

Airports Commission Appraisal Framework Consultation

**Consultation response from:
Richings Park Residents' Association,
Richings Park, Bucks SL0 9DY**

General notes:

1. A key failing of this framework is to state explicitly what needs to be provided by the developers and in what format so that fair and equal comparisons of the options can be made. There is too much scope for the developers to interpret these requirements according to their own agenda and not present evidence that could be detrimental to their case. Key information may be buried in the submissions, which could be difficult to break out and make the appropriate assessments. The language in the document consistently endorses this weak approach, such as in paragraph 5.26: "Given the long-term nature of the impacts being assessed it may be beneficial when presenting assessment results to simplify the outputs by considering scheme performance ..." The criteria should be explicit and state what must be provided if the options are to be compared fairly and equally. For example, presentation of airport capacity data should be in one unit, such as ATMs, and not a mix of data (ie passenger numbers and ATMs) so that comparative assessments can be made.
2. There is a lack of clarity regarding the surface access strategies in terms of what will be assessed within this framework and what will be separately assessed. If the proposed scheme directly impacts the road infrastructure (eg both the Heathrow Airport Ltd (HAL) and the Heathrow Hub (HH) schemes will require realignment of sections of the M4, M25 and A4) then the costs and impacts for this work should be included within the scope of this appraisal so that a fair comparison of the impacts can be made between each of the proposed schemes. When appraising the business case of each of the schemes it needs to consider all of the costs and impacts. The framework, therefore, needs to make it much clearer what is in and out of scope of this assessment and ensure that a fair and equal comparison of each of the options will be made, taking into account all of the impacts. It should be explicitly stated what costs are expected to be borne by the scheme developers and what will fall to the public purse so that the general public are aware of the implications of the different schemes in terms of the provisions from taxation.
3. We welcome the five elements of the business case (paragraph 5.16) however, if it is to be comprehensive, then the management case should also consider the capability of the developer to deliver the project. To this extent, we question whether there is sufficient project management competence on the Airports Commission expert advisory panel, as there is a lack of recognition in the framework of the need to assess the developer's capability to meet the business case promises.
4. We welcome the aim of the sustainability assessment, however, not only should it "review and take account of options for avoiding or mitigating" significant adverse effects, it should also review their potential effectiveness (paragraph 5.21).
5. We do not believe that the timetable to assess the consultation responses and publish a final appraisal framework is sufficient. Only one month has been allowed from the close of the consultation to the proposed date for delivery of the updated framework. On the basis that this framework still requires a significant amount of work to bring it up to a level where it is sufficient to assess the proposals, then one month is not enough time to make the required improvements. It suggests that scant regard will be taken of the information that will be provided in the consultation responses and little improvement to the document is foreseen.

6. We note that one of the joint venture partners for the Heathrow Hub submission is Arup, who carries out a significant amount of construction work for the Government on its major infrastructure projects, which suggests a conflict of interests. We do not believe that Government, in this circumstance, would be capable of making a truly independent decision that did not show unfair favouritism towards the Heathrow Hub submission.

Q1: Are the objectives stated in Table 3.1 suitable for assessing the short-listed options? If not please explain why not, and suggest any alterations you feel would make them more suitable.

7. None of the objectives have empirical targets against which to measure the schemes and determine how successfully they are meeting the objectives to or allow robust comparative assessments of each of the schemes. For example, what does “minimise” mean? This is open to individual interpretation and there is no way of determining whether the developer has fully attempted to minimise the impacts – it is a subjective judgement. If measurable criteria cannot be provided to the public then the developer should, at least, be asked to demonstrate the extra cost or practical measure to reduce it below that which is being proposed.

Q2: Are there any other objectives that the Commission should consider, and if so what are they?

8. The safety objective: “To meet industry and safety security standards” is weak. It should be: “Not to increase safety risk beyond current levels and to better this target where possible.”

9. The cost objective with regard to public funding is weak. Criteria should be set to limit the need for public investment and be measured against the context of cost v benefit

10. There is no objective regarding the assessment of the impact of the development on existing transport infrastructure. The HAL and HH scheme for Heathrow will require realignment of the M4, M25 and A4 which will have a significant impact on the transport network while under construction and this needs to be taken into consideration in either the surface access or environment objective. Criteria should be set that seeks to reduce this impact.

11. There should also be an objective that assesses the impact of the development on the surrounding area in terms of its impact on the environment, health of the local residents affected, the traffic impacts on local roads both during the construction and operational stages.

12. There is no objective to measure the developer’s capability to deliver the project. Although there is a target to be operational by 2030, there would need to be an assessment of the developer’s project management capability to meet this and other targets. The objective should be: “to have demonstrated capability to deliver the infrastructure in line with business case promises.”

