INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

Submission to the Australian Government
in response to the Issues paper for the development
of a National Aviation Policy Statement

International Air Transport Association's Response to the Issues paper for the development of a National Aviation Policy Statement

This submission presents the response of International Air Transport Association (IATA). IATA's mission is to represent, lead and serve the airline industry and brings together 230 member airlines whose flights account for some 93% of all international scheduled air traffic. IATA welcomes this opportunity to submit its response to the Australian Government on the Issues paper for the development of a National Aviation Policy Statement. IATA's comments are from an international perspective and are based on the requirements of, and practices in, international civil aviation.

IATA is appreciative of the effort and resources that the Australian Government is putting into the development of a National Aviation Policy Statement. The Aviation Industry and its related economies have undergone major changes over the years and this exercise should result in policies that not only address the key issues being faced by the industry today, but also prepare all stakeholders to best cope with future challenges.

Basis of the IATA response

The Apr 2008 Issues document released by the Department of Infrastructure, Transport, Regional Development and Local Government covers many aspects of Australian Aviation Policy. IATA is engaged with airlines, providers and government at national and global levels on many of the key issues including:

- Aviation Industry
- Aviation infrastructure
- Aviation safety
- Customer and community protection
- Aviation security

While IATA is in a position to provide detailed input on all the questions listed in the document including positions and international Best practice, this submission has been limited to detailed input on the following critical areas:

- International and Domestic Services (Section 1.1 and 1.2)
- Aviation Infrastructure (Section 2.1)
- Customer and Community Protection (Section 4.1)

IATA will await the release of the Green Paper later in 2008 to review the options and considerations that reflect the situation and priorities of the Australian government. IATA will subsequently make a detailed submission on the issues of concern and importance to IATA and its members.

1.1 & 1.2 - International and Domestic Services

IATA's position is that Air Transport should not be treated any different from any other industry whose goods and services are traded across borders. But the airline industry continues to be hampered by operating, ownership and control restrictions imposed to varying degrees by governments worldwide. In this regard, IATA is appreciative of the efforts undertaken by the Australian government in concluding Open Skies treaties with the US and other countries. The common aviation market with New Zealand is also a good example of the benefits resulting from such initiatives. But, additional efforts are required in ensuring that Air Transport has the commercial freedom to expand and serve the needs to the travelling public – both domestic and international. In this regard,

attached is a *paper submitted by IATA to the ICAO Assembly* in Oct 2004, stressing the need for airlines to be able to adapt to market changes. The guidelines specified in the document provide a summary of IATA's views and proposed actions by ICAO and governments. In view of the crisis affecting the industry IATA has invited a number of forward looking governments, including Australia, to discuss how to urgently instil greater commercial freedom in international aviation. IATA will be shortly convening a meeting to be held in Istanbul in October 2008, and will circulate a paper shortly to put forward possible ways of achieving this with minimum hassle. IATA hopes the Australian Government is able to participate in the summit and establish itself as a key supporter of this initiative.

2.1 - Aviation Infrastructure

IATA has been involved in consultations with the airports in Australia on a number of operational and financial issues. The key concern has been the Economic Regulatory Framework on Airport Pricing for the airports in Australia. IATA has long held the view that the Price Monitoring System in place does not effectively curb the market power of airports. Airports are natural monopolies and airlines do not have effective bargaining power with the airports. There is a lack of clear pricing guidelines and airlines have little access to effective 3rd party appeal and intervention in case of a dispute. The mechanisms in place today are cumbersome and resource intensive. IATA had participated in the recently concluded Productivity Commission inquiry on this issue. A copy of *IATA's response to the draft PC report* in Oct 2007 is included for reference. The IATA response includes details on the concerns related to the draft PC report (and the final outcome). IATA hopes that the Australian Government can address the concerns by issuing clear guidelines on the Airport Economic Regulatory framework in its National Aviation Policy Statement.

4.1 - Aviation Emissions and Climate Change

The environment is one of IATA's top priorities. Airlines are working constantly to limit their climate change impact, emissions and noise. IATA is committed to helping them do so. We have a vision for our industry to become carbon free in the future. Complete solutions are not available today, but building blocks, such as alternative fuels, already exist. We are working with the whole industry to turn this vision into reality, putting aviation on a path towards carbon neutral growth in the medium term. Airlines have improved fuel efficiency and CO2 by almost 20% over the past 10 years. They will continue to improve, by investing in new aircraft and enhancing operations. Thanks to technology, today's aircraft are 50% quieter than 10 years ago. Local air quality around airports will benefit from new technologies, reducing nitrogen oxides by 80% by 2020. Also, attached are 2 documents detailing IATA's positions on *Air Transport and Climate Change* and *Carbon Offset Guidelines*

IATA hopes that the Australian government will take these views into account and is willing and able to assist in any follow-up that is required in this regard. IATA hopes that the Australian Government will take this opportunity to develop an International Best Practice National Aviation Policy that enables the Aviation industry to overcome current and future challenges. We specially look forward to the release of the Green Paper to better understand the situation and priorities of the Australian Government. IATA will then provide additional input for consideration in development of the White Paper.

Attachments to the IATA submission

1. **Paper submitted by IATA to the ICAO Assembly in Oct 2004**
2. **IATA's response to the draft PC report in Oct 2007**
3. **Position paper on Air Transport and Climate Change**
4. **Position paper on Carbon Offset Guidelines**

WORKING PAPER

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A35-WP/64[1]
EC/13
8/7/04

ASSEMBLY — 35TH SESSION

ECONOMIC COMMISSION

Agenda Item 27: Regulation of international air transport services, and outcome of the fifth Worldwide Air Transport Conference

ADVANCING THE LIBERALISATION OF OWNERSHIP AND CONTROL

(Presented by the International Air Transport Association (IATA))

SUMMARY

Airlines need the freedom to change. The liberalisation of ownership and control rules would be a major step towards creating a global aviation industry. ATConf/5 marked an important step forward that has been confirmed in changes in national policies in recent years. This advance is only a step on the way. New catalysts for change should be welcomed and like-minded States urged to adopt more liberal policies and to give their policies the maximum transparency. Action by the Assembly is in paragraph 4.

1. BACKGROUND

1.1 The 5th ICAO Worldwide Air Transport Conference (ATConf/5) was an important event. For the first time, governments agreed on a global framework of objectives, principles and policies for the liberalization of international air transport. This agreement came at a time when the airline industry faced its worst crisis ever due to a changing world economy and various external shocks. The rise in fuel prices in 2004 once again underlines the fragility of the airline business and the need for airlines to take appropriate measures to ensure long-term financial sustainability.

1.2 IATA argued that there was an increasingly urgent need for governments to grant airlines the same degree of freedom to adjust to global change as enjoyed by other industries. The most important step that governments could take in this direction was to liberalise bilateral ownership and control rules and to remove national restrictions.

[1] All language versions provided by IATA.

1.3 The Conference went a long way to meeting the industry's request. It adopted a recommendation on liberalising air carrier ownership that endorsed the notions of "principal place of business" and "effective regulatory control" as alternatives to "substantial ownership and effective control" generally used in air service agreements. It also encouraged States to be flexible in responding to the use by other States of non-traditional criteria, having full regard to the need for safety and security.

2. PROGRESS SINCE THE CONFERENCE

2.1 The key question is whether these recommendations have led to changes since ATConf/5. The ICAO questionnaire on States' policies, practices and positions regarding ownership and control of September 2003 suggests that there has been progress and that transparency of policy positions will gradually bring together the practical nucleus of like-minded States that the industry is seeking. By mid-May 2004, 48 States had replied to the questionnaire. This must be considered a good response rate.

2.2 A review of the replies (see Table attached) to the ICAO questionnaire indicates:

a) Over one third of the States do not require a carrier they designate to be majority owned and effectively controlled by nationals of their country (Q. 1). This reflects the requirements of European Community law, but six non-EU States also fell in this category.

b) While 83% of States apply substantial ownership and effective control to the designation of foreign carriers, between 44 and 69% are also prepared to accept less restrictive criteria (including principal place of business and effective regulatory control) including acceptances on a case-by-case basis (Q. 2).

c) Two thirds of States are ready to apply relaxed criteria to "community of interest" groupings and over half will in the future be prepared to develop a common policy with partner States (Q. 2(b) and 4(b)).

d) Over two-thirds of States (Q. 3(a)) are willing in the future to accept criteria other than traditional ownership and control, some on a case-by-case basis.

e) One in four States would be willing in the future to issue an individual statement of policy for accepting designations of foreign carriers (Q.4(a)). This was one of the suggestions made by IATA at ATConf/5 as a means of creating a nucleus of like-minded States.

2.3 Although these new policies have not yet worked their way into revised bilateral agreements, States in all regions have made decisions to permit the operation or establishment of airlines under new criteria. In this regard, the continued development of regional agreements or agreements between "like-minded" countries are playing a pivotal role.

2.4 Prior to AT Conf/4 in 1994, the European Union (EU) and the Andean Pact were the only regional plurilateral agreements. Subsequently, seven further regional groups[2] were established and one

[2] Groups created since 1995 are: the CARICOM Air Service Agreement of 1996 (14 Caribbean States), the Fortaleza Agreement of 1997 (6 South American States), the Banjul Accord of 1997 (6 West African States), the CLMV Agreement of 1998 (Cambodia, Lao PDR, Myanmar, Viet Nam), an agreement in 1998 among 16 ACAC Member States, an agreement in 1999 between six States of the Economic and Monetary Community of Central Africa

multilateral agreement known as the MALIAT (Multilateral Agreement on the Liberalization of International Air Transportation) of 2001 whose signatories include nine States in Asia and North and South America. The MALIAT sought to modify the standard ownership and control clause with a view to providing new opportunities for investment in the airlines covered by the agreement.

2.5 Other moves to liberalize ownership and control are taking place on an *ad hoc* basis. These include acceptance by Australia of the principle of right of establishment and numerous trans-border arrangements in Latin America.

3. CATALYST FOR CHANGE

3.1 The EU represents an important group of like-minded States and must be viewed as a major catalyst for change. EU aviation rules now apply to 29 countries and will gradually also apply to other adjacent countries to some degree or another. IATA's position at ATConf/5 was that any widespread renegotiation of bilateral Air Service Agreements (ASAs) would prove a complicated process. This difficulty might be overcome by unilateral declaration, or plurilateral (bloc-to-bloc) arrangements. An agreement between the EU and the United States offers such an opportunity.

3.2 In the "Open Skies" case (5 November 2002), the European Court of Justice (ECJ) found that nationality clauses in ASAs concluded by European Union States infringed Community Law by limiting the freedom of establishment of Community carriers.

3.3 Following on this ruling, the European Commission was given specific mandates regarding external aviation relations. These are a *Horizontal Mandate* to negotiate with all other third countries on a restricted basis to amend the nationality clauses in ASAs that limit the freedom of establishment of Community companies, and another to negotiate a single comprehensive agreement for an *Open Aviation Area (OAA)* with the United States in place of existing bilateral agreements. (*This was written in May 2004 while the EU-US negotiations were still in progress).*

3.4 The "Open Aviation Area" negotiations offer the greatest potential for major change and might provide a new blueprint for international air transport by leading to full liberalisation between two important trading partners, creating a single market. Depending on the scope of an eventual agreement, this might act as a catalyst in other regions and attract the participation of other countries.

3.5 The Court ruling resulted in the European Commission being given a mandate to renegotiate the nationality clauses, and in placing EU Member States under an individual obligation to amend their 1,500-2,000 ASAs by replacing "National Ownership" clauses with a "Community Ownership" clause. Other States are not under any obligation to accept this change and will wish to take into account commercial interests established over time.

3.6 The draft EU standard designation clause (as of May 2004) proposed for inclusion in revised ASAs goes far towards meeting the proposal made by IATA at ATConf/5 to separate the notions of ownership and effective regulatory control. Under this clause, airlines designated by a non-EU State must be (a) "established in the territory" of the third country and licensed in accordance with the applicable law; and (b) the third country shall have and maintain "effective regulatory control" of the airline. This wording is more liberal

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(CEMAC), an agreement in 1999 among 20 States of the Common Market for Eastern and Southern Africa (COMESA) and the Yamoussokro II Ministerial decision of 1999 involving 52 African States.

than other formulations in referring to “establishment” rather than “principal place of business”.

