Response to the Airports Commission's Emerging Thinking

Stop Stansted Expansion ('SSE') was established in 2002 in response to Government proposals for major expansion at Stansted Airport. We have some 7,500 members and registered online supporters including 150 parish and town councils and local residents' groups and national and local environmental organisations. Our objective is to contain the development of Stansted Airport within tight limits that are truly sustainable and, in this way, to protect the quality of life of residents over wide areas of Cambridgeshire, Essex, Hertfordshire and Suffolk, to preserve our heritage and to protect the natural environment.

Stop Stansted Expansion
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www.stopstanstedexpansion.com

1. Introduction

1.1 The speech delivered by the Chairman of the Airports Commission on 7 October 2013 was described as setting out the Commission's 'Emerging Thinking' with regard to aviation capacity in the UK. However, it was confined to setting out some of the main arguments against increasing runway capacity in the UK (although it did not consider local environmental impacts) and it then dismissed each of these in turn.

1.2 The speech contained very little in terms of hard evidence to support its main conclusions; indeed much of the content of the speech seemed to be at odds with the available evidence. It almost goes without saying that a far higher standard of evidence and analysis will be required for the Commission's interim report, and we are pleased to note that the Commission's terms of reference explicitly require that:

> *'The assessments and recommendations in the Commission's interim report should be underpinned by a detailed review of the evidence in relation to the current position in the UK with regard to aviation demand and connectivity, forecasts for how these are likely to develop, and the expected future pattern of the UK's requirements for international and domestic connectivity.'*

1.3 If, therefore, the Commission adheres to the provisional conclusions announced on 7 October we shall expect to see, in the interim report, clear evidence and detailed analysis to underpin these conclusions, and if such evidence and analysis are not forthcoming we shall expect the Commission to resile from these conclusions. In the meantime, we set out below our main misgivings with regard to the Commission's 'Emerging Findings'.

1.4 For ease of comparison and understanding, we have aligned our analysis and commentary below - so far as possible - with the relevant evidence base provided by the DfT in its January 2013 aviation demand and CO_2 emissions forecasts.[1]

1.5 With one or two exceptions where we considered it necessary and/or justifiable, we have avoided repeating points made in our earlier submissions to the Commission.

2. Aviation and climate change

2.1 The underlying message set out in the 'Emerging Thinking' speech was that additional runway capacity would be needed in the south east of England over the coming decades to meet the needs of 'passengers, connectivity and the economy'. In short, the provisional conclusion was that there should be a 'predict and provide' approach for the UK aviation sector, with the predictions presumably being largely based on the DfT aviation forecasts to 2050.

2.2 We fail to see how it is possible to reconcile a 'predict and provide' approach for UK aviation with the UK's climate change targets, for the following main reasons:

- The Chairman of the Committee on Climate Change ('CCC') wrote to the Commission in July 2013 setting out key points for the Commission to take into account, including:

  > *'In working out appropriate investments in aviation infrastructure, it is essential to recognise that aviation emissions are included in the target to reduce economy wide emissions by 80% in 2050, on 1990 levels, which is set out in the Climate Change Act.'* [2];

- The CCC gave detailed consideration to the climate change impacts of aviation in 2009 culminating in its recommendations for UK aviation in the context of the commitment to reduce overall UK emissions by 80% by 2050.[3] The CCC's approach allows aviation emissions in 2050 to be the same as in 2005 (37.5MtCO_2) whilst all other sectors must

[1] *'UK Aviation Forecasts'*, DfT, Jan 2013.
[2] Letter from Lord Deben, Chairman of CCC, to Sir Howard Davies, Chairman of the Airports Commission, 3 Jul 2013 - http://www.theccc.org.uk/wp-content/uploads/2013/07/CCC_letter_aviation_commission.pdf. See also the reply at - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249676/deben-letter.pdf.
[3] *'Meeting the UK aviation target - options for reducing emissions to 2050'*, CCC, Dec 2009.

reduce emissions by 85% compared to 1990 levels. By any standard this amounts to very sympathetic treatment for the aviation industry compared to other sectors;

- The CCC estimated that a cap on UK aviation emissions of 37.5MtCO_2 would still allow a 60% increase in passengers in 2050 compared to 2005 *'through a combination of fuel and operational efficiency improvements and the use of sustainable biofuels'*. At the heart of the CCC framework is a cap of 370 million passengers per annum ('mppa') by 2050;

- Compared to this, the DfT's unconstrained demand forecast for 2050 is 482mppa, and it appears to us from its Emerging Thinking statement that the Airports Commission has decided that the UK should have the airport capacity to cater for this; and

- If the airport infrastructure is provided to cater for unconstrained demand, UK aviation emissions would be 50.6MtCO_2 in 2050[4], 35% above the cap proposed by the CCC.

