

**Airports Commission Consultation  
on Three Options for a New Runway in the South East**

**Comments from CPRE Kent**

*The Kent branch of the Campaign to Protect Rural England*



January 2015

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## **PART 1 CPRE Kent**

CPRE Kent is the Kent Branch of the Campaign to Protect Rural England which is part of the national CPRE charity. Throughout Kent we represent 2,783 individual members, 189 Parish Councils and 40 local amenity groups and civic societies. CPRE exists to promote the beauty, tranquillity and diversity of rural England by encouraging the sustainable use of land and other natural resources in town and country.

CPRE Kent welcomes the opportunity to respond to the Airports Commission's consultation on its proposals. We continue to question the need for additional runway capacity. Unused runway capacity exists in the United Kingdom, and to add capacity in the south east will only further aggravate the north-south economic divide in the UK. From an environmental perspective, additional runway capacity on the south east will bring the region into further conflict with its environmental constraints. Any additional runway capacity will further damage the UK's efforts to control carbon emissions.

Nevertheless – as we appreciate that the Commission is working within the parameters set by Government – we have here set out our concerns on these proposals.

## **PART 2 Context for CPRE Kent**

Kent is overflowed by a great many of the existing aviation routes, being the 'gateway' corner between the UK and northern Europe. We are acutely conscious of being close to the flight paths for Schiphol to the east as well as being on those to Gatwick to the west. We were obviously pleased by the Airports Commission's decision to reject the option of a new airport in the Thames Estuary.

Until recently the distribution and altitude of overflying of Kent was at a level that was, by and large accepted by communities in the county. However the changes to flight paths, altitude and – most especially – the concentration of flight paths under the PRNAV regimes now in operation have utterly changed that situation. The communities of west Kent are now facing serious visual and noise intrusion with minimal respite. The Commission will have received consultation responses from them articulating this very clearly.

The rural context of Kent is important: 85% of the county is classified as rural<sup>1</sup>; the largest of its Areas of Outstanding Natural Beauty, the Kent Downs AONB, covers 23% of the county and is 250m above sea level at Toys Hill near Sevenoaks. The High Weald AONB straddles Kent and West Sussex and is over 1400 sq miles in the four counties of Kent, Surrey and East and West Sussex<sup>2</sup>.

A common feature of all these areas is that a core part of their respective statutory management plans is to preserve and enhance the beauty and character of their landscape and heritage, doing so with appropriate economic and social development in line with this character.

The visual and noise intrusion of the new flight paths is not only contrary to those statutory requirements; it has made all communities and campaigning organisations extremely concerned that runway expansion would make impacts, that are already damaging, a great deal worse.

These impacts apply almost immediately to the effects of flight paths for Gatwick, but the PRNAV system also increases the impacts further east, particularly over Detling, which is now under a key control area for flights to Heathrow. Detling is 200m above sea level in the Kent Downs AONB.

The direct experience of much more intrusive flight paths that is happening now has made CPRE Kent and others even more certain that the impacts of an additional runway at either Heathrow or Gatwick cannot and will not be mitigated adequately, and therefore should not be built. We continue to believe, as has also been suggested by others, that it is possible to evolve aviation operations in ways that release capacity that should be shifted to high speed rail, or larger aircraft and more point-to-point journeys.

To explain our deep concerns we include a section in this response on the issues of noise and tranquillity. This draws on work we did in responding to the London Airspace Consultation in January 2014. An additional reason for deep concern is that we have the very strong impression that NATS and CAA have remits which make it very difficult for them to control rather than manage the flight operations that area already damaging Kent and other parts of the south east. This damages not only those ecosystem services that are beginning to be quantified, but also have a deeply important economic value in tourism and other rural businesses. Hever Castle is just one example of an historic place now facing a 21<sup>st</sup> century noise siege.

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<sup>1</sup> [Kent Rural Board evidence base](#)

<sup>2</sup> [High Weald Management Plan 2014-2019](#)

CPRE has a major concern about the way in which noise impacts are considered. The focus is on the number of people affected and overall noise levels. This approach fails to recognise that quiet places are intrinsically important, and have great restorative benefit for all who use them. Relative noise is central to the concept of tranquillity<sup>3</sup>. AONBs are places which are designated precisely because they include quiet, tranquil places. The effects of losing tranquillity, which is measured not in levels of dB or in number of people affected, but in relative significant change, needs to be factored into the decision-making process and addressed with conditions that may be specified and monitored.

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<sup>3</sup> [Saving Tranquil Places: South East and London](#)

### **PART 3     Noise and Tranquillity**

We believe that issues of noise and tranquillity need to be central to the Commission's assessment, and we draw the Commission's attention to the response made by us earlier on this topic<sup>4</sup> (an extract from this response is reproduced at the end of this document as Annex 1 for ease of reference).

#### **3.1     Effects of quieter aircraft**

It has been suggested that newer aircraft will be quieter. However the recently released Jacobs study<sup>5</sup> document provides Tables 1 and 2 which contain the assumptions used in the noise modelling of Generation 1 (imminent) aircraft, and Generation 2 (future) aircraft. Information is given on the surrogate aircraft used (*i.e.* the one being replaced), and show the corresponding departure and arrival noise adjustments relative to that surrogate aircraft to model the future aircraft. In other words this shows the difference in noise for the newer aircraft relative to an existing comparable aircraft.

The largest change, of -6.8dB, is for departure noise of the 'generic regional jet E190-E2 carrying 97 passengers *i.e.* a small jet. Most reductions are far less, and in some cases show an *increase* in noise – the Airbus twin-aisle A350-1000, carrying 350 passengers, produces 1.6 dB more arrival noise than the A330 which it replaces.

In reality, most humans can only just notice a 3dB change in sound level and the majority of the noise reductions are smaller than that. Furthermore, and more importantly for Kent because most (70%) of Gatwick arrivals come over Kent, the arrival noise level changes are all less than 3dB – so the change for individual aircraft would not be noticed.

Hence there is no case to say the airports will become quieter, and doubling of flights will vastly increase the noise.

#### **3.2     Perception of noise**

The latest National Noise Attitude Survey<sup>6</sup> surveys the reaction of people to noise, and compares the 2012 results with those of 2000. Table V3 of this survey shows that noise is now 4<sup>th</sup> in the list of 12 environmental problems, whereas it was 9<sup>th</sup> in 2000. The percentage who are now bothered, annoyed or disturbed by aviation noise has increased from 20% in 2000 to 31% in 2012, despite the fact that percentage of people hearing aviation noise has not changed. This means that aviation noise has become much more intrusive. This is despite the huge expansion in the amount of double glazing. In 2000, 25% of houses had no double glazing. By 2012 only 6% had none, and those with all windows double glazed increased from 59% to 83%. So offers of double glazing will not solve the issue of increasing annoyance from aviation noise.

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<sup>4</sup> CPRE Protect Kent response to the Airports Commission Discussion Paper: "Aviation Noise"

<sup>5</sup> [noise: baseline and local assessment methodology](#)

<sup>6</sup> [National Noise Attitude Survey 2012 \(Defra, December 2014\)](#)

### 3.3 Economic impacts of noise

A recent report on the impacts of environmental noise<sup>7</sup> provides a way of calculating an indicative monetary value of the impact of noise, with values for road, rail and aviation noise. Annex 1 to that report shows, for example, that increasing daytime aviation noise levels from 56 to 57 dB causes a marginal cost of £51.02 per affected household per dB change. Similarly that change at night has a cost of £69.42 per household. These do not seem much but would have to be multiplied by the actual total dB change and the number of households within that total sound level change. Of course these calculations only cover the effect on households, and not on quiet areas which may have few households.

### 3.4 Health impacts of noise

A recent EEA report<sup>8</sup> confirms that noise pollution is a growing environmental concern. It is caused by a varied number of sources and is widely present not only in the busiest urban environments, but is also pervading once-natural environments. The adverse effects can be found in the well-being of exposed human populations, in the health and distribution of wildlife on the land and in the sea, and in the abilities of our children to learn properly at school, reflecting the high economic price society must pay because of noise pollution. This report notes that the WHO categorises noise as being the second- worst environmental cause of ill health, behind only ultra- fine particulate matter (PM2.5) air pollution.

The health of our ecosystems is also at risk. The noise maps of Europe reveal graphically how the extent of even relatively moderate levels of noise such as 55 dB  $L_{den}$  are consuming more and more of the territorial area outside of urban areas and directly threatening valuable habitats and species that are particularly susceptible to noise.

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<sup>7</sup> [Environmental Noise: Valuing impacts on sleep disturbance, annoyance, hypertension, productivity and quiet \(Defra November 2014\)](#)

<sup>8</sup> [EEA Report No 10/2014 Noise in Europe 2014](#)

#### **Part 4: Responses to the Questions**

##### **Q1. What conclusions do you draw in respect of the three short-listed options?**

None of them is justified by need, economic benefit or reduction of environmental impacts.

1.1 CPRE Kent considers that regrettably the Commission appears to have continued the outdated process of 'Predict & Provide'.

We illustrate this with a simple example in a parallel area of infrastructure as follows:

In 1979 Kent water companies claimed that their demand forecasts showed an urgent need for a reservoir at Broad Oak near Canterbury. However CPRE Kent demonstrated the inadequacy of assuming past trends would continue unchanged, and that continuing to abstract water in a water scarce area was not good policy. The reservoir is still unbuilt and time has shown the continuing decline of water available to fill it.

By extension it cannot be assumed that past trends of increasing travel will continue, nor that current use of resources will continue unchanged.

In surface transport it has long been recognised that building roads increased traffic<sup>9</sup>. Likewise SACTRA<sup>10</sup> noted that transport improvements operate in both directions, so any benefits can accrue to one end to the detriment of the other (the tourism deficit, well over £13bn in 2013<sup>11</sup> illustrates one aspect of the aviation industry's detriment to the UK economy).

1.2. In terms of Climate Change, the Commission's consultation comes out as clear evidence shows that two thirds of fossil fuel reserves need to be left in the ground if there is to be a 50% chance of no more than 2°C warming this century<sup>12</sup>. However, even that target may be insufficient, so many sources suggest even more fuel should be left underground. For example, a report by National Geographic<sup>13</sup> quotes Andrew Jordan of the Tyndall Centre for Climate Change Research saying *"the IPCC actually 'suggested' in its September (2013) report that the 2°C target would be breached. The IPCC report showed that the world's 'carbon budget' (the amount of greenhouse gas that can be emitted without exceeding 2°C) could be used up entirely by 2040"*. We provide more evidence on climate change below.

Despite small increases in fuel efficiency, building more runway capacity would increase fossil fuel demand, thereby increasing the probability of increased global warming, and hence the potential for irreversible runaway conditions. It seems ill advised to build a runway to create runaway climate change.

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<sup>9</sup> See for example [SACTRA 1994, 'Trunk Roads & the Generation of traffic'](#)

<sup>10</sup> [SACTRA 1999, 'Transport & the economy'](#)

<sup>11</sup> [visitbritain.org - inbound tourism facts](#)

<sup>12</sup> [nature.com: blacklist proposed for fossil fuels](#).

