CITY AIRPORT DEVELOPMENT PROGRAMME (CADP)

CADP: SUSTAINABILITY STATEMENT

London City Airport
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PROPOSED CITY AIRPORT DEVELOPMENT PROGRAMME (CADP)

SUSTAINABILITY STATEMENT

July 2013

Our Ref: **JLN0196**

RPS
14 Cornhill
London
EC3V 3ND

Tel: 020 7280 3200
Fax: 020 7283 9248
Email: rpslp@rpsgroup.com

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EXECUTIVE SUMMARY

1. This Sustainability Statement has been prepared by RPS on behalf of London City Airport ('the Airport') to accompany the planning proposals to enhance the infrastructure and passenger facilities at the Airport, referred to as the City Airport Development Programme (CADP).

2. Sustainability is an important factor underpinning the proposed CADP. One of the key drivers for the proposed CADP is to replace non-compliant aircraft stands and upgrade existing infrastructure in order to be able to accommodate a new generation of larger, more efficient and quieter aircraft. This aim is consistent with the drive towards more sustainable forms of aviation. The proposed CADP is expected to assist towards various local, national and international sustainability objectives by also bringing about more energy efficient and sustainable passenger facilities, thereby enabling the Airport to accommodate its permitted future growth in flight numbers and assuring its sustainable economic development over the longer term.

3. The Airport has previously developed a Sustainability Strategy and Airport Sustainability Action Plan (June 2012) (see Appendix 1), which sets out proposals for managing sustainability at the Airport, based on its adopted Sustainability Vision:

> *'To be a responsible airport operator by minimising our impact on the environment and surrounding communities, whilst supporting economic growth for London and the South East. We will strive for an honest and transparent approach to sustainability reporting developing actions to deliver genuine and long-term environmental improvements. We will lead by example; we wish to become a key partner for delivering sustainability in London's Docklands.'*

4. This Sustainability Statement addresses the following sustainability priorities in relation to the proposed CADP, which are identified in the Airport's Sustainability Strategy and Action Plan and which have been the subject of an informal scoping exercise with the London Borough of Newham (LBN) in October 2012:

   a) Waste Production;

   b) Energy and Emissions;

   c) Water Resources;

   d) Sustainable Transport;

   e) Biodiversity;

   f) Noise and Local Air Quality;

   g) Community Benefits; and

   h) Sustainable Construction.

5. By undertaking a sustainability appraisal at an early stage in the design process, the potential to contribute positively to sustainable development has been optimised. This Sustainability Statement

demonstrates how the Airport has adopted the principles of sustainability in the design, construction and implementation of the proposed CADP and explains that:

a) The iterative design development process for the proposed CADP has been informed by the principles of sustainable development and benchmarked against contemporary best practice. This includes maximising the energy efficiency of the proposed CADP buildings as far as possible, including ensuring they are well insulated and airtight to minimise heat loss;

b) Consideration has been given to a range of low and zero carbon technologies, and the proposed CADP provides for the use of gas-fired Combined Cooling, Heat and Power (CCHP) and photovoltaic panels amongst other "lean", "clean" and "green" energy measures;

c) The proposed CADP also addresses areas such as water efficiency, sustainable waste management, and ecological enhancement;

d) The proposed CADP promotes alternative forms of surface access transport to the private car, highlighting the opportunities presented by the nearby public transport system, which includes a designated DLR station and local bus services, in order to minimise as far as practicable road congestion and associated emissions levels;

e) The proposed CADP will incorporate the use of drainage water attenuation and, where feasible, Sustainable Drainage Systems (SuDS) to help minimise surface water run-off;

f) Sustainable construction methods are proposed and the buildings will be constructed using products and materials from sustainable or recycled sources where practicable; and,

g) New jobs will be created as a result of the proposed CADP (approximately 960 Full Time Equivalent (FTE) additional on-site jobs by 2023) which in turn will bring about wider societal benefits.

h) Overall, taking all types of employment into account, the CADP proposals would generate an increase in local employment of approximately 1,500 compared to 2012, when the full impact of the hotel is taken into account. This is made up of 1,250 jobs as a result of the increase in operational activity at the Airport and around 200 jobs in total related to the hotel and other elements of CADP2.

1 INTRODUCTION

a) Background

1.1 This Sustainability Statement has been prepared by RPS on behalf of London City Airport ('the Airport') to accompany two planning applications to the London Borough of Newham (LBN). The proposed development project, known as the City Airport Development Programme (CADP), comprises a full planning application to construct new passenger facilities, 7 new aircraft stands and associated infrastructure (CADP1) together with a separate outline planning application for a Hotel (CADP2).

1.2 The proposed CADP provides the opportunity for the Airport to accommodate larger, more fuel efficient and quieter aircraft whilst not leading to an increase in the 120,000 noise-factored movement cap approved by the LBN in July 2009. As such, the proposals accord with the Government's objective of making better use of existing capacity to improve performance, resilience and the passenger experience (as set out in Paragraph 1.60 of The Government's Aviation Policy Framework published in March 2013).

1.3 The Airport considers sustainability to be an important element of the proposed CADP, ensuring that the new infrastructure required to enable the development is brought forward with due regard to contemporary and 'best practice' standards of sustainable design and construction.

1.4 The Airport has produced a Sustainability Strategy and Airport Sustainability Action Plan (June 2012) (hereafter referred to as 'the Airport Sustainability Strategy'), which was developed in accordance with the 2009 Section 106 Agreement with LBN, forming part of the existing planning permission. The Airport Sustainability Strategy (see Appendix 1) sets out various objectives and targets for managing sustainability at the Airport now and in the future. Its implementation will ensure that the Airport *"achieves or exceeds the highest standards set by the aviation industry as a whole"* (page 9).

1.5 The Airport's Sustainability Strategy focuses on the aspects of the Airport's operations which could lead to greatest environmental, social and economic impacts; identifying how these aspects are currently being managed and how the Airport proposes to manage them going forward. Whilst drafted in advance of the CADP, many of the principles, objectives and targets set out in the Sustainability Strategy are relevant to this development and, as such, these have been designed into the CADP proposals, or will be further specified at the detailed design stage.

1.6 The purpose of this Sustainability Statement is to demonstrate how the Airport has, and will continue to address, the sustainability policies and requirements of the LBN and the Greater London Authority (GLA) and to incorporate other best practice principles within the proposed CADP.

1.7 The proposed CADP has the potential to impact upon resource consumption and give rise to adverse environmental effects, for example in relation to noise and air quality. A separate Environmental Impact Assessment (EIA) has therefore been undertaken and the resulting Environmental Statement (ES) accompanies the CADP planning submission. The ES sets out how key environmental impacts have been identified and, where relevant, mitigation has been put forward to avoid, reduce, offset or enhance such effects. In particular, a full analysis of

carbon dioxide emissions associated with the CADP proposals and the Airport's strategy to influence, minimise and manage these emissions and their associated impact on climate change is considered in ES Chapter 17: Climate Change.

1.8 This Sustainability Statement is not intended to duplicate the ES, but highlights the key aspects of the CADP proposals which are intended to protect and, where possible, enhance the environment. It also draws from the findings of the Energy and Low Carbon Strategy, Health Impact Assessment (HIA) and other documentation accompanying the CADP planning submission in order to demonstrate how the principles of sustainable development have been accommodated.

1.9 This Sustainability Statement provides an independent verification that the design of the proposed CADP is in accordance with the sustainable objectives of relevant planning policy, at all levels, and guidance on sustainability indicators from both Government and industry. It presents the outcome of the sustainability appraisal of the proposed CADP and details the approach that the Airport and its Design Team have collectively taken towards achieving a high standard of sustainable development and environmental performance for the proposed CADP, both in its construction and operational phases.

1.10 The Statement includes:

a) A brief description of the Airport and the proposed CADP;

b) An examination of relevant sustainability drivers from the aviation industry, the overall political context promoting sustainable aviation in the UK, and a summary of relevant national, regional and local sustainability policies;

c) An examination of the performance of the proposed CADP relative to key sustainability issues and sustainable planning policies at all levels, including the London Plan and the adopted LBN Core Strategy; and

d) A review of the proposed CADP against best practice sustainability indicators such as BREEAM and internal objectives and targets for managing the Airport's key sustainability priorities, as set out on the Airport Sustainability Strategy.

2 DEVELOPMENT CONTEXT

a) Development History

2.1 The Airport is located on a former Docklands site in the LBN, 6 miles east of the City of London. The Airport was constructed by the engineering company Mowlem in 1986, with the first aircraft landing on 31 May 1987 and the first commercial services operating from 26 October 1987.

2.2 The Airport has a single Code 2C categorised runway and a CAA Public Use Aerodrome Licence that allows flights for the public transport of passengers and for flight training. Only multi-engine, fixed-wing aircraft with special aircraft and aircrew certification to fly 5.5 degree approaches are allowed to conduct operations at the Airport.

2.3 Aviation activity at the Airport has grown considerably since 1987. An extension to the runway was opened in 1992 which allowed for the use of a larger number of aircraft types. In 2002, a Jet Centre catering for corporate aviation was opened, as well as additional aircraft stands at the western end of the apron. In 2003 a new holding point was established at the eastern end of the runway, enabling aircraft awaiting take-off to hold there whilst other aircraft land.

2.4 The Airport was granted planning permission to construct an extended apron with four additional aircraft parking stands and four new gates to the east of the terminal in 2001 and this work was completed in May 2008. The four new stands and gates are carried on piles above the water of King George V (KGV) Dock.

2.5 On 2nd December 2005, London City Airport station opened on a branch of the Docklands Light Railway (DLR), providing rail access to the Airport for the first time and providing fast rail links to Canary Wharf and the City of London. Due to its proximity to London's financial district, the Airport's main users are business travellers.

2.6 In 2009, the Airport was granted permission to increase the number of flights that can be made per year from 80,000 to 120,000 noise factored movements. In 2012, the Airport recorded 3.03 million passengers and 75,502 aircraft movements.

2.7 Forecast projections completed by York Aviation on behalf of the Airport in June 2013 indicate that demand to use the Airport is likely to reach the limit of 120,000 noise factored movements by around 2021. This would translate into actual movements of approximately 105,000 commercial scheduled and 6,400 Jet Centre movements. Taking into account the planned introduction of more modern but larger aircraft into the airline fleets, it is now expected that this number of movements would support a passenger throughput of approximately 5.5 million passengers a year by 2021.

2.8 By 2023, scheduled aircraft movements are predicted to increase to 107,000 per year at the expense of Jet Centre movements which would reduce to approximately 4,000. Accounting for this further increase in scheduled movements, coupled with a gradual increase in load factors on individual aircraft, there is expected to be approximately 5.9 million passengers using the Airport by 2023.

2.9 This increase in passenger numbers is proposed to be accommodated by the Airport via the improved infrastructure and terminal capacity enhancements offered through the CADP.

b) Constraints

2.10 Like all airports, the Airport is subject to various operational constraints and this is particularly true given its unique location within London's docklands.

2.11 Due to the Airport's proximity to Central London, including the adjoining boroughs of Newham, Greenwich and Tower Hamlets, it has stringent rules imposed to limit the noise impact from aircraft operations. This, together with the physical dimensions of the Code 2C categorised runway and the steep glideslope, means that only certain approved aircraft types can use the Airport.

2.12 The size and layout of the Airport and overall complexity caused by the lack of taxiways mean that the Airport becomes very busy during peak hours. Added to this, operations are restricted to 06:30 to 22:00 Monday to Friday, 06:30 to 12:30 on Saturdays, 12:30 to 22:00 on Sundays and 09:00 to 22:00 on bank/public holidays (and not at all on Christmas Day). The size of the Airport, constrained by the water-filled Royal Albert and KGV Docks to the north and south respectively, means that there are no covered maintenance facilities for aircraft.

c) The Proposed CADP

2.13 New passenger facilities and infrastructure are required to enable the Airport to respond to forecast growth in passenger numbers (particularly at peak periods) and accommodate new generation aircraft which are physically larger than the current fleet. The Airport's constrained dockside location means that, in order to provide improvements it needs to extend mainly eastwards and reconfigure existing parts of the Airport to fulfil its potential. This application, Planning Application CADP1, seeks detailed planning permission for all these works.

