

## **Economic Regulation of Heathrow Airport Limited: further consultation on regulatory framework and financial issues**

### **Response from Richmond Heathrow Campaign 5 March 2020**

#### **INTRODUCTION**

1. This is a written response of the Richmond Heathrow Campaign (RHC) to the CAA's consultation titled '*Economic Regulation of Heathrow Airport Limited: further consultation on regulatory framework and financial issues CAP 1876, January 2020*'.
2. In the CAA's March 2019 Consultation, the CAA set out a financeability framework to help address financial issues in a coordinated way, with a view to promoting the efficient financing of capacity expansion that can support affordable airport charges. This consultation further develops the framework and sets out the CAA's updated views on:
  - incentives for capital expenditure and risk allocation;
  - allowed returns; and
  - CAA's approach to assessing financeability.
3. RHC represents three amenity groups in the London Borough of Richmond upon Thames: The Richmond Society, The Friends of Richmond Green, and the Kew Society, which together have over 2000 members. The members of our amenity groups are adversely affected by noise from Heathrow Airport's flight paths, poor air quality and road and rail congestion in west London. We acknowledge Heathrow's contribution to the UK economy and seek constructive engagement in pursuit of a better Heathrow. We are an active participant in the Heathrow Community Noise Forum
4. Our premise is that it would be preferable to aim for a better Heathrow rather than bigger Heathrow and to capitalise on the world beating advantage of London's five airports, in particular by improving surface accessibility to all five airports, which would be a major benefit to users. Our approach is to continue supporting the case for no new runways in the UK and we believe this is well supported by the evidence produced by the Airports Commission and the DfT in relation to the Airports National Policy Statement.
5. Over recent years we have undertaken extensive research on Heathrow and submitted a large number of papers to the Airports Commission, the DfT, CAA and others - all of which can be found at [www.richmondheathrowcampaign.org](http://www.richmondheathrowcampaign.org)
6. RHC has responded to nine CAA consultations on economic regulation - CAPs 1510, 1541 in 2017, CAPs 1610 and 1658 in 2018 and CAPs 1722, 1769, 1782, 1812 and 1832, in 2019 and Cap 1871 in 2020. The responses and other material are on the RHC website.
7. On 27 February 2020 the Appeal Court handed down its decision that the Airports National Policy Statement (APNS) approved by parliament in June 2018 is unlawful because it does not adequately take into account the UK's commitment to the Paris Agreement on Climate Change that requires signatories to demonstrate how they will reduce carbon emissions. HAL have said they will appeal the decision and will work with the Government to fix the issue and demonstrate how Heathrow's expansion will satisfy UK policy on climate change. The Government has said they will not appeal the decision.

8. It is too early to assess how HAL's determination to add a 3<sup>rd</sup> runway will develop under the new circumstances. The Court's decision must have reduced the chances of a 3<sup>rd</sup> runway taking off and at least seems likely to delay the DCO application and the first flight from a 3<sup>rd</sup> runway. HAL have advised RHC and others that they expect their application to appeal will defer the DCO application by 18 to 24 months from the previous target of end 2020. The climate change 'ceiling' meanwhile is reducing almost by the day making it harder to justify aviation growth. Abandoning expansion at Heathrow could be a major demonstration at The United Nations Climate Change meeting in Glasgow in November 2020 (COP26) of the UK's commitment to achieving net zero carbon.
9. This new situation increases the risks the project will not proceed and therefore the risk of there being higher Early Category C costs due to the delay and the risk these will be stranded. RHC has responded on this topic in the recent CAA consultation CAP 1871. We concluded that HAL as a private company should bear all the Early Category C costs until such time as a DCO decision for a 3<sup>rd</sup> runway has been made.
10. More broadly, there surely is lost political momentum for a 3<sup>rd</sup> runway at Heathrow and increasing evidence that the expansion is an economic liability to the UK and financially unviable for HAL and its shareholders, not least because of the increasing risk to passenger demand from climate change restrictions.
11. A successful appeal by HAL may put the project back on track but it may take 2 years to determine the outcome of an appeal and revision to the APNS. Even if an appeal were successful, Heathrow will need to demonstrate that its aviation carbon emissions can be sufficiently controlled to enable the UK to meet its net zero carbon obligations by 2050. The Committee on Climate Change has shown how hard this will be (see Annex 1). Our response to the CAA's consultation on Financial resilience Cap 1832 examined the substantial risk to HAL's financial viability from climate change and other risks.
12. Under the circumstances it would seem that the CAA's proposals in the current consultation and views of HAL and the airlines will need to be re-appraised. Rather than spend time on uncertain outcomes, specific scenarios, and detailed regulatory processes we make some comments on the CAA's approach.
13. In view of the recently changed circumstances we attach two Annexes - Annex 1 assesses the impact of abandoning Heathrow's 3<sup>rd</sup> runway expansion and Annex 1b replicates the monetisation of benefit/dis-benefit from Heathrow expansion as represented to parliament for its approval of the APNS. We believe there is increased probability 3<sup>rd</sup> runway expansion will not proceed.

