**APPENDIX 1**

# Gloucestershire Airport Green Policy

**Status**

This is a controlled document produced by Gloucestershire Airport Limited and is subject to change. It will be reviewed and approved annually by the Shareholders with a view to defining areas for further enhancement.

**Validation**

Document Owner:

**Gloucestershire Airport**

Approved By:

**Board of Directors**

**Access to Document**

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## 1 Document History

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|---|---|---|
| 17.09.08 | - | Draft (First pass) |
| 07.10.08 | - | Draft (Issue 002) |
| 08.10.08 | - | Draft (Issue 003) – Updated Methodology |
| 14.11.08 | - | Draft (Final Draft) – Following comments from the Officers |
| 23.01.09 | - | Draft (Final Draft) – Following additional comments from the Officers |
| 13.03.09 | - | Issue 1 |

## 2 Record of Amendments

| *A/L No* | *Amendment Incorporated* | *Initial* | *Date* |
|---|---|---|---|
| *1* | | | |
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## 3 Executive Summary

3.1 Gloucestershire Airport is committed to controlling the adverse effects of its operations and minimising its impact on the environment and the local community, whilst seeking to maximise the positive benefits from the airport.

3.2 The Company is fully committed to reducing its greenhouse gas emissions and understands the need to meet its environmental responsibilities. The Board of Directors have approved the development and implementation of this Green Policy to address all activities controlled by the Company.

3.3 This policy is a working document that will change and evolve as best practice and methods of improving the sustainability of airports are developed.

3.4 It details specific aims and encompasses a wide ranging scope to ensure direct and indirect environmental impacts of Airport operations are considered and, where possible, reduced or mitigated. This includes commitments to: -

- Set targets for emission reduction;
- Development of a methodology to calculate emissions from aircraft;
- Identify mitigation measures already in place;
- Consider the environment in the future operation and development of the Airport;
- Develop a travel plan for Airport staff and users;
- Work with stakeholders to promote green policies and initiatives;
- Set a ceiling on total numbers of flights;
- Report progress and results annually

3.5 The Company fully expects to continue working with Shareholders, local communities and the Planning Authorities in the ongoing development and implementation of the Green Policy.

3.6 Specialists have been appointed in a variety of fields of expertise to assess report and establish baseline data. This will facilitate the setting of future reduction targets, particularly for those ground-based operations over which the Airport has direct control, such as energy consumption. These targets have been set to reduce the Airport's consumption by 10% per annum for the first two years.

3.7 The Company will continue to record and respond to noise complaints from the local community and work with all stakeholders to minimise noise nuisance. Existing Noise Abatement procedures will continue to be regularly reviewed to ensure their effectiveness. Professional noise contouring will be undertaken, in accordance with Government requirements and noise monitoring will be undertaken in the communities surrounding the Airport. The Company wishes to reduce the percentage of noise complaints received year on year and will publish all relevant data.

3.8 A restriction on the number of movements has been agreed at 95,000 per annum excluding police, medical and other emergency related flights.

3.9 In conjunction with the Shareholders, a methodology has been devised and independently verified to calculate current CO2 emissions from aircraft operations. This has been factored to include the predicted traffic levels after the completion of the Runway Safety Project and to set a future ceiling on



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emissions at 4000 Tonnes per annum. This level of CO2 emissions is equivalent to 0.17% of the region's entire output.

3.10 Operational ceilings have been set at 1.5% of the total numbers of flights, to limit out-of-hours and nighttime activities. These are consistent with the Airport's current requirements but retain sufficient flexibility so not to onerously restrict the legitimate operations of our customers now, and in the future. Emergency, Police and Air Ambulance-related operations are excluded from any limitation; as are aircraft arriving early or late for operational reasons - reflecting the important role the Airport plays in support of these flights. The Policy commits the Company to openly and transparently report details of its operations.

3.11 Local air quality will be monitored and measured on a monthly basis using independently verified data sources and compared against aircraft movement data. Pollutant levels will be analysed to ensure they do not exceed national permitted levels.

3.12 The Green Policy reflects those measures already in place to promote environmentally friendly surface transport to and from the Airport by staff, passengers and users. These will form the basis of a formal Travel Plan, to be developed within 12 months of the policy launch.

3.13 The Company will introduce schemes to record the amount of waste produced at the site and will set targets to reduce these levels in future. Existing recycling schemes will be expanded, where possible to minimise the environmental impact of our operations. A Green Champion has been appointed to promote waste management issues. The Company is committed to ensuring that all disposal methods will meet or exceed national permitted limits and levels.

3.14 Water usage and quality within the Airport site will be monitored to ensure maximum efficiency and minimal pollution. The annual water quality report shall ensure that average pollutant levels do not exceed the discharge consent levels, as agreed by the Environment Agency.

3.15 The ecology of the 400-acre Airport site will be sensitively managed, within the Civil Aviation Authority's Safety Requirements to ensure minimal disruption to habitats during the course of normal airport operations and when considering future development. Grasses will be organically managed to preserve the natural environment and maintain the Green Belt buffer between the urban conurbations.

3.16 The policy culminates in a series of objectives, timeframes and ceilings. These are defined within the document to ensure its effectiveness now and in the future. Some targets will require development in the future but will only be amended in consultation with the shareholders. All targets will be regularly reviewed to ensure they remain specific, measurable, achievable, relevant and time based.



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## 4 Purpose

4.1 Gloucestershire Airport recognises its responsibilities to the care for the environment and as a good neighbour to our community. To reinforce this, our policy statement is:

*"Gloucestershire Airport is committed to controlling the adverse effects of its operations and minimising its impact on the environment and the local community, whilst seeking to maximise the positive benefits from the airport."*

4.2 We will achieve this by:

a. Developing our employees to raise environmental standards by ensuring that they are well informed, well trained and committed to the environmental improvement process;

b. Working with our business partners to raise standards and encourage them to adopt environment policies and management systems. We will take a central role in co-ordinating and driving forward performance improvement;

c. Striving to be a better neighbour by engaging the local community in a two-way dialogue to understand their needs and playing an active part in meeting these needs;

d. Integrating sustainability principles into our business processes and decision making;

e. Meeting or exceeding all legal requirements.

4.3 This policy is a working document that will change as best practice and methods of improving the sustainability of airports are developed. It is about managing our business in a way that enhances the positive and minimises the negative economic, social and environmental impacts of our activities by taking current issues like safety and the environment seriously. It requires us to balance successfully the interests of our different stakeholders through the quality of the judgements that we make. Those stakeholders include our employees, customers, suppliers, investors, government bodies and the local communities around our airport. The trust of these groups is fundamental to our day-to-day business success and to protecting and enhancing its value into the future.

## 5 Aim

1. To demonstrate a commitment to minimising and reducing greenhouse gas emissions resulting from all activities at Gloucestershire Airport;

2. To define a reasoned methodology for measuring all greenhouse gas emissions generated by flying activities at Gloucestershire Airport;

3. To set a baseline and maximum level for greenhouse gas emissions from all activities at Gloucestershire Airport and to set targets to reduce these annually, where possible.

4. To set targets to improve our performance in other areas which have an impact on the environment, such as waste management, noise and air quality.



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## 6 Scope

The development and implementation of the Green Policy will address the following specific areas:

- Setting an annual objectives for reducing greenhouse gas emissions from ground operations;
- Establishing the 'carbon footprint' of all existing and proposed flying activities (including any new scheduled services) and setting a ceiling on CO2 emissions from them;
- Identifying steps already taken to reduce climate change impact;
- Ensuring that climate change issues are addressed in future plans for the airport, including a full assessment of any new scheduled service routes and the impact of these on local air quality, noise levels and traffic congestion;
- Developing a green travel plan for employees, airport users and passengers;
- Using the green policy to work closely with tenants, operators and business users to reduce greenhouse gas emissions;
- Setting an annual ceiling on the number of aircraft movements;
- Annually reviewing our performance.



