

## **Written evidence submitted by the No Third Runway Coalition (AAS0030)**

### **1. Executive Summary**

**1.1** Heathrow is the largest single polluter in the UK and its emissions account for half of all UK aviation emissions. Its expansion proposals allow for 260,000 additional flights per year, on top of the existing 480,000. This would add 7 megatonnes of carbon per year to our atmosphere and severely impact the UK's ability to meet its net zero targets.

**1.2** Development of new technologies and sustainable aviation fuels could help secure lower emissions in the aviation sector. However, hydrogen and electric aircraft will not enter even the short haul market for considerable time; not soon enough to meet our binding net zero targets.

**1.3** We believe that however credible various initiatives to reduce aviation emissions, including the Jet Zero and Transport Decarbonisation Plans, any actions are fatally undermined until plans to expand Heathrow are firmly ruled out.

### **2. Introduction**

**2.1** The No 3<sup>rd</sup> Runway Coalition is the largest organisation campaigning against the expansion of Heathrow. Our membership includes local communities, parliamentarians, local authorities, trade unions and environmental NGOs.

**2.2** Our members believe the expansion of Heathrow is incompatible with the UK's net zero targets especially as Heathrow's own data show the massive increase in CO<sub>2</sub> emissions resulting from a third runway.

**2.3** Heathrow is the single largest polluter in the UK, and its annual emissions account for over half of all UK aviation emissions. It currently emits around 20MtCO<sub>2</sub> of carbon annually. A 3<sup>rd</sup> runway would increase this by approximately 7MtCO<sub>2</sub> to 27MtCO<sub>2</sub>.

- 2.4** Annual emissions from surface access transport at Heathrow are just under 1MtCO<sub>2</sub> per annum currently. This might reduce to 0.91 Mt CO<sub>2</sub> in 2050 if there were just two runways - and increase to 1.25MtCO<sub>2</sub> with the third runway – a difference of approximately 0.34MtCO<sub>2</sub> per year.<sup>1</sup>
- 2.5** Further, construction of the 3<sup>rd</sup> runway and associated works is expected to result in an additional 3.7MtCO<sub>2</sub> of emissions up to 2050.<sup>2</sup>
- 2.6** Neither Heathrow or the Department for Transport comprehensively consider the non-CO<sub>2</sub> impacts from Heathrow's expansion proposals which have a significant impact on the climate.<sup>3</sup>
- 2.7** A 3<sup>rd</sup> runway at Heathrow would require operational restrictions at other UK airports if the U.K. is to stay within the carbon budget as advised by the Climate Change Committee (CCC).
- 2.8** The Government should initiate a review of the Airports National Policy Statement to align its legislative commitments to Net Zero as per the amended Climate Change Act 2008.

### **3. Regional Connectivity**

- 3.1** According to the DfT Aviation Forecasts (2017)<sup>4</sup> and the Transport Select Committee inquiry into the Airports National Policy Statement (2018)<sup>5</sup> expansion at Heathrow would see 170,000 fewer flights per year from regional airports than if expansion did not take place.
- 3.2** A report by the New Economics Foundation (NEF) (2020) shows that by 2050 expansion at Heathrow would result in 27,000 jobs being displaced from the regions to London and the South East.<sup>6</sup>
- 3.3** The NEF analysis of Department for Transport modelling suggests that total of £43bn in net present value up the 2084/85 (the project appraisal lifespan) could move from the regions to London and the South East. In both aspects, the West Midlands and the North West are the worst affected areas in the UK.

**3.4** Compared to a scenario without Heathrow expansion, the construction of a third runway would result in 17 million fewer passengers departing from non-London airports. Many of these passengers would be simply priced out of flying at all.

**3.5** Expansion at Heathrow would also transfer £3.3bn worth of carbon emissions out of other regions and nations of the UK and into London and the South East between 2030 and 2050.

**3.6** Thus, any expansion at Heathrow would undermine regional economic opportunity and the government's levelling-up agenda. Government should seek to focus any growth in aviation (not airport expansion) in the regions, within existing planning constraints and only if proven to be compatible with net zero climate targets.

#### **4. Hub vs Point to Point**

**4.1** The decline in the use of super jumbos (even pre-pandemic) combined with the rise of direct point to point flights shows that the era of the hub model is coming to an end.

