

2007

Flying the Unfriendly Skies: The European Union's New Proposal to Include Aviation in Their Emissions Trading Scheme

Janelle Veno

Recommended Citation

Janelle Veno, *Flying the Unfriendly Skies: The European Union's New Proposal to Include Aviation in Their Emissions Trading Scheme*, 72 J. AIR L. & COM. 659 (2007)
<https://scholar.smu.edu/jalc/vol72/iss3/8>

This Comment is brought to you for free and open access by the Law Journals at SMU Scholar. It has been accepted for inclusion in Journal of Air Law and Commerce by an authorized administrator of SMU Scholar. For more information, please visit <http://digitalrepository.smu.edu>.

FLYING THE UNFRIENDLY SKIES: THE EUROPEAN UNION'S NEW PROPOSAL TO INCLUDE AVIATION IN THEIR EMISSIONS TRADING SCHEME

JANELLE VENO*

IMAGINE WAKING UP in the near future—coastal cities are completely submerged, and the world is frequently afflicted by torrential storms, devastating floods, Katrina-level hurricanes, and massive tsunamis that tower over resort hotels. Currently, scientists all over the world are debating about global warming and its effect on the Earth. Some scientists believe that within the next one hundred years, we will suffer from erratic weather similar to the depiction above. Others claim that the increase in temperature is a natural phenomenon and man-made activities are not entirely to blame. Still others acknowledge that the Earth is warming up, but claim the effects will not be as devastating as some scientists are expressing. The European Union (the EU) seems to agree that global warming is a serious problem that needs to be addressed immediately. The EU recently enacted an emissions trading scheme to assist Member States in meeting their reduction target levels under the Kyoto Protocol.¹ Until recently, the EU excluded airlines from the scheme.² However, it seems the airlines can expect a free ride only until

* Janelle Veno is a JD candidate for the class of 2008 at Southern Methodist University Dedman School of Law. Janelle would like to thank her family: mom & dad, her fiancé Brandon, and Phillip, Laura, & Brett for all of their love and support over the years.

¹ Council Directive 03/87, 2003 O.J. (L 275) 32 (EC) [hereinafter EU ETS], available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0087:EN:HTML>.

² Press Release, European Union Env'tl. Comm'n, Questions and Answers on Aviation and Climate Change (Dec. 20, 2006), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/06/506&format=HTML&aged=0&language=EN&guiLanguage=EN> [hereinafter Questions and Answers on Aviation and Climate Change].

2011. After that, they, too, will be responsible for their damage to the environment.³

In 1997, the United Nations Framework Convention on Climate Control created the Kyoto Protocol, an agreement in which ratifying countries agreed to commit to reducing their carbon dioxide emissions.⁴ The Kyoto Protocol came into force in 2005 and requires participating parties to meet a mandatory reduction target on emissions that is at least five percent below their 1990 emissions level.⁵ The Protocol set up a five-year commitment period from 2008 to 2012 for states to meet their reduction goal.⁶ The Protocol also set a mandatory reduction target on emissions for participating countries to at least five percent below their 1990 emissions levels during the commitment period.⁷ One of the recommended ways for countries to meet their reduction level under Kyoto is through an emissions trading system.⁸ An emissions trading system involves trading credits allowing the holder to emit certain levels of carbon dioxide.⁹ Entities that emit more than their allotted credits can purchase additional credits from entities with lower emissions that do not use all of their credits.¹⁰ The theory is that entities capable of reducing their carbon emissions at a low cost will do so, and entities not financially able to reduce their emissions will purchase those credits.¹¹ When there is a shortage of credits, the price of credits will increase substantially, making it more profitable for entities to reduce carbon than to purchase more credits.¹²

The EU's Emission Trading Scheme (the EU ETS) was enacted in January of 2005, and it is the largest emission trading scheme in the world.¹³ On December 20, 2006, the Environ-

³ *Id.*

⁴ LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS 9 (David Freestone & Charlotte Streck eds., 2005).

⁵ Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 3, Dec. 10, 1997, 37 I.L.M. 22, *available at* <http://unfccc.int/resource/docs/convkp/kpeng.pdf> [hereinafter Kyoto Protocol].

⁶ *Id.*

⁷ Freestone & Streck, *supra* note 4, at 10.

⁸ *Id.* at 41–42.

⁹ *Id.* at 37, 43.

¹⁰ MARK MASLIN, GLOBAL WARMING: A VERY SHORT INTRODUCTION 130 (2004).

¹¹ *Id.*

¹² *Id.*

¹³ Cinnamon Carlarne, *Climate Change Policies an Ocean Apart: United States and European Union Climate Change Policies Compared*, 14 PENN ST. ENVTL. L. REV. 435, 464 (2006).

mental Commission adopted a controversial proposed directive for legislation to include airlines in the EU ETS.¹⁴ However, the EU and the airline industry must overcome many obstacles before aviation will be successfully implemented into the EU ETS.

This Comment will analyze those obstacles and the effect they will have on third parties, including consumers and foreign countries. Many critics are concerned about the effects on competition and industry growth, which will in turn adversely affect the economy. Additionally, many third-party stakeholders, including aviation industry organizations and foreign governments, are angered by the new plan, which could affect the probability of its success. Specifically, the United States is threatening legal action under the Chicago Convention if the EU attempts to include the United States in the scheme.¹⁵ Trade organizations for U.S. airlines have also threatened to switch flights to non-EU hubs.

The airline industry is rapidly increasing the amount of carbon emitted, possibly thwarting the future success of the EU ETS. Many economic and legal difficulties must be overcome before enacting the proposal to include airlines in the EU ETS.

I. CARBON EMISSIONS AND CLIMATE CHANGE

A. GLOBAL WARMING AND GREENHOUSE EMISSIONS

The atmosphere surrounding the Earth plays a vital role in regulating the Earth's temperature and keeping it from becoming a cold, barren place.¹⁶ When sunlight arrives in the atmosphere, naturally occurring carbon dioxide traps the heat and warms the Earth to thirty-five degrees Celsius.¹⁷ Without carbon dioxide in the atmosphere, the temperature on Earth would be about twenty degrees Celsius.¹⁸ The Earth's current temperature is a product of the "balance between input from energy of the sun and the loss of this back into space."¹⁹

¹⁴ European Comm'n, Aviation and Climate Change, http://ec.europa.eu/environment/climat/aviation_en.htm (last visited Sept. 28, 2007).

¹⁵ Sean Lengell, *Europeans Eye Tough Emissions Rules for Airlines*, WASH. TIMES, Dec. 21, 2006, at A03.

¹⁶ MASLIN, *supra* note 10, at 6.

¹⁷ *Id.* at 4.

¹⁸ *Id.* at 6.

¹⁹ *Id.* at 4.

Global warming is the result of increasing amounts of greenhouse gases building up in the atmosphere.²⁰ Greenhouse gases include water vapor, carbon dioxide, ozone, and methane. These gases act as a "blanket" around the Earth's atmosphere, trapping in heat.²¹ Some scientists claim that human activities are increasing the amount of naturally occurring greenhouse gases in the atmosphere.²² Other scientists claim increased greenhouse gases are a result of a natural phenomenon, and not of human activities.²³ There are two main types of activities that are blamed for the temperature increase: burning of fossil fuels and land-use changes.²⁴ Industrialized nations are responsible for a majority of the emissions from the first category.²⁵ On the other hand, land-use changes occur when forests are cut down for urbanization, agricultural purposes, or the creation of new roads, which often happen in developing countries.²⁶ The two most significant gases contributing to the greenhouse effect are carbon dioxide and water vapor.²⁷ The more carbon dioxide in the atmosphere, the warmer the planet becomes, and the less carbon dioxide, the colder the planet becomes.²⁸ For example, during the last Ice Age, there were about 200 parts per million by volume (PPMV) of carbon in the atmosphere which caused the deep freeze over the planet.²⁹ Parts per million refers to the amount of greenhouse gases per every million molecules of dry air.³⁰ Currently, there are approximately 380 PPMV of carbon, resulting in warmer temperatures on Earth.³¹

²⁰ *Id.* at 1.

²¹ *Id.* at 4.

