

Climate of Opinion

The Stockholm Network Energy and Environment Update

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Welcome to *Climate of Opinion* – Helen Disney and Paul Domjan¹

This month's edition of *Climate of Opinion* brings together some of the top aviation industry insiders, allowing them to discuss how the industry can meet the challenge of climate change while maintaining its key role in an ever more global economy. From PwC, Arnoud Walrecht and Dr Jeroen Kruijd explain how ETS Phase II might look once it is expanded to include aviation. Phillipe Rochat from IATA explains the steps the aviation industry is taking to ensure that carbon emissions are reduced, and outlines what governments can do to help. Finally, Simon Baugh of BAA Heathrow lays out the economic case for airport expansion, stressing the need for growth within acceptable environmental limits.

If you have any comments or recommendations about *Climate of Opinion*, or would be interested in contributing an article for a future edition, please contact Helen Davison: helend@stockholm-network.org. We hope you enjoy this newsletter.

Ready for take off? The inclusion of the aviation sector in the EU Emissions Trading Scheme – Dr Jeroen Kruijd and Arnoud Walrecht²

Aircraft operators face new obligations from 1 January 2008, when they will more than likely be included in the European Emissions Trading Scheme (EU-ETS). According to the current proposed Directive (2006/0304), by 2013 all carriers flying from and to the EU will have to either reduce CO₂ emissions or buy allowances on the market to meet their emission targets, or caps. Every carrier will receive emissions allowances sufficient to meet their cap, but the

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² Dr Jeroen Kruijd is Principal Manager of Sustainability & Climate Change Services for PricewaterhouseCoopers. Arnoud Walrecht MA works alongside him in the sustainability department.

idea of emissions trading is that the total sum of caps is less than the forecasted emissions. The scarcity thus created is meant to be the engine for emissions reduction measures. Since 2005, the EU-ETS caps CO₂ emissions from approximately 10,000 installations in other sectors and trading of emissions allowances has been a lively business ever since.

The European Commission proposal integrates aviation as far as possible into the EU ETS. The proposal is not to develop a separate emission trading scheme for aviation. Instead, most of the features of the EU ETS will be translated to match aviation's needs. This includes the main concepts such as the use of allowances, trading, monitoring and reporting and verification of emission reports. However, aviation will be treated differently in many of these areas in respect to the details of implementation. Partly this is caused by ongoing learning from the existing EU ETS; partly it is because of the sector's specific characteristics, such as its global market and internationally mobile source of emissions. As yet nothing has been decided on the key features of the scheme, let alone these important details.

Is the sector ready for take-off? Should it already be airborne? PwC surveyed aircraft operators on the state of readiness and preliminary results suggest a high level of uncertainty.

Let us first take a step back. Why include the aviation sector in the EU ETS? What exactly is being proposed?

While air transport currently accounts for a modest 2-3% share of overall emissions, its emissions are growing faster than any other sector, rising in Europe alone by 87% between 1990 and 2004. The European Commission considers transport, including aviation, as one of the main target industries for emissions reduction.

Key facts of the proposed Directive include:

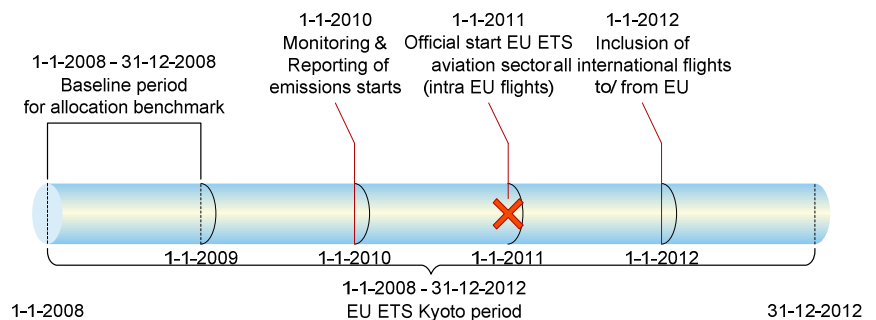
- The aviation industry will join the current EU ETS (Directive 2003/87)
- Allowances will, in the main, be granted for free; however, some will be auctioned.