2.3 The Commission is of course entitled to reject the advice of the CCC and recommend that the needs of the UK aviation sector should take precedence over the needs of all other sectors of the economy. It will, however, be important for the Commission to fully consider the wider consequences of such an approach.

2.4 If the airport infrastructure is provided to accommodate unconstrained demand for aviation, its emissions would greatly exceed the cap proposed by the CCC. The result would be that all other sectors of the economy would need to cut their emissions by about 88% in order to meet the economy-wide target set down in the Climate Change Act 2008. As the Chairman of the CCC noted in his letter to the Commission on 3 July 2013:

> *'Reducing emissions in other sectors by 85% in 2050 on 1990 levels is at the limit of what is feasible, with limited confidence about the scope for going beyond this.'* [5]

2.5 The need for deeper cuts in emissions in the rest of the UK economy to accommodate more aviation emissions would lead to higher energy bills for both households and businesses. Certain energy intensive industries, such as iron and steel production and the manufacture of aluminium and cement, might well become uncompetitive as a result, with knock-on effects on UK employment, GDP and the trade balance. If the Commission recommends allowing aviation to grow beyond the limits proposed by the CCC, it would need to assess not only the economic benefits that this would bring, but also the negative economic impacts.

2.6 Self evidently, the aviation sector would much prefer to have no constraints on its growth but the framework developed by the CCC is generally regarded as a reasonable compromise, which is why it has received broad support from the industry and the relevant NGOs, and why it has also been given broad political support.

2.7 The Commission has repeatedly emphasised the importance of trying to achieve as much consensus as possible amongst stakeholders at all levels, as well as political consensus, for the recommendations that it makes. We fully agree with that objective and we submit that it would be potentially very divisive for the Commission to re-open the question of the emissions cap recommended by the CCC for the UK aviation sector. In fact it would be so obviously and deeply divisive - including at the political level - that we do not believe the Commission would contemplate this, which brings us back to the question of justifying the need for additional airport infrastructure.

2.8 We submit that the CCC's proposed upper limit of 370 million passengers in 2050 should be the basis for making planning and policy decisions, whilst noting that it would not be possible

[4] The DfT projects aviation CO_2 emissions only for the constrained demand scenario, namely 447.5mppa in 2050, and this projection is 47.0MtCO_2. If enough runway capacity is provided for all (i.e. unconstrained) demand to be met, the DfT forecasts 481.8mppa in 2050. On a pro rata basis, this would result in emissions of 50.6MtCO_2.

[5] Letter from Lord Deben, Chairman of CCC, to Sir Howard Davies, Chairman of the Airports Commission, 3 Jul 2013 - http://www.theccc.org.uk/wp-content/uploads/2013/07/CCC_letter_aviation_commission.pdf.

to accommodate even this level of demand if expectations were not fulfilled with regard to future fuel and operational efficiency improvements and with regard to the use of sustainable biofuels.

2.9 In terms of the level of demand that can be accommodated, there is also a significant downside risk in relation to aviation's non-CO_2 effects, where the CCC commented:

> *'Aviation non-CO_2 effects are likely to result in global warming and will therefore need to be accounted for in future international and UK frameworks. This may have implications for the appropriate long-term UK aviation target.'*
>
> and
>
> *'The precise scale of the additional impact is unclear and there are considerable scientific uncertainties still to be resolved, but it is highly likely that these non-CO_2 effects are significant. It will therefore be important that they are accounted for in future international policy frameworks and in the overall UK policy framework for emissions reduction.'* [6]

2.10 It would be reasonable to assume that there will be less scientific uncertainty in 2050 than at present as to the scale of aviation's non-CO_2 effects. Estimates of the combined CO_2 and non-CO_2 effects of aviation emissions have ranged from 1.9 times to 4.0 times the impact of the CO_2 emissions alone, before taking account of aviation-induced cirrus cloud effects. This points to a strong possibility that the upper limit on annual demand of 370mppa by 2050, as proposed by the CCC, will need to be substantially reduced.

