

## Flights of Fancy

Can an expanded Heathrow meet its environmental targets?

January 2010





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## Terms of reference

- To examine the environmental conditions the Government has placed on further expansion at Heathrow

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## Chair's Foreword



Airport expansion is a controversial issue. All around the world governments are waking up to the impact of climate change and the need to address carbon emissions, and although aviation currently accounts for around 2% of global greenhouse emissions, this figure is rising rapidly year on year. While air travel appears to go hand in hand with economic growth, which few would choose to undermine,

many are opposed to the localised environmental impacts, such as noise and air pollution.

With 67 million passengers and 477,000 air transport movements (ATMs) per year, Heathrow is easily the biggest airport in the UK and despite expansion at Schipol and Frankfurt airports, it remains the busiest in the world in terms of international passenger traffic. Heathrow employs 72,000 people and its success is undeniably important to the UK economy, but is frequently accused of being a bad neighbour by those who live close enough to be affected by the noise and air pollution that the airport generates. Around two and a half million people are affected in this way, over an area extending beyond Maidenhead in the West, into parts of South East and North London.

When the UK Government decided to give the green light for a third runway to be built at Heathrow, it was important to put in certain environmental conditions that the operator would need to meet beforehand, given that passenger numbers are initially set to rise to 82 million and potentially to 135 million.

The Assembly's Environment Committee looked at the conditions that the Government has set BAA and the international airlines that fly in and out of Heathrow and asked whether and how they can be met and whether they are fit for purpose. Our report raises grave concerns on all aspects.

We were immediately struck by the complicated governance structure for managing these environmental conditions. Our investigation reveals that there are clear inadequacies in the structures which the Government has set out for the potential expansion of Heathrow, and crucially that no single authority is responsible for ensuring that environmental safeguards are adhered to at Heathrow. We found a

complex system of regulation, with no less than three government departments, two quangos and a Committee all charged with overseeing the various environmental aspects that the Government says are essential at global and local levels.

There are a number of concerns about the noise condition. The year chosen for base line comparison of noise pollution is 2002 – the last year Concorde flew, and the inclusion of this gives a distorted picture when later years are measured against it. There are questions as to which decibel level should be used to indicate how many people are affected by noise and to what extent, and in addition, the very methodology of measuring and managing the noise levels is itself in doubt as it is questionable whether the operator should also be providing the noise action plan in the first place.

With regard to air quality, as the UK is already in breach of EU limits on PM<sub>10</sub> and NO<sub>x</sub>, particularly NO<sub>2</sub> pollution levels, there is good reason for us to clarify and streamline the lines of responsibility in order to ensure sure-footed improvement rather than potential buck-passing, with at least innovative mitigation measures on surface transport options into the airport. London's air quality is the worst in the UK and the area around Heathrow is one of the hotspots which require particular attention, especially as current projections do not anticipate Heathrow's air quality will meet EU limits on NO<sub>2</sub> until 2015. There are clear inadequacies in approaches to tackling air quality in the area.

The Mayor and the UK Government have both committed to reducing London and UK CO<sub>2</sub> emissions by 60% in 2025 and by 80% in 2050. These are challenging targets. The Committee heard that CO<sub>2</sub> emissions from UK aviation doubled between 1990 and 2000 and are predicted to more than double again by 2030. The growth in air travel means that CO<sub>2</sub> emissions from air travel could be as high as 10 times their 1990 level by 2050. If London and the UK are to meet their carbon reduction targets, it is vital to tackle the growth in emissions from air travel, or swingeing cuts will have to be made in other areas of life.

Sadly, the main talks in Copenhagen last year failed to generate any legally binding agreements on carbon reduction, so it is unsurprising that agreement on reducing emissions from international aviation remain elusive. This will intensify the challenge to meet the



Government's target to limit aviation emissions to below 2005 levels by 2050.

As the UK and the rest of the world gradually recovers from recession there is undeniably a compelling imperative to protect the economy, but we would urge the UK Government to tighten the mechanisms and governance structure of the environmental safeguards at Heathrow, which may not currently be fit for purpose, in time for the consultation on the environmental conditions later this year.

A handwritten signature in blue ink, appearing to read 'Murad Qureshi', with a horizontal line underneath.

Murad Qureshi AM

Chair of Environment Committee

# Executive Summary

The Government's confirmation early last year of its plans to expand Heathrow stirred up for many Londoners real concern about the prospect of coping with the blight of even more aircraft noise and poorer air quality. To be fair, the announcement endeavoured to assuage public concerns by emphasising that further development at Heathrow would be subject to strict environmental conditions and by setting out a series of measures aimed at ensuring the conditions would be met.

This report focuses on the environmental conditions, examining whether they are fit for purpose. Taking each of the conditions in turn – noise levels no more than in 2002, air quality within European Union (EU) limits and aviation emissions limited to 2005 levels by 2050 – this report looks at whether they can work in practice, are achievable and likely to mitigate the negative environmental impacts further development is likely to bring.

The Committee's discussions highlighted a number of key issues that undoubtedly question the credibility of the environmental conditions as they stand.

We highlight drawbacks to the underlying methodology used for setting the noise condition – the base year used for establishing the noise contour is Summer 2002, the last full year of Concorde flights and the method for calculating the contour area is inconsistent with the EU directed method for drawing up noise action plans at airports. The noticeable absence of an overarching national policy and framework for managing ambient noise is a worry, as is the lack of definitive guidance on threshold levels at EU level. We recommend bringing the method for measuring noise levels in line with the requirement for noise action plans, revising the noise contour benchmark in line with 2007 study, Attitudes to Noise from Aviation Sources in England, and revising the 2002 base year to a more recent year.

We expose the clear inadequacies in approaches to tackling air pollution levels around Heathrow. The lack of a readily visible structured approach towards achieving EU limits driven from the top levels of government and the Mayor is the main worry, not least because of the serious impact poor air quality will continue to have on Londoners' health. We believe that a full independent health impact assessment should be commissioned, and call for clarity on how EU limits will be met around Heathrow, a clear and decisive strategy for

improving air pollution levels, and the application of innovative mitigation measures in line with the Mayor's draft Air Quality Strategy.

We point out limitations to meeting the aviation emissions target. There is a misplaced reliance on aircraft technology, such as blended wings and renewable fuels, particularly as the trend in technology improvements is relatively slow when compared to other industries. The failure to secure a binding international agreement on aviation emissions at Copenhagen in December, dealt another blow to the likelihood of meeting the Government emissions target. With the exception of the 2050 target, there is no mechanism in place, and consequently no means of prompting corrective action until it is far too late. We therefore recommend that in its planned consultation document the Government should set out a phased approach to reducing aviation emissions, setting out short, medium and long-term targets that will be legally binding.

# Introduction

On 15 January 2009, the Government confirmed expansion plans for Heathrow Airport, giving the go-ahead for a third runway.<sup>1</sup> The Government's announcement followed the 2007 *Adding Capacity at Heathrow* consultation,<sup>2</sup> the latest in a series of consultation exercises since 2003 when the Government published the Aviation White Paper.<sup>3</sup> For many Londoners, the announcement brought forward the distinctly unpleasant prospect of more aircraft noise and poorer air quality.

To assuage public concerns, the Government attached strict environmental conditions to further development at Heathrow and set out a series of measures to help meet them. This report examines the environmental conditions to determine whether they can work in practice, are achievable, and able to mitigate the negative environmental impacts of future development on local air quality, noise levels and CO<sub>2</sub> emissions.

The London Assembly has consistently opposed the Government's proposals to expand Heathrow and relax operational restrictions, on the grounds that the detrimental environmental effects are disproportionate to the estimated benefits an expanded Heathrow would bring to London.<sup>4</sup>

This report does not revisit the merits of the argument for expansion, but sets out what the Committee believes are valid concerns about the efficacy of the environmental conditions if expansion is to go ahead, and suggests possible courses of action to tighten them. In coming to our conclusions, we draw on our discussions with an expert panel on 5 November 2009, written submissions from a range of stakeholders, and published research and information. A transcript of our discussions is available at

<http://www.london.gov.uk/assembly/envmtgs/index.jsp#83>

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<sup>1</sup> The Committee notes that the Government's decision is subject to legal challenge, on the basis that it was irrational and the consultation process flawed; and also that it heightens the risk of breaching noise and air pollution limits and undermines climate change targets. A public hearing is due to commence in February 2010.