- ❖ Benchmarking will be the allowance allocation method: carriers monitor the payload (weight) and great circle distance for each flight from January 1, 2008. They must then submit the accumulated data for verification, and can request their allowance allocation in March 2009.
- ❖ Allowances per carrier are in principle equal to this number multiplied by the total number for all carriers divided by the total cap.
- ❖ The total cap for the sector will be the emissions level that existed between 2004 and 2006, which will be set by the European Commission.
- ❖ The scheme will take effect from 2010, when aircraft operators will be required to start monitoring and to report emissions every year thereafter. From 2011, EU internal aviation will be included. From 2012 all flights to and from the EU will be covered by the scheme.
- ❖ Emissions will have to be monitored on the basis of a comprehensive monitoring plan, that needs validation by the administering Member State in 2009
- ❖ Emissions are determined by fuel use and an emission factor. This fuel use needs to be determined separately for each flight and this involves a huge amount of data. The emissions report is subject to an external verification, to ensure that emission figures are complete and accurate.
- ❖ Every carrier will be administered by one Member State, who will validate monitoring plans and emissions reports
- ❖ Specific flights will be excluded from the scheme: state aircraft, flights for maintenance and training purposes and flights by aircraft with a maximum take-off weight of less than 20,000kg or a maximum passenger capacity of fewer than 20 passengers.
- ❖ While carbon dioxide emissions will be the initial scope, other gases may be included in the scheme later.

- ❖ Carriers will be able to buy allowances from other sectors in the Community scheme for use to cover their emissions, but will not be able to sell allowances to the other sectors in order not to disturb the Kyoto arrangements;
- ❖ Aircraft operators will be able to use project credits from the Joint implementation / Clean Development Mechanisms (JI/CDM);

The timeline is summarised in figure 1. The strange thing is that, despite the legislative process being due for first reading in the parliament in November 2007, carriers will have to take action as soon after as 1 January 2008. All this must occur without any guidance for the carriers, their verifiers or the authorities that need to ensure compliance. In other words, carriers will be aiming for a moving target. This may result in issues which will be difficult for some carriers to resolve. For example, questions remain related to leasing, code sharing, fuel uplift data, and accurate and complete passenger and freight data.

Figure 1



Our survey shows that many carriers have major concerns. One of the most prominent concerns is that, due to uncertainty over the level of enforcement that will be exercised over non-EU carriers, EU carriers will be at a competitive disadvantage. As was previously the case in the other sectors when they became part of the ETS many operational issues need to be resolved, and many carriers are as yet unaware of the business and operational risks they face and the measures to take. Few carriers report to have explored the tax, legal, financial, accounting, business, operations, trading, monitoring and reporting

issues related to the EU ETS. For example, while many carriers already report on emissions, this has never been related to a system in which these emissions are worth a lot of money. It is still highly uncertain whether current data management systems are capable of delivering the desired level of accuracy on time. Furthermore, many carriers have not yet explored the cost impact or the trading markets. All attention seems to be on the political front, even though operational issues will imminently become the more pressing.

The countdown to EU emissions trading for the aviation sector is now measured in months, not years. With the advent of emissions trading, a totally new approach to environmental management enters the boardrooms of these companies as they 'prepare for take-off'. Swift action is required to review current strategies, risks and control frameworks, to ensure that economic consequences of the new directive do not have an adverse impact on a company's competitiveness and that operational issues are dealt with appropriately and on time on the basis of a proper assessment of opportunities and risks.

Although carriers should not sit on their hands, the public sector (Commission, Parliament and Member States) could play a big role in reducing these risks by deciding on the rules of the game as soon as possible including clear guidance on allowance and emissions monitoring and verification.

Emissions trading for the aviation industry – Philippe Rochat¹

Scientists from the UN's Intergovernmental Panel on Climate Change (IPCC) estimate aviation's annual contribution to global carbon emissions to be 2% (around 650 to 670 million tonnes of CO₂). This includes military aviation. Although this is a relatively small proportion, the industry is working hard to limit these emissions. Aircraft

manufacturers play a vital role. Consume less fuel and you emit less carbon.

Over the past forty years fuel efficiency has improved 70%. The industry is projecting a further 25% improvement by 2020. The next generation of aircraft (e.g. the Boeing 787 and Airbus A380) will have a fuel efficiency of less than 3 litres per 100 passenger kilometres. That is better than any hybrid car on the market. We can also save fuel through operational efficiencies. Last year 15 million tonnes of CO₂ were saved through operational efficiencies including the shortening of more than 300 routes.

