

Aviation 2050: The future of UK aviation

On December 17th the Government published its **Green Paper** with proposals for its new aviation strategy which it will finalise and release in the second half of 2019. It is an important document. It sets out proposals for UK aviation policy until 2050.

There will be a **16 week consultation** ending on **11th April 2019**

Link to the full paper: <https://aviationstrategy.campaign.gov.uk>

There's also a **NATS paper** on the new type of flight paths being introduced:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/763085/nats-cao-feasibility-airspace-modernisation.pdf

And a **CAA paper** on past and future noise levels:

<https://www.caa.co.uk/News/New-Airspace-Modernisation-Strategy-launched-to-overhaul-UK-airspace/>

1. A Green Paper that goes for growth

The Green Paper sets out to cater for the significant growth in flying the Government predicts will take place in the UK and around the world. The Government predicts passenger numbers in the UK will grow from 284 million in 2017 to 435 million by 2050 (worldwide, numbers are expected to increase from 4 billion in 2017 to 8.2 billion in 2037, with the biggest increase being in the Asia-Pacific region). The Government argues that, if the UK is able to take advantage of this growth, it will boost the economy. **The Green Paper assumes a third runway at Heathrow.**

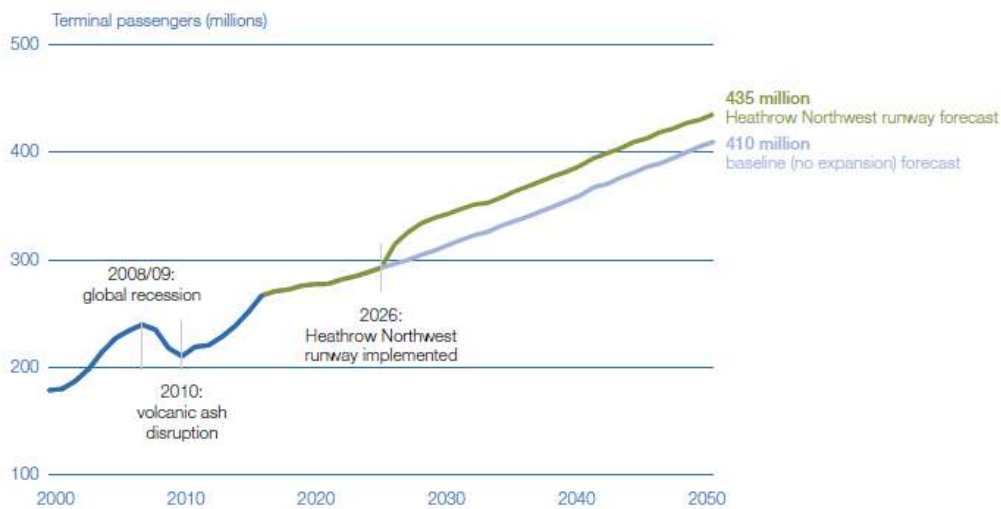


Figure 5 Trends in passenger numbers at UK airports and forecast to 2050
Source: Department for Transport analysis of Civil Aviation Authority: Airport Data, Department for Transport (2017): UK aviation forecasts

Questions that might be asked

What are missing are insufficient options to manage demand. Few would argue that aviation brings real benefits to the economy or that it will be necessary to improve the UK's connectivity to the emerging economies in the world. But business trips account for less than 20% of journeys at most airports. The big driver of growth is leisure travel; and leisure trips taken by a small number of people: 75% of air journeys from the UK are made by 15% of people. 50% of people don't fly in any one year; and of those that do, most take only one or two flights. A measure such as a Frequent Flyers Levy - <http://afreeride.org/> - where everybody would be entitled to one tax-free return flight a year but where the level of tax increases with each subsequent leisure flight could curb growth without stopping people enjoying a holiday abroad or damaging business. It would also mean more people taking leisure breaks in this country, thus boosting UK tourism. The Green Paper does not acknowledge that at present the UK has a tourism deficit, i.e. more money is spent abroad by UK residents than by visitors to this country. Also missing is any consideration of rail. It might have been a big ask to include it but an assessment needs to be made of how many people would switch from air to rail if rail fares were lower and there were more through trains to Europe.

2. Climate Change

The Green Paper argues that aviation can grow as predicted while still meeting the Government target of reducing aviation's climate emissions to their 2005 levels by 2050.