<sup>2</sup> Consultation exercise on options for developing Heathrow Airport over the next 20 years, available at <http://www.dft.gov.uk/consultations/archive/2008/heathrowconsultation/>

<sup>3</sup> The Future of Air Transport, published 16 December 2003 set out a strategic framework for the development of air travel over the next 30 years

<http://www.dft.gov.uk/about/strategy/whitepapers/air/>

<sup>4</sup> See [http://www.london.gov.uk/assembly/reports/plansd/heathrow\\_expansion.pdf](http://www.london.gov.uk/assembly/reports/plansd/heathrow_expansion.pdf)

The Committee understands that the Government is planning to consult on the environmental conditions later in the year. We would hope that careful consideration is given to our findings and recommendations. Getting the next phase of consultation right is essential. How the environmental conditions are handled now will set a precedent for how any future increase in airport flight capacity is managed and balanced against the environmental and health needs of Londoners.

We would like to thank all those engaged in this leg of the inquiry and for the written comments we received. We would particularly like to extend our thanks to the panel members for giving up their time to participate in our discussions on 5 November.

# Overview

“The long list of concessions to protect the environment involves genuinely new initiatives, but opponents of the expansion don't trust they'll be upheld and say they don't go far enough anyway.”  
**Roger Harrabin,**  
**BBC**  
**environmental analyst**

In this chapter we outline the environmental conditions in the Aviation White Paper and the Government's subsequent proposals for making the conditions achievable. We provide background statistical information on current air traffic movements at Heathrow and the likely impact of an extended Heathrow. We also set out the relevant national and EU standards for reducing noise and air pollution levels, and for combating climate change.

Heathrow is the UK's busiest airport, handling 67 million passengers and 477,000 air transport movements (ATMs) per year. ATMs are just below the 480,000 yearly cap imposed by the Government as a condition of approval to build Terminal 5.<sup>5</sup> An expanded Heathrow will mean an initial increase in capacity to 605,000 annual flights and around 82 million passengers when the runway first opens in 2020, increasing to 702,000 flights per annum and a projected 135 million passengers.

Expansion at Heathrow is conditional on meeting environmental conditions to manage the environmental impact on noise and air quality, and reducing CO<sub>2</sub> emissions. Noise levels from air flights should not exceed 2002 levels, EU air quality limits must be met, and improved surface access around the airport will be needed.

The Government is confident, that the additional measures it announced on 15 January 2009 will enable an expanded Heathrow to meet the environmental conditions set. It proposes to limit initial flight capacity, to 125,000 at opening, raising annual flights to 605,000 instead of the 702,000 flights initially proposed. Additional capacity will be ring-fenced for 'green' aircraft and, to help address adverse climate impacts, the Government has established a new target to limit aviation emissions to below 2005 levels by 2050.

Extra flights will be allowed only if the noise and air quality conditions for expansion have already been met.

Limits on noise, air quality and carbon emissions will be independently monitored by the Civil Aviation Authority (CAA),<sup>6</sup> Environment

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<sup>5</sup> Source, CAA's Annual Airport Statistics for 2007, Table 3

<sup>6</sup> The Civil Aviation Authority is the UK's specialist aviation regulator. For more information see <http://www.caa.co.uk/>

Agency (EA) <sup>7</sup> and Committee on Climate Change respectively (CCC). The Government intends to give noise limits legal force, and the CAA and EA the power to take legal action for infringement of noise and air quality limits. Limits will also be subject to EU standards. The CCC will advise the Government on a number of elements including carbon budgets, an approach to securing global emissions trading and the best basis for developing the new target to reduce carbon emissions to below 2005 levels by 2050. The CCC will not have the legal power to enforce its recommendations.<sup>8</sup>

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<sup>7</sup> The Environment Agency is a UK government agency concerned mainly with rivers, flooding and pollution. For more information see <http://www.environment-agency.gov.uk/default.aspx>

<sup>8</sup> The Committee on Climate Change is an independent body established under the Climate Change Act to advise the UK Government. For more information see <http://www.theccc.org.uk/>

## Is the noise benchmark fit for purpose?

“Aircraft noise is a nuisance to a large number of people, which detracts from their quality of life and presents health hazards which are not fully understood.”  
**House of Commons Transport Committee**

The Government proposed that any further development at Heathrow could only be considered on the basis that it resulted in no net increase in the total area of the 57dB noise contour compared with summer 2002, a contour area of 127 sq.km.<sup>9</sup> Decibel or dB is a standard logarithmic scale for measuring the loudness of sound. 57dB is the level at which the 2003 Aviation White Paper notes that there is onset of ‘significant community annoyance’ to aircraft noise.

Stakeholders highlighted a number of serious concerns about the ‘noise’ condition, including the base year applied, the size of the contour area and the method for calculating it, and the noticeable absence of specific guidance at national and European Union (EU) levels. In this chapter we examine these and other points discussed at our 5 November meeting.

### The 2002 base year

Summer 2002 is the base year used for establishing the noise contour in the 2003 Aviation White Paper. Applying the most recent data to the White Paper condition is a logical step, provided it is the most appropriate. The Committee heard concerns from representatives of HACAN and the 2M Group (of councils opposed to expansion) about the possible distortions arising from using 2002 as the base year; it was the last full year of Concorde flights.<sup>10</sup>

Research suggests that the inclusion of Concorde flights distorts the picture significantly. A report by the Department for Environment, Food and Rural Affairs, on aircraft noise found that Concorde had a “distorting effect” on the setting of noise limits for Heathrow. It said: “Concorde movements, despite being relatively infrequent compared to other aircraft types, have a dominating influence on the shape and size of the noise contours for Heathrow Airport.”<sup>11</sup> A report published by HACAN points out that when the Department for Transport’s

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<sup>9</sup> Paragraph 11.53, The Future of Air Transport, Department for Transport

<sup>10</sup> Heathrow Association for the Control of Aircraft Noise [http://www.hacan.org.uk/about\\_us](http://www.hacan.org.uk/about_us)

<sup>11</sup> Noise Mapping – Aircraft Traffic Noise 2004: A research study on aircraft noise mapping at Heathrow Airport conducted by the Environmental Research and Consultancy Department, Civil Aviation Authority on behalf of DEFRA. Available at <http://www.defra.gov.uk/environment/quality/noise/mapping/research/aviation/documents/aircraft-noise.pdf>



method of calculating noise is applied, noise disturbance from one Concorde flight is equivalent to 120 Boeing 757s.<sup>12</sup>

The Committee agrees that there is some uncertainty about applying 2002 as the base year for noise nuisance levels and believes that this needs to be revisited to ensure the accuracy and credibility of the noise condition.

### Measuring noise levels

UK daytime aircraft noise is measured using the method LAeq, more commonly abbreviated to Leq, and means equivalent continuous noise level. The Leq method records individual plane noise in decibels and averages them out over a 16-hour day, between 7am and 11pm. The resulting figure is then averaged out over the year. As the measurement is based on averages it includes quiet periods when there are no planes, and excludes night-time flights and the busiest period of the day (6 to 7am), when both runways at Heathrow are used for landing.<sup>13</sup>

Both HACAN and the 2M Group pointed out a fundamental limitation to the Leq method. The use of averages means that the number of flight events cannot be fully reflected. In practical terms it results in an underestimation of the extent of the noise problem around Heathrow, and the number of people affected. While Leq is recognised as the most common international measure of aircraft noise, drawbacks to the measurement are also well documented.<sup>14</sup>

In 2001 the Government commissioned an independent study on the impacts of aircraft noise. The study, *Attitudes to Noise from Aviation Sources in England* (ANASE) was published in November 2007.<sup>15</sup> It built on previous research from 1985.<sup>16</sup> The study found that noise causes far more annoyance than previously thought. It concluded that the method of calculating noise, adopted since the eighties, was too narrow and failed to take account of either the growth in the number

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<sup>12</sup> The Quiet Con was produced by HACAN Clearskies, assisted by the Federation of Aircraft Noise Groups and the UK Noise Association. Published March 2003. Available at [http://www.hacan.org.uk/resources/reports/hacan.the\\_quiet\\_con.pdf](http://www.hacan.org.uk/resources/reports/hacan.the_quiet_con.pdf)

<sup>13</sup> Information sourced from HACAN briefing note on airport related noise pollution, available at <http://www.hacan.org.uk/resources/briefings/hacan.briefing.noise.pdf>

<sup>14</sup> The BAA written submission to the London Assembly Environment Committee notes that Leq is the most common international measure of aircraft noise.