²² *Id.*

²³ Thomas Sieger Derr, *Strange Science*, FIRST THINGS (2004), reprinted in 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 13, 14–15 (Paul McCaffrey ed., 2006).

²⁴ *Id.* at 11.

²⁵ *Id.*

²⁶ MASLIN, *supra* note 10, at 11.

²⁷ Ian Sample, *Heat: How We Got Here*, THE GUARDIAN (London), June 30, 2005, reprinted in 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 5, 6 (Paul McCaffrey ed., 2006).

²⁸ *Id.* at 6–8.

²⁹ MASLIN, *supra* note 10, at 10.

³⁰ *Id.* at 2 n.3 ("For example: 300 ppm means 300 molecules of a greenhouse gas per million molecules of dry air.").

³¹ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], CONTRIBUTION OF WORKING GROUP 1 TO THE FOURTH ASSESSMENT REPORT, CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS 211 (2007), available at <http://www.ipcc.ch/press/prwg2feb07.htm> [hereinafter FOURTH ASSESSMENT REPORT].

B. EVIDENCE OF CLIMATE CHANGE

There is evidence that the climate is already changing.³² Since 1980, Earth has seen nineteen of the twenty hottest years on record.³³ Additionally, average winter temperatures in Alaska and western Canada have seen a rise in temperature, in some places by as much as seven degrees Fahrenheit.³⁴ In Antarctica, 12,000 year-old ice shelves are melting in record numbers.³⁵ In the major mountain regions, the level of elevation where freezing begins has continually risen since 1970.³⁶ The number of droughts on Earth has recently doubled, which scientists blame on increasing temperatures.³⁷ Global warming is no doubt occurring; the big debate is whether man-made activities are to blame or whether global warming is a naturally occurring phenomenon.³⁸ Regardless, mankind should prepare for the consequences of continued rising temperatures.

C. EFFECTS OF CLIMATE CHANGE

The effect of a change in temperature, even a change as small as 1.4 to 5.8 degrees, could cause drastic changes in the world's climate.³⁹ The weather could become more extreme and coastal towns could be eradicated by rising waters from melting ice caps.⁴⁰ It is predicted that storms will be more powerful, summers will be more heat-intensive, and droughts will be more severe.⁴¹ Additionally, the rise in temperatures will have a radical effect on freezing areas, and Arctic warming will affect the entire world.⁴² It becomes a vicious cycle; when the snow melts it no longer reflects the sun back to the atmosphere and is instead absorbed by the ground.⁴³ The "thawing soil underneath

³² Roger Di Silvestro, *The Proof is in the Science*, NATIONAL WILDLIFE, Apr.-May 2005, reprinted in 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 10, 10-11 (Paul McCaffrey ed., 2006).

³³ *Id.*

³⁴ *Id.* at 11.

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.* at 10-11.

³⁸ Derr, *supra* note 23, at 14-15.

³⁹ Sample, *supra* note 27, at 8.

⁴⁰ Silvestro, *supra* note 32, at 10-11.

⁴¹ *Id.*

⁴² Charles Wohleforth, *As the Arctic Melts, an Ancient Culture Faces Ruin*, NAT'L WILDLIFE, Apr.-May 2005, reprinted in 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 37, 38-39 (Paul McCaffrey ed., 2006).

⁴³ *Id.* at 39.

emits carbon stored for millennia in dead organic matters.”⁴⁴ Furthermore, computer models suggest that if the increasing temperature causes ice caps in Greenland and Canada to melt, the fresh water could destroy the Gulf Stream, which helps warm Europe.⁴⁵ The Gulf Stream waters are saltier and cooler in the higher latitudes.⁴⁶ Therefore, these cooler waters sink to the bottom of the ocean, as they are more dense than the waters underneath them.⁴⁷ The circulation waters pick up nutrients as they flow south towards Antarctica.⁴⁸ When they rise back to become the Gulf Stream, they are warmer and full of nutrients.⁴⁹ However, the fresh water of the melting glaciers will dilute the salt water and will interfere with the cycle, hindering the ability of the waters to sink.⁵⁰ If this occurs, an ice sheet will develop and spread over the northern parts of Europe, similar to the conditions in Europe during the last Ice Age.⁵¹ Furthermore, some scientists claim that global warming is causing an increase in the intensity of hurricanes, because since the 1970’s, the amount of category four and five hurricanes has doubled.⁵²

The groups most likely to be affected by these changes are indigent citizens who do not have the means to endure the weather or environmental changes.⁵³ Countries such as the United States are being criticized because, although developed countries are responsible for the bulk of global warming, they will suffer to a much less degree than under-developed nations.⁵⁴

⁴⁴ *Id.*

⁴⁵ Peter Bunyard, *Crossing the Threshold*, THE ECOLOGIST, Feb. 2004, *reprinted in* 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 90, 94 (Paul McCaffrey ed., 2006); William Burroughs *The New Extreme Sport*, THE GUARDIAN (London), July 28, 2005, *reprinted in* 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 90, 94 (Paul McCaffrey ed., 2006).

⁴⁶ Bunyard, *supra* note 45, at 94.

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.* at 93–94.

⁵² Jeffrey Kluger, *Global Warming: The Culprit*, TIME, Oct. 3, 2005, *reprinted in* 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 57, 57–58 (Paul McCaffrey ed., 2006); *but cf.* Burroughs, *supra* note 45, at 28 (stating “[w]hile in principle, warmer tropical oceans should produce more intense storms, in practice, there is no evidence of an upward trend”).

⁵³ MASLIN, *supra* note 10, at 100; United Nations, U.N. Framework Convention on Climate Change: Future Effects, http://unfccc.int/essential_background/feeling_the_heat/items/2905.php (last visited Sept. 29, 2007).

⁵⁴ MASLIN, *supra* note 10, at 11, 13.

D. GOVERNMENT EFFORTS TO CONTROL CLIMATE CHANGE

During the 1980's, when scientists discovered a drastic upturn in global temperatures, they began to focus on global warming and its effects.⁵⁵ Subsequently, governments acknowledged the problem and began to take action.⁵⁶ The International Panel on Climate Change (IPCC) was created by the United Nations Environmental Panel and World Meteorological Organization to address global warming on an international scale.⁵⁷ The IPCC's purpose is to generate scientific reports and continually evaluate climate change and response strategies.⁵⁸ The IPCC recently released the Fourth Assessment Report of the IPCC, "Climate Change 2007: The Physical Science Basis," stating that greenhouse gas emissions have increased, likely "as a result of human activities."⁵⁹

II. THE KYOTO PROTOCOL

A. UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

In 1992, at the Rio Earth Summit, the United Nations Framework Convention on Climate Change (UNFCCC) was established in an attempt to produce an international agreement to curb emissions and fight global warming.⁶⁰ The UNFCCC's ultimate goal 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."⁶¹ The UNFCCC divides participating countries into two groups: developed countries and developing countries.⁶² The developed countries are the "Annex 1" countries, including the United States and Australia, which account for the largest share of greenhouse gases.⁶³ The UNFCCC claims that the per capita emissions of developing nations are still low, and this accounts

⁵⁵ *Id.* at 34.

⁵⁶ *Id.* at 34–35.

⁵⁷ *Id.* at 13, 34–35.

⁵⁸ *Id.* at 13.

⁵⁹ FOURTH ASSESSMENT REPORT, *supra* note 31, at 12.

⁶⁰ MASLIN, *supra* note 10, at 118.

⁶¹ United Nations Framework Convention on Climate Change art. 2, May 9, 1992, S. Treaty Doc. No. 102-38, 1771 U.N.T.S. 107 [hereinafter UNFCCC], *available at* <http://unfccc.int/resource/docs/convkp/conveng.pdf>.

⁶² UNFCCC, *supra* note 61, art. 3.