<sup>13</sup> [nationalgeographic.com fossil fuel unburnable](#)

- 1.3. In terms of efficiency, the restraint on new runways has ensured that aircraft load factors have been maintained and that some airlines have been profitable as charges have been contained. However it has not reduced the ability for more passengers to be carried because aircraft have become larger, thus enabling lower costs and emissions per passenger kilometre.
- 1.4. In terms of capacity, a single runway can provide capacity for approximately 250,000 Air Transport Movements (ATMs) per annum (Gatwick had 259,000 in 2007). The six London airports with seven runways could therefore accommodate 1.75m ATMs, but in 2007 (the year of maximum use), UK use was 1.088 m ATMs. Adding other significant airports such as Birmingham and Manchester<sup>14</sup>, (CAA Table 04-2), means that less than half of the UK's runway capacity is being used.

CPRE Kent believes that if such capacity were ever to approach full use, larger aircraft could accommodate most demand from passengers and freight, especially as the CAA statistics<sup>15</sup> (Table 2.2 for relevant years) show how the number of passengers per ATM have increased. For example, all reporting UK airports in 2003 had 93 passengers per ATM, which increased to 109 in 2013, with corresponding similar increases at the main London airports. This increase in passenger numbers per flight suggests that the *per annum* growth rate in the forecasts for London passengers (eg ranging from – 0.3% to 0.8% shown in Table 5.1, AC05 forecasts Strategic fit)<sup>16</sup> can be accommodated within existing capacity.

In addition the South East has excellent high speed rail links to Europe, the UK's largest economic partner. These rail links are being developed further with competition and links to the wider European network, and will eventually be linked to the north of England when the HS2/HS1 link is resolved. The traditional ferries also continue and use of these should be maximised by enabling market forces to encourage a wider range of RO-RO services than just Dover-Calais.

We contend that the issue is not one of airport capacity but of using that capacity efficiently in combination with other modes of transport.

CPRE Kent believes that the commission should, even at this late stage, take this wider perspective and conclude that no more runways are needed, now nor in the foreseeable future.

- 1.5. There is an opportunity to consider alternative economic and societal paradigms and we would draw the Commission's attention to the comments submitted by People's Intelligence: (please see attached summary at Annex 2).

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<sup>14</sup> <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fld=2007Annual>

<sup>15</sup> [www.caa.co.uk/default.aspx?catid=80&pagetype=88&pageid=3&sglid=3](http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&pageid=3&sglid=3)

<sup>16</sup> [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/374660/AC05-forecasts.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/374660/AC05-forecasts.pdf)

1.6. We also consider that, for long term planning, much more recognition needs to be made of changes within the industry. A key for the industry is slot allocation. The European perspective on this has been expressed by the EU<sup>17</sup>:

*“A drastic revision of the slot allocation regime needs to be promoted through studies that will analyse its impact on the air transport system in Europe. Examples include incorporating market-driven orientations for allocating scarce airport capacity with the aim of removing market entry barriers and discriminatory practices, ensuring transparency, equity and unrestricted access to airport resources, and boosting the operational (e.g., delays, level of service) and financial (e.g. Revenues) efficiency of airport operations. It is imperative to establish new procedures and rules for allocating slots at congested airports by allowing more transparent exchanges of slots and criteria for allocation priorities with a clear orientation towards greater flexibility and increasing adoption of market mechanisms (i.e., pricing schemes).”*

Considering slot allocation and entry barriers from a UK perspective, and for example at Heathrow, new entrants find it almost impossible to obtain slots, as indicated in the Commission's consultation document (para 3.63):

*“Heathrow is by far the largest of the London airports in terms of passenger movements, serving the UK as its primary long-haul gateway – 84% of London's long-haul market is at Heathrow. The airport currently caters almost exclusively for legacy carriers, both network and point-to-point, with over 50% of flights at Heathrow being operated by IAG and its alliance partners. The Commission's forecasts suggest that this would be likely to continue”*

However if slot allocation were improved as suggested then the capacity would be more likely to be used for economically important flights such as for business, rather than increasing already well served tourist destinations.

1.7. CPRE considers that to focus aviation growth on London, which already has so many runways, is wrong for the UK. It is a high risk strategy, as dangerous as concentrating so much road traffic through Dover and Folkestone, where disruption due to weather or safety incidents already has considerable knock on effects for example through Operation Stack.

## **Q2. Any suggestions how the short-listed options could be improved?**

2.1. If a second runway were to be built, far greater improvements would be needed in road and rail infrastructure, in housing, schools, hospitals etc.

The Aviation Policy Framework<sup>18</sup> requires that developers should pay the costs of upgrading or enhancing road, rail or other transport networks or services where there is a need to cope with additional passengers travelling to and from expanded or growing

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<sup>17</sup> [Air Transport Thematic Research Summary 2010](#). P35; para 4.4.4, Policy Implications

<sup>18</sup> [aviation policy framework](#) para 5.12

airports, and we expect this to be enforced.

- 2.2. CPRE Kent would like to emphasise to the Commission the importance of noise and the significance of tranquillity in rural areas that would be affected. Rural areas that have high levels of tranquillity because of their intrinsic landscape character are significantly impacted when there is more overflying. Please see our section 3 and annex 1 to this consultation response for our concerns over designated areas such as the National Park and AONBs, in which the direct purpose of those designations is to maintain and enhance character, including tranquillity.

We would add that the suggestion that mitigation is possible by double or triple glazing misses the point: these designated areas are places where tranquillity is a distinctive part of their character. We would emphasise that noise is measured on a logarithmic scale, and that dB metric is a ratio, so it does not clearly relate to the number of planes causing the noise. For example, two aircraft, each producing 50dB, together produce 53dB. When the averaging metric LAeq is used, that leads to the inference that one Concorde could be replaced by 120 Boeing 757s without increasing the averaged noise level<sup>19</sup>.

We draw the Commission's attention to the comments of GACC in Gatwick Unwrapped<sup>20</sup>.

- 2.3. We would also like to advise to the Commission that any improvements or commitments must be defined by publicly available legal agreements. CPRE has observed many planning situations where improvements and protections have been ignored or avoided where they are not defined as legal commitments or conditions We agree with the comments of GACC (*ibid*, paragraph 84).
- 2.4 On visual and noise protection, in particular for Gatwick, and as an example of the pressing need for legally enforced protections, CPRE Kent shares GACC's concerns that any consideration of a further runway at Gatwick should take full account of the need that would arise to provide substantial (15 metre high minimum ) earth bunds to protect the villages of Ifield and Charlwood from noise and vibration damage and intrusion . CPRE agrees with the statements of GACC; (*ibid*, paragraphs 17, 27, 28). Any such proposals would of course also need full consultation with the local community, and legally binding agreements.

### **Q3. Comments on how the Commission has carried out its appraisal?**

CPRE Kent considers that appraisal detail is insufficient to enable a full assessment and comparison of proposals. Please see our comments on specific topics in Question 5 for full details.

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<sup>19</sup> <http://hacan.org.uk/the-quiet-con/>

<sup>20</sup> [gatwick unwrapped](#) paragraphs 23-25

#### **Q4. Any relevant factors that have not been fully addressed?**

4.1. The issue of environmental limits appears to have been ignored, despite it being a fundamental issue. Matters of air and noise pollution need to be assessed against the multifunctional benefits of countryside that would be damaged or lost altogether. This is now an issue of environmental limits since we know that the loss of ecosystem services has much larger impacts than the visual or tranquillity losses. Increasing the direct pressure on the environment by runway expansion will test environmental limits on air quality and noise (both defined in European legislation). But increasing the indirect stress on water supply, and reducing the capacity of the environment to deliver wildlife habitats and restorative leisure 'services' for people, let alone resilience from flooding in uncertain weather futures are all aspects of environmental limits that should be considered. Only a few can be resolved with civil engineering solutions. The risk is a new runway that functions economically and technically, but at far too high a price environmentally and which will cause future problems. This is why we are concerned by the appraisal- these wider and cumulative impacts are underestimated so a fair assessment of benefit and impact is not possible.

This is so important that we strongly suggest to the Commission to first analyse what is potentially possible within current and future environmental limits, and only then assess if that possibility would provide any economic benefit through aviation. We recommend to the Commission the response from People Intelligence Ltd on the Commissions Discussion Document AC 04: ' Airport Operational Models', as referred to in our Annex 2 to this document.

4.2. We consider that the Commission has made a major omission by not taking into account the available but under-used capacity outside of the south east. We believe that this is not only inappropriate, but also actually damaging by further aggravating the north-south disequilibrium of the UK's economic activity.

4.3. We are very concerned that housing has been subsumed into Strategic fit and Economy. We consider that housing is so important that it should be separate appraisal section. We include our comments on this under Local Economy, as in your list of reference documents for AC01.

#### **Q5. Comments on specific topics?**

##### 5.1 Strategic fit - costs.

Around 50% of passengers at Heathrow fly with IAG carriers (mainly BA), whereas at Gatwick around 45% fly with Easyjet<sup>21</sup>. Thus each airport is at high risk if their major airline suffers a major business downturn or shifts to another hub.

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<sup>21</sup> [gatwick area transcript](#), page 69, Stewart Wingate

Both Carolyn McCall and Willie Walsh have expressed concern that the economic case at Gatwick would be seriously undermined by higher charges that would be needed to cover the cost of a second runway there. Quotes from both are included in the GACC report<sup>22</sup>.

Over two thirds of London airport passengers come from the region, with the majority of these coming from London itself ('Airport capacity in London', Greater London Authority, 2013). In addition something around 70% of flights are short haul leisure flights, with a higher percentage at Gatwick. If a proportion of these were provided by the other airports in the south east, Heathrow and Gatwick would be able to focus on more long haul flights. The key to achieving this is to avoid runway expansion (containment), together with improving surface access to the other airports (connectivity). This would avoid any need for expansion. It would also make possible the addition of more point-to-point Far East flights using the slots made available.

## 5.2 Strategic fit – spatial strategy

As Ralph Smyth (not Andy Smith) of CPRE, said at the Gatwick Public Session<sup>23</sup>, *“There is a huge need to rebalance the economy to the north, but we do not have a national spatial plan, unlike most other European countries and, indeed, Wales and Scotland. The fact is if we did have a national spatial plan the Gatwick expansion would fall at the first hurdle; it would fall at the strategic fit stage. It is because we do not have this that Gatwick has got off first base.”*

Making the north-south divide worse would of course reduce any potential benefits for the UK as a whole.

## 5.3 Economy – Modal shift

We are very concerned by GAL's admission<sup>24</sup>, that the majority of travel (65%) from Gatwick will continue to be short haul European flights. Short haul travel is precisely the area in which high speed rail can compete and there is an environmental imperative to do so as short haul flying is less efficient and more polluting per kilometre than long haul.

It should be noted that the Channel Tunnel has plenty of spare capacity, and new rail services competing with Eurostar are expected in the near future. In addition the Hastings-Ashford rail service is to be upgraded, further increasing the population able to use the high speed network both in the UK and in Europe.

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<sup>22</sup> [gatwick unwrapped](#) paragraphs 81-81

<sup>23</sup> [gatwick area transcript](#), page 33: incorrectly attributed in the transcript to Andy Smith of CPRE

<sup>24</sup> [gatwick area transcript](#), page 17: Nick Dunn, Chief Financial Officer, Gatwick Airport Ltd

GAL also said in the same session, (ibid, page 57) that the economically important emerging markets represent a small percentage of total flights, and could in his view easily be catered for within existing capacity at either airport. He drew attention to the evolution of the industry to more point to point flights as aviation technology makes this possible with less need for hub operations. The clear implication is that this can be achieved without the great expense and damage caused by the proposals.

We would go a step further and say the Commission should be actively recommending increasing modal shift to rail in place of short haul European flights as better solution for the environment and for the UK's obligations with respect to climate change.