<sup>15</sup> Available at <http://www.dft.gov.uk/pgr/aviation/environmentalissues/Anase/>

<sup>16</sup> United Kingdom Aircraft Noise Index Study (ANIS), published in 1985 Available at <http://www.caa.co.uk/docs/33/ERCD%208402.PDF>

of flights or increasing public intolerance to noise. The study accepted Leq as one indicator for noise levels, but not the best one, and recommended using an index, which would better reflect the number of flight events.

### *Harmonising noise measurements*

The Committee heard that the EU now requires Member States to draw up noise action plans using a measure called Lden, and applying a threshold of 55dB.<sup>17</sup> Lden takes the noise levels during the day, evening and night and averages them over a 24-hour period. But crucially the evening and night noise levels are weighted by adding 5dB and 10dB respectively to reflect the greater nuisance of noise at those times. The relationship between daytime Leq and Lden depends on the pattern of operations at an individual airport. But in general, using a criterion of 55dB Lden shows that more people are 'affected' by noise than by using the 57dB Leq criterion.<sup>18</sup>

We also heard from HACAN, concerns about how the noise action plans are drawn up, in the UK, and the lack of independent scrutiny of them. The airport operator, in Heathrow's case BAA, is responsible for setting targets and actions for managing and abating noise nuisance, and for recording outcomes and monitoring progress. We understand that elsewhere in Europe the approach is to appoint an independent third party to draw up the plans. We would wish to see further research carried out on this point, and believe that the Government should examine and draw lessons from how noise action plans are drawn up by other Member States. The Government should also consider whether BAA is the most suitable candidate for drawing up the noise action plan, and whether there is a role for the Mayor, as part of a strategic responsibility for noise in London, to provide input to the plan and be involved in any subsequent compliance monitoring.

### *The 57dB threshold*

Government figures suggest that around 325,000 people would be affected by increased noise, when the 57dB threshold is applied.<sup>19</sup> The Government has applied the 57dB threshold since the 1980s. As well as the findings from the ANASE study, research from the World Health Organisation (2000), suggests that the threshold is outdated. WHO

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<sup>17</sup> Directive 2002/49/EC requires EU Member States to produce noise maps in 2007 using the Lden noise metric.

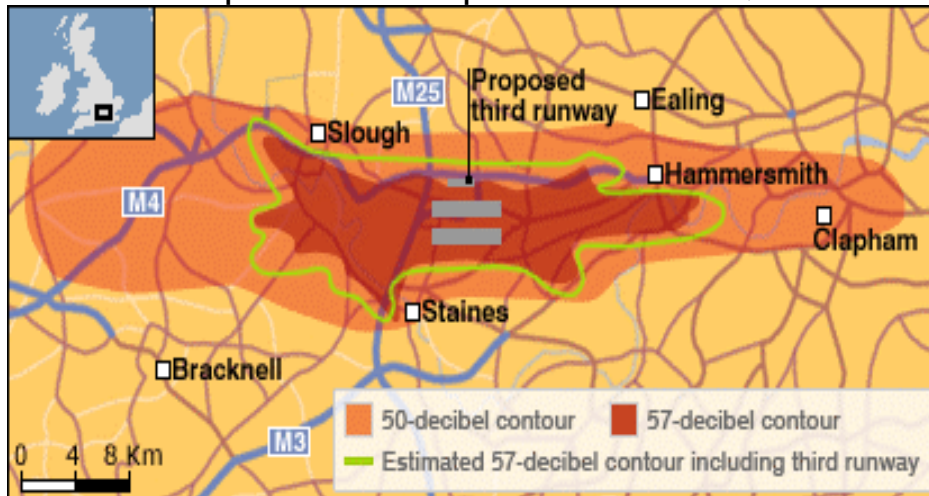
<sup>18</sup> Source Aviation Environment Federation. See <http://www.aef.org.uk/?p=763>

<sup>19</sup> Air Transport White Paper

sets out guidelines for a threshold of 50dB for moderate annoyance and 55dB for serious annoyance. Research commissioned by HACAN concluded that over two and half million people would be affected if a 50dB threshold were applied,<sup>20</sup> and that the affected area would extend into parts of South East and North London, and beyond Maidenhead to the West.<sup>21</sup>

The findings from the ANASE study suggest that further work would be useful on numbers and noise; the Department of Transport's Chief Economist noted this suggestion in his statement on the report.<sup>22</sup> The Committee agrees that there are clear limitations to the Leq method. In light of the findings from the ANASE we think that serious consideration should be given to adopting the revised Lden method and that this should be factored into future discussions towards revising the condition on noise.

**Estimated noise footprints for Heathrow expansion with a 50 db and 57 db contours**



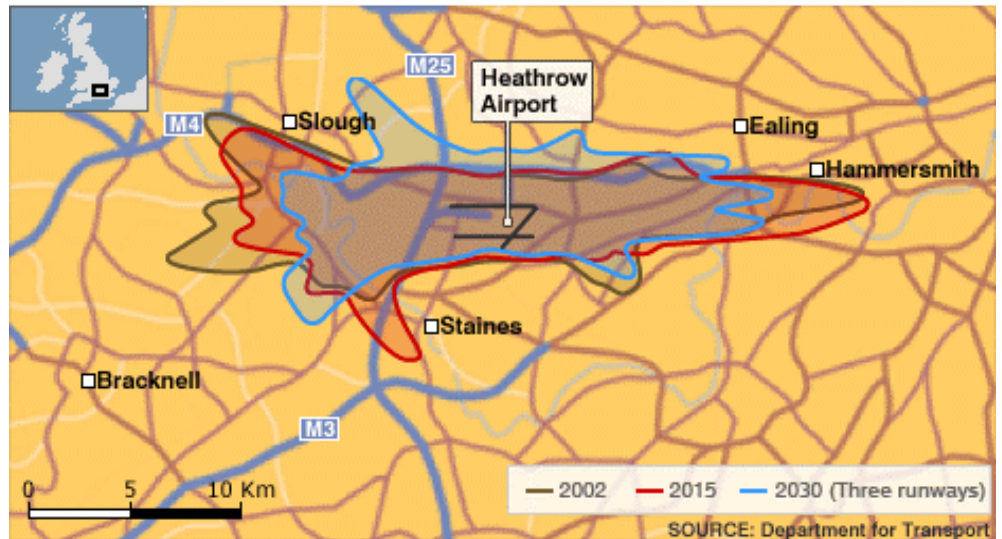
Source Friends of the Earth, West London

<sup>20</sup> Based on the numbers of people living within the 50dB noise contour for Heathrow. ANASE 2001

<sup>21</sup> Aircraft Noise and London Heathrow Flight Paths, February 2007, Bureau Veritas, Acoustics and Vibration Group. (commissioned by HACAN) Available at <http://www.hacan.org.uk/resources/reports/st06145.text.final.pdf>

<sup>22</sup> Paragraph 21, published 2 November 2007. Available at <http://www.dft.gov.uk/pgr/aviation/environmentalissues/Anase/anasechiefeconomist>