13. There should also be a criteria which considers the issue of blight which is already seriously affecting properties in Richings Park and how and when an appropriate compensation scheme will be set up by the proposers.

Q3: Will the appraisal modules described in Appendix A be sufficient to analyse the short-listed options against the stated objectives? If not please explain why not, and provide examples or evidence to support your answer.

Q4: Will the appraisal modules described in Appendix A be sufficient to construct business cases and sustainability assessments to enable the Commission to make recommendations and the Government to act on these? If not please explain why not, and provide examples or evidence to support your answer.

Appraisal module 2, strategic fit

14. The Airports Commission states that it will “determine whether the proposal fits with the Commission’s terms of reference, for example, the contribution it makes to maintaining the UK’s status as an international hub” (paragraph 1.2a). By making this statement the Commission is leading to the conclusion that hub capacity is essential, when in its Interim Report the Commission rightly concluded that it was important to “invest in an airport system that caters for a range of airline business models, recognising that this is particularly important in a competitive airports system like London, where airlines can choose how to use the available capacity, and where the market can be expected to respond dynamically to the provision of new infrastructure” (paragraph 4.75). This type of language should be avoided to ensure a fair appraisal of each of the options.

Appraisal module 2, economy impacts

15. We welcome the Commission’s assessment of “how a scheme might change the airport and airline market and the competition within it” (paragraph 2.21) but it should strengthen the modelling to test for anti-competitive models that would prevent sharing of economic benefit and lead to less choice for the consumer.

Appraisal module 3, local economy impacts

16. The assessment of local economy impacts needs to take account of gridlocked roads in the local areas during construction as this will put significantly more traffic onto both the local and regional road network for a long period. While there may be economic gains in some sectors, this must be balanced by the economic loss in other sectors from the associated traffic problems that a scheme of this kind will bring: delays from traffic congestion, diverted routes, longer distances travelled, impact on other routes as traffic tries to avoid the affected route; all these have an economic cost which needs to be factored in against the estimated economic benefits. The economic impact on the quality of life for local residents also needs to be taken into account in terms of noise and air pollution, not just from the airport operations but also from the additional local traffic and the loss of properties and destruction of local communities.

17. The overall impact on the local economy of the area needs to be assessed in terms of it becoming a less attractive place to work and live. Whilst any expansion of the airport might be said to create jobs the type of job would not be likely to be those that match the supply in the local area.

18. We welcome the call for evidence from other research and case studies on other airport expansions or large infrastructure projects (paragraph 3.18). The criteria should make it clear that where the evidence does not directly correlate with proposed scheme and any assumptions or adjustments are made to relate the data, then these should be made explicit in the submission along with the methodology used.

19. We welcome the Commission’s plan to assess the local housing and business impacts and social infrastructure needs to support an increase in demand (paragraphs 3.26 and 3.29). However, it should be made clear that this needs to consider both temporary demands during the construction period, as well as during long term operations. The Commission also need to provide a definition of physical and social infrastructure and make clear what is to be included for making comparative assessment of the options: schools, doctors, public transport, social cohesion, re-housing etc.

Appraisal module 4, surface access

20. The Commission's desire to encourage innovative approaches for public and green modes of transport is laudable, but much of this transport will be outside of the direct control of the airport operator. No matter how innovative the developers may be, such schemes may not be achievable and a fair comparison of the options could not be made. Also, to consider future unproven technologies that are not yet in operation and base the business case on them is unsound. The options should be assessed against realistic and likely modes of transport and not on unlikely outcomes. Therefore, any consideration of innovative transport technologies should be considered outside of this scope and the comparative assessment of the options made solely on the basis of transport need and proven technologies. Reference to the various schemes access schemes already proposed for Heathrow such as the HS2 spur and the Western Rail Access to Heathrow need to be included.

21. We welcome the Commission's plan to assess the needs of other users of transport networks (paragraphs 4.5 and 4.6). However, this should not only consider available capacity and cost, but also the direct impact on any modifications to the local and arterial road network, eg the realignment of the M4, M25 and A4 for both of the Heathrow submissions, as this will have a significant effect on road users and available capacity during the period of construction.

22. In addition to the points listed in paragraph 4.14, the assessment must seek to establish whether the estimates of the number of people likely to use public transport are realistic. It should also seek estimates for likely increases in freight traffic using the airport. Information provided by the developers should be supported with evidence to substantiate their numbers and be independently verified.

23. We welcome the Commission's plan to assess consequential environmental impacts from surface access strategies; however, it is unclear whether these impacts will be considered together with the environmental impacts from the airport operations. Environmental impacts, such as noise and air emissions, must not be assessed in isolation but as part of a holistic assessment.