3.7 Notwithstanding the role of regional groupings in relaxing restrictions on ownership and control, IATA believes that global solutions to this, and to other aviation issues, should remain the long-term objective. The Recommendations of ATConf/5 provide useful guidance in this respect.

4. ACTION BY THE ASSEMBLY

4.1 The Assembly is invited to:

a) note the liberalising changes in States’ policies regarding ownership and control since the Fifth Worldwide Air Transport Conference;

b) endorse the recommendations of Fifth Worldwide Air Transport Conference;

c) encourage States to put these recommendations into practice at their earliest convenience; and

d) urge like-minded States that are prepared to adopt more liberal criteria, to communicate their willingness to ICAO to ensure the greatest transparency.

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APPENDIX

SUMMARY OF REPLIES TO ICAO STATE LETTER ON OWNERSHIP AND CONTROL (SC 5/6-03/88, 26 SEPTEMBER 2003)

IATA Summary of 48 replies received by ICAO as of May 2004

	QUESTION	YES	NO	CASE BY CASE
1.	**When designating your airline to operate the agreed services under an air services agreement, do you require it to be substantially (or majority) owned and effectively controlled by nationals of your country?**	29	17	3
2.	**In dealing with the designation of foreign airlines, which of the following criteria do you accept**:			
a)	Substantially (or majority) owned and effectively controlled by the designating party or its nationals (the traditional approach)	40	1	5
b)	Substantially (or majority) owned and effectively controlled by one or more States that are parties to an agreement or within a redefined regional grouping (e.g. a "community of interest" carrier)	16	5	17
c)	Incorporated and having its principal place of business or permanent residence in the territory of the designating party	18	6	11
d)	Having its principal place of business in the territory of and effective control by the designating party (without the ownership 1 requirement)	11	13	10
e)	Having its principal place of business in the territory of and effective **regulatory control** by the designating party	19	9	7
f)	Any other criteria (please describe)	3	5	1
3.	**In dealing with airline designations in the future, are you willing to accept criteria other than the traditional national ownership and control:**	3	2	3
a)	For both yourself and the foreign partner?	25	6	7
b)	For the foreign partner but maintain traditional criteria for yourself?	6	22	5
c)	What economic regulatory conditions will you impose for such acceptance? (Please describe)	5	4	2
4.	**Are you willing to consider the following positive action in facilitating liberalization of air carrier ownership and control:**	1	1	1
a)	Issuing an individual statement of policy for accepting designations of foreign air carriers?	12	15	2
b)	Developing a common policy with partner States? (Please indicate, if possible, with which partner(s))	23	6	2
c)	Any other action? (Please describe)	-	5	1

— END —

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

Response to the Draft Report of the Productivity Commission's inquiry into price regulation of airport services

International Air Transport Association's Response to the Draft Report of the Productivity Commission's inquiry into price regulation of airport services

This submission presents the response of International Air Transport Association (IATA). IATA's mission is to represent, lead and serve the airline industry and brings together 260 member airlines whose flights account for 94% of all international scheduled air traffic. IATA welcomes this opportunity to submit its response to the Draft Report of the Productivity Commission's inquiry into price regulation of airport services. IATA's comments are from an international perspective and are based on the requirements of, and practices in, international civil aviation.

1. Executive Summary

IATA is disappointed with the overall Draft Report as the recommendations are weak, ambiguous and run a high risk of failure. Given that the Productivity Commission has recognised the potential for monopoly abuse, it is surprising to see the Draft Report recommending an approach that basically leaves the pricing outcomes in the hands of the airport. If the Productivity Commission continues the 5 year monitoring period under the recommended framework, there is nothing to stop airport monopoly pricing during and after this monitoring period.

Instead a robust, independent economic regulation is needed as a powerful catalyst to drive airline-airport agreements and the development of close airline-airport partnerships. This will lead to lesser reliance on the regulator and even if partnership discussions on cost efficient performance and charges should fail, the robust regulation is there to protect airlines and consumers.

An effective regulatory framework should at a minimum provide:

- clear guidelines on acceptable and unacceptable pricing behaviour
- imposition of penalty actions in event of unacceptable behaviour
- mechanism to ensure transparency in airport performance on pricing and non-pricing items
- an effective process for quick and efficient dispute resolution

While there are some positive recommendations in the Productivity Commission's Draft Report, IATA is disappointed to note that a number of messages are not in line with the IATA Positions specified in the original IATA submission. IATA's positions on the overall regulatory framework are not repeated in this submission but IATA urges the Productivity Commission to take them into consideration during the subsequent stages of this inquiry. The subsequent sections focus on IATA's responses to the Productivity Commission's views expressed in the Draft Report. In addition, IATA's detailed views on the following key issues are included:

- Section 2 :IATA's positions and expectations from the Productivity Commission
- Section 3 :Evidence of Abuse of Monopoly Position
- Section 4 :Facilitating Commercial Negotiations

- Section 5 :Asset Revaluation
- Section 6 :Impact on Tourism and the Economy of Australia
- Section 7 :Airports benefit from Effective Regulation

IATA urges the Productivity Commission to give due consideration to the views included in this submission. It is IATA's intention to participate in the subsequent stages of this inquiry based on our members' positions. The Commission is also requested to contact IATA at any stage of this inquiry if additional information or clarification is required.

2. IATA positions and expectations from the Productivity Commission

2.1 IATA would like the Productivity Commission to take the following key facts into account:

1. Airports are natural monopolies with considerable market power
2. Airlines do not object to new airport investments that create additional capacity, provided these investments are cost effective. Increased capacity should lead to increase in cost efficiency (economies of scale) and thus lead to a decrease in the unit rate of airport charges.
3. The Australian government has recognised the need to prevent airports from using their market power for windfall gains
4. Price Monitoring in itself is not an effective deterrent to prevent airports from realizing windfall gains
5. If the Government continues with the current price-monitoring framework, effective pricing guidelines and efficient access to third party arbitration needs to be developed.

2.2 Outcomes of the current arrangements

- The current arrangements have not provided adequate incentives for all airport operators to reach effective agreements with airport users
- Data currently gathered in the ACCC's price and quality monitoring reports, though useful, cannot be solely used to judge the effectiveness of the price monitoring regime or consistency with the regime's objectives as laid out in the Terms of Reference
- Price and service monitoring in its current form is ineffective in meeting the Government's objectives:
    - Lack of Pricing guidelines
    - Lack of Effective access to third party arbitration in case commercial agreements are not reached between the airport and its users
    - proliferation of fuel throughput levies

2.3 Future arrangements

- IATA firmly believes that the Government objectives as specified in the Terms of Reference can only be met by re-introducing a price cap based regulatory mechanism of airports.

- In case the Australian government continues with light-handed regulation, immediate steps need to be taken to rectify the deficiencies identified in the current regulatory regime.
- In particular, the use of Asset revaluation tactics to inflate the cost base (and thus higher prices) should not be permitted as it results in windfall gains at the expense of the users – airlines and passengers.
- Improvements are also required in the guidelines related to fuel charges and non-revenue neutral pricing policies as the current arrangements do not lead to equitable outcomes

2.4 IATA's views on the key messages included in the Productivity Commission's Draft Report can be summarised as follows:

- The PC states that "*Price monitoring was intended to maintain a constraint on misuse of market power by airports.....there is no evidence of systematic misuse of market power by airports in setting charges for aeronautical services*". IATA believes that though the PC lists its intentions, it fails to:
    - adequately and consistently qualify the criteria and definition of "misuse of market power" used in its report
    - undertake an objective analysis of the individual performance of each airport

- The PC states that "*the behaviour of airports in relation to some non-price terms and conditions of access has arguably been less satisfactory and negotiations at Sydney Airport have been protracted. Also, some aspects of the monitoring process have not been well targeted to objective*s". IATA agrees with the PC's assessment and improvements need to be made to the regulatory framework to prevent such behaviour.

- The PC states that "*it is still too early to judge whether price monitoring, in conjunction with the Part IIIA national access regime, will provide a reasonable constraint on misuse of market power by airports...*". IATA believes and will demonstrate that there is already enough evidence to show that price monitoring is not meeting the objectives as specified in the Government's Review Principles.

- In identifying the changes needed for the future, the PC states that "*....This new monitoring regime should be configured.....to give stakeholders greater opportunity to comment on the reasonableness of outcomes....and...streamline the monitoring of service quality and reporting requirements*". IATA believes that this will only be effective if there are clear guidelines on the review principles and all stakeholders are allowed to comment in a timely fashion in order to prevent long term abuses. Such comments from key stakeholders must be taken fully into account.

- The PC also states that the regulated till should "*encompass a slightly wider range of aeronautical services*". IATA supports the PC's finding that airports wield market power over the provision of the services identified.

- The PCs states that "*Revaluations made by airports up to 30 June 2005 to the asset bases submitted for price monitoring purposes should be allowed to stand. But any subsequent revaluations should be excluded.*" While IATA fully supports the PC's stance that asset revaluations should not be used to justify increases in airport

charges, the PC needs to provide additional clarification (in line with its intent) to also prevent any future increases in charges based on revaluations made before 30 June 2005.

- Lastly, the PC states that "*It would be premature, and quite possibly counterproductive, to introduce an airport-specific arbitration regime at this stage*". IATA believes that one of the key deficiencies of current regulatory framework is the lack of an effective mechanism to deal with market power abuse by specific airports.

3. Evidence of abuse of Monopoly Position

One of the key messages from the Draft Report is that *"there is no evidence of systematic misuse of market power by airports in setting charges for aeronautical services"* and the price increases have been *"modest"*. In response to this finding, IATA would like to strongly reiterate that there has been abuse of monopoly power and the price increases are excessive. The Commission compared charges for international carriers at Australian airports against their North American and European counterparts to arrive at this conclusion of *"modest"* increases. However, such direct comparison largely ignores purchasing power parity considerations.

Secondly, with regards to this subject matter, despite the Commission stating that the profitability of Australian airports is comparable to their counterparts in Europe and Canada and therefore price increases to date is *"modest"*, this fails to acknowledge the current imbalance in the aviation supply chain. Based on an IATA economics study entitled, "Value Chain Profitability", an airport needs to invest a lot more capital than an airline to generate a dollar of revenue. On average $1.2 of invested capital in airlines generates $1 of revenues. Airports need to invest an average $3.4 to generate $1 revenue. That means while an airline needs a 10% EBIT margin to be able to pay investors its cost of capital, an airport will need an EBIT margin of around 25%. However, based on latest reported financial figures, SACL had a 57% EBIT margin, which is more than double the 25% necessary to pay investors a 'competitive' or 'normal' return on their invested capital. Together with the fact that the TRL rankings show relatively low costs at SACL, this extremely high profit margin is clearly a sign of the airport exploiting its monopoly power over its customers.

Lastly, the Commission states *"… the projected continuation of steady growth in passenger demand, and thus greater capacity for airports to spread fixed costs, should put downward pressure on prices"*. As such, IATA expects gradual decreases in prices in the next round of price negotiations; this also serves to highlight the strong need for proper guidelines for negotiations between airports and airlines. Also, however, having given past incidences of abuse of monopoly power, there exist strong possibilities of continued stable and even increased prices in the face of increased traffic growth. There is a need to see the imposition of penalty action against airports that exhibit unacceptable pricing behaviour.

4. Facilitating Commercial Negotiations

The Commission pointed out that there has been positive developments concerning commercial negotiations between airports and airlines, with it being more evident with *"considerably more negotiations between airports and airlines since the commencement of price monitoring"* and some of these negotiations being "*intense and sometimes protracted*". However, IATA disagrees with this notion because the increased frequency and the intensity of negotiations are mainly due to heightened disagreements between airlines and airports concerning the pricing of aeronautical charges and new investments. Despite numerous consultations at Sydney Airport on the new charges regime since March 2004 and till date, there has been no outcome.