#### 5.4 Economy – Passenger benefits

The documents on economic benefits concentrate on passenger benefits. For example, OECD<sup>25</sup> says:

*“it is not clear what the overall impact would be”*. So it could be negative, zero or positive.

Even if the overall impact were positive, that benefit would be felt only by the passengers, not by the majority of people around the airport. Furthermore as the majority of those who fly are in the higher socio-economic classes, this benefit would be shared inequitably, and acts against social cohesion<sup>26</sup>.

#### 5.5 Economy – Costs and UK benefits

The economic case can only be assessed if the wider costs are taken into account, and particularly so for infrastructure. Cllr Roger Arthur<sup>27</sup> asked GAL ‘How much are you going to fund for the infrastructure?’ The figure provided by GAL would probably pay for the widening of two miles of the M25. To a follow up question on the total cost of additional infrastructure provision the answer from GAL was ‘We do not know.’

A better economy is one that delivers prosperity without growth. This is possible, and desirable<sup>28</sup>. In this scenario, prosperity would increase without the need for aviation expansion.

#### 5.6 Economy - Jobs

The economic assessment and impact analysis of the expansion proposals assume that the workforce is available both for the expanded airport and the related developments. However the south east's unemployment rate is very low (at 1.2%, compared to 2.0% for Great Britain) and totals 66,566 people<sup>29</sup>

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<sup>25</sup> [expanding airport capacity: competition and connectivity](#) OECD 2014, page 15

<sup>26</sup> Table 15 of [CAA passenger survey report 2013](#)

<sup>27</sup> [gatwick area transcript](#), page 74

<sup>28</sup> Tim Jackson 'Prosperity without Growth, Economics for a finite planet' Routledge, 2011

<sup>29</sup> [Unemployment in Kent 2014](#)

This suggests very little room for manoeuvre for significant expansion and certainly not without surface infrastructure (schools, hospitals etc) as well as housing.

From Kent's point of view and especially, the western districts nearest or shortest travel time to Gatwick (or Heathrow), the labour availability is even smaller: Sevenoaks have 614 unemployed, Tonbridge & Malling 744, and Tunbridge Wells 525. Thanet, the District with the highest number unemployed, has only 2,945 unemployed people, and is furthest away, so its residents are least likely to travel to work at Gatwick.

All this demonstrates a scarcity of staffing and apart from raising airport staffing costs and putting increasing staffing costs on local employers as well, would be likely to cause large-scale inward migration, with all the consequent housing and infrastructure needs.

### 5.7 Economy - Taxation

The lack of taxation on jet fuel and zero-rate VAT on tickets further distorts the economic case and means the industry does not use its resources efficiently, reducing the economic benefits and hence making the economic assessment inadequate.

### 5.8 Local economy

The effects are likely to be negative as many firms would suffer from shortage of labour and traffic congestion.

### 5.9 Local economy - Housing

The Commission seems to have great confidence that housing required is quite small, and that it can be fitted in fairly easily. However, the Leader of Crawley Council, Cllr Peter Lamb<sup>30</sup> is on record as stating that Crawley needs to build 6,000 houses - but only has space for two thirds of that number. There was strong impression from the public session that, given the present low unemployment levels, existing labour shortages and traffic congestion, there would be negative effects on businesses in the area compounded by housing shortage and lack of infrastructure.

From a west Kent perspective it is clear – from the new flight path arrangements already implemented – that the environmental damage already far outweighs the benefits. Few west Kent jobs are related to Gatwick; access from Kent is poor by rail and congested by road (M25/ M23). The current Local Plans for housing in West Kent Districts do not include any assumption for Gatwick expansion.

### 5.10 Surface access.

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<sup>30</sup> [gatwick area transcript](#), page 40

To seek to expand air transport when the domestic surface transport system needs so much more investment, especially the rail system, is putting the cart before the horse. There is no point in considering airports in isolation – an integrated transport system requires the system is considered as a whole.

Therefore the Commission should recommend that the deficiencies in public transport need to have remedies planned and funded first before proposing any expansion of airports, or at the very least in parallel, and to the same level of adequate detail. To do otherwise would be to risk chaos not just for air passengers, but also for commuters trying to reach workplaces.

Most of Kent has poor access to both Gatwick and Heathrow. Rail access from much of Kent requires more than one change and is relatively slow.

Road access may be quicker than rail at off-peak times but there is no good direct access to Gatwick. As highlighted by others, the M25 and subsequent access roads both Gatwick and Heathrow are subject to frequent congestion with existing traffic, and promised improvements will not help cope when there is additional airport traffic, especially as building roads increases traffic<sup>31</sup>.

We welcome Stewart Wingate's recognition of Kent's poor westward rail links<sup>32</sup>:  
*“What we think is very important not only to Kent but also to us, the airport, and this is the east-west rail links. They simply are not good enough. The work that we have done with Network Rail in preparing the case for a second runway at Gatwick demonstrates that improvements are a key enabler in future to starting to open up these east-west rail links, which will be to the benefit of Kent.”*

For transport the public session dealt with the London-Brighton mainline. As far as we know there are no improvements proposed to make the Canterbury-Gatwick rail journey, for example, any more attractive than the current poor provision. This journey currently takes around two hours with two or more changes, which would hardly encourage car users to change mode.

A key point about rail use by airport passengers is that they usually have luggage – and the luggage can take up the space of more than one passenger, especially at peak times, when there is standing room only. In contrast most commuters have small brief cases or similar. This means that each airport passenger needs to be multiplied by a 'luggage factor' to show their true impact on the rail network.

There also seem to be relatively low aspirations by the Airports Commission to increase public transport use, and practically no increase in public transport use by staff, who should be the easiest to influence. Such travel planning is already quite good at

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<sup>31</sup> [SACTRA 1994, 'Trunk Roads & the Generation of traffic'](#)

<sup>32</sup> [gatwick area transcript](#), page 56

Heathrow, but is lamentably poor at Gatwick.

We strongly endorse Crispin Blunt's question<sup>33</sup>:

*“When anything goes wrong – be it air traffic control, flooding, a shortage of baggage handlers or, most frequently, when the rail line collapses – Gatwick collapses. All of this gets worse if Gatwick doubles in size. How can you address this?”* We do not consider that an effective answer has been provided.

The Commission itself<sup>34</sup> refers to the difficulty, which will grow beyond 2030, of maintaining a service pattern on the Brighton mainline which meets airport users' needs. This seems a very real and important risk.

We support Martin Heffer's (Coast to Capital LEP)<sup>35</sup> major concerns with:

*“the apparent void in the long-term strategic-level planning of the sub-regional and national networks across all transport modes. The members of Coast to Capital LEP have all noted the need for this void to be filled, and we would hope that the need for strategic long-term cross-infrastructure and cross-modal planning will be recognised by the Commission and form part of its response to Government.”* This will of course also need to be costed and the airport-related parts funded by GAL.

The current Local Plan situation for transport in West Kent does not include Gatwick expansion in such plans.

## 5.11 Environment

Kent's environment has received insufficient attention in the debate so far.

The Kent County Council's Environment Strategy<sup>36</sup> highlights some of the county's natural and historic environment resources in its 'Fact box'. These are:

- 13 Special Areas of Conservation,
- 6 Special Protection Areas,
- 6 Ramsar sites (designated wetlands of international importance),
- 101 Sites of Special Scientific Interest covering 8.5% of the county,
- 440 Local Wildlife Sites covering 7% of the county,
- 2 Areas of Outstanding Natural Beauty, the High Weald and Kent Downs,
- 18,000 hectares of accessible green spaces,
- 4,200 miles of public rights of way,
- 326 miles of coastline,
- 1.4 million visitors to country parks a year,
- 18,000 Listed buildings,
- 442 Scheduled monuments,

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<sup>33</sup> [gatwick area transcript](#), page 13

<sup>34</sup> Paragraph 3.11 [additional airport capacity delivery analysis](#)

<sup>35</sup> [gatwick area transcript](#), page 61

<sup>36</sup> [kent environment strategy](#)

- 500 Conservation areas,
- 2 World Heritage Sites.

It also says: “The county still faces challenges; development pressures; continuing need to improve air and water quality; continuing decline in biodiversity; and the effects of climate change (such as shortage of water, heatwaves and floods)”, so it has set Priorities which include:

- Ecological Footprint Priority 2: Ensure new developments and infrastructure in Kent are affordable, low carbon and resource efficient.
- Ecological Footprint Priority 4: Reduce the ecological footprint of what we consume.
- Climate Change Priority 5: Reduce future carbon emissions.
- Valuing the natural environment Priority 9: Conserve and enhance the quality of Kent’s natural and heritage capital.

A key principle that will underpin the implementation of this strategy is:

**Inspired Kent** - we will look all over the world to find the best innovations and solutions to encourage green-technology business growth and challenge the status quo where it is a barrier to progress.

The Strategy goes on to say:

*“We first need to stop our ecological footprint growing bigger, then we must reduce it.”*

Clearly airport expansion as presently envisaged is completely contrary to this Strategy.

## 5.12 Noise (and also Tranquillity)

### 5.12.1 Stewart Wingate<sup>37</sup> has said

*“At Gatwick, 18,200 people will be newly affected by significant levels of noise with a second runway.”* In addition, we welcome his honesty in saying:(page 5, paragraph V 1), *“it is a pity that in this debate there are still misleading comments along the lines of, ‘More flights, less noise’. I am not going to insult your intelligence by saying anything other than more flights mean there will be more noise than would otherwise be the case.”*

Likewise Alastair McDermid,<sup>38</sup> (Airports Commission Director, GAL) agreed:

*“We have acknowledged in all of the assessments that we have made that daytime noise contour will cover a larger area and will cover more people.”*

However the European Noise Directive requires noisy areas to be made quieter and less noisy areas to become no worse. So expansion at Gatwick would conflict with that

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<sup>37</sup> [gatwick area transcript](#), page 4

<sup>38</sup> [gatwick area transcript](#), page 31

Directive because of the consequent increase in noise levels.

Furthermore, as long ago as 2004, the Government committed to meet the World Health Organisation noise targets<sup>39</sup>; these proposals would make the achievement of that objective impossible.

As Heathrow is not local to us, we do not have knowledge of the noise environment there, but even if a scheme were to reduce the total number of people affected by using Leq noise contours, that may still mean new people being affected, and of course it does not show how quiet areas are affected.

As Ralph Smith said<sup>40</sup>

*“Stewart Wingate’s pledge to do everything to mitigate and compensate for the noise from the flights. Stewart, what use is your loft insulation to people in parks, gardens and playgrounds? What use is your double glazing for people trying to go for a quiet walk along a footpath or a country lane? The fact is there is nothing you can do to mitigate or compensate for the huge disruption to tranquillity. All you can do is avoid it by not going ahead with a second runway. ”*

Compensation is usually only offered to people near the airport. Many of our members have been affected already, especially in West, but also in East Kent – we have received complaints from Wye, and an aircraft flying from Birmingham at 23,000 feet, disturbed a Canterbury resident, despite being in a house with 300 mm insulation all round, closed triple glazed windows and curtains. These complaints highlight the sensitivity to noise. What use is double glazing in that situation?

The recent CAA ERCD Report 1402<sup>41</sup> covers noise contours at Gatwick and it shows that the population in the standard modal split daytime 57 dBA contour has increased every year since 2010 by over 11% per year, even though the number of daytime movements and area within the standard modal split daytime 57 dBA contour have not increased by nearly as much. Small increases in the area within a contour affects a greater number of people, which adds to the reasons against expansion.