2.14 The CADP1 is described as:

> **"Planning Application CADP1: Works to demolish existing buildings and structures and provide additional infrastructure and passenger facilities at London City Airport without changes to the number of permitted flights or opening hours previously permitted pursuant to planning permission 07/01510/VAR. Detailed planning permission is being sought for:**
>
> **a) Demolition of existing buildings and structures;**
> **b) Works to provide 4 no. upgraded aircraft stands and 7 new aircraft parking stands;**
> **c) The extension and modification of the existing airfield to include the creation of a taxilane running parallel to the eastern part of the runway and connecting with the existing holding point;**
> **d) The creation of a vehicle access point over King George V dock for emergency vehicle access;**
> **e) Laying out of replacement landside forecourt area to include vehicle circulation, pick up and drop off areas and hard and soft landscaping;**
> **f) The Eastern Extension to the existing terminal building (including alteration works to the existing Terminal Building) to provide reconfigured and additional passenger facilities and circulation areas, landside and airside offices, immigration areas, security areas, landside and airside**

retail and catering areas, baggage handling facilities, storage and ancillary accommodation;

g) The construction of a 3 storey Passenger Pier to the east of the existing terminal building to serve the proposed passenger parking stands;

h) Erection of a noise barrier at the eastern end of the proposed passenger pier

i) Erection of a temporary construction noise barrier along part the southern boundary of the site to the north of Woodman Street;

j) Western Extension and alterations to the existing Terminal Building to provide reconfigured additional passenger facilities and circulation areas, security areas, landside and airside offices, landside retail and catering areas and ancillary storage and accommodation;

k) Western Energy Centre, storage, ancillary accommodation and landscaping to the west of the existing Terminal;

l) Temporary facilitation works including the erection of a noise barrier to the south of 3 aircraft stands, a coaching facility and the extension to the baggage area;

m) Works to upgrade Hartmann Road;

n) Landside passenger and staff parking, car hire parking and associated facilities, taxi feeder park and ancillary and related work;

o) Eastern Energy Centre;

p) Dock Source Heat Exchange System and Fish Refugia within King George V Dock; and

q) Ancillary and related works."

2.15 Outline planning permission is also being sought for a Hotel (Application CADP2) to provide a degree of flexibility for the building, which is likely to be brought forward separately by a hotel operator. This application is described as:

> **"Planning Application CADP2: Erection of a Hotel with up to 260 bedrooms, ancillary flexible A1-A4 floorspace at ground floor, meeting/conference facilities together with associated amenity space, landscaping, plant and ancillary works."**

2.16 The proposed CADP1 and CADP2 applications are described in full within the Design and Access Statement (DAS) and Planning Statement accompanying these applications.

3 SETTING A SUSTAINABILITY FRAMEWORK - KEY DRIVERS

3.1 Globally, the aviation sector is responsible for about one to two percent of greenhouse gas (GHG) emissions[1]. Domestic and international aviation emissions amount to about six percent of the UK's GHG emissions. Furthermore, as other economic sectors decarbonise over the coming decades, aviation is likely to make up an increasingly large proportion of the UK's total emissions. The UK Government is therefore determined to improve the sustainability of the sector and make aviation a core part of its vision for a greener transport system.

3.2 The aviation industry has an important role to play in this challenge. The general acceptance that the predicted growth in aviation will result in increased emissions has meant that airport operators and other industry stakeholders are now taking on increased levels of responsibility to help reduce the overall environmental impact of the industry and operate in a more sustainable manner.

3.3 A chronological history of the political, legislative and industry drivers of sustainable development is therefore given below in order to demonstrate the ever-increasing importance that is being attached towards achieving more sustainable aviation.

a) Political Drivers

3.4 Under the Climate Change Act 2008, the UK has established legally binding targets to reduce CO2 emissions by 80% below the 1990 baseline by 2050. To achieve these targets, rapid decarbonisation is required in a range of sectors. A key strategic consideration, therefore, is the role that aviation should play relative to other sectors in the economy in reducing emissions in the medium and longer term. This political context provides an important backdrop to driving sustainability forward in the UK aviation industry.

i. The White Paper 'The Future of Air Transport'

3.5 The Air Transport White Paper (ATWP) published in 2003 by the Department for Transport set out a strategic framework for the development of airport capacity in the UK over the next 30 years, against the wider context of the air transport sector. The ATWP considered the effect of increasing airport capacity and climate change and concludes that emissions trading would be the best way of tackling the aviations industry's GHG emissions.

3.6 Whilst now formally replaced by the Government's Aviation Policy Framework (APF, March 2013) (see below), the 2003 ATWP remains relevant to the consideration of sustainability as the Government's full position on aviation, particularly in the South East, will not be known for a number of years

3.7 Included in the ATWP is the commitment to press for the emissions trading approach both in the EU and globally and to do more to reduce the environmental effects of aviation. ATWP Paper

[1] Reducing Transport Greenhouse Gas Emissions: Trends and Data, International Transport Forum, 2010 http://www.internationaltransportforum.org/Pub/pdf/10GHGTrends.pdf

committed the UK to take actions internationally and domestically, as well as to meeting air quality and other environmental standards and minimising environmental damage.

ii. Air Transport White Paper Progress Report 2006

3.8 The findings of the ATWP were reviewed and reaffirmed by the ATWP Progress Report of 2006. At Paragraph 2.10 the Progress Report stated:

> **"The Government continues to believe that this can be done by emissions trading. This mechanism – which already operates across the EU in other sectors – should be extended to the aviation sector at the earliest opportunity. Inclusion of aviation in the emissions trading scheme is the most efficient and cost-effective way to ensure that the sector plays its part in tackling climate change. This approach was endorsed by Sir Nicholas Stern's recent report on the economics of climate change, which strongly supports carbon pricing to ensure that economic decisions fully reflect social and environmental costs."**

3.9 The ATWP and Progress Report set out clearly the previous Government's policy for addressing climate change with regard to aviation. It considered that given the supra-national economic and environmental implications of air travel, the most efficient and cost-effective way for aviation to tackle climate change is through the European system of emissions trading - a stance which the current Coalition Government continues to pursue (see below).

iii. Towards a Sustainable Transport System 2007

3.10 In 2007, the Department for Transport published a document considering the future UK transport system and how it will play its part in delivering the overall level of reductions in carbon emissions recommended by the Stern Review of the Economics of Climate Change (December 2006). The Stern Review recommended pricing incentives for industry, including the aviation industry, to reduce climate change emissions. The Review supported the principle that carbon is priced in a way that reflects its cost to society and the environment.

3.11 The Eddington Transport Study (December 2006), which fed into the DfT 'Towards a Sustainable Transport System' report, advised of the transport sector's importance to economic growth, but that sustainable growth requires recognition of environmental responsibility. The report stipulated that the transport sector (including aviation) should improve the capacity and performance of travel infrastructure, whilst playing an important role in the response to climate change by meeting environmental costs in full.

3.12 The challenges in achieving a sustainable transport system were identified as:

1. Maximising the competitiveness and productivity of the economy;
2. Addressing climate change;
3. Protecting safety, security and health;
4. Improving quality of life; and
5. Promoting greater equality of opportunity.

3.13 The Government reiterated its support for work to improve and identify further technological solutions to reducing the environmental impacts of aviation and stated that the reflection of the costs of carbon from aviation in ticket pricing and through emissions trading would be particularly important in driving behavioural and technological change in the future.

iv. The Aviation Policy Framework 2012

3.14 The Government produced its draft Sustainable Framework for UK Aviation (Scoping Report) in July 2012, with consultation on this document continuing to 31st October 2012. The final Aviation Policy Framework (APF) was published in March 2013 and now supersedes the ATWP.

3.15 The APF sets out the Government's policy to allow the aviation sector to continue to make a significant contribution to economic growth across the country. It does not contain any site specific policies or recommendations for development at individual airports but sets out the policies which apply to the sector as a whole in order "to guide plans and decisions at the local and regional level". It also sets out the Government's objectives on the issues which will challenge and support the development of aviation across the UK.

3.16 When considering the management of aviation's environmental impacts, the APF outlines three main objectives to address impacts that are both global, such as climate change, and local – primarily noise, as well as air pollution and surface access traffic congestion. These are:

1. **Climate change impacts:** to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions. [Note: the Government has supported the inclusion of aviation in the EU Emission Trading System (EU ETS) from January 2012. However, non-EU flights are currently suspended from the EU ETS pending decisions on global policy expected by end 2013 - see http://tools.decc.gov.uk/en/content/cms/emissions/eu_ets/aviation/aviation)]

2. **Noise impact:** to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise;

3. **Other local environmental impacts, e.g. air pollution:** to ensure appropriate health protection by focusing on meeting relevant legal obligations; and

4. **Community impacts:** to encourage the aviation industry and local stakeholders to strengthen and streamline the way in which they work together.

3.17 The Government's intention is that the APF should support sustainable development and be delivered in a way which is consistent with its principles.

v. The Airports Commission

3.18 The Airports Commission (AC) was established in November 2012 with the principal remit of identifying short, medium and long term solutions to meeting the UK's aviation capacity and connectivity needs. The AC will produce an Interim Report by the end of 2013 and a final report with recommendations to the Government by summer 2015. These recommendations are then intended to be encompassed in a National Policy Statement for aviation, to accelerate the resolution of any future planning applications to provide such capacity.

3.19 The AC was formed to act on the following policy:

"Making sure UK airports and airlines are safe, secure and competitive while reducing their impacts on the environment and communities."

3.20 In its Guidance Document 01: Submitting Evidence and Proposals (February 2013), the Commission identifies six broad categories of factors which should be considered in the development of proposals to increase airport capacity (Paragraph 3.12):

a) Economic factors;

b) Social factors;

c) Climate change impacts;

d) Local environmental factors;

e) Accessibility; and,

f) Feasibility considerations.

3.21 With regard to climate change impacts, the AC will look first at the overall compatibility of growth in air travel with the national and global climate change targets, taking into account both existing evidence and new evidence as it emerges. The second is the relative climate change impacts of different options for providing additional airport capacity – resulting, for example, from the scale of construction required or the operational efficiencies that might be generated. Paragraph 3.16 of Guidance Document 01, states that relevant areas could include:

a) Impacts upon the efficient use of airspace, such as the reduction of "stacking";

b) Greenhouse gas emissions resulting from construction works associated with proposals;

c) Emissions from airport buildings;

d) Emissions associated with ground operations, or take-off and landing procedures, at the airport;

e) Emissions relating to surface access options for the proposed scheme; and

f) Any climate change adaptation measures that might be necessary to ensure the long term resilience of the proposal.

3.22 The Airports Commission published its 'Discussion Paper 03 Aviation and climate change' in April 2013, the third in a series of discussion papers to build the evidence base to inform its assessment of the UK's airport capacity needs.

3.23 The paper explores the science and policy around aviation and climate change that the Commission will need to consider when making its assessment of the nature, scale and timing of the UK's aviation capacity and connectivity needs. It discusses approaches to forecasting aviation emissions and the potential carbon implications of airport capacity constraints, as well as the climate change adaptation issues that the Commission will need to consider when making recommendations on future airport capacity:

"In the UK, aviation emissions account for about 6% of greenhouse gas (GHG) emissions or about 22% of the transport sector's GHG. 40% of transport emissions are attributable to cars, 14% to heavy goods vehicles and 8% to shipping" (paragraph 2.7)

"However, if demand for air travel grows in line with current projections, and other sectors begin to decarbonise relatively more quickly, aviation emissions are likely to make up a growing proportion of global and UK totals. One reason that aviation is expected to take longer to decarbonise than other sectors is the lack of an obvious low-carbon alternative to aviation fuel (kerosene). In addition, the long service life of aircraft compared to most other vehicles means that it takes longer for new technologies to penetrate the aircraft fleet than, for example, the car fleet" (Paragraph 2.8)

vi. The Committee on Climate Change

3.24 The Committee on Climate Change (the CCC) is an independent, statutory body established under the Climate Change Act 2008 whose purpose is to advise the UK Government on emissions targets and report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change.

3.25 The CCC has produced three reports of relevance to the aviation sector and the CADP application:

1. **Meeting the UK Aviation target – options for reducing emissions to 2050**: in January 2009 the Government adopted a target to reduce UK aviation emissions back to 2005 levels in 2050 alongside its decision to support expansion of Heathrow airport. The CCC was requested by Government "to assess scope for [emissions] reductions, including from improvements in technology and the effect of appropriate policy levers; and the implications of further aviation expansion beyond 2020". This report (December, 2009) sets out the Committee's assessment of options for reducing UK aviation emissions up to 2050.

2. **International Aviation and Shipping Review**: this review (November, 2011) provides the first detailed assessment of the UK's share of current international shipping emissions, projects emissions out to 2050 and estimates the abatement potential from shipping. It recommends that the Government should work with the EC to gain access to fuel use data from ship operators in order to resolve uncertainties over current emissions, and that the Government should support market based approaches to reducing shipping and aviation emissions, ideally global but if not at the EU level.

3. **Meeting Carbon Budgets – 2012 Progress Report to Parliament** – the CCC's 2012 Progress Report (June, 2012) looks at emissions trends over the past year and evaluates underlying progress in implementing carbon-reduction measures and policies in the UK. It assesses performance of government policies in driving down emissions – including in areas such as aviation, the Green Deal and Carbon Capture & Storage.

b) Industry Drivers

i. Sustainable Aviation

3.26 Sustainable Aviation (SA) was launched in 2005 to bring together the main players from UK airlines, airports, engine and airframe manufacturers and air navigation service providers. It is unique in the UK transport sector in representing a proactive coalition of the aviation industry, established specifically to address sustainability issues. The Airport is a signatory of Sustainable Aviation.

3.27 Sustainable Aviation developed a long term strategy in 2005, 'A Strategy Towards Sustainable Development of UK Aviation', which sets out the collective approach of UK aviation to tackling the challenge of ensuring a sustainable future for the industry.

