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Aviation Included In Australia's Emissions Trading Scheme From 2010 – Voluntary Airline Action –
Worldwide Legislative & Regulatory Overview Of Aviation And Climate Change



Aviation and Climate Change - Law & Policy is a collaborative effort of the firm of Condon & Forsyth LLP, Attorneys at Law, and The Hodgkinson Group, Aviation and Climate Change Advisors, to address and analyze current topics related to the issue of aviation and climate change.

Each edition is intended to familiarize the reader with important climate change issues facing the aviation industry and to serve as a resource for comprehensive analysis of potential solutions.

Published quarterly, this newsletter will keep the reader abreast of current developments in law and policy as they impact the aviation industry around the world.



In the first edition of this newsletter we discussed the incorporation of the international aviation industry in the European Union's Emissions Trading Scheme (the EU ETS). In this edition we discuss the inclusion of the aviation industry in the proposed Australian ETS scheme due to commence on 1 July 2010, and its implications on airlines. With a focus on carbon offsets, we also examine actions which airlines are taking in the absence of effective regional and global solutions for aviation and the environment. A legislative and regulatory overview on aviation and the environment, including climate change, aviation, the EU and U.S. is discussed within the sidebar article of this newsletter.

In the next edition of the newsletter, amongst other items, we will discuss the Australian ETS draft legislation – due to be released later this month (February 2009) – and its treatment of airlines. As the ETS will cover only Australian airlines operating domestically, the legislation may well provide a guide for other jurisdictions seeking to include only domestic aviation and to avoid the problems which have attended the EU's legislative coverage of international aviation.

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Aviation Included In Australia's Emissions Trading Scheme From 2010

Australia is the developed world's largest per-capita emitter of greenhouse gases.

Emissions Trading Generally

Worldwide carbon markets (markets in which emission permits are bought and sold) can be divided into two categories: the regulatory (or compliance) market and the voluntary market (see Voluntary Carbon Offsets at page 8 of this newsletter for a discussion on airlines and the voluntary market). An example of the regulatory market (otherwise known as the compliance market), created and regulated by mandatory regional, national and international carbon reduction regimes, includes emissions trading schemes. Emissions trading is either increasingly used or proposed as a mechanism by which governments can achieve greenhouse gas (GHG) emissions reductions. A core element of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (the Kyoto Protocol), which took effect in Australia in March of 2008, is international emissions trading; regional or national emissions trading schemes also exist – or will exist – around the world.

Emissions trading involves the trading of permits.¹ Permits are created and issued by governments under emissions trading schemes and can be traded amongst participants in the schemes to cover emissions. Emissions trading utilizes broad-based market mechanisms, through supply and demand, to create a price for emissions. The economic incentives arising out of placing a price on emissions encourage emitters – airlines, for example – to take action to reduce their emissions either by purchasing emission units from other scheme participants under the ETS and/or investing in abatement activities.

Under a “cap-and-trade” scheme – the most common form of ETS,² the one which operates in the EU and one which may well be adopted by the United States – the government sets a cap (or upper limit) on total

allowable emissions. Depending on the scope and coverage of the ETS, the emissions cap can apply across the economy as a whole or within different industry sectors. The government then issues emission permits up to that cap and allocates those permits to scheme participants; this allowance represents the participant's right to emit. In order to create incentives to reduce emissions, the number of allocated permits, or the cap, must be less than the expected business-as-usual emissions.

Permits are generally allocated by auction (sale) or grandfathering (the allocation of free permits to emitters based on particular criteria). As illustrated in Phase 1 of the EU ETS, grandfathering has the potential to deliver "windfall profits" (revenues collected by charging customers for the opportunity costs of allowances) to those with large, direct emissions, as some of those participants are able to pass along much of the market price of CO₂ allowances to consumers, or customers while the benefit of free allowances does not get passed down.

At the end of the relevant compliance period scheme participants acquit or surrender permits equivalent to their actual emissions.

Emissions trading does not involve the trading of actual CO₂; it is the *right* to emit a certain amount of CO₂ – or CO₂ equivalent (CO₂e) over a certain period which is traded. Over time, the cap on emissions can be incrementally lowered by the government until the relevant emissions target (*i.e.*, a long-term target) is reached.

Scheme participants that keep their emissions below the level of their given allowance of permits are able to sell their excess permits at a price determined by the market. Those participants facing difficulty in remaining below their allocated emissions limit have, then, a choice between:

- reducing "production";
- taking measures to reduce their emissions, such as investing in more efficient technology or using less carbon-intensive energy sources;
- buying extra permits they need at the market rate; or
- some combination of all of the above.

In order for an ETS to be successful it should ideally:

- achieve environmental objectives (*i.e.*, actual reductions in emissions);

LEGISLATIVE & REGULATORY OVERVIEW ON AVIATION & THE ENVIRONMENT:

The Climate Change Issue

Climate change attributable to the blanket of greenhouse gases (GHGs) enveloping the earth is manifesting its effect in many areas all over the world. Scientists in Greenland have observed that the area is losing ice faster than it can be replaced. The UN's IPCC (Intergovernmental Panel on Climate Change) recently projected that a CO₂ emissions peak in 2015 will result in an increase in global temperatures above pre-industrial levels by 4.3 degrees Fahrenheit (<http://www.unep.org>). Many areas of the U.S., which is estimated to emit twenty-five percent of the world's GHGs, have endured changes in climate and environment widely attributable to global warming. According to the Pew Center on Global Climate Change, the U.S. is likely to experience continued destructive western wildfires, gulf coast flooding and more extreme weather, including longer and hotter heat waves. Some Alaskan coastal villages are already experiencing the impact of the rise of CO₂ concentrations in the environment through warming waters and tidal erosion which is threatening the 2,000-year existence of these villages. The U.S. Department of the Interior, recognizing that increased melting sea ice threatens the existence of the polar bear population, added polar bears to its list of threatened species.