It should be noted that the Report uses 57 dBA contours for day and 48 dBA for night, but the Department for Transport's WebTag guidance on noise (TAG Unit A3, 12.1.10) states that: “Research conducted by the Department to develop monetary values for noise impacts suggests a positive willingness to pay to avoid transport related noise from 45dB LAeq”. This means that lower noise levels should be modelled too, especially as aircraft noise is more intrusive than general transport noise.

We can do no better than to quote the All Party Parliamentary Group on Heathrow and

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<sup>39</sup> [Night Flying Restrictions at Heathrow, Gatwick & Stansted Airports](#)

<sup>40</sup> [gatwick area transcript](#), page 33: incorrectly attributed in the transcript to Andy Smith of CPRE

<sup>41</sup> [Noise exposure contours for Gatwick Airport 2013](#) (and 1302, 1202, etc., for previous years)

the Wider Economy<sup>42</sup>, whose Forward to their recent report (December 2014) said: *“But does noise disturbance really matter? Unequivocally yes, it does, say the World Health Organisation (WHO). Their research shows the deleterious effect that excessive noise has on the whole population, but particularly to the vulnerable - children, the elderly, those with underlying cardiovascular and mental health conditions. The WHO’s key guidance documents explain the effect that a noise environment above 55 decibels has on society: increasing aggressive behaviours; increasing stress hormones, increasing blood pressure levels, reducing helping behaviours and hindering child development.*

*For a Government to fail to address this problem would demonstrate a Victorian disregard for the population.”*

5.12.2 We support the concerns of bodies such as Tandridge District Council<sup>43</sup> who wrote: *“It is clear that the current P-RNAV experiment is not working satisfactorily for the reasons expressed by the Council in 2012. As P-RNAV is not required in advance of the national implementation post 2018, it is considered that the intervening period should be used to understand the problems that have been caused by P-RNAV and to establish some solutions prior to the national implementation post 2018. As it is also stated by GATCOM in its letter dated 5 November 2012, ‘GATCOM welcomes the provision to enable a P-RNAV route to be permanently withdrawn and traffic reverted back to the conventional procedure if it is deemed to have a significant detrimental impact on communities.’”*

We consider that the Commission should support the withdrawal of PRNAV while it is under re-consideration.

We agree with Stewart Wingate's question to the Government, CAA, NATS and airspace managers about PRNAVs<sup>44</sup>: *“Is this actually the right policy to have?”*

The concentrated PBN departure route to the east (08 DVR/BIG/CLN/LAM) takes a slight bend to the south to avoid Hever Castle, which helps Hever, but that also means it goes over Chiddingstone Castle and Penshurst Place, which are of equal importance. Hence Gatwick is not the place for more planes, because if you please one area, you will upset another area. It is just not possible to have more planes without unacceptable damage.

We also draw attention to Kent suffering from Heathrow proposals - the "RNAV1 Westerly SID Trial Phase 2" shows planes having to remain at 6,000 feet at Detling unless otherwise directed by air traffic control (& lower towards Heathrow). This is because of the heavily used airspace in this area which would be bad enough with current flights, but horrendous if Heathrow were to expand. Detling is within the Kent Downs AONB, and so this conflicts with the AONB objectives.

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<sup>42</sup> <http://www.heathrowappg.com/>

<sup>43</sup> [TPC letter to GAL](#)

<sup>44</sup> [gatwick area transcript](#), page 29

We had great concerns about the proposed airspace changes in 2013-2014, and we responded to the consultations with the Key Aspects of concern to CPRE Kent:

- *“We welcome changes where benefits can be delivered without detriment, such as higher altitudes and flights over water.*
- *We are very concerned that proposals are effectively expansion by the back door without any democratic control.*
- *New areas could be blighted by being overflown.*
- *Some areas, both new and existing, could be seriously affected by intensification of air traffic because of the narrower flight paths.*
- *The consultation does not appear to recognise the requirements of the European Noise Directive for there to be no increase in noise, nor for emissions (and hence activity) to be restrained to meet the Climate Change Act.*
- *We strongly disagree with the idea of trying to 'balance' the impacts of noise and climate change.*
- *Our primary concern is to ensure that there is no increase in noise, visual intrusion and global warming emissions, and preferably a decrease in these. Hence this should be the primary Objective and the proposals should be designed to achieve that.*
- *85% of Kent is rural, but the proposals do not appear to have sufficient regard to maintain their relative tranquillity.*
- *There should be a requirement for all aircraft (with exceptions for aircraft such as gliders, which may not have a power source) to be fitted with transponders to enable ease of identification by air traffic controllers and others.”*

These concerns remain, and we trust the Commission will ensure that they are taken account of in its deliberations. We have included the sections on noise and tranquillity in our Part 3 above.

An additional point, which does not appear to receive any recognition as being a possible way to reduce noise to those on the ground, is to change flightpaths so that more of the journey is over the sea. For example, see Annex 1a to this response: the route used from Berlin to Gatwick goes over the Thames estuary well to the north of Margate and Herne Bay, then turns south westerly to come over the Isle of Sheppey to fly over the Kent Downs AONB towards Hawkhurst, going WSW over the High Weald AONB, turning ENE towards Edenbridge to line up to land at Gatwick. As well as long stretches over the AONBs, this route also involves three turns over land. A route avoiding more of the AONB and flying over lower-lying land with a shorter over land route having fewer turns (thus reducing noise), would be achieved by routing the plane south west down the Channel and then turning northwest over land before making the final turn onto the final landing alignment. This would also help reduce congestion in the Thames estuary and over north Kent. We suggest that the Commission should investigate this as a way to reduce noise levels from existing operations

It is significant that the analysis of the responses to NATS' London Airspace consultation<sup>45</sup>, areas of Kent were most frequently mentioned as needing special consideration. Likewise Kent received highest mention to the Respite Criteria question., which indicates that Kent's concerns about over-flying are very high, and expansion of Gatwick, and indeed Heathrow whose flights also impinge on Kent, cannot go ahead if those concerns are to be met.

It is well known and acknowledged that noise in rural area more annoying because of low background noise both ISO standards and BS 4142 make recognition of this fact when assessing the impact of noise in an area..

5.12.3 We are very concerned about Stewart Wingate's response to concerns about impacts of route changes over the High Weald of Kent<sup>46</sup>:

*“Andrew Haines, CEO, CAA, wrote to Richard Streatfeild stating that the practices over on the eastern side of the airport fall within the parameters within which NATS are allowed to operate. What it did go on to describe was the fact that in 2012 the vectoring point onto the instrument landing system did move back from a range of somewhere between seven and 12 miles to about 10 and 12 miles. What he pointed out was that this in itself does not constitute an airspace change. Hence the position of the airport is that this has not been a change – or an airspace change.”*

If the range has been reduced from 7 to 12 miles to between 10 & 12 miles, we believe that means a concentration over a two mile range rather than a five mile range, and therefore an increase in noise. Andrew Haines may be correct in a strict interpretation of the regulations etc., but nevertheless this provides another example of the industry's insensitivity to those who suffer on the ground, to say nothing of the failure to respect what should be the usual courtesy of communicating with people potentially affected.

We trust the Commission will strongly emphasise the need for the industry to try and recover the lost trust (an issue which we note received significant attention at the Public Session), by listening and communicating effectively and in good time with those potentially affected.

5.12.4 We also support using the Land Compensation Act to try and provide compensation for all people affected by aircraft noise, to be paid for by GAL. It is inequitable that aircraft noise, unlike road or rail noise, does not currently qualify for such compensation.

It would be far better to control the noise at source. In particular, for night flights, that remedy is possible by rescheduling the timing of night flights. Night flight restrictions should be a mandatory part of operating procedures and not easily avoidable by small

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<sup>45</sup> [london airspace management programme](#) page 6

<sup>46</sup> [gatwick area transcript](#), page 30

fines.

We understand that the airport does not charge extra for night flights. Moreover the current restrictions, as noted in the Gatwick Public Session, are more lenient to Gatwick than Heathrow. Surprisingly, GAL's response to the 2013 consultation on Night Flight Restrictions did not accept a need to reduce night flights, and indeed would seem to have no aspirations to manage this problem. This is unacceptable.

CPRE would therefore draw the Commission's attention to the European Court of Human Rights judgement that night flights at Heathrow represented a violation of Article 8 of the Convention that "Everyone has the right to respect for his private and family life, his home..."<sup>47</sup>. Hence there is clearly a need for the airports to manage and reduce the number of night flights, and that is supported by the lack of economic benefit from night flights, see for example, 01/11/2004, Strategic Aviation Special Interest Group, who told the Department for Transport that no evidence has been produced by it or the aviation industry to justify claims that night flights have an overall economic benefit.

### 5.13 Air quality

The draft forecast is that Gatwick with two runways would not exceed the current EU limits, but that ignores the fact that air quality would worsen. As Cllr Peter Martin (Deputy Leader, Surrey County Council) reported<sup>48</sup>:

*"the impact on air quality of expansion, has not yet been the subject of detailed modelling. It is really important to understand how individual communities will be affected, and without this information it will not be possible to know what mitigation measures can reasonably and effectively be applied, how much they will cost and how they will be funded"*. Here again is another unknown extra cost, to be deducted from any benefits.

The Appraisal needs to include the impact of extra surface traffic, which would further damage the air quality, adding extra costs.

We are particularly concerned about air quality because the appraisal is for current limits, and limits could well be tightened, and it is essential that pollution does not increase as this would have adverse health impacts.

The 7th EU Environment Action Programme (EAP) 'Living well, within the limits of our planet' acknowledges that the EU has failed to achieve adequate air and water quality standards because of a failure to fully implement existing policy. In the UK, infraction proceedings have been brought against DEFRA for breaches in air quality. According to Chartered Institute for Environmental Health Chief Executive Graham Jukes, in London,

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<sup>47</sup> [case of hatton and others v the united kingdom](#)

<sup>48</sup> [gatwick area transcript](#), page 51

mitigation measures such as restriction of heavy vehicles, traffic calming measures, congestion zoning and encouragement of cycling have failed to enhance air quality."

The EU has launched its own infraction action against the UK for failures on NO<sub>2</sub><sup>49</sup>, and a separate case was brought by Client Earth on NO<sub>2</sub> on which the EU court demanded action<sup>50</sup>, pronouncing:

*"it is for the competent national court to take...any necessary measure, such as an order ... so that the authority establishes the plan required by the directive to ensure... that the period during which the limit values are exceeded is as short as possible"*

These cases should be seen in the context that the government now thinks it will be even later before the UK complies (not until some time after 2030)<sup>51</sup>. This is against an increased health imperative – the figures for premature deaths have previously been just for particulate pollution, but there is increasing evidence for an independent health effect from NO<sub>2</sub><sup>52</sup>. There is also evidence that NO<sub>2</sub> could double the number of premature deaths per annum<sup>53</sup>.

All these factors support the recent Environmental Audit Committee's conclusion<sup>54</sup> that: *"The Government should add an explicit air quality objective to the Airports Commission Appraisal Framework."*

The rest of that report highlights the current inadequate situation of air quality and the numerous actions needed to remedy that. Hence it is to be expected that much more rigorous attention will be needed.