In fact, the reason for past negotiations being protracted is due in our view to the current lack of guidance in the form of guidelines and principles for negotiation and dispute resolution. For there to be progress, the first step is to address the deficiencies in this area. Responding to the Commission's request from users to provide commentary on how an arbitration mechanism should be configured to provide all stakeholders with a strong incentive to continue to pursue negotiated outcomes. We fully support Qantas' proposal that such an arbitration mechanism would require establishing a set of rigorous and binding guidelines that facilitates negotiations that are based on full and transparent exchange of information. This perquisite addresses airlines' concern that consultation meetings generally lack transparency with regards to the basis for offers. The Commission has commented and taken note that some airports like Canberra have operated on an *"open book basis whereby they have provided with airlines with their accounts and any modelling work underpinning proposed charges".* IATA see this practice as one that will "*foster the attitudes, trust and commercial relationships between parties that could, at some stage in the future, obviate the need for prices oversight"* and we would recommend that this be implemented across all airports as a requirement for consultation between airports and airlines.

Specifically, IATA concurs with BARA that we should move away from the current setup of airlines lodging their complaints concerning commercial negotiations in the monitoring reports. Instead, a process should be put in place whereby the parties can lodge their complaints with DOTARS. Suitability of DOTARS as the independent moderator stems from the fact that DOTARS also advocates a strong need to develop a commercial arbitration model. In reviewing these cases, DOTARS would then appoint an independent arbitrator/negotiation to resolve the matter through enforceable final offers from one party to the other.

Lastly, IATA believes that the arbitration mechanism must be extended to third parties. This is because with non-existent guidelines for negotiations, and airports having a natural upper-hand as a monopoly, third party providers like fuel suppliers are forced to agree to the terms of the airport. As airlines are the end users of most third party suppliers at airports, all costs tend to be passed on to airlines.

5. Asset Revaluation

As the initial steps to resolving this issue, IATA agrees with the Commission that asset revaluations should be prohibited; as such efficiency benefits are actually non-existent because there is zero opportunity cost for land marked for aviation use and price revaluations does not translate to operational efficiency. While the general cut-off date

has been recommended as 30 June 2005, it is necessary for stakeholders to have the details and basis for such a cut off date and it would be more appropriate to review asset revaluations on a case by case basis, requiring full cost justification to determine the efficiently incurred purchase price for setting aeronautical charges. In particular, urgent attention needs to be given to the case of Brisbane airport that is attempting to justify increases in charges based on Asset Revaluations booked before the 30 June 2005 deadline – and can lead to an additional $300m cost burden to the users.

In addition, IATA has the same view as the Commission that the asset valuation issue is indeed a major barrier to the further development an effective commercial relationship between airlines and airports. Thus, draft recommendation 6.2 stating that "*the principles governing the operation and end-of-period review of the new price monitoring regime should stipulate that, unless agreed with customers, further asset revaluations should not provide a basis for higher charges for monitored aeronautical services"*, is a good starting point and gives airlines the opportunity to work with airports to determine how aeronautical charges are set.

While the Commission has effectively addressed the baseless use of asset revaluations as a source of costless profit, the Commission also has opened up another avenue for airports to increase costless profit through discussions on the cost of capital, specifically, on asset beta. The Commission suggested that the current asset beta is probably understated as the *"risks associated with the operation of major airports in Australia are now probably higher than in the past".* The Commission firstly states that *"the emergence of low cost carriers flying point to point and withdrawing services it they are not profitable, has increased underlying traffic risk somewhat."* However, we wish to point out that the bulk of the traffic is still being brought in by international airlines and as such, the low cost carriers create negligible additional risk to the operations of the airports. In addition, should airports enter into risky new routes with low cost carriers; this business uncertainty should not translate into higher charges and passed onto international carriers.

Secondly, the Commission acknowledges that there has been an upward trend in passenger numbers but goes on to suggest that this actually adds more variability and thus increases asset beta. On the other hand IATA's forecasts show that the upward trend in traffic for Asia-Pacific is sustainable and stable. Thus, what the Commission has stated provides reason for a lower asset beta and in turn, a lower cost of capital.

6. Impact on Tourism and the Economy of Australia

The Commission states that a lack of price controls encourages airport investments while price regulation impedes its growth. Given that IATA forecasts international air passenger traffic will increase at an average annual growth rate (AAGR) of 4.8% between 2006 and 2010, and international air freight traffic to increase at an AAGR of 5.3%, it is indeed vital that airports continue to undertake new investments to increase capacity, in order to cater for strongly growing demand for air travel.

Air travel in turn supports Australia's all important tourism industry, which makes up an approximate 3% of the country's GDP. However, while growth rates remain positive in the next few years but with the higher airport charges in the post privatisation period,

airlines are provided with less incentive to increase capacity to support this growing demand. With escalating fuel costs squeezing airlines' margins, airlines are constantly reviewing the profitability of all routes being operated and in order to quickly react to changes in the profit margins of each route operated. The need to be act fast and be adaptable in cutting back capacity has already been evident in the recent case of Air New Zealand ceasing all flights to Singapore with effect form October 2006, as other routes to North Asia provided greater profitability. And with higher Australian airport charges being an essential feature of light handed regulation, airlines would need to recoup their costs in the form of increasing airfares or reducing capacity for Australian flights and increasing capacity which offers higher profits through lower costs of operating a flight.

In the above-mentioned, while we have pointed out that airlines are highly sensitive to increases in basic costs for physically operating a flight, a similar argument can be made for airlines' customers. A reputable study, 'Air Travel Demand Elasticities: Concepts, issues & Measurement' by Gillen, Morrison & Stewart (2003), determines that the price elasticity for leisure air travel to be 1.5, meaning a 10% increase in prices will result in a 15% decrease in demand. However, this estimated price elasticity tends to be underestimated because the study has been largely based on data from the 90s. In today's environment, air travel is likely to be more sensitive to prices. The internet has brought about price transparency, deregulated markets and no frill carriers have caused a switch from schedules-based competition to competition on price for short haul, and corporate travel buyers have transformed the previous relative insensitivity of business travellers to price. As such, air travellers, especially tourists would need to be given additional incentives to travel as compared to the past.

In the case of the Australian tourism scene, higher airport charges that come with light handed regime hurts tourism in two interrelated ways:

1. airlines raise airfares to Australia to partially recoup costs from higher airports charges, this in turn reduces demand for air travel to Australia
2. most of the charges at Australian airports are directly passed through to the passenger.

With increases in passenger based charges, this adds to the increased cost for travelling to Australia and again has the effect of decreasing demand. The synergistic combination of the both would be very detrimental to the tourism industry in Australia. For example, in 2004, the number of air travellers bound for Australia was 41.6 million and based on the estimated price elasticity for all air travel is 1.1, assuming a +5% change in charges, the estimated loss in tourism revenue due to an increase in airport charges is an astounding 0.229 million passengers. Assuming each passenger spends an approximate $4933 for her trip, this works out to be an approximate loss of $11.29 billion!

7. Airports benefit from Effective Regulation

In a recent Financial Times article (dated 22 August), Joseph Stiglitz, the Nobel Prize laureate pointed out that airports are natural monopolies and the needs of airlines, their passengers and other stakeholders are too often relegated, particularly in the case of privatised airports. The article points to the need for strong and independent regulation of a privatised airport.

While the Australian Government has recognised the monopolistic nature of the airport business, it seems to be averse to an effective regulatory framework due to the perceived disincentive for investment and associated regulation costs.

A properly-functioning independent economic regulatory regime for airports can provide significant benefits to both the airports and to their airline users. If used correctly, it is not a “zero-sum” game where a financial gain to one side is equivalent to a financial loss to the other. Both sides can benefit from good regulation, in terms of greater efficiency and low financing costs.

For airports, a key benefit comes from stable and low debt costs. A well-structured, independent regulatory regime is seen by credit rating agencies as a “credit positive”, helping to boost credit ratings and lower debt financing costs. Fair and transparent regulation reduces – not increases – risk and uncertainty for airports. Less risk means that investors provide capital at stable and low rates, supporting investment for long-term growth.

Evidence from the credit rating agencies show no sign that airports under effective, independent economic regulation have higher financing costs. It is not the case that good regulation comes at the expense of higher financing costs and uncertainty, while it also helps to provide the benefit for both sides of greater efficiency. Regulation can also help to mitigate negative factors for credit ratings in the sector:

- The regularity of regulatory reviews provides important safeguards.
- It provides clear and up-to-date information on costs, efficiency and outputs.
- It helps to provide sufficient liquidity for large investments, where efficiently delivered, and flexibility in the event of negative external factors.

An independent economic regulatory framework can provide both:

- constraints on an airport’s “monopolistic” power and
- a long-term boost to the airport’s efficiency, ability to raise finance and growth.

Effective regulation ensures that airport investment is undertaken for sound financial reasons, not to exploit airline users through higher charges.

AIR TRANSPORT & CLIMATE CHANGE

The air transport industry has a very Positive Record to Date

Over the past 40 years, air transport has become 75% less noisy and 70% more fuel-efficient. No other industry has a better record of improvement. But this is still not enough. Air transport's contribution to climate change, although small, is growing and the industry is leading the fight against that growth.

Air Transport's Climate Change Vision

IATA has a vision for aviation to become carbon free. We are working with the whole industry to turn this vision into reality. In the medium term, our aim is to put aviation on a path towards carbon neutral growth. In the longer term, technology must lead our efforts to build a zero carbon emission aircraft in the next 50 years.

By flying the most fuel-efficient routes, improving air traffic management and spreading best practice in fuel conservation IATA is playing its part and has already helped save up to 25 million tonnes of CO2 in the last two years. IATA airlines are aiming for a 25% fuel efficiency improvement between 2005 and 2020.

Tackling the Challenges of the Future

IATA and the aviation industry have established a comprehensive environmental strategy built on four pillars:

- The development of new technology and cleaner fuels
- Implementing more efficient infrastructure, including for air traffic management
- Improving the way we operate our aircraft, on the ground and in the air
- Positive economic measures to stimulate research and development into greener technologies

All of the 179 States attending the 36th ICAO Assembly in September 2007 (including those from Europe) pledged their support for this strategy. In doing so, they clearly signalled their view that emissions trading alone is not the answer to the problem of climate change. However, the European States decided to ignore the decision of the other 137 States and press ahead with a unilateral emissions trading scheme. This would cover not just European carriers and routes but those from outside the EU as well.

A Global Problem in a Global Industry requires a Global Solution

IATA agrees with the European Commission that ETS is preferable to taxes and charges. However, Europe's decision to 'go it alone' on emissions trading will have significant negative consequences. First, lawyers disagree on whether or not the EU has the right to impose its ETS on non-EU airlines. In the end, international courts may have to decide. This could mean years of legal deliberations, during which time non-EU airlines would not be included in the scheme. There is also a significant threat of retaliatory measures from non-EU States if Europe insists on imposing its scheme on non-EU airlines.

Going it alone may also encourage some air traffic to avoid Europe altogether. For example, there are currently 93 million economy class arrivals in the EU each year from non-EU origins. Including these flights in the EU ETS may lead to some leisure journeys being shifted to non-EU destinations.

Similarly, 9.2 million passengers connect flights in Europe when travelling between cities outside Europe (for instance, from Karachi to New York via Frankfurt). And every year, over 41 million journeys between a European and a non-European city involve a connection at an EU hub. These flights could easily be shifted to alternative hubs outside Europe. For example, if a Karachi-Frankfurt-New York itinerary were changed to a Karachi-Dubai-New York itinerary, none of the sectors would be covered by the ETS. Similarly, if an Amsterdam-Paris-Mexico itinerary were changed to an Amsterdam-JFK-Mexico itinerary, only the Amsterdam-JFK sector would be covered by the ETS. It is the same planet and the same atmosphere for everyone: polluting less over the EU is meaningless if it means more flights and more pollution elsewhere.

Needless to say, in an industry where competition is intense and margins thin, this would have a further negative impact on the competitiveness of EU airlines against airlines based outside the EU, particularly airlines with hubs close to Europe. Only the establishment of a global ETS framework agreement for aviation would avoid the problems of legality, carbon leakage and competitive distortions.

Base any review of aviation's inclusion in the ETS on experience

Legal, economic and competitive uncertainties make it virtually impossible to predict, at this time, the effects of including aviation in the EU's ETS. IATA therefore believes that aviation should not be included in the general ETS review until these uncertainties are better understood (i.e. not as early as 2013, as currently proposed). This is not a plea for 'special treatment'. Aviation should be subject to the same three-year trial period that all other sectors had from 2005 to 2007. This is the only way to test the effects of including aviation in the ETS, and learn from that experience. A proper review can only take place based on that experience.