3.28 The Sustainable Aviation 2005 Strategy established a set of Goals and Commitments focused on improving environmental performance and ensuring sustainable growth. These are:

1. **Social and Economic:** A competitive aviation industry making a positive contribution to the UK economy and meeting the needs of society for air transport, whilst maintaining constructive relationships with stakeholders;
2. **Climate Change:** Aviation incorporated into a robust global policy framework that achieves stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous man-made interference with the climate system;
3. **Noise:** Limit and, where possible, reduce the impact of aircraft noise. SA has recently published a Noise Road Map[2] which provides a toolkit for working towards this goal. The Airport is a signatory to this Noise Road Map;
4. **Local Air Quality:** Industry to play its full part in improving air quality around airports;
5. **Surface Access:** Industry to play its full part in an efficient, sustainable multi-modal UK transport system;
6. **Natural Resources:** Environmental footprint of UK aviation's ground-based, non-aircraft activities to be contained through effective engagement and reduction measures; and,
7. **Implementation:** Full industry commitment to sustainable development and communicating fully the role of aviation in society, in order to support a better understanding of its contributions.

3.29 The Strategy also sets out 34 commitments covering the environmental, economic and social impacts of aviation.

3.30 Reports reviewing progress against the 7 goals outlined above are prepared on a two-yearly basis. Three Progress Reports on the Strategy have been published to date; the third and most

[2] Sustainable Aviation (2013), Noise Road-Map, A Blueprint for Managing Noise from Aviation Sources to 2050

recent Progress Report, spanning the years 2009 and 2010, was published in March 2011[3]. This identified the following specific areas that would be a focus for SA for the 2011 to 2012 period:

1. Climate Change Roadmap – reviewing the contributions to medium and long term reductions in CO2 emissions from UK aviation;

2. Non-CO2 impacts of aviation – establishing agreement on current gaps in understanding, priorities on how to address these, and a broad framework for progression; and

3. Operational Improvements – promoting and building understanding on identified opportunities for improvement to other airlines, airports and neighbouring air traffic authorities.

c) Sustainability Policy Drivers

3.33 Since the early 1990's, international and national bodies have set out the broad principles of sustainable development. Resolution 42/187 [4]of the United Nations General Assembly defined sustainable development as: "meeting the needs of the present without compromising the ability of future generations to meet their own needs".

3.34 In the UK, the Sustainable Development Strategy 'Securing the Future' (2005) [5]sets out five 'guiding principles' of sustainable development, which are:

a) Living within the planet's environmental limits;

b) Ensuring a strong, healthy and just society;

c) Achieving a sustainable economy;

d) Promoting good governance; and

e) Using sound science responsibly.

3.35 The Government's vision for sustainable development, 'Mainstreaming Sustainable Development'[6], was published in February 2011, building on the principles that underpinned the UK's 2005 Sustainable Development Strategy. According to this report, sustainable development means:

> **"making the necessary decisions now to realise our vision of stimulating economic growth and tackling the deficit, maximising wellbeing and protecting our environment, without negatively impacting on the ability of future generations to do the same"'.**

[3] Sustainable Aviation, (2011); Progress Report 2011. SA
[4] UN General Assesmbly, (1987); *Resolution 42/187. Report of the World Commission on Environment and Development.* A/RES/42/187.
[5] DEFRA, (2005); *Securing the Future: Delivering UK Sustainable Development Strategy. HM Government.*
[6] DEFRA, (2011); *Mainstreaming sustainable development – The Government's vision and what this means in practice.* HM Government.

d) National Planning Policy

3.36 The Government has made commitments on a wide range of social, economic and environmental targets through its implementation of national planning policy, which is set out in the National Planning Policy Framework (NPPF)[7] (see Box 1).

Box 1: National Planning Policy Framework

The National Planning Policy Framework (NPPF) was adopted in March 2012 and constitutes a key part of the UK Government's reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.

The NPPF sets out the Government's economic, environmental and social planning policies for England. Taken together, the policies in the NPPF articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

At the heart of the NPPF is a 'presumption in favour of sustainable development', which requires local authorities to provide clear guidance on how the presumption should be applied locally. The NPPF also sets out a number of core land-use planning principles that the Government has identified to underpin both plan-making and decision-making. In addition, it gives guidance on a range of factors that are key to achieving sustainable development, those particularly relevant to the CADP proposal being:

1. Building a strong, competitive economy;
2. Promoting sustainable transport;
3. Supporting high quality communications infrastructure;
4. Requiring good design;
5. Meeting the challenge of climate change, flooding and coastal change;
6. Conserving and enhancing the natural environment;
7. Conserving and enhancing the historic environment.

3.37 Paragraph 109 of the NPPF is relevant to the consideration of potential impacts from airport development and states the following:

> **"The planning system should contribute to and enhance the natural and local environment by:**
>
> **1. protecting and enhancing valued landscapes, geological conservation interests and soils;**
> **2. recognising the wider benefits of ecosystem services;**

[7] DCLG, (2012); *National Planning Policy Framework. DCLG.*

3. **minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;**
4. **preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and**
5. **remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate".**

e) <u>Regional Planning Policy</u>

i. Greater London Authority Policies

3.38 The Mayor of London has a vision for the city to become an exemplary sustainable world city, based on the three integrated principles of:

- Strong and diverse economic growth;
- Social inclusivity to allow all Londoners to share in London's future success; and
- Fundamental improvements in environmental management and use of resources.

3.39 In achieving sustainable development, the Mayor has published a series of strategy documents setting out the policies for London, namely:

a) The London Plan- Spatial Development Strategy (2011);

b) Mayor's Energy Strategy (2004);

c) Mayor's Air Quality Strategy (2002);

d) Mayor's Biodiversity Strategy (2002);

e) Mayor's Ambient Noise Strategy (2004); and

f) Mayor's Sustainable Design and Construction Supplementary Planning Guidance (SPG) (2006).

3.40 A detailed review of relevant aspects of the above documents is provided in the corresponding topic-specific assessments contained in the Environmental Statement, the Energy and Low Carbon Strategy and Planning Statement accompanying the CADP planning submission.

ii. The London Plan

3.41 The London Plan, adopted in July 2011, is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the city's development over the next 20-25 years. Its policies form part of the development plan for Greater London and so are a prime factor in all relevant planning decisions, such as determining planning applications. The document brings together geographical and locational aspects of the Mayor of London's other strategies, including those dealing with the following:

a) Transport;

b) Economic development;

c) Housing;

d) Culture;

e) Social issues (health, inequality etc); and

f) Environmental issues (climate change, air quality, noise).

3.42 Of particular note with regard to sustainable development is Policy 5.3 Sustainable Design and Construction – summarised in Box 2 below:

Box 2: London Plan Policy 5.3 Sustainable Design and Construction

'A – The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

B - Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.

C - Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:

a) minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)

b) avoiding internal overheating and contributing to the urban heat island effect

c) efficient use of natural resources (including water), including making the most of natural systems both within and around the buildings

d) minimising pollution (including noise, air and urban run-off)

e) minimising the generation of waste and maximising reuse or recycling

f) avoiding impacts from natural hazards (including flooding)

g) ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions

h) securing sustainable procurement of materials, using local supplies where feasible, and

i) promoting and protecting biodiversity and green infrastructure.

f) Local Planning Policy

i. LB Newham Core Strategy

3.43 The LBN Core Strategy was adopted in January 2012 and forms part of the development plan for the borough, together with the London Plan. It covers a 15 year period from 2012 to 2027. The Strategy sets out the Council's approach to important issues including improvements to the built environment, provision of affordable housing and employment spaces, response to climate change, and facilities for the communities within the Borough.

3.44 The following policies are particularly relevant to sustainability and promoting sustainable development within the Borough:

a) SC1 Climate Change: to mitigate and adapt to climate change by transforming the Borough into a more sustainable place (see Box 3 below);

b) SC2 Energy: to transform Newham into a low carbon borough by minimising the demand for energy in the built environment and by switching to renewable and low carbon sources; and

c) SC4 Biodiversity: to protect, enhance and create habitats for biodiversity across Newham, ensuring a net gain in BAP habitats, and secure their positive management; reduce deficiencies in access to nature for Newham's existing and future residents; and undertake awareness-raising to promote appreciation of the Borough's wildlife by all.

Box 3: Newham Core Strategy Policy SC1 Climate Change

'Development will respond to a changing climate through the following mitigation and adaptation measures:

- Major developments (non-residential) will be required to be assessed against the Building Research Establishment Environmental Assessment Method (BREEAM). It will be expected that development achieve 'very good' as minimum (or the equivalent level of any subsequently adopted national standard on sustainable design and construction);
- Maximising the efficient use of energy through passive solar design and meeting the requirements of Policy SC2;
- Re-using and recycling waste arising from demolition and construction, and utilising materials produced and / or sourced locally;
- Incorporating sustainable urban drainage systems in line with the London Plan drainage hierarchy, and PPS25 Practice Guide, and incorporating water efficiency measures to achieve a consumption target of 105l/p/d;
- Incorporating living roofs which provide benefits for sustainable urban drainage, biodiversity and the microclimate;
- Encouraging the take-up of opportunities to improve resource efficiency in existing homes and buildings through retrofitting subject to the sensitivities identified in Policy SP5;
- Greening the borough through landscaping, tree planting and provision of natural environments and increased greenspace connectivity; and
- Improving environments through soil improvement and the sustainable remediation of contaminated land.'

4 INTEGRATING SUSTAINABILITY INTO THE PROPOSED CADP

4.1 With respect to sustainable development at the Airport, a number of key political, legislative and industry drivers have been identified in the preceding section of this Sustainability Statement. These seek to improve the environmental and sustainability performance of all airport operators at the national, regional, and local level. This Sustainability Statement therefore assesses the performance of the proposed CADP against these key sustainability objectives.

4.2 In addition, the proposals are benchmarked against the Airport's own overarching sustainability vision and targets as set out in the Airport Sustainability Strategy and Airport Sustainability Action Plan.

4.3 Finally, the Airport has committed to assessing the CADP proposals against the Building Research Establishment's Environmental Assessment Method (BREEAM) and achieving a 'Very Good' rating for the new buildings within the CADP. This provides a recognised and familiar best practice standard of sustainable design and construction for the Airport and is in line with both local planning policy and the Airport's internal sustainability commitments.

a) BREEAM

4.4 BREEAM is a nationally recognised means of reviewing and improving the environmental performance of buildings. BREEAM 2011 New Construction (NC) is a performance based assessment method and certification scheme for new buildings. Since July 1st 2011, BREEAM NC has been used to assess all newly registered developments and major refurbishments (where a greater than 50% change is occurring to both the building fabric and building services).

4.5 Used as a design tool, BREEAM will assess the environmental performance of new build buildings and refurbishments, providing a framework for improvement and an auditable demonstration of good design practice.

4.6 BREEAM considers key global and local environmental issues and the internal environment for building occupants under eight categories, ranging from:

a) Management - rewards good construction site practices, provision of information to building occupants and security;

b) Health and wellbeing - promotes a healthy internal environment;

c) Energy - rewards energy efficiency and renewable energy generation;

d) Transport - encourages locations with good access to public transport;

e) Water - promoting water efficiency and water recycling;

f) Materials and waste - rewards the responsible sourcing of materials and recycling;

g) Land use and ecology - encourages ecological enhancement; and

h) Pollution - promotes measures to reduce air and water pollution.

4.7 A certified assessment is by a third party verified by the Building Research Establishment (BRE), ensuring comparable benchmarking and high standards of assessment across the UK. Carried out by trained assessors, BREEAM provides an easily understood independent, transparent label of environmental performance.

4.8 At the certified assessment stage, the design and specification is assessed against the BREEAM criteria. Credits are awarded where it can be demonstrated by an auditable trail of supporting evidence that the credit requirements have been met. The overall environmental performance across the categories is calculated as a percentage score and expressed as a single rating on a scale of 'Pass', 'Good', 'Very Good', 'Excellent' or 'Outstanding':

BREEAM Level	Percentage Score Required (equal to or greater than)
PASS	≥30 - <45
GOOD	≥45 - <55
VERY GOOD	≥55 - <70
EXCELLENT	≥70 - <85
OUTSTANDING	<85

b) BREEAM Performance

4.9 The Airport is committed to achieving a minimum BREEAM rating of 'Very Good' for the proposed CADP. Pursuant to this, a pre-assessment meeting was undertaken with the Design Team in February 2013. The aim was to identify the opportunities and constraints of the Application Site and the proposals, and to maximise the opportunities to enhance the environmental performance of the CADP design.

4.10 From this, the credits considered achievable for the target rating have been identified. The pre-assessment BREEAM score that is likely to be achieved for the BREEAM NC assessment is 62%, which is equivalent to a BREEAM rating of 'Very Good'.

4.11 An achievable pathway to a 'Very Good' rating has therefore been committed to by the Airport and this framework demonstrates that the commitment is achievable. A summary of the proposed CADP BREEAM pre-assessment credit framework is provided at Appendix 2.

