

## Technical note:

# Net Zero Strategy: Build Back Greener – Note on Behalf of Bristol Airport Limited

---

## 1. Introduction

- 1.1.1 On 19<sup>th</sup> October 2021, the UK Government published its *Net Zero Strategy: Build Back Greener*<sup>1</sup>. This strategy sets out the Government's long-term plan to reach carbon net zero by 2050 and the vision for a decarbonised economy.
- 1.1.2 Concurrently with the Net Zero Strategy, the Government has also published or referenced several related documents:
1. Greenhouse gas removal methods: technology assessment report<sup>2</sup>;
  2. Net Zero Review Final Report<sup>3</sup>;
  3. Net Zero Research and Innovation Framework<sup>4</sup>;
  4. Investable commercial frameworks for 'power-BECCS'<sup>5</sup>;
  5. Monitoring, reporting and verification of greenhouse gas removals (GGRs): Task and Finish Group report<sup>6</sup>.
- 1.1.3 This Note has been prepared on behalf of Bristol Airport Limited (BAL) further to the Planning Inspectors' request for comments on the Net Zero Strategy from the parties to the Bristol Airport planning appeal. It provides an overview of the Net Zero Strategy and outlines the implications for

---

<sup>1</sup> Net Zero Strategy: Build Back Greener, presented to Parliament pursuant to Section 14 of the Climate Change Act 2008, October 2021, available at <https://www.gov.uk/government/publications/net-zero-strategy> accessed 2 November 2021

<sup>2</sup> Greenhouse gas removal methods and their potential UK deployment, A report published for the Department for Business, Energy and Industrial Strategy by Element Energy and the UK Centre for Ecology and Hydrology, October 2021, available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1026988/ggr-methods-potential-deployment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026988/ggr-methods-potential-deployment.pdf) accessed 2 November 2021

<sup>3</sup> Net Zero Review: Analysis exploring the key issues, HM Treasury, October 2021 available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1026725/NZR\\_-\\_Final\\_Report\\_-\\_Published\\_version.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026725/NZR_-_Final_Report_-_Published_version.pdf) accessed 2 November 2021

<sup>4</sup> UK Net Zero Research and Innovation Framework, Office for Science and Technology Strategy, October 2021 available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1026614/Net\\_Zero\\_R\\_D\\_Plan\\_-\\_v16.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026614/Net_Zero_R_D_Plan_-_v16.pdf) accessed 2 November 2021

<sup>5</sup> Investable commercial frameworks for Power BECCS, prepared by Element Energy and Vivid Economics, June 2021 available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1026637/investable-commercial-framework-power-beccs.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026637/investable-commercial-framework-power-beccs.pdf) accessed 2 November 2021

<sup>6</sup> Monitoring, Reporting and Verification of Greenhouse Gas Removals: Task and Finish Group Report, Department for Business, Energy and Industrial Strategy, 2021 available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1026994/mrv-ggrs-task-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026994/mrv-ggrs-task-report.pdf) accessed 2 November 2021

the determination of the planning appeal. This Note is focussed on the Net Zero Strategy only, referring to the documents listed above if relevant.

*Note: References to page and paragraph numbers in the body of this Note refer to the Net Zero Strategy document itself. Footnotes are used to refer to other documents.*

## 2. Net Zero Strategy

### 2.1 Strategy Structure

- 2.1.1 The Net Zero Strategy is structured with four chapters. The first chapter asks the question “*why net zero?*” The second chapter describes the journey to net zero with chapters three and four detailing how carbon reductions may be achieved across different sectors of the economy including transport and the Government support that will be provided to drive the transition.
- 2.1.2 This section of the Note considers each chapter of the Strategy in-turn and the implications for the Bristol Airport planning appeal.

### 2.2 Why Net Zero?

- 2.2.1 The Net Zero Strategy identifies the urgency of climate change and the need to reduce emissions if the worst impacts of climate change are to be avoided (p38). The Net Zero Strategy responds to this with a vision to level up the country with new green jobs, end the UK’s contribution to climate change, and reverse the decline of the natural environment (p39).
- 2.2.2 This is not a new vision and the Net Zero Strategy provides evidence of this, in the form of emissions reductions achieved since 1990 (p41) and the Prime Minister’s Ten Point plan, for example. There are 44 references to the Prime Minister’s Ten Point Plan in the Net Zero Strategy, including the forewords from the Prime Minister (p8) and Secretary of State for Business, Energy & Industrial Strategy (p10).
- 2.2.3 The Net Zero Strategy vision is consistent with Part 1 of *Decarbonising Transport*<sup>7</sup>, which presents the UK Government’s “*path to net zero transport in the UK, the wider benefits it can deliver, and sets out the principles that underpin our approach to delivering it*”.