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## **RICHMOND HEATHROW CAMPAIGN RESPONSE TO CAP 1876**

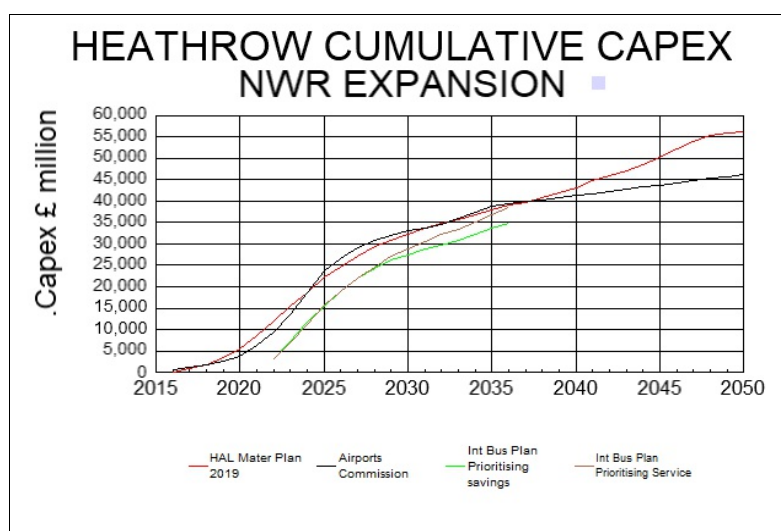
### **Scarcity Rent**

1. The CAA consistently states that additional runway capacity in the south east of England will benefit air passengers and cargo owners. The timely delivery of more aviation capacity is required to prevent future consumers experiencing higher airfares, reduced choice and lower service quality. This is the scarcity rent argument.
2. The DfT's estimates supporting the APNS projected passenger benefits of £67.6bn and airline losses of £55bn (60 year NPV 2014 prices) - the idea being that the airlines can sustain these losses (see Annex 1b). RHC takes an opposite view, as argued in our previous responses to the CAA and as matched by IAG and consultants PWC. We do not believe ticket prices will fall. For a start, the airlines do not have long-term excess profits to absorb a reduction in prices when they have the burden of the highest airport costs in the world and uncertain profits (e.g. as a result of the financial crisis in 2008 and the current coronavirus epidemic). They also have substantial fleet replacement costs if the CAA's targets on cleaner and less noisy aircraft are to bear fruit. Furthermore, consumers will need to bear additional surface access costs and carbon costs. We believe HAL and the CAA are at significant risk in assuming airline ticket prices will reduce with expansion and that demand will therefore increase, resulting in around £2bn of value for every year the project can be accelerated. The £2bn is driven by the £67.6bn of passenger benefits and even were these to exist the airline losses of £55bn (see annex 1b) should be deducted leaving a net £12bn (60 year NPV 2014 prices), which on an annual basis is far less than £2bn of net benefit.
3. The consequence of there being little or no scarcity rent is that there is no value in Heathrow's expansion to be traded-off with the risk of stranded Early Category C costs, as proposed by the CAA. Delay has no cost in these circumstances, other things being equal. We see no reason for HAL not being at risk for all Early Category C costs.
4. We highlight our position on the lack of value in Heathrow's expansion with two Annexes. Annex 1 shows that there is absence of need for a 3<sup>rd</sup> runway and that a 3rd runway harms the aviation market and in turn UK air passengers and the UK economy. The estimates are those prepared by the Airports Commission for its Final report in 2015 and also used in support of the APNS in 2018, wrongly in our view. Annex 1b shows the monetised value of Heathrow's expansion used to support the APNS. The net value ranges between minus 2.2bn and £3.3 bn. But the increased environmental costs and surface access costs since 2018 result in a substantial negative economic value to the UK. For example, RHC estimates a cost of £25bn (NPV 60 years) for road congestion, public transport overcrowding and air pollution due to inadequate investment in surface access to Heathrow.

### **Capital Costs (Capex)**

5. Unfortunately, the only detailed published financial information on capex dates back to the Airports Commission's assessment in 2015, which was used largely unchanged by the DfT in support of the APNS in 2018. HAL's Master Plan consultation in July 2019 contained little financial information. The Interim Business Plan in December 2019 provides little more; capex is detailed for two scenarios in 2018 money terms - one of which prioritises savings and the other prioritises service. The best we can do is to compile a chart of capex as shown in Figure 1. The Airports Commission estimated the scheme capex in 2014 prices as £17.6bn; the

remaining expenditure in the chart is core and replacement expenditure and is in addition to the scheme expenditure.



**Figure 1** Airports Commission and HAL Master Plan (real 2014 prices), Interim Business Plan (real 2018 prices)

6. We understand from Heathrow’s proposed Master Plan that almost all terminal capacity will be built after first flight from the NWR assumed to be in Q4 2026. It is difficult to reconcile this with the Airports Commission’s capex profile that showed almost all the facilities being completed by first flight; as Figure 1 shows, the Commission’s capex phasing is almost identical to that of the proposed Master Plan, until later years. It is also difficult to match these figures with the often quoted figure of £14bn scheme capex to first flight on Q4 2026.
7. The Interim Business Plan capex is detailed between 2022 and 2035. As shown in Figure 1 it appears to be understating the true capex by not including earlier years.
8. The current consultation claims the capex is little changed and this may be so if pre-2022 costs were to be included. If this is the case then the increase in Early Category C costs seemingly is due to phasing rather than a cost increase overall. But as we say above there is some confusion as to what might be the true costs. This capex uncertainty needs to be remedied urgently.
9. We raise the issue of capex and uncertainty of the amount and now the timing because of the delayed DCO because it is the key financial component in the expansion and the finance required. Ultimately it drives the aero charges and hence affordability.

### Chapter 1: Incentives for Capital Efficiency

10. Broadly we support the approach to incentives outlined in consultation paragraphs 1.4 to 1.6. We suggest the scope of the expansion project is an important ingredient as projects of this size and complexity may benefit from changes in scope not only to better achieve outcomes desired by airlines and their customers but to improve efficiencies as the project progresses. HAL should not necessarily be penalised for changes in scope, should there be additional costs and delays.