4.12 It is important to note that the BREEAM process is designed to be iterative and flexible. Therefore, using the pre-assessment framework, the benchmarking process will continue throughout the CADP design development and procurement in order to monitor the progress towards attaining the overall target rating. As the certified BREEAM assessment of each different phase of the CADP are commenced, discussions with the BRE (Building Research Establishment) will determine the most appropriate BREEAM version that should be applied at this time. This initial pre-assessment will therefore be used to guide the certification process. However, whilst the team have committed to achieving the 'Very Good' rating, the framework of credits required to meet that rating may change as the detailed design of each element of the CADP comes forward.

5 KEY SUSTAINABILITY ISSUES

5.1 The following sections provide details of the sustainability initiatives that have been incorporated in the design of the proposed CADP. These initiatives are presented as a series of key sustainability issues, which have been derived from the action plan set out in the Airport Sustainability Strategy and Action Plan and which have been the subject of an informal scoping exercise with the London Borough of Newham (LBN) in October 2012:

a) Waste Production;

b) Energy and Emissions;

c) Water Resources;

d) Sustainable Transport;

e) Biodiversity;

f) Noise and Local Air Quality;

g) Community Benefits; and

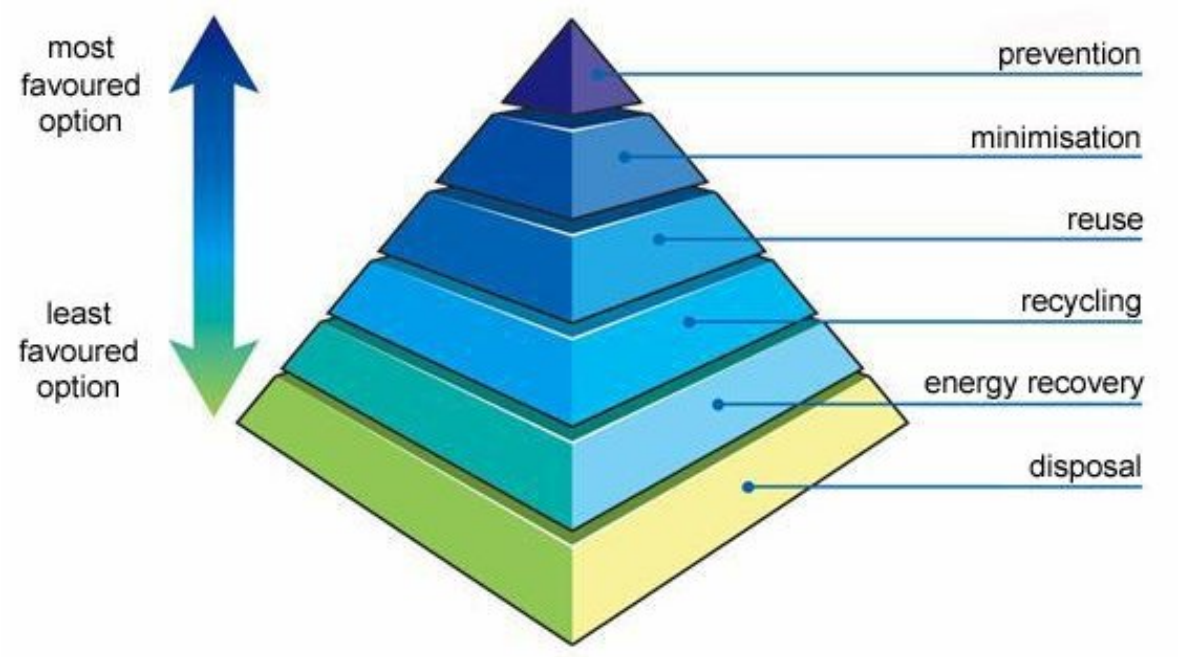
h) Sustainable Construction.

5.2 This appraisal outlines the features that have been incorporated into the CADP design proposals, and measures that will be implemented during the construction and operation phases, which aim to reduce the environmental impact of the scheme and contribute positively to sustainable development.

5.3 It is recognised that the CADP will be expected to assist towards local, national and international sustainability objectives by facilitating a reduction in carbon dioxide (kg CO2) per-passenger kilometre in order to accommodate the future demands on the aviation industry and assure the sustainable economic development of the Airport over the longer term. However, the assessment of aviation Greenhouse Gas emissions and climate change is outside the remit of this Statement. A full analysis of emissions associated with the CADP proposals and the Airport's strategy to influence, minimise and manage these emissions and their associated impact on climate change is considered separately in the Environmental Statement (ES) accompanying the CADP planning submission. Please refer to Chapter 17: Climate Change of the ES for further details.

6 WASTE PRODUCTION

6.1 The UK faces major challenges to sustainable waste management – we generate about 228 million tonnes of waste every year in England alone[8]. The minimisation of waste and the increased use of recycled materials form an intrinsic key to resource protection. The Waste Regulations 2011 includes the Waste Hierarchy, which is a framework for sustainable waste management setting out the preferential treatment of waste, as Figure 1 below shows.



6.2 Waste is generated by a range of aviation-related operations, from on-board waste generated by passengers, to waste from shops, restaurants and other facilities in the Terminal, to office waste. The Sustainable Aviation Progress Report 2011 (referred to at paragraph 3.28 above) states that over half of the 30,000 tonnes of aircraft cabin cleaning waste (such as newspapers and magazines) produced annually in the UK could potentially be recycled and notes that passengers are increasingly expecting this.

6.3 The Sustainable Aviation Waste Working Group is working to address issues such as inclusion of environmental considerations in product specification, cleaning contracts, issues around disposal of food waste and sharing best practice on recycling. Sustainable Aviation's member airports, which include the Airport, have also been working with industry partners on ways to reduce the amounts of waste generated through development and operational activity.

a) London City Airport Waste Policy

6.4 The Airport's Sustainability Strategy 2012 establishes a series of objectives and targets for managing the Airport's key sustainability priorities, which include the subject of waste production.

[8] https://www.gov.uk/government/policies/reducing-and-managing-waste

The Airport's objective in respect of management of waste production is to "promote the Waste Hierarchy and reduce waste to landfill".

6.5 The following waste management initiatives were adopted from 2009 through to 2012 to assist in the fulfilment of the Airport's Sustainability Strategy:

a) All waste management procedures were contracted to a single waste management contractor, as opposed to using a number of different waste contractors; and

b) Reviews were undertaken of existing waste management procedures, including how tenants and concessions are able to implement their own waste management initiatives through the facilities provided.

6.6 The following targets and actions have been set as part of the Airport's Sustainability Strategy 2012:

a) 75% of waste collections to be on weigh scale vehicles by December 2013 [pending];

b) Introduction of a new waste storage hub to promote waste segregation by December 2012 [achieved];

c) Increasing of waste recycling rate to 20% by December 2012 [achieved];

d) Implementation of a training programme to ensure that 100% of London City Airport staff have been trained in waste management [ongoing]; and

e) Conducting a feasibility study to explore opportunities for Energy from Waste and or Anaerobic Digestion by December 2012 [LCY's new waste contractor is using an EfW facility].

6.7 The Airport ensures that suppliers comply with its sustainability objectives through contractual mechanisms and has developed a system for monitoring and checking performance, with an aim of annual improvement.

i. CADP Waste Management

Construction Stage

6.8 At the implementation stage, the CADP Project Team will consider measures to prevent and minimise waste at source, whilst also delivering a development that is cost effective to build, maintain and occupy. It is an objective to maximise the reuse of demolition and construction waste on the site and where reuse is unfeasible, to recycle waste, with residual waste streams only being sent to landfill where no other practical option exists. Appropriate guidance will be sought in order to achieve this. For example, the London Plan and LBN recommend use of the following to inform site waste management:

a) The ICE Demolition Protocol[9];

b) The Considerate Constructors Scheme; and

[9] Institute of Civil Engineers, Envirocentre, London Remade, (2003); *The ICE Demolition Protocol*. ICE.

c) British Standard 5906: 2005 Waste Management in Buildings - Code of Practice[10].

6.9 The Airport will also produce a Site Waste Management Plan (SWMP) that will include the following commitments and procedures in line with the requirements set out by targeted BREEAM credits for sustainable waste management:

a) Monitoring of waste generated on-site;

b) Sorting, reuse and recycling of construction waste, either on-site or through a licensed external contractor; and

c) Diversion of at least 90% of construction waste generated from landfill.

6.10 The Waste Chapter of the ES (refer to Chapter 15.0, Volume 1) that accompanies the CADP planning proposals has estimated that approximately 8,362 tonnes of construction waste material will arise from the proposed works. The majority of this construction waste will be generated from off-cuts of fitting materials, spent materials and packaging and will typically comprise materials such as concrete, metal and plastics. In practice, the amount of waste is likely to be lower, as the above estimate does not include the best practice requirements that will be set by the project SWMP and Construction Environmental Management Plan (CEMP).

6.11 During the construction phase, waste will be segregated and stored on-site within a dedicated compound pending its onward transfer. At least 90% of construction waste material is targeted to be recycled, re-used or otherwise diverted away from landfill. This target would exclude any contaminated excavations that may need to be managed of at a specialist facility.

6.12 In addition, the Airport and its appointed contractors will aim to 'designed out' waste through consideration of construction techniques, elements and component sizes that will prevent and minimise waste generation, and make the construction stage more time efficient and cost effective. Furthermore, the 'proximity principle' would be applied, subject to commercial considerations, whereby waste management facilities located closest to the point of production are given preference over facilities located further away.

b) <u>Operational Stage</u>

6.13 Waste will be managed in a responsible manner throughout all the phases of CADP, with a clear intention to prevent and reduce waste streams in accordance with the waste hierarchy and the Airport's own corporate objectives. As previously mentioned, wherever practicable, waste production would be prevented at source through the careful design and management of materials during both the construction and operational phases.

6.14 The Airport currently recycles a range of waste materials as part of its Dry Mixed Recyclable (DMR) collections. This primarily comprises paper, cardboard, cans, and plastic packaging. DMR is segregated on site at a central storage area ('the waste hub') and removed daily by the single waste management contractor. During 2011, the recycling rate for the Airport was recorded at 47%, which exceeds the London wide 2015 recycling target of 45% (London Plan 2011) and the Airport's own target to increase the waste recycling rate to 20% by December 2012.

[10] BSI, (2005); *BS5906 Waste Management in Buildings – Code of Practice*. BSI.

6.15 A range of initiatives are therefore already in place at the Airport to reduce waste generation and encourage recycling. These include the transfer of waste using clear bags to assist in the identification of waste types, and workshops to increase waste recycling awareness amongst staff, retail concessions and the waste management contractor.

6.16 Within the Airport's Sustainability Strategy, the Airport proposes to minimise waste production and promote sustainability in the following ways:

a) Monitor waste leaving the Airport more closely;

b) Use more advanced collection vehicles, which include weighing scales;

c) Develop better ways to monitor how and where waste is generated at the Airport;

d) Develop a programme of awareness raising through staff training;

e) Review the Airport's procurement procedures, including efforts to reduce packaging and other inherent wastage;

f) Review procurement and delivery procedures of concessions at Airport forums; and

g) If necessary, adapt tenant lease conditions to ensure that the longer term targets of the Airport Sustainability Strategy can be achieved.

6.17 Furthermore, in order to increase recycling rates, the Airport proposes to do the following in the future:

a) Recycle a wider range of materials;

b) Examine the potential for composting biodegradable materials; and

c) Work closely with retail concessions, the Airport's cleaning contractors and airlines to increase the recycling rate.

6.18 As part of the Airport's ongoing Section 106 agreement to implement the Airport Sustainability Strategy 2012, all of the above waste management measures will be carried forward and incorporated into the management and operation of the proposed CADP.

7 ENERGY AND EMISSIONS

7.1 With increased pressure to meet growing energy demands and concerns over the impacts of greenhouse gases on climate change, governments around the world are putting in place commitments and targets to mitigate these impacts. In the UK, the Government has set targets of reducing overall CO2 emissions by 80% by 2050 (compared with 1990 levels). To help meet these targets, the focus is not only on expanding the use of renewable sources to generate energy, but also on energy conservation and, specifically, on ensuring the energy efficiency of UK buildings is dramatically improved. This last focus is unsurprising considering that buildings account, directly and indirectly, for 44% of the UK's carbon emissions.

7.2 Emissions from aviation are forecast to contribute an increasing proportion of the UK's total emissions: the Department for Transport predicted in 2007 that, taking the particular characteristics of aviation emissions into account, the 9% contribution of aviation in 2005 to total UK emissions will have increased to around 15% by 2020 and 29% by 2050. Aviation's social and economic contribution to society is such that underlying demand for air travel continues to rise placing upward pressure on fuel combustion emissions, with associated increases in atmospheric levels of carbon dioxide (CO2) and other greenhouse gasses (GHG) linked with global warming and climate change.

7.3 Improving energy efficiency and reducing energy consumption are therefore important issues to be taken into account when preparing design proposals and considering building practices in new airport developments. Major developments within Greater London are now required to address the Mayor's Energy Strategy, which sets planning policy standards for energy efficiency and the use of renewable technologies through the introduction of the Energy Hierarchy[11]:

[11] Greater London Authority, (2004); Green Light to Clean Power: The Mayor's Energy Strategy. GLA. Section 3, pg 40.