---

<sup>7</sup> CD9.134

- 2.2.4 The Net Zero Strategy (pp50-51) refers to the carbon budgets, as required under the Climate Change Act 2008<sup>8</sup>, and also refers to the Nationally Determined Contributions (NDCs), as required under the Paris Agreement<sup>9</sup>, in providing interim targets to be achieved on the path to carbon net zero in 2050. These are as described in the Proof of Evidence of Dr Ösund-Ireland<sup>10</sup> with the addition that the Net Zero Strategy itself will be submitted to the United Nations Framework Convention on Climate Change as the UK's second Long-Term Low Greenhouse Gas Emission Development Strategy under the Paris Agreement (p307, para 10).
- 2.2.5 The Net Zero Strategy provides examples of clean growth investment across the UK (p46), including £84.6 million invested by Government and industry in three ambitious aerospace research and development projects based in Bedford, Bristol and Cranfield to help the industry build back greener. The Government's ambition to capitalise on this type of investment is clear (p55, para 35):
- "In delivering net zero, the UK also has the opportunity to be at the forefront of large, expanding global markets and capitalise on export opportunities in low carbon technologies and services. This includes renewables, CCUS, hydrogen, smart energy systems and storage, Greenhouse Gas Removals (GGRs), Advanced Modular Reactors (AMRs), and transport. By leading the world in the transition to a net zero future, the UK will be well placed to benefit economically by leading in the export of sustainable technologies and solutions."*
- 2.2.6 The Net Zero Strategy does not fundamentally alter the UK Government's policy on climate change; its policy approach continues in the same direction, with the UK committing to progressively tighter emission targets including emissions from aviation, but with increasing emphasis on the economic opportunities that decarbonisation has to offer. In this context, and with specific regard to aviation, the Net Zero Strategy does not indicate in any way that the UK Government has, or is minded to, introduce measures to restrict passenger demand or airport capacity in order to achieve net zero or the carbon budgets. This is entirely consistent with the Proof of Evidence of Dr Ösund-Ireland<sup>11</sup>.

## 2.3 Journey to Net Zero

- 2.3.1 The Net Zero Strategy highlights that there is no single pathway to carbon net zero - the exact route will depend on the availability and deployment of key technologies, supported by long-term market growth, as well as the extent to which individuals and businesses adopt green choices (p68, para 9). The exact technology and energy mix in 2050 cannot be known now, and the path to net zero will respond to the innovation and adoption of new technologies over time (p68, para 13).

---

<sup>8</sup> CD9.001

<sup>9</sup> CD9.026

<sup>10</sup> BAL/W6/2 pp24-27, Section 3.3 and p23, paragraph 3.2.1 subsection bb

<sup>11</sup> BAL/W6/2 p9, paragraph 2.2.1 point 1

Also highlighted is the cost of decarbonisation being significantly less than the cost of inaction, in addition to delivering improved air quality and biodiversity (p68, paras 11-12).

- 2.3.2 Three illustrative 2050 scenarios to carbon net zero are presented in the Net Zero Strategy, all based on a mix of technology and energy (pp70-73):
- a. **2050 Scenario 1: High electrification** - explores the impact of widespread electrification to support transport, heating, and industry decarbonisation, relative to other scenarios, with deep decarbonisation of electricity supply.
  - b. **2050 Scenario 2: High resource** - explores the impact of using low carbon hydrogen more extensively, particularly for decarbonising buildings, power, and heavy vehicles. It also assumes higher levels of tree-planting are achievable, increasing the 'negative emissions' available from land-use sinks.
  - c. **2050 Scenario 3: High innovation** - explores a world in which successful innovations enable lower residual emissions to be reached in aviation, while higher capture rates increase the impact of carbon capture technologies, with higher levels of direct air carbon capture and storage (DACCS) deployed over the 2040s.
- 2.3.3 As described in the Technical Annex to the Net Zero Strategy (pp 315 – 317), these scenarios all represent an extension of the impact assessment supporting the Sixth Carbon Budget and hence are not “new” work.
- 2.3.4 The Net Zero Strategy also includes an indicative delivery pathway to 2037, corresponding with the end of the Sixth Carbon Budget. Progress is expected to decarbonise aviation and shipping through efficiency improvements and the uptake of low carbon fuels. These will require international coordination (p79) with a ramp up in the supply and production of sustainable aviation fuels (SAF) from 2025 (pp88-89, Figure 16). The Government’s stated ambition is to enable delivery of 10% SAF by 2030 (p162, para 42).
- 2.3.5 Importantly, the Net Zero Strategy identifies the UK Emissions Trading Scheme (UK ETS) as a “*a crucial way in which we ensure that our pathway is rooted in cost-effective, market-led solutions*” (p84, para 27). The role of the UK ETS in terms of aviation emissions was described in the Proof of Evidence of Dr Ösund-Ireland<sup>12</sup> which demonstrated that the UK ETS provides a mechanism for capping *carbon emissions* from aviation rather than *passenger numbers*. The approach in the Net Zero Strategy is entirely consistent with the case that BAL presented during the inquiry.
- 2.3.6 The Net Zero Strategy confirms that UK Government policy on climate change is not dependant on any one pathway to carbon net zero; it continues to rely on a consideration of a range of pathways,