⁶³ UNFCCC, *supra* note 61, annex I.

for the division of the target emissions goals among different categories of nations.⁶⁴

B. THE KYOTO PROTOCOL

Eventually, the Kyoto Protocol (Protocol) was established to strengthen commitments of the UNFCCC by creating a legally binding agreement, by participating countries, to reduce greenhouse gas emissions to a set target level.⁶⁵ On February 15, 2005, the Protocol officially entered into force.⁶⁶ The goal of the Protocol is similar to that of the UNFCCC; however, the Protocol strengthens the UNFCCC by setting legally binding agreements to reduce greenhouse gas emissions.⁶⁷ The Protocol requires Annex 1 countries to implement procedures to help achieve their target emissions level, including enhancing energy efficiencies, protecting and enhancing sinks,⁶⁸ researching, promoting, and developing new forms of energy, and encouraging appropriate reforms.⁶⁹ The emissions which must be reduced under the Protocol are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.⁷⁰ However, the Protocol is only applicable to members of the UNFCCC who officially accept and ratify it.⁷¹ The United States and Australia, both Annex 1 nations, have failed to ratify the protocol.⁷²

⁶⁴ UNFCCC, *supra* note 61, at 1.

⁶⁵ Freestone & Streck, *supra* note 4, at 9, 35.

⁶⁶ Lynn Elsey, *Kyoto Update*, WEATHERWISE, May-June 2005, at 16, *reprinted in* 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 119, 119 (Paul McCaffrey ed., 2006).

⁶⁷ Freestone & Streck, *supra* note 4, at 7; *Kyoto Protocol*, United Nations, U.N. Framework Convention on Climate Change: Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/2830.php (last visited Sept. 29, 2007).

⁶⁸ A "sink" means any process, activity or mechanism which removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas from the atmosphere." UNFCCC, *supra* note 61, art. 1.

⁶⁹ Kyoto Protocol, *supra* note 5, art. 2(1)(a)(i)-(viii).

⁷⁰ *Id.* Annex A.

⁷¹ MASLIN, *supra* note 10, at 119 ("[t]he 38 industrialized nations have agreed to binding targets to reduce their greenhouse gas emissions").

⁷² United Nations, U.N. Framework Convention on Climate Change: Parties to the Kyoto Protocol, <http://maindb.unfccc.int/public/country.pl?group=kyoto> (last visited Sept. 29, 2007) (the website posts ratifying parties to the treaty).

C. MEETING TARGET REDUCTION LEVELS UNDER THE
KYOTO PROTOCOL

The Protocol allows countries some flexibility in attempting to lower their emissions levels.⁷³ It contains project mechanisms under which countries can offset an increase in their emissions by participating in emissions reduction in other countries.⁷⁴ There are three different mechanisms: the Clean Development Mechanism, the Joint Implementation Principle, and emissions trading.⁷⁵ The “marginal abatement theory” establishes the foundation for creating the mechanisms under the Protocol.⁷⁶ The theory is that it is more cost-efficient to finance a greenhouse gas reduction in a developing country than in an industrialized country.⁷⁷ The Clean Development Mechanism under Article 12 allows an Annex 1 party to execute a project that will have the long-term, measurable benefits of reducing emissions in a non-Annex 1 party, and to receive a “certified emission reduction.”⁷⁸ Similarly, the Joint Implementation Principle under Article 6 allows an Annex 1 country to receive credits for implementing a carbon emission-reducing project in another Annex 1 country.⁷⁹ Finally, Article 17 allows parties to participate in emissions trading, whereby Annex 1 parties can trade units amongst themselves to help meet their emissions goals.⁸⁰ Not only can Annex 1 countries trade allotted credits, they can also trade any credits they receive through the other two mechanisms.⁸¹ However, there are mandated requirements that countries must maintain a non-tradeable reserve of credits.⁸² This prevents countries from overselling and not being able to meet their own targets.⁸³ There are additional ways for countries to reduce their carbon emissions to help meet their goals: improv-

⁷³ Freestone & Streck, *supra* note 4, at 11, 35.

⁷⁴ *Id.*

⁷⁵ *Id.* at 12, 13, 15.

⁷⁶ *Id.* at 11.

⁷⁷ *Id.*

⁷⁸ Kyoto Protocol, *supra* note 5, art. 12; Freestone & Streck, *supra* note 4, at 13.

⁷⁹ Kyoto Protocol, *supra* note 5, art. 6; Freestone & Streck, *supra* note 4, at 12.

⁸⁰ Kyoto Protocol, *supra* note 5, art. 17; Freestone & Streck, *supra* note 4, at 15.

⁸¹ Kyoto Protocol, *supra* note 5, arts. 6, 17.

⁸² Freestone & Streck, *supra* note 4, at 42 n.22 (Annex 1 parties are required “to hold a minimum level of AAUs, CERs, ERU’s [the currency under the Protocol] in a ‘commitment period reserve’ that cannot be traded”).

⁸³ *Id.* at 413.

ing energy efficiency, reducing the demand for energy, utilizing energy-efficient equipment, and sustaining land use.⁸⁴

D. REFUSAL OF THE UNITED STATES TO RATIFY THE KYOTO PROTOCOL

The United States failed to ratify the Protocol for economic and scientific reasons. First, the United States would have to reduce their emissions by up to thirty percent to reach the Kyoto target set for them.⁸⁵ This is in sharp contrast to Europe, who would only have to reduce emissions by eight percent.⁸⁶ This contrast stems from the fact that the developed western European states are included with the developing eastern European states, which are currently declining in emissions.⁸⁷ Several of these states already have much lower emissions levels than in the 1990's.⁸⁸ A thirty percent decrease for the United States would be a substantial undertaking, causing a massive hit to the economy and to consumers, and causing a substantial increase in the price of heating homes, gasoline, and electricity.⁸⁹ Second, the temporary nature of the Protocol could hinder its success.⁹⁰ Developing countries are not included under the Protocol, and these countries must be included to create a long-term solution.⁹¹ China, which is currently considered a developing country exempt from the Protocol, is expected to soon surpass the United States in greenhouse gas emissions.⁹² China is already the second-leading producer of greenhouse gas emissions.⁹³

The cost of involvement for the United States outweighs the potential contribution that a decrease in its emissions would make. Despite refusal to ratify the Protocol by the United States, President George W. Bush has acknowledged that global

⁸⁴ Jeffrey D. Sachs, *Moving Beyond Kyoto*, SCI. AM., Feb. 2007, at 30.

⁸⁵ *Id.*; MASLIN, *supra* note 10, at 126; Derr, *supra* note 23, at 16.

⁸⁶ Paul G. Harris, *The European Union and Environmental Change: Sharing the Burdens of Global Warming*, 17 COLO. J. INT'L ENVTL. L. & POL'Y 309, 343 (2006).

⁸⁷ *Id.*; Carlarne *supra* note 13, at 459-60; Robert Mendelsohn, *Climate Critique*, 26 HARV. INT'L L. J. 4, 4 (2004).

⁸⁸ Mendelsohn, *supra* note 87, at 4.

⁸⁹ Rich Zipperer, *Climate Agreement Will Hit Your Pocketbook*, CONSUMERS' RESEARCH, Feb. 1998, at 34.

⁹⁰ MASLIN, *supra* note 10, at 126.

⁹¹ Ari Fleischer, White House Press Sec'y, Press Briefing at the White House Office of Comm'ns (Mar. 28, 2001), available at 2001 WL 294019, at *7.

⁹² Harris, *supra* note 86, at 315.

⁹³ *Id.*

warming is a problem; however, Bush stated that "Kyoto is, in many ways, unrealistic . . . [because] [f]or America, complying with those mandates would have a negative economic impact, with layoffs of workers and price increase for consumers."⁹⁴ So, even though the United States has not adopted the Kyoto Protocol, it is aware of the global warming problem and is ready to contribute to a realistic and efficient global solution.⁹⁵

E. COMPLIANCE, REPORTING, & MONITORING UNDER THE KYOTO PROTOCOL

The Protocol will only be successful if the parties bound by the agreement make an effort towards compliance. They must follow the published rules, follow through with the commitment to lower emissions to a particular level, and accept the costs imposed by the Protocol.⁹⁶ To ensure that countries are complying with the rules, each country is required to establish an estimation of emissions caused by sources or removal of sinks.⁹⁷ After the first year of the commitment period, the states have to produce an annual inventory of greenhouse gases and removal of sinks.⁹⁸ The guidelines were set up by the Conference of the Parties,⁹⁹ which periodically reviews the procedures, and, where appropriate, makes adjustments.¹⁰⁰ Parties who do not meet expectations must make up the difference in the next period in an amount equal to the excess emissions multiplied by 1.3 (1.3 tonnes for every 1 tonne).¹⁰¹ Additionally, such parties lose the privilege of selling allocations during the next compliance pe-

⁹⁴ The White House, Office of the Press Sec'y, President Bush Discusses Global Climate Change (June 11, 2001), <http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html>.