7.4 The London Plan also includes policies requiring major new developments within London to make the fullest contribution to the mitigation of and adaptation to climate change and to minimise carbon dioxide emissions. These include:

- Policy 5.2 A reinforces the requirement to apply the Energy Hierarchy to new developments;
- Policy 5.2 B requires that major developments achieve a 25% improvement upon 2010 Building Regulations (CSH Level 4), with this target becoming more challenging from 2013 onwards;
- Policy 5.2 C and D require an assessment of the energy demand and carbon dioxide emissions to accompany proposals for major development;
- Policy 5.3 C, as previously noted, requires major new developments to meet the following minimum standards:
  - Minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems); and
  - Avoiding internal overheating and contributing to the urban heat island effect.

7.5 Policy SC1 of the LBN Core Strategy, as previously described, states that development proposals will be encouraged to maximise the efficient use of energy through passive solar design and meeting the requirements of Policy SC2.

7.6 Policy SC2 requires that carbon emissions from new and existing development will be reduced by the following measures:

- Requiring that all new residential development is built in line with the London Plan and Building Regulations to reach zero carbon by 2016 (or any subsequently adopted national standard on energy and low carbon design);
- Requiring that all new non-residential development is built in line with the London Plan and Building Regulations to reach zero carbon by 2019 (or any subsequently adopted national standard on energy and low carbon design);
- Connections to, or provision for connection to, decentralised heat networks (See Policy INF4);
- Incorporating on-site renewable energy generation in line with the requirements of the London Plan, and other innovative technologies to reduce carbon emissions; and
- Encouraging the take up of opportunities to reduce carbon emissions from existing homes and other buildings through retrofitting subject to the sensitivities identified in Policy SP5.

i. Proposed CADP Energy and Low Carbon Strategy

7.7 An Energy and Low Carbon Strategy for the building elements of the proposed CADP has been produced by the project engineers (Atkins) and accompanies the CADP planning submission. It has been developed by employing the 'Energy Hierarchy' as set out in the London Plan to help guide decisions about which energy measures are appropriate in particular circumstances. As a minimum, the proposed CADP Terminal buildings will be designed to comply with Building

Regulations Part L2A for the new build elements and Part L2B for the refurbishment elements, as well as the London Plan Policy 5.2 B requirement for a 25% improvement over Part L 2010. The Strategy also acknowledges that the Building Regulations and London Plan policy may seek a higher target from October 2013, of a 40% reduction in CO2 emissions compared to 2010, and additional low carbon measures have therefore been investigated that would ensure the scheme can respond to and meet this more challenging target.

7.8 Various options for meeting the planning policy requirements relating to energy performance have been considered at a preliminary level and informed by discussions with the LBN and the GLA. Ultimately, it is anticipated that the Energy and Low Carbon Strategy proposed for the CADP will be delivered as a condition of any planning permission set by LBN. The proposed Energy and Low Carbon Strategy can be summarised according to the energy hierarchy as follows:

Be Lean – Reduce the need for energy

7.9 Design measures proposed to be lean include:

- Energy efficient systems to meet planning policy and Part L, Simplified Building Energy Model (SBEM) CO2 emissions requirements;
- Efficient thermal envelope to reduce heat losses;
- Solar shading to reduce heat gains;
- Use of natural daylighting where possible to reduce lighting energy requirements;
- High efficiency lighting;
- High efficiency plant and equipment; and
- Low energy systems e.g. using heat reclaim where appropriate, with appropriate controls.

Be Clean – Use energy more efficiently

7.10 Design measures proposed to be clean include:

- Provisions (e.g. valved connections) for connectivity to a future district heating system - should a system become available in the vicinity, the timescale of which is uncertain at present but could be in the next five to fifteen years.
- Small scale localised CCHP (Combined Cooling, Heat and Power) systems to suit base load profiles. Capacities proposed are: 35 kWt for the Western Terminal Extension & Coaching Gate; 230kWt for the Eastern Terminal Extension; and a presently calculated size of 330kWt for the Hotel. The CCHP plant will be located in two Energy Centres (east and west) due to proposed phasing and proximity.

Be Green – Supply energy from renewable sources

7.11 Design measures proposed to be green include:

- Photovoltaic (PV) arrays on the roofs of the Terminal buildings.

- A closed loop dock source heat exchange (DSHE) system that uses the dock water as a heat sink (both for cooling in summer and heating in winter) to serve part of the heating and cooling demand of the proposed Eastern Terminal extension. This would therefore be incorporated in the later development phase, once the detailed design has been agreed with LBN and the Environment Agency, although the latter has indicated that it supports this kind of measure in principle. Depending on the final detail of the DSHE system, the capacities for the CCHP systems may vary since some of the loads could be offset.

7.12 Other systems were investigated as part of the renewable energy feasibility study, but have been discounted for the following reasons:

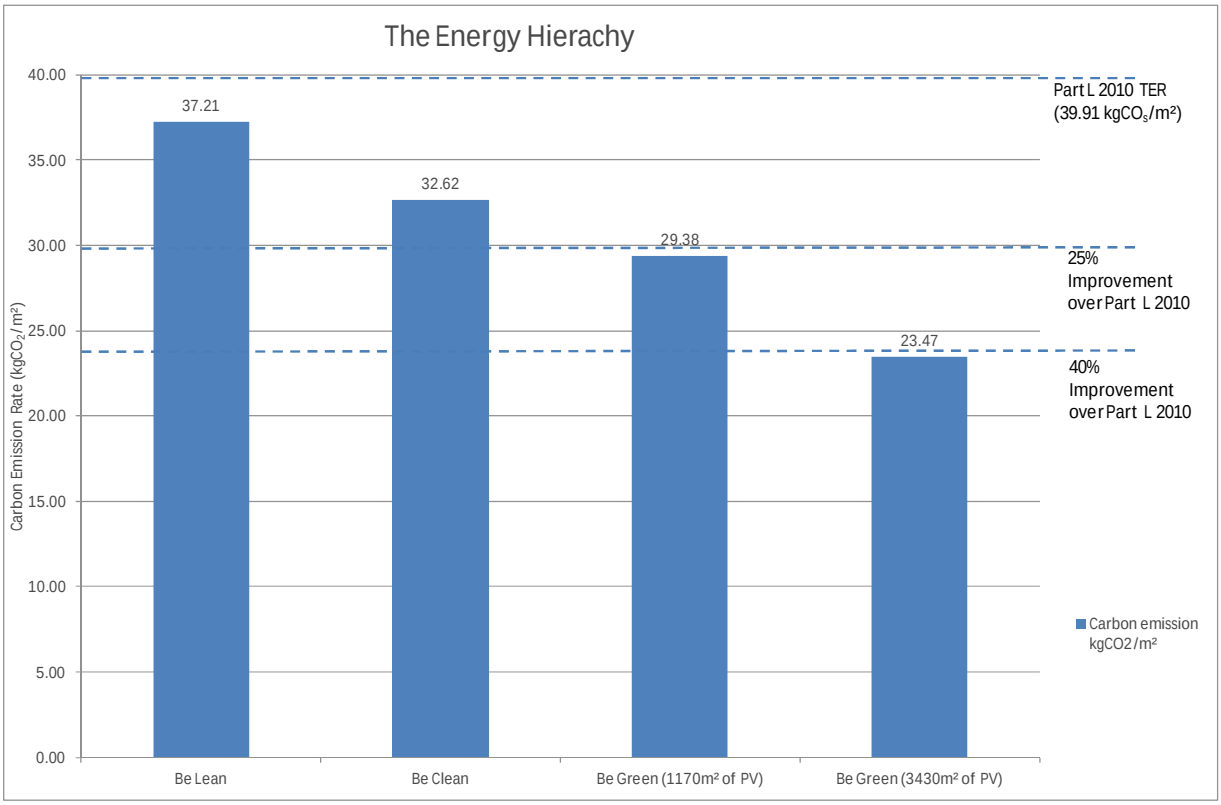
- Solar Thermal hot water is not proposed, due to use of a CCHP system to provide the base heating load;
- Wind turbines were investigated but ruled out due to unfavourable windspeed conditions; and
- Biomass systems have been ruled out in line with discussions with LBN at a meeting in early November 2012, due to emissions issues and likely conflict with the local authority's air quality management plan.

b) Summary

7.13 Using the design measures above, which are likely to be conditioned as part of any planning permission, it is considered that the CADP will be capable of meeting, and potentially exceeding, current Part L and London Plan 2011 requirements which seek a 25% CO2 reduction relative to a 2010 benchmark. The strategy also acknowledges that part L of the Building Regulations and London Plan policy may seek a higher target from October 2013, of a 40% reduction in CO2 emissions compared to 2010. In this respect, space has been safeguarded for further PV arrays which together with further optimisation measures as the design develops (as energy efficiencies of the latest products and systems improve further e.g. lighting), would ensure that the scheme can respond to and meet this more challenging target.

7.14 The following graph (Figure 2) has been produced using the early stage thermal model results and the GLA guidance on preparing energy assessments to show the effect of the energy strategy. It shows that by adopting the energy efficiency measures (be lean), the CCHP system (be clean) and the PV & DSHE system (be green), the CADP buildings are able to surpass current GLA requirements to achieve 25% improvements over part L 2010. It also demonstrates the forthcoming 40% target for information, which can be achieved by using additional PVs on the roofs of the new and existing buildings and further efficiency measures.

Figure 2: Proposed CADP Energy Hierarchy



8 WASTER RESOURCES

8.1 Water is becoming an increasingly scarce resource, with only 3% of the world's water being held as fresh water and less than 0.3% of this being available to humans. As more buildings are built and the population increases, the pressures on the UK's water resources are growing. Climate change may add to these pressures. To ensure a sustainable water supply for the future, it is therefore vital that water is used more efficiently and methods of harnessing and reusing water are developed and implemented. Pursuant to this, DEFRA's Future Water Strategy[12] sets out a number of objectives for more sustainable water use and management. Of particular relevance is the target to "reduce per capita consumption of water through cost effective measures, to an average of 130 litres per person per day by 2030". This equates to a 20% decrease compared to the current average.

8.2 Moreover, just as climate change seems likely to mean less water on average, it is also likely to mean more extreme weather events. Therefore, the issue of 'surface water' flooding is becoming increasingly important. Use of Sustainable Drainage Systems (SuDS) that drain away surface water run-off through collection, storage and cleaning before allowing it to be released slowly back into the environment is part of the solution.

8.3 Operational activities at airports use water in a number of ways, including toilet flushing, cleaning of the airport and aircraft (when permitted), fire drills, food preparation etc. Sustainable Aviation's member airports, which include London City Airport, are currently working with airlines to reduce water use.

8.4 Policy 5.15 of the London Plan states that development should minimise the use of mains water by incorporating water saving measures and equipment.

8.5 Policy 5.13 of the London Plan identifies a Sustainable Drainage Hierarchy and states that new developments should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible.

8.6 It is also an Essential Standard of the Mayor's Sustainable Design and Construction SPG to use Sustainable Drainage Systems (SuDS) measures wherever practical and to achieve 50% attenuation of the surface water run off at peak times of the undeveloped site.

a) Proposed CADP Water Management

8.7 The proposals for the CADP aim to develop a water strategy that reduces water demand through its design and specification and incorporates a drainage system with increased retention times and/or enhanced rainwater collection capacities. Further details are also included in Chapter 12: Water Resources and Flood Risk of the ES and in the CADP Surface Water Drainage Strategy (presented in Appendix 12.2 of the ES).

[12] DEFRA, (2011); Future Water: The Government's Water Strategy for England. DEFRA.

8.8 Consideration has been given to the efficient use of water in the CADP construction phase and the Airport will require its appointed contractors to monitor water consumption, in line with targeted BREEAM credits.

8.9 To reduce water consumption during the operation of the building, water efficient appliances will be incorporated within the proposed CADP to conserve water at its point of use, in line with targeted BREEAM requirements. For example, the following water efficiency measures would be expected for incorporation within the new Terminal extension toilet areas:

- 6/4 litre dual flush toilets in terminal buildings;
- Vacuum flushing toilet systems for new Eastern Pier WCs which reduce water use significantly;
- Wash hand basins fitted with aerated taps or flow restrictors;
- Passive infrared sensor urinals.

8.10 Water efficient devices will also be provided wherever possible within the operational elements of the Airport and a commitment will be made to liaise with incoming retail tenants in the Terminal building for the specification and incorporation of water efficiency measures wherever practicable.

8.11 In addition, the proposed CADP will comply with the Mayor's SPG and BREEAM requirements to ensure 100% water metering of all new built development on site.

b) Proposed CADP Surface Water Drainage Strategy

8.12 Areas at greater risk of flooding are generally those near natural flood plains, particularly where the flood plain has been built on. Areas at risk of flooding from fluvial or tidal flood events are highlighted on the Environment Agency (EA) flood maps. The Environment Agency's flood map shows the CADP is located within Flood Zone 3, as it is considered the River Thames poses a residual risk of fluvial and tidal flooding. However, the Environment Agency's Flood Zone maps do not take account of the presence of flood defences. London is defended to a high level against fluvial and tidal events from the River Thames, through a combination of riverside defences and the Thames Barrier from which the Airport and CADP site benefits.