What governments can do

Airlines are doing their bit but governments also have an important role. Take air traffic control: The IPCC estimates there is up to 12% operational inefficiency in air transport. This refers to aircraft spending unnecessary time in the air: flying zigzags due to air traffic control restrictions; circling in holding patterns before landing; and delays on the ground before take-off. If this inefficiency can be wiped out that results in a massive 12% saving in CO₂ emissions.

Governments could save 12 million tonnes of CO₂ each year by implementing the Single European Sky. In Europe we have 34 air traffic control centres but in the USA there is only one for a similar traffic volume and land size. This leads to inefficiencies, delays, and too much time in the air. And there are other examples of where governments can take concrete operational actions around the globe.

All too often governments focus on punitive economic measures such as taxation. Rather than trying to reduce demand, governments should concentrate on stimulating innovation and boosting R&D through positive incentives, tax credits and direct funding. Unfortunately, government funding for research programmes has been declining and is now about half 1980 levels. Initiatives such as the EU's Clean Sky Joint Technology Initiative are welcome but represent only a fraction of what is needed. States should reverse this declining trend and increase their investments in R&D, including the urgent development of alternative aviation fuels.

¹ Philippe Rochat is Director of Aviation, Environment at the International Air Transport Association (IATA).

Emissions trading for aviation

Some governments are considering emissions trading to limit aviation's emissions. Compared to taxes, this is a flexible and cost-effective way of reducing emissions. In principle, we support emissions trading as one of a package of measures to reduce CO₂ emissions along with investment in technology and more efficient infrastructure. But it must be implemented in the right way. Any emissions trading scheme should avoid competitive distortions (e.g. if, on the same routes, some operators were subject to an emissions quota while others were not or if other transport modes were not subject to emissions trading).

The European Commission is proposing to include aviation in the European Emissions Trading Scheme from 2011 for flights within the EU and for all flights to and from Europe from 2012. Aviation would be allowed to trade emissions allowances with other sectors in an "open" scheme; the overall cap would be based on average aviation emissions in 2004-2006; and most allowances would be free at the start of the scheme.

A global approach to a global problem

Regional schemes such as this are not the answer. We have always advocated a global approach to a global problem for a global industry. As much of international aviation takes place over international waters this is only appropriate. It is also why the Kyoto Protocol asked the International Civil Aviation Organisation (ICAO) to develop international solutions to limit aviation emissions. Both the Protocol and ICAO endorse emissions trading as a mechanism to achieve this.

The upcoming ICAO Triennial Assembly in September 2007 is an opportunity for ICAO's member States to produce some solid results, including endorsement of global guidelines for emissions trading based on mutual consent between governments. However, even a global emissions trading scheme should only be considered when States have accepted their

responsibility to invest in R&D and to fix infrastructure shortcomings. Governments must act now if they are serious about tackling aviation's carbon emissions.

The Economic Case for Airport Expansion – Simon Baugh¹

At one level the economic case for the further growth of airports is straightforward. Heathrow is the largest single-site employer in the UK. 70,000 people work at the airport, and in some local boroughs more than 1 in 10 workers are employed here. The decline of Heathrow would clearly have a devastating impact on local communities.

However, the true value of hub airports like Heathrow lies not just in the direct employment that they provide, or with the thousands of companies that are indirectly dependent on their success. Their prime economic value is derived from their role in providing access to international markets and encouraging foreign and direct investment.

Companies in the high-value added sector of the economy are competing at a global level. Survey data from bodies such as Oxford Economics or the European Cities Monitor repeatedly show that business places a premium on access to markets and international transport links. Senior directors currently rate London as the best city in Europe to do business, and identify access to markets and international transport links as key elements of its advantage. The three cities rated as the best places to do business in Europe are also those rated as having the best transport links.

Today, the service sector contributes 70% of the UK's GDP, and the UK is the world's second largest exporter of services. Air transport is particularly important to business service firms. Analysis from the UK Department for Transport suggests that London's banking, finance, and insurance sectors, which service clients around

¹ Simon Baugh is Head of Government Relations for BAA at Heathrow Airport.

the globe, are heavily dependent on air services - requiring on average six times more travel than other businesses. In other sectors too air-travel is becoming increasingly important. Much of the UK's manufacturing industry has evolved to concentrate on high-skill, high value goods which are increasingly transported by air. These exports were worth £62.7 billion in 2005.