<sup>12</sup> **BAL/W6/2** pp29-33, paragraphs 3.4.5 – 3.4.13

with increasing emphasis on meeting interim targets *en route* to carbon net zero in 2050. This is exactly the case advanced by BAL during the inquiry. BAL's position remains that the pathway that will ultimately lead to achieving net zero aviation cannot be set out step-by-step at this stage, but different pathways have been considered and are available. Indeed, all pathways to net zero considered by the UK Government in its *Jet Zero Consultation*<sup>13</sup> anticipate accommodating an increase in passenger numbers of between 58 – 60%, including Bristol Airport at 12 million passengers per annum (mppa)<sup>14</sup>.

## 2.4 Reducing Emissions Across the Economy

- 2.4.1 Chapter 3 of the Net Zero Strategy provides a sector-by-sector description of the policies and measures that may be implemented to reduce emissions. The sectors covered are: power; fuel supply and hydrogen; industry; heat and buildings; transport; natural resources, waste and F-gases; and greenhouse gas removal (GGR).
- 2.4.2 In terms of aviation transport, the key commitments are to (p153): *"become a leader in zero-emission flight, kick-starting commercialisation of UK sustainable aviation fuels (SAF), and developing a UK SAF mandate, to enable the delivery of 10% SAF by 2030, and we will be supporting UK industry with a £180m funding to support the development of SAF plants"*.
- 2.4.3 The Net Zero Strategy identifies a number of policies to reduce emissions from aviation, highlighting the acceleration of the commercialisation of UK SAF (see para 2.3.4 above). Note that the uptake in SAF from domestic and international aviation is assumed to be in the range 5 – 30% in 2050 (p318, Table 4) which is greater than the 5 – 18% assumed in the Environmental Statement Addendum<sup>15</sup>.
- 2.4.4 Turning to GGR, the Proof of Evidence of Dr Ösund-Ireland<sup>16</sup> refers to analysis by the Department for Transport supporting the Jet Zero Consultation which suggests that *"there would be sufficient GGR capacity to offset the residual aviation emissions that are estimated in all the scenarios we present"*. The Net Zero Strategy includes a new commitment to deploy at least 5 MtCO<sub>2</sub>/year of engineered removals by 2030 (p184). This is supported by innovation funding, developing markets and incentives, providing robust monitoring, reporting and verification methodologies, amending the Climate Change Act 2008 to include for engineered removals within carbon budgets and incorporating GGRs within the UK ETS (p194, paras 18-21). Based on the current evidence base and

<sup>13</sup> CD9.135

<sup>14</sup> INQ/041 Jet Zero Consultation Dataset updated August 2021

<sup>15</sup> BAL/W6/2 p42, Table 4.1

<sup>16</sup> BAL/W6/4 p12, para 3.2.2

projects in the pipeline, Government analysis indicates that engineered removals would be expected to deploy to around 23 MtCO<sub>2</sub> by 2035, increasing to 75 – 81 MtCO<sub>2</sub>/year by 2050 (pp188–189, paras 10–13). To put these numbers into context, the Committee on Climate Change includes five pathways to decarbonise the aviation sector with residual carbon emissions being in the range 1 to 25 MtCO<sub>2</sub> in 2050<sup>17</sup>.

- 2.4.5 The commitments and policies contained in the Net Zero Strategy are entirely consistent with the Government's *Decarbonising Transport* strategy and the approach set out in the Jet Zero Consultation which, for the aviation sector, is to achieve carbon net zero by 2050<sup>18</sup> through technological innovation, market-based measures and GGR, rather than the imposition of passenger demand or airport capacity constraints. The *Decarbonising Transport* strategy states<sup>19</sup>:

*"Delivering [net zero aviation by 2050] will require ambitious action across a number of key areas: the development of new zero emission aircraft, accelerating the supply and uptake of SAF, modernisation of our airspace and airports, and the development of trusted and verifiable markets to offset residual emissions. Information also needs to be made available to consumers which allows them to choose the most sustainable routes and travel providers when planning and undertaking their journeys".*

- 2.4.6 The *Jet Zero Consultation*, meanwhile, makes clear that the Government believes *"the sector can achieve Jet Zero without the Government needing to intervene directly to limit aviation growth"* <sup>20</sup>. The Government's desire is to *"preserve the ability for people to fly whilst supporting consumers to make sustainable travel choices"*<sup>21</sup>