11. We have significant concerns with the proposed scope of expansion whereby priority is being given to hub transfers (international-to-international (I-I) transfers). As RHC has argued in previous responses to the CAA, the hub model promoted by Heathrow is a myth. I-I transfers are of no value to the UK and they do not support otherwise unviable thin routes. A significant proportion of Heathrow's capex is devoted to transfers (I-I baggage handling etc) which we regard as inefficient use of scarce resources. This topic is addressed in Annex 1.
12. When considering the allocation of risk we suggest it is not unreasonable for the airlines and their customers to be required to absorb some of the risks such as demand risk. Such risk is part of the consumer prices and it would be useful for the CAA to examine, if they have not already done so, the price elasticity of the airlines and their customers. To some extent this comes back to the issues of scarcity rent. It is central to the issue of affordability.
13. When designing capex incentives we suggest it would be important to focus on contingency estimates included in the costings and the controls for releasing contingencies as the project progresses.
14. We support the approach in paragraph 1.17 setting out goals for capital efficiency incentives.
15. An existing incentive is the limit on aero charges decided by parliament when approving the Airports National Policy Statement in 2018. We detect from the consultation some latitude creeping in to the CAA's approach to no real increase in aero charges. Our view is that aero charges should be reducing and certainly not increasing over the longer term. Heathrow needs to contribute to an increase in UK productivity and should not be reducing productivity with higher aero charges.
16. We have raised the question in previous responses as to why the CAA focusses only on Heathrow's customers. As we explain in Annex 1, the expansion of Heathrow cannibalises growth from other UK airports. Surely the CAA should be considering customers in a wider context than just Heathrow when considering efficiencies. The expansion of Heathrow is a highly inefficient allocation of resources and the UK would be better served by sharing growth with regional and other UK airports. Economic regulation of Heathrow is required because of its potential monopoly status. Competition is a good way of producing efficiencies and surely the CAA should be concentrating on creating a level playing field for competition from regional and other UK airports. London has probably the best aviation provision with five airports of any city in the world and far greater than Paris, Frankfurt and other European cities often quoted as competitors. Improving surface access to all five airports would be a better investment than expanding Heathrow.

## **Chapter 2: Allowed Return**

17. Broadly we support the approach the CAA is adopting in developing the concepts for financing expansion and determining the rates of equity return and cost of debt.

## **Chapter 3: Regulatory Framework and Financeability**

18. The overall risk is the sum of the project risk and the financial risk and the latter is very much dependent on the gearing and fixed interest and debt repayment schedules. The corporate cashflow analysis we have undertaken suggests the financial viability is doubtful, especially if headroom is built in to cope with the project and financial risks. It is imperative that the Government is not required to support the expansion. We are pleased to see the CAA recognise the need for a substantial equity base to the project. The expansion risk in our view is

considerable and can only be supported by equity. Lenders will need to be involved but they cannot be expected to take on the expansion risk.

19. We are pleased to see CAA recognise the tax relief that debt finance provides and that a cap or claw back is being planned. The tax payer is exposed not only to the risk of financial distress caused by high gearing but to the tax relief such gearing achieves. We are disappointed the Government has not capped tax relief for airport infrastructure projects whereas it has done so in other sectors.
20. Broadly we agree with the CAA's approach to longer term controls and the issues raised in paragraph 3.65.

Annex 1: Abandonment of Heathrow's 3<sup>rd</sup> Runway and Impact of the Climate Change Committee's Recommended Demand Management Target

Annex 1b: Monetised value of Heathrow expansion

**ABANDONMENT OF HEATHROW'S 3<sup>RD</sup> RUNWAY  
AND  
IMPACT OF THE CLIMATE CHANGE COMMITTEE'S RECOMMENDED  
DEMAND MANAGEMENT TARGET**

Prepared by Richmond Heathrow Campaign (RHC), February 2020

[www.richmondheathrowcampaign.org](http://www.richmondheathrowcampaign.org)

**Summary**

The following DfT and CAA evidence collated by Richmond Heathrow Campaign does not support a 3<sup>rd</sup> runway at Heathrow. There is absence of need for a 3<sup>rd</sup> runway and a 3<sup>rd</sup> runway harms the aviation market and in turn UK air passengers and the UK economy. The summary is supported by the detailed report that follows.

a. Even without a 3<sup>rd</sup> runway, the number of passengers terminating their journey at Heathrow will grow by 55% to 89 mppa by 2050 from increased aircraft loads and reduced international-to-international transfers. **Heathrow is not full.**

b. Future growth in demand by 2050 is capable of being served many times over by UK spare capacity equivalent to 6 runways in 2050. Unused spare runway capacity in 2050 comprises (mppa):

- i. London airports (Stansted 8, Luton 7),
- ii. Larger regional/national airports (Manchester 31, Newcastle 22, Liverpool 24, Bristol 19, Glasgow 18 and Edinburgh 10),
- iii. Other regional/nation airports (95 mppa).

London's five airports already provide London and the southeast with the best aviation service of any major city in the world. **A two-runway Heathrow and other capacity is well able to satisfy UK demand to 2050.**

c. A 3<sup>rd</sup> runway results at the UK level in not a single additional long-haul or domestic business passenger by 2050. The major economic benefit from additional business travel claimed by Heathrow, the Airports Commission and the Government is non-existent. **The beneficiaries of a 3<sup>rd</sup> runway are international-to-international transfer and UK resident leisure passengers. A 3<sup>rd</sup> runway is of no benefit to Business travel.**

d. The 43 million passengers per annum (mppa) served by a 3<sup>rd</sup> runway is comprised of:

- iv. 17 mppa cannibalised growth from other UK airports. Manchester loses 5 mppa, Birmingham 2 mppa and smaller airports lose 10 mppa by 2050.
- v. 16 mppa international-to-international transfers of no economic value to the UK (see g below),
- vi. Just 10 mppa additional mostly short-haul terminating passengers. These represent only 2.3% of UK passengers by 2050 and can be served by other UK airports.