Auctioning

In the EU ETS Review proposal, which also affects aviation, the Commission proposes an increasing % auctioning for aviation after 2013, up to 100% in 2020. IATA is firmly against high levels of auctioning for the air transport sector, as it would divert funds that could be invested in better technology without deriving any benefit elsewhere.

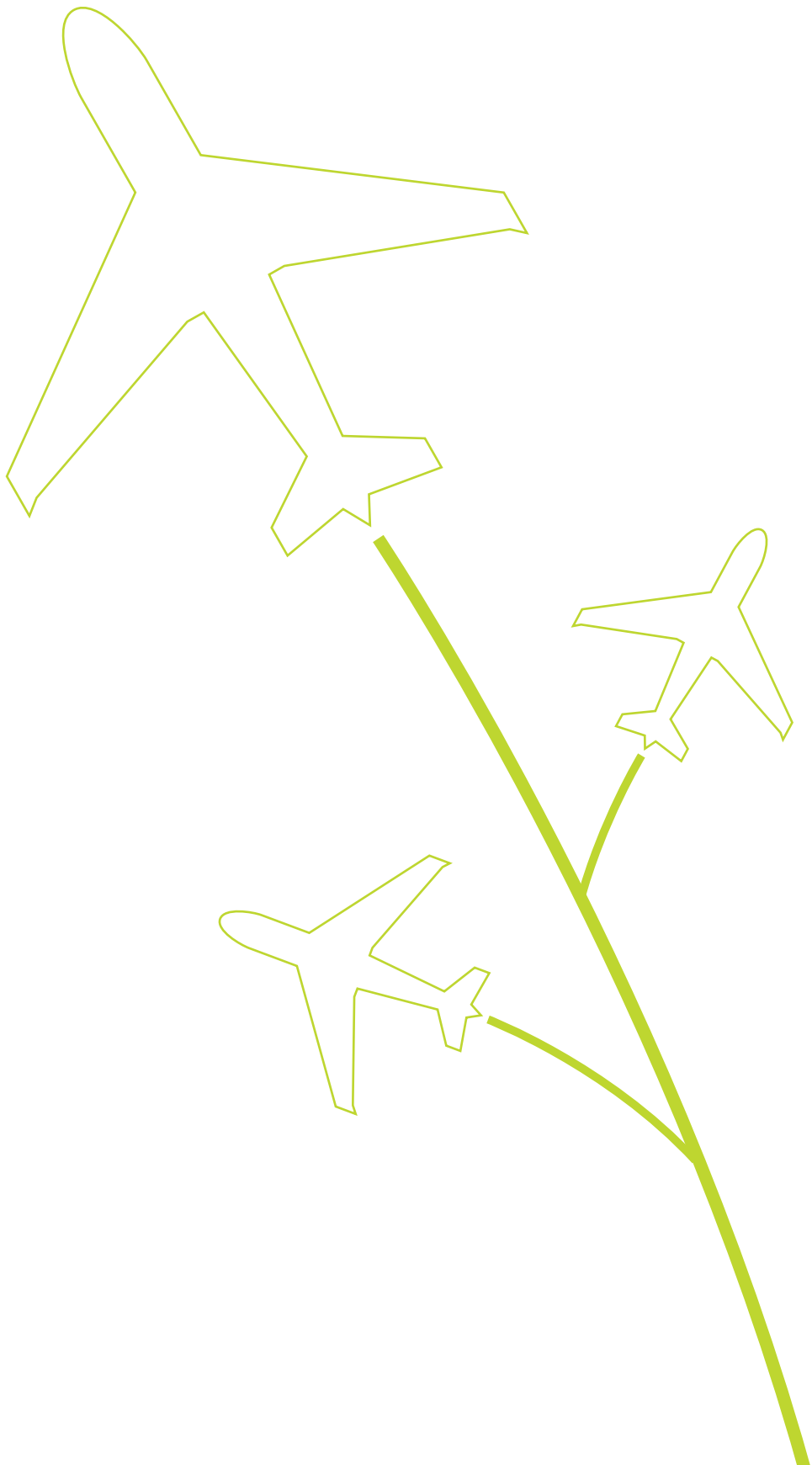
It is estimated that 100% auctioning would cost the aviation industry EUR 12.9 billion in 2020. This would significantly limit investment in R&D and fleet renewal, thus undermining the ultimate goal of combating climate change. 12.9 billion Euros would for example buy 250 new Boeing 737-800s improving fuel efficiency by 30 percent over the aircraft they would replace in the existing fleet.

Moreover, windfall profits would not occur in the aviation sector, so don't represent a problem that needs to be solved. Air transport is an extremely competitive business. This means that even when it is possible to pass on limited costs, profit margins are extremely low. Indeed profits have consistently been too low to even cover the industry's cost of capital, a minimum requirement for financial sustainability in a deregulated industry. IATA recognises that auctioning may solve the issue of windfall profits where it arises. However, the very nature of the air transport business makes it difficult to make any profits, let alone windfall profits.

Aviation carbon offset programmes

IATA guidelines and toolkit

VERSION 1 – MAY 2008



IATA Carbon Offsetting - Guidelines

Foreword

Environmental responsibility is a top priority for airlines, alongside safety and security. The industry – airlines, manufacturers, and infrastructure providers – has united under a common programme to reduce its climate change impact. We have a shared vision to achieve carbon neutral growth on the way to a carbon free industry. We will achieve this through the IATA four-pillar strategy, now adopted by governments and the industry.

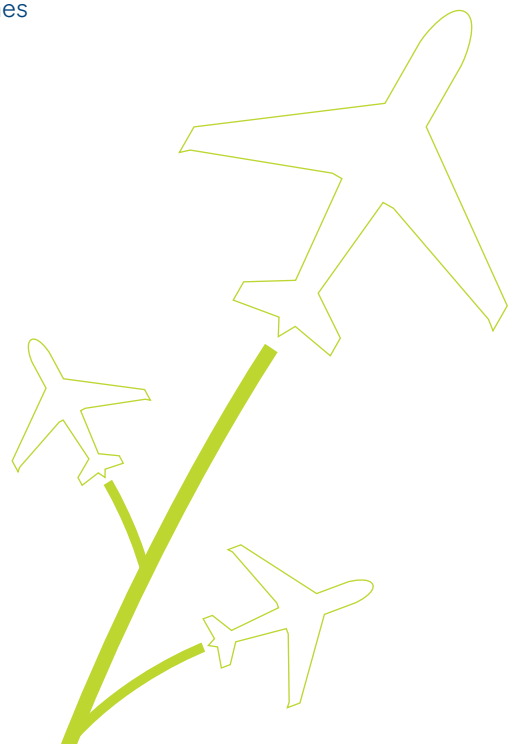
Aviation is responsible for 2% of global CO_2 emissions – but it is a small part of a major problem: climate change. Our industry is fully committed to be part of the solution. First, we are committed to investing in and driving forward technological progress; the second pillar is flying planes more effectively; and the third, building and using efficient infrastructure on the ground and in the air. The fourth pillar, economic instruments, includes tax credits for research and development as well as emissions trading if implemented in the right way through ICAO. Another part of emissions trading is the role that our passengers and customers can play in offsetting their flight emissions by financing a reduction in emissions elsewhere.

Our customers want to know what the industry is doing to mitigate its climate change impacts and, increasingly, they want to know what they can do to help. There is a desire by many passengers to offset the environmental impact of their flights by funding projects like reforestation or renewable energy such as wind turbines. Some airlines provide this service but many have not yet set up such voluntary offset programmes. As with every other area of our business we owe it to our customers to offer the highest standards of service and voluntary offset programmes are no exception. There are many potential pitfalls in setting up and operating such services and a variety of differing standards and potential approaches that could confuse customers if they are not handled appropriately.

At its December 2007 meeting the IATA Board of Governors undertook to address this by mandating IATA to produce a set of best practice guidelines for offsets and to develop an industry carbon offset programme for future use by airlines if they wish to do so. These initiatives do not impact those airlines that already provide their own offsetting services but are designed for those airlines that are considering developing or adopting their own programmes.

This document gives vital guidance for those airlines wanting to implement an offset programme for their customers. It answers a number of questions and guides airlines through this complicated area. I trust you will find the guidelines useful.

Giovanni Bisignani
Director General & CEO



Summary

These guidelines set out a systematic approach to establishing an offset programme. They are intended for use by air carriers that wish to include offsetting as part of their drive to reduce carbon dioxide (CO_2) emissions. Carbon offsets are first explained along with some of the key principles.

This is followed by a step-by-step approach to setting up and managing a carbon offset scheme, summarised in the table below. In the main sections, each of these steps is explained, with relevant advice. Access to further information is provided through a list of relevant sources.

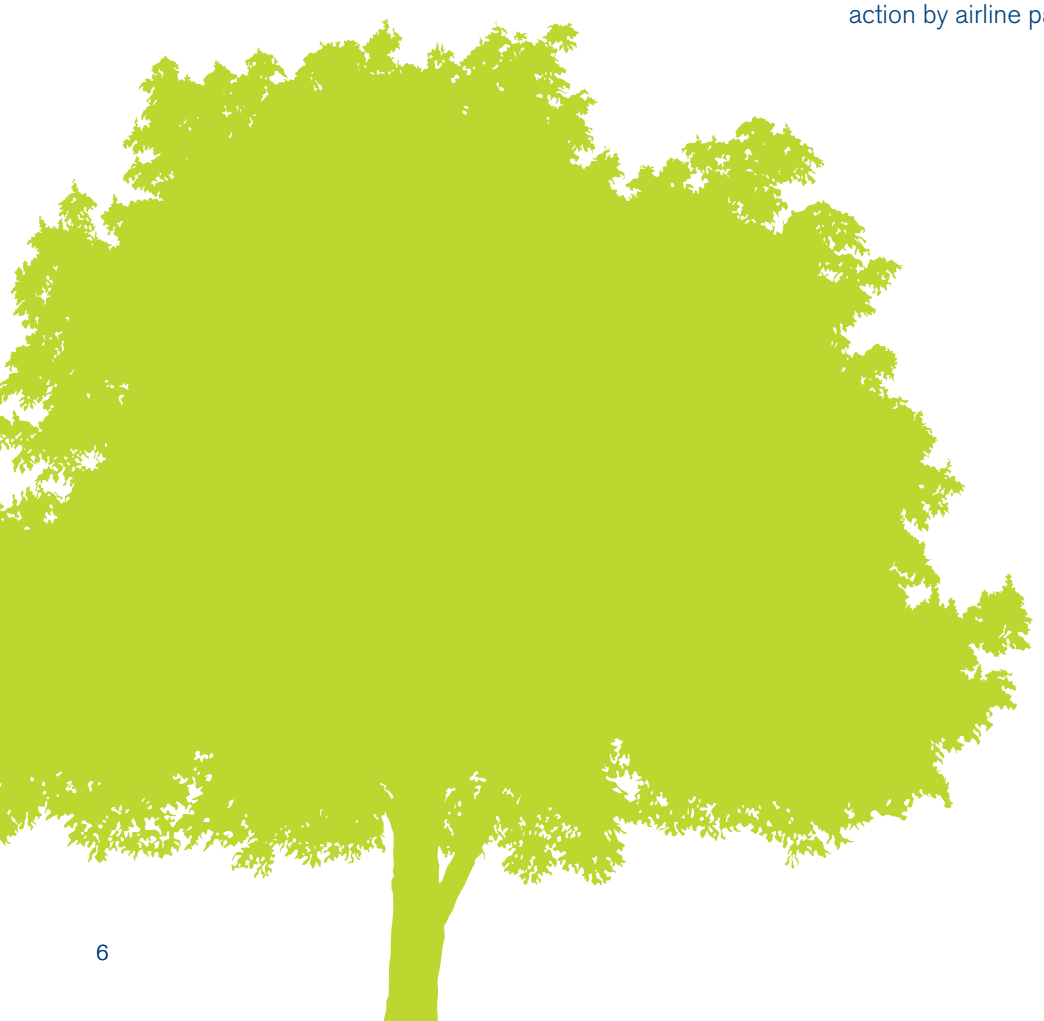
Section	Step	Some key considerations
01	**Determine the role of offsets in an overall climate strategy**	When to use offsets Who are the stakeholders What are potential risks
02	**Determine the scope of activity covered by offsets**	What to offset Flight related emissions Passengers and/or freight
03	**Review budgetary and regulatory aspects**	Review of set-up cost implications Government requirements/guidance Possible tax implications Maintenance and refreshing
04	**Choose the customer proposition**	Opt in / opt out / included within ticket Link to Frequent Flyer Programme Complete or partial offset Refund policy Transparency
05	**Select the offset projects and standards**	VER / CER / Gold Standard Type & price of project Consider customer preference Registry arrangements (records)
06	**Set management responsibilities**	Choosing partners - look behind the label Internal responsibilities Managing the programme
07	**Setting up the system**	Customer interface Need for specific calculator(s) Airline interfaces
08	**Launch and maintain the offset programme**	Prepare for launch Plan audit and verification Plan feedback loop PR considerations

Introduction

This document gives guidance to airlines that are considering participating in CO_2 offsetting. Some 27 airlines are already operating offsetting programmes, each with different characteristics. There has been, as yet, no systematic survey of take-up rates or of the total amount of offsets achieved by airlines and their passengers. This section explains the nature of carbon offsets and the basic principles. More detailed guidance is given in subsequent sections.

