their concerns regarding global carbon emission issues, which could stimulate the exportation of EU energy saving equipment. The full implementation of the EU ETS would inflict tremendous economic loss on airlines operating EU routes, including those of China. Furthermore, the implementation of the EU ETS violates relevant provisions of the Kyoto Protocol, the Chicago Convention, and other international legislation. The U.S. attempted to litigate this issue, but did not have a favorable outcome in the ECJ. Several affected countries formed a coalition under the Moscow Declaration and have united through the ICAO to jointly boycott the EU aviation ETS. Because of this, the EU has now suspended the implementation of the aviation ETS. Airlines of

¹⁵⁴ See Steve Duda, *Biofuel Test Flight a First for China*, NAT'L GEOGRAPHIC (Nov. 2, 2011), <http://energyblog.nationalgeographic.com/2011/11/02/biofuel-test-flight-a-first-for-china/>.

¹⁵⁵ *Id.*

¹⁵⁶ See *An EU Strategy for Biofuels*, at 20–21, COM (2006) 34 final (Aug. 2, 2006).

developing countries should participate in other environmental projects to reduce their carbon emissions. As Müller and Slominski stated, “from a problem-solving perspective, it may not suffice that the EU only manages to agree on an ETS through strategies whose main purpose is to shift immediate political costs into the future.”¹⁵⁷

¹⁵⁷ Patrick Müller & Peter Slominski, *Agree Now – Pay Later: Escaping the Joint Decision Trap in the Evolution of the EU Emission Trading System*, 20 J. EUR. PUB. POL’Y 1425, 1439 (2013).