London's five airports already provide London and the southeast with the best aviation service of any major city in the world **A 3<sup>rd</sup> runway harms the regional balance and is used inefficiently.**

e. Heathrow's 3<sup>rd</sup> runway expansion results in not a single additional destination from the UK. Heathrow's increased frequency of flights to already popular destinations is offset by loss of frequency at other UK airports. **UK connectivity is impaired by a 3<sup>rd</sup> runway.**

f. There is a turnover in destinations at Heathrow of around 10 (5%) a year. Opportunities for new beneficial routes are available if needed. **A two-runway Heathrow can serve new destinations.**

g. 37% of Heathrow's additional 3<sup>rd</sup> runway passengers are international-to-international (I-I) transfer passengers but only 300,000 out of 24 million I-I transfers are on less viable or thin routes. I-I transfers do not support otherwise unviable thin routes. They represent 94% of additional passengers on UK long-haul routes, which is highly inefficient use of runway capacity. I-I transfers do provide income for the airlines but the income would be preserved or increased by replacement with terminating passengers, for example as in the two runway case. **Heathrow's hub value is a myth.**

h. The UK Committee on Climate Change estimates the need for a cap of 368 mppa at the UK level by 2050 (cf 267 mppa in 2016), compared to the estimated 435 mppa served assuming a 3<sup>rd</sup> runway. This cap still results in UK aviation's 37.5 MTCO<sub>2e</sub> in 2050 which may be far too high if the UK is to achieve net zero carbon. If the speculative carbon abatement and carbon trading fail to bridge the gap, the necessary demand management will have a substantial negative impact on the regional airports in the case of a 3<sup>rd</sup> runway, as was demonstrated by the Airports Commission. **The carbon risks to the UK and regional airports of a 3<sup>rd</sup> runway are considerable.**

**We conclude there is good reason for abandoning Heathrow's 3<sup>rd</sup> runway expansion and replacing it with the sharing of aviation more evenly across the UK with regional and other UK airports.**

# **ABANDONMENT OF HEATHROW'S 3<sup>RD</sup> RUNWAY AND IMPACT OF THE CLIMATE CHANGE COMMITTEE'S RECOMMENDED DEMAND MANAGEMENT TARGET**

Prepared by Richmond Heathrow Campaign (RHC), February 2020

## **Background**

1. On 27 February 2020 the Appeal Court handed down its decision that the Airports National Policy Statement (APNS) approved by parliament in June 2018 is unlawful because it does not adequately take into account the UK's commitment to the Paris Agreement on Climate Change that requires signatories to demonstrate how they will reduce carbon emissions. HAL have said they will appeal the decision and will work with the Government to fix the issue and demonstrate how Heathrow's expansion will satisfy UK policy on climate change. The Government has said they will not appeal the decision.
2. Heathrow have said to RHC and other community groups that *"the Government will now need to consider undertaking a review of the ANPS which takes the Paris Agreement in to account."* They go on to say *"we do not yet know the precise scope of any review of the ANPS, nor how long it would take, but we expect it would be in the usual form with at least one round of Government consultation on any proposed amendment. We anticipate the whole process would take between 18 and 24 months. Whilst the ANPS is suspended we are unable to submit a DCO application as there is no enabling policy in place."*
3. RHC believes that there is an increased probability the 3<sup>rd</sup> runway expansion will not take place and we set out in this note the carbon implications of expansion but also the impact on UK aviation from abandoning the Heathrow expansion. Our assessment is based almost entirely on evidence prepared by the Airports Commission as their central case, which was also used in preparing the APNS. **We conclude there is good reason for abandoning Heathrow's 3<sup>rd</sup> runway expansion and replacing it with the sharing of aviation more evenly across the UK with regional and other UK airports.** Also, there is a strong case for investing instead in better surface access to UK airports and in particular to London's five airports. London's five airports already provide London and the southeast with the best aviation service of any major city in the world.
4. The report by the Committee on Climate Change *'Net Zero: The UK's contribution to stopping global warming May 2019'* recommended to Government a new omissions target for the UK which is **net zero greenhouse gases by 2050**. The target fully meets the Paris Agreement, 2015 which has been committed to by the UK. The report says this is necessary and achievable, and in doing so it excludes international credits and includes international aviation. The main component of greenhouse gases (GHG) is long-lived CO<sub>2</sub> but the target also includes short-lived gases such as methane. **This target was set in law through a statutory instrument in June 2019.** The new target replaces that set in law in 2008 which targeted a UK reduction of GHG by 80% from 800 MTCO<sub>2</sub>e<sup>1</sup> in 1990 to 160 MTCO<sub>2</sub>e in 2050. There have been successes, particularly in power generation, with the UK's total GHG

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<sup>1</sup> MTCO<sub>2</sub>e is metric tonnes of carbon dioxide including equivalent tonnage for other greenhouse gases.



emissions, including aviation and shipping, reduced to 503 MTCO<sub>2</sub>e by 2017.

5. The CCC says current pledges around the world would lead to warming of around 3°C by the end of the century. This is well short of the Paris Agreement's long-term goal to limit the rise to well below 2°C and to pursue efforts to achieve 1.5°C.
6. A UK net-zero target requires deep reductions in GHG emissions, with any remaining sources offset by removals of CO<sub>2</sub> from the atmosphere (e.g. by afforestation). Net emissions, after accounting for removals, must be reduced by 100%, to zero.
7. The current CCC estimates are in the form of three options - Core, Further Ambition and Speculative. The CCC's Core estimates see GHG emissions reducing to around 210 MTCO<sub>2</sub> in 2050 or 195 MTCO<sub>2</sub>e net. The Further Ambition scenario sees GHG emissions of around 90 MTCO<sub>2</sub>e or net 35 MTCO<sub>2</sub>e by 2050. The CCC believes that with speculative policies and efficiency improvements it should be possible for the UK to reach net-zero by 2050.
8. So far the Government has sought to argue that aviation will be able to rely on international solutions such as ICAO's CORSIA offsetting scheme. RHC's has grave doubts this will enable Heathrow to become net-zero carbon emitter.
9. On 24 September 2019 the Climate Change Committee (CCC) advised government of the need to manage UK aviation passenger demand in order for the UK to meet the target of net zero greenhouse gases by 2050. Richmond Heathrow Campaign (RHC) understands the CCC's advice will be considered in preparation of the white paper on Aviation Strategy expected in 2020. Based on the analysis in this report, we expect the outcome will require a Review of parliament's support for Heathrow's 3<sup>rd</sup> runway expansion.
10. RHC believes Heathrow's expansion should be reconsidered in the light of the climate emergency and the advice of the CCC to manage passenger demand down to a sustainable level. In all probability this level would not support Heathrow's expansion. As demonstrated in this report, we believe, the negative impact on the aviation market of abandoning Heathrow's 3<sup>rd</sup> runway expansion would be minimal and could be positive. Our analysis is based almost entirely on evidence provided by the Final Report in 2015 of the Airports Commission (the Commission), and the Government's Airports National Policy Statement, 2018.