Climate research and science have reached the point where there is no longer any serious argument that man's activities and particularly the emission of CO₂ is reaching a critical level and time is running short for implementing measures that would prevent major impact upon society.



- be a cost effective means to achieve those objectives;
- provide incentives for investment and performance improvement;
- have a robust monitoring and verification system to enhance the credibility of the scheme;
- be simple and transparent; and
- be equitable.³

The Australian Emissions Trading Scheme

Through its ratification of the Kyoto Protocol, the Australian government is committed to capping its greenhouse gas emissions.⁴ It proposes an ETS – the Commonwealth Pollution Reduction Scheme (CPRS) – as the main mechanism to meet Australia’s Kyoto target. An emissions trading “Green Paper” was released in July 2008;⁵ a final “White Paper” was released in mid-December 2008.⁶ As mentioned above, draft exposure legislation will be released later this month (February 2009).

The CPRS begins in 2010. It is a cap-and-trade scheme. As the White Paper makes clear, the Australian government’s medium-term emissions reduction target is one between 5% (a minimum, “unconditional” target) and 15% (in the event a global agreement including all major economies, developed and developing, is concluded) below 2000 levels by 2020. The government’s long-term target is 60% below 2000 emission levels by 2050.

Under the CPRS, the number of permits issued in each year would be limited to the total carbon cap for the Australian economy. The cap is the limit on GHG emissions imposed by the CPRS. The first cap will be announced in 2010. One permit will equal one ton of CO₂e emissions. At the end of each 1 July – 30 June “year” – each compliance period – liable firms would surrender one permit for every ton of emissions it produced in that year.

The CPRS will apply to all those entities with facilities which have direct emissions of 25,000 tons of CO₂e per annum across nearly all industry sectors – stationary energy, transport (including, again, *domestic* aviation), fugitive, industrial processes, waste and forestry. One thousand Australian corporations will be affected representing the bulk (70%) of national emissions. These corporations must report under the National Greenhouse and Energy Reporting Act; reporting commenced in 2008 by way of preparation for the introduction of the CPRS. Corporations not caught by the Act - 99% of Australian businesses – can also choose to report.

The Aviation Issue

Although aviation currently contributes less than three percent of global carbon emissions, aircraft CO₂ emissions have increased by eighty-seven percent since 1990. It is argued that aircraft emissions produce more GHGs than any other mode of transportation per passenger: aircraft pollute at 191 grams of CO₂ per passenger while cars pollute at 143 grams of CO₂ per passenger and trains pollute at 43 grams of CO₂ per passenger. Aircraft emissions, however, present a unique problem for the environment because aircraft emit not only CO₂ but also NO₂, N₂O, water vapor, sulphur and soot directly into the atmosphere while the aircraft are in flight.

Before the recent spike in oil prices followed by the worldwide recession and sharp decline in oil prices, it was expected that the airline industry would experience tremendous growth. That expected upswing in air travel raised concerns that the aviation industry would become one of the biggest contributors to anthropogenic climate change by 2050.

The fact that the current worldwide recession is sharply reducing air travel and CO₂ emissions may be buying the aviation industry more time to act. However, as airline profits fall (or their losses rise), the ability of airlines to acquire new greener airplanes will also decline. The net effect is likely to be a slower, but significant rise in aviation CO₂ emissions unless the industry receives incentives to reduce emissions.

The EU Solution

The incentive proposed by the EU is to incorporate international aviation into the existing EU Emissions Trading Scheme (ETS). The current proposal adopted by the EU Parliament (July 2008) and the Council (October 2008) incorporates all flights into the existing EU ETS by 2012 and caps aviation CO₂ emissions at ninety-seven percent of the 2004-2006 level (ninety-five percent by 2013) and provides for eighty-five percent of the allowances to be allocated free of charge. Fifteen percent of the allowances will be auctioned by the EU Member States who have one year ↓

Permits will be auctioned to all emitters that are covered by the scheme unless firms qualify for free permits. Auctions will take place 12 times in each compliance period. Permit price will be determined by levels of supply and demand in the market. At this point the permit price cannot be predicted; it will depend on the annual caps that are imposed. The price will not be fixed by the government for a transitional period. White Paper modeling suggests an initial carbon price of AUD 25.⁷ In that event, and absent any other consideration, the cost to an emitter who emits 25,000 tons per annum would be AUD 625,000 per compliance period.

The CPRS sets a price cap for permits of AUD 40 for 5 years from the beginning of the scheme, rising at 5% per annum.

Emissions-intensive, trade-exposed industries

Emissions-intensive, trade-exposed (EITE) industries⁸ may not be able to pass on CPRS costs as they face prices which are set in international markets and compete against firms that do not have comparable carbon constraints. As a result, a share of free permits will be given to EITE industries at the beginning of each compliance period by way of transitional assistance. Assistance would gradually be reduced over time.