24. The impact on congestion and loading of local roads both in terms of HGVs and vehicle traffic accessing either the airport or the proposed Terminal 6/hub needs to be considered.

Appraisal module 5, noise

25. We welcome the Commission's call for evidence on noise mitigation strategies, such as respite schemes (paragraph 5.4); however, it must seek to understand where there are communities that will not receive any respite from the operations. This may be for a number of reasons, such as the operating regime itself or the impact of ground noise. Ground noise (particularly early in the morning or late at night) is currently a big problem for the residents of Richings Park and yet this is not something that the operators of Heathrow seem willing or able to address. They acknowledge that noise mitigation measures such as barrier walls deflect the noise from those adjacent to them but there is apparently no modelling or measurement to determine where that noise is deflected to. This impact needs to be assessed for these schemes.

26. To this extent, the Commission advises that it will use a variety of measurement descriptors and reporting approaches to assess the noise impacts (paragraph 5.5), but it has not included in any descriptor for ground noise in its table in paragraph 5.17. Ground noise is a significant impact to local communities but ground noise contours are not published and there is no target for its control; it would be a serious failing if this were not considered by the Commission.

27. In paragraph 5.8, the commission states that it will assess specific nuances of noise impacts at a local level, but provides no clarity on what this is or how it will be assessed. Night flights have a considerable impact locally and should not be included as part of the normal operation of the airport.

28. In paragraph 5.14, the Commission states that the local impact assessment will consider in greater detail the changes to noise environments in and around the airport, including surface access noise. This also needs to consider the increases to traffic noise for those communities after the road infrastructure is realigned and positioned much closer to residential property as well as the increased traffic on local roads.

Appraisal module 6, air quality

29. We welcome the Commission's plan to assess the air quality implications from future expansions not associated with the airport (paragraph 6.16) particularly surface access emissions of major road networks. However, any estimates of increased traffic must be based on realistic forecasts of the volume and type of transport (cars, freight, construction vehicles) and not include unrealistic forecasts of green modes of transport. To this extent, the Commission will need to understand the assumptions behind any forecasting models and needs to specify the information it requires in the appraisal framework document.

30. The impact of the direct and consequential increased traffic resulting from the proposals on local residential roads, which are already at saturation point with HGVs, must be included in the assessments. The increased pollutants relating to the increase in airport activity will be an additional burden on the local air quality and realistic mitigations measures must be included.

31. Further, when undertaking the local scale dispersion modelling, will the baseline be correlated to actual measured pollution levels in the local area where the pollution levels have already exceeded air quality targets? Any deterioration from the baseline is unacceptable.

32. We welcome the Commission's plan to undertake sensitivity analysis of the variables but needs to be specific about what this analysis will be based on and the data that is required to accurately construct the models, so that it receives the right information from each of the developers.

Appraisal module 8, carbon

33. We note the Commission's statement that it has taken carbon emission into account in setting its assessment of need and we welcome its decision to keep this under review during Phase 2 (paragraphs 8.2 and 8.3) as we are concerned that carbon emission targets will not be met with increased aviation expansion. We provide a detailed discussion on this point in Annex A.

Appraisal module 10, place

34. The impact on the local area in terms of the green belt and the containment of urban sprawl and the policies supporting this should be included as a requirement, as well as the need to document the listed buildings and other historic sites that would be lost.

35. We welcome the Commission's plan to assess construction waste and its management (paragraph 10.6). However, this assessment should consider not just the disposal destination but also the method of disposal, which would usually be through the use of road transport. This will put additional traffic onto the already-congested road network as well as increasing noise and air pollution.

Appraisal module 11, quality of life

36. We note the Commission's plan to define the base case by recourse to the ONS dataset on Measures of National Wellbeing (paragraph 11.5). However, the criteria for this type of assessment are insufficient to determine the level of satisfaction or dissatisfaction that the local population would have regarding an expanded airport. Questions about leisure activities, such as time spent shopping or at the cinema, bear no relation to the social issues that will arise from the proposals. Specific criteria should be determined to assess how the public might feel about the proposed airport expansion, whether hoping to receive benefit or expecting their quality of life to deteriorate and the impact of the breakup of the local community that might result. Impacts on the health of local people from sleep deprivation, air pollution and noise also need to be included. The loss of green open space and blight are factors that require consideration.

37. We also note that the selection will be drawn up by the Commission's expert panel plus other relevant expertise. Who will this be and what are their qualifications? Will they be independent of any connection with the developers, particularly Arup who already carries out work for Government on its major infrastructure projects? It should include laypeople from the local communities who are the recipients of the environmental impacts and who are independent of the airport operations.