## **Aviation**

11. Aviation remains one of the 'hard to reduce' sectors. The target set in 2008 was for aviation emissions to be no higher in 2050 than in 2005, i.e. 37.5 MTCO<sub>2</sub>e. Aviation GHG emissions have more than doubled since 1990 and stood at 36.5 MTCO<sub>2</sub>e in 2017. The majority of aviation emissions are from long-haul flights (96%) measured as emissions from departing flights (UK international arrivals are for the account of other territories).
12. Chapter 6 of the CCC's report in May 2019 (Net Zero Report) focuses on Aviation and Shipping and says that there will be a further report in 2019. This has now been published.
13. The topic is important in relation to the Government's emerging white paper on Aviation Strategy that seeks to establish the relationship between UK aviation growth and environmental sustainability. It is also crucial in defining the planning conditions for any

DCO approval of Heathrow's NWR expansion, whereby capacity is only released as environmental constraints are satisfied.

14. The CCC's Core options are aligned to the 2008 planning assumption, i.e. aviation 37.5 MTCO<sub>2</sub>e by 2050. The CCC says in Chapter 6 page 173 of its report that these aviation emissions could be achieved through a combination of fuel efficiency improvement of around 0.9% per year, limited use of biofuels (i.e. 5% in 2050), and by limiting growth in UK passenger demand to 60% above the 2005 level of 230 million passengers per annum (mppa), i.e. 368 mppa in 2050.
15. The CCC's Further Ambition options identify additional opportunities to reduce aviation emissions below the Core options, to 30 MtCO<sub>2</sub>e in 2050 (29.0 MTCO<sub>2</sub>e from international flights). The assumptions are that fuel efficiency improvement rises to 1.4% per annum and biofuel uptake rises to 10% in 2050.
16. The CCC's Speculative options examine two scenarios - scenario one, where UK passenger demand is constrained to 40% above 2005 levels, i.e. 322 mppa in 2050, which saves around 4 MTCO<sub>2</sub>e (compared to the 60% option), and scenario two, where UK passenger demand is constrained to 20% above 2005 levels, i.e. 276 mppa, which saves around 8 MTCO<sub>2</sub>e (compared to the 60% option). Actual UK passengers were already 267 mppa in 2016. The Speculative options could reduce aviation emissions to 22 MTCO<sub>2</sub>e.
17. Clearly aviation itself will be far in excess of net zero emissions by 2050. The use of the UK's negative emissions (e.g. afforestation) to offset aviation's gross emissions may not be the most effective or efficient use of the offsets. For example, choices may have to be made between offsetting long-haul flights for leisure and offsetting agricultural emissions that are also 'hard to reduce'.

### **Aviation Demand Management**

18. Besides fuel efficiencies and use of biofuels, the CCC advises the Government to manage aviation passenger demand. The DfT's 2017 passenger demand forecasts (DfT 17) were used in support of the Airports National Policy Statement (APNS), which parliament approved in June 2018 in support of Heathrow's northwest runway expansion (NWR). The passenger estimates for 2050 were 410 mppa in the Do-Minimum case and 435 mppa in the NWR case. The Government said the planning limit of 37.5 MTCO<sub>2</sub>e in 2050 could be met by a variety of abatement measures. But it would appear that achieving the limit also depended on including the price of purchasing global carbon credits. Almost exactly the same passenger numbers were modelled by the Airports Commission in 2015 in its AON carbon traded scenario.
19. The CCC has now advised against the UK relying on global credits and the use of global credits is excluded by the CCC when modelling of UK net zero target emissions. This suggests aviation passenger demand will have to be managed down to the CCC's target of passenger growth of no more than 60% between 2005 and 2050 in order to limit aviation emissions to 37.5 MTCO<sub>2</sub>e, i.e. a maximum of 368 passengers in 2050.
20. To examine the consequences of deeper demand management, we refer to the Airports Commission's forecasts 2015 (see Table 2 below). The so called AON CC (carbon capped case) was the central case prepared by the Commission. There are no carbon credits assumed but a carbon price is applied to tickets so as to constrain demand and achieve

aviation emissions of 37.5 MTCO<sub>2</sub>e in 2050. In the Do-Minimum case demand is restricted to 386 mppa. This is higher than the CCC 60% growth limit or 368 mppa in 2050, but it achieves the same 37.5 MTCO<sub>2</sub>e of emissions.

21. As we have pointed out above, it will be necessary to reduce aviation emissions to much lower levels than 37.5 MTCO<sub>2</sub>e and the equivalent 368 mppa passengers in order for the UK to achieve net zero emissions. But the reduction needed will depend on allocation of the negative emissions between aviation and other sectors of the economy. In addition, a contingency requiring further reduction in demand growth is needed to cover the uncertainties in mitigation of emissions, not only from aviation but other sectors of the economy.
22. Under the above circumstances, there is no justification for Heathrow’s NWR expansion. If expansion proceeds there is a large risk that demand will have to be restricted to such an extent that the project becomes financially at risk. However, as we see from forecasts by the DfT and Airports Commission, demand management reduces growth at other UK airports and not at Heathrow. This has a seriously negative impact on the north-south economic balance.