**4.2** A study by the Institute for Economics and Peace<sup>7</sup> showed that larger cities with hub airports (London, Paris, Milan etc...) were a major factor in the spread of the coronavirus as a result of the greater interaction and interchange of people.

**4.3** The CBI's 2016 *Unlocking Regional Growth* report, recognised the need to better link regions to international markets to increase and encourage export capabilities.<sup>8</sup> It made clear that businesses want to fly directly to centres of trade and commerce without the need to transfer through a hub, before reaching their destination.

**4.4** The point-to-point model also decreases airport dependency because every route is actively important. Conversely, hub-and-spoke airlines are dependent on a limited number of hub airports which reduces the number of new routes that can enter each hub airport, limiting the entrance of new airlines or the addition of new routes.

**4.5** Reducing the dependence of airlines on a hub airport helps minimise the risk an airline faces if a route fails. Thus, point-to-point airports offer greater flexibility to the system that is more easily able to respond to changes to society and shocks to the economy.

**4.6** A dispersed system of point-to-point airports is more likely to effectively compete with each other thus distributing costs and benefits of aviation more equitably across the country.

**4.7** A dispersed network may offer greater scope and flexibility to respond to future changes in passenger demand. For example, if very high levels of passenger growth are experienced, there may be limits to the ability of a single hub airport to accommodate this efficiently, leading to delays and congestion and a diminished passenger experience. In contrast, with a dispersed network, the effects of such growth might be spread across a number of locations.

## **5. Sustainability**

**5.1** The industry's own assessment suggests that even if a technological breakthrough does become commercially available before 2050, new technological developments in the aviation sector usually take up to a couple of decades before reaching maturity (IATA, 2013).<sup>9</sup>

**5.2** A report by the International Civil Aviation Organisation (ICAO) in 2019 assumed long-term overall efficiency gains, even under the most optimistic scenario, of 1.37% per annum. This includes improvements associated with both technology and operations.<sup>10</sup>

**5.3** Pidcock and Yeo (2016), show that carbon emissions from international aviation will still represent 12% of the 205Gt remaining global CO<sub>2</sub> budget in 2050, even if technological and operational efficiencies are maximised and the total demand for conventional jet fuel is met with alternatives. This may rise to 20% should alternative jet fuels not become available in sufficient quantities.<sup>11</sup>

**5.4** Offsetting is not a credible policy mechanism as it does not stop aircraft from emitting greenhouse gasses into the atmosphere. The CCC has advised the Government not to use CORSIA as a way to meet

its 2050 net zero target. CORSIA does not include an actual emissions reduction target.

**5.5** Airports like Heathrow seek to sidestep their carbon issue by claiming that an international 'offsetting' scheme (CORSIA) will resolve the problem. This is highly misleading because:

- There is no assurance that CORSIA will be implemented at all.
- Most offset schemes do not achieve genuine net reductions.
- As emissions worldwide are reduced in accordance with the Paris agreement, there will be a rapidly shrinking source of emissions available to be offset against aviation.

**5.6** On 24 June 2021, the CCC published its Progress Report to Parliament.<sup>12</sup> This said that the government needs to use demand management measures to limit passenger growth to 25%, which is within the existing capacity of UK airports, so no expansions should be permitted.

**5.7** As Heathrow Airport told the Committee in September 2021, they will refocus on its third runway proposals once the main part of the pandemic is over. Despite pushing the Government to mandate 10% SAF by 2030 and 50% by 2050, it is not clear how Heathrow would be held to account were expansion granted final planning approval, but the airport did not meet these commitments.

## **6. Industry Progress**

**6.1** In 2010 the aviation industry pledged to source 10% of fuels from sustainable sources in 2020. Yet by 2018, the industry had managed to source a grand total of 0.002%. Sustainable Aviation Fuel (SAF) production today is still less than 1 percent of overall jet fuel supply despite being pitched by the industry as the panacea for decarbonisation.

**6.2** The current global targets for approximately 50% alternative jet fuel use in 2050 would require three new bio-jet fuel refineries to be built every month for the next 30 years. Today there are just two facilities – the market is not delivering at the pace required.