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## 7 Introduction

7.1 Gloucestershire Airport is fully committed to reducing its greenhouse gas emissions and understands the need to meet its environmental responsibilities. Climate change is an important issue for Gloucestershire Airport, especially as global emissions from aviation are forecast to rise at a time when there are international targets to significantly reduce overall $CO_2$ emissions. We are committed to reducing our own climate impact by reducing the emissions as far as possible from sources within our own operations, and over which we have direct control.

7.2 We understand that an important component of Government policy is the inclusion of aircraft emissions in the EU Emissions Trading Scheme. We fully support the emissions trading scheme and strongly believe that this is the most effective market mechanism for achieving improvements in the aviation industry. We are also committed to the UK aviation industry's Sustainable Aviation Strategy, which sets out measures for aviation to minimise its impacts through technology and operational improvements.

## 8 Working with Stakeholders

8.1 We will actively encourage other organisations operating at or using the airport to adopt our green policies. We will work closely with the Shareholders, Local Planning Authority and Consultative Committee in achieving this.

8.2 Environmental issues will become a standing agenda item at future Board and Consultative Committee meetings.

8.3 Where practical, we will incentivise our charging schemes to encourage airport users to adopt green principles. We will achieve this by introducing policies that will encourage the efficient use of energy, e.g. reduced landing fees for diesel engines, or noise reducing propellers.

## 9 Community Relations

9.1 Community relations are a vitally important for the Airport. We therefore intend to highlight both ongoing and imminent issues relating to Gloucestershire Airport, with the view to facilitating a dialogue with the local community and other, relevant, interested organisations.

9.2 Gloucestershire Airport recognises that any development or evolution of an airport in particular, is of interest to the community at large and therefore intends to keep interested parties informed of forthcoming plans through both our website and direct contact with community representatives.

9.3 Gloucestershire Airport Consultative Committee (see section 10) has representation from a wide number of local interest groups including local residents' associations, city, borough and parish councils, airport users and airport/company management. This committee meets on a regular basis, and these meetings act as a catalyst to enable communication and consultation between the airport, its users and the local community. The committee regularly receives and reviews records of aircraft complaints from members of the public as well as reviewing airport operations.

9.4 Wherever possible, we will attend local residents associations, Parish Council meetings and community groups to present and discuss the Airport and its operations. Furthermore, we will continue to meet with local groups or individuals that have a specific concern.



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## 10 Consultative Committee

10.1 Gloucestershire Airport hosts an Airport Consultative Committee whose purpose is to foster and maintain the best possible relations with local communities and other interest groups. This committee:

- Promotes the exchange of information and ideas.
- Allows concerns to be raised and taken into account by the Airport management, with both sides sharing a desire to resolve any issues that may emerge.
- Provides the opportunity for interest groups to reach a common understanding about the nature of the airport operation, thereby increasing the scope for issues to be resolved amicably.
- Promotes wider understanding of airport operations.
- Promotes better understanding by Gloucestershire Airport of the nature of its impact on local communities and businesses.

10.2 The committee comprises members who represent the interests of neighbouring parishes, aerodrome operators, local authorities, local business representative, aerodrome users and other interested parties. The position of Chairman is occupied by a person who is not closely identified with any sectional interest.

## 11 Noise

11.1 Noise is one of the most significant environmental impacts from airports and for many of our local residents, it represents one of the main causes of annoyance associated with living close to an airfield. Aircraft noise tends to dominate many people's assessment of the impact the Airport has on its neighbours and we consider this issue a priority.

11.2 Gloucestershire Airport works hard to minimise disturbance to local residents. We have designed and published noise abatement procedures for all aircraft using the airfield. These are published within statutory operational documents and amplified at local level by promulgation on our website, on the reverse of all our invoices and clearly displayed in the Pilot's briefing area. A copy of the Airport's procedures is attached at Appendix A. In addition to specific procedures relating to certain runways, the procedures state:-

*"Operators of all aircraft using the aerodrome shall ensure at all times that aircraft are operated in a manner calculated to cause the least disturbance practicable in the areas surrounding the aerodrome. A medium density residential conurbation is situated to the east, south and southwest of the aerodrome. Whenever possible, pilots should avoid overflight of these areas, other villages, hamlets and residential areas in the vicinity of the aerodrome."*



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11.3 We will continue to work with the consultative committee and our operators in helping reduce noise pollution. There will be ongoing consultation with our local community, aiming to maintain an active dialogue to build trust and understanding.

11.4 We aim to assure our stakeholders that we use the best practicable means to minimise aircraft noise impacts and will continue to do so in the future. We will: -

a. Conduct a Noise Impact Assessment of activities during our hours of operation. From the results, publish noise contour maps and implement any identified actions that may assist in reducing the level of environmental noise;
b. Monitor compliance with our noise abatement procedures for departing and arriving aircraft and analyse the noise and flight path of aircraft, including any visual intrusion;
c. Educating and reminding home-based operators of our published noise abatement procedures;
d. Publishing our noise complaints on the website;
e. Encourage the operational use of continuous descent approach (CDA) procedures;
f. Engage with communities affected by noise impacts to better understand their concerns and priorities;
g. Undertake noise monitoring in the community and record our findings to facilitate further analysis.

11.5 Furthermore, we promote and encourage operators to use noise reducing propellers and quieter, fuel-efficient diesel engines by offering environmental discounts on our fees and charges.

11.6 We also aim to give members of the public who wish to complain about aircraft noise or related issues an informative, helpful and friendly service (Appendix B). These complaints provide the statistics, which are compiled and publicly reported to the Airport Consultative Committee.

11.7 We provide a variety of options for logging a complaint including a dedicated telephone line and email address, all of which result in a direct action. This may, if requested, include a call back or personal visit from the Head of Operations or the Airport Director.

11.8 All letters of complaint received are directed to the Airport Director. The circumstances of the complaint are investigated in full and a written response supplied, providing a detailed account of the findings.

11.9 All complaints are recorded to ensure that each is handled in an efficient and standardised way. An investigation into the reported concerns will take place using the information provided and ATC records of traffic patterns throughout the same period. If a specific aircraft, operation or type of flight is identified, the operator of the aircraft is advised and requested to provide information about the complaint.

11.10 All complaints are maintained on file. At the end of each month, the records are analysed and the results used to: -

- Identify overall trends and investigate ways of mitigating problems by changing operational procedures;
- Provide bi-monthly reports to Churchdown residents through the Parish Magazine;
- Inform the Airport Consultative Committee of complaints received since the last meeting



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11.11 We will set a benchmark for noise complaints based on the 2007/08 figures and strive to deliver a year-on-year reduction.

## 12 Aircraft, $CO_2$ Emissions and Gloucestershire Airport

12.1 Currently, there is no internationally agreed standard methodology for calculating $CO_2$ emissions from aircraft. The following methodology has been devised, in consultation with the Shareholding Authorities and independently verified by John Baines as a suitable means of establishing a 'benchmark' for Gloucestershire Airport's current aircraft-related $CO_2$ emissions and establishing a ceiling for future emissions.

12.2 Gloucestershire Airport provides aircraft movement statistics to the Civil Aviation Authority on a monthly basis. These will be used to calculate emissions data. At this initial stage, only $CO_2$ emissions are considered, but the methodology will be extended in the future to cover other greenhouse gas emissions.

### 12.3 $CO_2$ Emissions and Piston-engine Aircraft - AVGAS

12.3.1 These aircraft constitute a high proportion (86% in 2007) of Gloucestershire Airport's traffic. This category includes most of the training and privately operated light aircraft and helicopters. Most are single-engine with 2 - 4 seats. Examples include:-

Eurostar – Modern, lightweight 2-seat basic trainer.