⁹⁵ *Id.* Claire Carothers, *United We Stand: The Interstate Compact as a Tool for Effecting Climate Change*, 41 GA. L. REV. 229, 256 (2006) (discussing the Bush administration's "willingness to examine other solutions to the issue of global warming").

⁹⁶ Michael Ilg, *Environmental Harm and Dilemmas of Self-Interest: Does International Law Exhibit Collective Learning?*, 18 TUL. ENVTL. L.J. 59, 67 (2004).

⁹⁷ Kyoto Protocol, *supra* note 5, art. 5.

⁹⁸ *Id.* art. 7.

⁹⁹ The Conference of the Parties serves as the meeting of the parties to the Protocol and acts as the supreme body of the Convention. *Id.* art. 13.

¹⁰⁰ *Id.* art. 5.

¹⁰¹ Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol, Nov. 28–Dec. 10, 2005, *Report of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol on Its First Session Part Two: Action Taken by the Conference of the Parties as the Meeting of the Parties to the Kyoto Protocol at Its First Session*, 102, U.N. Doc. FCCC/KP/CMP/2005/8/Add.3 (Mar. 30, 2006), <http://unfccc.int/resource/docs/2005/cmp1/eng/101.pdf>.

riod, and they must create a Compliance Action Plan stating their reasons for failing to comply, what action they will take to meet their commitment during the next period, and a timetable for their progress.¹⁰²

III. THE EUROPEAN UNION EMISSIONS TRADING SCHEME

A. DEVELOPMENT AND CHARACTERISTICS OF THE EUROPEAN UNION TRADING SCHEME

The European Union, as a member of the Protocol, has a legally binding reduction target to meet during the allotted time frame. To meet this burden, the EU ETS was created and commenced operations in January of 2005.¹⁰³ The EU ETS allows member states of the EU to allocate carbon dioxide (carbon) emission credits to companies that emit large amounts of greenhouse gases.¹⁰⁴ If companies do not use all of their allocated credits, they can sell them to other companies that need more credits.¹⁰⁵ The theory behind the scheme is that as the demand for credits increases, the price will increase; thus, it will eventually be cheaper for companies to invest in innovative ways to cut emissions than to purchase more credits.¹⁰⁶ The market puts the burden of cuts where it will be cheapest. Thus, emission reductions will be made at the lowest cost to the economy.¹⁰⁷ The European Union Trading Scheme is the largest emissions trading scheme of its kind and includes member countries from all over the EU.¹⁰⁸ However, each state is not required to lower emissions uniformly. Rather, the reductions will be distributed according to the expected growth of each country.¹⁰⁹ The scheme will cover energy-intensive companies including, but not limited to, combustion plants, oil refineries, coke ovens, and

¹⁰² *Id.*

¹⁰³ Edna Sussman, *New York Addresses Climate Change with the First Mandatory U.S. Greenhouse Gas Program, Emission Trading Scheme*, 78 N.Y. ST. B.J. 43, 44–45 (2006).

¹⁰⁴ Herbert Posser, *European Union Emissions Trading Directive*, SK046 ALI-ABA 71, 75 (2005).

¹⁰⁵ *Id.* at 78.

¹⁰⁶ Brad Foss, *Carbon Emissions Trading is New Weapon to Battle Global Warming*, ASSOCIATED PRESS, Feb. 9, 2005, reprinted in 78 THE REFERENCE SHELF: GLOBAL CLIMATE CHANGE 134, 135 (Paul McCaffry ed., 2006).

¹⁰⁷ *Id.*

¹⁰⁸ Carlarne, *supra* note 13, at 464; Posser, *supra* note 104, at 74.

¹⁰⁹ Posser, *supra* note 104, at 74.

iron and steel plants.¹¹⁰ These installations¹¹¹ account for approximately half of all carbon emissions in the EU.¹¹²

The first phase of the scheme runs from 2005 to 2007.¹¹³ Coinciding with the Protocol is the second phase, which runs from 2008 to 2012.¹¹⁴ In the primary stages of the scheme, each country must develop a National Allocation Plan, defining how many credits to issue and how to apportion them to individual companies.¹¹⁵ After each country creates their National Allocation Plan, the Commission must approve it.¹¹⁶ Then, the Member State must monitor installation, and ensure that no installation covered under the scheme emits carbon dioxide without an allowance to do so.¹¹⁷ For the scheme to be successful, the States should create a scarcity of credits, allowing market forces to develop, resulting in a reduction in emissions.¹¹⁸ The countries are responsible for monitoring emissions and reporting to the appropriate authority in accordance with guidelines adopted by the UNFCCC.¹¹⁹ Then, at the end of the year, installations must surrender a number of allowances¹²⁰ equal to the tonnes of carbon emitted.¹²¹ Member States are required to enforce "effec-

¹¹⁰ Yvonne Gross, *Kyoto, Congress, or Bust: The Constitutional Invalidity of State CO₂ Cap-And-Trade Programs*, 28 T. JEFFERSON L. REV. 205, 211 n.28 (2005). Gross noted that:

Sectors required to comply include power plants, oil refineries, coke ovens, metal ore and steel installations, cement kilns, glass manufacturing, ceramics manufacturing, and pulp and paper mills. These covered sectors represent 48 percent of the CO₂ emissions from member countries because transportation and buildings are not included in the EU ETS.

Id.

¹¹¹ The Directive defines an "installation" as "a stationary technical unit where one or more activities" are carried out "which could have an effect on emissions and pollution." See EU ETS, *supra* note 1, art. 3.

¹¹² Gross, *supra* note 110, at 211 n.28 ("These covered sectors represent 48 percent of the CO₂ emissions from member countries because transportation and buildings are not included in the EU ETS.").

¹¹³ Posser, *supra* note 104, at 76.

¹¹⁴ *Id.*

¹¹⁵ Carlarne, *supra* note 13, at 464.

¹¹⁶ *Id.*; EU ETS, *supra* note 1, art. 9.

¹¹⁷ EU ETS, *supra* note 1, art. 4.

¹¹⁸ *Id.* art. 8; Foss, *supra* note 106, at 136.

¹¹⁹ *Id.* art. 14.

¹²⁰ An allowance is the privilege to emit one tonne of carbon dioxide. Posser, *supra* note 104, at 75.

¹²¹ *Id.* (For example, "the operator of a cement plant that emits 100,000 tonnes of CO₂ per year is thus obliged to submit 100,000 allowances per year to the competent authority.").

tive, proportionate, and dissuasive" penalties for installations that do not meet their allotted allowance of carbon emissions.¹²² Under the Directive, installations that exceed their allotted emissions must be penalized in the amount of EUR 100 per tonne of carbon dioxide over the limit.¹²³ Consequently, the following year, they must compensate for that excess carbon by relinquishing credits equal to the excess emissions from the previous year.¹²⁴ If a company estimates not meeting their quota, they have two options: they can either reduce their emissions or purchase more credits.¹²⁵ A cost analysis will help the company decide the most efficient solution.¹²⁶ Although companies are not required to reduce their emissions, there are monetary incentives to do so.¹²⁷ Companies can avoid the cost of purchasing more credits and earn more profit by selling excess credits on the market.¹²⁸ Following Phase I, the Member States must create a National Allocation Plan for Phase II, which is aligned with the same five-year period under which the EU must meet their targets under the Protocol.¹²⁹

IV. PROPOSAL TO INCLUDE AIRLINES IN THE EU ETS

A. EFFECT OF AVIATION ON THE ENVIRONMENT

International air transport is a key function in the global economy because of the efficiency of transporting passengers and cargo over large distances in a relatively short amount of time.¹³⁰ However, international flights significantly contribute to the build-up of anthropogenic gases in the atmosphere.¹³¹

¹²² EU ETS, *supra* note 1, art. 16.