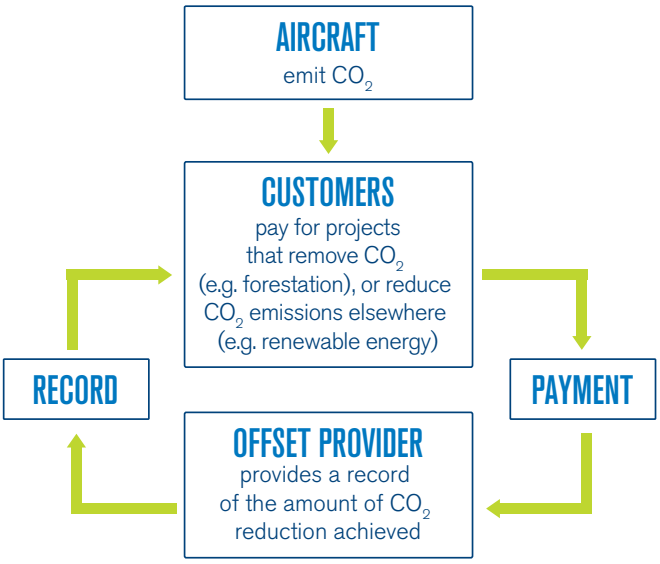
What are carbon offsets?

- In general terms, an offset is a compensating equivalent. As an activity it can mean to balance, cancel out or neutralise.
- In the context of addressing climate change concerns, offsetting is an action by companies or individuals to compensate for greenhouse gas emissions, in this case arising from their use of commercial aviation. The offset can be equivalent in part or in whole to the associated emissions, by financing a reduction in emissions elsewhere.
- Offsets, in either CO_2 or an equivalent offset by another greenhouse gas, can be purchased by countries, companies or individuals to reduce their net carbon emissions.
- There are many different ways to achieve CO_2 reductions that can be used as offsets, many of which bring other social, environmental or economic benefits relevant to sustainable development. There are significant differences between offset types (see section 5).
- Offsets can either be bought from within the international compliance system under the Kyoto Protocol, or in the voluntary market (see section 5). In the context of these guidelines, offsets are considered to be a voluntary action by airline passengers.



How does offsetting work?

In simple terms, when an activity like air travel produces CO_2 emissions, these emissions can be compensated – or offset – by preventing or reducing a similar amount of emissions somewhere else. This can be done either by the airline itself or by its customers. Such offsets can be sourced from various types of project activities (e.g. forestation or renewable energy projects - see section 5) and can be purchased through specialised offset providers or carbon brokers. The buyer then receives a certificate or record from the seller providing details about the project and the amount of CO_2 reduced. The diagram below illustrates this process.



The use of emissions offsets can be conceptually related to emissions trading, and some types of offsets can indeed be used in emissions trading systems (ETS[1]) if the requirements for monitoring, reporting and verification specific to the particular ETS are satisfied. For example, participants in a formal ETS, such as the European Union ETS, can generally use credits from United Nations Framework Convention on Climate Change (UNFCCC) accredited projects and related activities. These are known as certified emission reductions (CERs) and help meet reduction obligations under the ETS. However, offsetting is typically a voluntary activity, undertaken by individuals or companies in a largely unregulated environment.

Principles of carbon offsetting[2]

In order to instil confidence in the purchase and use of carbon offsets and ensure quality of offset programmes in general, a number of principles should be respected.

- **Complementarity** – Offsets and trading should be seen as part of wider efforts to reduce emissions alongside technological and operational improvements in fuel efficiency. Offset programmes will only be credible if they are coupled with serious efforts to minimise the company's CO_2 emissions first.
- **Additionality** - A key requirement for an offset is that the CO_2 reduction or removal used as an offset be 'additional' to business-as-usual activity. As discussed in section 5, demonstrating additionality is complex, but a number of approaches have been used successfully to ensure the environmental integrity of offsets.
- **Verification** - Records of aircraft CO_2 emissions from operations covered by the offset programme must be maintained and be externally verified by an independent third party.
- **Registration** - CO_2 reductions from offset projects should be recorded and tracked through a central registry, with the amounts purchased progressively subtracted from the total determined for that particular project.
- **Traceability** - The receipt issued to the customer should clearly indicate that the credit has been/will be retired as a result of the purchase and cannot be resold. A receipt may also indicate the type of project that was used to generate the offset, or the quality standard that the offset meets.
- **Guarantee** - If an offset is sold where the purchased reduction in CO_2 will be achieved at some future date, then a guarantee that an alternative and equivalent offset will be made if the project fails should be provided. IATA suggests that preferably only offsets already achieved are included.

[1] See Glossary for a fuller explanation of acronyms
[2] See Section 5 Standards and Section 6 Set management responsibilities for more detailed discussion of some of these principles

1. Determine the role of offsets in an overall climate strategy

When to use offsets?

While aviation is a small contributor to climate change, the industry is working hard to reduce its impact. It seeks to operate in the most fuel-efficient manner, while not jeopardising flight safety.

Emissions reductions can be achieved by a range of measures including:

- Co-operating with governments and air navigation service providers to use the shortest feasible routes[3].
- Implementing continuous descent approaches and other operational measures[4].
- Flying at optimal speeds and altitudes.
- Improving load factors.
- Where there is an option, using aircraft best suited to particular sector distances.
- Careful planning of fleet changes.

Through examination of the potential to reduce fuel consumption, benchmarks can be set for future emissions both in terms of absolute amounts and fuel per RTK.

These and other measures have resulted in airlines decoupling growth from emissions. While the industry is growing by 5 to 6 percent per year, emissions are growing by some 3 percent per year.

However, in the short to medium term, there are limits to what the industry can do further to reduce CO_2 emissions from its own operations. Emissions that cannot be avoided can be offset through a customer-based offset programme, which will complement other measures to reduce the net impact of flying by achieving equivalent carbon reductions from actions taken outside the aviation industry. Arguments supporting offsetting include:

- Increasingly, customers are looking for the opportunity to reduce the environmental impact of their flights. Offsetting is a positive action that can be taken immediately by customers to help mitigate aviation's impact on climate change.
- Through an offset programme, customers can contribute directly to reduction, and at the same time be informed about aviation's impacts on the climate and what is being done to mitigate them.
- Customers can choose from a range of projects (e.g. reforestation, wind energy) that gives them a sense of empowerment and choice. Identification with particular projects can improve customer response, thus improving the credibility of the offset programme.
- Quality offsets, particularly in the voluntary market can offer CO_2 reduction at low cost compared to other market-based approaches such as taxes, charges or trading.
- Through driving down the net emissions of CO_2 from aviation, offsetting could reduce the exposure to regulatory and market mechanisms such as taxes.
- A well-organised offset programme demonstrates a carbon conscious and environmentally responsible attitude of the company running the programme.
- It can lead to better understanding of carbon markets, which is important for those airlines that could become involved in emissions trading.

[3] In 2007, IATA worked with governments to optimise 395 routes and 80 terminal management areas, saving 3.8 Mt CO_2. For 2008, an additional 2 Mt has already been identified.

[4] For example, action by IATA's Green Teams in 2007 led to 7 Mt in CO_2 savings by identifying fuel saving measures such as weight reductions, improved maintenance techniques and better flight and fuel planning accuracy

Who are the stakeholders?

A number of groups have an interest in the success of offset programmes. These stakeholders include the following:

- Governments are keen to see airlines take action to ensure their long-term position in a sustainable society.
- Carriers and their shareholders want their investment to be protected by appropriate programmes and planning.
- Corporate customers will increasingly look hard at the 'need to fly' or move freight by air and the position individual airlines take on climate change, as well as the cost of offset programmes.
- Not for profit organisations will continue to push for responsible action by airlines.
- Employees will wish to be associated with companies that are environmentally responsible.
- Passengers will want to see 'value for money' and real emissions reductions when they pay for an offset.
- Offset providers will wish to be part of a responsible and successful programme.

What are the potential risks?

When used properly, carbon offset programmes can form a powerful addition to any strategy addressing aviation's climate change impact. However, airlines considering offset programmes should take care to examine thoroughly any offset proposition before taking it up, using this document for reference. There are a number of points that must be considered carefully, for example:

- With many organisations now offering offsets, it is essential to look 'behind the label' at the credentials of those involved. Ensure that the offset provider is financially sound. Airlines should beware of irresponsible marketing including
  - » Misleading calculation of carbon quantities
  - » Lack of quality verification of carbon benefits
  - » Possible double selling of credits
- Confusion could arise where an offset project, e.g. wind turbines, could both be a voluntary offset programme in countries where there is no agreed target under the Kyoto Protocol and also counted as part of a government target in countries with targets under Kyoto.
- When buying offsets that are yet to be achieved there is a possibility that something could go wrong, with the offsets not being achieved.
- Care should be taken to ensure that customers are not being asked to offset to achieve a carbon reduction that has already been accounted for. For example, if emissions from power utilities are covered under a cap-and-trade emissions trading programme, the scope of the offset programme should not include emissions associated with the use of electricity by the aircraft while on the ground.
- Offsets are seen by some commentators as an easy way to assuage individual or corporate guilt over CO_2 intensive activities. Some see offset programmes as an 'easy way out', detracting from efforts to reduce CO_2 emissions at the source. Airlines should be prepared to address this type of criticism by explaining that offset programmes are part of an overall emissions reduction strategy.
- The credibility of the programme will be at risk if there is a low take-up within a reasonable time from launch. Promotion of the programme through company communications channels such as websites and in-flight entertainment as well as providing information and easy access to offsetting opportunities will encourage and facilitate take-up.
- Targets, progress reviews, customer feedback and periodic refreshment of the programme will further enhance credibility.

2. Determine the scope of activity covered by offsets

What to offset?

- Aviation involves a range of activities that generate CO_2 and other greenhouse gases. These include:
  - » Transport to and from airports
  - » Manufacturing of aircraft and components
  - » Maintenance of aircraft
  - » Ground handling operations
  - » Airport facilities including retail outlets
  - » Flight operations

General guidance on reporting greenhouse gas emissions is available from sources such as the Carbon Disclosure Project, an organisation that works with corporations to disclose their greenhouse gas emissions (www.cdproject.net).

- The largest cause of aviation emissions is passenger flight operations. These guidelines are aimed at this source[5].
- In determining the emissions to be offset, the programme should cover all commercial flights involving passengers. Non-commercial flights, such as test flights and aircraft positioning, should be considered within internal corporate programmes.
- Calculation of CO_2 emissions could be approached in three different ways:
  - » Fuel recorded from start-up of engines prior to departure to close down on arrival. If fuel use is recorded, this will include fuel used to power Auxiliary Power Units and taxiing.
  - » All fuel purchased by the airline for use in aircraft. This would cover all commercial flight operations (including taxiing and at the gate) as well as some maintenance activities and non-commercial flights.
  - » The use of accepted standard factors per flight kilometre for fuel consumption, for example from manufacturers or aircraft performance models, multiplied by the distances flown on individual sectors. This is the default approach recommended in this guidance, in line with the work carried out by ICAO (see section 7).

