

Average levels of NO2 across London in 2010 displays Heathrow airport as a hot spot next to central London. Image Credit: Cleaner Air for London

**Air pollution**

[aef.org.uk](http://www.aef.org.uk/issues/air-pollution/) |

Air pollution at airports arises from a combination of aircraft and road traffic emissions (both passenger vehicles and vans and lorries collecting air freight). Heathrow is the only UK airport located in an area known to have air pollution levels that are consistently above legal air quality limits, though pollution can be harmful at lower levels. The last national analysis of UK airports was prepared for the 2003 Air Transport White Paper.

AEF helped to highlight the risk that would be associated with building a third Heathrow runway at a time when the area was in breach of NO2 standards even with existing traffic levels – an expansion plan that was delayed while the airport and Government tried to develop a plan to improve air quality, and eventually scrapped by the incoming Government on environmental grounds. We have also campaigned internationally for tougher manufacturing standards for new aircraft, and in 2010 the UN body ICAO agreed to increase the stringency of the NOx aircraft engine standard by 15%.

We continue to raise air pollution as an issue in relation to new runways and have called on the CAA to include information about air quality around airports in its environmental information portal.

**Air Pollution Facts**

* Air pollution represents a major public health challenge and has been linked to cancer, asthma, stroke and heart disease, diabetes, obesity, and dementia.
* Each year, around [29,000 deaths](http://www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/212/21205.htm) in the UK are attributable to pollution from particulate matter. NO2 meanwhile has an effect on mortality equivalent to [23,500 deaths](https://consult.defra.gov.uk/airquality/draft-aq-plans/supporting_documents/Draft%20plans%20to%20improve%20air%20quality%20in%20the%20UK%20%20Overview%20document%20September%202015%20final%20version%20folder.pdf) annually in the UK. There is some overlap between the impact of these two pollutants, but it has been estimated that their combined effect could be responsible for [40,000](file:///\\Users\Cait\Downloads\Air_pollution_20pp_summary_WEB%20(3).pdf) deaths per year in the UK.
* After central London, the area around Heathrow is the second major hot spot for nitrogen dioxide (NO2) pollution in London, with breaches of legal limits having been recorded close to the airport for many years.
* Estimates for the cost to the UK economy of deaths attributable to poor air quality vary. A report from the Royal College of Physicians and the Royal College of Paediatrics and Child Health estimated an annual cost exceeding [£20 billion](https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution), while a study from the World Health Organisation put the figure as high as [£54 billion](http://www.airqualitynews.com/2015/04/28/air-pollution-costs-uk-economy-54-billion-a-year/) a year for the UK.
* All EU states have committed to air quality standards aimed at protecting public health. The UK has consistently failed to achieve the standards for NO2 and PM10, and in 2014 the European Commission [launched legal action](http://www.bbc.co.uk/news/science-environment-26257703) in relation to these breaches. The legal organisation Client Earth is currently [pursuing the Government](http://www.clientearth.org/judge-decides-uk-government-will-face-legal-action-air-quality/) through the UK courts for failing to effectively address NO2.
* When arguing for a third runway at Heathrow, Gordon Brown’s government [claimed](http://www.aef.org.uk/2006/03/13/emissions-impossible-march-2006/) that air pollution in the area would in fact improve in future as a result of both more efficient aircraft engines and new standards for road vehicles. But in 2008 a BBC Panorama programme [revealed](http://www.aef.org.uk/2008/07/22/bbc-panorama-programme-on-heathrow/) that this forecast relied on aircraft technology that was not even on the drawing board. A 2012 [paper](http://www.sciencedirect.com/science/article/pii/S136481521200237X) by Drs Carslaw and Beevers of Kings College London subsequently found, ‘strong evidence that there has been no change in aircraft NOx emissions at Heathrow Airport over the past 11 years.’
* Improvements predicted for road vehicles, when reviewed several years after the original modelling, were also found not to be taking place as quickly as the model had assumed.
* A [2015 study](http://www.aef.org.uk/2015/08/11/pollution-from-aviation-emissions-has-significant-health-impacts/) by the Massachusetts Institute of Technology revealed that ozone and particulate (PM2.5) pollution from aircraft contributed to 16,000 premature deaths a year worldwide, costing an estimated $21 billion a year.

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