2.11 Applying the precautionary principle and also applying common sense, it is not tenable to totally ignore aviation's non-CO_2 effects until there is scientific consensus. The Commission should make a best estimate based on the present level of scientific understanding and this should be incorporated in its framework for determining the scope for growth in the UK aviation sector, consistent with managing its climate change impacts.

2.12 The Commission's 'Emerging Thinking' is virtually silent on all of the above and yet this is one of the most fundamental issues that the Commission must address, i.e. how is it possible to reconcile a 'predict and provide' approach with the CCC's analysis and proposals?

2.13 We must however consider the possibility that the Commission accepts the CCC's cap of 370mppa but nevertheless feels that more runway capacity is required in the south east. In considering this possibility, it may be helpful to examine the relevant statistical data, as follows:

Table 1: Unconstrained DfT demand forecasts for 2050

	Actual mppa in 2012	**Unconstrained forecast for 2050 mppa**	**Change %**
South East	137.0	302	120%
Other UK	83.6	180	115%
Total	220.6	482	118%

Source: Actual 2012 data is from the CAA airport traffic statistics and the unconstrained demand forecasts for 2050 are from the DfT's 'UK Aviation Forecasts' Jan 2013, Annex D.8.

2.14 Table 1 sets out the DfT unconstrained demand forecasts for 2050. These would be the forecasts to use if it was decided to adopt a 'predict and provide' approach, not only for the UK as a whole, but for every part of the UK, i.e. to assume no significant re-distribution of demand away from busier airports in the south east to underutilised airports elsewhere in the UK. This is the only basis upon which an argument for additional runway capacity in the south east might be contemplated.

[6] *'Meeting the UK aviation target - options for reducing emissions to 2050'*, CCC, Dec 2009, Exec Summary, p9 & p20.

Table 2: Forecasts for 2050 constrained pro rata by climate change 'cap'

	Actual mppa in 2012	Constrained forecast for 2050 mppa	Change %
South East	137.0	232	69%
Other UK	83.6	138	65%
Total	220.6	370	68%

Source: As for Table 1 above but with the 2050 forecasts reduced pro rata to bring total mppa down to 370mppa, the cap proposed by the CCC.

2.15 Table 2 shows that, if the upper limit recommended by the CCC is accepted (in order to hold aviation emissions in 2050 to their 2005 level), a 68% growth in UK passenger numbers could still be accommodated by 2050, compared to the level in 2012. Importantly, this level of growth could be accommodated without any new runways, including in the south east, where it would result in 232mppa by 2050, compared to an estimated capacity of the existing runway infrastructure in the south east of 245mppa.

Table 3: Capacity constrained demand forecasts for 2050 (no new runways)

	Actual mppa in 2012	Constrained forecast for 2050 mppa	Change %
South East	137.0	245	79%
Other UK	83.6	205	145%
Total	220.6	450	104%

Source: As for Table 1 above but with the 2050 forecast for the south east reduced to the capacity of its existing runways. Capacity constraints in the south east are estimated to lead to the switching of 25mppa to regional airports, mainly Birmingham and Bristol.

2.16 Table 3 is the 'do nothing' scenario - i.e. no new runways and no climate change cap. In this scenario, we estimate that UK airports would handle about 450mppa in 2050, i.e. 93% of unconstrained demand. This is virtually the same as the DfT's constrained demand forecast, (447mppa) but with a slightly different split between the south east and the rest of the UK.[7]

2.17 The key messages which emerge from the above three tables are:

- If the CCC's upper limit of 370mppa is accepted, there is no need for any more runways anywhere in the UK, including in the south east;
- If the CCC's upper limit is disregarded, but no new runways are built, UK airports could accommodate 93% of unconstrained demand in 2050;
- The only basis upon which an argument for additional runway capacity in the south east might be contemplated is to reject the CCC's proposed upper limit of 370mppa and adopt a full blown 'predict and provide' policy; and
- If no new runways are built, and assuming no redistribution of demand from the south east to other UK airports, the capacity shortfall in the south east in 2050 - based largely on the DfT's own analysis and projections - would be just 57mppa.[8] And, as we explain in section 3 below, even this figure is significantly overstated.