It proposes three ways of doing so:

- It wants to set out a “**long term vision and pathway** for addressing UK aviation's impact on climate change” which will be kept under review to take account of new technological, improved operational efficiencies, market-based measures, sustainable fuels as well as demand management and behaviour change.
- “to negotiate in ICAO (the UN body responsible for tackling international aviation climate emissions) for a **long term goal for international aviation** that is consistent with the temperature goals of the Paris Agreement”
- “to support and strengthen the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).” This is an international scheme for aviation to **off-set its emissions**.

Questions that might be asked

The measures proposed are ambitious but they are untested. There is no guarantee the rest of the world will play ball in agreeing to a long term goal to cut emissions from international aviation or to accept a tougher off-setting scheme. Equally, while technology is likely to result in cleaner aircraft, the timescales remain uncertain. This is not necessarily an argument for opposing what the Government has set out (although some campaigners oppose off-setting in principle). It is more of a call on Government to provide regular information and updates on the progress that is being made and to accept that, if there is insufficient progress, stronger demand management measures and regulation will be required.

3. Noise

There is a lot in the Green Paper which campaigners and communities will welcome

There is the recognition that:

noise can be a real problem for people: “The Government recognises that disturbance from aircraft noise has negative impacts on the health and quality of life of people living near airports and under flight paths”.

the number of planes overhead can be the big problem: “the Government recognises that statistics showing past and future improvements in noise do not necessarily match the experience of some people living under flight paths, for whom the benefits of quieter aircraft can be cancelled out by greater frequency of movements or the effects of concentrated traffic associated with more accurate navigation technology”

People can become annoyed at lower levels than previously thought: Out goes the discredited 57 decibel contour as the ‘onset of community annoyance’ and in come the 54 and 51 decibel contours. A recent CAA report (<https://publicapps.caa.co.uk/docs/33/CAP%201506%20FEB17.pdf>) found 9% of the population can get highly annoyed when daytime noise averages out over the year at 54 decibels and 7% of people when the average is 51 decibels: The recent report from the World Health Organisation (WHO) said that 10% of people became highly annoyed when the noise averaged out at 45 decibels. The Government is studying that report.

The setting up of ICCAN (Independent Commission on Civil Aviation Noise). Its full remit has yet to be fully worked out but the Green Paper says it “will advise the government on best practice on noise mitigation, and how the needs of affected communities can best be served in the airspace modernisation programme”. For its first two years it will be an advisory body but one of the things it has been asked to do over these two years is to assess whether its work could be done more effectively if it was a statutory body and to bring any proposals to Government.

However, whilst the specific measures in the Green Paper to deal with noise (see page 4) are individually potentially welcome, collectively they do not go nearly far enough. They do nothing to tackle excess demand for air travel and they fail to make the industry accountable for the costs it imposes on communities and society as a whole. And they remain vague. They will need to be much more clearly defined if they are to achieve a fairer balance between industry and community interests.

Will noise levels fall by 2050?

The Government asked the CAA to assess future noise levels if the predicted levels of growth took place. Its report published alongside the Green Paper, found noise levels would rise by 2030 from their 2016 levels but would fall by 2050 (despite more people living under many flight paths because of new house building). The fall is mainly due to the introduction of less noisy aircraft. It is an impressive report, packed full of information, but the question needs to be asked whether it has fully taken into account the impact of the increased flight there may be over some communities as a result of growth and concentrated flight paths.

Table a: Summary of noise metric results with population growth including a third NWR runway at Heathrow, Scenario: HIGH