8.13 Notwithstanding this, the CADP project engineers (Atkins and TPS) have produced a Surface Water Drainage Strategy which demonstrates how runoff rates from the new proposals will be reduced in line with the aspirations of the drainage hierarchy in London Plan Policy 5.13. This strategy is presented as Appendix 12.2 of the ES.

8.14 A number of options for drainage of the CADP site have been explored and the drainage strategy consists of a range of suitable Sustainable Drainage Systems (SUDS), which will aim to limit flows to the existing sewers as far as possible. The strategy centres on the use of attenuation tanks with oil separators across the site, appropriately sized to reduce the existing flow to greenfield runoff rates. The new East Passenger Pier and the Arrivals Building roof drainage is intended to discharge directly to the dock due to the clean nature of this discharge. A rainwater harvesting system is also proposed, which stores rainwater collected from the new Terminal roof and provides water to irrigate the landscaping in the forecourt area.

8.15 The proposed design solution for the Dockside area is to reduce the existing flow rate from the redeveloped site, by utilising attenuation systems which will discharge via flow control units at greenfield run-off rates. The attenuation systems have been minimised as far as possible to limit the disposal of contaminated material, disturbance of heritage assets and to avoid existing underground building foundations.

8.16 Further investigations will be undertaken at the detailed design stage (subject to appropriate planning conditions) to determine the viability of discharging the high level catchment areas to King George V Dock. At this stage the viability and balance of use of the following additional drainage options will also be examined:

- Utilising porous pavements, in areas which are not heavily trafficked by vehicles;
- The implementation of infiltration drainage within the landside development (Note: infiltration is not suitable for airside areas) to further reduce the existing flows; and
- Providing enlarged attenuation tanks and oversized pipes.

8.17 The Surface Water Drainage Strategy concludes that discharge to the existing sewer network will be reduced in the magnitude of 63 – 65%, and potentially further if an infiltration solution is found to be viable at the detailed design stage.

8.18 The proposed CADP will therefore serve to limit runoff flows as much as possible within the constraints of the Application Site. The Surface Water Drainage Strategy is therefore in compliance with the hierarchy stated in London Plan Policy 5.13 ‘Sustainable Drainage’.

9 SUSTAINABLE TRANSPORT

9.1 Transport currently accounts for a quarter of the UK's carbon emissions and 90% of all transport emissions are generated from road transport. In order to meet the UK's ambitious target of an overall 80% cut in emissions by 2050, extensive decarbonisation of the transport sector will be essential.

9.2 Policy INF2 of the LBN Core Strategy on Sustainable Transport states that:

> **"Major development proposals that generate or attract large numbers of trips, including higher density residential and commercial development, should be located in areas with good public transport accessibility and demonstrate the existence of, or propose new safe, attractive walking and cycling routes to public transport nodes."**

9.3 A Transport Assessment (TA) accompanies the CADP planning submission and is reproduced as Appendix 11.1 of the ES. This TA considers the highway and transport matters associated with the CADP proposals. Further details are also provided in ES Chapter 11: Surface Transport and Access.

a) Baseline Conditions

9.4 The Airport benefits from very good public transport connections in the form of the DLR and bus services. The DLR London City Airport extension opened in December 2005 with the extension onwards to Woolwich Arsenal completed in 2009. The section between Canning Town and London City Airport is known as 'the Airport route'. Since January 2012, trains on the Bank to Woolwich Arsenal service have been increased from two to three-carriage trains. This extra capacity helps accommodate increasing DLR passenger numbers and provides enhanced comfort. The Stratford International to Woolwich Arsenal link will remain a two-carriage service.

9.5 The Airport is served by two Transport for London (TfL) Bus Services - the 473 and the 474. Bus stops are conveniently located adjacent to the 'ready' hire car parking area outside the existing Terminal building on Hartmann Road and also adjacent to the Jet Centre (used by staff, crew and passengers).

9.6 The Airport is also accessible on foot from the surrounding residential and commercial areas. The footways on the surrounding highways are lit, well maintained, are of sufficient width for their purpose and are free of surplus street furniture. There are clear defined routes for pedestrians to use in and around the Airport and controlled pedestrian crossing facilities exist at the junction of Connaught Road and Hartmann Road. Being a predominantly business orientated airport, the likelihood of many passengers walking to the Airport is limited. However, a number of staff working within the Airport do live locally and walk to work.

9.7 LCY, as part of its on-going monitoring programme, undertakes regular passenger surveys. As part of this survey it asks passengers their last mode of transport to the Airport. The results of surveys undertaken between 2005 and 2012, show that between 49% and 55% of passengers used the DLR as their final mode of transport to the Airport,

9.8 The average mode split for 2012 shows that 55% of passengers travelled by DLR, followed by 16% using Private Hire Minicabs and 14% using Black Cabs.

9.9 A full staff travel survey was also carried out in September 2011. A total of 514 staff completed the questionnaire and provided information on their last mode of transport to work. The results showed that 22% of employees travel to the Airport by the DLR and 10% by bus. Importantly, compared to previous staff survey results from 2009, the proportion of car travel has decreased, with walking seeing the greatest increase in mode share from 2% to 7%.

9.10 There are 30 covered cycle parking spaces located beneath the DLR adjacent to the motorcycle parking area. This is opposite the main entrance to the Airport Terminal. There is a further 12 cycle parking spaces located within a secure bike store in the short stay car park. Cycle stands are predominantly used by staff.

b) CADP Transport Measures

9.11 Additional cyclist facilities will be provided as part of the CADP proposals to try and further encourage the shift away from private car use to and from the Airport. In addition, an appropriate number of electric car charging points will be provided in order to encourage use of low emission electric vehicles.

9.12 In order to provide appropriate traffic mitigation measures during the construction phase, a Construction Logistics Plan (CLP) will be prepared and agreed with LBN prior to any commencement of works on site. The CLP will include designated construction traffic routes and the methods to be adopted to mitigate the effects of traffic associated with the demolition and construction works.

9.13 During the operation of the CADP, the Airport will maintain and implement its Travel Plan, which includes a comprehensive set of travel measures to help encourage a modal shift away from the single occupancy private car. The current Airport Travel Plan is being updated and initial discussions have already taken place with London Borough of Newham and TfL at a meeting on 30th April 2013.

9.14 Initially the updated Travel Plan will concentrate on staff travel. This approach has been agreed with both stakeholders. The Travel Plan will then be updated to consider passenger travel in conjunction with the development of a new Airport surface access strategy. The new surface access strategy will be developed in consultation with key stakeholders and will reflect the passenger related surface access requirements both in the short term and those associated with the CADP project in the longer term.

9.15 The Staff Travel Plan will include a series of 'live actions' for key issues that will encourage more sustainable travel by staff. Progress against these actions will be reviewed annually. The key issues that will be addressed through the Staff Travel Plan are as follows:

a) Engagement – the Airport's Travel Coordinator will work with airport companies to share information and encourage airport staff to travel sustainably;

b) Local staff travel – seek to implement measures that aim to increase the proportion of local staff (within a 3-5 mile radius) that choose to walk or cycle to work. The CADP will provide a

new dockside path, creating a new pedestrian link from the east. Additional cycle parking will also be provided to encourage cycling;

c) Multi-modal travel – work with partners and transport providers to look to offer better information and ticketing options for staff completing multi modal journeys to and from work;

d) De-carbonising the car – explore opportunities that reduce the impact of single occupancy car use. To include car sharing, electric vehicles, occasional use of public transport, etc;

e) Early morning accessibility – explore opportunities for the development of additional early morning transport services to align with airport operational requirements;

f) Networking – seek to establish a travel plan network with local organisations to identify and address common transport issues; and

g) Monitoring & reporting – report progress against the Staff Travel Plan annually.

10 BIODIVERSITY

10.1 Biodiversity is the variability among living organisms within an ecosystem - a highly diverse ecosystem is an indicator of a healthy and thriving natural environment.

10.2 The UK has seen a significant loss in biodiversity and ecosystem integrity, especially through the latter half of the twentieth century. As such, the protection and enhancement of biodiversity is an important factor throughout the development process.

10.3 Newham's planning policies relating to biodiversity are contained within Policy SC4 of the Core Strategy, with the objective being:

> **"Protect, enhance and create habitats for biodiversity across Newham, ensuring a net gain in BAP habitats, and secure their positive management; reduce deficiencies in access to nature for Newham's existing and future residents; and undertake awareness-raising to promote appreciation of the Borough's wildlife by all."**

a) Baseline Conditions

10.4 In accordance with best practice guidelines, a detailed ecological assessment has been undertaken as part of the CADP proposals, which considers both the habitats and species within the boundary of the Airport, as well as those within a 2 km radius of the Airport. Further details are included in Chapter 13: Ecology and Biodiversity of the ES.

10.5 The following field surveys and desk studies have been undertaken:

a) RPS (2007) London City Airport: Ecological Assessment;

b) RPS (2011) London City Airport: King George V Dock Limnological Investigations 2010 and 2011;

c) RPS (2012) London City Airport: Phase 1 Habitat Survey 2011;

d) RPS (2013) London City Airport: King George V Dock Limnological Investigations 2012; and

e) RPS (2013) London City Airport: Phase 1 Habitat Survey 2013.

10.6 The Airport and surrounding area is highly urbanised, dominated by the Airport infrastructure including the terminal, runway, ancillary buildings and car-parking space. The majority of the CADP is therefore located on brownfield land that has been previously developed and which is, unsurprisingly, considered to be of low ecological value due to the limited areas of unmanaged green space and the requirement on the Airport to discourage wildlife that could present a hazard to aircraft.

10.7 The Royal Docks, including the KGV Dock over which the proposed CADP will be constructed, are designated as a Site of Borough Importance for Nature Conservation (SBINC). Limnological investigations have been undertaken of the open water and the water under the existing Eastern Apron in order to understand the implications of covering over a further part of the KGV Dock.

The sampling revealed that the water chemistry at the water surface was uniform across the open and covered areas.

b) CADP Biodiversity Measures

10.8 In line with the Airport's adopted Biodiversity Strategy (2012) which aims to support the wider protection, enhancement and understanding of biodiversity within Newham, a commitment has been made to explore opportunities to enhance local biodiversity where such enhancements do not compromise the safety, operational controls, or other functions of the Airport.

10.9 The KGV Dock provides suitable habitat to support a variety of fish species which are known to occur throughout the Royal Docks. In addition, aquatic crustacean and polychaete worm fauna were found on the northern wall of the KGV Dock, which are considered to constitute a significant biomass and are assessed as being important for the maintenance of the Dock's ecology, especially the fish population. Therefore, replacement habitat is proposed in the KGV Dock to compensate for the loss of that part of the Dock wall which would be covered over, or otherwise impacted, by the proposed CADP works. This replacement habitat will provide a substrate for the colonisation by the same species that currently exist, as well as providing the additional benefit of offering a sheltered habitat for fish fry.

10.10 Opportunities for terrestrial habitat enhancement at the Airport are limited due to safeguarding requirements. Nevertheless, for the proposed new forecourt area, biodiversity enhancements would include the planting of low growing groundcover comprising shrubs, perennials, bulbs and ornamental grasses, together with Hornbeam trees in planters. This planting will be a benefit to bio-diversity, yet will meet with the guidance contained within 'Safeguarding aerodromes – advice note 3'[13], which advocates use of species which are least likely to attract large numbers of birds to roost, nest or feed.

10.11 The other dockside areas, including the proposed car parks to the east, will incorporate at least 5% of soft landscaping (by area) including hedges and small trees. The species selection for these landscape areas would be defined at the detailed/reserved matters design stage. However, they are expected to create some additional biodiversity value, whilst complying with the above advice note. Other biodiversity enhancements will also be explored at the detailed design stage.

10.12 Given the obvious constraints posed by the Airport's operations, it is considered that the proposed strategy for the CADP will help to bring about a positive change in the ecological value of the site, thus providing biodiversity benefits to the local area compared with the existing site.

[13] Civil Aviation Authority, Airport Operators Association, and General Aviation Awareness Council, (2003); *Safeguarding of Aerodromes Advice Note 3: Potential Bird Hazards from Amenity Landscaping and Building Design.* GAAC.

11 NOISE AND AIR QUALITY

11.1 The Government's APF (2013) highlights that considerable progress has been made in reducing the number of people affected by aircraft noise. Aircraft have become progressively quieter and operating procedures have been improved, which deliver better environmental performance. However, noise continues to be a source of tension between airports and local communities. While aircraft noise is the main source of noise associated with airports, noise can also arise from traffic accessing the Airport on the local road network and from other airside operations.