¹²³ *Id.* During Phase I of the EU ETS, companies will be liable for a lesser penalty in the amount of EUR 40 per tonne of carbon dioxide. *Id.*

¹²⁴ *Id.*

¹²⁵ Posser, *supra* note 104, at 78; Foss, *supra* note 106, at 135–36.

¹²⁶ Posser, *supra* note 104, at 78.

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ Press Release, European Union Envtl. Comm'n, Emissions Trading: Commission Sets Out Guidance on National Allocations for 2008–2012 (Jan. 1, 2006), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/06/9&format=HTML&aged=0&language=EN&guiLanguage=en>.

¹³⁰ 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*, at 2, COM (2005) 459 final (Sept. 27, 2005) [hereinafter *Reducing the Climate Change Impact of Aviation*].

¹³¹ Proposal for a Directive of the European Parliament and of the Council Amending Directive 03/87 so as to Include Aviation Activities in the Scheme for Greenhouse Gas Emission Allowance Trading Within the Community, at art. 2, COM (2006) 818 final

During flight, airplanes release several types of gases into the atmosphere, including carbon dioxide.¹³² These gases contribute to the warming of the Earth, which the UNFCCC is working to prevent through the Protocol.¹³³ Carbon dioxide is the most important anthropogenic gas, because it directly causes the increase in temperatures on the Earth's surface.¹³⁴ Although domestic flights are included in the Protocol, international flights, which cause more significant emissions, are not covered.¹³⁵ Instead, the Protocol places the responsibility for reducing emissions from international flights on the International Civil Aviation Organization (ICAO).¹³⁶ The ICAO is an organization created under the Chicago Convention agreement to oversee international flight regulations and procedures.¹³⁷ The ICAO is composed of 188 countries, encompassing the entire field of international civil aviation, and it has legislative "authority to promulgate standards and recommended practices (SARPs)."¹³⁸ The foundation of the ICAO is to ensure safe international air travel and to promote growth of international civil aviation.¹³⁹

B. INTRODUCTION OF AVIATION INTO THE EU ETS

The European Parliament set a timetable for the ICAO to establish a method for managing emissions from international flights.¹⁴⁰ The Parliament granted the EU permission to attempt to reduce emissions from aviation if the ICAO failed to take action by 2002.¹⁴¹ In September of 2005, the Environmen-

(Dec. 20, 2006) [hereinafter *Impact Assessment*]; see also Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹³² Press Release, European Union Env'tl. Comm'n, *supra* note 129.

¹³³ *Id.*

¹³⁴ *Id.*; *Reducing the Climate Change Impact of Aviation*, *supra* note 130, at 3.

¹³⁵ Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹³⁶ *Id.*

¹³⁷ Convention Between the United States of America and Other Governments Respecting International Civil Aviation art. 43, Dec. 7, 1944, 61 Stat. 1180, 15 U.N.T.S. 295 [hereinafter Chicago Convention] available at http://www.int/icaonet/arch/doc/7300/7300_9ed.pdf.

¹³⁸ Paul Stephen Dempsey, *Compliance & Enforcement in International Law: Achieving Global Uniformity in Aviation Safety*, 30 N.C.J. INT'L L. & COM. REG. 1, 5 (2004).

¹³⁹ *Id.* at 5, n.11.

¹⁴⁰ Council Decision 1600/2002, Laying Down the Sixth Community Action Programme, art. 5, 2002 O.J. (L 242) 1-15, available at http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Decision&an_doc=2002&nu_doc=1600.

¹⁴¹ *Id.*

tal Commission adopted a new proposal to include aviation in the EU ETS.¹⁴² The proposal would allow airlines to annually emit a specified amount of carbon dioxide.¹⁴³ At the end of each year, the airlines must surrender the amount of allowances equal to their total emissions of carbon dioxide, similar to the current EU ETS.¹⁴⁴

The aviation industry is rapidly increasing, and it soon will account for a substantial amount of emissions, possibly undermining the attempts by the EU to cut emissions.¹⁴⁵ While policy actions have caused some sectors in the EU to decrease, emissions from international flights have seen an accumulated increase of eighty-seven percent.¹⁴⁶ The amount of emissions from an international flight from London to New York produces the same amount of emissions that an average family in the EU would produce heating their home for one year.¹⁴⁷ Failure to acknowledge the emissions effects of international flights could harm the efforts of the EU by canceling out more than a quarter of the eight percent drop the EU expects to achieve.¹⁴⁸

Airline emissions cannot be addressed by an alternative method of applying an emissions tax on flights. International flights are exempted from taxation on fuel prices because of agreements between third-party countries and the EU.¹⁴⁹ Unless the countries agree otherwise, these agreements rule out an increase in taxes to offset the damage to the environment.¹⁵⁰

The proposal to include aviation in the EU ETS must first be approved by the European Parliament before it will be enacted, and this process could take several years to complete.¹⁵¹ If the proposal is accepted, it is estimated that it could save as much as 183 million tonnes every year, twice the amount of Australia's

¹⁴² *Impact Assessment*, *supra* note 131, at 2.

¹⁴³ Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁴⁴ *Id.*

¹⁴⁵ Press Release, European Union Env'tl. Comm'n, Climate Change: Commission Proposes Bringing Air Transport into EU Emissions (Dec. 20, 2006), *available at* <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/06/1862&format=HTML&aged=0&language=EN&guiLanguage=en#fnB1>.

¹⁴⁶ *Impact Assessment*, *supra* note 131, at 6.

¹⁴⁷ Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁴⁸ *Impact Assessment*, *supra* note 131, at 1.

¹⁴⁹ Press Release, Climate Change: Commission Proposes Bringing Air Transport into EU Emissions, *supra* note 145.

¹⁵⁰ *See id.*

¹⁵¹ Lenggell, *supra* note 15.

yearly expenditure.¹⁵² The Environmental Commissioner, Stavros Dimas has said, "Bringing aviation emissions into the EU Emissions Trading Scheme is a cost-effective solution that is good for the environment and treats all airlines equally."¹⁵³

C. CHARACTERISTICS OF THE PROPOSAL TO INCLUDE AVIATION

The Environmental Commission adopted the proposal to include airlines on December 20, 2006.¹⁵⁴ The scheme will be introduced in two phases.¹⁵⁵ First, beginning in 2011, flights between domestic airports will be required to account for their emissions.¹⁵⁶ Then, in 2012, all international flights will be covered if they arrive or depart from any airport in the EU.¹⁵⁷ The purpose of the proposal is to serve as a model for other emissions trading schemes and possibly lead to a global scheme.¹⁵⁸

Under the proposal, Member States allocate carbon dioxide credits to airlines, similar to the system set up for other installments under the EU ETS.¹⁵⁹ These allocations will be capped at the 2004–2006 averages.¹⁶⁰ Airlines only have to maintain present levels, which differs from other installments that are required to reduce their emissions to 1990 levels.¹⁶¹ The allowances will allow airlines to emit a certain amount of carbon dioxide each year.¹⁶² Airline operators would then be responsible for determining emission output, as they have the most control over the aircraft.¹⁶³ At the end of each year, airline operators must turn in allowances equal to the amount of carbon dioxide they emitted that year.¹⁶⁴ The allowances will either be issued free of charge based on the operator's past share

¹⁵² Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁵³ Press Release, Climate Change: Commission Proposes Bringing Air Transport into EU Emissions, *supra* note 145.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁵⁹ *Id.*

¹⁶⁰ Press Release, Climate Change: Commission Proposes Bringing Air Transport into EU Emissions, *supra* note 145.

¹⁶¹ See *Impact Assessment*, *supra* note 131, at 2.

¹⁶² Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁶³ *Impact Assessment*, *supra* note 131, at 6, 12.