Piper Cherokee – In production from the mid-sixties to present day. 4-seat trainer/tourer, used extensively for private and commercial flight training.

Cessna 172 In production from the mid-sixties to present day. 4-seat trainer/tourer, used extensively for private and commercial flight training.

Robinson R44 helicopter – Modern 4-seat helicopter. Popular, entry-level business helicopter, frequently used for training.



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Piper Seneca – Twin-engine, 6-seat entry level business aircraft, extensively used for advanced and commercial pilot training.

12.3.2 AVGAS fuel - Aviation gasoline, is similar to that used in motor cars, albeit with a higher octane rating. Given the complexities associated with the nature of local and circuit flights, a linear conversion of the Airport's total annual AVGAS fuel sales to $CO_2$ is considered to be the most appropriate method of establishing a benchmark. The current Department for Environment, Food and Rural Affairs (DEFRA) Conversion Factors (June 2008) give a litres to Kg $CO_2$ factor of 2.233.

12.3.3 12.8.5 The modern Eurostar example shown above burns around 7 litres (1.5 Gallons) per hour in the economical cruise, compared with the Piper Cherokee, which uses around 23 litres (5 Gallons). Each aircraft has a cruising speed of around 100mph, giving an approximate comparison with car use of between 20 and 66 miles per gallon.

12.3.4 A small number of modern, piston-engine aircraft now use diesel engines. Whilst diesel engine technology has existed for many years, its use in aviation applications has been very limited, largely due to weight and complexity associated with liquid cooling. These aircraft use Jet-A1 fuel and offer an improved fuel efficiency of up to 60% over AVGAS engines. It is likely that further advances in technology will encourage usage that is more widespread. Gloucestershire Airport is home to a UK company that has designed, developed and is now manufacturing such an engine. Emissions from diesel-powered aircraft are captured from the calculation of Jet-A1 usage, given the very low numbers of aircraft involved at present. A specific methodology for diesel emissions may need to be developed as utilisation increases.

**12.4 Turbine-engine aircraft – Jet A1**

12.4.1 Whilst these represent a smaller proportion of Gloucestershire Airport's total traffic (13 - 15%), they are the largest revenue stream and constitute the majority of the Airports business and commercial flights, examples are:-

Cessna 208 Caravan – 14 seat/5 tonne utility aircraft

Dornier 228 – 19 seat airliner – Isle of Man, Jersey & Belfast City scheduled services

Agusta 109 – 6 seat executive helicopter



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Cessna Citation II – 8 seat executive jet

12.4.2 Jet A1 fuel is kerosene. The Department for Environment, Food and Rural Affairs (DEFRA), provides a Conversion Factor (June 2007) of litres to Kg $CO_2$ factor of 2.518. The use of these types of aircraft varies extensively and a different methodology is required, to capture the global effects of $CO_2$ emissions from these aircraft and reflect the different way in which flights will operate from Gloucestershire Airport after the runway safety project is completed.

### 12.5 Methodology

12.5.1 The following parameters are used to establish current $CO_2$ emission levels by turbine-engine aircraft:-

a) The busiest 30-day period of the year is determined from annual statistics as 15th July to 15th August. All flights during this period are analysed. This ensures that the figures derived are representative of a 'worst case' scenario and do not underestimate emissions;

b) Operations in support of Police, Air Ambulance and military flights are excluded;

c) The Great Circle distance between Gloucestershire Airport and all destination/departure airports is calculated, using Google Earth. This distance is factored by a 10% uplift to account for non-direct routes and delays, in accordance with DEFRA guidelines;

d) The fuel burn per mile for a selection of representative aircraft types is determined, using the mean average of 3 executive jets, 2 turboprops and the Dornier 228, currently used on the Manx2 service. Fuel burn is normally published on a 'per hour' basis, this will be converted to 'per nautical mile' by using the aircraft's published cruising speed;

e) This figure is factored by 5% to account for the Landing Take Off (LTO) cycle and climb sectors. This requires further expansion in the case of Gloucestershire Airport. DEFRA guidelines say that the LTO cycle should be factored by 10%. The International Civil Aviation Organisation (ICAO) define the LTO cycle as follows:-

| Cycle | Power | Time spent (mins) |
|---|---|---|
| Take off | 100% | 0.7 |
| Climb | 85% | 2.2 |
| Approach | 30% | 4.0 |
| Taxi/Ground idle | 7% | 26.0 |

The 26-minute ground/taxi time is not appropriate to Gloucestershire Airport. The taxiing distances involved and general operating efficiencies of a small Airport such as this means that ground/taxi time is substantially reduced, to the order of 10 minutes. This is based on operational experience and evidence from Air Traffic Control (ATC). These revised figures were added together to give a relevant LTO cycle equivalent to around half the ICAO standard. This was, in turn, applied to the DEFRA figure, reducing it from 10% to 5%.



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f) The total distance calculated is multiplied by the fuel burn and converted to Kg $CO_2$ using the 2.518 conversion factor;

g) This figure is divided by two, to account for 50% of emissions, assuming that the point of departure or destination airport accepts the remaining $CO_2$ emissions in their carbon accounting;

h) The result is multiplied by 12 to give an annual figure.

### 12.6 Post-RSP Calculations

12.6.1 To establish the post-RSP benchmark, an additional 60 flights are added to the dataset, accounting for one extra jet landing and taking-off per day. This estimate, together with the associated fuel sale, forms the basis of the business case supporting the project. As future journey distances are not known the average journey distance is applied.

12.6.2 Specifically, Chapter 11 of the Business Case states the following:-

*"With the RESA and ILS work completed, the Airport would be available to many more corporate aircraft. Some of these would find it beneficial to be based at Gloucestershire. A modest assumption would be for one additional aircraft in Year 4 and two in Year 5. Flight Partner Limited (2006) have already indicated that they are losing valuable business without the development work and EuroJet Aviation Limited (2006) have stated that they would consider Gloucestershire Airport as a preferred engineering base should the work be completed…*

***Note:*** *It is possible that home-based corporate aircraft would also generate hangarage income, although this is not assumed for the purpose of this analysis. For a single home-based corporate aircraft, the (conservative) assumption of 40 flights per year is used.*

*As well as home-based corporate aircraft, the Airport would attract more visiting corporate aircraft from Year 4. One additional landing per day is a modest assumption for Year 4, two landings per day for Year 5…*

***Note:*** *For visiting corporate aircraft, the assumption of one additional landing per day is factored to a figure of 300 visits per year. This equates to a notional operation of 6 days out of 7. The airport opens seven days per week and experience shows that corporate aircraft operate every day of the week."*

12.6.3 This can be summarised as follows:-

| **Extra flights** | **Year 4** | **Year 5** |
|---|---|---|
| Homebased | 40 | 80 |
| Visiting | 300 | 600 |
| Monthly average | 28 | 57 |

For the purpose of these calculations this monthly figure has been rounded up to 60.



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### 12.7 Radiative Forcing and other Greenhouse Gases

12.7.1 The emission factors provided in the 2008 update to DEFRA's guidelines refer to aviation's carbon dioxide emissions only. There is currently uncertainty over the non-$CO_2$ climate change effects of aviation (including water vapour, contrails, NOx etc.) which have been indicatively been accounted for by applying a multiplier in some cases.

12.7.2 Currently there is no suitable climate metric to express the relationship between emissions and climate warming effects from aviation but this is an active area of research. Nonetheless, it is clear that aviation imposes other effects on the climate, which are greater than that implied from simply considering its $CO_2$ emissions alone.

12.7.3 The application of a 'multiplier' to take account of non-$CO_2$ effects is a possible way of illustratively taking account of the full climate impact of aviation. A multiplier is not a straightforward instrument. In particular, it implies that other emissions and effects are directly linked to production of $CO_2$, which is not the case. Nor does it reflect accurately the different relative contribution of emissions to climate change over time, or reflect the potential trade-offs between the warming and cooling effects of different emissions.