2.18 Finally, in this section, we would point out that if new runway capacity were to be provided in the south east to allow it to meet all - or almost all - its unconstrained demand, this would be at the expense of growth at airports across the rest of the country. In such circumstances there would, in fact, be no scope whatsoever for net growth at the UK's regional airports, assuming the Commission accepts the framework proposed by the CCC for managing UK aviation emissions to 2050. Plainly, such an approach would accentuate the so called 'north:south divide'.

[7] *'UK Aviation Forecasts'*, DfT, Jan 2013, Table 5.5.

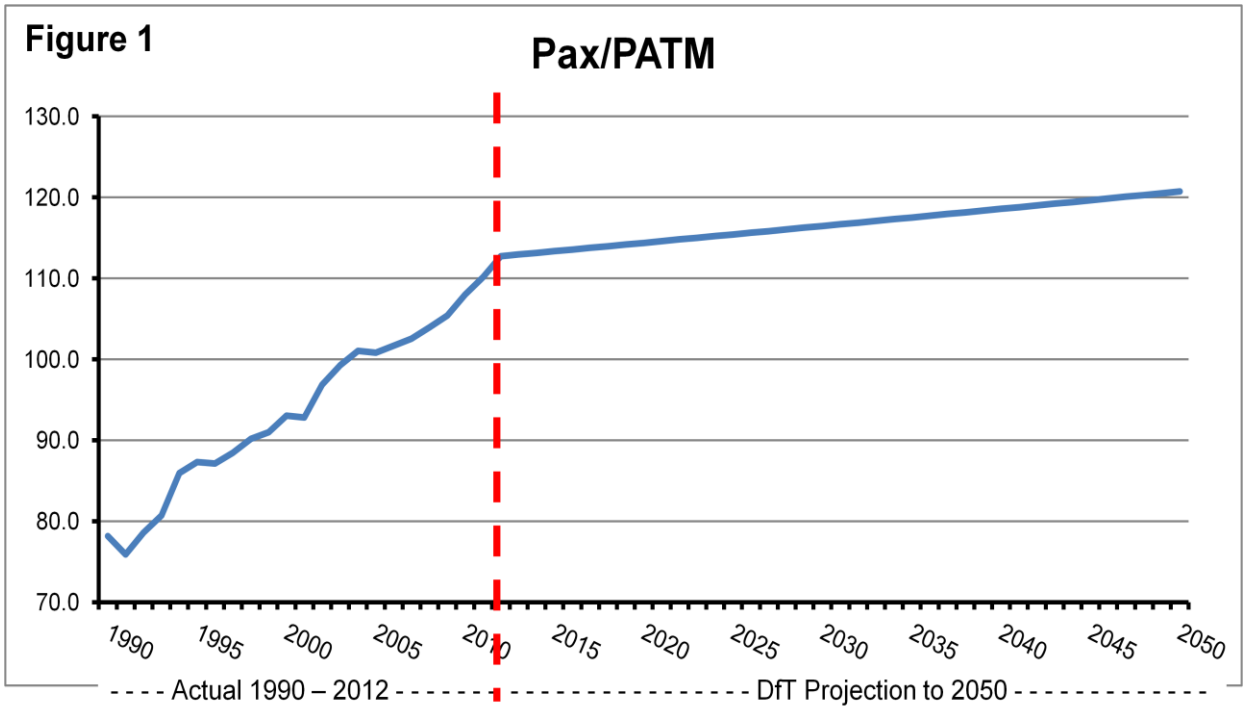
[8] This is the difference between unconstrained south east demand of 302mppa in 2050 (from Table 1) and airport capacity in the south east of 245mppa (from Table 3).

3. Capacity *vs* demand

3.1 In our March 2013 submission to the Commission on *'Aviation Demand Forecasting'*, we argued that it was unrealistic for the DfT to project just a 0.2% annual increase in the number of passengers per passenger air transport movement ('PATM') over the forecast period when, over the past 20 years, the number of passengers per PATM has increased by almost 2% per annum (see Figure 1 below) - and especially when:

- New aircraft types are generally larger than the aircraft they replace;
- The long haul sector of the market (which uses larger aircraft) is predicted to grow at a faster rate than the short haul sector;
- Load factors can be expected to continue gradually to improve;
- HS2 will dampen the demand for domestic air travel, which is the market sector with the lowest number of average passengers per PATM; and
- Where capacity is tight, airlines will have a greater incentive to use larger aircraft (or to sell their slots to other airlines which will use larger aircraft) and it should also become easier for airlines to fill the available seats.[9]

Figure 1



3.2 Even a 1.0% annual increase in the number of passengers per PATM - i.e. just half the rate of improvement for the past two decades - would increase the capacity of airports in the south east to 330mppa in 2050[10] - almost 10% more than the DfT unconstrained demand forecast for the south east in 2050 (see Table 1 above). In other words, even in the 'do nothing' scenario, all unconstrained demand - as per the DfT's central estimate for 2050 - could be met by airports in the south east without new runways and without any redistribution of demand to airports in other parts of the UK. Some redistribution of demand within the south east would however be needed.