The Report also refers to the Local Authority results (ref 146) and Table 1 therein gives the 'Attributable fraction' which is the proportion of deaths estimated to be due to exposure to particulate air pollution. Kent scores 5.6, above the Crawley and the South East average of 5.5, whereas Dartford scores 6.7 and Medway 6.1, which reflect the impact of the Dartford crossing. Hence any development which potentially produces increased deaths would be a retrograde step. As the evidence suggests more people would come to an expanded airport, that would mean more traffic through Dartford via the Thames crossing, to say nothing of all the people in the additional businesses and houses visiting or receiving visitors from north of the river Thames.

#### 5.14 Biodiversity

We have been unable to carry out detailed research into this, but clearly the loss of

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<sup>49</sup> <http://www.bbc.co.uk/news/science-environment-26257703>

<sup>50</sup> <http://www.clientearth.org/news/press-releases/eu-court-rules-uk-government-must-act-to-clean-up-deadly-air-pollution-2699>

<sup>51</sup> [http://uk-air.defra.gov.uk/assets/documents/no2ten/140708\\_N02\\_projection\\_tables\\_FINAL.pdf](http://uk-air.defra.gov.uk/assets/documents/no2ten/140708_N02_projection_tables_FINAL.pdf)

<sup>52</sup> <http://erj.ersjournals.com/content/early/2014/02/20/09031936.00114713.abstract>

<sup>53</sup> <http://www.airqualitynews.com/2014/12/05/uk-nitrogen-dioxide-mortality-figures-due-next-year/>

<sup>54</sup> ([www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/212/21206.htm#\\_idTOCAncor-16](http://www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/212/21206.htm#_idTOCAncor-16))

countryside and green belt areas due to need for additional houses, and displaced commercial premises, as well as all the associated infrastructure, would have adverse effects on Kent's biodiversity.

## 5.15 Carbon

5.15.1 The expansion proposed would conflict with political and legal climate change commitments. These are especially pertinent to Kent because of the large low lying areas around its coast, which would be at greater risk of flooding in the future due to rising sea level as well as fluvial flooding due to changed weather patterns.

We are very concerned that paragraph 2.41 (AC01 Consultation) says: "It has not been possible to assess the transport economic efficiency, delays or wider economic impacts under a carbon-capped forecast. This is because carbon prices are much higher in each scheme option than the 'do minimum' baseline, meaning the carbon policy component of the appraisal dominates the capacity appraisal. This is particularly problematic as appropriate carbon policies have not been investigated in detail."

This means that key information required is not available and so the current assessments could be completely wrong. It also means that in a 'carbon capped' situation there would be no justification for the expansion proposals.

We do not consider that anything other than a 'carbon capped' situation should be considered. Although 'carbon trading' seems attractive, the reality is that most nations will be seeking to carbon trade, and therefore cause scarcity of trades with an increasing price of carbon. By planning for a 'carbon capped' future the UK will be in an enviable situation of not having to buy carbon offsets, and indeed our technological expertise could enable us to sell carbon offsets and thereby significantly boost our economy. We think the Commission may have underestimated the potentially large economic benefits that planning for a 'carbon capped' future could provide. So this needs much more detailed examination.

An important factor in the proposed developments is that undeveloped land will be concreted over, so that the carbon dioxide removal by plants and trees will be lost. This will be a huge area: not just at the airport, but all the buildings (houses and business sites) but also the roads and associated infrastructure. This needs to be included in the appraisal.

5.15.2 Although other industries have reduced emissions, transport and in particular aircraft have not. Although some reductions in individual aircraft emissions are claimed, these are swamped by the number of air transport movements, especially as the baseline is 1990, and the decade to year 2000 saw growth in movements.

The Department for Transport has long recognised that the climate change impacts of aircraft emissions are around double that of the carbon dioxide emissions alone, but

that factor has yet to be included in the carbon budgets. This means that any expansion of aircraft movements would increase climate change damage.

In her paper: "All adrift: aviation, shipping, and climate change policy"<sup>55</sup>, Dr Bows Larkin concludes that the more simply structured aviation sector is misguided in pinning too much hope on emissions trading to deliver CO<sub>2</sub> cuts in line with 2°C. Instead, the solution to aviation playing its part in achieving the 2°C target remains controversial and unpopular. It requires demand management for air travel, or perhaps biofuel, which seems unlikely (and even less likely, with current low oil prices). She asks:

*"Should aviation, which in a global context continues to be dominated by relatively affluent leisure passengers, take priority over other sectors for the use of sustainable biofuels in preference to less popular policies aiming to curb or even cut growth rates? ...The highly constrained carbon budget commensurate with 2°C does not permit any further delay in rolling out mitigation policies for aviation and shipping."*

Ultimately, an uncomfortable and familiar conclusion for aviation remains: a moratorium on airport expansion at least in wealthy nations is one of the few options available to dampen growth rates within a timeframe befitting of the 2°C target."

#### 5.16 Water and flood risk

Kent is a water scarce county, and the water companies' current plans do not include the needs for the consequential developments arising from the Gatwick proposals. The most recent Water Resource Plans have had difficulty in making provision for the next five year periods without significantly increasing charges, and the plans only provides sufficient water to meet the potential demand. Furthermore the Water Framework Directive, which must be complied with by 2027, has not been included in water resource plans, and it is very likely, certainly in Kent if not in Surrey and Sussex, that available resources will have to be limited to meet the Directive. If Gatwick were to expand, further water resources would be needed both for the airport, which we believe uses the equivalent of 20,000 people, and for the additional population and passengers. This would increase the risk of supply failure and add additional costs on customers' bills, so these costs need to be factored into the appraisal.

Kent is at huge risk from both flooding and water scarcity. These problems apply equally in and around Gatwick, and Thames flooding risk is an equivalent problem in the area around Heathrow. Any increase in climate change emissions would therefore exacerbate that risk.

Some of the 40,000 houses needed to accommodate Gatwick's growth would be in Kent, so these buildings and their roads would increase run-off, requiring additional control measures.

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<sup>55</sup> [www.tandfonline.com/doi/pdf/10.1080/14693062.2014.965125](http://www.tandfonline.com/doi/pdf/10.1080/14693062.2014.965125)

The Environment Agency 2080 flood forecast maps show significant areas of flood risk zones which would have a hugely detrimental effect on Kent's commercial and agricultural economy.

The risk estimates in the appraisals have used 1 in 100 year occurrence, but climate science shows that more volatile weather patterns will occur, so that what are currently 1 in 100 year events will become much more frequent. Hence for the 2050 scenario, a higher risk frequency should be used, which will increase costs, of course, but provide a more realistic risk estimate.

### 5.17 Place

The analysis so far provided has ignored the effects on Kent – many of the 40,000 houses would be built in Kent, with all the associated infrastructure and so quiet villages would be damaged beyond recognition.

### 5.18 Quality of life

Commission Document 11 'Quality of Life Assessment' by PwC, is obviously qualitative, and the analysis is inadequate. For example, Chapter 3 (Subjective wellbeing analysis), excludes children (who are more sensitive to things like noise, etc.) and it finds no effect on well-being from night flights, despite the clear evidence provided by many people (see our earlier comments on Noise).

Quality of life would be made worse by increased noise, traffic jams, rail overcrowding, by pressure on schools, doctors, hospitals, social services, but these have not been fully accounted for.

Health is very important to everybody, and is a major quality of life issue. The assessments of noise, and air quality refer to health impacts, but health is also affected by the availability (or lack of) green and tranquil areas for rest and relaxation.

We draw the Commission's attention to the comments from Brenda Smith<sup>56</sup> (Chairman of One's Enough) that we have one of the highest percentages of asthma in children in the whole of the south – this would be made worse by airport expansion and all its associated traffic and development, and so needs to be included in the appraisal.

### 5.19 Community

The Community Impact Assessment document only covers impacts around the airport - not the wider area such as Kent, nor the consequential impacts from roads etc., so has serious shortcomings. Kent would be put under stress by in-migration of workers from elsewhere in the UK or from the EU, the effects of which have not been included,

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<sup>56</sup> [gatwick area transcript](#), page 73

and which would further exacerbate the ‘pressure cooker’ effect of economic activity being over-concentrated in the south east.

## 5.20 Cost and Commercial viability

All the expansion proposals would add to airport costs, and so would lessen commercial viability in relation to other airports and would make raising finance more difficult. Hitherto Heathrow & Gatwick have been allowed cost pass through by the CAA as economic regulator, which means that justifiable airport expenditure increases airport charges to airlines. The industry publicises how competitive it is and how little profit it makes, but the OECD<sup>57</sup> confirms that higher charges will reduce airline margins. For those airlines who currently have slots, expanding runway capacity is uneconomic, because the increase in charges would reduce their profits.

However with capacity restraint, load factors increase and there is a greater chance of profit. If there is more demand, then larger planes can be used, further reducing the airline costs per passenger, and helping potential profits.

## 5.21 Operational risk

Around 50% of passengers at Heathrow fly with BA, whereas at Gatwick around 45% fly with Easyjet<sup>58</sup>. Thus each airport is at high risk if their major airline collapses or goes elsewhere, and such action could mean expenditure on expansion was wasted.

Cath Lynn<sup>59</sup> states that:

*“if we use the Commission’s figure this would be a doubling in charges. To put this into context, our average fare from Gatwick is around £60, so an £18 increase in charge would have a material impact.”*

So EasyJet would be likely to look at alternative airports, such as Stansted, where charges would be lower.

Nick Dunn<sup>60</sup> stated that

*“most travel in the future and the expansion needed relates to short-haul European flights, which will account for 65% of travel.”*

This means as high speed rail increases competition a major part of the airport's custom could be lost, and therefore wasted expenditure on expansion.

Nick Dunn further said<sup>61</sup>

*“It is because in the future more and more flights will go point to point, from the*

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<sup>57</sup> <http://www.internationaltransportforum.org/Pub/pdf/14Airports.pdf>

<sup>58</sup> Stewart Wingate, [gatwick area transcript](#), page 56

<sup>59</sup> Group Commercial Director, EasyJet plc, [gatwick area transcript](#), page 68

<sup>60</sup> Chief Financial Officer, GAL [gatwick area transcript](#), page 17

<sup>61</sup> *Ibid*, page 57

*airport of choice to the airport of choice.”*

Of course this means that London airports would lose custom as direct flights would increase from places such as Birmingham and Manchester etc., thus putting risk onto both Heathrow and Gatwick – and also negating any need for either to expand.

## 5.22 Delivery

The Commission’s document on deliverability<sup>62</sup> refers to Code F aircraft such as A 380 as posing a significant congestion risk. It seems very unwise to expand an airport that could have difficulty in coping with such aircraft: we cannot predict how future fleet mixes may change, and so any expansion should be 'future-proof'. This problem is very relevant because the A380 is designed to avoid the need to use hub airports, and so would be particularly useful for Gatwick's long haul aspirations which could be stalled if such airport congestion restricted their use. This highlights the problem of focussing on runway capacity rather than capacity as a whole, including taxiways and terminals.

Paragraph 3.26 of that document highlights the vital importance of adequate mitigating actions. We do not consider that things like noise can be mitigated, but even if all the aspects of concern could be mitigated, we do not believe that it is possible for the Commission nor even the Government to ensure that all the mitigating actions are taken. The most effective way would be a binding legal agreement (similar to the existing 2019 agreement) and this would need to be done for any expansion proposal.

Regrettably, based on other planning experience, we can have no trust in the promises by the airport promoters unless they are put in a legal agreement, before Government makes a decision.