¹⁶⁴ *Id.*

of traffic, or auctioned off by the Member States.¹⁶⁵ A significant portion will be issued free of charge.¹⁶⁶ If, at the end of the year, the airlines have a surplus of allowances because their emissions were lower than their allotted amount, they can sell the surplus on the market or save them to cover future emissions.¹⁶⁷ On the contrary, if they estimate that they will emit more carbon dioxide than they are allotted, they can purchase extra allowances or reduce the amount of carbon dioxide they emit.¹⁶⁸

By 2012, both foreign and domestic aircraft operators will be covered under the EU ETS.¹⁶⁹ Any airline that routes to, from, or between airports in the EU will be subject to the restraints on carbon dioxide emissions.¹⁷⁰ However, this would only apply to civilian airlines; military, police, rescue, customs flights, flights on government business, very light jets, and flights for training purposes will all be excluded under the scheme.¹⁷¹

D. OPTIONS FOR AIRLINES

Airlines have several options to reduce emissions if the allotments granted are not sufficient to cover their regular operations.¹⁷² Operators can significantly reduce emissions by investing in a newer fleet, as newer airplanes are more efficient and burn less fuel, leading to fewer emissions.¹⁷³ Additionally, aircraft operators can make changes to their current aircraft to make them more efficient, such as adding surface treatments to reduce drag or replacing engines.¹⁷⁴ The addition of winglets on the wings can also increase an airplane's efficiency.¹⁷⁵ A winglet is a device which sits on the tip of the wing and, if properly configured, can substantially decrease drag and fuel con-

¹⁶⁵ *Id.*

¹⁶⁶ *See id.*

¹⁶⁷ Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ *Impact Assessment*, *supra* note 131, annex I.

¹⁷² Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁷³ *See id.*

¹⁷⁴ *Id.*

¹⁷⁵ *Id.* For more information on winglets, see JOSEPH R. CHAMBERS, NASA PUBL'N NO. SP-2003-4529, CONCEPT TO REALITY: CONTRIBUTIONS OF THE NASA LANGLEY RESEARCH CENTER TO U.S. CIVIL AIRCRAFT OF THE 1990's 35-44 (2003), available at <http://oea.larc.nasa.gov/PAIS/Concept2Reality/winglets.html>.

sumption during flight.¹⁷⁶ Moreover, by rerouting networks and flight frequencies, airlines can reduce the amount of time planes are in flight.¹⁷⁷ The Air Transport Association (ATA) is a proponent of reforming the air traffic control system.¹⁷⁸ Furthermore, airlines can reduce onboard weight, plan flights with shorter routes, reduce airborne holding by using ground delays, and redesign hubs to reduce traffic.¹⁷⁹

E. MONITORING AIRLINES

Monitoring airlines is a significant factor in ensuring the success of the new scheme. To monitor emissions, airlines must report their annual emissions by multiplying the amount of fuel they consumed that year by a standard emission factor.¹⁸⁰ If the airline is not capable of documenting the amount of fuel used for each flight, then a standardized fuel consumption estimation will be applied.¹⁸¹ Similar to installments subject to the EU ETS, airlines must report the amount of emissions they used at the end of the year and surrender an equal amount of allowances.¹⁸² Any airline who fails to meet their allotted emission will have to pay a significant fine at the end of the year, and could possibly lose their contract to fly to or from those airports.¹⁸³ Under The Convention Between the United States of America and Other Governments Respecting International Civil Aviation (Chicago Convention), all airlines must comply with the rules of the state in which they arrive and depart from.¹⁸⁴ Therefore, any international flight entering or leaving an EU airport is required to submit credits for emissions, based on the authority the Chicago Convention grants Member States in regulating their airspace.

¹⁷⁶ *Id.*

¹⁷⁷ Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁷⁸ Air Transp. Ass'n, Fuel Efficiency: U.S. Airlines, <http://www.airlines.org/economics/energy/fuel+efficiency.htm> (last visited Sept. 29, 2007).

¹⁷⁹ *Id.*

¹⁸⁰ *Impact Assessment*, *supra* note 131; annex IV, pt. B.

¹⁸¹ *Id.*

¹⁸² Press Release, Questions and Answers on Aviation and Climate Change, *supra* note 2.

¹⁸³ *Id.*

¹⁸⁴ Chicago Convention, *supra* note 137, art. 13.

F. ISSUES FACING THE IMPLEMENTATION OF THE PROPOSAL

The system will face difficulties integrating the new proposal with the Protocol.¹⁸⁵ Assigned Amount Units (AAUs),¹⁸⁶ which the EU ETS will use to allocate emissions credits, do not currently include international aviation.¹⁸⁷ Because the AAUs do not currently include international flights in the target levels for the states, the EU ETS will not hold AAUs for international aviation.¹⁸⁸ Domestic flights are included under the Protocol, so the states will be required to surrender AAUs in regard to domestic aviation.¹⁸⁹ Therefore, domestic aviation does not pose a problem, as it is included under the Protocol and can be included in the target emission levels for each country.¹⁹⁰ A problem arises for airlines because if no new AAUs are issued to account for international aviation, then international airlines must vie for the emission credits from other sectors.¹⁹¹ To ease pressure on airlines, the allocations will be granted to the aviation sector and can be freely traded amongst other installations; however, non-aviation operators cannot surrender aviation allowances.¹⁹²

Allocations for the aviation sector will be distributed equally among all airline operators.¹⁹³ This will prevent aircraft operators in two different countries from receiving different allocations.¹⁹⁴ This approach will ensure equal treatment for all airlines, regardless of their nationality.¹⁹⁵ Moreover, because of the unified treatment of all airlines, the proposal must include a methodology for new market entrants.¹⁹⁶ Under the EU ETS, the states are allowed three options for handling new entrants,

¹⁸⁵ *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 Within the Community*, at 15, COM (2006) 818 final (Dec. 20, 2006) [hereinafter *Assessment II*], available at <http://register.consilium.europa.eu/pdf/en/07/5+05/st05154.en07.pdf>.

¹⁸⁶ AAUs are the main international currency provided under the Protocol, and each AAU allows the state to emit an additional tonne under the Protocol. See *Impact Assessment*, *supra* note 131, at 15.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ *Id.* at 16.

¹⁹² *Id.*

¹⁹³ *Id.* at 19.

¹⁹⁴ *Id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Id.* at 20.

but this is not feasible for a unified aviation sector.¹⁹⁷ Therefore, the UNFCCC established a method whereby new market entrants can temporarily purchase credits on the market or through an auction, and then apply for credits during the next period as an incumbent.¹⁹⁸ Credits from the Clean Development Mechanisms and the Joint Implementation projects under the Protocol will also be an option for airlines to fulfill their obligations to reduce emissions.¹⁹⁹

G. ADMINISTRATIVE COSTS

Administrative costs for airlines will remain relatively simple and inexpensive. Each airline is already accounted for under the air traffic management system and sector systems; therefore there is no new permit requirement for airlines under the EU ETS.²⁰⁰ Additionally, monitoring, reporting, and verification will be less costly than in other installments because the amount of carbon dioxide an airplane emits correlates to the amount of fuel burned.²⁰¹ However, airlines will be required to set up registry accounts.²⁰² To keep costs down, the proposal suggests that each airline operator answer to only one state, rather than every Member State in the EU.²⁰³ Additionally, "[a]ny fees charged by the registry administrator to account holders shall be reasonable."²⁰⁴ Member States must submit reports disclosing the fees charged to ensure this requirement is met.²⁰⁵

H. CONCLUSION

The proposal to include airlines in the EU ETS has not yet been adopted. There are still many issues and details to address prior to enacting such a controversial requirement. Additionally, the EU must also determine how to address other greenhouse gases, because other gases also contribute to global warming.²⁰⁶ Currently, the plan would only require airlines to account for carbon dioxide emissions, while ignoring the other

¹⁹⁷ *Id.*

¹⁹⁸ *Id.* at 22.

¹⁹⁹ *Id.* at 64.

²⁰⁰ *Id.* at 48.

²⁰¹ *Id.* at 49.

²⁰² *Id.* at 50.

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ *Id.* at 14.

anthropogenic gases.²⁰⁷ Scientists are currently debating whether airplanes have a more significant effect than ground-level emissions.²⁰⁸ If the effect is discovered to be greater than ground-level emissions, this could lead to even more stringent requirements for the aviation industry.