Metric	Period	Level	Year						% change 2016-2050
			2006	2016	2025	2030	2040	2050	
Traffic (ATMs)	Average summer day 16h'	-	4349.5	4295.3	4497.8	5322.5	5655.9	5984.3	+39.3%
	Average summer night 8h'	-	454.3	522.0	549.4	616.2	656.4	700.2	+34.1%
Noise emission (Quota Count)	Average summer day 16h' QC	-	2666.7	2470.5	2453.1	2614.0	1966.3	1822.9	-22.2%
	Average summer night 8h' QC	-	301.3	299.6	261.8	266.6	202.2	207.7	-30.7%
Area exposure (km ²)	Average summer day LAeq16h'	>54 dB	530.4	490.2	497.1	523.2	440.6	440.5	-10.1%
	Average summer night LAeq8h'	>48 dB	419.6	473.0	462.6	473.2	409.7	420.1	-11.2%
	Average annual 24h Lden	>55 dB	615.6	575.1	583.7	610.8	520.3	524.5	-8.8%
	Average annual 8h' Nlight	>50 dB	268.0	256.7	245.6	256.4	216.9	223.2	-13.0%
Population exposure (Numbers exposed to noise level)	Average summer day LAeq16h'	>54 dB	825,400	782,300	802,700	846,000	771,000	796,000	+1.8%
	Average summer night LAeq8h'	>48 dB	521,700	655,500	605,300	568,600	557,800	604,100	-7.6%
	Average annual 24h Lden	>55 dB	997,300	950,000	963,400	1,007,300	909,700	953,200	+0.3%
	Average annual 8h' Nlight	>50 dB	304,600	323,600	288,100	310,100	299,900	329,300	+1.8%
	Average summer night 8h' N60	>10 events	1,215,900	1,473,400	1,457,100	1,622,500	1,580,900	1,645,200	+11.7%
	Average summer day 16h' N65	>10 events	2,449,500	1,985,000	2,124,000	2,145,000	1,946,000	1,955,000	-0.5%
	Average summer day 16h' N70	>10 events	674,600	636,700	660,100	794,400	675,500	656,500	-21.5%
	Average Individual Exposure (70)	>10 events	61.8	79.5	80.8	84.6	66.6	95.4	+20.0%
Person Events Index (70)	>10 events	64,066,100	69,457,300	75,795,300	83,375,000	75,466,400	80,896,600	+16.5%	
Noise impact (Numbers exposed to noise level)	Highly sleep-disturbed average annual 8h' Nlight	>45 dB Nlight	73,600	78,900	74,800	76,600	72,100	76,300	-3.3%
	Highly annoyed (daytime) average annual 24h Lden	>54 dB Lden	180,500	173,200	174,100	183,100	168,500	174,000	+0.5%

*16h: 0700-2000 and 8h: 2000-0700

Below is the CAA's estimate of how flight numbers may rise at individual airports.

Table C.1 (a): Number of average summer day movements, High Scenario

Airport	Scenario: High						No. of average summer day movements	
	2006	2016	2025	2030	2040	2050	% change 2006-2016	% change 2016-2050
BHX	316.4	307.6	360.8	410.8	568.9	564.8	-2.8%	+83.6%
EDI	333.3	342.1	308.7	334.6	374.5	424.2	+2.6%	+24.0%
GLA	301.2	275.4	287.2	279.8	288.0	310.4	-8.6%	+12.7%
LGW	701.7	770.6	792.5	791.6	815.2	828.6	+9.8%	+7.3%
LHR NWR	1,248.0	1,286.7	1,296.2	1,982.5	2,008.6	2,022.0	+1.5%	+59.6%
LTN	288.5	337.9	321.6	311.2	295.8	317.2	+17.1%	-6.1%
MAN	638.2	543.5	628.0	652.8	774.5	990.7	-14.8%	+82.3%
STN	522.2	451.6	502.8	559.4	530.3	528.4	-13.5%	+17.0%
Total (with LHR)	4,349.5	4,295.3	4,497.8	5,322.5	5,655.9	5,984.3	-1.2%	+39.3%
Total (without LHR)	3,101.5	3,028.6	3,201.6	3,340.0	3,647.2	3,962.4	-2.4%	+30.8%

Table C.1 (b): Number of average summer night movements, High Scenario

Airport	Scenario: High						No. of average summer night movements	
	2006	2016	2025	2030	2040	2050	% change 2006-2016	% change 2016-2050
BHX	31.2	40.2	47.2	53.7	74.4	73.8	+28.7%	+83.7%
EDI	27.1	37.4	33.8	38.6	41.0	46.4	+38.1%	+24.0%
GLA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LGW	116.7	127.1	130.7	130.5	134.4	136.3	+8.9%	+7.3%
LHR NWR	70.9	84.4	86.4	132.1	133.9	134.7	+19.1%	+59.6%
LTN	52.3	70.1	66.7	64.5	61.4	65.8	+34.1%	-6.1%
MAN	76.6	80.6	93.1	96.8	114.9	146.9	+5.2%	+82.3%
STN	79.5	82.3	91.6	101.9	96.6	96.3	+3.5%	+17.0%
Total (with LHR)	454.3	522.0	549.4	616.2	656.4	700.2	+14.9%	+34.1%
Total (without LHR)	383.4	437.6	463.0	484.0	522.6	565.5	+14.1%	+29.2%

The CAA looked at Birmingham, Edinburgh, Glasgow, Gatwick, Heathrow, Luton, Manchester and Stansted. It had also asked London City and Leeds Bradford for figures but they failed to produce them. Glasgow failed to provide night flight details.