**The Impact of Aviation Demand Management on the Balance of Regional growth**

23. Table 1 shows the allocation of passenger demand between airports in the Base Case (Do-Minimum) in 2050 using the DfT17 forecasts. NWR expansion, due to carbon costs through the purchase of credits or otherwise, results in a reduction in growth at other airports, particularly at the regional airports, as shown in the Table 1.

<b>Table 1</b>	<b>DfT 2017 Passenger Demand Forecasts with and without Heathrow’s northwest runway (NWR)</b>			
	<b>Base 2016 Actual</b>	<b>Base 2050</b>	<b>NWR 2050</b>	<b>NWR minus Base 2050</b>
Million Passengers per annum				
Heathrow	76	93	136	43
London ex Heathrow	86	112	112	0
Larger Regional airports	81	151	143	-7
Other Regional Airports	23	53	44	-10
Total UK	267	410	435	26
I-I Transfers	24	5	21	16
UK Terminating	243	405	414	10
<i>Figures rounded</i>				

24. London ex Heathrow comprises Luton, Gatwick, Stansted and London City airports. Larger Regional Airports lose growth of 7 mppa by 2050 and other Regional airports lose 10 mppa. So while the NWR services 43 mppa by 2050 only 26 mppa are added to the UK as a whole.
25. Compared to the case using the DfT 17 forecasts, the Commission’s 2015 carbon capped forecasts reduce total UK passengers to 369 mppa in 2050 with the NWR expansion. Heathrow’s NWR expansion adds 41 mppa but reduces total UK passengers by 17 mppa. London ex Heathrow airports lose growth of 14 mppa, Larger Regional airports lose 28

mppa and Other Regional airports lose 16 mppa (see Table 2).

<b>Table 2</b>	<b>Airports Commission Passenger Demand Forecasts 2015 with and without Heathrow's northwest runway (NWR)</b>			
Million Passengers per annum	<b>Base 2016 Actual</b>	<b>Base 2050</b>	<b>NWR 2050</b>	<b>NWR minus Base 2050</b>
Heathrow	76	94	135	41
London ex Heathrow	86	107	93	-14
Larger Regional airports	81	133	105	-28
Other Regional Airports	23	52	36	-16
Total UK	267	386	369	-17
I-I Transfers	24	8	30	22
UK Terminating	243	378	339	-39
<i>Figures rounded</i>				

26. From the above analysis it is clear that NWR expansion causes significant harm to the UK aviation market by scavenging passenger growth from other airports and in particular the regional airports. This leads to negative impact on the regional economic balance with the south east.
27. Still deeper demand reductions required to satisfy the UK net zero carbon emissions are likely to cause still greater scavenging of growth from other airports than indicated by the Commission's AON carbon capped case, illustrated above.
28. The only possible viable conclusion, if the UK is to achieve net zero carbon emissions, is for Heathrow's NWR expansion to be abandoned. Heathrow is the UK's largest single source emitter of greenhouse gases of around 18 MTCO<sub>2</sub>e per annum and its GHG emissions need to be reduced and not increased with the NWR expansion.

### **The Impact of Abandoning Heathrow's NWR Expansion on Purpose of Travel**

29. The impact of reducing demand is illustrated by comparing the Do-Minimum and NWR expansion cases. Abandoning the NWR expansion and reducing demand actually is neutral or positive on most aviation accounts. We have shown above this to be the case in maintaining the north-south economic balance. Other neutral or positive outcomes relate to the purpose of travel, long/short-haul mix and connectivity. We discuss these below.
30. Table 3 shows the impact of the NWR expansion on the UK aviation market based on the DfT17 forecasts. Abandoning the NWR expansion has the reverse impact to that shown in Table 3. So Heathrow would not add 43 mppa by 2050 but other UK airports would not lose growth of 17 mppa. The UK would lose 26 mppa of additional passengers. But 16 mppa of these are international-to-international transfer passengers, which we argue later provide no value to the UK anyway. The overall result from abandoning the NWR expansion is a loss of UK terminating passengers of just 10 mppa resulting in 410 mppa in 2050 and restoration of growth at regional airports.
31. Table 3 shows that UK wide business travel is not materially impacted by abandoning the

NWR expansion. There is a small loss of 2 mppa leisure foreign resident passengers (e.g. inbound tourists). The loss of 6.4 mppa of leisure UK resident passengers is relatively small and in any event has a positive balance of payments outcome.

<b>Table 3</b>	<b>2016 Actual</b>		<b>Do-Minimum 2050</b>			<b>Increment LHR NWR minus DM 2050</b>		
	<b>million passengers per annum (mppa)</b>		<b>Heathrow</b>	<b>Rest of UK</b>	<b>Total UK</b>	<b>Heathrow</b>	<b>Rest of UK</b>	<b>Total UK</b>
<i>Business UK resident, international</i>	%	mppa	mppa	mppa	mppa	mppa	mppa	mpp
Short-haul	5.6	15.0	7.1	21.2	28.3	3.3	-2.6	0.7
Long-haul OECD	0.7	1.8	2.5	0.8	3.2	0.1	-0.1	0.0
Long-haul NIC	0.7	1.8	3.7	1.1	4.7	0.1	-0.1	0.0
Long-haul LDC	-	0.2	0.4	0.0	0.4	0.0	-0.0	0.0
<b>Total Business UK resident, international</b>	<b>7.0</b>	<b>18.7</b>	<b>13.6</b>	<b>23.0</b>	<b>36.6</b>	<b>3.4</b>	<b>-2.7</b>	<b>0.7</b>
<i>Business foreign resident, international</i>								
Short-haul	5.0	13.4	7.6	16.5	24.1	3.1	-2.9	0.2
Long-haul OECD	0.6	1.7	2.1	0.4	2.5	0.1	-0.1	0.0
Long-haul NIC	0.6	1.5	3.3	0.6	3.9	0.0	-0.0	0.0
Long-haul LDC	-	0.1	0.2	0.0	0.2	0.0	-0.0	0.0
<b>Total Business foreign resident,</b>	<b>6.2</b>	<b>16.7</b>	<b>13.2</b>	<b>17.5</b>	<b>30.7</b>	<b>3.2</b>	<b>-3.0</b>	<b>0.2</b>
Leisure foreign resident, international	19.2	51.2	22.1	56.1	78.2	6.9	-4.9	2.0
Leisure UK resident, international	46.8	124.8	39.4	170.5	209.9	13.0	-6.6	6.4
Business domestic end-end	5.7	15.1	0.7	22.7	23.4	0.4	-0.3	0.1
Leisure domestic end-end	6.1	16.2	0.6	25.2	25.8	0.4	0.1	0.5
International-to-international transfers	9.0	23.9	3.8	1.1	4.9	15.8	0.0	15.8
<b>Total</b>	<b>100.0</b>	<b>266.6</b>	<b>93.4</b>	<b>316.1</b>	<b>409.5</b>	<b>43.0</b>	<b>-17.3</b>	<b>25.8</b>