Hub airports perform an additional distinct role in the global economy. One-third of Heathrow's passengers are transfer passengers which creates sufficient demand for airlines to be able to operate frequent and profitable routes to cities such as Beijing, Mumbai and Sao Paulo. The bigger the network of direct air routes, the more attractive a city and a country become to domestic business, overseas tourists, and foreign investors seeking locations in which to site their company. This is because businesses are able to access a huge number of overseas markets from just one location.

Why the need for expansion?

Today Heathrow is full, operating at 98.5% of its permitted runway capacity, and capacity constraints are beginning to bite. Since 1990 the number of destinations served by the airport has fallen from 227 to 180.

By contrast Heathrow's main competitors are expanding, Frankfurt has three runways, Paris CDG has four runways, and Amsterdam Schiphol has five – all operating at less than 75% of capacity. Dubai is currently constructing a new six runway airport which will have three times the capacity of Heathrow and offer a non-European hub option for passengers flying between North America and Asia. China is building 49 new airports in the next five years and by 2020 each of the three main Chinese airlines will have in excess of 1,000 aircraft – four times the size of British Airways' current fleet.

Environmental Limits

Air travel is a globally competitive business, and it is not just airlines that compete for passengers. Airports too are in fierce competition with each other. In order to meet the demands of the economy airports need the flexibility to grow but

this must take place within acceptable environmental limits.

Sustainable growth can only occur if aviation supports economic development and addresses its environmental impacts. BAA has put itself at the forefront of lobbying for aviation to be included in the EU Emissions Trading Scheme, which would force airlines to cut their own carbon dioxide emissions or pay for others to do so.

Why emissions trading?

There are five main advantages of emissions trading over other ways of addressing carbon dioxide emissions from aviation:

The environmental result is clear from the start.

The amount of CO₂ that will be emitted into the atmosphere is set at the start. This compares favourably to a tax on fuel where governments need to estimate the amount of tax that would be necessary to reduce emissions by a certain amount. If the level of tax is set too low then more CO₂ will be emitted into the atmosphere than intended. With a cap and trade system governments only need to decide how great a reduction of CO₂ is necessary to combat climate change, the market sets the price of CO₂ permits to meet this target.

CO₂ reductions are made in the most efficient way possible.

Some activities produce CO₂ but have little or no economic benefit – for example heat escaping from buildings. Some activities have strong economic benefits and no existing alternative technology – for example aviation. Emissions trading achieves real cuts in CO₂ at the least possible cost to the economy.

Money raised goes directly towards reducing emissions.

Unlike a tax, which may go straight to the Treasury, the money raised through selling CO₂ permits goes directly to those who have reduced their emissions. This rewards those who cut their carbon dioxide emissions, and incentivises

the development of new low-carbon technology. Unlike Air Passenger Duty, where the cost is related to the number of passengers, the cost is related directly to the emissions that a flight produces. That means it is more expensive for inefficient older aircraft.

The quantity of emissions is important, not their source.

It does not make any difference whether CO₂ emissions are produced from road traffic or power stations – they have the same impact on our climate. Rather than concentrating on one industry at the expense of action elsewhere, emissions trading simply concentrates on reducing the overall amount of carbon dioxide put into the atmosphere.

It works internationally.

The UK only produces about 2% of the world's greenhouse gases. Unilateral action will be insufficient to halt climate change. Emissions trading is already established across Europe but persuading the United States to take action is key to world-wide action on climate change. The US has already successfully used emissions trading to combat Sulphur Dioxide emissions and emissions trading is likely to be more politically acceptable than a tax.

The European Commission is proposing that all flights arriving or departing from an airport in the EU would be covered by 2012, and all flights within the EU would be covered by 2011. For the trading periods up until 2022, emissions would be capped at 2005 levels - equivalent to a 45% cut in emissions by 2020 compared to business as usual.

Conclusion

Globalisation and the rise of emerging economies such as China and India are rightly seen as huge opportunities to European businesses. Airports provide the vital arteries linking Europe to the world economy. But in a globally competitive world standing still is not an option. If the UK does not meet the evolving demands of business, then business will move elsewhere, with other world airports eager to provide the destinations

Heathrow cannot. That does nothing to combat climate change but would severely damage UK competitiveness.