38. We welcome the Commission's plan to capture quality of life assessment in one uniform understandable manner (paragraph 11.10). However, we question how this will be achieved on an equal and comparative basis from each of the submissions if the input criteria are not specifically defined. The data provided may be incomplete or based on different assumptions, so that a comprehensive and comparative submission is not provided. For example, in paragraph 11.12, the Commission should specify the geographical proximity it wishes to consider (5, 10, 20 or 50 miles) and not leave it to the developer to make this decision if it is going to make a fair and equal comparison of the options.

39. Similarly, in paragraph 11.14, to make a comparative assessment of wellbeing, common and uniform input criteria need to be used, which must be specified by the Commission so that it receives the right information from the developer in the right format.

40. Also, the scope of this quality of life assessment is not clear. It needs to also consider the quality of life of those communities that are affected by the modifications to major transport infrastructure, but may not be directly impacted by the airport expansion itself, such as realignment of the A4/M25, and the new rail transport hub and temporary construction railway proposed by Heathrow Hub.

Appraisal module 12, community

41. We welcome the Commission's call for developers to demonstrate how they have minimised the demolition of homes (paragraph 12.1). However, the requirement should be more explicit and call for the developers to provide optimised schemes for consideration even if this means less airport capacity. For example, HAL has made it publicly known that there is an optimised version of their third runway scheme which has less impact on the local community in terms of property demolitions, but has discounted the option on the basis that it will give them less capacity. All options should be sought and modelled by the Commission.

42. If any need for new housing is required, the location of any such proposed schemes should be explicit as well as any potential timeframes to provide reassurance to those who might lose their homes.

43. We also welcome the Commission's plan to examine the associated community impacts from this, including the severing of existing communities (paragraph 12.2). However, the Commission must be explicit that this needs to include not just the footprint of the expanded airport but also the impact of any modifications to existing transport infrastructure, such as the realignment of the M25 for a third runway at Heathrow, which will cut through the middle of the Richings Park community or in the case of the Heathrow Hub submission, the provision of a new airport terminal and temporary railway for construction, both of which will impact significantly on Richings Park.

44. When drawing up the local community profile (paragraph 12.8) this must consider all the associated impacts of surface access, including the effect of new roads and railways, as well as the additional noise and pollution from increased traffic both during construction and during operation of the new airport facilities (on local and arterial roads).

45. Blight is already having a considerable impact and the considerable delay in setting up any possible compensation scheme is having a big impact on the local community. This needs to be a priority to allow people to plan for their futures.

Appraisal module 13, cost and commercial viability

46. The Commission has stated that the full costs of the schemes are to include surface transport (paragraph 13.1) but it is not clear what this includes. For example, in the case of HAL's proposal, does it include the costs of realigning the M25/M4 motorway junction and does it take into account the full cost required to upgrade the road network to accommodate the increased passenger, commercial and freight traffic? In the case of the Heathrow Hub submission, does it include the cost of the A4/M25 realignments and the cost of the proposed rail transport hub? Also, in the latter case, does it include for upgrading the local road network to provide access to the new rail hub and 6th terminal? To make equal and comparative assessments between the two schemes, fully comprehensive cost estimates must be prepared. The Commission needs to make it abundantly clear what needs to be included and excluded from the cost estimate so that the developer's provide all the information that is required to make a fair assessment. The costs that would fall to the public purse rather than the developers also need to be clearly set out for all parties.

47. We welcome the Commission's plan to assess risks and uncertainties regarding private sector funding (paragraph 13.10, bullet 8) but it should also be assessing the risks and uncertainties to the overall business case, in terms of project delivery risks and those business risks that could arise from either the project delivery itself (eg loss of revenue from late completion) or external factors (eg private sector funding). Bullet 12 should not, therefore, be limited to risks of the proposal, but risks and uncertainties associated with the entire business case.

48. We also welcome the Commission's inclusion of environmental compensation into the cost assessment (paragraph 13.10 and 13.13) but it needs to be clear about what exactly is included in this and to what extent. Does environmental compensation just include physical measures from the expanded airport only, such as noise screens, or does it include other measures from the wider scheme, such as compensating residents for statutory blight from a realigned motorway or new railway or provision of alternative wildlife habitats etc? To make fair and equal comparisons between the options, the entire scope must be included.

49. We welcome the Commission's call for optimism bias to be included in the cost assessment; however, it should be more explicit on the basis of the optimism bias so that

comparative assessments can be made between the options. The Commission should refer to the Government's own Green Book on Optimism Bias as the basis for this assessment. The National Audit Office published a report in December 2013 (1) stating that there is an endemic over-optimism of major projects undermining its potential to succeed, citing persistent risk management problems, underestimation of time and costs, and overestimation of benefits as being the primary causes. In particular there were a number of issues with the estimates for the business case for High Speed 2. The lessons from this audit must be taken into consideration in developing the business case for aviation expansion.