*Figures rounded*

### **The Impact of Abandoning Heathrow's NWR Expansion on Connectivity**

32. The DfT 2017 forecasts demonstrate that the NWR expansion results in a net loss of just one destination from the UK, based on 394 destinations. There is a loss of 3 short-haul and a gain of 2 long-haul destinations. So abandoning the NWR expansion would have no material impact on the number of destinations from the UK.
33. We conclude that the increase in frequency of flights at Heathrow as a result of the NWR expansion is likely to benefit the already popular routes with diminishing marginal benefit and without much if any increase in the frequency on Thin routes. Furthermore the regional airports seemingly reduce route frequency. So abandoning the NWR expansion would benefit frequencies from regional airports and have no material loss from reduced frequencies at Heathrow.

### **International-to International (I-I) Transfer passengers demand reduction**

34. Most I-I transfers arise at Heathrow, (e.g. in 2016: Heathrow 20.7 mppa, Gatwick 2.1 mppa, other 1.1 mppa). Without NWR expansion the I-I transfers are priced out of Heathrow, given the lower charging competitors such as Schipol. The I-I transfers at Heathrow decrease to 3.8 mppa by 2050. But the NWR expansion results in an increase of 15.8 mppa I-I transfers at Heathrow by 2050, compared to the Do-Minimum. By far the greatest beneficiaries of NWR expansion are the international-to-international transfers, as shown in Table 3.
35. The Commission and DfT17 give weight to the importance of I-I transfers supporting new long-haul destinations with potentially rich business opportunities. However, we question whether these transfers support thin destinations or business passengers and we question the diminishing returns from adding frequency to already popular routes serving the leisure market and other high frequency routes.
36. In December 2017 RHC examined the DfT's dis-aggregated data set published as part of the DfT 17 forecasts. Our assessment is that the additional I-I transfers from the NWR expansion option have a substantial negative impact on the aviation market and on the UK economy. The assessment can be seen on the RHC website [www.richmondheathrowcampaign.org](http://www.richmondheathrowcampaign.org) 'Revised Draft Airports National Policy Statement'.
37. In our December 2017 response to the Revised draft NPS, we concluded the following in regard to I-I transfers:
  - a. I-I transfers add no economic benefit to the UK and the webTAG valuation in the Revised draft NPS erroneously includes £5.5bn (present value) in "Passenger Benefits" for I-I transfers - resulting in an overstatement of the NWR incremental value by like amount.
  - b. Only 1% of I-I transfers in 2016 were on thin long-haul destinations from Heathrow (a thin route being defined as less than one departure and one arrival a day). Out of 36 such destinations, there were only 8 that had any I-I transfers and our examination suggested that even these would be viable without transfers because there were sufficient terminating passengers to maintain the frequency of service or to provide at least a weekly service. Analysis of a similar data set for 2011 provided very similar results. The figures are annual averages so that in practice with variations in demand over the year, there could be occasions where I-I transfers do contribute to sustaining an otherwise unviable service. But we pointed to further evidence in the DfT17 forecasts, which showed that a forecast reduction in Heathrow's I-I transfers from 21 million passengers per year (mppa) in 2016 to 4 mppa in 2050 in the Do-Minimum case does not seem to harm the growth in terminating business passengers from 14 mppa to 27 mppa over the same period.
  - c. Table 4 shows the distribution of I-I transfer passengers between long-haul and short-haul destinations and between thin and thick destinations in 2016. There were just 317,000 I-I transfer passengers to thin long-haul destinations out of 24 million I-I transfer passengers (i.e.1%). Conversely, 99% travelled to thick destinations, including short-haul.

<b>Table 4</b>	<b>Heathrow International Destinations in 2016 I-I Transfer passengers ('000)</b>		
Source CAA	<b>Long-haul</b>	<b>Short-haul</b>	<b>Total</b>
Thin destinations	317	0	317
Thick destinations	13,091	10,560	23,651
Total	13,408	10,560	23,968

Thin destinations: under 2 movements per day (arrival & departure); Long-haul: 3,500km and over

- d. Most I-I transfer passengers travel to popular destinations that already have high frequency service as demonstrated by Table 4. For example, adding more passengers, say, to the 28 daily departures from Heathrow to New York (JFK and Newark) has little marginal benefit in terms of convenience.
- e. People prefer direct flights and direct flights produce less CO2 and noise emissions. The NWR expansion concentrates noise pollution over an already heavily polluted London, not only from the 17 mppa taken by Heathrow from growth dispersed across other UK airports but also from 16 mppa unnecessary I-I transfers, together representing 77% of the NWR capacity.
- f. RHC's analysis shows that the NWR expansion adds 15.8 mppa I-I transfers by 2050; 1.0 mppa are on journeys in which both legs are short-haul, 13.0 mppa are on journeys where one leg is long-haul and the other is short-haul and 5.6 mppa are on journeys where both legs are long-haul (i.e. 19.6 transfers in total). The point here is that the short-haul leg takes up Heathrow's capacity for no direct benefit. It is claimed that Heathrow's capacity is best used for long-haul. The short-haul does feed the long-haul leg, where there is one, so we need to examine the long-haul segments. NWR expansion adds 9.3 mppa long-haul I-I transfers by 2050.