The EU has acknowledged some of the adverse affects stemming from the implementation of the scheme, and they are attempting to reach an effective solution for all parties involved. As long as the EU continues to seek a solution that is beneficial for the environment and minimizes the difficulties on foreign parties, they are more likely to create a scheme in which all parties will participate. Without the participation of foreign airlines, however, the scheme is looking to prove futile.

V. THE EFFECTS OF INCLUDING AVIATION IN THE EU ETS

The new proposal to include aviation in the EU ETS could cause some problems for the EU. There may be adverse effects on competition in the industry and legal implications which could adversely affect the economy of the EU.

A. EFFECT ON COMPETITION

The Commission responsible for the new proposal has indicated that competition will not be adversely affected for most airlines.²⁰⁹ First, all airlines will be treated equally.²¹⁰ Therefore, all airlines will incur the same price increases for purchasing extra allotments for carbon dioxide emissions, and they can pass this on to consumers.²¹¹ Secondly, the administrative costs of the system will not be significant: a permit system is already in place for airlines, the monitoring system will not require significant changes to current industry systems, each airline will only be required to report to one Member State, and, if the market is mature and competitive,²¹² market transaction costs will be

²⁰⁷ *Id.*

²⁰⁸ *Id.* at 38.

²⁰⁹ *Id.* at 54.

²¹⁰ *Id.* at 28–29.

²¹¹ *Id.*

²¹² *Id.* at 50–51. There is one standard commodity, one tonne of carbon dioxide, and brokers can begin to sell and trade these. *Id.* at 50. This results in increased competition, “which lowers transaction costs.” *Id.* at 51. Current efforts should give airlines the benefit of entering a “large and competitive market

low.²¹³ The proposal is to include international flights in the EU ETS, regardless of their nationality, to avoid distortions in competition.²¹⁴ This may present a problem for developing countries that fly into the EU.²¹⁵ Although developing countries are not covered under the Protocol, they will still be subject to restrictions on their flights going into or leaving the EU.²¹⁶ Additionally, aircraft operators using older aircraft, carrying fewer passengers or less cargo, and traveling farther distances may suffer from competition.²¹⁷ Their only recourse may be to invest in newer fleets or redirect routes to increase the number of passengers per flight.²¹⁸

The UNFCCC performed an impact assessment concerning the economy and found that any impact will be minimal.²¹⁹ The demand for international flights may only slightly decrease.²²⁰ Moreover, the profitability of airlines is not likely to suffer substantially from the proposal because airline operators can pass on the cost of purchasing more carbon dioxide allotments to customers in the form of increased ticket prices.²²¹ The UNFCCC's impact assessment claims that by airlines passing on the increase to passengers, the average increase in ticket prices will only be €4.6 to €39.6, depending on the length of the journey, by the year 2020.²²² According to the impact assessment, this would not substantially affect the forecasted demand growth.²²³

which will have matured and developed over a number of years—the result being limited transaction costs.” *Id.*

²¹³ *Id.* at 47–51.

²¹⁴ *Id.* 52–53.

²¹⁵ *Id.* at 52.

²¹⁶ *Id.*

²¹⁷ *Id.*

²¹⁸ *See id.*

²¹⁹ *Id.* at 31.

²²⁰ *Id.*

²²¹ *Id.* at 30.

²²² *Id.* at 34.

²²³ *Id.*

VI. AVIATION PROPOSAL & THIRD PARTY REACTIONS

A. REACTION OF THE INTERNATIONAL AIR
TRANSPORT ASSOCIATION

The EU is facing criticism from many airline trade organizations regarding the new proposal.²²⁴ At the forefront of protestors is the International Air Transport Association (IATA), with a list of possible solutions and critiques of the EU's current proposal.²²⁵ The IATA director, General Giovanni Bisignani, stated that this is a global problem that needs a global solution and that "[a] European solution is no solution at all."²²⁶ The IATA stressed the importance of implementing an emission trading scheme through the ICAO.²²⁷ IATA has also pointed out that despite the seemingly large emissions numbers from air transport, they still only represent two percent of global emissions.²²⁸ Therefore, even if air transport was completely eradicated, there would be only a nominal decrease in emissions compared to the economic activity provided by the industry.²²⁹ The IATA has not ruled out the possibility of an emissions trading scheme; however, they support a system which would be more cost-efficient and economically effective.²³⁰ According to the IATA, the scheme must: 1) allow airline allowances to be interchangeable with other trading schemes; 2) distribute allowances based on present level emissions to help airlines keep the funds to invest in new technology; 3) only cover carbon dioxide and allow ICAO standards to address other emissions; and 4) treat foreign and domestic airlines equally.²³¹ The IATA acknowledges the pressure to improve performance, yet seeks to prevent the emissions scheme from becoming a political fight.²³²

²²⁴ See generally Int'l Air Transp. Ass'n, Environment Summit—Remarks by Giovanni Bisignani (Apr. 25, 2006) [hereinafter IATA], available at <http://www.iata.org/pressroom/speeches/2006-04-25-01>.

²²⁵ See *id.*

²²⁶ Jeff Mason, *Airlines, US Cool to EU Emissions Trading Scheme*, PLANET ARK, Sept. 30, 2005, <http://www.planetark.com/dailynewsstory.cfm/newsid/32753/story.htm>.

²²⁷ Madhu Unnikrishnan, *European Commission Unveils Emissions Plan to Luke-warm Reception*, AVIATION DAILY, Dec. 21, 2006, at 1, available at 2006 WLNR 22822192.

²²⁸ IATA, *supra* note 224.

²²⁹ See *id.*

²³⁰ See *id.*

²³¹ See *id.*

²³² See *id.*

B. REACTION OF AVIATION INDUSTRY ORGANIZATIONS IN THE UNITED STATES

The ATA is also unhappy with the EU's proposal.²³³ The leading U.S. airlines are all members of the ATA, accounting for ninety percent of air traffic in the United States.²³⁴ The ATA issued a statement that the EU's new proposal "violates international laws and bilateral air service agreements" and the EU should "join with the rest of the world in working through the ICAO to find constructive solutions to this issue."²³⁵ Although the ATA does not support the EU's proposal, they support the work of the ICAO's Committee on Aviation Environmental Protection which includes: a reduction in nitrogen oxide emissions from the next generation of commercial aircraft, guidelines for reducing the impact of noise near airports, and voluntary measures to reduce carbon dioxide.²³⁶ The ATA is still encouraging an industry reduction in engine emissions, but only with the correct balance.²³⁷ The Federal Aviation Administration also opposes the plan to include international flights in the EU ETS, claiming "[s]uch a unilateral approach [by the EU] will prove unworkable and will undercut rather than support international efforts to implement system improvements to better manage aviation emissions impacts."²³⁸

C. REACTION OF INDIVIDUAL AIRLINES

Despite the criticism surrounding the plan's implementation, there are some airlines that support the new proposal.²³⁹ For example, Air France supports the new proposal because it "appears to be the most environmentally sound way of reducing the impact of air transport on climatic change," according to the chairman and CEO, Jean-Cyril Spinetta.²⁴⁰ Lufthansa supports a

²³³ See generally Press Release, Air Transp. Ass'n, ATA Statement Regarding EC Decision on Emissions Trading (Dec. 20, 2006), available at http://www.airlines.org/news/releases/2006/statement_12-20-06.htm.

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ Press Release, Air Transp. Ass'n, ATA News Release: Support for ICAO Effort to Cut Emissions, Noise (Feb. 12, 2004), available at http://www.airlines.org/news/releases/2004/news_2-12-04.htm.

²³⁷ *Id.*

²³⁸ Lengell, *supra* note 15 (statement by FAA spokeswoman Laura Brown.)

²³⁹ See generally *EU Emissions Trading Scheme to Include Air Transport*, ENV'T NEWS SERV. Dec. 20, 2006, <http://www.ens-newswire.com/ens/dec2006/2006-12-20-01.asp>.