50. We welcome the Commission's call for procurement and financing scenarios (paragraph 13.19), but it should also seek to understand the supply chain outlook and the impact this could have on project delivery, such as availability of the civil engineering contractors against other potential major infrastructure projects that could compete for resources.

51. In paragraph 13.19 bullet 4, the Commission seeks to understand the degree of overall risk that surrounds the 'most plausible' scenario; however, this is ambiguous and open to interpretation. Instead, the Commission should be making an assessment of the high level risks associated with each business case, covering business risk and project delivery risk. Also, the risks should not just be presented for the most plausible scenario. If there is a credible optimised scheme, as described in paragraph 35 above, then the risks associated with this scheme should also be presented.

52. We welcome the Commission's plan to assess the operational efficiency of the developer's surface access infrastructure (paragraph 14.18); however, it should also consider whether the basis and assumptions are realistic. Developer's often over-state the success of schemes designed to promote public and green modes of transport. The basis of the developer's strategy must be backed up with evidence of behaviour from comparative schemes recently adopted in the UK.

53. We note that this strategy should also consider congestion and delays on surface access modes of transport, but there is no clarity over what is being sought here and no guidance about how this information should be provided. This could be interpreted in different ways and therefore, information provided may not be comparable between the options. Is it referring to potential congestions and delays on current infrastructure if no improvements were made and does this refer to likelihoods, durations or geographical extent? The Commission needs to be explicit about what it is seeking here.

54. The Commission should also seek to understand proposed changes to operating modes and how achievable this might be. The proposal must be supported with evidence to demonstrate that the proposal is feasible in the particular location. For example, HAL is proposing to adopt steeper angles of descent at Heathrow as the basis for reducing the noise contours and shrinking the size of the population exposed to aircraft noise. However, no evidence has been provided to confirm whether this has been successfully trialled at Heathrow or anywhere else, so we cannot safely conclude that it is feasible, nor can we say with any certainty whether it will result in sufficient noise reduction. It would be unsafe for the Commission to base its business case on a mode of operation that has not been demonstrated.

Appraisal module 16, delivery

55. We welcome the Commission's plan to understand the delivery risks associated with the planning and construction phase (paragraph 16.8), but it should also be seeking to understand

the uncertainties around the development and execution plan. For example, the need for planning permission and the impact on green belt policies. These issues this would add to the robustness of, and confidence in, the overall development and execution plan. These must both be considered if the Commission is to make comparative assessments of the options, as one option may have more uncertainty around its delivery plan as well as more risk.

56. We also welcome the Commission's plan to assess the developer's stakeholder engagement plan (paragraph 16.10); however, the assessment appears only to consider the key risks and not the robustness of the plan nor whether the developer has considered the views of the local community in developing or optimising its scheme. The Commission should seek to examine whether all the impacted communities have been consulted by setting a geographical contour around the scheme based on the various impacts: noise, traffic, air emissions. Many communities outside of the immediate vicinity will be impacted by the airport expansion and should have their views considered as stakeholder risks may not derive solely from the local community. The Commission should be asking the developer to demonstrate how it has taken these views into consideration or explain why not.

57. In assessing each of the options, the Commission should also take into consideration the amount of local resistance to each of the schemes and the risk and uncertainty that this will bring to the proposed developments.

58. We note that the Commission will consider the proposed mitigation strategies to ensure that delivery risks have been accounted for (paragraph 16.13) but it should also assess whether these strategies are robust. There is no guarantee that, because a developer submits a mitigation strategy, it will be sufficient to mitigate delivery risks. The Commission will need to develop a methodology for testing the plans and confirming their robustness.

59. The Commission should also be seeking to understand how the developer will manage uncertainty and whether it has a robust plan.

60. We note that the Commission will also consider the proposed development strategies to ensure that the approach to project management addresses risks and dependencies. However, it should also seek to understand whether the delivery plans are robust and based on sound and realistic planning. Hence, in paragraph 16.15 we would expect, for each proposal, a demonstrated delivery plan based on market intelligence on the supply chain and which consciously eliminates optimism bias.

Q5: Are the five components of the updated scheme design set out in Appendix B suitable for understanding schemes' potential performance against the stated objectives? If not, please suggest any modifications that you think would make them more suitable.

Q6: Is the level of detail in the components for the updated scheme design set out in Appendix B appropriate given the likelihood that some schemes may not progress to full stages of development? Please provide examples or evidence to support your answer.

61. We welcome the Commission's plan to understand what is new about each scheme (paragraph 2) but it should be asking the developers to demonstrate that any new practice can work successfully at the proposed location and will deliver benefit. An example was provided in paragraph 46 where HAL is proposing to use steeper angle of descent, but has not yet provided convincing evidence that it can be practically employed at Heathrow to provide the benefit it claims.