## **Q6 Comments on the sustainability assessments**

### Impacts

One aspect that seems under-played in the commission papers is effects on the wider area, not just around an airport. EIA require that consequential impacts are evaluated, as well the obvious ones of the proposed development itself. Therefore, the impact of all the developments and changes that would arise from any proposal need to be fully evaluated.

Some specific issues are covered elsewhere in our response, but generally the consequential impacts are poorly covered, if at all. For example housebuilding and other infrastructure will generate huge emissions both from the construction phase, but also from the embodied energy. Likewise the impacts will be increased because of these houses, their occupants and their consumption and wastes. Without a detailed

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<sup>62</sup> [www.gov.uk/government/publications/additional-airport-capacity-delivery-analysis](http://www.gov.uk/government/publications/additional-airport-capacity-delivery-analysis) Chapter 3, Gatwick

assessment of all these, no fair comparison can be made.

As the Commission itself recognises<sup>63</sup>, there would be overall adverse impacts relating to noise, air quality, biodiversity, carbon emissions, water & flood risk, landscape & heritage assets and community.

## Q7 Comments on the business cases

### Tourism

Much of Kent's economy depends on tourism. Visitors to Kent spent £860 million in 2011<sup>64</sup>. Places such as diverse as Margate and the rural villages have suffered as people have flown elsewhere to take holidays. A major disadvantage to airport expansion is that it reduces the attraction of Kent for visitors because of the increased noise and congestion.

The areas most affected by aircraft noise are going to deter visitors if that intrusion increases, which would further decrease visitor expenditure.

The UK tourism deficit, currently £13.8 billion<sup>65</sup>, is another concrete example of the economic damage of aviation expansion.

When Gatwick was expanded in 1979 to handle long haul flights, a legal agreement was reached with local residents not to add an additional runway for at least 40 years. Despite the expiry of this agreement in 2019, the reasons for it remain as valid as ever – to protect an oasis of outstanding beauty in the ever busy south east of England. This agreement was valid in 1979 - it is many times more valid today.

The tourism case was well stated by Duncan Leslie<sup>66</sup>

*“London benefits from having one of the highest concentrations of protected landscape just to the south of it.... It is a great place for Londoners to come out for a day out. Hever Castle represents, just under 300,000 visitors. We have Chartwell up the road, Winston Churchill’s old home, and with Penshurst we are looking at over 500,000 visitors who choose to come here. Will these people still come to these places if they have aeroplanes flying overhead every one or two minutes? It defeats the whole point of having an area of outstanding natural beauty, where you cannot build factories and you cannot build ugly buildings, if you are allowed to fly aeroplanes over it every two minutes.”*

Of course many more people come to the area without visiting these properties, just to enjoy the beautiful countryside in which they sit. Logic suggests that damaging this area would kill the goose that lays the golden egg.

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<sup>63</sup> [Gatwick Airport Second Runway: Business Case & Sustainability Appraisal](#)

<sup>64</sup> [The Economic Impact of Tourism on Kent and Medway, TSE Research](#)

<sup>65</sup> [ONS Overseas Travel and Tourism Bulletin, December 2012](#)

<sup>66</sup> CEO, Hever Castle, [gatwick area transcript](#), page 77

We suggest that the business cases for both Heathrow and Gatwick would collapse if account were taken of the consequential effects (see Q6), the tourism deficit, and if aviation were to be subject to fuel tax and VAT, even allowing for air passenger duty. The Department for Transport's modelling of such taxes showed that passenger demand would be reduced to within the capacity of existing airports.

Kent County Council has also questioned the economic benefit<sup>67</sup>: KCC Cllr David Brazier has said that he sees:

*"...no evidence of the economic benefit to west Kent towns of being in close proximity to Gatwick."* Similarly he quotes *"Gatwick's own analysis states that less than 1% of their workforce is from any of the three west Kent districts"*. Bearing in mind the constraints on housebuilding in the Crawley area, this means that a larger proportion of the workforce than hitherto would need to live in Kent.

The impact on Sevenoaks, Tonbridge, Tunbridge Wells and the Weald would be devastating – the noise, the loss of tranquillity in Areas of Outstanding Natural Beauty, the congestion and the pressure on Green Belts and the AONB for more and more housing to cater for the 90,000 jobs which it claims would be created.

Cllr David Brazier (*ibid*) also highlighted the fact that thousands of people have been in distress from noise in west Kent. KCC's stance<sup>68</sup> on night flights says:

*"the very real and experienced impacts of sleep disturbance from aviation noise at night cannot be merely consigned to the appraisal process and weighed up against the economic benefits of night flights."*

This is supported by evidence from Kent, West Sussex, Surrey and Crawley council representatives<sup>69</sup> emphasising the need to actually reduce night flights, and from the High Weald (Richard Streatfeild) of the better (but still unacceptable) night flights regime at Heathrow.

The CAA ERCD Report 1402<sup>70</sup> shows average number of movements per hour in the day of 44.2 , but average movements per hour at night are 13.5 per hour, or every five minutes, and night movements per hour, are about a third of those in the day. As night flights are so disturbing, they need drastically reducing, and we expect the Commission to strongly support their reduction, ultimately to zero.

## **Q8. Any other comments**

The obvious conclusion is that expansion is impossible without causing immense damage. We reiterate: no new runways anywhere, and a return to a more equitable distribution of

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<sup>67</sup> Cllr David Brazier, [gatwick area transcript](#), page 43

<sup>68</sup> [KCC Aviation strategy](#)

<sup>69</sup> [gatwick area transcript](#),

<sup>70</sup> [Noise exposure contours for Gatwick Airport 2013](#)

flight paths.

**CPRE Protect Kent response to the Airports Commission Discussion Paper: "Aviation Noise"****Our aspirations for tranquillity and air transport noise: August 2013****Tranquillity**

A particular concern for CPRE is protecting areas of tranquillity, by which we mean an absence or relative absence of forms of visual intrusion as well that from noise. CPRE's research and the mapping outputs – maps and data – have been used by numerous National Park authorities, AONBs and by county, unitary and district councils, so the concept is well established for use in national and local policy.

CPRE's expertise with regard to Tranquillity has been recognised by the CAA (ERCD Report 1207, June, 2012), and so we seek the use of the CPRE definition of tranquillity.

We hope that policies, guidance and information will implement our common aspirations embodied in the new National Planning Policy Framework (NPPF), for areas of tranquillity to be protected (NPPF paragraphs 77, 123), landscapes protected from intrusion (NPPF 115, 125) and the need to protect the intrinsic character and beauty of the countryside (NPPF paragraph 17).

The Noise Policy Statement for England separates "health' and 'quality of life'. Tranquillity is both a health and quality of life factor.

Data from CPRE<sup>71</sup> shows, for example, that in the early 1960's 31% of Kent suffered disturbance. This proportion had more than doubled by 2007, showing the need for strong action to avoid any further increase.

The Government Tourism Policy<sup>72</sup> highlights that Britain scores weakly on perceptions of natural beauty, one of the five most important criteria for attracting visitors. So we need to strengthen the performance of our visitor economy in the areas where it is relatively weak, in order to maintain the international competitiveness of the UK as a destination. It is therefore critical that our protected landscapes and wider areas of tranquillity are protected from intrusion by aviation.

**Rural areas**

The CAA's Report (ERCD 1207, Paragraph 6.4) says there is a strong argument that any policy protecting Quiet Areas should apply both inside and outside an agglomeration, and we support this view.

Everyone should be able to access space where they can 'get away from it all'. It is therefore important that areas of tranquillity are protected from aviation noise, whether in large parks or

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<sup>71</sup> [www.cpre.org.uk/resources/countryside/tranquil-places/item/1756-englands-fragmented-countryside-south-east-and-london-intrusion-statistics](http://www.cpre.org.uk/resources/countryside/tranquil-places/item/1756-englands-fragmented-countryside-south-east-and-london-intrusion-statistics)

<sup>72</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/78416/Government2\\_Tourism\\_Policy\\_2011.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/78416/Government2_Tourism_Policy_2011.pdf) Appendix A

accessible natural greenspace in or near urban areas, or more generally in the countryside. The 'Report on the Definition, Identification and Preservation of Urban and Rural Quiet Areas'<sup>73</sup> recommended that the upper average noise limit criterion for rural quiet areas should be 40 dB Laeq, 24h or its Lden equivalent.

The requirement of the European Noise Directive of maintaining, and where possible improving, the existing noise environment is the standard against which proposals must be measured.

### **'Balance'**

It is impossible to 'balance' noise against other environmental impacts or benefits. Noise is not comparable to global warming emissions, and there is no 'common currency' by which they can be compared.

We disagree with the idea of balance between impacts and benefits. There is a need for any changes to produce a reduction of impacts and an increase in benefits, or as at least an increase in benefits with no increase in impacts, or reduced impacts with the same benefits. The idea that if you receive economic benefits then that can be traded with increasing damage, is clearly untenable, and in the case of noise, for example completely against the European Noise Directive (END). Hence there is a need for minimum standards and proper assessment.

The only situation in which there might be a need to 'balance' different environmental impacts is when an impact, such as noise, has been reduced to such a level that further reduction would bring no benefit.

### **Noise**

Grant Shapps, the former housing minister, has highlighted the damage done by noisy or disruptive neighbours to communities. "My view for a long time has been that the voice of the victim seems to be the last thing taken into account, rather than the first thing."<sup>74</sup> We hope that sufferers or potential sufferers of aviation noise will now be the first to be considered in any proposals.

In the rejection of expansion at Coventry Airport<sup>75</sup> the Secretaries of State concluded that the harmful impact and the conflict with sustainability objectives was not outweighed by the socio-economic and other benefits. We trust that such analysis will be used to both protect residents and provide clarity to air transport operators.

The economic damage caused by noise is very difficult to calculate, but one estimate based on 'quiet areas' in urban locations gives an annual value between £19m and £1.4 bn, which shows the difficulty of estimation. The same report caveats that 'trying to put an absolute price on accessible quiet or relative quiet undermines the very richness of the characteristic'. In other words we should

<sup>73</sup> DOC REF: 7/7/2003 7/7/2003 DATE: 6/7/2003 4E 59492 Symonds Group Limited

<sup>74</sup> <http://www.telegraph.co.uk/news/politics/9498457/Grant-Shapps-ill-lead-fight-against-neighbours-from-hell.html>

<sup>75</sup> [www.uk-airport-news.info/coventry-airport-news-160607.htm](http://www.uk-airport-news.info/coventry-airport-news-160607.htm) and [www.communities.gov.uk/pub/382/coventryairportsiskinparkwaywestcoventry\\_id1511382.pdf](http://www.communities.gov.uk/pub/382/coventryairportsiskinparkwaywestcoventry_id1511382.pdf)

value quiet areas for themselves, and protect them properly. ("The economics of quiet areas – final report"<sup>76</sup>).

Noise affects health in a variety of ways – for example the wider costs of dementia are put at £22.7bn a year, and dementia has a link to higher blood pressure which in turn is linked to higher noise levels. According to the Department of Transport's evaluation of less disturbing road vehicle noise (dft\_roads\_pdf\_038524.pdf) a reduction of 1 dB was worth £524m per annum in 2004. DEFRA's research reports that road traffic noise costs over £7bn a year<sup>77</sup>, while the costs of just acute myocardial infarction, stroke and dementia caused by road noise (which is less disturbing than aviation noise) is £1bn in the agglomerations surveyed for the European Noise Directive. The report "Quantifying the links between environmental noise related to hypertension and health effects"<sup>78</sup>, recognises that the figure is an under-estimate as it covers the costs to the individual not the health care costs nor the wider costs to society, which can be far higher, and this report only covers new cases of three diseases (not pre-existing cases becoming worse) and only for the populations in agglomerations (about 43% of UK population). Reducing noise provides health benefits so also reduces the costs the NHS of medical care and prescribed medicines, and improves learning in schools and better productivity at work.