12.7.4 On the other hand, consideration of the non-CO2 climate change effects of aviation can be important in some cases, and there is currently no better way of taking these effects into account. A multiplier of 1.9 is recommended as a central estimate, based on the best available scientific evidence.

12.7.5 The relevance of radiative forcing effects from Gloucestershire Airport's traffic warrants further consideration. Only a very small proportion of the Airport's traffic, estimated at less than 2%, cruises at the highest levels of the atmosphere. The vast majority of turboprops cruising at much lower levels.

12.7.6 Given the scientific uncertainty and the nature of Gloucestershire Airport's traffic it has been agreed that this figure should not be applied at this initial stage. However, this will be kept under regular review and as the science becomes available the methodology will be updated to include radiative forcing.

### 12.8 Implementation, development and reporting

12.8.1 Preliminary calculations have established a $CO_2$ 'footprint' from current aircraft operations (2007) as shown below:-

| Fuel type | Volume sold (Litres) | $CO_2$ Output (Tonnes) |
|---|---|---|
| AVGAS | 609 578 | 1361.2 |
| Jet A1 | 1 518 035 | 2421.5 |
| | **Total** | **3782.7** |

12.8.2 Applying the forecast post-RSP traffic levels, this is expected to increase as shown:

| Fuel type | Estimated Volume(Litres) | $CO_2$ Output (Tonnes) |
|---|---|---|
| AVGAS | 580 000 | 1299.5 |
| Jet A1 | 2 620 000 | 2674.4 |
| | **Total** | **3973.9** |



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12.8.3 The annual calculations for AVGAS will be completed by 30th April each year. Jet A1 calculations will be completed by 15th September each year.

12.8.4 Fuel sales for AVGAS show a gradual downward trend reflecting a reduction in the volume of flights as well as technological advances in engine and aircraft design.

12.8.6 Jet A1 fuel sales are expected to increase significantly after the RSP is complete because the additional useable runway will enable executive jets to take off with more fuel on board and fly direct to their destinations. Currently, stops have to be made at an intermediate airfield to take on more fuel. The project delivers an environmental benefit by reducing the number of landing and take-off cycles and delivers a business benefit to the Airport.

12.8.7 All results will be provided to the Shareholders, the Local Planning Authority and made available via the Airport website.

12.8.8 An independent assessment and verification of the calculations will be undertaken by John Baines, or other such consultant, as appointed by the Shareholders. Verification will include confirmation that DEFRA conversion factors are correct and current.

12.8.9 It is proposed that during the first annual review and as the policy develops further, the methodology would include: -

a) Setting a carbon emissions reduction target;
b) The calculation of other greenhouse gases;
c) Assessment of interim months to monitor performance;
d) The application of a factor or alternative method of calculation for Radiative Forcing effects;
e) Detailed fuel burn calculations for specific aircraft types.

**12.9 Future calculations**

12.9.1 Using the methodology and based upon the calculations shown at paragraph 8.7.2 above, our current calculated figure stands at 3979.3 Tonnes. Gloucestershire Airport undertakes to ensure that future $CO_2$ emissions from aircraft operations do not exceed a ceiling of 4000 Tonnes $CO_2$ in the course or normal Airport operations.

12.9.2 This ceiling is based on actual data factored to include the extra traffic anticipated post-RSP. It is representative, realistic and based on 'real' flights. This is indicative of a genuine commitment to maintain the status quo at Gloucestershire Airport and not to seek or encourage operations that would significantly increase emissions. It precludes for example, the introduction of long distance scheduled services or operations by large passenger jets. The runway safety project will bring about a change in emphasis from quantity to quality of flights. It will enable existing operators and future customers to use fuel more efficiently and improve payload. A graphical representation of this shift in traffic pattern is shown in Appendix C.

**12.10 Contextual comparison**

12.10.1 With no standardised methodology for calculations on this nature, it is difficult to define a comparator with which to contextualise this figure. Given the local significance of stakeholders to this policy, it is considered that expressing the total as a percentage of total regional emissions may assist in this regard.



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12.10.2 Regional emission data, by Local Authority area is published by DEFRA. The total emissions (2005-6) for each of the local authority areas were as follows: -

| | |
|---|---|
| Gloucester | 704,000 Tonnes |
| Cheltenham | 654,000 Tonnes |
| Tewkesbury | 1,040, 000 Tonnes |

12.10.3 $CO_2$ emissions from aircraft operations from Gloucestershire Airport are equivalent to 0.17% of the region's output.

## 13 Operational Controls

### 13.1 Aircraft Movements

13.1.1 The airport accepts the concept of an overall 'ceiling' on total numbers of aircraft movements, if this were set at a reasonable level, allowing for future growth and not onerously restricting certain operations.

13.1.2 In the late eighties, total aircraft movements at the airport peaked at 102,000, measured between April 1988 to April 1989, although numbers have been less than this since, averaging around 82 000 flights per calendar year. The airport undertakes to ensure that the peak figure is not exceeded in the future. Therefore, a ceiling on total aircraft movements, excluding police, medical and other emergency-related flights was originally set at 102,000.

13.1.3 During the development of this Policy, however, concern was expressed from some quarters that such a level could be perceived as a 'target' and that increasing aircraft movements to those levels would constitute a substantial increase in operations. Whilst the Airport acknowledges these concerns, the business plan, post-RSP does not envisage substantial growth in air traffic and there are, categorically, no plans, now or in the foreseeable future to stimulate, encourage or otherwise attract major traffic growth.

13.1.4 Nevertheless, any business needs to be able to respond to changes in its operating environment. This is particularly relevant in the current economic climate and it is important that any ceiling set on aircraft movements does not impinge on the Airport's ability to trade efficiently, effectively and profitably. In balancing these factors against the principle objective of this policy to minimise the environmental impact of Airport operations, it is important that a realistic ceiling be applied.

13.1.5 By analysing the annual calendar year figures for Gloucestershire Airport, as published by the CAA, the average of the three busiest years, of the last twenty, was considered to be the most appropriate level for an operational ceiling. These are 1988 (88 000), 1989 (95 000) and 1992 (90 000), giving an average of 91 000.

13.1.6 The Airport are therefore prepared to accept a ceiling of 95,000 flights per annum, excluding police, medical and other emergency-related flights.

13.1.7 The Airport is required by the CAA to record and report the number of aircraft movements. This information will be regularly provided to the shareholders and published on the Airport website, enabling simple monitoring by stakeholders.

### 13.2 Opening Hours

13.2.1 The normal operating hours (Local Time) at Gloucestershire Airport are as follows:

**Summer:** Monday to Friday 0830 – 1930; Sat & Sun 0900 – 1930



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**Winter:** Monday to Friday 0830 – 1930; Sat & Sun 0900 – 1800

13.2.2 Sometimes, flights are accepted outside these hours, subject to the availability of Air Traffic Control (ATC) and Airport Fire Service staff, and subject to a surcharge. The majority of these flights take place within 2 hours of normal opening or closing time. This has been the pattern of operating hours for more than 35 years.