### PROJECTED NOISE FOOTPRINTS FOR HEATHROW EXPANSION



Source BBC, Department for Transport

**2002** Recent noise footprint showing sound at 57

**2015** Estimated noise contour if planes were taking off and landing on both of Heathrow's existing runways.

**2030** A third noise-contour projection, showing three runways in action.

### Noise policy and the framework for managing noise

The Committee welcomes the Government's commitment to give noise limits legal force. But we have grave concerns over the noticeable absence of an overarching policy statement and framework governing the management of ambient noise at national level. The Government was due to publish its Noise Strategy in 2007, but the current information is that work is underway to develop a combined National Noise Strategy, covering both environmental and neighbourhood noise, to be launched in due course.<sup>23</sup>

The lack of definitive guidance on threshold levels at EU level is also a worry. There are two relevant EU directives - Directive 2002/49/EC and Directive 2002/30/EC that need to be considered. Directive 2002/49/EC introduced mandatory noise mapping for airports with more than 50,000 air transport movements per annum, but does not state any specific noise levels, which must not be exceeded. In its response to the European Commission review of the noise directive, the Aviation Environment Federation noted "With many members states failing to define unreasonable noise exposure at a national level,

<sup>23</sup> Department for Environment, Food and Rural Affairs. For more information see <http://www.defra.gov.uk/environment/quality/noise/ambient.htm>

local interpretation has led to a varied and patchy response by EU airport operators.”<sup>24</sup>

Directive 2002/30/EC governs noise management at airports. Action to implement the directive is on an airport-by-airport basis and limited to airports with, or anticipating a noise problem. It also fails to set out definitive noise thresholds.

In the absence of clear-cut international limits, there is scope for BAA or any other airport operator to press for the noise condition to be modified.

#### **Recommendation 1**

**The method for measuring noise levels should be brought into line with the requirement for noise action plans and WHO guidelines, and in light of that the noise contour benchmark set out in the Government’s Aviation White Paper 2003, should be revised along the lines set out in the 2007 “Attitudes to Noise from Aviation Sources in England” independent study. The base year of 2002 should also be revised to a more recent year in order to avoid the distorting effect of Concorde on the setting of noise limits.**

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<sup>24</sup> AEF response to European Commission Review of Directive 2002/30/EC. Available at [http://www.aef.org.uk/uploads/AEF\\_response\\_to\\_2002\\_30.pdf](http://www.aef.org.uk/uploads/AEF_response_to_2002_30.pdf)

# Can EU air quality limits be met?

“We remain deeply concerned ... air quality in the area is already at breaking point.”  
**Lord Smith,  
Environment  
Agency**

Poor air quality is a London-wide problem, but particularly so around Heathrow. The Mayor’s draft Air Quality Strategy notes “pollution tends to be highest close to major roads across London, in central London, and near Heathrow, where pollution emissions are most intense.”<sup>25</sup>

Even without a third runway areas around Heathrow are already in breach of European Union (EU) air quality limits. By its own admission, the Government’s condition that EU air quality limits must be met presents “a significant challenge”.<sup>26</sup>

Stakeholders were principally concerned about the lack of a co-ordinated package of mitigation measures to reduce nitrogen dioxide (NO<sub>2</sub>) concentration levels around Heathrow. Other concerns put to the Committee related to the perceived disproportionate reliance on aircraft technology, and inadequacy of existing and proposed transport measures to mitigate air pollution levels, plus the lack of clarity around enforcement of the air quality condition.

## Complying with EU air quality limits

Since 2001/02, there has been little improvement in the Greater London area of concentration levels of two key pollutants – NO<sub>2</sub> and particulate matter (PM<sub>10</sub>).

NO<sub>2</sub> is a particular problem for the Heathrow area, already one of the worst affected areas in London, as shown in the map below. NO<sub>2</sub> is one of two main pollutants that make up oxides of nitrogen emissions (NO<sub>x</sub>) in London, largely caused by road transport and heating systems. The other is nitric oxide (NO). Of the two, NO<sub>2</sub> is of most concern due to its impact on health - we take a brief look at health impacts later on in this chapter. NO easily converts to NO<sub>2</sub> in the air – so to reduce concentrations of NO<sub>2</sub> it is essential to control emissions of NO<sub>x</sub>.<sup>27</sup> The Mayor’s draft Air Quality Strategy contains measures to reduce NO<sub>2</sub> emissions but makes clear that more will need to be done to meet an extended EU deadline.<sup>28</sup>

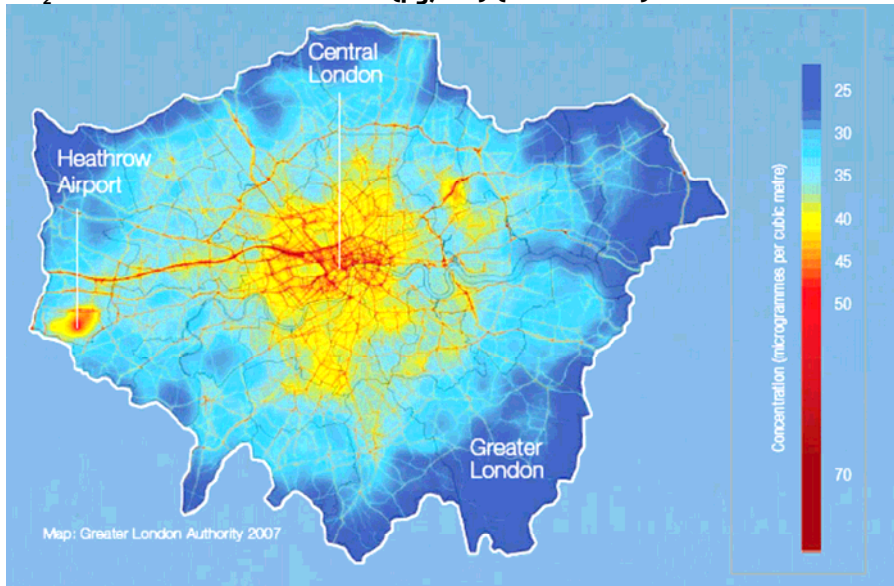
<sup>25</sup> Page 20, *Clearing the Air* The Mayor’s draft Air Quality Strategy. Available at [http://www.london.gov.uk/mayor/environment/air\\_quality/index.jsp](http://www.london.gov.uk/mayor/environment/air_quality/index.jsp)

<sup>26</sup> Rt Hon Geoff Hoon MP oral statement to Parliament, Britain’s Transport Infrastructure, 15 January 2009. Available at <http://www.dft.gov.uk/press/speechesstatements/statements/infrastructure>

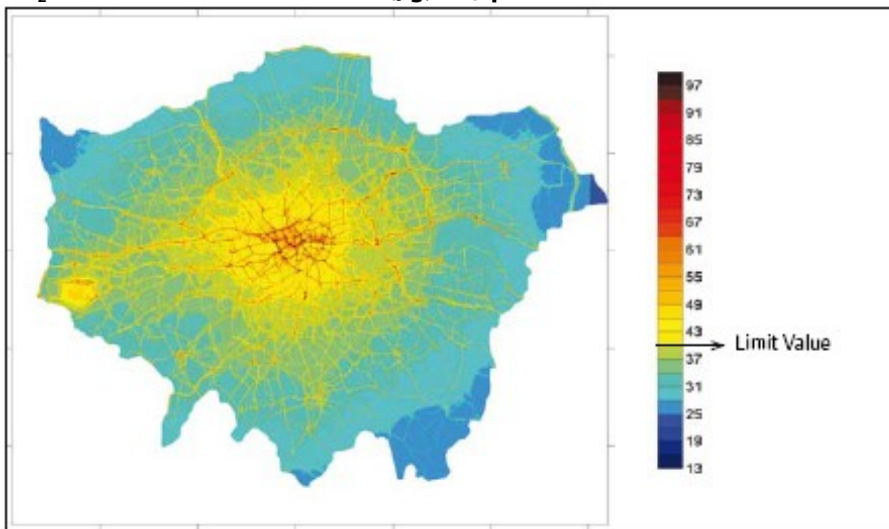
<sup>27</sup> See Pages 13,23 and 78 of the Mayor’s draft Air Quality Strategy for more information.