At the start of the CPRS, it is estimated that EITE industries will be allocated approximately 25% of total permits and, with economic growth, this is likely to rise to around 45% by 2020. In terms of thresholds for compensation, those industries engaged in activities with emissions intensity of at least 2000t CO₂e per \$1 million of revenue or 6000 tons CO₂e per \$1 million value-added (earnings before interest, tax and depreciation, plus employee costs) will receive 90% of permits for free. Those industries engaged in activities with emissions intensity between 1000 tons CO₂e and 1999 tons CO₂e per \$1 million revenue or between 3000 tons and 5999 tons CO₂e per \$1 million value-added will receive 60% of permits for free. Again, Australian airlines flying domestically are caught by the CPRS. They do not appear to qualify for EITE assistance.

*Legal Aspects*⁹

A carbon pollution “permit” will be referred to in legislation creating the CPRS as an “Australian Emissions Unit” or AEU. It would be an entitlement composed of various “rights,” the main one of which would be to surrender and transfer permits. AEU would be personal property and would, with some qualifications, be transferable.

The EU Solution *(continued)*

to vote the proposal into national law. The auction revenues “should be used to tackle climate change,” but there is no requirement.

The U.S. Government Position

Historically, the U.S. has opposed mandatory restrictions to reduce GHGs. In 2001, President Bush noted that the U.S. had spent \$18 billion since 1990 to address global warming (three times that of any other nation) and in announcing that the U.S. would respond to global warming with scientific advances, established the U.S. Climate Change Research Initiative to study areas of uncertainty and to identify priorities. In 2002, the Bush administration announced the Climate Change Strategy, which set a voluntary GHG intensity target with an eighteen percent reduction in emissions from 2002 to 2012 and continued to encourage voluntary programs with voluntary compliance. Although there has been a reduction in the rate of increase of GHGs, emissions in the U.S. have grown over sixteen percent from 1990 to 2005. Bush also expressed support for increased funding for further development in climate change science and technology. In early 2008, Bush continued to assert that technology is the key to combating the climate crisis and that the U.S. would continue to pursue advances in technology (<http://www.whitehouse.gov> and <http://www.pewclimate.org>).

During the Bush administration, the U.S. opposed the EU Proposal, dismissing it as an ineffective regional plan without international support seeking to address a global issue contrary to international law. U.S. officials maintained that climate change affects everyone, everywhere, not just local pockets of the planet. Historically, the U.S. has opposed mandatory cap-and-trade programs in favor of singular regulatory plans aimed at addressing climate change and reducing CO₂ emissions coupled with voluntary compliance in those plans.

The U.S. government supported its opposition to the inclusion of ↓

Each permit, when surrendered, would discharge obligations under the scheme relating to the emission of one ton of carbon dioxide equivalent of greenhouse gas. Each permit could be surrendered only once. Permit holders would only be entitled to surrender permits that they hold on the national registry. Legal title would be transferred only by entry in that registry. Equitable interests in permits can be created; security can also be taken over them.

A permit could be held and traded by any legal or natural person. Further, no restrictions on foreign ownership of permits are proposed. Universal participation would be permitted at permit auctions.

Unlimited banking of permits would be allowed. The CPRS scheme would permit a limited amount of short-term borrowing by allowing liable entities to discharge up to 5% of their obligations by surrendering permits dated from the following year. Liable entities would also have access to an unlimited store of additional permits, issued by the Australian government, at a fixed price of AUD 40. Entities could purchase such permits from the time of the final reporting date for the Scheme up until the final surrender date for the purpose of meeting Scheme obligations. Such permits could neither be traded nor banked. CPRS participants can *import* an unlimited number of Kyoto Protocol credits to meet their CPRS obligations; participants, however, cannot *export* their credits.



Domestic Aviation Is Included In The Scheme; International Aviation Is Not

Unlike the EU ETS, only domestic aviation is included in the CPRS; the legal problems which were identified in the first edition of this newsletter¹⁰ as a result of the inclusion of international aviation in the EU ETS are, thus, avoided under the Australian scheme.

As mentioned above, while domestic airlines will be caught by the CPRS, it appears unlikely that they will qualify for EITE assistance at

The U.S. Government Position

(continued)

international aviation into the EU ETS by contending that it was a violation of Article 15 of the Chicago Convention which provides: “No fees, dues or other 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 of any aircraft of a contracting state ...” The U.S. also points to Article 31 of the Convention which provides: “Each contracting state undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft ...”

(http://www.icao.int/icaoet/dcs/7300_cons.pdf).

The U.S. further argued that incorporating international aviation into the EU ETS violates the U.S.-EU Bilateral Trade Agreement (“Open Skies”). Open Skies, which entered into force on March 30, 2008, gives any aircraft the opportunity to land or depart from any city in either the U.S. or the EU. The Agreement intends not only to remove market access restrictions on U.S.-EU flights and create a “level playing field” for all flights but also to facilitate cooperation between the U.S. and the EU on safety, security, government subsidies and the environment. The Agreement also incorporates the Atlantic Interoperability Initiative to Reduce Emissions (AIRE), a joint project between the U.S. and the EU to reduce the environmental impact of U.S.-EU flights. (<http://www.state.gov>).