13.2.3 By way of example, the following data was captured during the period 29 Oct 2007 – 26 Oct 2008: -

Total flights during the period: 75,711

**Total out-of-hours flights:** 708
**Percentage of annual total:** 0.9%

These can be broken down further as follows: -

| | | | |
|---|---|---|---|
| Fixed wing | 475 | 0.6% | |
| Helicopter | 233 | 0.3% | |
| Emergency | 177 | 0.2% | |
| Special event | 22 | 0.03% | (Cheltenham races/rugby) |
| Manx2 flight | 142 | 0.2% | |

Analysing these even further in relation to the period before or after closing time the following can be derived: -

| | | |
|---|---|---|
| Within 5 min | 113 | 16% |
| Within 1 hour | 567 | 80% |
| Within 2 hours | 651 | 92% |
| > 2 hours | 57 | 8% |

13.2.4 Sometimes, there are circumstances beyond the Airport's control that affect the times of arriving or departing aircraft, such as, the flow of air traffic through European airspace, which is regulated by Eurocontrol. 'Slot times' are issued to departing aircraft by the Integrated Flight Processing Unit (IFPU) in Brussels. Each aircraft is allocated a specified departure time and air traffic controllers have a small time frame around the slot in which to depart the aircraft. It sometimes means that slot times are allocated a few minutes before airport opening times and more frequently, in-bound flights are delayed at their point of departure resulting in aircraft landing after official closing time.

13.2.5 Additional delays and alterations occur when aircraft encounter head or tail winds affecting their flight times. It is essential that the Airport retains this degree of flexibility to account for delays and the legitimate operational requirements of our customers. Without this degree of flexibility aircraft may be forced to hold unnecessarily or even divert to other airports which would ultimately be more detrimental to the environment.

13.2.6 Some homebased private aircraft are also permitted to operate when the airport is closed. Private operators must apply for approval to join the scheme, providing details of their Public Liability Insurance. These flights are only permitted during daylight hours (i.e. after sunrise and before sunset), subject to specified weather conditions and must be notified in advance to ATC. Repeat circuit flying is **not** permitted. No commercial or training flights are permitted to operate when the airport is closed.



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13.2.7 Certain helicopter operators, normally connected with Police and Air Ambulance services are permitted to operate at any time, without prior notification**.**

13.2.8 Although it is not clear that current Airport operating hours are causing specific environmental problems, to give the shareholders greater certainty and comfort, the Airport would be prepared to accept a voluntary limitation on airport operating hours to those currently operating. Provided that:-

a) any limitations are set so as not to unreasonably restrict the airport's normal operations;

b) police, medical and emergency flights are excluded from the restricted hours of operation.

13.2.9 We accept that a ceiling of no more than 1.5% of our total annual movements, excluding police, emergency services and military related flights, and those arriving early or late for operational reasons, be permitted to take place outside of our published hours.

13.2.10 No more than 100 movements per calendar year will be permitted to take place during the night time hours of 2300 - 0600.

13.2.11 As the Airport is required by the CAA to record the timing of air movements, information on movements outside the specified operating hours can be regularly provided to stakeholders.

13.2.12 It is important to note that airport operational hours are substantially constrained by staffing levels. In particular, air traffic controllers have set rostered duty limitations relating to the length of shifts and duties beginning before 0800. In order to extend the existing opening hours it would be necessary for the airport to employ additional ATC, fire service and operational staff. The costs associated with this would not be covered by the small proportion of flights that require to operate early or late, meaning that the business case for any extension of hours is very weak.

## 14 Air Quality

14.1 The Government has identified the need to take action to reduce air pollution and has committed to delivering cleaner air through its UK Air Quality Strategy, published in 2000.

14.2 A study of local air pollution concentrations has concluded that the proposed development of the airport will not compromise local air standards. The air quality study is taken directly from the Air Quality Monitoring Station (AQMS) in Cheltenham. This station lies directly under our main flight path (runway 27) and has monitored the air quality for several years. The air quality in Gloucestershire is very good with all indicators showing low pollution. Furthermore, the main local pollution influences are motor vehicle traffic and there does not appear to be any major regional point source influences.

14.3 Future air quality monitoring will include data from the local Air Quality Monitoring Areas of Gloucester and Tewkesbury. We plan to incorporate this data during the first annual review. The Airport will also investigate alternative monitoring points.

14.4 The main sources of local air pollution around Gloucestershire Airport are:

a. Aircraft operations close to and on the ground
b. Road vehicles at the airport
c. Traffic to and from the airport

14.5 To help mitigate the impact of aircraft operations we will:

a. Supply alternative power sources so that aircraft on the ground can turn off their engines



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b. Improve operational procedures to minimise the time spent on the ground during the landing and take off cycles
c. Invest in technology that aids air navigation, e.g. Instrument Landing System (ILS) and Global Positioning System (GPS);
d. Encourage training providers to invest and promote the greater use of training simulators.

14.6 We will continue to monitor data from the Cheltenham AQMS on a monthly basis, comparing our aircraft movement data to ensure our operations are not significantly affecting air quality.

## 15 Ground operations

15.1 We have identified the main sources of $CO_2$ linked to our ground operations as:

a. Energy use in buildings and infrastructure;
b. Transport to and from the Airport;
c. Airside vehicles;
d. Aircraft movements on the ground;
e. Auxiliary Power Units (or 'APU') which aircraft use to provide air conditioning and lighting when they are on the ground;
f. Energy consumption in our supply chain.

15.2 Gloucestershire Airport has commissioned a specialist energy advisor, Severn Wye Energy Agency, to investigate the environmental control of our buildings and operational activities. By utilising previous energy bills, supported by site visits and surveys, they identified areas where we can maximise the efficient use of energy. The results of their survey (Appendix D) and subsequent action plan (Appendix E) will be implemented where practical, over a set period. This will enable us to establish a baseline for our energy consumption and we have set an annual target for reducing carbon emissions by 10% per annum for the next two years.

15.3 Throughout this period, we will continue to promote energy efficiency within our buildings by:

a. Introducing a dedicated Green Champion to monitor, educate and promote green initiatives and best practices;
b. Achieving behavioural change by educating staff to conserve energy used by switching off when not in use and general energy saving awareness;
c. Ensuring energy efficiency is built into the design of new and existing facilities, e.g. retrofitting program of low energy lamps throughout the Airport;
d. Investigating energy-efficient technology; e.g. integral Passive Infrared detection will be investigated to control lighting within public areas allowing lights to reduce output by 90% during periods of low/no occupation or movement;
e. Extracting the most value from resources and minimising waste by reducing the amount of waste produced and by recycling wherever possible;
f. Identifying sources of renewable energy;
g. Investigating tools to improve data on energy use.

15.4 We will continue to identify potential improvements to technical and aircraft operational procedures by:

a. Supplying power from the Terminal so that aircraft can turn off their engines when on the apron;
b. Reducing emissions from vehicles at our airport;
c. Ensuring all airside vehicles comply with MoT emissions standards in order to qualify for an airside pass;
d. Improved operational procedures to minimise the time spent on the ground during the landing and take off cycles;



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e. Technological investment in air navigation aids, e.g. Global Positioning Systems (GPS) and Instrument Landing Systems (ILS).

15.5 We will encourage and support all operators and tenants to adopt the same principles, by applying similar schemes within their area of operation. We have already been in touch with Severn Wye Energy Advisors and asked them to visit each tenant on the site.

## 16 Green Travel Plan

16.1 An important factor in reducing the Airport's carbon footprint is encouraging all Airport users to travel to site in an environmentally friendly manner. We plan to tackle this by:

a. Developing a staff travel plan that will help to reduce pollution and congestion;
b. Investigating alternative methods of commuting to work and encouraging staff to adopt these methods;
c. Increased use of public transport by passengers and other users to reach the Airport;

16.2 Although our hours of operation fall outside the key rush hour period, thus avoiding peak travel times, we have introduced several schemes to mitigate further the environmental impact of our travel, such as:

a. Rosters have been arranged to allow for car sharing;
b. We have been extensively involved with Sustrans in the creation and development of a cycle link between Cheltenham and Gloucester, which passes through the Airport and actively encourage members of staff to utilise the route;
c. We are also investigating the Governments cycle to work scheme and have installed shower facilities in our departments to encourage the use of cycles;
d. We purchased software enabling some administrative staff to work remotely from home;
e. We promote flexible working for non-operational staff, enabling them to avoid peak travel times;
f. Where possible, we use public transport for business travel.