62. Our comments with regard to the objectives are provided in paragraph 7. For the Commission to be able to demonstrate that the proposed schemes meet these objectives and that one option is better than the other, then there must be some empirical targets. Also, it needs to be made clear that the developers must demonstrate how they will meet these objectives and not just “consider” them (paragraphs 14, 20 and 47). The language employed in this appraisal framework leaves too much scope for the developer to ignore some of the guidance and hence, it will not be possible to make fair and comparative assessment of the options.

63. We welcome the Commission’s call for layout drawings of the proposed schemes (paragraphs 15 and 21); however, it must make it clear that this should include the full extent of the works, including modifications to local infrastructure (eg A4/M4/M25 realignment, new rail transport hub, new airport terminal) and temporary offsite construction sites and transport links (eg railway lines) so that the Commission and the public can be made aware of the entire scope of the works. Also, these drawings must include the revised public safety zones, noise contours and any proposed changes to the Noise Preferential Routes.

64. We welcome the Commission’s call for information regarding engineering requirements (paragraph 30) but this must include the road and rail alterations and temporary construction sites. It is not clear however, what is meant by the “surrounding zone of influence.” The Commission must be specific about what is intended here and not leave the developer to interpret this requirement in its own way, if a fair and comparative assessment of the options is to be made. The “surrounding zone of influence” must include both onsite and offsite works that will be impacted by or will require modification to support the construction or operations of the proposed scheme.

65. Where the Commission calls for details on noise mitigation and compensation schemes (paras 36 and 37), the developer must also be asked to demonstrate the extent and effectiveness of the proposed schemes. For example, it would be insufficient to state that a noise barrier was being installed without understanding its attenuation capability both in terms of decibel reduction and geographical coverage and the deflection characteristics.

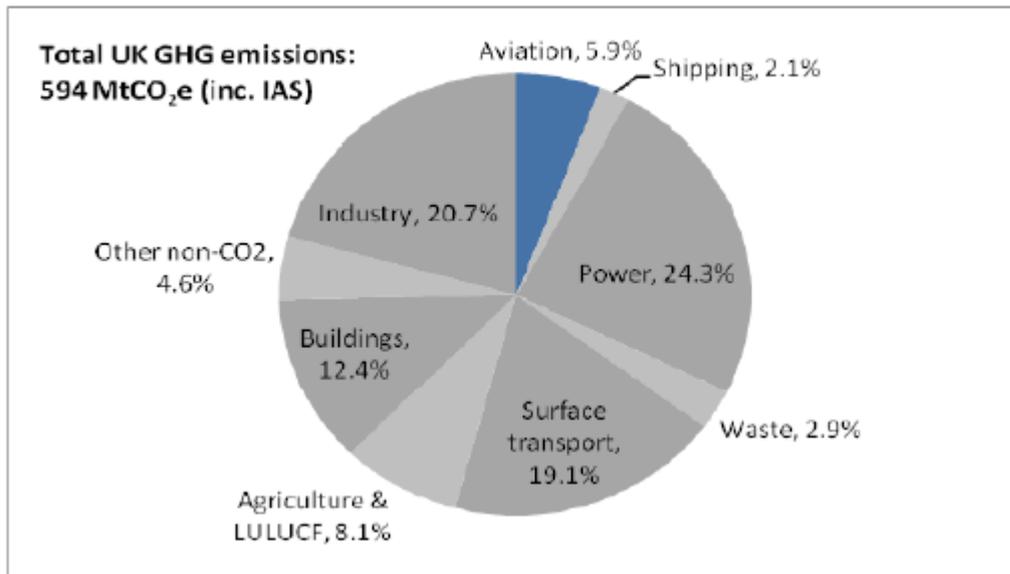
66. Where the Commission calls for the environmental mitigation plans (paragraphs 43 and 44), this must also include how the developer plans to replace, in another location, public amenities that would be lost as a result of the scheme.

67. Where the Commission has called for details regarding the preservation, relocation and rebuilding affected heritage pieces, this must include not just the buildings but any associated below-ground features such as burial grounds.