U.S. Government Opposition to the EU Proposal

The U.S. supports the implementation of a plan by the International Civil Aviation Organization (ICAO) by reference to Article 2.2 of the Kyoto Protocol, which the U.S. has not ratified. Article 2.2 of the Kyoto Protocol confers the responsibility for reducing international aviation CO₂ emissions on ICAO. At its Assembly in 2004, ICAO expressed support for the development of regional emissions trading schemes. However, ICAO did not ↓

either the 90% or 60% rate;¹¹ such airlines will, thus, pay for 100% of their permit obligations, unlike other emissions-intensive sectors.¹² Qantas' environment manager has said that, while Qantas is one of Australia's largest greenhouse gas emitters it would not qualify under the White Paper for EITE assistance; "Qantas would go from having no carbon liability to quite a significant one. Our potential carbon liability is in excess of \$100 million – and in the worst case, far more than that."¹³ Further, the airline, like other Australian airlines, "would be disadvantaged by higher input costs, loss of short-haul customers to rail and cars, and [loss of] tourists to countries where carbon emissions are free."¹⁴

The government, however, considers that emissions intensity is homogenous across the aviation industry and that domestic airlines should be able to pass on costs as competitors will face similar cost increases. More particularly, the government's view is that submissions from Australian airlines flying domestically do "not consistently argue that the industry would be unable to pass costs through to consumers;" that "the emissions intensities of competitors in the aviation industry are sufficiently similar that firms in the industry will be able to pass on a large portion of the costs of the scheme to consumers;" that "the extent of increases in the price of air travel is unlikely to be sufficient to materially reduce demand for these services;" and it considers "that the aviation industry will have some capacity to pass-through the carbon cost it faces, implying that it would not be eligible for EITE or strongly affected industry assistance."¹⁵

Qantas, reflecting general domestic airline industry concerns, has also argued that the CPRS:

- uses a flawed metric of "emissions per unit of revenue" as the basis for determining emissions intensity and assumes that airlines can easily "pass through" costs to airline customers. The use of a single, simplistic metric to determine compensation rankings makes the scheme susceptible to inequitable and non-neutral treatment of industries;
- does not recognize that record fuel prices have already provided the industry with a strong pricing signal to reduce emissions;
- introduces competitive distortion between modes of transport, especially between air and road transport;
- does not recognize that aviation is trade-exposed with high

express continued support at its 2007 Assembly, where ICAO formed a new group of senior advisors to investigate international aviation emissions through voluntary reductions, technological advances and air traffic control improvements.

In apparent allegiance with the position of the U.S., the 2007 ICAO Assembly also announced that the EU must procure agreement from other countries to incorporate aviation into the EU ETS. Rather than submitting to the EU ETS, the U.S. has emphasized that reducing emissions through more direct flights and requiring aircraft to fly at engine-efficient altitudes are more immediate and cost effective means to reduce CO₂ and non-CO₂ emissions. One of the U.S.'s strongest arguments against including aviation in the EU ETS is the failure of the EU to implement an effective Single European Sky program (SES).

The U.S. Outlook

The FAA has been developing "NextGen," a plan of new concepts and capabilities for satellite-based air traffic management and communications which will allow point-to-point flying to eliminate the back-up of inbound and outbound aircraft.

The FAA estimates that NextGen will cut GHGs by 15 percent. The U.S. has also been researching (1) improvements in aircraft technology, noting that new aircraft burn between seventeen and thirty percent less fuel than older models; (2) the development of environmentally progressive fuels derived from algae; and (3) the development of alternative fuels such as biofuels. The goal of the Commercial Aviation Alternative Fuels Initiative (CAAFI) is to bring together U.S. and industry leaders to "promote the development of alternative fuel options that offer equivalent levels of safety and compare favorably with petroleum-based jet fuel on cost and environment bases, with the specific goal of enhancing security of energy supply"

http://www.caafi.org/information/pdf/CAAFI_confacts_9nov07.pdf. ↓

potential for substitution away from Australian tourism into international tourism destinations and competitive distortion between domestic and international aviation;

- does not recognize that aviation is highly capital intensive with long-life sunk assets that cannot be used for other purposes in other markets;
- does not recognize that without a readily available substitute for petroleum-based fuels, aviation will need time to adapt to emissions trading; [and]
- does not provide sufficient visibility around the Government's approach to funding "complementary" measures, nor the types of measures that are likely to be considered appropriate for consideration.¹⁶

In theory, argues Richard Denniss, an ETS

creates the potential for "gains from trade" where industries such as steel and airlines, both of which have very little capacity to reduce their emissions without reducing their levels of output, can buy permits from other industries that can reduce their emissions at a lower cost. However, the CPRS will fail to achieve many of the "gains from trade" suggested in the textbook because, although it will have a strong impact on the "supply side" of the economy, in that it will encourage increased investment in renewable energy, it will have only a minor impact on the "demand side."¹⁷

Thus, to paraphrase Denniss, a higher ticket price will reduce demand for air travel slightly, but it is unlikely to provide a strong incentive.

Finally, inclusion of domestic airlines in the CPRS will mean that voluntary offset schemes presently offered by such airlines will become redundant.

Aviation Emissions And Climate Change

Inclusion of domestic aviation in the Australian ETS needs to be viewed within the Australian Government's broader aviation policy framework. In its *National Aviation Policy Green Paper*, the Government stated that it had three key objectives in developing a strategy for managing aviation emissions: "ensuring that the aviation sector's response is proportional to requirements for the economy as a whole" through the application of the CPRS; supporting technology development to reduce aviation emissions; and

The U.S. Outlook *(continued)*

Because the U.S. Government views oil dependency as a strategic threat, the U.S. military, which consumes as much as 340,000 barrels of oil a day, has become an "alternative-fuels pioneer," recently certifying the B1 bomber for use with synthetic fuel.