<sup>28</sup> The European Commission has rejected an application from the UK Government to extend the deadline for meeting the EU value limits for PM<sub>10</sub>. The Government is appealing the

**NO<sub>2</sub> annual mean concentrations (µg/m<sup>3</sup>) (2010 model)**



**NO<sub>2</sub> annual mean concentrations (µg/m<sup>3</sup>) predicted for 2015**



Source: *The Mayor's draft Air Quality Strategy 2009*

### **The lack of a co-ordinated plan**

Stakeholders believe that a co-ordinated plan of action, driven from the top levels of national and regional Government, is needed to tackle air pollution levels around Heathrow. Stakeholders were distinctly uneasy with the lack of a readily visible structured approach towards achieving EU limits around Heathrow, not least because of

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decision and intends to apply to extend the deadline for meeting NO<sub>2</sub> limits to 2015. For more information see the Commission's press release at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1908&format=HTML&aged=0&language=EN&guiLanguage=en>

the serious impact poor air quality will continue to have on Londoners' health.

HACAN expressed concern that we have "...definite targets but no idea if and how they are going to be met."<sup>29</sup> The 2M Group reiterated the concern in its written submission to the Committee. It said "The decision for expansion contains no specific mitigation package for reducing nitrogen dioxide, beyond limiting the numbers of air transport movements for a future expanded airport."<sup>30</sup> Of meeting the EU limit targets and the need to demonstrate how they might be met, the Environment Agency said, "...it is going to be a challenge but we have not yet seen what is in that plan so it is difficult to comment on whether limits will be met in 2015 but, certainly there are some fairly intractable issues in the vicinity of Heathrow..."<sup>31</sup>

The Committee shares stakeholders' concerns that Heathrow's expansion plans lack a specific coordinated programme of measures to improve air quality around Heathrow. The Government needs to be clear about how it intends to deal with the current situation, and reduce air pollution levels. And where EU limits are not met around Heathrow, the Government will need to be clear about who will be responsible for meeting the cost of any financial penalty imposed. Breaching limits could cost the Government up to £300 million.

Clearly any approach will need a coordinated response across all tiers of Government. The Committee's response to the consultation on the Mayor's draft Air Quality Strategy called for an added sense of urgency in developing a cohesive approach to improving London's air quality.

### *Mitigation measures*

The Committee acknowledges that BAA already has a programme of measures in place, to improve air quality around Heathrow.<sup>32</sup> These include initiatives to reduce NO<sub>x</sub> emissions, and also emissions from airside and landside vehicles. Measures range from introducing a NO<sub>x</sub> levy on more polluting aircraft, redesigning taxiways to reduce airfield congestion and consequently NO<sub>x</sub> emissions, to running a 'Clean

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<sup>29</sup> Environment Committee transcript of notes, 5 November 2009, Page 11

<sup>30</sup> Page 2, HACAN written submission to the Environment Committee

<sup>31</sup> Environment Committee transcript of notes, 5 November, Page 9

<sup>32</sup> For more details on BAA measures see its written submission to the Environment Committee, and the BAA Local Air Quality Action Plan 2007-2011

<http://www.heathrowairport.com/portal/site/heathrow/menuitem.88d902c98696ad71ac81cb109328c1a0/>



Vehicles Programme' to incentivise companies operating at and near the airport to use cleaner vehicles, and investment in transport infrastructure to encourage more people to travel by public transport.

We are however sceptical that of itself, BAA's range of measures will have the impact needed to bring air quality in line with EU limits. Understandably, there is a distinct focus on airside traffic. It is also clear that some existing measures need further work if they are to be fully effective. For example, BAA's 2008 Corporate Responsibility Report shows that the impact of the NO<sub>x</sub> levy is declining.<sup>33</sup>

Between 2010 and 2015, the Government predicts an annual increase of 3.04 million people arriving at Heathrow by private transport. Forty per cent of passengers currently travel to Heathrow by public transport. The corresponding increase in road traffic volume will, not only make it harder to meet the EU limits but will also place an incredible strain on public transport.<sup>34</sup>

The Committee is convinced of the key role to be played by improved surface access to tackle emissions and pollutant concentrations. We commend the considerable public and private sector investment in existing programmes – including the Piccadilly Line upgrade, the new Airtrack link from 2015 and Crossrail from 2017. However, we believe more innovative alternate solutions are needed to encourage a modal shift to public transport, on the scale required to significantly improve air quality. One simple but effective approach would be to adjust the current pricing structure for the Heathrow Express to allow more passengers to access the service. The Heathrow Express is the fastest and most frequent form of public transport from central London to Heathrow. The one drawback for the average Londoner is the price. A single express class single adult ticket from central London currently costs £16.50, and a return £30.00. Reducing the cost of travel is likely to persuade more people to use the service.

Were expansion to go ahead, more hard-hitting measures may become necessary, alongside current investments in public transport, to

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<sup>33</sup> Page 20. Results showed a decline in the number of aircraft movements with NO<sub>x</sub> emissions at least 20 per cent below CAEP/4, the emission standard applied to new aircraft types from 1 January 2004. CAEP – the International Civil Aviation Organisation's Committee on Aviation Environmental Protection – sets aircraft engine emissions and noise standards.

<sup>34</sup> Figures sourced from 2M Group written submission

address surface access traffic emissions.<sup>35</sup> Possible approaches were discussed during our meeting, including road user and/or entrance charging measures, and the development of a local low emission zone.<sup>36</sup> Should they be required, we would wish to see innovative mitigation schemes to reduce emissions and improve air quality around Heathrow applied over the short, medium and longer term, in line with the local and special measures outlined in the Mayor's draft Air Quality Strategy.<sup>37</sup>

Engagement at all levels of London Government will be essential. As mentioned earlier, the Committee's response to the Mayor's consultation on the draft Air Strategy emphasises this point.

### *The health impact*

Studies in recent years have established a link between poor air quality and health in urban areas. Conclusions on exactly how poor air quality impacts on health vary and understanding continues to develop. What is clear is that poor air quality has a significant impact on human health.

There are specific health impacts from exposure to PM<sub>10</sub> and NO<sub>2</sub>. PM<sub>10</sub> aggravates respiratory and cardiovascular conditions, and may contribute to premature deaths. Estimates based on projections from UK-wide figures, suggest that particulate pollution may have contributed to 3000 early deaths in London in 2005.<sup>38</sup> Research in 2004 suggested that about five per cent of emergency hospital attendances for asthma would be avoided by meeting the annual mean limit value for PM<sub>10</sub>.<sup>39</sup> NO<sub>2</sub> irritates the airways and at high concentrations can increase asthma symptoms; long-term exposure can affect lung function and respiratory symptoms, and increase asthma symptoms. A review of accumulated evidence published by the WHO in 2005 showed clearer relationships for PM<sub>10</sub> and NO<sub>2</sub>, than for

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<sup>35</sup> The consideration of more innovative measures is particularly relevant given the EC's recent decision not to grant a time extension for PM<sub>10</sub>, and the very real prospect of not meeting the NO<sub>2</sub> limits in 2015.

<sup>36</sup> See pages 15, 17 of the transcript of discussion at

<http://www.london.gov.uk/assembly/envmtgs/2009/envnov05/minutes/transcript.pdf>

<sup>37</sup> Pages 10, 53 and 77, *Clearing the Air*, The Mayor's draft Air Quality Strategy available at [http://www.london.gov.uk/mayor/environment/air\\_quality/index.jsp](http://www.london.gov.uk/mayor/environment/air_quality/index.jsp)

<sup>38</sup> Pages 22 and 75, the Mayor's draft Air Quality Strategy October 2009 and Pages 13 and 18, *Every Breath You Take*, Environment Committee report on air quality May 2009

<sup>39</sup> Mindell J, Joffe M (2004) Predicted health impacts of urban air quality management, *Journal of Epidemiology and Community Health* 2004

other pollutants with reduced lung development and lower lung function.<sup>40</sup>

We understand that as yet, a comprehensive assessment of the health impacts of an expanded Heathrow has not been undertaken. The Committee believes that more information on the health impacts of the proposed expansion is needed.