Microclimates – Top Stories in Energy and Environment

As we go to press, Britain is experiencing unprecedented levels of rainfall resulting in severe flooding in some parts of the country. Climate change or just natural fluctuations in weather patterns? The debate goes on....

http://www.dailymail.co.uk/pages/live/articles/technology/technology.html?in_article_id=470438&in_page_id=1965

<http://www.timesonline.co.uk/tol/news/weather/article2127599.ece>

Al Gore rocked the world but did he save the Planet?

July saw the climate change extravaganza that was known as Live Earth. Millions of spectators watched climate change experts Madonna and James Blunt try to persuade us to reduce our carbon footprint. The event itself was plagued with controversy over its green credentials after it was revealed that many of its stars would be flying in by private jet. Al Gore maintained that the carbon offsets and innovative practices that were used to make Live Earth a green event would ensure that the concerts were carbon neutral and set the standard for years to come.

<http://money.cnn.com/news/newsfeeds/articles/newstex/IBD-0001-17948577.htm>

Whilst we're on the subject of offsetting, the practice has come under fire in the press this month. Pundits claim that the cheapness of offsets could make people underestimate climate change with some environmentalists claiming that offsetting is the modern equivalent of the guilt-absolving indulgences sold in the 16th century by the Catholic Church.

<http://www.timesonline.co.uk/tol/news/politics/article2120777.ece>

A number of stories suggesting that the best way to reduce our carbon footprints is to reduce the number of feet on the planet have been generating controversy this month.

<http://politics.guardian.co.uk/green/story/0,,2123539,00.html>

http://www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article2067023.ece?openComment=true

After overtaking the US as the world's biggest emitter of carbon dioxide, China's State Environmental Protection Administration (SEPA) and bank authorities joined forces to name companies that fail pollution checks or bypass environmental assessments for new projects to restrict their access to credit.

According to comments issued on SEPA's website the credit blacklist was the most forceful measure the environment watchdog could impose to clean up ailing rivers. But, deputy SEPA chief Pan Yue admitted: "It cannot fundamentally contain the trend of worsening pollution, and we need the force of even more combined economic levers."

The World Bank has estimated that about 460,000 Chinese die prematurely each year from water and air pollution and about 300,000 more die from indoor toxins.

<http://www.reuters.com/article/environmentNews/idUSPEK28541220070730>

Crist almighty...

Florida Gov. Charlie Crist's plan to cut greenhouse gases appears headed for trouble with the Bush administration, with one Cabinet secretary lobbying against allowing states to enact tougher pollution limits and the nation's environmental chief giving no indication that he likes the idea, either.

http://www.sptimes.com/2007/07/27/Worldandnation/Crist_s_green_initiat.shtml

Breaking up is hard to do

July saw the European Union move closer towards the achievement of an internal energy market. Further measures proposed by the Commission include the forced unbundling of Europeans 'national champions' to allow new entrants fair access to the grid.

The legislation is, however, expected to contain a caveat that allows national legislators to impose minimum investment requirements on potential investors thus allowing reluctant un-bundlers, France and Germany to exchange one form of protectionism – against cross border ownership, with another – against private equity.

<http://www.guardian.co.uk/eu/story/0,,2122668,00.html>

The Stockholm Network has had several pieces of media coverage for its energy work this month.

In the European Voice Stockholm Network Energy Fellow Paul Domjan lamented the return to dirigiste protectionism in Brussels which has consigned Europe's liberalising agenda to history.

Download the full article at

<http://www.stockholm-network.org/downloads/media/d41d8cd9-European%20Voice%20120707.pdf>

Helen Davison, Stockholm Networks new Energy and Environment Research Officer had a letter printed in the Financial Times questioning the wisdom of inserting minimum investment requirements into EU legislation on unbundling.

<http://www.stockholm-network.org/downloads/media/d41d8cd9-Financial%20Times,%20Helen%20Dav%5c's%20letter%2012.07.pdf>

And, departing Energy and Environment Research Officer Simon Moore had a letter published in the Times regarding the costly administrative arrangements that regulating emissions on a sector-by-sector basis will lead to, calling instead for a well-implemented carbon trading scheme, with a market-driven price for carbon.

<http://www.stockholm-network.org/downloads/media/d41d8cd9-The%20Times,%20Simon%5c's%20letter.%2025.07.07.pdf>