The Green Paper proposes a number of new measures to tackle noise

- a **new objective** to limit, and where possible, reduce total adverse effects on health and quality of life from aviation noise
- a new **national noise indicator** to track the long term performance of aviation in reducing noise
- **noise caps** to become routine at airports where planning permission is given for growth. This could take a number of forms such as an annual cap on the number of planes using an airport; capping flight numbers over any one community; or an overall or average upper noise limit
- all major airports where there is no cap to draw up a **noise reduction plan** – this is potentially much stronger than the current noise action plans which are required
- the introduction of **multiple flight paths** to provide **respite** but the decision will be down to individual airports
- to reduce the current point where **noise insulation** has to be offered from the 63dB LAeq 16hr contour to the 60dB LAeq 16hr contour
- to require all airports to review the effectiveness of existing **compensation schemes** - to include how effective the insulation is, whether other factors (such as ventilation) need to be considered, whether levels of contributions required from householders towards costs are affecting take-up
- the government or the new noise commission to issue new guidance to airports on best practice for **noise insulation schemes** in order to improve consistency about what is on offer
- for airspace changes which lead to significantly increased flights overhead, a new minimum threshold of an increase of 3dB LAeq is introduced to be eligible for **compensation**
- provide more **information** to people moving into an area under a flight path
- **promote best practice** in operating procedures; give the CAA the duty to require information on the practices used;
- introduce a new power to direct airports to **publish information**, such as league tables of airline noise performance, whether airlines are using the best operational practices - such as where they lower their landing gear – available to them etc.

Questions that might be asked

Despite the welcome measures being proposed, there is **no guarantee that noise levels will fall** given the level of growth predicted. The top objective “*to limit, and where possible*” to reduce the impact of noise is too vague. The Government needs to define “*limit*” and “*where possible*” and explain how and by whom they will be enforced. More detail is also required about the new national noise indicator. Any national indicator should incorporate frequency measures as well as average noise measures. It would be better if all airports, not just those without a noise cap, were required to produce a noise reduction plan as it would force them to map out how they planned to reduce noise.

There will be disappointment that there are **no measures to cut night flights** at airports. An assessment of the value of night flights to the national and local economies needs to be carried out. There may be economic value in some intercontinental and freight flights but the majority of the night flights at most UK airports are holiday flights which may well be run for the benefit of the operator rather than the economy.

Opportunities that might be seized

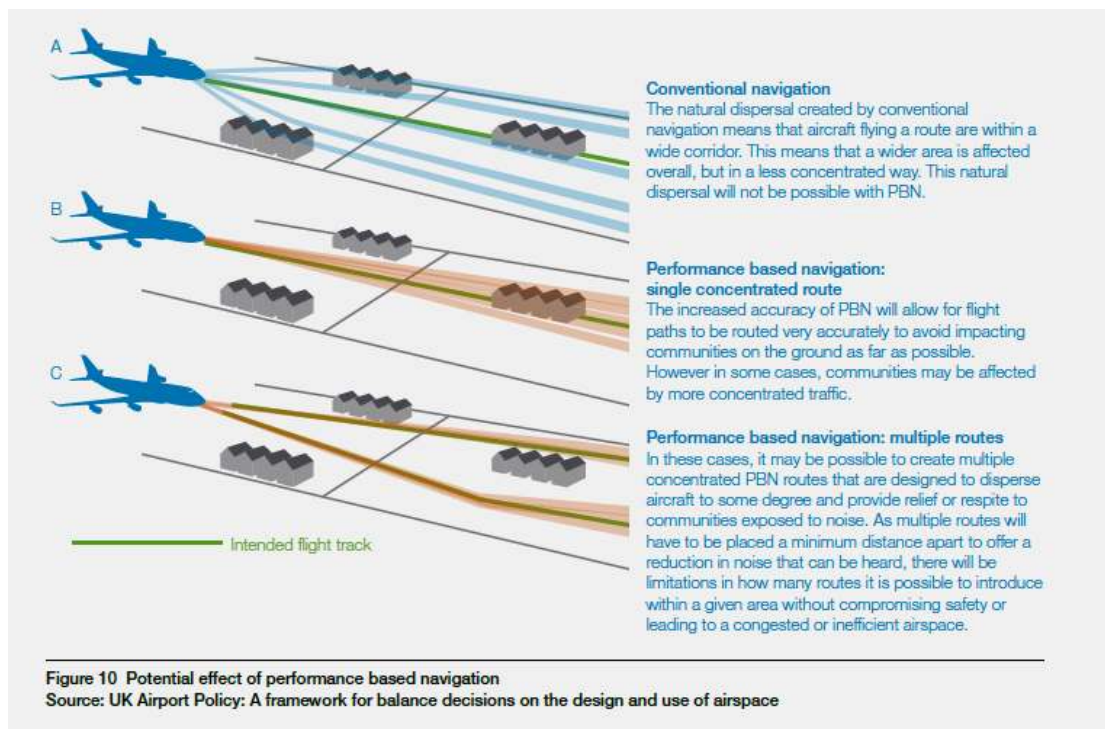
Many of the proposals will require airports to take noise more seriously than many of them currently do. Noise caps and noise reduction plans are opportunities for communities to press for meaningful measures to deal with noise. The door has been opened to press for multiple flight paths in order to get some respite. Airports will be obliged to provide much more information on their activities. Noise insulation will be offered at lower levels. And it potentially could of better quality than currently on offer at many airports.