A first step would be to commission an independent health impact assessment on the area around Heathrow. In our response to the Government's 2007 consultation, *Adding Capacity at Heathrow*, we called for the Department for Transport to commission a full and independent health impact assessment on the communities near to Heathrow. It would be remiss of the Government not to take appropriate action to fully consider the health impacts of its proposal.

### **Enforcing the condition on air quality**

It is not yet clear how the role of the Environment Agency (EA), the Government's nominated agency for monitoring and enforcing breaches of air quality, will pan out. The Committee understands that following preliminary discussions with Government the EA envisages that its role will fall into three main areas, co-ordinating air quality monitoring and modelling to assess compliance, auditing studies to assess the extent to which future capacity can be released, and taking action where limit values are, or likely to be breached.<sup>41</sup>

The Committee awaits the Government's consultation on the environmental conditions next year, and looks forward to seeing a more detailed description of how the air quality condition will be enforced and the role of the EA in enforcing it.

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<sup>40</sup> Effects of Air Pollution on Children's Health and Development Available at [http://www.euro.who.int/HEN/Syntheses/short/20060224\\_1](http://www.euro.who.int/HEN/Syntheses/short/20060224_1)

<sup>41</sup> Environment Agency written submission to the Environment Committee

#### **Recommendation 2**

**There is a need for clarity on how European standards on air quality will be met around Heathrow. Before any expansion can even be considered, the Government and BAA must set out a joint plan of action with a clear and decisive strategy for improving air pollution levels around Heathrow, detailing what measures are needed, who will lead on them and the timescales for completion.**

#### **Recommendation 3**

**BAA should set out a clear strategy for lowering emission and pollution concentrations to improve air quality around Heathrow, setting targets where appropriate. BAA's surface access strategy should be amended to include detailed projections for how these new targets should be met, and detailed information on what contribution new technology will make to lowering nitrous oxide emissions and nitrogen dioxide concentrations should be included. BAA should seek to incorporate in its strategy, more innovative mitigation measures and approaches to reducing emissions, in line with the special measures outlined in the Mayor's draft Air Quality Strategy, to improve air quality in the short, medium and longer term.**

#### **Recommendation 4**

**In response to the Government's consultation on the *Adding Capacity at Heathrow document* in 2007, the Committee called upon the Department for Transport to commission a full and independent health impact assessment on the communities around Heathrow. We once again call upon the Government to commission an independent assessment.**

# Are the aviation emissions targets achievable?

On 15 January, the Government announced that it would be limiting CO<sub>2</sub> emissions from UK aviation to 2005 levels, or below, by 2050. This measure, the Government confirmed, alongside limiting initial extra capacity to around half of its initial proposal and allocating additional slots to green aircraft, represented the “toughest climate change regime for aviation of any country in the world”<sup>42</sup> The Secretary of State went on to reassure Parliament that with the regime in place Ministers could be confident that the UK’s overall 80 per cent emissions reduction target would be achieved.<sup>43</sup> Stakeholders do not share this confidence.

The main concern expressed to the Committee was that the Government’s ambitious target appeared to have been set without proper analysis of how it might be achieved. The Government’s Committee on Climate Change (CCC), in effect, carried out retrospective analysis. The CCC published its aviation report in December 2009.<sup>44</sup>

It would be fair to say that the CCC’s report highlighted limitations to the Government’s target. Lord Turner, Chair to the CCC, pointed out that the Government’s aviation emissions target did not take into account the non-CO<sub>2</sub> effects of aviation – an estimated magnitude equivalent to up to two times that of CO<sub>2</sub>.<sup>45</sup> Lord Turner noted that the exclusion, though consistent with the Kyoto Protocol and the Climate Change Act, could have (adverse) implications for the UK’s overall emissions reduction targets; also that as scientific understanding improves, the importance of including non-CO<sub>2</sub> effects in the policy framework was more obvious.

## The role of the Committee on Climate Change

The CCC is an independent body established under the Climate Change Act, to advise Government on setting and meeting carbon budgets and targets. In addition to its ongoing responsibilities - monitoring progress in reducing emissions, research and analysis into

“Air transport will continue to play an important role in our lives in the 21st century, but massive questions remain over exactly what that role should be, and what proportion of carbon emissions we want to devote to it as opposed to our homes, food production and other forms of travel.” **Hugh Raven, Sustainable Development Commission**

<sup>42</sup> Rt Hon Geoff Hoon MP oral statement to Parliament, Britain’s Transport Infrastructure, 15 January 2009. Available at

<http://www.dft.gov.uk/press/speechesstatements/statements/infrastructure>

<sup>43</sup> Under the Climate Change Act 2008, the UK is committed to a legally binding target to cut greenhouse emissions by at least 80 per cent by 2050, and by at least 34 per cent by 2020. Both these targets are against a 1990 baseline. More information available at

[http://www.decc.gov.uk/en/content/cms/legislation/cc\\_act\\_08/cc\\_act\\_08.aspx](http://www.decc.gov.uk/en/content/cms/legislation/cc_act_08/cc_act_08.aspx)

<sup>44</sup> Meeting the UK aviation target – options for reducing emissions to 2050. Available at <http://www.theccc.org.uk/reports/aviation-report>

<sup>45</sup> Ibid Information sourced from Lord Turners’ presentation

climate change and information sharing with key UK representatives – Government tasked the CCC with advising on how the new aviation emissions target might be met. The CCC was asked to “...*assess scope for (emissions) reductions, including from improvements in technology and the effect of appropriate policy levers; and the implications of further aviation expansion beyond 2020*”.<sup>46</sup>

The CCC aviation report sounded a cautionary note. The report concluded that for the Government to meet the 2050 target, increases in airport passenger numbers across the UK would need to be limited to 60 per cent, instead of the 200 per cent forecasted growth.

While the report confirms that a third runway at Heathrow would not be incompatible with the 60 per cent curb, it notes that growth elsewhere will need to be limited. However it does point out decisions on specific airport capacity need to reflect a wide range of other factors, including local environmental impact.<sup>47</sup>

In terms of the role of technological and operational improvements, the CCC’s analysis is that with 30 per cent improvements in fleet fuel efficiency to 2050 and 10 per cent biofuels use, the likely future scenario is an overall 35 per cent reduction relative to 2005. As a result, increases in air traffic movements will need to be limited to around 55 per cent relative to 2005 levels in order to meet the 2050 target.

### **Limiting aviation emissions**

CO<sub>2</sub> emissions from UK aviation doubled in the ten-year period between 1990 and 2000. A review of various forecasts of UK air travel growth indicates that aviation emissions are set to more than double between 2000 and 2030 and could increase to between four and 10 times their 1990 level by 2050.<sup>48</sup>

The Mayor has set the extremely challenging target of 60 per cent reduction in London’s CO<sub>2</sub> by 2025, from 1990 base. Included in the range of measures to meet the target is one to minimise CO<sub>2</sub> emissions from ground-based aviation. Needless to say increased capacity will

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<sup>46</sup> <http://www.theccc.org.uk/reports/aviation-report>

<sup>47</sup> Page 28, Meeting the UK aviation target – options for reducing emissions to 2050  
<http://www.theccc.org.uk/reports/aviation-report>

<sup>48</sup> Cairns S, Newson, C (2006) Predict and Decide, Aviation, climate change and UK policy 2006 Available at  
<http://www.eci.ox.ac.uk/research/energy/downloads/predictanddecide.pdf>

impact on the London-wide target as well as the national one unless the emissions created by each flight can be significantly reduced.<sup>49</sup>

According to Greenpeace, at full capacity Heathrow could become the biggest single source of CO<sub>2</sub> emissions in the country, emitting the equivalent of 54 of the least polluting countries combined.<sup>50</sup> The Department for Transport's forecasts show that the airport would emit 23.6 million tonnes of CO<sub>2</sub> every year.<sup>51</sup>

### *Green slots and reliance on technology*

The Government confirmed that additional capacity would be allocated on a new 'green slot' principle to "...incentivise the use at Heathrow of the most modern aircraft...", including new technologies like blended wings and renewable fuels to help reduce carbon emissions.