11.2 The Sustainable Aviation Progress Report 2011 notes that air quality, largely related to concentrations of NO2, is also a matter of concern at some UK airports. While road traffic is generally the major source, emissions from aircraft engines and other airport operations also contribute. However, as set out in Sustainable Aviation's Noise Road-Map 2013, it is envisaged that aircraft noise emissions are likely to reduce in the future, particularly as a result of the introduction of the next generation of modern aircraft in the next few years.

11.3 Policy 7.15 of the London Plan – Reducing Noise and Enhancing Soundscapes, states that development proposals should seek to reduce noise by:

a) Minimising the existing and potential adverse impacts of noise on, from, within, or in the vicinity of, development proposals;

b) Separating new noise sensitive development from major noise sources wherever practicable through the use of distance, screening, or internal layout in preference to sole reliance on sound insulation; and

c) Promoting new technologies and improved practices to reduce noise at source.

11.4 Following the declaration of the Air Quality Management Area (AQMA) in the London Borough of Newham, a draft Air Quality Action Plan was published in 2003, which contains a number of measures that relate specifically to the Airport's operations, including the need to carry out a programme of air quality monitoring.

11.5 Detailed impact assessments have been carried out of the effects of both noise and emissions associated with of the proposed CADP, covering both the construction and operational phases. These corresponding assessments are reported in Chapter 8: Noise and vibration, and Chapter 9: Air Quality of the ES. The sections below provide only a brief summary of these two topics.

b) Construction Phase

i. Noise

11.6 Construction noise levels will vary considerably during the various construction phases depending on activity and location.

11.7 Some site construction activities will temporarily have the potential to cause adverse effects on nearby residents. In order to mitigate these, Best Practicable Means (as defined under Section 72 of the 1974 Control of Pollution Act) will be used by the Contractor to achieve compliance with relevant legislation and standards. Measures to be considered in implementing Best Practicable

Means will be consistent with the recommendations of BS 5228:1997 and will include the following:

a) Community Relations – keeping local people informed of progress and treating complaints fairly and expeditiously.

b) Site Personnel Training – informing site personnel about the need to minimise noise and advising on the proper use and maintenance of tools and equipment and the positioning of machinery to reduce noise emission to the neighbourhood.

c) Site Location – setting noise emission limits with due regard to the proximity of noise sensitive premises.

d) Duration of Site Operations – local residents may be willing to accept higher levels of noise if they know that such levels will only last for a short time. Noisy site operations should be carried out according to a stated schedule.

e) Type of Plant – consideration should be given to using quieter techniques, taking account of practical site constraints and best practicable means.

ii. Air Quality

11.8 During the construction phase, best practice measures will be undertaken to ensure that potential air pollution impacts will be effectively managed and controlled. A comprehensive list of measures to mitigate dust emissions and monitor air quality impacts, which will be employed during the construction of the CADP, is included in the Air Quality chapter of the ES. Measures include, but are not limited to:

a) Implement a stakeholder communications plan that includes community engagement before and during work on site;

b) Implement a Dust Management Plan (DMP), approved by the Local Authority (LBN);

c) Undertake daily on-site and off-site inspections and record results, where receptors (including roads) are nearby, for example to monitor dust;

d) Agree real-time PM10 continuous monitoring locations with the Local Authority (LBN) in line with IAQM guidance on monitoring;

e) Use of dust sheets, covers to skips and regular proposals to 'damp' down the site in dry weather;

f) Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone (LEZ);

g) Compliance with the best practice procedures set out in:

- PPG 1- General Guide to the Prevention of Pollution, Environment Agency; and
- PPG 5 - Works In, Near or Liable to Affect Watercourses, Environment Agency.

c) Operational Phase

i. Noise

11.9 During operation of the CADP, the Airport's noise impacts will be monitored and controlled through the noise management scheme that is currently operated by the Airport and independently monitored by the London Borough of Newham. The Airport already operates many successful mitigation measures to ensure that air noise is adequately controlled, and the measures will be retained and implemented for the CADP. These include:

a) Maintaining restrictions on flights outside the daytime period.

b) The restriction that all aircraft operating at the Airport must lie within one of the categories set out in the Noise Categorisation System as agreed with the London Borough of Newham. All such aircraft will meet the ICAO (International Civil Aviation Organization) Chapter 4 noise limits[14];

c) The continued operation of a Noise Monitoring and Flight Track Keeping System.

d) Maintaining a public noise complaint handling service.

e) Maintaining an Airport Consultative Committee.

f) Encouraging aircraft operators to adopt quiet operating procedures and to observe published noise abatement procedures.

g) Maintaining Preferred Noise Routes.

h) Maintaining an Approach Glide Slope of 5.5 degrees for all aircraft.

i) Maintaining an enhanced two-tier sound insulation scheme for nearby affected properties, with an eligibility criterion trigger level of 57 dB $L_{Aeq,16h}$. This is the lowest daytime limit adopted by any airport in the UK. In addition, the Airport will improve the scheme by offering those people most affected by noise, that is, those within the 66 dB LAeq,16h contour, improved secondary glazing or a 100% monetary contribution towards high acoustic performance thermal double glazing, together with acoustic ventilation. This will ensure that all of those most affected by noise are afforded the maximum noise protection opportunity.

j) Introduce a Purchase Offer for any properties that lie within the high annoyance contour (69 dB) in line with Government recommendations.

11.10 In addition, the Airport has developed and implemented measures to ensure that ground operations are carried out as quietly as practicable to minimise impact, which will be continued with CADP. These include:

a) Encouraging the minimum use of reverse thrust on landing, consistent with safety constraints.

[14] In June 2001 the Council of ICAO adopted a new 'Chapter 4' noise standard, which is more stringent than the previous 'Chapter 3' standard.

b) Except in emergencies, engine testing restricted to areas designated for that purpose.

c) Maintaining a noise limit for policing the level of high powered ground runs for engine testing and maintenance purposes.

d) Limiting the use of Auxillary Power Units (APU's) to no more than 10 minutes prior to departure and 10 minutes after landing.

e) Providing, as far as practicable, fixed ground power to apron stands to minimise the use of mobile units or APU's.

11.11 Certain characteristics of the CADP scheme will in themselves help to limit noise emissions to the neighbouring area, including:

a) The maximum height of the Terminal extensions will act as a noise barrier reducing ground noise levels to those closest to the existing eastern apron stands where there is an 8m noise screen.

b) The proposed new East Passenger Pier will provide a substantial reduction in ground noise to protect the nearest dwellings to the south of the Airport from the effects of ground noise.

11.12 No specific mitigation measures are considered to be required to address the minor increases in road traffic expected for existing roads as a result of the proposed CADP. In practice, any properties treated under the Airport's Sound Insulation Scheme that lie close to major roads around the Airport site will benefit from protection from traffic noise in addition to aircraft noise.

iii. Air Quality

11.13 The Air Quality assessment for the proposed CADP has predicted no significant air quality impacts during operation. Accordingly, additional mitigation measures above those already in place and embedded in the CADP proposals are not considered necessary.

11.14 The Airport already operates a comprehensive Air Quality Measurement Programme. In July 2012 the Airport published an Air Quality Action Plan, which sets out a range of measures to improve local air quality over the next three years. The Plan has been approved by LBN, and the Airport is required to report on progress each year. It focuses on measures to reduce emissions of nitrogen oxides (NOx) from Airport-related sources, including:

a) Aircraft operations;

b) Ground Support Equipment e.g. mobile ground power units (MGPUs);

c) Airside vehicles; and

d) Black cabs (taxis).

11.15 The measures committed to in the Action Plan will bring about compliance of all airside vehicles (unless exemption is granted) with the London LEZ, will introduce random emissions testing of all airside vehicles, and will result in the decommissioning of the older (pre-Stage II) MGPUs.

11.16 Those measures referred to above that are embedded within the CADP proposals and will thereby reduce pollutant emissions include:

a) The installation of fixed electrical ground power (FEGP) to all refurbished and new stands that will substantially reduce reliance on MGPUs;

b) The appointment of a third party transport management company to manage and regulate the taxi rank and marshal all taxis in the forecourt area and taxi feeder park. Idling will not be permitted by stationary vehicles;

c) The provision of the eastern access onto Hartmann Road will significantly reduce traffic flows at the western end (close to Camel Road) and will be beneficial in reducing pollutant concentrations at this location;

d) The provision of the new Eastern Energy Centre with CCHP will allow emissions of nitrogen oxides to be controlled. The proposed scheme includes 95% catalytic reduction of emissions;

e) The provision of ultra-low NOx boilers (<40 mg/kWh) within the Western and Eastern Energy Centres.

12 COMMUNITY BENEFITS

12.1 The Government's APF (2013) puts economic growth and the environment at the heart of the Government's vision for aviation and notes the specific benefits the aviation industry brings through its contribution to Gross Domestic Product (GDP) and jobs, imports and exports, manufacturing and technology, greater productivity and growth, tourism, and wider societal benefits.

12.2 The LBN Economic Development Strategy similarly highlights the unique role that the Airport plays in contributing to the regeneration of the London Docklands, stating:

> **"The Royal Docks is ideally placed as a business and leisure destination with the waterfront, London City Airport, ExCeL, the University of East London, the historic presence of Tate and Lyle and the proximity to Canary Wharf and the O2 Centre…**
>
> **Visitors to ExCeL and the Siemens Centre, as well as those utilising City Airport, will provide a critical mass of custom to support a flourishing business-tourism sector including hotels, restaurants, retail, and business-related leisure"**

12.3 Aviation can also offer benefits to communities not only through inputs to the local economy but also through targeted support for local community initiatives. Working with local communities through proactive community involvement in issues such as local airport operations and development plans is an important part of this process.

a) Socio-Economic Benefits of the CADP

12.4 As part of the CADP EIA process, a Socio-Economic Impact Assessment of the proposals has been carried out. This is reported in ES Chapter 7: Socio-Economics, Recreation and Community. This assessment identifies that there would be no significant adverse social or economic impacts as a result of the CADP proposals and the benefits discussed in the following paragraphs would be likely to come about.

i. Employment

12.5 During the construction phase, it is estimated that the proposed CADP will support a Full-Time Equivalent (FTE) of 344 direct onsite construction jobs over the life of the project, with a further FTE of 103 indirect and induced jobs, making a total of 448 FTE jobs overall. During operation, the proposed CADP in itself will support around an additional 960 direct onsite FTE jobs compared with the current level of direct onsite FTE jobs. This is equivalent to an additional 910 FTE jobs overall (direct, indirect and induced) by 2023 when compared with a 'without development' scenario, given that some limited jobs growth would be likely to occur in any event. It is also estimated that the proposed hotel could support between 90 and 130 additional direct (onsite) jobs from the point when the hotel is opened.

12.6 Overall, taking all types of employment into account, the CADP proposals would generate an increase in local employment of approximately 1,500 compared to 2012, when the full impact of the hotel is taken into account. This is made up of 1,250 jobs as a result of the increase in

operational activity at the Airport and around 200 jobs in total related to the hotel and other elements of CADP2.

ii. Wider Economic Benefits

12.7 Although it is not possible to quantify all of the wider economic benefits that would accrue from the Airport's ability to reach its approved movement limits through the proposed CADP, it is considered that the CADP would help to facilitate continued economic growth and inward investment in Newham and East London generally, supporting the business community in Canary Wharf and elsewhere, along with the continuing regeneration of the Royal Docks, in the following ways:

- Supporting inward investment;
- Driving business productivity;
- Acting as a gateway for inbound tourism; and
- Providing leverage for transport investment.

iii. Social Impacts

12.8 The local area around the Airport contains a relatively dynamic population, many of whom see the Airport as a positive factor when considering a move into the area, recognising the Airport's continuing contribution to the local economic prosperity.

12.9 As discussed, the proposed CADP will facilitate the creation of new local jobs, which will provide further employment and training opportunities for local residents. This will be a significant beneficial effect. In addition, the improvements to the Terminal buildings as part of the proposed CADP will improve the working environment for staff employed at the Airport.

12.10 The expansion of the Airport's capacity as a result of the proposed CADP will provide the potential for further extending the number of destinations served by it and will increase the accessibility of business and leisure travel to the local and regional communities.

b) <u>Other Community Benefits</u>

12.11 The London City Airport Community and Environment Review 2012 sets out the wide range of initiatives currently undertaken by the Airport, including programmes in primary, secondary and higher education, which aim to help local young people into employment, local training initiatives, and a range of other community outreach initiatives.

12.12 In particular, the Airport's 'Take Off Into Work' programme has helped over 300 people into work since March 2009. LBN has acknowledged the importance of the 'Take Off into Work' initiative within its Newham Economic Development Strategy:

> **"This Embedded Project Management scheme has also shown significant benefits through London City Airport's Take Off into Work Scheme. The scheme provides employability training to unemployed residents, including workshops on airport careers, CV and interview preparation and placement opportunities across a number of airport departments and other companies based at the airport. To date, 108 Newham residents have been employed.**

The programme is delivered by ELBA in partnership with London City Airport and Workplace."