Last month Air New Zealand, Continental Airlines and Japan Airlines conducted flight tests using alternative fuels comprised of jet fuel and 50% algae and oil from the tropical scrub *Jatropha*. While the production and distribution of these alternative fuels in sufficient quantities is a long way off, these tests were very encouraging and some industry experts are suggesting they may be available within five years.

Another encouraging note was sounded by President Obama's new administration's announcement that it was releasing up to \$25 million in funding for research and development of biofuels. Additional funds are also expected to flow from the economic stimulus package recently approved by Congress.

U.S. Law, Legislation and Initiatives

Perhaps the most significant legal decision to affect the control of GHGs came in April 2008 from the United States Supreme Court in [Massachusetts v. The U.S. Environmental Protection Agency \(EPA\)](#). The U.S.'s highest court found that the EPA has the authority to regulate GHG emissions under the Clean Air Act and remanded the case to the EPA to determine whether GHGs contribute to climate change and, if so, to regulate emissions from vehicles. In May 2008, apparently in response to the Supreme Court's mandate, the EPA began seeking comment on curbing aviation emissions.

With respect to U.S. Legislation on the issue, U.S. Senators and Members of Congress have introduced a variety of bills to curb CO₂ emissions and to reduce GHGs, but not a single bill has passed. The baton has now been passed to President Obama.

President Obama has expressed his ↓

“encouraging the adoption of international measures which do not unfairly affect Australian aircraft operators’ ability to compete in global markets and manage emissions.”¹⁸

The Government reiterated that, while it proposed inclusion of domestic aviation operations in the CPRS, it did not propose the inclusion of emissions from international aviation; “an approach to addressing emissions from international aviation should be developed separately through the International Civil Aviation Organization ...”¹⁹

Voluntary Airline Action In The Absence Of A Global Solution To The Aviation Climate Change Problem – The Relevance Of Offsets

In our first newsletter²⁰ we discussed legal and other issues associated with the inclusion of international aviation in the EU ETS. In this, our second, newsletter we have looked at the potential operation of the Australian Carbon Pollution Reduction Scheme²¹ – a scheme which avoids the legal and other problems which attend the EU ETS by including only domestic aviation operations. Dispute over the EU ETS is, of course, ongoing,²² as is development of national and regional emission trading schemes which may or may not attempt to include aviation. The International Civil Aviation Organization (ICAO), meanwhile, “is pressing on with developing the framework for a global emissions trading scheme despite [this] growing number” of schemes.²³

For the Director General and CEO of the International Air Transport Association (IATA), Giovanni Bisignani, the best way of achieving “a global solution for aviation and the environment” is through ICAO’s Group on International Aviation and Climate Change.²⁴ Along with economic measures such as emissions trading, Bisignani also emphasizes the need for improved efficiency with technology, operations and infrastructure.²⁵

With a focus on carbon offsets, this article examines action which airlines are taking in the absence of effective regional and global solutions for aviation and the environment, action which becomes more important the longer such solutions take.

Voluntary Carbon Offsets

In addition to the regulatory (or compliance) carbon market, of which the EU ETS is an example, a voluntary or non-regulated carbon

U.S. Law, Legislation and Initiatives (continued)

support for a cap-and-trade system which would be ideologically consistent with the EU ETS. However, with so many U.S. companies spiraling toward bankruptcy it is unlikely Obama will want to provide an extra push in that direction to the entire fragile aviation industry that was teetering on the edge of bankruptcy before the severity of the current financial crisis surfaced. The fact that the EU ETS will not impose a significant financial burden on airlines until 2012 may enable the EU ETS to remain below the radar in the near term. If President Obama wishes to find a balance between his policies on the environment and the economy there is considerable room for modification to the EU ETS.

State and Local Climate Change Initiatives

Preemption generally prevents state and local governments from regulating aviation emissions but state and local regulations may cover other aviation-related activities. For example, California’s Global Warming Solutions Act of 2006 (California AB 32) establishes a timetable to bring California into near compliance with the provisions of the Kyoto Protocol and requires that the state’s GHG emissions be reduced to 1990 levels by 2020, a roughly 25% reduction under “business as usual” estimates.

Throughout the country, states are aligning interests and creating regional initiatives. Under the Regional Greenhouse Gas Initiative (RGGI), ten Northeast and Mid-Atlantic States instituted voluntary cap-and-trade CO₂ emissions plans for power plant operators in the member states. The New England Governors/Eastern Canadian Premiers Climate Change Action Plan parallels RGGI and seeks to reduce emissions in the Northeast, calling for a reduction in GHG emissions to ten percent below 1990 levels by 2020 (compared to the EU goal of twenty percent of 1990 levels by 2020). States along the western rim of North America formed the Western Climate Initiative (WCI) to identify, evaluate and implement ways to ↓

market exists. This voluntary market includes all carbon offset trades that are not required by regulation; transactions in this market include, for example, the purchase of carbon credits by corporations, such as airlines, at the retail level to offset their emissions.

One of the main segments of the voluntary carbon market is the non-binding offset market. Offsets designate the emissions reductions from project-based activities that can be used to meet the objectives of corporations – airlines, again, by way of example – with regard to greenhouse gas mitigation. Corporations avoid or reduce GHG emissions in one place so as to offset such emissions occurring in another place.