**OECD Destinations.** There are 5.0 mppa additional long-haul I-I passengers travelling to/from OECD countries by 2050. But the NWR expansion only adds 1.8 mppa terminating Direct international and Domestic interliner passengers by 2050 to the OECD destinations (i.e. around 73% of additional passengers to the USA, Canada and Australia are I-I transfers)..

**NIC Destinations.** NWR expansion adds 3.5 mppa long-haul I-I transfers to NIC countries by 2050. But the NWR expansion adds only 1.5 mppa terminating Direct international and Domestic interliner passengers by 2050 to the NIC destinations. (i.e. around 70% of additional passengers to the Far East, India, Latin America, Middle East and South Africa are I-I transfers).

**LDC Destinations.** NWR expansion adds 0.8 mppa long-haul I-I transfers to LDC countries by 2050. But the NWR expansion adds only 0.1 mppa terminating Direct international and Domestic interliner passengers by 2050 to the LDC destinations. (i.e. around 90% of additional passengers to Africa are I-I transfers).

We submit there is little or no economic value to the UK from the additional I-I travel to OECD, NIC or LDC countries and the outcome is highly inefficient use of Heathrow's additional NWR capacity

38. Table 5 below shows that the NWR expansion results in only 0.8 mppa additional terminating long-haul passengers for the whole of the UK by 2050. We should place the matter into context - the forecast number of passengers in 2050, assuming the NWR expansion, is 136 mppa for Heathrow and 435 mppa for the UK as a whole. The table demonstrates how the additional NWR capacity is wasted on 9.3 mppa I-I long-haul transfers.

<b>Table 5</b>	<b>Incremental (LHR NWR minus Do-Minimum) Passengers, 2050</b>				
mppa	<b>Heathrow</b>	<b>Rest of UK</b>	<b>Total UK</b>	<b>Heathrow I-I</b>	<b>UK Terminating*</b>
Long-haul	12.8	-2.7	10.0	9.3	0.8
Short-haul	29.5	-14.4	15.1	6.5	8.6
Domestic	0.8	-0.2	0.6	na	0.6
Total	43.0	-17.2	25.8	15.8	10.0

Note: There are rounding differences. \*excludes de-minimis impact of the NWR expansion on the relatively few I-I transfers at airports other than Heathrow.

39. Regarding short-haul destinations, an additional 8.6 mppa terminating short-haul passengers are serviced by the NWR expansion. But the UK has ample existing and planned short-haul capacity for the foreseeable future. It does not need the highly expensive NWR expansion to service this segment of the market. Moreover there are 6.5 mppa short-haul I-I transfers of no economic value to the UK.
40. Moreover, unlike passengers terminating in the UK, I-I transfers are exempt from Air Passenger Duty. The Terminal Five Public Inquiry was informed that an increase in transfer passengers reflected a new airline strategy. The adoption of this strategy, which diverges from the likely passenger preference for direct flights, may have been influenced by two state interventions in the early 1990s:
- In 1993 the “use it or lose it” rule was introduced for airlines holding slots at Heathrow and other major airports, whereby slots have to be used for not less than 80% of the allocation or surrendered (with no compensation) for re-allocation to competing airlines.
  - In 1994 Air Passenger Duty was introduced with an exemption for transfer passengers for the specific purpose of encouraging transfers at UK airports (primarily Heathrow). Sir John Cope MP (Paymaster General) said *“We are concerned to maintain the international position of the British air transport industry particularly that of Britain’s hub airports, such as Heathrow, and to help the airlines serving them, by preventing the tax from acting as a disincentive to passengers changing planes in Britain.”* (Hansard, 31 Jan 1994, Col. 643).
41. Abandoning the NWR expansion would reduce the I-I transfers but as explained above there would be no loss to the aviation market or the UK economy. RHC proposes that reducing I-I transfers through proper taxation would also be an effective and efficient way to reduce UK demand without negative consequences and in doing so it would reduce UK aviation emissions. It is surely preferable to reduce I-I transfers than UK resident terminating demand in a demand constrained environment.

Continued/



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*The Richmond Heathrow Campaign represents three amenity groups in the London Borough of Richmond upon Thames: The Richmond Society, The Friends of Richmond Green, and the Kew Society, which together have over 2000 members.*

<b>Monetised Impacts under DfT17 central, carbon traded forecasts NWR expansion</b>			
<b>Present value, 60 years, £bn, 2014 prices</b>		<b>Lower net benefit</b>	<b>Higher net benefit</b>
<i>Economic Benefits:</i>			
Passenger Benefits		67.6	67.6
Airline Losses		-55.0	-55.0
Net		12.6	12.6
Government Revenues		3.5	3.5
Wider Economic Benefits		1.8	3.1
Total Economic Benefits		17.9	19.2
<i>Environmental Costs:</i>			
Noise		- 0.6	- 0.6
Air Quality		- 0.15	- 0.15
Carbon		- 1.0	- 1.0
Total Environmental Costs		- 1.7	- 1.7
Net Social Benefit	NSB	16.2	17.5
<i>Present Value Costs:</i>			
Scheme Costs		- 14.9	- 12.9
Surface Access Costs		- 3.4	- 1.4
Present Value Cost	PVC	- 18.3	- 14.3
<b>Net benefit</b>	<b>NSB-PVC</b>	<b>- 2.2</b>	<b>3.3</b>