3.3 Finally in this section we would point out that if we are able to identify so many significant downside risks to the ATM demand forecasts (the key determinant of the need or otherwise for additional runway capacity), then so also will investors be able to identify all these significant downside risks. Thus, the main obstacle to any new airport infrastructure in the south east may well turn out to be the well justified caution of investors rather than the effectiveness of campaigners or the procrastination of politicians.

[9] *'Submission to the Airports Commission on Aviation Demand Forecasting'*, SSE, Mar 2013, paras 1.3-1.9.
[10] The estimated capacity of airports in the south east is 245mppa in 2020 and so the 1% annual increment is applied only from 2020 onwards.

4. Concluding points

4.1 As pointed out in the Commission's 'Emerging Findings' statement: *'runways are expensive pieces of infrastructure'.* We can, in fact, see that quite clearly from the costed proposals for new runways submitted to the Commission by airport operators and others. It is therefore valid to ask whether a new runway can be commercially justified in the foreseeable future because, if there are significant doubts about this, it would be irresponsible and quite wrong - once again - to create needless blight and uncertainty for local communities around airports in the south east.

4.2 If, in its interim report, the Commission recommends the development of an extra runway or runways in the south east, we will expect to see robust evidence to demonstrate the grounds for its confidence in the commercial viability of the proposed project(s) at this point in time.

4.3 Some insights into the rate of return required by investors in the UK airport sector can be obtained by considering the prices paid for UK airport infrastructure in recent years, most relevantly in the sale of Gatwick and Stansted airports by BAA, noting that both airports were sold in competitive, open market auctions. It is also important to note that, in both these cases, established cash generative businesses were being sold with significant revenue streams which would accrue to the purchaser immediately upon completion.

4.4 Achieving an acceptable risk:reward ratio will be far more challenging in the case of a new runway development (and even more so in the case of a new airport development) not least because any such project will be cash negative for at least a decade and during all that time the key parameters which will determine whether or not the investment will prove successful will be subject to change. There will be a high level of market risk as well as political risk, and there will be very significant environmental considerations which will affect risk in both of those areas.

4.5 As we have shown in section 3 above, it is by no means clear that there is sufficient market demand to justify to shareholders and other investors that an additional runway in the south east would be commercially viable in the period to 2050. The availability of surplus capacity at other airports - in the south east and elsewhere - provides scope for marginal pricing which could be used to attract airlines and passengers to a second or third choice airport, whilst at the same time undermining any competitor's potential business case for additional runway capacity.

4.6 Turning to the political risk, even a cursory review of airports policy in the UK over the past few decades provides a clear demonstration that there is a high degree of political uncertainty and unpredictability associated with UK airports policy. BAA incurred costs of over £200m in seeking to implement the airport expansion policies set down in the 2003 Air Transport White Paper ('ATWP') - expenditure which subsequently had to be written off when political support for the expansionist policies set down in the ATWP was withdrawn.

4.7 Meanwhile, the ebb and flow of political and market circumstances has also taken its toll on local residents around UK airports, especially in the south east, with repeated periods of blight and uncertainty caused by major expansion proposals which invariably have come to nothing. This is at least partly because the business case for a new runway has never been particularly compelling whereas the environmental impacts of a new runway anywhere in the south east have always proved to be so immense as to be politically unacceptable.

4.8 Our considered assessment is that the current DfT demand forecasts are not nearly strong enough - or reliable enough - to support a business case for a new runway, especially when the downside political and market risks are taken into account as well as the downside risks in relation to meeting the UK's legally binding climate change targets.

4.9 In conclusion, we do not expect any new runway to be built in the south east (or anywhere else in the UK) over the coming decades, and if the Commission recommends any additional runway or runways, this would simply create blight and uncertainty for no purpose.

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