Annex A: Carbon Emissions

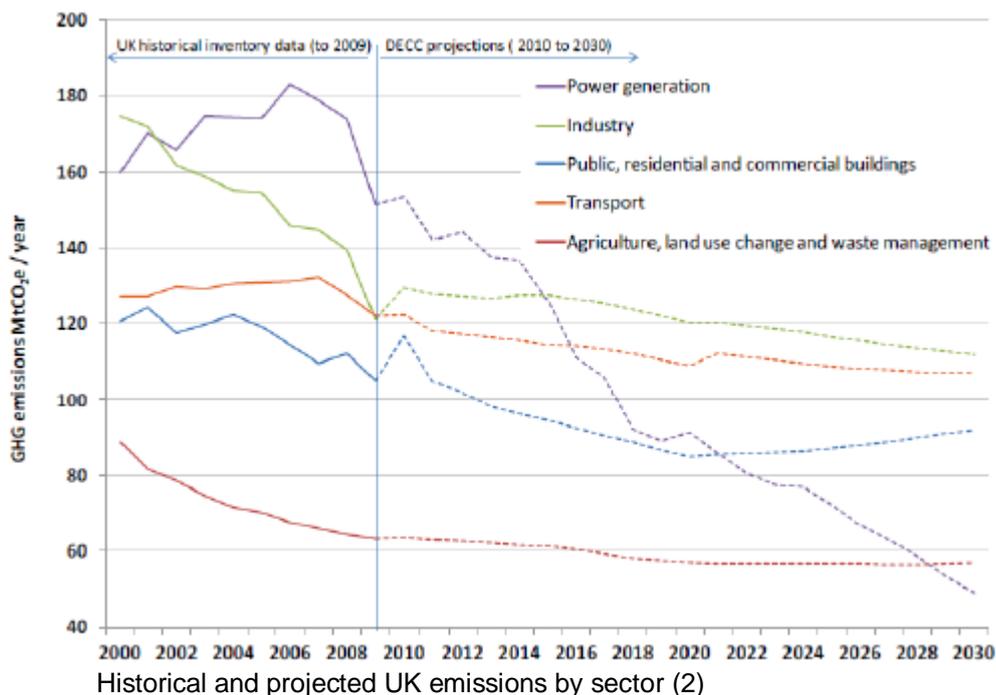
68. The Commission stated in its Interim Report that passenger growth could increase by 60% while remaining within the 2050 carbon emission targets, but this assumes that other sectors will decarbonise to allow aviation to take up a growing proportion of the total greenhouse gas emissions. Hence, the higher the level of aviation emissions from expansion, the deeper the emissions cuts required in other sectors to meet the economy-wide targets. We do not believe this is achievable.

Figure 1. UK greenhouse gas emissions from aviation (2011)



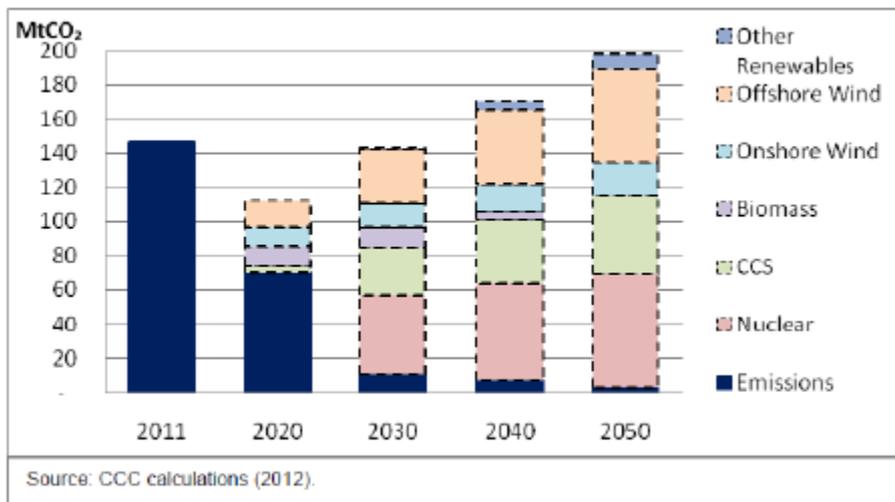
Source: Committee of Climate Change, Aviation Factsheet

69. Power generation is the single largest emitting sector, followed by transport and then industry. Together these three sectors account for over two-thirds of total UK greenhouse gas emissions. The greatest contribution for reducing these emissions is expected to be delivered by the power sector as shown in the figure below.



70. The power sector would have to make significant changes to meet the carbon targets that have never before been achieved while compensating for aviation growth along with the other sectors. The Committee of Climate Change (CCC) suggests this could come from low-carbon sources of generation including renewables (such as offshore and onshore wind, hydro, solar, biomass and marine), nuclear and carbon capture and storage and provides a potential forecast to 2050, but this is only an expression of what could be achieved and not a forecast of what is likely to be achieved.