- 6.3** It is not clear how much investment industry or Government is willing to commit to enable alternative aviation fuels generation to be scaled up and sold at a price that is competitive with kerosene.
- 6.4** The International Energy Association's Sustainable Development Scenario (SDS), anticipates biofuels reaching around 10% of aviation fuel demand by 2030, and close to 20% by 2040.<sup>13</sup>
- 6.5** Analysis by Fellow Travellers<sup>14</sup> reveals that electric aircraft in development in 2021 have the technical potential to cut 13% of UK aviation's greenhouse gas emissions. Delivering this level of emissions reduction before 2050 would require regulation and major market intervention to accelerate product development and fleet turnover cycles of around 25 years.
- 6.6** There are no electric aircraft currently in development which could compete with the majority of the current global civil aviation fleet on range or capacity. Even in the aviation industry, the consensus is that we're unlikely to see electric flights at 1,500km or longer,<sup>15</sup> yet these journeys make up 80 percent of aviation emissions.<sup>16</sup> This undermines the case for expansion at Heathrow, where the overwhelming majority of the additional 260,000 flights per year will use kerosene.
- 6.7** In June 2021, Airbus told the EU that most airlines will rely on traditional jet engines until at least 2050. They asserted that hydrogen development will primarily be focused on regional and shorter-range aircraft.<sup>17</sup> Thus, these aircraft will be unsuitable for the long-haul traffic that Heathrow relies upon and reveals how their expansion would undermine industry efforts at decarbonisation.

## **October 2021**

### **Endnotes**

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<sup>1</sup> Heathrow Expansion: Preliminary Environmental Impact Report, Volume 3, Chapter 9: Carbon and greenhouse gases. Appendices. Table 9.4.4 and Graphic 9.2.4 (Appendix, 9.4-10 to 9.4-11)

<sup>2</sup> Ibid., Table 9.2.4 (Appendix, 9.12-12)

<sup>3</sup> Ibid., Appendix 9.3.2

<sup>4</sup> <https://www.gov.uk/government/publications/uk-aviation-forecasts-2017>

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- <sup>5</sup> <https://publications.parliament.uk/pa/cm201719/cmselect/cmtrans/548/548.pdf>
- <sup>6</sup> New Economics Foundation (2020) *Baggage Claim: The regional impact of Heathrow's third runway*. [https://neweconomics.org/uploads/files/NEF\\_Baggage\\_Claim1.pdf](https://neweconomics.org/uploads/files/NEF_Baggage_Claim1.pdf) p.3
- <sup>7</sup> <https://www.standard.co.uk/news/transport/coronavirus-cases-highly-correlated-with-the-extent-of-air-travel-study-shows-a4464486.html>
- <sup>8</sup> <http://www.cbi.org.uk/insight-and-analysis/unlocking-regional-growth/>
- <sup>9</sup> IATA, 2013. Technology Roadmap, fourth ed. Retrieved from: <https://www.iata.org/whatwedo/environment/Documents/technology-roadmap-2013.pdf>
- <sup>10</sup> ICAO (2019) Environmental Trends in Aviation to 2050. [https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2019/ENVReport2019\\_pg17-23.pdf](https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2019/ENVReport2019_pg17-23.pdf)
- <sup>11</sup> Pidcock & Yeo (2016). *Analysis: aviation could consume a quarter of 1.5C carbon budget by 2050*. Retrieved from: <https://www.carbonbrief.org/aviation-consume-quarter-carbon-budget>
- <sup>12</sup> <https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/>
- <sup>13</sup> <https://www.iea.org/commentaries/are-aviation-biofuels-ready-for-take-off>
- <sup>14</sup> Fellow Travellers (2018) *Electric Dreams: the carbon mitigation potential of electric aviation in the UK air travel market*. <https://s3-eu-west-1.amazonaws.com/media.afreeride.org/documents/Electric+Dreams.pdf>
- <sup>15</sup> "Electric planes: the revolution has some snags" Financial Times, June 17 2019, <https://www.ft.com/content/a9dc81d2-725e-11e9-bf5c-6eeb837566c5>
- <sup>16</sup> Air Transport Action Group (2020) "*Balancing growth in connectivity with a comprehensive global air transport response to the climate emergency.*" p.12 [https://aviationbenefits.org/media/167187/w2050\\_full.pdf](https://aviationbenefits.org/media/167187/w2050_full.pdf)
- <sup>17</sup> <https://www.reuters.com/business/aerospace-defense/airbus-tells-eu-hydrogen-wont-be-widely-used-planes-before-2050-2021-06-10/>