- 2.4.7 This is mirrored in the Net Zero Strategy, which states (p159):

*"We will address aviation emissions through new technology such as electric and hydrogen aircraft, the commercialisation of sustainable aviation fuels, increasing operational efficiencies, developing and implementing market-based measures and GHG removal methods, while influencing consumers to make more sustainable choices when flying".*

- 2.4.8 This is further reiterated in the Prime Minister's Foreword to the Net Zero Strategy, which makes it clear that the Net Zero Strategy does not mean curtailing air travel (p9):

*"in 2050, we will still be driving cars, flying planes and heating our homes, but our cars will be electric gliding silently around our cities, our planes will be zero emission allowing us to fly guilt-free".*

<sup>17</sup> CD9.034 pp 176-178

<sup>18</sup> BAL/W6/4 para 2.3.2, p7

<sup>19</sup> CD9.134 p119

<sup>20</sup> CD9.135 p38 para 3.41

<sup>21</sup> CD9.135 p38.

- 2.4.9 Overall, UK Government policy on climate change in respect of the aviation sector continues to be based upon technologies to decarbonise aviation with GGR removing residual emissions and without the need for passenger demand management. Again, this is entirely consistent with the case put forward by BAL at the inquiry.

## 2.5 Supporting the Transition Across the Economy

- 2.5.1 Chapter 4 of the Net Zero Strategy describes seven areas where Government will support the transition to carbon net zero across the economy:

- a. Innovation for net zero;
- b. Green Investment;
- c. Green Jobs, Skills, and Industries;
- d. Embedding Net Zero in Government;
- e. Local Climate Action;
- f. Empowering the Public and Business to Make Green Choices; and
- g. International Leadership and Collaboration.

- 2.5.2 As highlighted in the *Decarbonising Transport* strategy, BAL is showing leadership in aiming for airport operations to be carbon net zero by 2030 for its Scope 1 and 2 emissions and by 2050 for all emissions<sup>22</sup>. This is clearly stated in, and will be supported by, the draft Carbon and Climate Change Action Plan<sup>23</sup>:

*"By 2030 and with 12 mppa, all our operations and activities will be carbon net zero. This means all of BAL's Scope 1 and 2 emissions will be minimised as far as practicable with any residual emissions being removed".*

- 2.5.3 In terms of green investment, the Net Zero Strategy includes a commitment for the UK to become the first G20 country to make disclosures aligned to the Taskforce for Climate-Related Financial Disclosures (TCFD) mandatory across the UK economy (p216). As stated in the Proof of Evidence of Dr Ösund-Ireland, BAL has started the process of assessing business risks associated with climate change in accordance with TCFD<sup>24</sup>.

---

<sup>22</sup> CD9.134 p121

<sup>23</sup> CD9.048 p8

<sup>24</sup> BAL/W6/2 para 6.2.20, p68

- 2.5.4 Overall, UK Government policy on climate change is ramping up its support for transition, with BAL already demonstrating leadership. Nothing in the Net Zero Strategy alters Dr Ösund-Ireland's conclusion that the goal of both the *Decarbonising Transport* strategy and the emerging *Jet Zero Consultation* strategy is for the UK aviation sector to be net zero by 2050 whilst allowing the sector to grow and for the UK as a whole to realise the potential economic benefits of decarbonisation<sup>25</sup>.

### 3. Conclusion

- 3.1.1 The Net Zero Strategy builds on existing Government policy to reduce carbon emissions and achieve carbon net zero by 2050. The Strategy does not alter the Government's policy direction, including its existing commitment to achieving jet zero (i.e. a carbon net zero aviation sector) and the carbon budgets, but it does place more emphasis on the economic opportunities this transition could bring.
- 3.1.2 Consistent with the *Decarbonising Transport* strategy and the *Jet Zero Consultation*, there is absolutely no indication in the Net Zero Strategy that the Government is minded to introduce policy which restricts airport capacity. On the contrary, the Net Zero Strategy makes clear the Government's position that jet zero can be achieved without constraining passenger growth, though SAF, GGR and the UK ETS. Overall, therefore, the direction of UK policy and legislation with respect to carbon and aviation has not changed.
- 3.1.3 **The Net Zero Strategy is entirely consistent with, and supportive of, BAL's position as set out in its evidence at the inquiry.** BAL's position remains that, in the context of the Government's legal duty to meet its climate change obligations and the existing and available mechanisms for doing so, the quantum of emissions associated with increasing the capacity of Bristol Airport to accommodate 12 mppa are not 'so significant' that they would 'materially impact' on the 'ability' of Government to meet its climate change obligations and are, therefore, 'not significant' in Environmental Impact Assessment terms.

---

<sup>25</sup> BAL/W6/4 para 3.1.8, p11