

## Executive summary

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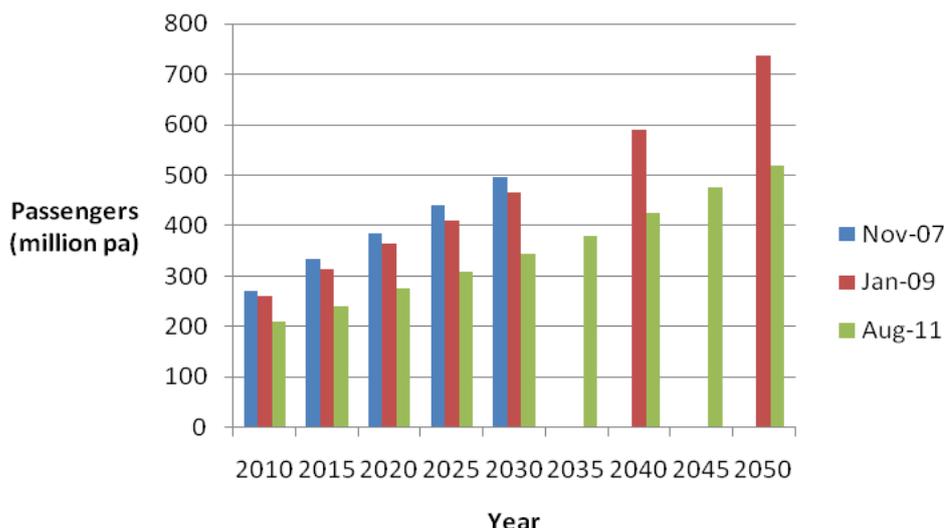
### 1. Summary

- 1.1 New forecasts of passenger demand were published by the Government in August 2011. This study summarises the forecasts, examines their basis and shows how they would change, mainly downwards, if different, but arguably equally valid, assumptions were made for certain parameters.
- 1.2 A key feature of this analysis is that AEF's re-forecasts use data which is all from DfT and sources it references. This means that the reasons for divergence between AEF and DfT forecasts are clear; they are not confounded by the use of different underlying datasets.

#### *Forecasts up to 2030*

- 1.3 The forecasts up to 2030 are much lower than previous ones. In 2007, DfT predicted that there would be 495 million passengers per year (mppa) at 2030. In January 2009 this was reduced to 465 mppa and in August 2011 to 345 mppa. The forecast in 2011 is thus 31% down on that of 2007. In terms of the forecast growth between 2010 and 2030, the reduction is even larger - 40%.

*DfT unconstrained forecasts from 2007, 2009 and 2011*



- 1.4 Despite the major downgrading over the last few years, we consider that the 2011 forecasts up to 2030 are still high. Very optimistic assumptions are used on economic growth and oil prices and it is assumed that aviation will continue to benefit indefinitely from massive tax exemptions.
- 1.5 The basic approach to forecasting for this period, which uses an econometric model with income, size of the economy and ticket prices as key factors, is reasonable, we conclude. However, we consider that the forecasts ('unconstrained' and 'constrained') may be high because very 'optimistic' forecasts are made for certain input parameters or assumptions. We show how alternative, but far from extreme, assumptions make a large difference to the passenger forecasts. The most significant of these parameters are noted in 1.6 - 1.11 below.
- 1.6 The Government has ignored the cost of non-CO2 emissions. These were included in the previous Government forecasts which estimated that non-CO2 emissions had nearly as much climate impact as CO2. If non-CO2 climate costs had been built into ticket prices, demand would be 6% lower than the DfT forecast at 2030.

- 1.7 After recovering from the current recession, the Government assumes economic growth at around 2% per annum indefinitely. We regard this as optimistic. The sensitivity test assumes that the growth rate is just 0.25% pa lower than this. Given recent ample evidence about the fragility of the economy, with growth rates as low as 0%, such a small adjustment to the growth rate does not do justice to the uncertainties involved. If economic growth were 1% pa less than forecast (i.e. still an increase of 1% pa) demand would be 19% lower.
- 1.8 Oil prices are assumed to be no higher in 2030 than they are now. We consider this a very optimistic assumption, given forecasts of continuing world economic growth alongside concerns about peak oil. DfT's sensitivity test shows a small effect of only 3% reduction in demand. This was questioned by AEF and the model was re-run by DfT. This re-run indicated that if oil prices at 2030 were 67% higher than now, demand would be reduced by 10%. This is consistent with the figure calculated by AEF using the overall price elasticity.
- 1.9 The forecasts continue to assume that there will be no tax on fuel, and no taxes or charges in lieu of this that could overcome the difficulties associated with charging tax on fuel for international travel. If a tax on fuel were applied at the same rate as on petrol, demand would be 25% lower. If this fuel tax were offset by the current level of APD (on the grounds that it would be unfair to impose both revenue-raising taxes), demand would reduce by 19%. If the fuel were additionally offset by the assumed cost of compliance with EU ETS (on the grounds that the fuel tax arguably should cover carbon costs), demand would be reduced by 16%.
- 1.10 In the opposite direction, the ETS (European emissions trading system) does not currently require airlines to pay for all the carbon they emit, as assumed by the forecasts. Unless measures are taken to ensure the full cost is paid, demand could be up to 6% higher than forecast.
- 1.11 We consider that the DfT 'high' and 'low' estimates give a misleading view of the robustness and accuracy of the forecasts. This is partly because some of the individual sensitivity tests are too modest. It is also because individual sensitivity tests are combined such that they offset each other within the high and low forecasts. A particular case is where a higher oil price is more than offset by a slightly lower rate of economic growth, which pulls the high and low forecast in closer to the main 'central' forecast.
- 1.12 The forecasts take account of the Government decision not to support extra runways at Heathrow, Gatwick and Stansted. They also assume no extra runways anywhere else in the UK, which is not Government policy.
- 1.13 Despite assuming no new runways, the constrained forecasts up to 2030 are only slightly less than the 'unconstrained' forecast up to 2030. Capacity constraints thus have very little effect on overall (UK) demand. For all practical purposes, therefore, a 'predict and provide' approach for aviation at national level is implied up to 2030. This is not necessarily the case at regional or local level.
- 1.14 Because there is little 'choking off' of demand and because very little of even the demand that was choked off would be business, it is hard to see that there would be any appreciable economic impact on the UK prior to 2030 if no new runways were constructed.
- 1.15 Although the forecasts up to 2030 have been greatly reduced from previous ones, we consider that they are still too high. DfT's forecasts use very optimistic assumptions about economic growth and oil prices and assume that aviation continues to benefit from massive tax exemptions.

#### *Forecasts from 2030 to 2050*

- 1.16 From 2030 to 2050 the constrained forecast growth slows down suddenly in what we consider an unjustified manner. It is assumed that no new runways will be provided anywhere in the UK up to 2050. This assumption has little impact on constrained demand up to 2030, but by 2050 the suppression of traffic is considerable. We show that if the level of constraint exerted in 2030 applies in 2050, the 2050 constrained forecast would be 7.5% higher.
- 1.17 Climate policy uses a 2050 reference point. Under-forecasting of demand at 2050 is likely to lead to under-forecasting of aviation's CO<sub>2</sub> emissions and other greenhouse gas emissions, thereby mis-informing Government policy on climate change.