Importantly for airlines, an offset may be indirect and part of an activity not associated with the original core activity of the offsetting industry. GHG emissions

mix well in the atmosphere and can travel around the planet quickly. As a result, it doesn't really matter from the standpoint of global warming mitigation where a reduction takes place ... Offsets are intended to take advantage of the radically different costs and practicalities of achieving GHG emission reductions by sector and geography.²⁶

Offsets are generated from projects that avoid, reduce or absorb greenhouse gases.

While offsetting is a basic principle of the compliance or regulatory market (including the Kyoto Protocol to the United Nations Framework Convention on Climate Change), most offsets are bought in the voluntary market. Airlines purchase offsets from offset companies in this market and do so to:

- address their climate impacts;
- meet self-imposed reduction targets; and/or

prepare for government regulations.

Standards And Development Of The Market

The voluntary offset market is booming and is increasing in significance. With such growth, however, has come a proliferation of standards such that no universal standard exists to evaluate, monitor and verify or determine the quality of marketed carbon offsets or emission offset projects. As a late 2008 report notes,

[o]ffsets generated through voluntary markets, known as Verified or Voluntary Emissions Reductions (VERs), have

State and Local Climate Change Initiatives *(continued)*

collectively reduce GHG emissions in the region. The WCI, which intends to formalize an international cap-and-trade program involving the U.S. and Canada, has set a goal of reducing GHG emissions by fifteen percent by 2020. Six Midwestern state governors have formed the Midwestern Greenhouse Gas Accord (MGA) which likewise aims to establish GHG emissions and cap-and-trade targets. To implement its plan to cap CO₂ emissions from power plants and then to reduce them by ten percent by 2019, New York State has already conducted two CO₂ Allowance Auctions, the first of their kind in the U.S.

The New U.S. Administration

President Obama has expressed support for a cap-and-trade system with one hundred percent auctioning to cut CO₂ emissions to eighty percent of the 1990 levels by 2050. He also expressed support for dedicating auction proceeds to the development and deployment of clean energy technology.

As a Senator, Obama had refused to endorse a "gas tax holiday" and expressed his opposition to offshore drilling as ways to "ease the burden" of a costly oil dependency shared by Americans. As President, he is expected to allow Congress a period of eighteen months to approve a comprehensive federal climate change program and, if Congress fails to deliver, to initiate rule-making procedures at the EPA under the Clean Air Act.

Climate Change Policy Considerations and the Airline Industry

Any future climate change policy must consider the potential negative impact on the airline industry's ability to invest in improvements, ninety percent of which are generally attributable to an airline's own reinvestment in technology. U.S. airlines have proven their commitment to improved fuel efficiency (having increased fuel efficiency one hundred and three ↓

been promoted as an opportunity for experimentation and innovation. They have the general advantage of lower transaction costs than offsets generated for use in mandatory compliance programs. However, the lack of quality control ... [has] generated concern from the wider offset market.²⁷

Nonetheless, complementary standards and regulations have recently emerged and continue to be developed. Airlines not yet participating in the voluntary market can examine standards and regulations whilst preparing to participate. The International Organization for Standardization (ISO), the world's largest developer of international standards, is a network of national standards institutes of 157 countries. The ISO 14064 standard for greenhouse gas accounting and verification, launched two years ago, provides a global solution

to the problems posed by the fact that governments, business corporations and voluntary initiatives were using a number of approaches to account for organization- and project-level GHG [greenhouse gas] emissions and removals with no generally accepted validation or verification protocols.²⁸

The standard, in three parts, sets out clear and verifiable specifications for organizations and proponents of greenhouse gas emission reduction projects. It provides requirements for organizations to quantify and verify greenhouse gas emissions. The ISO 14064 process principles are regime neutrality, technical rigour, extensive participation and speed-to-market.

The ISO's 14065 standard sets out accreditation requirements for organizations that either verify or validate greenhouse gas emission claims or assertions, and was released last year. The aim of such verification or validation

is to give confidence to parties that rely upon a GHG assertion or claim, for example regulators or investors, that the bodies providing the declarations are competent to do so, and have systems in place to manage impartiality and to provide the required level of assurance on a consistent basis.²⁹

Taken together, the ISO 14064 and 14065 standards develop flexible, regime-neutral tools for use in voluntary or regulatory greenhouse

Climate Change Policy Considerations and the Airline Industry *(continued)*

percent since 1978) and reduced fuel consumption and emissions between 2000 and 2006. Airlines have a limited opportunity to pass on costs as jet fuel prices have, until recently, outpaced domestic fares. Policies that discourage flyers can shift passengers to other modes of transportation, creating negative environmental and safety impacts with increased vehicle emissions and highway deaths.

Future U.S. climate change policies must be proportionate. Indeed, aviation contributes eight percent of the global economy yet accounts for less than three percent of global GHG emissions. Ultimately, future policies must take into account not only the cost implications of removing the airlines' means of reinvesting, but also the cost implications of following safety and fuel mandates, the cost implications for unintended consequences (including the potential for increased emissions from other modes of transportation), and international law and relations because aviation is an international industry.