16.3 Furthermore, we are currently negotiating with Stagecoach to route the bus service (Number 94) through the Airport, offering all users of the Airport a regular bus service. We also plan to tie the service in with any passenger services and at key times of the day.

16.4 We will develop and implement our travel plan within 12 months of the launch of our Green Policy, publishing our findings and setting out our performance targets.



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## 17 Waste

17.1 We aim to achieve more with less, to reduce inefficient use of resources and to mitigate the increasing costs of waste management to the business. We will achieve these goals by recycling and minimising our own waste stream and influencing airport users to manage their waste production and disposal.

17.2 To achieve this we will calculate how much waste we are generating and the costs involved by utilising existing data on resource use and waste disposal, e.g. from meters, invoices and purchase records.

17.3 This data will be captured by the following:-

a. **inputs**, e.g. raw materials purchases (cost and quantity), electricity consumed, water used;
b. **outputs**, e.g. units of production (fuel sales);
c. **levels of waste**, e.g. how much is recycled, number of skips collected each week, waste disposal charges.

17.4 We plan to monitor all waste caused as a direct result of our actions. We will commit to minimising the amount of waste for disposal by:-

a. Identifying and prioritising waste streams;
b. Reducing waste by recycling where possible;
c. Encouraging Airport tenants and operators to develop recycling schemes;
d. Recovering and recycling waste oils, batteries, tyres etc;
e. Donating surplus furniture and IT equipment to community projects;
f. Encouraging staff to re-use and recycle, through staff awareness training;
g. Re-using scrap paper and printing double-sided, where appropriate;
h. Strive to become a paperless business by issuing documents electronically, rather than in paper form and printing when only absolutely necessary;
i. When producing hard copies of documents printers will be configured to print double sided;
j. Nominating a Green Champion to implement and promote waste minimisation within the company;
k. Setting up an employee suggestion scheme to generate ideas.

17.5 We aim to capture the 2007/08 data and use this as a baseline for setting future waste reduction targets.

17.6 We already have a number of recycling and waste reduction schemes in place, including:

a. Fuel recycling programme;
b. Waste Oil collection service;
c. Encouraging a paperless workplace by utilising electronic technology;
d. Office Paper (all grades);
e. Cardboard;
f. Glass Bottles;
g. Aluminium cans;
h. Newspapers/Magazines/Brochures etc.;
i. Waste & Scrap Metal;
j. Waste timber and pallets;
k. Waste electrical equipment.



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17.8 Gloucestershire Airport has also subscribed to Envirowise, a Government sponsored organisation set up to assist local businesses in reducing their environmental impact.

17.9 Furthermore, to ensure we remain compliant with current legislation Gloucestershire Airport has a waste management policy in place that ensures:

a. Companies that remove waste from the site are licensed to do so;
b. All our waste is segregated, stored and labelled correctly;
c. Everyone who deals with waste will be instructed on how it is handled and disposed of.

## 18 Water Quality

18.1 Gloucestershire Airport is located on a natural sub-grade of Lias clays at an elevation of approximately 31m above sea level. All rainfall at the site falling onto the runway, taxiways and aircraft stands discharges into the ground through a series of drains and into the ground through soak-aways. The drainage system therefore mimics the natural drainage of the surrounding area into groundwater.

18.2 The Environment Agency has also set discharge consent levels in respect of the quality of surface water, which may be discharged from the Airport into the local watercourses. Although the Airport Company is the holder of these consents, surface water quality on-site is determined by the activities of the many organisations operating at the Airport. Regular monitoring takes place to identify any activity, which could give rise to pollution. The results of the monitoring will be published annually. We will work with the Agency to better understand the consent levels and use as a means to reduce the consent levels to as low a reasonably practical.

18.3 There are a number of airport activities, which have the potential to cause pollution to groundwater if not properly managed. These include:

a. De-icing of airside areas
b. Vehicle and aircraft washing
c. Aircraft and vehicle maintenance
d. Spillages, and venting from aircraft refuelling
e. Fire training (Note: RFFS only use an environmentally friendly fire fighting foam during training exercises)
f. Spillages of domestic fuel oil

18.4 In addition, the Airport invested in a new Fire Training rig in 2006 to reduce the need for training foam. It operates by burning propane gas, which eliminates the use of aviation or petroleum fuel. The Fire Training Ground is close to the watercourse and procedures are in place to ensure any operations do not adversely affect the brook.

18.5 A complete Pollution Prevention Plan has been designed, in partnership with the Environment Agency and our objective is to manage water and land quality to protect the environment at all times and to ensure compliance with regulations now and in the future.

18.6 We plan to manage surface water quality on site by:

a. Monitoring surface and foul water discharges to ensure compliance with agreed consent limits;
b. Maintaining and improving surface and foul water drainage systems;
c. Briefing service partners and contractors on their responsibilities for pollution prevention;



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d. Minimising the impact of any accidental spillages through containment and robust emergency reporting procedures.

18.7 We are in consultation with the Environment Agency with a view to reducing our discharge consent limits, thereby ensuring higher water quality standards.

18.8 Internally and in the buildings within our control we will:

a. Monitor, check and record meter readings;
b. Regularly check pipes for leaks, especially during winter;
c. Implement water minimisation measures;
d. Fit water minimising controls where possible, e.g. push taps, flow regulator/restrictors, cistern displacement devices, spray nozzles on hoses, low flush toilets and sensor urinal flushing controls.

## 19 Landscape and Ecology

19.1 Gloucestershire Airport will provide an attractive landscape consistent with Airport safety requirements. To support this, a detailed ecological and wildlife constraints survey was carried out against our safety proposals. This, coupled with detailed and extensive cooperation with the Environment Agency, has resulted in a recommendation that the proposals will not only have a minimal impact on the environment but will actually be an enhancement.

19.2 The Airport site covers a total area of approximately 400 acres and is located adjacent to rural areas and close to residential communities. A combination of soft and hard landscaping will be used to improve the quality of the landscape on the Airport site and will continue to be implemented as development takes place. Decorative planting around the Airport entrance and terminal buildings provides a welcoming approach.

19.3 In airside areas, strict guidelines apply to the management of the grasslands bordering runways and other operational areas, and consequently opportunities for landscape and wildlife enhancement are limited by Civil Aviation Authority safety requirements for aircraft.

19.4 Standard procedure is to employ a year-round long grass policy, maintaining grasses at between 6-8” in length to discourage roosting and feeding. Pesticides and chemicals are not routinely used in our grass management programme and cut grass is used for silage by the farmer adjacent to the Airport. This environment, in itself, has an, albeit limited, carbon sequestration effect and provides an open and visually apparent ‘green’ landscape, maintaining the Green Belt buffer between the urban conurbations around the Airport.

19.5 Our commitments to enhancing the landscape are to:

a. Avoiding ecological disturbance both during normal Airport operations and any development activity;
b. Carrying out ecological assessments in consultation with neighbouring local authorities and conservation groups when considering future development.

## 20 Objectives

### 20.1 Implementation and review



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20.1.1 This document specifies a number of objectives, thresholds and ceilings for various aspects of our Green Policy. Some are immediately measurable; others will require further development, investigation and will evolve with the policy itself over a period.

20.1.2 This is a working document: it may be necessary to review and amend the targets or timeframes specified as the business, technology and reporting methods develop. We will consult with our stakeholders before changes are made.

20.1.3 The first annual review of the policy will include the following: -

- a carbon emission reduction target
- data from interim months

20.1.4 It is also anticipated that, as improved science, specifically for General Aviation, becomes available, future calculations will include radiative forcing and other greenhouse gases. This will be kept under regular review and any changes will be discussed with our stakeholders prior to any changes being made.