3. Review regulatory and budgetary aspects

Regulations

Fiscal regulations

Airlines should seek guidance from tax authorities on whether offsets are taxable or not. This should include consideration of any constraints on promotion of offset schemes. In the UK some providers charge Value Added Tax while others don't. The situation is far from clear and the UK authorities have yet to make a ruling. Are offsets voluntarily purchased by consumers a part of the ticket price or not? Different tax regimes may apply to different types of offset providers such as limited companies and charities.

Offsets in context

Offset programmes have to be put in context with other market mechanisms for reducing carbon emissions. These include taxes, charges and emissions trading.

Taxes targeting fuel use and/or related emissions generate cash for the general, usually national, exchequer. Revenue from charges is supposed to be put towards mitigating the related environmental harm. Both are designed to increase the cost of carbon emissions to a point where improvements are made in fuel-efficiency or even to reduce demand.

Emissions trading is designed to allow companies emitting more than their allowance under an overall, regulated, cap to purchase carbon credits from organisations where the cost of carbon abatement is lower. The European Union Emissions Trading Scheme is the only such programme where international aviation will be included, possibly by 2012.

By comparison, offsetting is a more positive action that can be taken immediately by customers to help mitigate aviation's impact on climate change. Through driving down the net emissions of CO_2 from aviation, offsetting could reduce the exposure to regulatory and other market mechanisms.

[5] Given the contribution of freight (belly freight and all-cargo) to overall aircraft emissions, airlines considering an offset programme may wish to develop a programme to cover both areas. IATA is considering other areas such as freight operations and may issue relevant guidance in due course.

Budget

The customer pays for a CO_2 reduction related to the amount of air travel from the airline. The payment for the offset, generally made at the time of ticket purchase, is then channelled separately, possibly through a contracting organisation. Normally, the individual transaction costs and any profit margin for the contracting company are included in the charge made to the customer.

It is not expected that the airline will profit from the sale of offsets. A question will arise then as to whether the airline should absorb the costs involved in setting up and maintaining the offset scheme or whether such administrative costs may reasonably be covered to any degree by monies collected from customers.

Most environmental groups and perhaps most customers would expect the airline to absorb administrative costs. As a minimum, the airline would need to be transparent in this regard. In any event, the administrative costs to the airline are likely to be significant and will include the following:

IT – setting up the system

If emissions calculations are to be made for customers, this will involve designing and installing a system, integrated with ticket purchasing, that allows easy calculation of the CO_2 emissions associated with a ticket purchase. This is generally done through a calculator, which can provide electronic feedback of the CO_2 footprint of all of the sectors flown by the airline and allows customers to determine the CO_2 associated with their flight and the cost of offsetting. Coupled to this will be the presentation of the cost of the offset within the ticket purchasing process.
A number of IT companies are familiar with this concept.

Management of the system

The system can either be managed by the airline or could be contracted to one of the organisations offering offset services. Elements of the system include:

- Monitoring, such as periodic reviews of the system and customer feedback.
- Ensuring that the calculator(s) are up to date.
- Checking the overall accounts and auditing both internally and, from time to time, by a competent external body.

As in all outsourced activities, sufficient internal effort and expertise must be available to ensure effective oversight.

Information provided to customers and others

Customers should be provided with sufficient information.

- To allow them to understand what an offset is.
- How the quantity of CO_2 associated with a particular flight is estimated.
- What project the money will go to.

This information will be summarised in a receipt. Airlines should include a refund policy in the event of a flight being cancelled or a refundable ticket not being used. Reporting on the offsetting programme should be part of the corporate responsibility or environmental reporting by the airline.

The costs of offsetting non-passenger elements

Under the system we have described, not all flights are eligible to be offset. Freight, non-revenue passengers and positioning flights may not be included. Airlines should consider these aspects and determine a policy on such emissions.

Maintenance and refreshing

Allowance should be made in forward budgets for the costs of maintaining the system including activities such as audits and periodic refreshing of the information presented. As the fleet and destinations served change, adjustments will be necessary to any calculators provided.

4. Choose the customer proposition

Nature of the offer

Airlines interface with their customers in three main ways: directly; through travel agents; and, in the case of freight, through freight forwarders. These guidelines are aimed primarily at passenger traffic. If an offset programme is to be effective it is essential that the transaction is simple and transparent and that transaction costs are kept to a minimum.

Single transaction

The opportunity to offset can be offered directly at the time of ticket purchase or it can be carried out through a third party. Possibilities include:

- Use of travel agents and holiday operating companies to offer offsets.
- A link to a related site operated by an offset partner.
- Included within the price of a ticket or freight charge.

For the sake of simplicity and transparency, it is recommended that ticket purchase and offset purchase be offered to the passenger in a combined, single transaction.

Quantified emissions or not?

One decision is whether to link the amount to be paid to the quantified emissions associated with a particular flight or simply to offer the customer the opportunity to make a donation to an offset programme without making this link.

The latter approach could be used to make the same donation for a range of flights or for all bookings made with the airline. It would have to be at a level below the amount required to offset all but the shortest flights, in order to avoid charging customers for more CO_2 than that associated with their flight.

For reasons of transparency, IATA recommends identifying the emissions associated with a particular flight.

Payment options

Companies already operating offset programmes generally offer customers one of the following payment options:

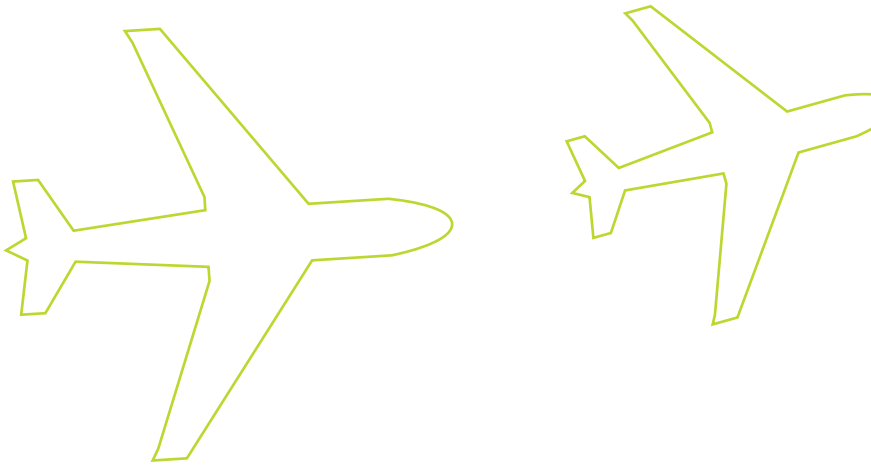
a. Opt-in: The customer pays for the offset, for example by ticking a box or similar action at the time of the ticket purchase. This option is the most commonly used.

b. Opt-out: The payment is included, unless the customer wishes not to offset. In this case an opt-out box or similar is ticked.

c. Mandatory: The cost of an offset is included automatically in the ticket price along with other additional costs such as taxes, charges or fuel surcharges.

d. Frequent Flyer Miles (FFM): A further possibility is for the offset to be paid for in frequent flyer miles.

The advantage of a. and b. is their relative simplicity in that the money can be transferred by credit card and can be managed independently of ticket sales, possibly through a third party. Option c. is also simple but would require internal segregation of funds and does not offer the customer a choice. General experience has been that where the offset is not automatically included in the price of a ticket, opt-out programmes lead to a higher uptake among airline passengers than opt-in programmes. Option d. is more complex in its design but experience to date suggests that the use of FFMs to purchase offsets is a popular choice with passengers.



Refund policy

It is recommended that a clearly evident refund offer be made for offsets purchased for air travel tickets that are not used. Refund claims for offsets should be made at the same time as claims for ticket refunds.

Where the passenger interrupts the journey and part of the ticket is not used, or where the ticket is not refundable at all, it is recommended not to offer a refund of the offset payment.

In both cases customers should be advised that their offsets were not cancelled, suggesting they 'save' them for when they travel next time.

Transparency and general information

Customers should be able easily to access information on the nature of the programme including:

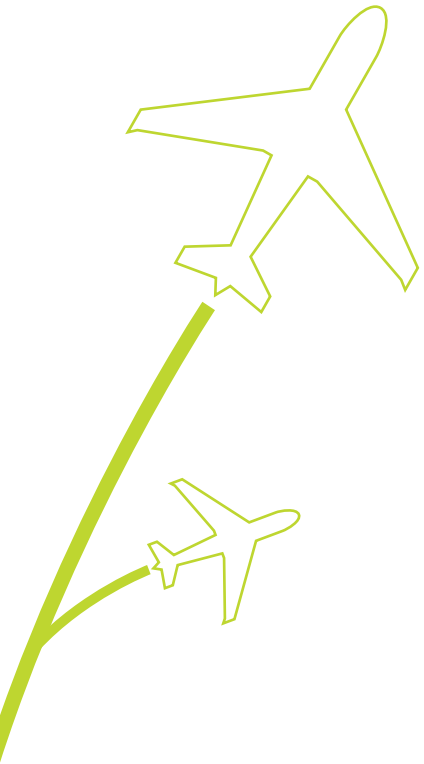
- What emissions are being offset and how they are calculated, including any disclaimers, where appropriate.
- Where the money goes. The margin taken by the offset provider should be clear along with any tax and any costs recovered by the airline.
- Where the project is located and the project development organisation. Alternatively, the quality standard the project has been certified under and the entity that conducted the third-party verification. In the case of voluntary programmes the nature of the registry or other records of the 'stock' of offsets should be made clear.

Information should also be provided to customers on achievements through the offset programme in terms of quantities, offset and projects supported, as well as on key developments with respect to aviation's impact on climate change, possibly through links to relevant sites such as IATA, ICAO and ATAG.

This information should not interfere with the ease of access to offsets and simplicity of the offset purchasing system, but should be easily accessible and signposted in an appropriate way.

5. Select the offset projects & standards

Over the last few years an almost bewildering array of CO_2 products has become available and the market is still developing. An important distinction is between projects in the voluntary (or non-regulated) market, which generate offsets called VERs (Verified - or Voluntary - Emission Reductions), and projects in the Kyoto (or regulated) market, which generate offsets called CERs (Certified Emission Reductions). A key difference is that VERs rely on third party verification while CERs are formally certified under Kyoto rules. As shown opposite, different quality standards can apply to VERs and CERs.



Projects

Offsets can be sourced from various types of project activities:

- LULUCF (Land Use, Land Use Change and Forestry[6])
  - » Avoided deforestation
  - » Reforestation of former forest areas
  - » Afforestation of new areas
  - » Other types of land use projects
- Industrial greenhouse gas offsets
  - » Reduction of emissions and/or destruction of hydrofluorocarbon compounds (HFCs)
  - » Reduction of emissions and/or destruction of nitrous oxide (N_2O)
- Methane (CH_4) capture and use in energy generation
  - » From landfills
  - » From mines
  - » From anaerobic digestion of, for example, livestock wastes
- Energy efficiency
  - » More efficient stoves
  - » More efficient power generation
  - » Light bulb replacement
  - » Use of "waste" energy in co-generation
- Renewable energy
  - » Wind turbines
  - » Hydroelectricity
  - » Solar, thermal and photovoltaic systems

The success of a carbon offset programme depends amongst other things on the choice of projects offered to the customer. Points to consider when selecting a project include:

- Standard – what verification and auditing procedures are in place.
- Price – VERs, from the voluntary carbon market, are generally cheaper than CERs from the regulated Kyoto market.
- Relevance to your business
- Geographical location
- Resonance with customers – those projects with social and economic benefits to local communities may appeal more.

[6] Forestry and tree planting have been popular environmental initiatives. Carbon sequestration through afforestation and reforestation can qualify as a part of carbon pools as tradeable CERs through the Clean Development Mechanism. However, approval of avoided deforestation, while possibly more attractive, has proved more difficult to obtain under UNFCCC systems.