Conclusion

There is little doubt that the U.S. is committed to address and curtail significant future damage from global warming. The question looms whether it is feasible for the Obama Administration to implement a federal climate change policy in the present economy. ☺



gas schemes; promote and harmonize best practice; support the environmental integrity of greenhouse gas assertions; assist organizations to manage greenhouse gas-related opportunities and risks; and support the development of greenhouse gas programs and markets.³⁰

Building on the work of ISO 14064, two complementary standards – the Voluntary Carbon Standard (VCS) and the Voluntary Gold Standard (VGS) – were launched in 2007 and 2006 respectively. The VCS is a standard for the measurement and recognition of verified emission reductions created for voluntary use by corporations and is “designed to be a global benchmark standard for project-based voluntary emission reductions that provides a degree of standardization to the voluntary carbon market.”³¹

Finally, the Voluntary Offset Standard (VOS), developed by European Carbon Investor Services,

brings the voluntary market up to the level of the regulated and standardized procedures of the compliance market ... It will also support companies’ early action in anticipation of legislation being enacted ... the Standard gives a signal that their purchases represent real emission reductions ... This standard can be used as a minimum standard when purchasing verified emission reduction credits on behalf of organizations or individuals offsetting their greenhouse gas emissions.³²

Conclusion: Airlines Promote Innovation, Research And Development

As the price of offsets increases with demand, development of more sophisticated greenhouse gas reduction projects, and a mix of such projects flowing from funds invested as a result of offsets purchased, are anticipated. Current and future airline participation in the voluntary carbon market, through voluntary offset programs, promotes innovation and technological solutions to the aviation climate change problem; carbon offsets “do have their place in spurring innovation.”³³ Such participation is, of course, additional to ongoing airline research and development regarding air transport technology and alternative jet fuels, and development of more efficient operational practices and air transport management systems and processes.

Airline participation in the voluntary market is clearly encouraging investment in and the development of new technology and new solutions as one part of a comprehensive climate strategy, a part of



UPCOMING EVENTS

London School of Economics – Climate Change Refugee Seminar

David Hodgkinson, The Hodgkinson Group, and his colleague, Tess Burton will be presenting a seminar, “Towards a Convention for Persons Displaced by Climate Change: Key Issues and Preliminary Responses,” at the Grantham Research Institute on Climate Change and the Environment, London School of Economics, London, on 6 March 2009.

Climate Change: Global Risks, Challenges and Decisions (IARU Scientific Congress)

David Hodgkinson, The Hodgkinson Group, and his colleague, Tess Burton will be presenting a seminar on climate change displacement at the “Climate Change: Global Risks, Challenges and Decisions” conference in Copenhagen, Denmark, on 10 March 2009.

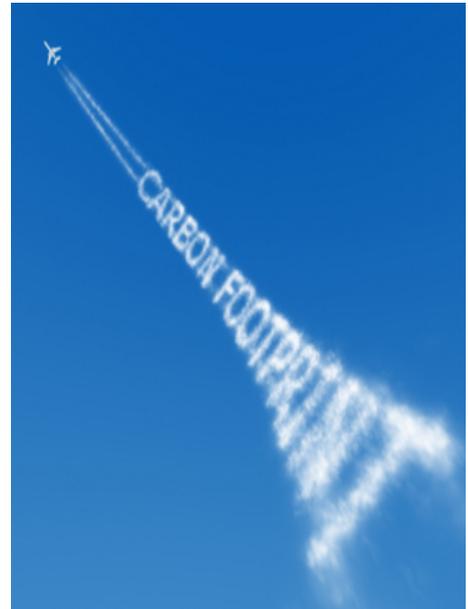
The United Nations Climate Change Conference in Copenhagen, Denmark – COP 15

The 15th Session of the Conference of the Parties (COP 15) to the UN Framework Convention on Climate Change will be held in conjunction with the 5th Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 5) in Copenhagen in December 2009. David Hodgkinson, The Hodgkinson Group, will be attending as a credentialed Australian representative.

increasing importance given, as mentioned, dispute over the EU ETS and the absence of effective regional and global solutions for aviation and the environment. Moreover, the nature of such airline participation and the global industry involved gives additional impetus to developments presently underway with regard to technologies which avoid, reduce or absorb greenhouse gas emissions – all matters of vital importance to the airline industry.³⁴ The World Bank reports that

[t]he enormity of the climate challenge ... will require a profound transformation, including in those sectors that “cap-and-trade” markets cannot easily reach. These include making public and private investments in research and development for new technology development and diffusion ...³⁵