20.1.5 Dates have been staggered to spread workload throughout the year and capture specific areas at peak times.

**20.2 Dates**

20.2.1 The following date and review periods will apply: -

| | | |
|---|---|---|
| • Calculation of ground based emissions (energy use) | 31st December | Annually |
| • Calculation of aircraft emissions (AVGAS) | 30th April | Annually |
| • Calculation of aircraft emissions (Jet A1) | 15th September | Annually |
| • Publication of total aircraft movements | 31st January | Annually |
| • Publication of out-of-hours flights | 31st January | Annually |
| • Air quality monitoring | 15th | Monthly |
| • Travel plan (12 months after Green Policy launch) | TBA | Annually |
| • Publication of noise complaint totals | 31st January | Annually |
| • Calculation of waste output | 31st May | Annually |
| • Water quality report | 30th June | Annually |

**20.3 Ground Operations**

20.3.1 An annual reduction target of 10% is set for the first two years for the reduction of CO2 emissions from ground-based operations following the recommendations of Severn Wye Energy Agency.

**20.4 Aircraft emissions**

20.4.1 Using the methodology defined earlier in this document, Gloucestershire Airport undertakes to ensure that $CO_2$ emissions from aircraft operations do not exceed a ceiling of 4000 Tonnes $CO_2$ in the course or normal Airport operations. The totals calculated will also be expressed as a percentage of regional emissions, as published by DEFRA.

**20.5 Operational Controls**

20.5.1 The ceiling for total annual aircraft movements (excluding emergency, Police and Air Ambulance-related flights), measured by calendar year is set at 95 000.



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20.5.2 The ceiling for out-of-hours flights (excluding emergency, Police and Air Ambulance-related flights, or those arriving early or late due to operational reasons) is set as not more than 1.5% of the annual total.

20.5.3 Not more than 100 flights per annum (excluding emergency, Police and Air Ambulance-related flights) will be permitted during the hours of 2300 – 0600.

**20.6 Air Quality**

20.6.1 Monthly air quality assessments will be recorded on 15th of each month. Readings for the following pollutants will be recorded and assessed against national permitted levels: -

- $NO_X$
- NO
- $NO_2$
- $SO_2$
- $O_3$
- $PM_{10}$

**20.7 Travel Plan**

20.7.1 Performance targets for the travel plan will be set not more than 12 months after the launch of the Green Policy

**20.8 Noise complaints**

20.8.1 Total numbers of noise complaints will be reported and expressed as a percentage of annual aircraft movements. This policy seeks to ensure that this percentage decreases year on year.

**20.9 Waste management**

20.9.1 A baseline for waste in relevant categories will be established by 31st May 2009, with annual reduction targets set thereafter.

**20.10 Water quality**

20.10.1 The annual water quality report shall ensure that average pollutant levels do not exceed the discharge consent levels, as agreed by the Environment Agency.



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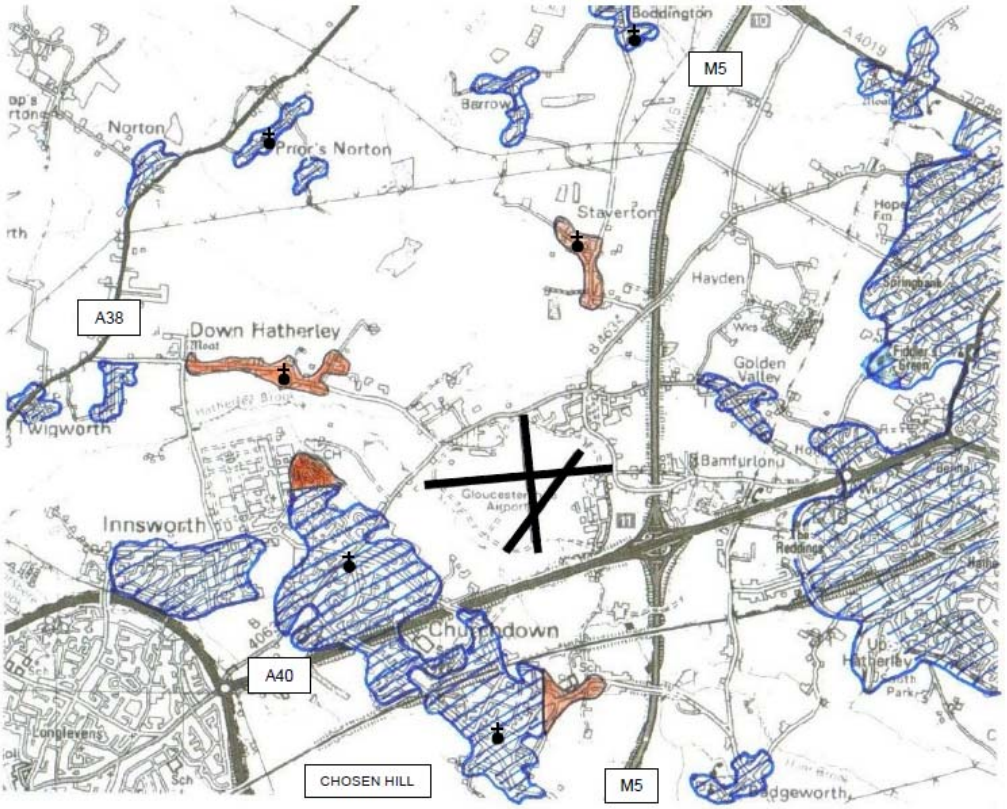
## 21 Appendix A – Noise Abatement Procedures

GLOUCESTERSHIRE AIRPORT

**EGBJ**

### Noise Abatement Procedures – October 2007

**At Gloucestershire Airport we are always trying to achieve a minimal noise level environment for our neighbouring residential areas, villages, hamlets and properties. All local and visiting pilots are to observe the following noise abatement procedures unless otherwise instructed by ATC or if avoiding immediate danger –**




**HATCHED BLUE indicates the residential areas to be avoided whenever possible, with SOLID RED highlighting the specific areas to be avoided during departure procedures detailed below:**

**Runway 27 departures - aircraft are to execute a right turn to maintain a track of 280° MAG to avoid the housing estate on the left and the village with the church on the right - fixed wing aircraft MUST NOT turn before the upwind end of the runway due to helicopters turning inside them.**

**Runway 18 departures - aircraft are to execute a left turn to maintain a track of 160° MAG avoiding the school and residential area on the right - fixed wing aircraft MUST NOT turn before the upwind end of the runway due to helicopters turning inside them.**

**Runway 22 departures - no left turns permitted until past Chosen Hill.**

**Runway 04 departures - no left turns permitted until past Staverton Village.**



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## 22 Appendix B – Noise Complaints Procedure

Gloucestershire Airport works hard to minimize disturbance to local residents. Our neighbourhood protection policies include strict noise abatement procedures, which we regularly remind our home-based operators to follow.

If you wish to complain about an operational noise or other disturbance issue, we operate a formal complaints procedure. You may make a complaint by:

- Telephone report
- Personal visit
- Letter
- Electronically - Click to log a complaint

**Telephone reports or personal visits**

All complaints received by telephone or personal visit are recorded by our reception staff in the complaints register.

If a response is requested, details are passed to the Airport Director who will telephone you at the earliest opportunity. In the absence of the Airport Director, the Head of Operations will respond.

**Letters**

All letters of complaint received are directed to the Airport Director. The circumstances of the complaint are investigated in full and a written response supplied, providing a detailed account of the findings.

In the absence of the Airport Director, the complaint is handled by the Head of Operations.

**What else happens to my complaint?**

All complaints are maintained on file. At the end of each month, the records are analyzed and the results used to:

- Identify overall trends and investigate ways of mitigating problems by changing operational procedures;
- Provide bi-monthly reports to Churchdown residents through the Parish Magazine;
- Inform the Airport Consultative Committee of complaints received since the last meeting.