Stakeholders were doubtful about the reliance placed on 'green slot' allocation, and as yet unproven technology to achieve the emissions target. The 2M Group's written submission to the Committee noted that the Government's announcement failed to explain or qualify its phrase "most modern aircraft". Aviation expert David Learmount has questioned the viability of, and will for investment in new technology saying that "...the massive investment required to build technologies, like blended wing aeroplanes, and the massive investment required in airports to take different shaped aeroplanes will be such as the investment will not be made."<sup>52</sup> Tim Jeans, Managing Director of Monarch Airlines, also stated that reliance on new technology to reduce emissions was "highly optimistic".<sup>53</sup>

Whether improvements in aircraft technology will progress at the pace required to deliver the impacts needed is questionable. The Committee heard that the trend in improvements in aircraft technology is

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<sup>49</sup> Page 221. The Mayor's draft Transport Strategy. Available at [http://mts.tfl.gov.uk/docs/MTS09\\_Complete.pdf](http://mts.tfl.gov.uk/docs/MTS09_Complete.pdf)

<sup>50</sup> The case against airport expansion

<http://www.greenpeace.org.uk/files/pdfs/climate/case-against-heathrow-expansion.pdf>

<sup>51</sup> Air Passenger Demand and CO<sub>2</sub> forecasts, Department for Transport UK Available at <http://www.dft.gov.uk/pgr/aviation/atf/co2forecasts09/co2forecasts09.pdf>

<sup>52</sup> David Learmount is the operations and safety editor of Flight International magazine. Newsnight, 15 January 2009, Greenpeace, The case against airport expansion

<http://www.greenpeace.org.uk/files/pdfs/climate/case-against-heathrow-expansion.pdf>

<sup>53</sup> The Telegraph 21 January 2009

<http://www.telegraph.co.uk/travel/travelnews/4306159/Heathrow-decision-criticised-by-airline-boss.html>

relatively slow when compared to other industries.<sup>54</sup> Lord Turner, Chair of the CCC, in reference to the recommended 60 per cent cap on demand increase also cautions that “Aviation policies should be consistent with this overall limit...unless and until more rapid technological progress than currently anticipated makes any greater increase compatible with the target.”

### *Biofuels*

The Committee was encouraged to hear that there is scope for use of biofuels in aviation. But given the caveats set out in the CCC’s report and the assumption that biofuels cannot account for more than 10 per cent of the total aviation fuel mix in 2050, we remain sceptical of its contribution to ‘greening’ future capacity.

### *Greening current capacity*

The Government’s announcement focused on ‘greening’ future aircraft but was noticeably silent on what could be done to improve aircraft already in use. Insufficient attention has been paid to how the industry might be incentivised to improve existing fleets. We agree with the House of Commons Transport Committee’s recent call for decisive efforts to remove older and noisier planes.<sup>55</sup>

### *EU Emissions Trading Scheme*

The Committee is unconvinced that prolonged use of the EU Emissions Trading Scheme (ETS) will have a significant effect. Research suggests that including aviation in the EU ETS is a less than sufficient solution. A background briefing by the European Federation for Transport and the Environment provides a bleak commentary – “impact assessments currently on the table show that integrating aviation into the EU ETS will do next to nothing to reduce aviation emissions”. The briefing draws on the Commission’s assessment, which suggests that integration of aviation into the EU ETS policy will reduce emissions by just three per cent.<sup>56</sup>

Meeting the target to limit aviation emissions to below 2005 levels by 2050 is crucial to achieving the UK’s overall emissions target. There is some question over whether the target can be met. Prior to the

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<sup>54</sup> Dr Sam Fankhauser, Grantham Institute for Climate Change, London School of Economics Transcript of the Environment Committee 5 November 2009

<http://www.london.gov.uk/assembly/envmtgs/2009/envnov05/minutes/transcript.pdf>

<sup>55</sup> The Future of Aviation, published 7 December 2009. Available at

<http://www.publications.parliament.uk/pa/cm/cmtran.htm>

<sup>56</sup> Including aviation into the EU Emissions Trading Scheme, updated June 2008



Climate Change Summit in September 2009, the CCC advised the Government that global aviation emissions would need to be capped as part of a wider global agreement to tackle climate change. The CCC was clear that as part of a range of measures to limit aviation emissions, offsetting them against emissions reductions in other sectors would be feasible. But that over time aviation emissions growth will have to be constrained.<sup>57</sup> The Committee shares this view.

### **The Government's approach**

Setting an ambitious target without proper analysis of how it will be met, has placed the Government in the unenviable position of retrospectively devising a plan of action to fit targets, as opposed to a plan which sets the agenda for developing a realistic approach to reducing emissions.

Whether taken individually or collectively, there are clear limitations to the measures set to help achieve the aviation emissions target. Relying on limiting initial capacity, allocating green slots for new capacity, unproven technology and on the EU ETS over the long-term falls far short of what is needed.

The Committee believes that the Government needs to take a phased approach to reducing aviation emissions setting out short, medium and long term milestones. It concurs with the Committee on Climate Change's view, as set out in its letter to Lord Turner.<sup>58</sup> In the short term ETS can work but in the long-term aviation emissions growth will need to be constrained - ultimately leading to a cap on emissions as part of a wider global agreement to tackle climate change. It is imperative that the Government restrict aviation emissions growth over the long-term if it is to achieve its targets to reduce carbon emissions.

### **The Climate Change Summit**

The Climate Change Summit in Copenhagen presented an unrivalled opportunity to make significant strides forward in tackling aviation emissions on a global scale. It was particularly relevant for the UK given that the CCC aviation report assumes UK action in the context of an international agreement.<sup>59</sup> Sadly, agreement on reducing emissions

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<sup>57</sup> Lord Turner's Letter to Ministers, dated 9 September 2009. Available at <http://hmccc.s3.amazonaws.com/CCCaviationLetterSoS%2009.09.09.pdf>

<sup>58</sup> Ibid

<sup>59</sup> COP15 Copenhagen, Held 7 – 18 December 2009 <http://en.cop15.dk/frontpage>

from international aviation proved elusive. Erik Solheim, Norwegian Minister of Environment and International Development, tasked with heading a meeting of all parties on international aviation and shipping noted that failure to reach agreement at Copenhagen means that “much more discussion will have to follow”.<sup>60</sup>

The global agreement reached at the Summit – the ‘Copenhagen Accord’, fell far short of any legally binding commitments, but as pointed out by Yvo de Boer, Executive Secretary to the United Nations Framework Convention on Climate Change, the challenge will be turn what was agreed into something that is legally binding at the next Summit in December 2010.<sup>61</sup>

Exclusion of the non-CO<sub>2</sub> effects of aviation, along with the failure to secure international agreement at the Climate Change Summit last December, has intensified the challenge to meet the Government’s target to limit aviation emissions to below 2005 levels by 2050.

With the exception of the 2050 target, there is no mechanism in place to monitor progress, and consequently no means of prompting corrective action until it is far too late. This could be addressed by setting out short, medium and long-term targets and by applying legal force to them.

#### **Recommendation 5**

**In its planned consultation document on the environmental conditions the Government should set out a phased approach to reducing aviation emissions, setting out short, medium and long-term targets. These targets should as for the noise limits, be given legal force.**

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<sup>60</sup> Erik Solheim was asked by the Danish government, jointly with the Singapore minister of environment to facilitate a meeting of all parties on international aviation and shipping, responsible for 20 per cent of CO<sub>2</sub> emissions from transport, which in turn produces 23 per cent of all CO<sub>2</sub> emissions.