²⁴⁰ *Id.*

global scheme, because only including internal flights would lead to a distortion of competition.²⁴¹ In addition to an emissions trading scheme, the EU's Environmental Commission also considered the effects of taxes and charges for airlines.²⁴² The Association of European Airlines stated that they are "much more favourably [sic] inclined to emissions trading than [they] are to taxes and charges."²⁴³ By contrast, British Airways, one of the larger airlines in the EU, has expressed disapproval of the intention to include international flights and not solely intra-EU flights.²⁴⁴

VII. REACTION OF THE UNITED STATES TO THE AVIATION PROPOSAL

The United States has openly expressed its intention to sue if the proposal is adopted.²⁴⁵ U.S.-based airlines, following in step with other organizations, believe that the ICAO holds the responsibility of developing an emissions trading plan that includes airlines, and the EU does not have the authority to implement this system without permission from other countries.²⁴⁶

A. UNITED STATES THREATENS TO SUE IF INTERNATIONAL FLIGHTS ARE INCLUDED

The United States is particularly unhappy with the proposal to include international airlines in the trading scheme, regardless of their nationality, claiming it is "unlawful" and "unworkable."²⁴⁷ The United States has threatened to pursue a lawsuit if the EU adopts the proposal applying to foreign airlines.²⁴⁸ The United States and the EU are both parties to the Chicago Con-

²⁴¹ James Kanter, *As EU Goes Greener, Industry Fears Cost The Business of Green*, INT'L HERALD TRIB., Jan. 8, 2007, at 1, available at 2007 WLNR 334390.

²⁴² Mason, *supra* note 226.

²⁴³ *Id.*

²⁴⁴ Jonathan Walker, *MP 'Dead Sheep'-Ryanair*, BIRMINGHAM POST (UK), Jan. 6, 2007, at 4, available at 2007 WLNR 237212.

²⁴⁵ Andrew Bounds & Fiona Harvey, *International Economy: EU Heads Off Carbon Rift with Airlines*, FIN. TIMES (UK), Dec. 19, 2006, at 12, available at 2006 WLNR 22131394.

²⁴⁶ Unnikrishnan, *supra* note 227.

²⁴⁷ Madhu Unnikrishnan, *Top U.S. Official Calls EU Emissions Proposal 'Unworkable'*, AVIATION DAILY, Jan. 12, 2007, at 4, available at 2007 WLNR 1563165 (statement by John Byerly, the U.S. deputy assistant secretary of state for transportation).

²⁴⁸ Bounds & Harvey, *supra* note 245.

vention, which the United States may use as a basis for the lawsuit.²⁴⁹

The Chicago Convention is an agreement among several foreign nations regarding international civilian flights.²⁵⁰ The Convention holds that all signatory countries must acquire the ICAO's approval before placing any charges on aircraft operators flying into their airports.²⁵¹ The Convention states that no "charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory"²⁵² The United States will likely argue that the EU must receive permission from the ICAO before the plan is implemented, and that the EU has not done this. Although there is not a direct charge placed on airlines, the stringent requirements under the EU ETS would require that airlines pay a "charge" to emit carbon when flying into those airports, and any airlines that do not comply could possibly lose their contract at those airports. Therefore, under the Chicago Convention, the EU must first seek approval from the ICAO before implementing this charge.

Additionally, the Convention requires that all countries make an effort to secure "the highest practicable degree of uniformity in regulations, standards, procedures, and organization" for "all matters in which such uniformity will facilitate and improve air navigation."²⁵³ The ICAO is in charge of adopting and amending new procedures periodically.²⁵⁴ The proposal to include aviation in the EU ETS is a new regulation specific to the European Union, and is not collaborative of securing the uniformity which the Chicago Convention explicitly requires. Article 37 is an important provision in the Chicago Convention, because it sets all contracting states subject to the authority of one overseeing organization. By implementing this proposal, the EU is placing foreign airlines under their authority, which the Convention is not amenable to.

Furthermore, the Protocol specifically states that the ICAO has the responsibility of reducing emissions from international

²⁴⁹ See Chicago Convention, *supra* note 137, art. 43; Lengell, *supra* note 15, at A03.

²⁵⁰ Chicago Convention, *supra* note 137, Preamble.

²⁵¹ *Id.* art. 15.

²⁵² *Id.*

²⁵³ *Id.* art. 37.

²⁵⁴ *Id.*

flights.²⁵⁵ The Protocol states that “reduction of emissions . . . from aviation” shall be achieved by “working through the International Civil Aviation Organization.”²⁵⁶ The ICAO recommended an open emissions trading system for carbon emissions from international flights.²⁵⁷ An open emissions trading scheme covers all sectors in one trading scheme, one emission reduction goal to be met.²⁵⁸ Under a closed emissions trading scheme, each sector has a separate emission reduction goal to meet.²⁵⁹ The European Parliament advocated a closed trading system during the second phase of the EU ETS, while the Commission suggested an open trading system which would cover all sectors.²⁶⁰ The Commission’s recommendation for an open system would have to be passed for this system to be in compliance with ICAO recommendations.²⁶¹ Therefore, if the aviation scheme does not involve an open system as required by the ICAO, the U.S. would violate the Protocol by acting contrary to the ICAO’s requirements.²⁶²

VIII. CONCLUSION

There are many obstacles that the Commission needs to address before implementing this proposal. A problem may arise with developing countries that own older fleets and must fly into Europe.²⁶³ The Commission suggests that these airlines should just use their newest fleets to fly into the EU, helping them maintain a lower emission for flights into the EU.²⁶⁴ However, this is counter-intuitive because it is merely switching the locale of the emissions rather than fixing the problem. The older fleets will simply fly elsewhere, emitting the same amount of emissions and affecting the entire world as they did pre-EU ETS. Additionally, if some of the angry countries with the power to do so impose trade sanctions on flying into Europe, the entire scheme would be undermined.²⁶⁵ Passengers who could have

²⁵⁵ Kyoto Protocol, *supra* note 5, art. 2.2.

²⁵⁶ *Id.*

²⁵⁷ *Assessment II*, *supra* note 185, at 4.

²⁵⁸ *Id.* at 15.

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ *Id.* at 4.

²⁶² *See id.*; Kyoto Protocol, *supra* note 5, art. 3.

²⁶³ *Assessment II*, *supra* note 185, at 52.

²⁶⁴ *Id.*

²⁶⁵ *See* Martial Tardy, *U.S. Says EU Emissions Trading Proposal ‘Impossible’*, AVIATION DAILY, Dec. 4, 2006, at 3, available at 2006 WLNR 21952415 (Andrew Stein-

flown directly from the United States into Europe will have to first fly to a country in close proximity, and then fly into Europe. This creates more out-of-the-way air passengers and could lead to increases in the amount of carbon in the air.

Because of the need for a global approach to this problem, the EU needs to re-think possible consequences of the proposal and strive to find a solution that efficiently addresses the problem. If they impose this scheme despite the dissatisfaction of so many key players, they could in turn create an adverse effect of increasing the amount of carbon emissions from international aviation traffic.

Due to the harsh response from involved parties, the EU should consider putting the proposal on hold until the ICAO discusses the issue of an open emission trading system in September of 2007.²⁶⁶ This proposal affects parties involuntarily, and by placing these restrictions on aviation, the EU could essentially only aggravate the problem. If the ICAO purports to place mandatory restrictions on all international flights during their 2007 meeting, the EU ETS could successfully curb carbon emissions; however, currently, the EU is risking a solution which will create economic problems for the EU and foreign countries, especially those which are still developing. The EU will know the ICAO's stance towards the end of 2007, but any response from the ICAO short of a mandatory international requirement will not likely restrain the United States' threats to the EU or actions from other foreign countries which may worsen the emission problem the aviation industry is facing.

Global warming is a problem which all parties involved have acknowledged. Many commentators applaud the EU for their radical actions in attempting to prevent problems in the future, while others worry that the economic effects could be tragic. The question that concerns many people is whether the economic cost of this system is worth the minimal impact it will have on greenhouse gas emissions.

berg, DOT assistant secretary for aviation and international affairs stated that "airlines will simply move [connecting non-EU flights, which account for twenty percent of EU traffic] to non-EU hubs to avoid paying for ETS credits").

²⁶⁶ *Assessment II*, *supra* note 185, at 4.



Book Review