### **The European Noise Directive (END)**

A logical approach to managing noise suggests using the European Noise Directive (END, 2002/49/EC) as the baseline. The END aims to 'define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise.' This is to be achieved by 'informing and consulting the public about noise exposure, its effects, and the measures considered to address noise, in line with the principles of the Aarhus Convention', and 'addressing local noise issues by requiring competent authorities to draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good'.

Hence this requires that noise becomes no worse, in particular that quiet areas are maintained, and that noisiest areas are made quieter.

Using this approach avoids the need for arguments over the potential monetary or other values of noise.

### **Noise Metrics**

It is well known that aircraft noise is a very complex subject, so it is essential that the clearest metrics are used by decision makers, who are unlikely to be noise experts, and for public explanations. Omega<sup>79</sup> and others<sup>80</sup> have reported research showing that a suite of metrics providing information on flight paths, number of flights at peak times and maximum sound levels would be particularly useful.

<sup>76</sup> [www.defra.gov.uk/environment/quality/noise/research](http://www.defra.gov.uk/environment/quality/noise/research)

<sup>77</sup> [www.gov.uk/government/policies/protecting-and-enhancing-our-urban-and-natural-environment-to-improve-public-health-and-wellbeing](http://www.gov.uk/government/policies/protecting-and-enhancing-our-urban-and-natural-environment-to-improve-public-health-and-wellbeing)

<sup>78</sup> 2009 HSL [www.defra.gov.uk/environment/quality/noise/research](http://www.defra.gov.uk/environment/quality/noise/research)

<sup>79</sup> [www.omega.mmu.ac.uk/Events/OMEGA%20Noise%20Report%20Final%202026-2-09%20RD%20270209.pdf](http://www.omega.mmu.ac.uk/Events/OMEGA%20Noise%20Report%20Final%202026-2-09%20RD%20270209.pdf)

<sup>80</sup> eg [www.fican.org/pdf/supplemental\\_metrics.pdf](http://www.fican.org/pdf/supplemental_metrics.pdf)

**British Standard BS 4142:1997**

This standard describes a method for assessing whether the noise referred to is likely to give rise to complaints. It may be helpful in environmental planning and may be used in conjunction with recommendations on noise levels and methods of measurement published elsewhere.

BS 4142 takes into account background noise and the tonal effects of aircraft noise for which it requires a 5 dB penalty, and hence provides a more realistic comparator which is already widely known and used by professionals in the acoustic field.

Background noise measurement is important because it affects how humans react to aircraft noise.

For Tonal noise, we have heard complaints at some airports about buzz-saw and whining engine noise, particularly on approach about 20 miles away from an airport. The cause is understood to be the huge fan on the front of a modern high ratio bypass turbofan engine. It produces noise with a large tonal content which explains the whine. Some are worse than others depending on the bypass ratio (the bigger the bypass the harder the front fan has to work and the greater the risk of the blade tips going supersonic and making harsh noises). It is also compounded by the extent to which individual operators are prepared to bear the overhead cost of noise-suppression treatments: we understand that Singapore Airlines' A380s carry around 2 tonnes of additional kit at the front of the nacelles so as to meet Heathrow requirements for landings at night.

The CAA report (Paragraph 5.30, ERCD Report 1207, June, 2012), refers to research which shows that the louder the aircraft noise with respect to background levels, the greater the percentage of visitors who feel annoyed, so this supports the use of BS 4142.

**'C' weighting of sound levels**

We continue to support a move away from the 'A' weighting, because that has been used for purely historical reasons when sound level meters were unsophisticated, and other weightings were more difficult to provide in one instrument. It does not reflect the predominately low frequency sounds of aircraft nor the tonal nature of such sounds, and the 'A' weighting was never intended for such use.

Unfortunately a perverse effect of using the A weighting has hidden changes in noise levels which would be revealed if other weighting were used. Research by the BBC and others showed that the ITU-R 468 noise weighting more accurately reflects how our ears respond to random noise. A 100 Hz source would have its noise level shown on the A-weighted scale as 18 dB lower than the same sound measured using C-weighting, showing that the 'A' weighting does not fully capture the loud low-frequencies contained in aircraft noise. This was demonstrated at the 2007 Stansted Public Inquiry by the National Trust, showing some 13 db difference between A and C readings. The WHO Guidelines require that where the two weightings give differing results, the C data should also be provided. Using 'C' weighting would more accurately reflect the effects of the tonal noise heard from aircraft. Further acoustic quirks are that lower frequency sounds have greater penetrating effect, they do not obey the inverse square law and loudness doubles for smaller increases in sound level, and are thus much more annoying than might be expected.

The recent report from the European Network on Noise and Health (Ennah) supports the use of 'C'

weighting especially for assessing aircraft noise and its effects on health and well-being<sup>81</sup>.

### **The 'Sydney metric'**

The 'Sydney metric' such as N70, which has been shown to provide a better correlation to how people experience aircraft noise, would be a very useful indicator.

### **Maximum Sound Level, Lmax, and Sound Exposure Level, SEL**

Both Lmax and the SEL show the maximum sound levels experienced. SEL may be better than Lmax, because it includes both the peak noise level and the length of time of the individual noise event, so can give better representation of noise from both fast moving commercial aircraft and slow but noisy microlights.

### **Average Noise Levels, Leq**

Although the END uses the averaging metric of Lden, which has some use as a historic comparator, it is not very helpful for aircraft noise. The Ennah report above, also confirms that Leq averaging is not a useful indicator, and that more attention is needed in relation to low frequency noise and health.

Averaging aircraft noise, which by its nature is an intermittent loud noise, gives a misleading impression. The Leq metric only increases by 3dB if the number of events is doubled, which is clearly misleading as to the impact of such a change.

The 'Attitudes to Aircraft Annoyance Around Airports (5A)' report<sup>82</sup> shows that annoyance is inherent to noise but that it is not only correlated to physical sound characteristics. Noise exposure, and its physical characteristics, account for about 25-30% of the variance in annoyance (*Miedema, Oudshoorn, 2001*). Hence using standard noise index-associated contours does **not** reflect the value or the actual annoyance of the residents of communities concerned.

The Final Report (April, 2006) also showed that a unit increase in noise is more noticeable than a unit decrease, (ie the negative value of a noise increase cannot be balanced by the positive value of the same noise decrease).

Threshold effects were examined in the SP1 movements model with thresholds at 45, 50 and 55dB(A) tested, and contrary to expectations, there was no support for the presence of threshold effects.

The valuation of changes in aircraft movements does vary, as would be expected, with the base level of aircraft noise in that the unit value of a change becomes higher as the base level of noise becomes higher.

The recent paper, 'Trends in aircraft noise annoyance: the role of study and sample characteristics'<sup>83</sup> says that: '*A significant increase over the years was observed in annoyance at a given level of aircraft noise exposure*'.

<sup>81</sup> [www.ennah.eu/assets/files/ENNAHFinal\\_report\\_online\\_19\\_3\\_2013](http://www.ennah.eu/assets/files/ENNAHFinal_report_online_19_3_2013)

<sup>82</sup> [http://www.eurocontrol.int/eec/public/standard\\_page/proj\\_5A.html](http://www.eurocontrol.int/eec/public/standard_page/proj_5A.html)

<sup>83</sup> (<http://www.ncbi.nlm.nih.gov/pubmed/21476651>)

Continuing the use of Leq as a rough indication of relative noise means that a much lower level must be used, as the weight of evidence, including that from the ANASE study,<sup>84</sup> showed that the averaging process used to define those locations where “significant community disturbance” occurs is fundamentally flawed and that many people are annoyed or disturbed by levels much lower than 57 dB Laeq. See also, for example Technical Report 11/2010, by the European Environment Agency and 'The Quiet Con' (HACAN) which elaborates on this.

### **Noise Level Targets**

#### **World Health Organisation (WHO)**

The Government has previously committed to the reduction of noise levels to the World Health Organisation noise standards (in the Consultation stage 1, Night Flying restrictions at Heathrow, Gatwick and Stansted, 2004)(WHO Guidelines for community noise 1999, and the Night Noise Guidelines for Europe, WHO 2009, E92845, ISBN 978 92 890 4173 7).

The UK is already a signatory to the WHO Charter on Environment, Transport and Health which includes the WHO community noise guidelines. As a signatory, there is an expectation that the Government will work towards achieving this goal.

However we have seen little evidence of any progress – indeed the noise levels seem to be continually increasing. So much stronger action is required to ensure achievement of the Guidelines.

We consider that a measurable objective is vital, so this means a standard for all to strive for. We note that the UK is in the minority among EU states for not having legally binding noise limit values (EUR-Lex – 52011DC0321 – EN). So we support the Government's commitment to achieve the WHO values for both day and night noise as the measurable objective.

#### **Other Targets or Metrics**

We strongly object to any proposal to use noise-per-flight metrics because it is the total noise which matters to people and the countryside. Noise-per-flight metrics may be useful to aircraft designers and operators for use to estimate the value of changing aircraft, but that is not relevant to the management of operational noise.

Noise disturbance from aircraft relates to the aircraft type and the number of air transport movements or flights so it is no use using the number of passengers for noise envelopes as passenger numbers will not directly affect noise levels.

We do not think that a reduction in the number of people affected by noise is a sufficient policy objective, as it ignores the relative effect of noise on quiet areas, which may have few people.

An objective to limit, and where possible reduce the number of people affected is insufficient because it implies allowing an increase in noise. The objective must be in line with the European Noise Directive (END) which requires that there is no increase in noise and that the noisiest areas should be made quieter.

<sup>84</sup> (<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/aviation/environmentalissues/Anase/>)

For historical comparison, the use of contour areas may be useful, as that will cover both people and land which may be countryside (and so need protection). In addition, reducing contour areas will reduce the number of people affected. Although a hectare reduction of a contour in London will improve life for more people than a hectare in open countryside, this is relatively unimportant as airports are fixed, and what is under consideration is how the existing contours can be made smaller.

There is a relatively simple relationship between noise reduction and area affected – for each 3 dB noise reduction area increase by 1.6 times, so if 10 sq.km. are affected by the 57 dB level, then 54 dB will affect 16 sq. km.

### **Reducing Noise**

Obviously reduction at source is the most effective way to reduce noise. Hence the essential need is to have aircraft noise emission targets that keep ahead of the growth of air traffic, so that there is an actual reduction in noise levels. Hitherto, quieter aircraft have made little difference because the growth in traffic has far exceeded the reductions in noise emissions achieved.

So there is a need for not only targets for noise reductions per plane, but also targets for reduction in total noise, with restraint in the growth in air transport movements if the targets are not met.

The END requires actual reductions in noise, so simply reducing the noise emissions per plane is not enough.

We support the aim for continuous improvement, and support environmental management systems, such as the ISO 14000 standards.

### **Airport Noise Standards and Management**

We consider that all airports should have noise control regimes at least as good as those for the currently designated airports. A particular aspect of the regime at the designated airports is that: “The quotas allocated to each airport operating the system are gradually reduced year-on-year in order to achieve long term reductions in the impact of night time aircraft noise.”(ERCD Report 1104 June 2011). This is a very simple but effective way of reducing the noise impacts, and should be applied to all environmental impacts as part of an environmental management system. Hence we have great concerns at allowing a ‘free-for-all’ approach of agreeing controls locally, which tends to mean having the fewest restrictions.