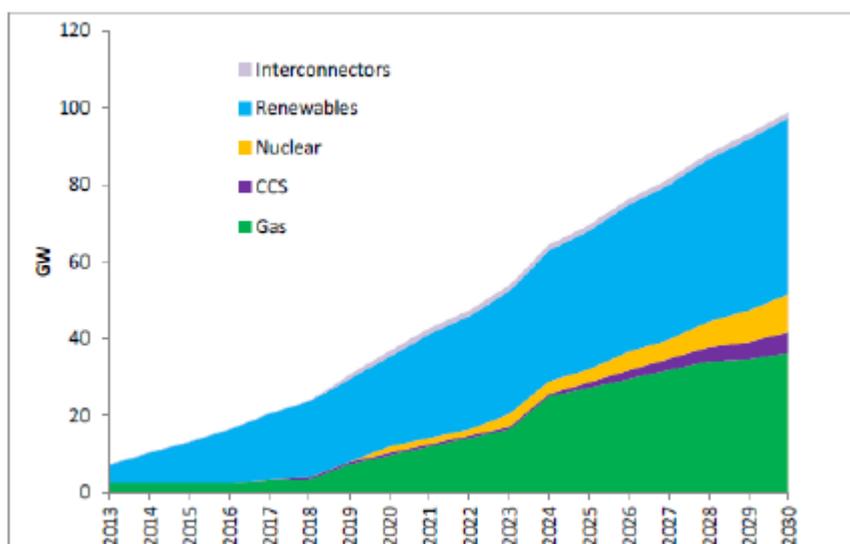
Figure 3. Potential abatement from low-carbon technologies 2011 - 2050



Source: Committee of Climate Change, Power Factsheet

71. DECC's forecast of power generation to 2030 is shown in the figure below (2). While there is a contribution from a number of generation technologies, the major expansion in generating capacity over the projection period that is expected to be delivered is from renewable technologies and natural gas plants. In the past year we have seen the major energy companies, such as Centrica, pull out of the nuclear and wind energy markets on the basis that it is not economically viable to develop this type of infrastructure, preferring instead to invest in conventional carbon technologies. This comes at a time when the UK is seeking to reduce its commitment to renewable energy targets. The forecast suggests that the optimistic projections provided by the CCC will not be achieved.

Figure 6.1 Projected cumulative new build by plant type for MPPs, 2013 to 2030



72. The UK's track performance is not good: "Economy-wide greenhouse gas (GHG) emissions fell by 7% in 2011 to 547 MtCO₂e. However, only around 0.8 % of this resulted from implementing emissions reduction measures. 3% was due to the mild winter temperatures in 2011. Much of the remainder was related to rising energy prices, falling real income and transitory changes in the power generation mix (3)."

73. The Environmental Audit Committee (EAC) in its 2013-14 review of progress towards decarbonisation has forecast that the UK will exceed the fourth carbon budget for 2023-27 by over 10% and quotes the Climate Change Committee who has stated "that the UK was "not currently on track" to meet the third and fourth carbon budgets and "without a significant increase in the pace of emissions reduction, starting very soon, the costs and risks of moving to a low carbon economy in the 2020s and beyond will be increased" and "It's important that action towards the 2050 target is not continually postponed. This would not be economically sensible, or even feasible, given technical limits on the amount of low carbon investment that may be achievable in any single year. (4)"

74. The EAC has recognised that the "lax EU ETS emissions limit may bring pressure to bear on the non-traded sector which will have to produce further emissions reductions to cover the gap left by the traded sector (5)." It says that the Government needs to come forward with "key policies to bridge the required emissions cuts in the non-traded sector of the fourth carbon budget, and state how it plans to help strengthen the EU ETS" recognising that the Government's Carbon Plan is out of date. Its final recommendation from the 2013 review, the EIC stated that the "UK's carbon footprint had increased over the past two decades so that the UK now had one of the largest footprints in the world."

68. Therefore, the question of potentially investing up to £20 billion of public money has to be seriously challenged in the context of achieving a reduction in air emissions. If the UK Government is truly committed to meeting emission targets, then the only realistic measure of achieving it is to reduce aviation emissions in equal proportion to every other sector, by reducing demand through capacity constraint and the associated price rise.

69. The recent severe flooding in the UK and its link to climate change cannot be ignored when making decisions about aviation expansion which will inevitably increase carbon emissions.

70. The Commission needs to undertake further scenario modelling based on a more realistic achievement of decarbonisation in the power and other sectors, which means the aviation industry taking a greater (and fairer) share of emission cuts and hence, more modest expansion plans. With this strategy, it is possible that aviation expansion could be achieved by making use of existing capacity rather than building new infrastructure and finding other ways to alleviate the airspace challenges.

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3 <http://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/how-the-uk-is-progressing/>

4 <http://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/carbon-budgets-and-targets/>

5 Progress on carbon budgets, Fifth report of session 2013-14, House of Commons Environmental Audit Committee.