The voluntary carbon offset market can reach those sectors. ☞



¹ Or, variously, credits or allowances.
² The other common approach is a “base-line-and-credit” system. Under such a system there is no explicit cap on emissions. Rather, participants are allowed to emit a certain baseline level of emissions, usually derived from historical business-as-usual emissions. This results in an implicit cap on emissions across the scheme equal to the sum of the individual baselines.
³ See, generally, David Hodgkinson and Renee Garner, *Global Climate Change: Australian Law and Policy*, Sydney, LexisNexis Butterworths, 2008, pp. 240-258.
⁴ Australian Government, Department of Climate Change, “Kyoto Protocol,” available at <http://www.climatechange.gov.au/international/kyoto>.
⁵ Australian Government, *Carbon Pollution Reduction Scheme: Australia’s Low Pollution Future*, Green Paper, Canberra, Commonwealth of Australia, 2008, available at <http://www.climatechange.gov.au/greenpaper/report/index.html>.
⁶ Australian Government, *Carbon Pollution Reduction Scheme: Australia’s Low Pollution Future*, White Paper, Canberra, Commonwealth of Australia, 2008, available at <http://www.climatechange.gov.au/whitepaper/report/index.html>.
⁷ The first trade in Australian Emissions Units (AEUs) since the Government released the CPRS White Paper was carried out on 19 January 2008; 10,000 AEUs, expiring on 20 June 2012, were sold at AUD 22.25 each: Reuters News, “Australia emission trade gives price indication,” 19 January 2009.
⁸ See, generally, note 6 above, volume 2, “Assistance to Emissions-Intensive Trade-Exposed Industries,” pp. 12-1 to 12-87.
⁹ See, generally, note 6 above, volume 1, “Carbon Markets,” pp. 8-1 to 8-29.
¹⁰ See note 1 above.
¹¹ See Australian Government, *Carbon Pollution Reduction Scheme: Australia’s Low Pollution Future*, White Paper Fact Sheet, “EITE Assistance Program: Eligibility for Assistance,” Canberra, Commonwealth of Australia, 2008, available at <http://www.climatechange.gov.au/whitepaper/report/index.html>.
¹² Assuming the position with regard to free permits for Australian airlines flying domestically as set out in the White Paper is reflected in the CPRS legislation.
¹³ Tim Colebatch, “Emissions scheme would clip Qantas’ wings,” *Sydney Morning Herald*, 20 November 2008.
¹⁴ *Ibid.*
¹⁵ See note 6 above, volume 2, Appendix D, p. D-5.
¹⁶ Qantas Airways Limited, “Developing a More Sustainable Australian Aviation Industry,” Submission to the Australian Government Carbon Pollution Reduction Scheme Green Paper, September 2008, p. 2, available at <http://www.climatechange.gov.au/greenpaper/consultation/pubs/0671-qantas-airways.pdf>.
¹⁷ Richard Denniss, *Fixing the Floor in the ETS: The Role of Energy Efficiency in Reducing Australia’s Emissions*, Research Paper No. 59, The Australia Institute, November 2008, p. 5.
¹⁸ Australian Government, *National Aviation Policy Green Paper: Flight Path to the Future*, Canberra, Commonwealth of Australia, December 2008, p. 181.
¹⁹ *Ibid.*, p. 185.

- 20 See Condon and Forsyth LLP and The Hodgkinson Group, “The EU and the Aviation Industry: A Swirling Controversy and
the International Debate,” *Aviation and Climate Change - Law & Policy*, September 2008, vol. 1, no. 1, p. 1.
- 21 Australian Government, *Carbon Pollution Reduction Scheme: Australia’s Low Pollution Future*, White Paper, Canberra,
Commonwealth of Australia, 2008, available at <http://www.climatechange.gov.au/whitepaper/report/index.html>.
- 22 It also appears that the dispute will become more complex as a result of the EUs intention to call for airlines and shipping to be
included in any successor agreement to the Kyoto Protocol to the United Nations Framework Convention on Climate Change.
The EU has said that “[e]missions from international aviation and maritime transport should be included in the overall targets
set in the Copenhagen agreement and included in the national totals of the country of departure (or arrival):” P. Harrison, “EU
wants air, shipping in post-Kyoto pact,” Reuters News, 21 January 2009.
- 23 Reuters, “ICAO presses on with global emissions trading plan,” 16 January 2009.
- 24 International Air Transport Association, “IATA Blasts EU ETS Decision,” Press Release, No. 50, 24 October 2008.
- 25 *Ibid.*
- 26 Clean Air-Cool Planet, *A Consumer’s Guide to Retail Carbon Offset Providers*, Clean Air-Cool Planet, Portland, 2006, p. vii.
- 27 Stockholm Environment Institute, *A Review of Offset Programs: Trading Systems, Funds, Protocols, Standards and Retailers*,
Research Report, Stockholm, Stockholm Environment Institute, 2008, p. 7.
- 28 International Organization for Standardization, “New ISO 14064 Standards Provide Tools for Assessing and Supporting
Greenhouse Gas Reduction and Emissions Trading,” 3 March 2006.
- 29 International Organization for Standardization, “ISO 14065 Standard – New Tool for International Efforts to Address
Greenhouse Gas Emissions,” 17 April 2007.
- 30 See note 9 above.
- 31 International Emissions Trading Association, *The Voluntary Carbon Standard – Verification Protocol and Criteria – Proposed
Version 2*, available at http://www.theclimategroup.org/assets/Voluntary_Carbon_Standard_Version_2_final.pdf.
- 32 European Carbon Investor Services, *Voluntary Offset Standard*, p. 1, available at
<http://www.carboninvestors.org/ECISVoluntaryOffsetStandardFINALJune.pdf>.
- 33 Anja Kollmuss and Benjamin Bowell, *Voluntary Offsets For Air-Travel Carbon Emissions: Evaluations and Recommendations
of Voluntary Offset Companies*, Boston, Tufts Climate Initiative, 2006, p. 1, available at
http://www.tufts.edu/tie/tci/pdf/TCI_Carbon_Offsets_Paper_Jan31.pdf.
- 34 Further, as the House of Lords European Union Committee noted in 2006, in the context of aviation entering the EU ETS,
“technological improvements in the aviation industry will become even more urgent in order to reduce emissions while
maintaining growth in air travel ...:” House of Lords, European Union Committee, 21st Report of Session 2005-06, *Including
the Aviation Sector in the European Union Emissions Trading Scheme*, London, The Stationery Office, 9 February, 2006, p.
51.
- 35 The World Bank (Karan Capoor and Philippe Ambrosi), *State and Trends of the Carbon Market 2007*, Washington, DC, May,
2007, p. 7.

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