Standards

It is important to examine project offers with care, not just the way in which the product is being sold and the reputation and reliability of the organisation offering the offsets, but also the quality standard applicable to the project and offsets.

There is a range of standards including the following[7]:

- Clean Development Mechanism (CDM)
- Gold Standard (GS)
- Voluntary Carbon Standard 2007 (VCS 2007)
- The Voluntary Offset Standard (VOS)
- Climate, Community and Biodiversity Standards (CCBS)

It is worth repeating that only CERs – through the so-called Clean Development Mechanism and Joint Implementation projects – are directly related to the Kyoto Protocol. The quality of CERs is ensured via the Gold Standard, which incorporates wider sustainable development criteria. Note that this standard can be equally applied to VERs as well.

Some key comparisons between VERs and CERs are shown in the table below.

A comparison of CERs and VERs.

	VERs	CERs
UN or government approved	No – voluntary, verified, and not regulated by government	Yes – certified through UN CDM process
Single standard	No – depends on verifier. Subject to same variation as CERs	In principle yes, but subject to variation e.g. in geographical location and nature of project
Gold Standard	Can apply but not a requirement	Can apply but not a requirement
Other standards	VCS, VER+, VOS, CCBS	CERs are tradeable with units in the EU ETS
Forestry	Can include a wide range of forestry projects	Limited - inclusion of afforestation and reforestation
Price (per tonne of CO_2)	Generally, but not necessarily exclusively, less expensive	Generally, but not necessarily exclusively, more expensive

[7] Adapted from Kolmuss et al, 2008.

5. Select the offset projects & standards (continued)

Additionality

Additionality addresses the question: "would the activity have occurred, holding all else constant, were the activity not implemented as an offset project?" Or, in simpler terms "would the project have happened anyway"? If the answer is yes the project is not additional. Additionality is determined by examining a proposal against one or more tests, depending on which quality standard is being employed. The range of tests includes factors such as whether:

- A project is implemented to fulfil official policies, regulations or industry standards.
- The project would have been implemented anyway for cost savings.
- The prospect of additional income from carbon offset helped make the project viable.
- The project crosses significant non-financial barriers, such as a lack of know-how or institutional barriers.
- The project uses cutting edge technologies that are not commonly used in similar sectors. If very common technologies are used a project might not be additional because the carbon offsets may not be essential to making the project happen.

One way to increase the probability of achieving additionality is to select permanent projects clearly outside regulatory requirements.

Registries

Carbon offset registries keep track of offsets and are vital in minimising the risk of double counting (that is, to have multiple stakeholders take credit for the same offset).

Registries also clarify ownership of offsets. Typically a serial number is assigned to each verified offset. When an offset is sold, the serial number and "credit" for the reduction is transferred from the account of the seller to an account for the buyer. If the buyer "uses" the credit by claiming it as an offset against their own emissions, the registry retires the serial number so that the credit cannot be resold.

- For example, under the Clean Development Mechanism (CDM), the CDM registry is used to issue CERs from registered CDM project activities. Up to date information on all registered projects is maintained by UNFCCC.
- While many VER projects are small in scale compared to CER projects, this should not prevent a robust registry system being in place to record the origin, ownership and retirement of VER credits.
- There is as yet no central registry for VERs although moves are being made, for example, through the Voluntary Carbon Standard (VCS), a standard developed for non-regulated carbon offset projects (http://www.v-c-s.org/).
- Existing registries for the voluntary market have been largely developed by non-profit organisations and the private sector. Many are operated by the project developers, some in conjunction with verification bodies.
- Some of these registries are tied to certain standards whereas others function independently. Most voluntary standard registries are still in the planning stage and not yet operational.
- When transactions occur without registry administration, providers and buyers must find other accounting systems to ensure the integrity of the delivery process. Since offsets have no physical form, buyers must be given proof that the stated emission reductions have truly taken place. A verification report from an independent third party can serve this purpose. Furthermore, buyers must obtain all rights and titles to the emission reductions and assurance that the provider did not and will not double-sell the offsets.
- This confirmation usually takes the form of a "transfer of title and ownership" document signed by the provider. However, unless the provider engages an independent third party to verify its internal processes, the buyer cannot be sure that the provider has truly retired the stated amount of offsets.

6. Set management responsibilities

Managing the programme

Setting up an offset programme will bring the requirement for a range of activities including dedicated IT, relationship with offset providers, determination of fuel burn and CO_2 emissions, internal and external audit where appropriate, financial control and communication. With the exceptions below, these aspects are covered elsewhere in this guidance. In the lead up to launch it is recommended that a team be established including those with the appropriate expertise. Some additional activities may be necessary on a case-by-case basis, such as government relations, in order not to avoid conflict with government priorities and policy. A senior manager should lead the team with access to the top management of the airline.

Audit and Verification

Offset programmes should be subject to at least the same standards of financial audit as other parts of the business. This also applies if the programme is outsourced and it is recommended that annual accounts be published in appropriate ways. Audits should also include a thorough check on the achievement of offsets and of the registry records.

Different validation and verification processes apply to different types of projects. Those that are generated under CDM or JI processes are subject to the rigorous requirements of the UNFCCC protocols. However, even with such CERs care has to be taken as no project is entirely risk free.

With VERs and other voluntary instruments, verification is generally carried out by a third party in accordance with specific protocols generated in co-operation with the project developer, although reference may be made to CDM protocols. Thus with VERs care should be taken to check that adequate processes are in place covering verification, additionality and to avoid double counting.

Verification applies to both the achievement of offsets (whether certified or voluntary) and to the quantities of emissions being offset. There are a growing number of verification authorities, including those with broader certification and verification expertise who have competence in this area. In particular the expertise on quantification of emissions is being developed in Europe as part of the preparation for inclusion of aviation in the EU ETS. Generally, it will be sufficient to report publicly that emissions have been verified by such an organisation.

Choosing partners

The climate impact of aviation is a long-term issue and hence an offset programme is likely to last for a number of years. As with other supplier relationships, selection of partners and their products is critical to success of the programme. Thus in approaching a decision on which company to work with a number of key aspects should be taken into account.

Key partners could include:

- Offset brokers – generally part or subsidiaries of finance houses dealing in larger quantities of offsets. In such case account management could be largely internal within the airline.
- Offset providers – organisations or companies that provide a bespoke service including calculators, materials for the clients' websites and account management.
- Consultants – who may also be providers, who offer advice on meeting your particular requirements.

Choice of partners will depend on the size of the airline, the nature of the relationship that you wish to develop and normal aspects such as technical competence and value for money.

The market in offsets is developing rapidly and there are many potential partners. Before considering a contractual relationship on the provision of offsets, the reputation of the possible partner and any partners should be scrutinised.

Buyers are advised to apply normal procurement and contract processes including:

- Specification of what they are purchasing - with reference not only to the specific offset but also referring to possible additional benefits.
- Rights to audit information on verification of the offsets and to the records of cancellation.
- What happens if credits are not delivered or are not achieved? This applies in particular if credits are purchased ahead of delivery, which might be attractive on a price basis.
- An appropriate dispute resolution procedure.

7. Setting up the system

The customer interface

If the offset offer is not conspicuous and easy for the consumer to understand and implement, then take-up will be low and the credibility of the airline's offset programme will be at risk.

Thus the offer should be in a prominent place on the booking system, either as an opt-in decision to pay for an offset or an opt-out where a conscious decision is taken not to include the price of an offset. In either case, the quantity of CO_2 to be offset and the price should be clearly visible.

The booking system should be linked to the system of the offset provider to allow the latter to automatically issue an electronic receipt for the amount offset with details of the project that is being supported and confirmation that the relevant amount will be removed from the registry of the project. This receipt can be branded in an appropriate way.

The customer should also have easy access through appropriate links to information on: where the money is going; how the CO_2 footprint of the flight is calculated; where the project is; how it achieves the objective of CO_2 reduction; as well as any other economic and social benefits.

The carbon calculator

As the offset industry has developed, a range of approaches to estimating the CO_2 footprint of flights has been used. Unfortunately, there has been little consistency so far in the methodologies used to make these estimates. In order to achieve a more consistent approach, IATA recommends using the ICAO (2008) methodology involving the following steps[8]:

- **User input:** based on user input, the airline's booking system defines the itinerary and it specifies origin, destination and any stopover airports. This will normally include codeshare and other sectors paid for through that airline.
- **Trip distance:** the Great Circle Distance (GCD)[9] between two airports is calculated using longitude and latitude coordinates. A correction factor can be used to take account of delays and wind and weather conditions en-route.
- **Aircraft type:** for calculation of the carbon footprint, it is necessary to define the type(s) of aircraft used to fly the specified itinerary. If actual data is not used, it is suggested to use information from flight schedules[10].
- **Total fuel burn:** to determine the total fuel burn for the flight(s) the use of actual trip fuel data would give the most reliable results. If such data were not used, an alternative data source would be the CORINAIR Emissions Inventory Guidebook (EIG)[11].
- **Passenger to freight ratio:** to establish the passenger-related fuel use for the flight the total fuel burn is divided between the number of passengers and the tonnage of mail and freight using load factor data. Unless actual flight data is used, average passenger and freight load factors can be used to establish the ratio to make this division.
- **Seat capacity & passenger load factor:** the passenger-related fuel use for the flight is divided by the actual number of passengers on the flight. If actual numbers are not used, some assumptions will need to be made for the seat capacity and passenger load factor on the flight, using either airline or industry averages.[12]
- **CO_2 per passenger:** using the above factors, the CO_2 associated with each passenger is calculated as follows:

(total fuel burn * pax to freight ratio) * 3.157/ (seat capacity * pax load factor)

where 3.157 is the factor used to convert fuel to CO_2.

A distinction can be made between economy and premium class passengers, reflecting the additional space and weight taken up by the latter. To do this, an adjustment factor must be developed for premium class passengers and applied to the CO_2 per passenger[13]. In accordance with the ICAO method it is suggested to use a factor of 1 for economy passengers and 2 for premium class passengers.[14]

In order to apply a multiplication factor for premium class passengers without overestimating the total flight emissions, a base seat fuel factor is calculated by dividing the passenger-related fuel use for the flight by the total number of seats in each of the two cabin classes adjusted by the respective cabin class factors, as follows:

(total fuel burn * pax to freight ratio)/(economy seat capacity*1 + premium seat capacity*2)

The base seat fuel factor is then multiplied by the cabin class factor to calculate the CO_2 associated with each economy or premium class passenger:

base seat fuel factor * cabin class factor * 3.157

[8] In the context of the ICAO methodology, it should be noted that this is likely to be revised and updated in the future. Also, the ICAO guidance specifies that generic calculators should not be used to design taxes/charges or any incentive metrics and notes that there can be trade-offs between level of detail and ease of use.