4. New types of flight paths

Alongside the Green Paper the Government published **the major report it had commissioned from NATS** (see front page for link) which assessed the flight path changes needed as the UK joins the rest of the world in moving from a ground-based system to guide planes in and out of airports to a satellite-based system.

The new satellite-based system allows for aircraft to be guided along more precise flight paths. This is expected to allow airlines to save fuel and cut climate change emissions (per plane); and to increase the capacity and improve the resilience of airports.

There will be big changes to flight paths, with new ones introduced. It is worth reading the text in the diagram below which sets out **the options**. The satellite system will not allow for the dispersal of flights which some areas currently have. The **only options** will be precise, concentrated flights without respite or the creation of a number of these flight paths so respite is possible.



The Green Paper leaves the decision on whether or not to provide respite down to individual airports. London City, which introduced the new precise flight paths before other airports, went for concentration without respite. It argues (correctly) that this has reduced the overall number of people impacted but, of course, it has worsened the situation for those who found themselves under the concentrated routes (over 900,000 people below 7,000ft, according to CAA figures). Heathrow, in contrast, has committed to respite as a central part of its flight path changes.

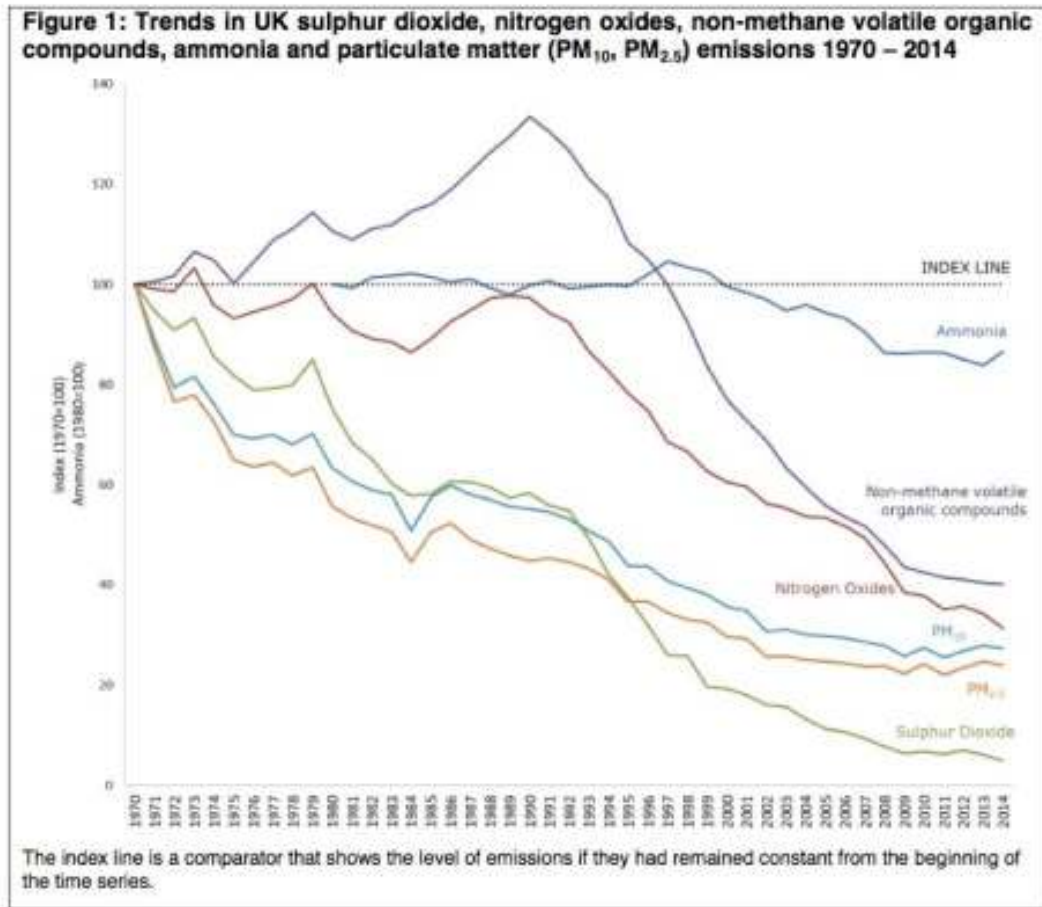
Across the UK airports will be consulting on the flight path changes over the next few years with the aim of having all the changes in place from about 2024/5 onwards. The Government asked NATS (National Air Traffic Control) to look at the feasibility of these air space changes. The NATS report, published along with the Green Paper, found that the new airspace changes were feasible and that multiple routes to allow respite were broadly possible but that coordination between airports was essential.

