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<th>FLYING IN THE FACE OF EIA: The Challenges of Undertaking EIA on Airport Development</th>
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| Under the EIA Regulations\(^1, 2\), most airport development projects will require EIA given the size and nature of the works. Airport development commonly gives rise to a range of potentially significant environmental impacts prior to mitigation, including, inter alia: noise disturbance to local residents and wildlife; emissions of pollutants; increases in energy and fuel demand; increases in surface access traffic; landscape and visual effects; and enhanced risks of water pollution, flooding, contamination and ecological effects. Equally, most airports are major contributors to local and regional employment and economies and their planned growth can give rise to significant socio-economic benefits, while aircraft manufacturers and the main airport operators have made considerable investment in innovative measures to help mitigate adverse environmental effects.

The way in which both environmental factors and public perceptions of those factors can influence airport development has become key in recent times. This, conceivably, could constrain growth at many airports (especially in the UK) at a time when there is an acknowledged need for new capacity to provide greater connectivity of routes and to compete in the global marketplace.

The impact of an airport’s construction and mode of operation upon the local environment and local communities can dictate the capacity of an airport and the potential for its future growth through, for instance, restrictions on night flights or having to operate within fixed noise quotas. The EIA process therefore has the potential to play a crucial role in defining the environmental limits of an airport, and in helping decision makers to find commercially viable ways of working within those limits. There are, however, challenges to carrying out EIA on airport developments that may hinder its effectiveness, particularly in the absence of a bespoke set of nationally agreed guidelines for airport EIA.

Perhaps the greatest of these challenges relates to the timescales associated with an airport development that must be covered by the EIA. Due to the large and complex scale of airport projects, the time period from conception through detailed design and construction to full operation is often in the order of a number of decades. This introduces a series of challenges in assessing the likely significant environmental effects of such a development:

**Establishing the correct temporal scope:**

The EIA Regulations require the assessment of a range of potential environmental conditions or issues, the significance of which need to be predicted and compared against the existing and future environmental conditions. For an airport development project spanning between 10 - 20 years, the temporal scope of the EIA should also include ‘interim’ assessment years, for instance covering the peak in construction, transitional years of partial operation, and the ‘worst case’ year in terms of noise and air pollution (e.g. before older noisier aircraft are phased out). The assessment should also consider the ‘design year’ representing the end of the project construction and, finally, the year of full optimisation of the airport infrastructure - potentially as far into the future as 2040 or 2050. Clearly, such an extensive and complex temporal scope results in a plethora of different impact assessments being carried out for each environmental topic, with varying assumptions and limitations having to be applied. Key assumptions and assessment years should be agreed at the scoping stage.

**Uncertainties in forecasting and difficulties in predicting future impacts:**

The ability to accurately predict and quantify the impacts of an airport’s operation on the receiving environment is likely to become harder as assessment years go further into the future.

\(^1\) HM Government, (2011); The Town and Country Planning (Environmental Impact Assessment) 2011. TSO.

\(^2\) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009
The nature of airport operations means that key areas of environmental assessment have to take into account forecasts of annual aircraft movements, passenger numbers and aircraft fleet mixes. Clearly, the passenger forecasts upon which any airport ES is predicated will be a 'snapshot', based on the most up-to-date assumptions at that time. It is therefore sometimes necessary to run a series of ‘sensitivity tests’ to fully determine the magnitude of potential impacts under different forecast scenarios.

**Accounting for improvements in aerospace technology:**

The UK industry representative body, Sustainable Aviation, have recently produced two reports – the Noise Roadmap and the CO2 Roadmap, which together advocate the potential for advances in aircraft technology to bring about significant reductions in both perceived noise and CO2 emissions. Elsewhere, an EU working group has suggested that technological advances in airframe and engine design could lead to a reduction in aircraft noise by up to 65% by 2050. Whilst these predictions may well turn out to be correct, there is inherent difficulty in incorporating such projections into EIA, as this should be based on robust and validated data that is available at the point of the assessment. Conversely, without factoring-in some future projections, the assessment may derive overly-pessimistic impacts which could unduly constrain planning permission or result in refusal.

With the Airports Commission due to report its final recommendations in the summer of 2015, public scrutiny and occasional fervent opposition to airport expansion is likely to continue unabated. This will first focus on the assumptions behind the emerging National Policy Statement (NPS) for Aviation (likely to be adopted in 2016) and then on specific Development Consent Order (DCO) applications for new runways at whichever airport(s) the Commission and incoming Government choose to endorse.

Both the Strategic Environmental Assessment (SEA)/Sustainability Appraisal process applied to the NPS and then the project-specific EIAs to support the chosen airport development(s) will need to be robust and thoroughly objective in order to avoid successful legal challenge.

Whilst authors of airport EIAs must take care to acknowledge the limitations inherent in reporting on future impacts that involve changing and unpredictable variables, one might question whether future assessments should also consider the incorporation of measures to monitor the significant environmental effects identified during the lifetime of the project. This might in turn introduce a greater degree of flexibility at the planning application/ DCO stage, as conditions could be attached for the operators to continue to assess the effectiveness of mitigation and identify any unforeseeable effects that may need to be considered further down the line. Such provisions have been suggested by the amended EIA Directive. However, the amended Directive is not anticipated to come into effect in the UK for at least another 3 to 4 years. In the meantime, the challenges of undertaking EIAs for airport developments will remain and the multitude of assessment variables will continue to need tackling through EIA process.

3For example, in January 2013, the Department of Transport (DfT) released its latest air passenger transport projections, which contained a lower growth rate assumption for UK aviation as a whole than had been predicted previously.

4European Union, (2011); Flightpath 2050: Europe’s Vision for Aviation.

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RPS has over 40 years experience working with clients in the aviation sector. The environmental teams in London and Oxford have worked on a number of flagship airport developments, including EIA projects at Heathrow, Stansted, Gatwick, London City, Bristol and Farnborough Airports.*