[9] The Great Circle Distance is the shortest path between two points on the surface of a sphere

[10] For example from the OAG – Official Airline Guide

The airline interface

Staff, in particular those dealing directly with the public, media and decision-makers, should be well informed about the offset programme. They should be included in the preparations for launch of the programme and they should be briefed on:

- Why the offset programme is being introduced.
- General aspects of aviation and climate impact and measures being taken to mitigate through steps such as:
  - » Operational improvements
  - » Fleet replacement and new technology
  - » Other CO_2 saving measures such as possible use of biofuels
  - » Any regulatory requirements such as emissions trading
- The current position on non-CO_2 impacts of aircraft exhaust emissions (see box).
- Particular information on the CO_2 emissions from the airline such as the total relative to national transport emissions or some other simple comparison.
- How the offsetting programme works.
  - » Whether it covers both freight and passengers
  - » How receipts are given and accurate records maintained
  - » How aspects such as crew and non-revenue passengers are covered
  - » Where the projects are and how they work
  - » Where the money goes

Non-CO_2 impacts of aviation on the climate

- Carbon dioxide is not the only greenhouse gas – for terrestrial sources there are six recognised significant impacts – overall they lead globally to an effect that is around 1.3 times that of CO_2 emissions on their own. (IPCC 2001).
- Approximately 30% of the overall human-induced greenhouse effect can be attributed to the non-CO_2 greenhouse gases. This proportion, for ground level emissions, will vary from source to source and from country to country depending on the effectiveness of controls over the non-CO_2 greenhouse gas emissions. While the effect of these is well understood, that of the non-CO_2 gases from aviation is not.
- Aviation is complicated by the fact that most exhaust gas is emitted at cruise altitudes where emissions such as NO_x and water vapour have indirect impacts that do not occur at ground level.
- CO_2 emitted by aviation is effectively indistinguishable from that from ground sources because of its lifetime of 100 years and more. On the other hand the effects of NO_x at cruise and the impact of contrails and cirrus clouds related to aviation are much shorter lived and regional.
- It is not common practice to apply a multiplier to non-aviation ground based sources when embarking on offset initiatives. To do so for aviation would not only introduce a high level of uncertainty into the calculations but could also be counterproductive. Increased costs related to non-CO_2 impacts such as cirrus clouds could encourage avoidance strategies such as flying lower which in turn would lead to greater fuel burn and emission of more CO_2.
- Two of the leading atmospheric scientists in this field have recently stated (Sausen and Schumann, 2007):

  "A scientifically sound solution for the inclusion of non-CO_2 effects in an emissions trading progamme (or other approach) would eventually call for something other than a simple multiplication factor. Such a simple multiplication factor would weaken incentives to reduce the total climate impact beyond a reduction of the fuel consumption, which is to say there would be no benefit in reducing non-CO_2 effects"
- IATA recognises that there are non-CO_2 impacts and strongly supports the drive for a better scientific understanding of these effects in the upper atmosphere. Equally strongly, IATA supports a strategy based on concentrating on CO_2 until the appropriate ways in which to deal with the other impacts become clear. Given the much shorter lifetimes of the other impacts it is imperative that action is taken now to address CO_2.
- It is already apparent that low NO_x technology is likely to offer a substantial reduction in NO_x emissions at cruise altitudes, thus further reducing the modest net global warming that current understanding suggests results from aircraft NO_x emissions.

[11] Note however that the CORINAIR database does not contain fuel burn data for all existing aircraft types and so-called "equivalent" types may have to be used as a substitute to approximate the estimated fuel burn for scheduled aircraft types.
[12] If no load factor data per cabin class is available it can be assumed that the same load factor applies to all classes.
[13] Note that according to the ICAO methodology the cabin class correction factor is used only on equivalent aircraft types that support such differentiation, and only for flights of more than 3,000 Km.
[14] This factor is not likely to be scientifically rigorous but a crude estimate designed to compensate to some extent for reduced capacity associated with premium seating arrangements.

8. Launch and maintain the offset programme

Preparation

Launch of the programme will require:

- Setting a date for introduction.
- Steps 1-7 should be in hand and management should be confident that they can be completed on time.
- Systems should be adequately tested. This could involve the use of focus group(s) to test user friendliness.
- A communications plan should be prepared including information for staff, customers and to external audiences including the media. This should include channels such as in-flight media and web sites.
- Special advance notice may be relevant for corporate customers.
- A Question & Answer briefing or similar information should be circulated to senior management and to staff directly involved.

Monitoring progress and audits

Before the programme is launched a system for monitoring and auditing the programme should be set up. This should include:

- A system for internal reporting of progress so that records are available from the start.
- Regular reporting to top management.
- An internal audit to be carried out shortly after the launch and at regular intervals, not less than yearly, thereafter.
- An external audit to be carried out and the findings published at about 18 months to two years after launch.
- Monitoring and audits should cover the complete system including relevant partners.

Feedback and improvement

- Periodic customer surveys should be carried out to assess ways to improve the system.
- The programme should be reviewed and modified in the light of feedback and any changes in regulations, advances in understanding of non-CO_2 impacts and company policy.
- Regular updates on the programme, its achievements and related matters such as understanding of aviation's climate change impact should be carried in publications such as in-flight magazines.
- The offset programme should become an integral part of the airline's approach to corporate responsibility.

Some project types

Main supporters	Market share	Third-party verification required	Separation of verification and approval process	Registry	Project types	Excludes project types with high chance of adverse impacts	Price of offsets
Clean Development Mechanism Certified Emission Reductions (CERs)							
UNFCCC parties	large	yes	yes	yes	All less REDD, new HFC, nuclear	no	€14–30
Gold Standard							
Environmental NGOs (e.g. WWF)	small but growing	yes	yes	planned	EE, RE only	yes	VERs: €10–20 CERs: up to €10 higher
Voluntary Carbon Standard 2007 (VCS 2007)							
Carbon market actors (e.g. IETA)	new, likely to be large	yes	no	planned	All less new HFC	no	€5–15
VER+							
Carbon market actors (e.g. TÜV SÜD)	small but growing	yes	no	yes	CDM less large hydro	yes	€5–15
Voluntary Offset Standard (VOS)							
Financial industry and carbon market actors	N/A	yes	no	planned	CDM less large hydro	yes	N/A
Climate, Community and Biodiversity Standards (CCBS)							
Environmental NGOs (e.g. Nature Conservancy) and large corporations[15]	large for LULUCF	yes	no	N/A	LULUCF	yes	€5–10

[15] Author's Comment: The CCBS is a Project Design Standard only and does not verify quantified emissions reductions.

Appendix 1.

Glossary

Additionality. The principle that carbon credits can only be awarded to projects that would not have happened anyway.

Carbon credits. Units of CO_2 expressed in amounts of metric tonnes that can be used in offset programmes. Some types can be used in meeting regulatory requirements.

Carbon Disclosure Project. Carbon Disclosure Project is an organisation that works with corporations to disclose their greenhouse gas emissions. In 2007, it published the emissions data for 2,400 of the world's largest corporations, accounting for 26% of global anthropogenic emissions.

CCBA. Climate, community and biodiversity project design standards.

CDM (Clean Development Mechanism). Under the Kyoto Protocol, developed countries can offset their emissions by funding emission reduction projects in developing countries.

CER (Certified Emission Reduction). Units of CO_2 in metric tonnes issued by the United Nations from emission reduction projects in developing countries. They are tradeable and can be used by developed countries to meet their emission reduction goals under the Kyoto Protocol.

CO_2 (Carbon dioxide). This is the main global greenhouse gas and thus the largest contributor to man-made climate change, produced from burning fossil fuels and deforestation.

EE. Energy Efficiency.

EU ETS (European Union Emissions Trading Scheme). Aviation will be incorporated possibly from 2012.

FFP. Frequent Flyer Programme

GHG Protocol. The Greenhouse Gas Protocol, a partnership between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), is a widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions.

HFC. Hydrofluorocarbon.

IPCC (Intergovernmental Panel on Climate Change). A scientific intergovernmental body set up by the World Meteorological Organisation (WMO) and by the United Nations Environment Programme (UNEP). The IPCC was established to provide the decision-makers and others interested in climate change with an objective source of information about climate change.

JI (Joint implementation). Under the Kyoto Protocol organisations in developed countries can undertake projects in other developed countries. This is different to CDM.

Kyoto. The Kyoto Protocol was adopted in 1997 and requires participating countries to reduce their emissions by an average 5% below 1990 levels by 2012. It is administered by the UNFCCC.

LULUCF (Land use land use change and forestry). The term given to tree-planting projects, reforestation and afforestation, designed to remove CO_2 from the atmosphere.

RE. Renewable Energy.

REDD. Reduced emissions from degradation and deforestation.

Registry. A body holding records of formally approved projects such as the registry of CDM projects. VER projects and others can also have registries but these are outside of government.

Retiral. This means removing carbon credits or 'tearing them up' thus preventing further use or trading.

RTK (Revenue tonne kilometres). The product of the payload and the distance flown.

UNFCCC (United Nations Framework Convention on Climate Change). An international treaty developed in 1992 that aims to combat climate change by reducing global greenhouse gas emissions. It set the framework for binding agreements under the Kyoto Protocol.

VCS. Voluntary Carbon Standard. A standard developed for non-regulated carbon offset projects. http://www.v-c-s.org/

VER (Verified or Voluntary Emissions Reductions). Reductions that, unlike CERs, are sold on the voluntary market. VERs are linked neither to the Kyoto Protocol nor to the EU ETS.

Verification. The process through which an external party confirms the accuracy of estimates. With respect to these guidelines, it applies in particular to emissions of CO_2 from airlines and also to CO_2 reductions achieved through offset programmes.

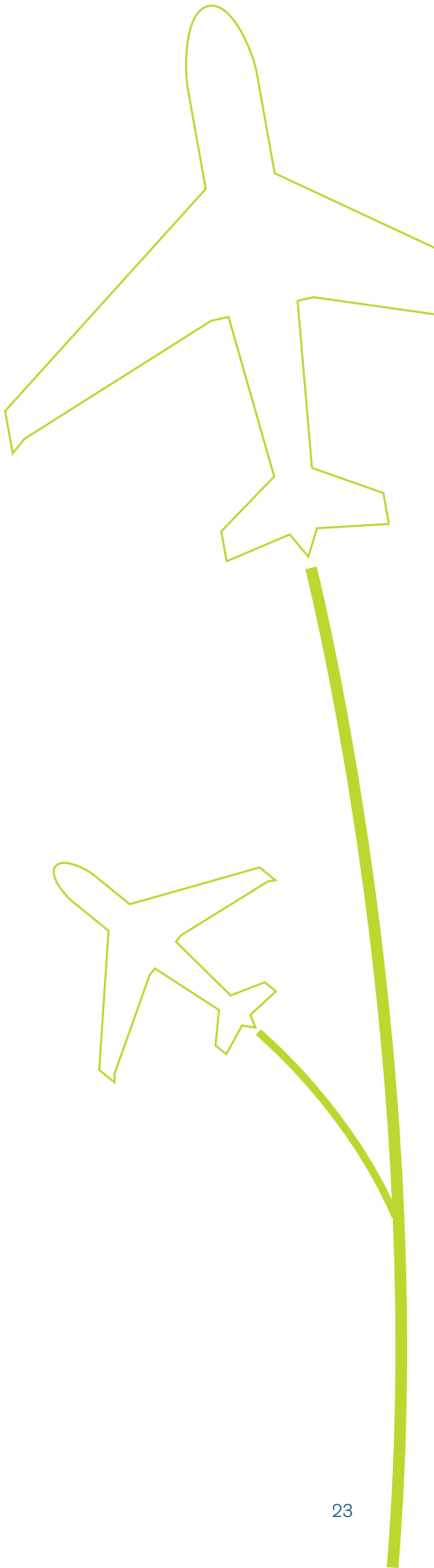
VOS. Voluntary Offset Standard. See http://www.carboninvestors.org/

Appendix 2.

Further information

This is provided as an introduction to the relevant literature and is not intended to be comprehensive. See the following links:

- Carbon Disclosure Project www.cdproject.net
- Defra. Draft Code of Practice for Carbon Offset Providers. Accreditation requirements and procedures. (2008). UK Department for Environment, Food and Rural Affairs www.defra.gov.uk/Environment
- Environmental Finance, February 2008. Special Report. Voluntary Carbon 2008. Climate change, offsets and the carbon markets.
- Gold Standard. See http://www.cdmgoldstandard.org
- Greenhouse Gas Protocol. http://www.ghgprotocol.org
  A corporate accounting and reporting initiative.
- Hamilton, K., Stewart, E., and Waage, S. (2006). Offsetting Emissions. A Business Brief on the Voluntary Carbon Market. Ecosystem Market Place and Business for Social Responsibility.
- ICAO (2008) (in preparation, based on draft dated 27.11.07). Methodological Guidance. ICAO Carbon Emissions calculator.
- IPCC 2001, as quoted at http://www.epa.gov/climatechange/economics/international.html
- Kolmuss, A., Zink, H. and Polycarp, C. (2008) A comparison of carbon offset Standards. WWF Germany.
- Kolmuss, A. & Lane J. (2008). Carbon Offsetting and Air Travel. Part 1: CO_2-Emissions Calculations.
- Sausen, R. and Schumann, U. (2007). ICAO Journal, 6 no 5.
- Sustainable Aviation – a UK industry initiative. www.sustainableaviation.co.uk
- UK House of Commons Environmental Audit Committee, 2007). The Voluntary Carbon Offset Market para 32, p19.
- UNFCCC http://cdm.unfccc.int/Issuance/cers_iss.html
  Up to date information on all projects registered through UNFCCC.



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