<sup>61</sup> Yvo de Boer is the Executive Secretary to the United Nations Framework Convention on Climate Change (UNFCCC). UNFCCC is the parent treaty of the 1997 Kyoto Protocol. The Kyoto Protocol has been ratified by 190 of the 194 UNFCCC Parties. Under the Protocol, 37 States have legally binding emission limitation and reduction commitments. For information see <http://unfccc.int/2860.php>

# What next?

The Committee set out to examine the environmental conditions the Government placed on further expansion at Heathrow airport, and to determine whether they are fit for purpose, can work in practice, and are achievable. Our discussions highlighted a number of key issues that undoubtedly question the credibility of the environmental conditions as they stand.

The **complexity of the governance structure** adds to the uncertainty felt by stakeholders about the conditions and whether they will effectively mitigate adverse environmental impacts. Accountability for the conditions will in effect span three Government departments, the Department for Transport, Department for Environment, Food and Rural Affairs and the Department of Energy and Climate Change, two regulatory bodies, the Environment Agency (to monitor air quality) and Civil Aviation Authority (to monitor noise levels), and the Committee on Climate Change. We would welcome simplification of the governance structure that allows for a single point of reference.

A clear **system of accountability for meeting the conditions** and for bearing the consequences if they are not met is vital. This will require **clarity on how the conditions will be enforced**, be it through financial penalties or flight restrictions, clear-cut **legally binding targets**, and a comprehensive time frame for meeting them. Targets set must be based on unambiguous policy and realistic assumptions underpinned by detailed analysis of what is achievable and when.

The potential consequence of not meeting the environmental conditions will impact future business and operational planning for the airport. It is therefore essential that the targets, timetables for meeting them and consequences of not doing so are set out well in advance of the targets being implemented.

**A fundamental review of the environmental conditions is needed** to ensure that they are robust, and rigorously regulated. Our report highlights unmistakable limitations.

**Open and transparent consultation is imperative**, to restore public confidence in the process, especially given the tensions around how it has been managed in the past.

Future demands on airport flight capacity at Heathrow must be managed in the context of the environmental and health needs of Londoners. It is therefore vital that the environmental conditions provide unequivocal parameters for operation. Given that commitments have been broken in the past the Government should be clear that the environmental conditions are non-negotiable and are of the minimum standard required.

“Good (aviation) policy-making needs to be based on evidence that is widely agreed to be sound.”

**Simon  
Retallack,  
Institute for  
Public Policy  
Research**

# Appendix 1 Views and Information

## Panel members:

- Councillor Barbara Reid, 2M Group representative and Lead member for Environment, LB Hounslow
- Val Beale, Air Quality Officer, LB Hillingdon
- John Stewart, Chair, HACAN ClearSkies
- Tony Grayling, Environment Agency
- Dr Colin Powlesland, Environment Agency
- Dr Sam Fankhauser, Principal Research Fellow, Grantham Research Institute LSE and Committee Member, Committee on Climate Change
- Matt Gorman, Corporate Responsibility Director, BAA
- Simon Baugh, Director of Airport Communications, BAA

## Organisations submitting written comments:

- 2M Group
- Environment Agency
- BAA Airports Limited

## Appendix 2 Recommendations

### Recommendation 1

The method for measuring noise levels should be brought into line with the requirement for noise action plans and WHO guidelines, and in light of that the noise contour benchmark set out in the Government's Aviation White Paper 2003, should be revised along the lines set out in the 2007 "Attitudes to Noise from Aviation Sources in England" independent study. The base year of 2002 should also be revised to a more recent year in order to avoid the distorting effect of Concorde on the setting of noise limits.

### Recommendation 2

There is a need for clarity on how European standards on air quality will be met around Heathrow. Before any expansion can even be considered, the Government and BAA must set out a joint plan of action with a clear and decisive strategy for improving air pollution levels around Heathrow, detailing what measures are needed, who will lead on them and the timescales for completion.

### Recommendation 3

BAA should set out a clear strategy for lowering emission and pollution concentrations to improve air quality around Heathrow, setting targets where appropriate. BAA's surface access strategy should be amended to include detailed projections for how these new targets should be met, and detailed information on what contribution new technology will make to lowering nitrous oxide emissions and nitrogen dioxide concentrations should be included. BAA should seek to incorporate in its strategy, more innovative mitigation measures and approaches to reducing emissions, in line with the special measures outlined in the Mayor's draft Air Quality Strategy, to improve air quality in the short, medium and longer term.

### Recommendation 4

In response to the Government's consultation on the *Adding Capacity at Heathrow* document in 2007, the Committee called upon the Department for Transport to commission a full and independent health impact assessment on the communities around Heathrow. We once again call upon the Government to commission an independent assessment.

### Recommendation 5

In its planned consultation document on the environmental conditions the Government should set out a phased approach to reducing

aviation emissions, setting out short, medium and long-term targets. These targets should as for the noise limits, be given legal force.

# Appendix 3 Orders and translations

## How to order

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### Vietnamese

Nếu ông (bà) muốn nội dung văn bản này được dịch sang tiếng Việt, xin vui lòng liên hệ với chúng tôi bằng điện thoại, thư hoặc thư điện tử theo địa chỉ ở trên.

### Greek

*Εάν επιθυμείτε περίληψη αυτού του κειμένου στην γλώσσα σας, παρακαλώ καλέστε τον αριθμό ή επικοινωνήστε μαζί μας στην ανωτέρω ταχυδρομική ή την ηλεκτρονική διεύθυνση.*

### Turkish

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### Punjabi

ਜੇ ਤੁਸੀਂ ਇਸ ਦਸਤਾਵੇਜ਼ ਦਾ ਸੰਖੇਪ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਲੈਣਾ ਚਾਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਇਸ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਉਪਰ ਦਿੱਤੇ ਡਾਕ ਜਾਂ ਈਮੇਲ ਪਤੇ 'ਤੇ ਸਾਨੂੰ ਸੰਪਰਕ ਕਰੋ।

### Hindi

यदि आपको इस दस्तावेज का सारांश अपनी भाषा में चाहिए तो उपर दिये हुए नंबर पर फोन करें या उपर दिये गये डाक पते या ई मेल पते पर हम से संपर्क करें।

### Bengali

আপনি যদি এই দলিলের একটা সারাংশ নিজের ভাষায় পেতে চান, তাহলে দয়া করে ফো করবেন অথবা উল্লেখিত ডাক ঠিকানায় বা ই-মেইল ঠিকানায় আমাদের সাথে যোগাযোগ করবেন।

### Urdu

اگر آپ کو اس دستاویز کا خلاصہ اپنی زبان میں درکار ہو تو، براہ کرم نمبر پر فون کریں یا مذکورہ بالا ڈاک کے پتے یا ای میل پتے پر ہم سے رابطہ کریں۔

### Arabic

الحصول على ملخص لهذا المستند بلغتك،  
فرجاء الاتصال برقم الهاتف أو الاتصال على  
العنوان البريدي العادي أو عنوان البريدي  
الإلكتروني أعلاه.

### Gujarati

જો તમારે આ દસ્તાવેજનો સાર તમારી ભાષામાં જાણીતો હોય તો ઉપર આપેલ નંબર પર ફોન કરો અથવા ઉપર આપેલ ટપાલ અથવા ઇ-મેઇલ સરનામા પર અમારો સંપર્ક કરો.



# Appendix 4 Principles of scrutiny page

## **An aim for action**

An Assembly scrutiny is not an end in itself. It aims for action to achieve improvement.

## **Independence**

An Assembly scrutiny is conducted with objectivity; nothing should be done that could impair the independence of the process.

## **Holding the Mayor to account**

The Assembly rigorously examines all aspects of the Mayor's strategies.

## **Inclusiveness**

An Assembly scrutiny consults widely, having regard to issues of timeliness and cost.

## **Constructiveness**

The Assembly conducts its scrutinies and investigations in a positive manner, recognising the need to work with stakeholders and the Mayor to achieve improvement.

## **Value for money**

When conducting a scrutiny the Assembly is conscious of the need to spend public money effectively.

**Greater London Authority**

City Hall

The Queen's Walk

More London

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