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## 23 Appendix C – Traffic Patterns

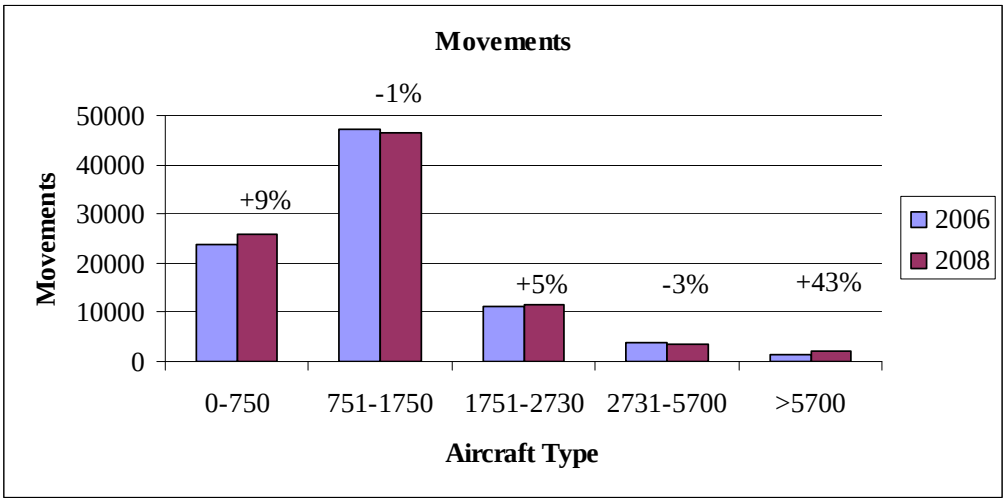
The Shareholders raised the following question during earlier scrutiny of the runway safety project.

**Question 2**
**Categorise aircraft movements into groups and clearly show how this relates to the business case**

The full dataset presented in the previously supplied spreadsheet does not correlate directly with the notional forecasts shown in the Business Case because it is based on the actual breakdown of 2006 flights. Nevertheless, the data can be used to demonstrate the percentage revenue increases and the shift in types of traffic, before and after the project is completed.

To simplify the data, the following parameters have been applied. Aircraft have been grouped by Maximum Take Off Weight (MTOW) range in kilograms, as per the CAA statistical reporting criteria. These weight bands broadly coincide with the various types of flight taking place at the Airport. The number of flights is multiplied by a factored 'landing fee' based on current tonnage rates, with a nominal figure of £5 per landing applied to aircraft below 1750Kgs, reflecting the various discounts applied to 'Club' and 'Private' aircraft, which often carry out repetitive circuit training.

| MTOW Band | Type of flight | Mvmts Current | Mvmts Post-RSP | Revenue Current | Revenue Post RSP | % mvmts | % revenue |
|---|---|---|---|---|---|---|---|
| 0 - 750 | Private | 23752 | 25808 | 59380 | 64520 | +9% | +9% |
| 751 - 1750 | Club | 47195 | 46675 | 117987.5 | 116687.5 | -1% | -1% |
| 1751 - 2730 | Comm. Training | 11127 | 11658 | 222597 | 244705 | +5% | +10% |
| 2731 - 5700 | Other | 3779 | 3663 | 114624.5 | 118867 | -3% | +4% |
| >5700 | Business | 1429 | 2047 | 143068 | 194249 | +43% | +36% |
| | **TOTAL** | **87282** | **89851** | **657657** | **739028.5** | **+3%** | **+12%** |



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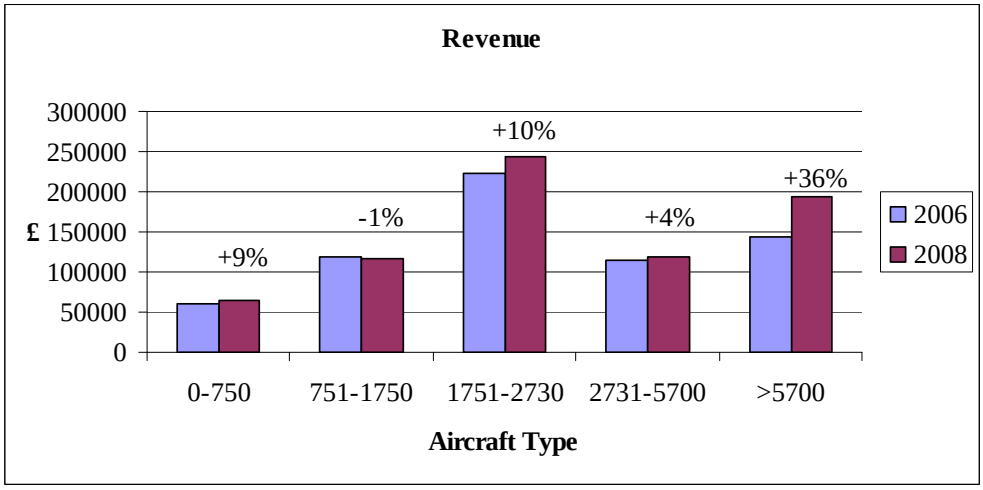


The key points to note are:

- Whilst movements increase by 3%, revenue increases by 12% overall.
- Business traffic grows by 43%, yielding a 36% increase in revenue.
- Training flights, which will remain, by far the highest in terms of movements, decrease by 1% overall, but revenue from Commercial Training, increases by 10% primarily from ILS Approach Training.

It should be noted that the revenue figures derived from the table above, do not fully reflect the discounts and differentials applied to various operators and take no account of fuel sales, the Company's biggest revenue stream.



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## 24 Appendix D – Severn Wye Energy Advisors

Please see attached document



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## 25 Appendix E – Action Plan

### Action plan: No Cost Measures

| Action | Implementation date | Cost (£) | Person Responsible |
|---|---|---|---|
| Establish a simple written energy policy including cost considerations, energy management issues, and objectives. | | 0 | |
| Undertake a competitive tender for electricity supplies. | | 0 | |
| Check and record meter readings monthly. | | 0 | |
| Establish an energy monitoring spreadsheet to record monthly energy consumption. | | 0 | |
| Consider energy efficiency and calculate whole life costs and consider new technology such as LED airfield lighting when procuring new equipment: Energy costs are frequently much higher than acquisition costs. | | 0 | |
| Ensure there is a 3-4°C “dead band” between heating and cooling temperatures on office Daikin units | | 0 | |
| Establish guidelines for cooling electronic equipment: Cooling to 23°C is typically sufficient. Use outside air and reuse waste heat where practicable. | | 0 | |
| Check terminal building walls are insulated | | 0 | |
| Reseat loose ceiling tiles above office stationary cupboard | | 0 | |
| Defrost fridges periodically | | 0 | |
| Adjust office equipment power saving settings as appropriate. | | | |

Signed on behalf of Date

……. ……..



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**APPENDIX 1**

## Action plan: Low Cost Measures

| Action | Implementation date | Approximate Cost (£) | Person Responsible |
|---|---|---|---|
| Place water coolers and hydroboil on appropriately set time switches | | £5 per unit | |
| Install presence detectors on arrivals hall lighting | | £50 per sensor | |
| Install insulation above site managers office | | £300 | |
| Replace T12/T8 fluorescent tubes with T5s and adapters. | | £10 per adapter | |
| Install timer controls on heaters if electric heating to be retained | | | |

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## Action Plan: Capital Cost measures:

| Action | Implementation date | Approximate Cost (£) | Person Responsible |
|---|---|---|---|
| Verify fire station lighting requirements and install sensors and T5 fluorescent lights if appropriate | | | |
| Investigate alternative heating system for terminal building and/or other heated areas and implement findings | | | |

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