At present noise limitations for airports range from the clearly specified requirements for the Designated airports, down to those with no effective limits. This means that airport operators lack clear targets, the public and the local authorities are often unclear about noise limitations and noise experts have to research each airport’s situation to know what standards are relevant. As noise is such a complicated subject, clarification is required.

Hence there is a very strong need for minimum standards, such as those listed above.

The present arrangement whereby the Local Authority in whose area the airport is located sets the airport noise controls causes many problems, because the aircraft affect neighbouring authorities

who have no authority over the airport, although they may be consulted. This is apparent at many airports, for example Manston, Luton, Gatwick and Farnborough (Hants).

Consequently, to avoid uncertainty and disputes between local authorities or complaints from residents, there is a requirement for an equivalent to the current designation standards for *all* airports.

### **Operating restrictions**

#### *Relationship of ICAO certification Noise Levels to actual in-use noise levels*

The HACAN Response to the CAA Consultation on Future Airspace Usage<sup>85</sup> referred to: 'a letter from Dr Darren Rhodes of CAA/ERCD, 10th March 2005 saying that: '*...ICAO is currently reviewing the noise certification process; the UK is chairing this task. Whilst this is naturally a long-term initiative, one item identified is consideration of a possible supplementary approach noise certification point more distant from the airport, where the aircraft would be in a configuration (different from that) required by the current demonstration test.*' Subsequently, we understand, the ICAO work was discontinued at the request of the industry. It should be restarted.'

For approach noise, the ICAO certification is based on testing the noise the plane makes at a monitor 2km from touchdown - i.e. in the vicinity of the airport. That may not be appropriate to discriminate between planes for communities who suffer disturbance from approach noise at considerably greater distances from the airport.

The Committee on Aviation Environment Protection (CAEP) 7<sup>th</sup> Meeting, Montreal, 5 February 2007<sup>86</sup>, included the 'Report of WG1 Task concerning the future of the Noise Certification Scheme', and as Dr Rhodes suggests, it appears that the WG agreed that the current classification system does not work well for points "more distant from the airport" ,(page 22/55:

*"4.5 For arriving aircraft there are two locations at which significant numbers of people are highly annoyed, between 0 and 3 km and between 9 and 12 km. The certification point at 2 km is representative of the first location. The group recommends that the "problem" of noise arising from arriving aircraft at locations far away from the airport be studied by WG2. " A report from the WG2 on this inconsistency has not been found.*

The data showing very little difference between approach noise from the A380 and 747 planes over Barnes and Chiswick proves that there is a serious issue with the current ICAO certification relating to new, and supposedly less noisy planes. This also confirms previous CAA work which showed that aircraft of similar Certification rating could have noticeably different noise emissions in actual use.

### **Night noise**

It is important that the precautionary principle is applied, as that is part of the NPPF, so night flights should be banned. If night flights are not to be banned, we would expect to see real evidence of the need for any proposed night flights.

Banning night flights would be economically beneficial, as well as better for health, as has been

<sup>85</sup> [www.hacan.org.uk/resources/.../caa.airspace.response.from.hacan.pdf](http://www.hacan.org.uk/resources/.../caa.airspace.response.from.hacan.pdf) )

<sup>86</sup> [http://www.tc.gc.ca/media/documents/ca-opssvs/caep7\\_wp34.pdf](http://www.tc.gc.ca/media/documents/ca-opssvs/caep7_wp34.pdf)

shown, for example by CE Delft, January 2011.

Air-freight transport spends a small proportion, at 17%, in the airport to airport segment, out of its total travel time of 2 to 5 days. Hence banning night flights would make little difference to overall travel time, as the main delays occur on the ground. This was shown in the evidence to the Commission for Air traffic Noise, Frankfurt, November 2011.<sup>87</sup> Subsequently the German high court approved on 14/3/2012 a regulation for a permanent total night flight ban between 23.00 – 05.00 h at Frankfurt- a major German hub airport, showing that it is practical for large airports in successful European economies to have a proper night flight ban.

The CAA reports that awakenings from sleep rarely (but may occasionally) occur when level inside is below 45 dB Lmax, and this correlates to an outdoor noise level of 60 dB Lmax for partially open windows (ERCD Report 1104, June 2011).

However, for the night period, the WHO Night Noise Guidelines for Europe (WHO 2009, E92845, ISBN 978 92 890 4173 7) recommend 40 dB Lnight.

Hence these should be used for the maximum allowable noise levels for night time.

The 'night' period should provide at least 8 hours of uninterrupted sleep period from 11 pm to 7 am.

We support the proposal for costs to airlines for night slots to reflect the full costs on society including noise. Likewise we support requiring night landing fees to be set to avoid perverse consequences.

#### **Noise limits, monitoring and penalties**

We support strong incentives for noise reduction and noise limits together with monitoring and enforcement, and measures such as differential landing fees. However the differential charges must be standardised at all airports to avoid perverse incentives to divert aircraft to less suitable airports.

There should be a minimum penalty value such as £1500 per tonne MTOW for initial 3 dB over limit, which would increase with the standard scale of fines (Criminal Justice Act 1982, as amended). Having the penalty as a per tonne value, will ensure it is proportionate to the 'value' of the flight concerned.

A necessary pre-condition for all monitoring is for the airport to have adequate aircraft tracking equipment. Such equipment is available from £500, so there is no reason why the smallest airport (as opposed to aerodromes) cannot have this. So we request airport tracking equipment to be required and also that all the aircraft using the airport have transponders for the tracking equipment to identify them.

Note that most gliders and similar aircraft, for whom transponders could be problematic, usually use aerodromes, not airports, so transponder cost will not be an issue. Powered aircraft which tow gliders (as opposed to winching) should of course be required to have transponders

<sup>87</sup> [http://cms.uni-kassel.de/unicms/fileadmin/groups/w\\_030110/Publikationen/Nr\\_72\\_Verlagerungspotentiale\\_von\\_Nachtflügen.pdf](http://cms.uni-kassel.de/unicms/fileadmin/groups/w_030110/Publikationen/Nr_72_Verlagerungspotentiale_von_Nachtflügen.pdf) English translation is available

There should be reference to required standards, such as ISO 20906:2009 'Acoustics – Unattended Monitoring of aircraft sound in the vicinity of airports'.

We strongly support full implementation of 'Reducing the Environmental Impacts of Ground Operations and Departing Aircraft, An Industry Code of Practice', 2012, and the use of Continuous Descent Approach ([www.caa.co.uk/docs/68/Basic\\_Principles\\_CDA.pdf](http://www.caa.co.uk/docs/68/Basic_Principles_CDA.pdf)). In addition all airports should publish details of airlines which fail to achieve the requirements of these procedures. This is now being done by Gatwick, for example, and this provides a strong first incentive towards encouraging compliance, but fines are also needed for those who frequently contravene the requirements.

Departing aircraft typically achieve an 8 degree climb, which reduces the area affected by the loudest noise, so increasing the 3 degree glide slope usually used under CDA would provide further improvement.

### **Landing and Take-off Fees**

We fully support differential landing fees to encourage quieter aircraft. We think that there should be guideline values, so that if the quietest aircraft is charged 'U' the 'Unit' fee, then aircraft twice as noisy will pay 2\*U, four times as noisy 8\*U, and eight times as noisy 32\*U. This increasing scale would emphasise the increasing impact of the noise.

While current fees tend to be based on ICAO certification, we disagree with arguments against Quota Count (QC) that larger aircraft could be penalised relative to smaller ones because they have larger footprint values. Strangely, noise certification regulations permit heavier aircraft to generate more noise, so there can be a 10 dB difference in aircraft nominally of the same certification, but of different weight (ERCD 0307 December 2003). The objective is to reduce the area affected by noise (and thus the number of people disturbed), so aircraft affecting a larger area should be penalised in order to encourage quieter aircraft.

However if QC values are to be used, then a rigorous review of them is required, to assign the QC to actual noise levels rather than certified because noise levels in use can be a whole QC different, and to remove the 9 EPNdB reduction applied by DfT for arrival noise, because most night flights are arrivals, so this reduction adversely affects people under the arrival route. Also the scale is now out of date, with some aircraft QC 0.25, and decreasing numbers above QC 4. The alternative of using the Effective Perceived Noise Level (EPNL) has the benefit of being used for the international certification of aircraft and perhaps better reflects the annoyance caused by aircraft as it includes duration and the tonality of aircraft noise (ERCD Report 1104, June 2011), thus indicating the effective disturbance caused by the aircraft.

We therefore support the use of differential landing fees, and for this differential to ensure fees reflect disturbance, especially at night.

### **Compensation Schemes**

Our view is that the first priority is for noise levels to be reduced so that compensation schemes would not be required. For many people, compensation or providing noise insulation does not remove the annoyance, so the next alternative is to offer to purchase the properties affected. Often

airport staff would be happy to live in such houses, so the cost to the airport would be minimal. The third step is to offer either compensation or for provision of noise insulation.

Our assessment of most schemes is that they are meagre and inadequate. The noise levels seem much too high in view of the WHO guidance, and it would be better to have graduated schemes starting from lower noise levels. In addition to the average noise levels, we also recommend stronger support for use of individual maximum noise levels, as these are what wake people up.

With regard to compensation for noise increases this is actually against the END which requires quiet areas to be maintained and noisiest areas to be made quieter. This means that if an airport wants to expand it must use quieter aircraft, which is also consistent with the targets for noise contours to cover smaller areas over time, and the objective for continual improvement.

CPRE Protect Kent  
August 2013

**Response from People Intelligence Ltd on the Commissions Discussion Document AC 04: 'Airport Operational Models' entitled 'People Intelligence Ltd - Airport Operational Models.pdf'**

In summary:

*comment 1*

There is a 'once in a lifetime' opportunity to plan the long term aviation transport needs of the UK offers the means by which the nation can demonstrate its capacity to lead the world – an airports solution which considers new paradigms: constrained passenger growth, 'flat lining' of Air Transport Movements, no growth economies, environmentally impeded commerce and an irreversible shift from international competition to international collaboration.

*comment 2*

The Airports Commission will need to consider the crucial connections and interdependencies between air transport and our society's most enduring and intractable issue: the breaching of 'Planetary Boundaries' and the consequential impact on our quality of life and the survival of the planet in its present form.

*comment 3*

Vision – the UK will become a leader in the prudent and sustainable use of air transport, recognising how the socio-economics of transport systems will be affected, irreversibly, by environmental imperatives and a consequential reduction in the affordability of travel. New thinking will anticipate and accommodate likely changes in national and world priorities, taking account of bio-diversity, food security and other issues. A redefinition of what is meant by quality of life will influence the way people think and the way they behave.

*comment 4*

There is a need to re-consider the basis for assumptions about air transport growth in a planning period that extends beyond 2040.

*comment 5*

We can design a better future by accepting and acquiring new planet-relevant responsibilities. We have the opportunity to design a new air transport solution that is future-fit for purpose – to imagine and implement a better and a more considered approach to travel. The UK can begin to put in place actions that lead to inspired solutions – it can influence others and establish new standards for the international air transport industry and work closely with its trading partners to establish better solutions. Bold strategies that will begin the process of recalibrating the way we measure success in the world – and secure the future for the planet and humankind.