Opportunities that might be seized

The new flight paths present both a threat and an opportunity for local communities. The threat is of all-day flying along very precise corridors, with potentially many more planes than at present if the predicted growth takes place. The opportunity is to get predicable breaks from the noise offered by respite. The provision of respite is not problem-free. It might mean the creation of flight paths new areas. In my view this should only be done if there is absolutely no other way to ease the burden for existing areas. And the provision of respite becomes much more difficult for people close to single runway airport. These are the areas for which a noise cap, generous insulation schemes and the end of night flights are essential.

6. Air Pollution

Levels of air pollution have steadily fallen over the past 40 years.



The UK is currently compliant with ambient air quality legislation for most pollutants, the exception being nitrogen oxides (although emissions have fallen by almost 27% between 2010 and 2016). However, we can't be complacent as we now know more about the health impacts of air pollution.

The Green Paper “recognises the need to take further action to ensure aviation’s contribution to local air quality issues is properly understood and addressed.”

The key actions the Green Paper proposes are these:

“much work remains to be done which is why the government created the Air Quality Plan to help achieve compliance as swiftly as possible. The draft Clean Air Strategy also sets out the ambition to reduce the harm to health from air pollution by half”.

“improve the monitoring of air pollution, including ultrafine particles (UFP), in order to improve understanding of aviation’s impact on local air quality”

“require all major airports to develop air quality plans to manage emissions within local air quality targets. This will be achieved through establishing minimum criteria to be included in the plans.”

Comment:

The requirement for all major airports to develop air quality plans to meet local air quality targets, with the Government setting out the minimum criteria to be included in the plans, is positive. The proposal to improve the understanding of aviation’s impact on local air quality is necessary: at present the official view is that planes only contribute to air pollution in areas relatively to an airport but there is some research which suggests planes may also worsen air pollution many miles from it; the proposal to explore the impact of ultrafine particles is particularly welcome as there is a growing body of evidence to suggest they may be much worse than previously thought.

7. Responding to the consultation

The Green Paper is a critical document which will influence both national aviation policy and what happens at each airport for many years to come.

The consultation is an important opportunity to influence the new policy.

When responding:

Don't forget to say what you like about it. Remember nothing is set in stone. All are still proposals. There may be lobbying for some of the proposals you like – say noise reduction plans – to be watered down. Your voice is important so the Department of Transport can understand that these proposals also have strong support.

Spell out the things you don't like. Or what is missing. Don't assume the Department won't listen!

Be constructive if possible. Don't be afraid to come up with alternative ideas or other solutions. They can have more impact than merely saying 'no'. And, even if your ideas or solutions are not taken up, you will have laid down a marker for your future campaigning.

How to respond:

The Department is keen we use its online form to respond. But it is not essential. You can simply email your comments to AviationStrategy@dft.gov.uk or send a letter to Aviation Strategy, Department for Transport, 33 Horseferry Road, London, SW1P 4DR. If you do use the online form, you don't need to respond to every question – simply put 'no comment' in the box and move on to the next question.

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