12.13 As part of its ongoing Section 106 agreement to implement the Airport Sustainability Strategy and Action Plan, the Airport will maintain its proactive engagement with the local community through the CADP, in order to balance its environmental, economic and social impacts. This commitment is also reinforced through the Airport's Community and Environment Review:

> **"Since opening, the airport has striven to be a good neighbour, developing long-term relationships and partnerships with a wide variety of local organisations. As the airport continues to grow, we will remain focused on the community and the environment to ensure that local people are a part of, and benefit from, the airport's success."**

c) Summary

12.14 It is considered that the proposed CADP will lead to a number of significant beneficial effects on the local community and economy, including enabling the Airport to build on its existing community projects, generating new job opportunities and increasing the accessibility of travel to the local and regional community.

13 SUSTAINABLE CONSTRUCTION

13.1 The construction phase of the proposed CADP could have a significant effect on the quality of the Application Site and its surroundings, including the local environment, neighbouring residents, employees and the general public. Sustainable construction involves the prudent use of existing and new resources, the efficient management of the construction process, and consideration of potential adverse environmental impacts on local sensitive receptors.

13.2 The Airport Sustainability Strategy and Action Plan includes a commitment to ensure that any new development at the Airport will be delivered to the highest practical standards of sustainable design and construction. In response to the Action Plan's stated commitment "to ensure that all new construction will be designed with consideration to sustainability", the Airport has developed a Sustainable Construction Strategy (December 2012), which is to be applied to all new development coming forward at the Airport, including the proposed CADP.

a) Considerate Construction

13.3 The Airport will ensure that the chosen contractor for the development of the proposed CADP adopts high standards of sustainable construction in line with best practice guidelines and as required by targeted BREEAM credits for construction management. Specifically, the contractor will be required to implement the following:

- Considerate Constructors – the Airport will require all relevant contractors to commit to the UK Considerate Constructor Scheme, a Code of Practice that seeks to:
  - Minimise any disturbance or negative impact;
  - Eradicate offensive behaviour and language on construction sites; and,
  - Recognise and reward the constructor's commitment to raise standards of site management, safety and environmental awareness beyond statutory duties.
- Construction sites to be managed in an environmentally sound manner in terms of resource use, energy consumption and pollution:
  - Site energy and water consumption metered/monitored;
  - Site timber sourced in accordance with the Government's Timber Procurement Policy;
  - Contractor will adopt best practice pollution prevention policies and procedures;
  - Contractor will operate an Environmental Management System;
  - Transport of construction materials and waste to/from site will be measured/monitored.
- Waste reduction – A Site Waste Management Plan (SWMP) will be prepared prior to the commencement of on-site works, aimed at minimising waste during site preparation and construction activities. This will highlight opportunities to re-use and divert waste streams away from disposal to landfill. The SWMP will be updated throughout the construction process.

b) Material Use

13.4 The majority of the materials strategy for the proposed CADP will be finalised at detailed design stage, but as part of the pathway to achieving a BREEAM 'Very Good' rating the design team has committed to minimising the environmental impact of materials used and the feasibility of various options have been considered. In line with targeted BREEAM credits, the final materials choice will be informed by The Green Guide to Materials Specification [15]to encourage the use of construction materials with a low environmental impact (including embodied carbon) over the full life cycle of the CADP. The specification of responsibly sourced materials for key building elements will also be encouraged.

13.5 PFA (pulverised fuel ash) concrete is expected to be used in the pavement quality concrete and in-situ concrete surface for the deck structure. It is anticipated that this could be in the order of 25 to 30% of the cementitious material. PFA is also intended to be used in the precast concrete elements for the deck structure, which could be in the range of 25 to 55% of the cementitious material. Fuel ash is a useful by-product of coal-fired power stations, which if it were not used in cementitious materials would otherwise be sent to landfill. The use of PFA therefore significantly reduces the overall greenhouse gas emissions associated with the production of concrete.

c) Construction Environmental Management Plan

13.6 As part of their environmental obligations, the Principal Contractor will be required to develop and implement a project specific Construction Environmental Management Plan (CEMP) covering all aspects of the CADP demolition, site preparation and construction works. This plan will deal with the potential effects arising from these activities and identify the implementation of effective management controls, for example, the employment of dust and noise suppression methods and the proper maintenance and shielding of plant and vehicles. This CEMP will set out the management, monitoring, auditing and training procedures needing to be in place to ensure compliance with the relevant legislation and environmental 'best practice'. The content and objective of the CEMP is described in more detail in ES Chapter 6: Development Programme and Construction.

13.7 The CADP specific CEMP will be a contractual document outlining the different procedures to be undertaken in order to complete the various works, and will contain construction environmental management controls identified in the ES. Individual trade contracts will also need to conform to the CEMP, such that they incorporate requirements for environmental control, based on good working practice. These include the careful and coordinated programming of work activities, resource conservation, minimising vehicle trips, pollution control measures, adhering to health and safety regulations, quality management and communication procedures.

13.8 In this way, all parties involved with the demolition, site preparation and construction works, including trade contractors and site management, will be required to work in a coordinated manner and to adopt common best practice and sustainable construction methods.

[15] BRE Group: Green Guide to Specification http://www.bre.co.uk/greenguide/podpage.jsp?id=2126

14 SUMMARY AND CONCLUSIONS

14.1 This Sustainability Statement has examined and evaluated the current and predicted sustainability performance of the Airport with the proposed CADP. It has considered a number of themes, based on key issues identified in the Airport's existing Airport Sustainability Strategy and Action Plan and prevailing planning policy and guidance. The table below provides a summary of the sustainability initiatives proposed for the CADP and how they respond to local and national planning policy with regard to sustainable development:

Table 1.1: Summary of Proposed CADP Sustainability Initiatives

Sustainable Issue	Policy Requirement	How the Proposed Development Responds
Waste Production	Waste Regulations 2011; London Plan Policies 5.16, 5.17 and 5.18; Mayor's SDC SPG 2.7.2 and 3.2	Apply the principles of the 'Waste Hierarchy' during construction - maximise the reuse of demolition and construction waste on site or recycle construction waste, with residual waste streams only sent to landfill as a last resort 'Design out' waste through consideration of construction techniques, elements and component sizes that will prevent and minimise waste generation Continuation and improvement of Airport initiatives to increase recycling rates
Energy and Emissions	London Plan Policies 5.1 and 5.2; Mayor's SDC SPG 2.3.2; Newham Core Strategy Policy SC1 and SC2	Buildings designed to comply with the Mayor's requirement for at least a 25% improvement in energy performance over Building Regulations Part L 2010. If required, the CADP would be capable of achieving a 40% by using additional PVs on the roofs of the new and existing buildings coupled with further efficiency measures. 'Be Lean' passive design measures to reduce the demand for energy e.g. high efficiency lighting, plant and equipment, solar shading, efficient thermal envelope 'Be Clean' energy supplied efficiently via small scale localised CCHP 'Be Green' renewable energy provided via PV arrays on terminal buildings and a potential dock water source heat exchange system for the East Terminal extension
Water Resources	London Plan Policies 5.12, 5.13 and 5.15, Mayor's SDC SPG 2.3.4	Commitment to specify low flow sanitary fittings at project implementation stage to minimise internal water consumption where practical During construction, contractor required to monitor and record data on water consumption and set targets for reducing water use in line with industry benchmarks

		Finalisation and implementation of approved drainage strategy for the surface and foul water in compliance with the London Plan Current holistic strategy centres on the use of attenuation tanks with oil separators where possible, appropriately sized to reduce the existing flow to greenfield runoff rates. The feasibility of using other SUDS including porous paving, infiltration techniques, and the discharge of clean water to the docks (from high level landside catchment areas) will be further investigated at the next stage of the design in consultation with the EA.
Sustainable Transport	London Plan Policies 6.3, 6.9 and 6.11; Newham Core Strategy Policy INF2	Site location benefits from excellent public transport links, with 55% of passengers using the DLR, followed by 16% using Private Hire Minicabs and 14% using Black Cabs. Production of a Travel Plan to promote sustainable travel behaviour Provision of cycle storage to encourage staff cycling to and from the site Provision of electrical charging points for electric vehicles
Biodiversity	London Plan Policies 7.18 and 7.19, Mayor's SDC SPG 2.6.2 and 2.6.3; Newham Core Strategy Policy SC4	Utilise existing brownfield site with low ecological value Proposed creation of low growing groundcover landscaped areas to provide ecological enhancement without compromising the safety, operational controls or other functions of the Airport. Installation of artificial fish refugia into KGV dock in order to compensate for the partial loss of submerged habitat on the northern dock wall and to provide shelter for fish fry.
Noise	London Plan Policies 5.14, 5.21, 7.14, and 7.15; Mayor's SDC SPG 2.4.3 and 2.42	Best practice construction methods utilised to minimise potential noise and vibration Noise impacts will be monitored and controlled through existing noise management scheme currently operated by the Airport Environmental Impact Assessment undertaken to assess potential noise and vibration risk, all recommended mitigation to be adopted
Air Quality	London Plan Policies 5.14, 5.21, 7.14, and 7.15; Mayor's SDC SPG 2.4.3 and 2.42	Best practice construction methods utilised to minimise potential air quality impacts Existing Air Quality Measurement Programme and Air Quality Action Plan will continue in place Environmental Impact Assessment undertaken to assess Air Quality impacts, all recommended mitigation to be adopted

Community Benefits	London Plan Policies 7.1, 7.2, 7.3 and 7.5, Mayor's SDC SPG 2.5.2, 2.5.3 and 2.5.4	Creation of an additional 960 direct onsite FTE jobs, greater productivity and growth, tourism, and wider societal benefits Community programmes in primary, secondary and higher education, which aim to help local young people into employment, local training initiatives, and a range of other community outreach initiatives will be continued
Sustainable Construction	London Plan Policies 5.3 and 5.18, Mayor's SDC SPG 3.2	Contractors expected to commit to the Considerate Constructors Scheme (CCS) and aim to achieve a best practice score Construction site to be managed in an environmentally sound manner in terms of resource use, energy consumption and pollution Use of sustainable materials Principal contractor required to develop and implement project specific Construction Environmental Management Plan (CEMP)

14.2 In conclusion, this Sustainability Statement demonstrates that the proposed CADP will meet the key policy objectives, responding to local needs and requirements, and conforming to many best practice standards for sustainable design and management.

14.3 As reported in the ES that accompanies the CADP planning submission, the location, construction and operation of the CADP will not result in any significant adverse impacts on the environment or to local sensitive receptors, once proposed mitigation measures are implemented.

14.4 Various commitments have been made by the Airport with respect to a range of sustainable design features, some of which will be finalised at the reserved matters/ detailed design stage. These include energy efficiency, use of low carbon and renewable energy, water conservation, waste minimisation/ recycling, sustainable transport measures and biodiversity enhancements.

14.5 It is considered that the proposed CADP performs well in the context of the sustainability requirements of the NPPF. In line with paragraph 8, the economic growth associated with the proposed CADP will help to secure higher employment opportunities and improve the socio-economic opportunities of the local community. In addition, the CADP will improve the quality of the Terminal building and other facilities at the Airport, which will in turn enhance the conditions in which people work and travel. The CADP will also improve the Airport's operational efficiency, allowing its capacity to be optimised in line with expectations set by existing and emerging national aviation policy in the UK.

14.6 The sustainability assessment has helped inform the design process and will continue to do so, by identifying further opportunities and constraints for sustainable development and ensuring compliance with national, regional and local planning policy requirements and industry best practice standards.

APPENDIX 1

London City Airport Sustainability Strategy and Action Plan (2012)

LondonCityAirport
Goinggreener

London City Airport

Sustainability Strategy and Airport Sustainability Action Plan

City Aviation House
Royal Docks
London
E16 2PB

environment@londoncityairport.com
www.londoncityairport.com/environment

June 2012

Airport Sustainability Action Plan

Objectives	Targets and Actions		Timescales
Waste *"Promote the waste hierarchy and reduce waste to landfill"*	Wst 1	75% of waste collections to be on weigh scale vehicles.	December 2013
	Wst 2	Introduce a new waste storage hub to promote waste segregation.	December 2012
	Wst 3	Increase waste recycling rate to 20%.	December 2012
	Wst 4	Implement a training programme to ensure that 100% of LCY staff have been trained in waste management.	2012 – Ongoing
	Wst 5	Conduct a feasibility study to explore opportunities for Energy from Waste and/or Anaerobic Digestion.	December 2012
Energy and Emissions *"To reduce energy consumption through targeted efficiency measures"* *"to stabilise the emissions associated with the ground operations at the airport, with the goal to reduce the total amount of these emissions over the longer term"*	Ene 1	Implement a training programme to ensure that 100% of LCY staff have been trained in energy efficiency.	2012 - Ongoing
	Ene2	Implement a programme to install sub-metering on high energy use areas.	2012 - Ongoing
	Ene 3	Implement a programme of energy efficiency measures to be agreed in 2013 cost plan.	December 2013
	Ene 4	Energy use per passenger reduced by 5% relative to 2010 baseline.	December 2013
	Ene 5	Publish a carbon management policy at the airport.	December 2012
	Ene 6	Entry into the ACI Europe Airport Carbon Accreditation Level 1.	December 2012
	Ene 7	Implement a programme of studies to identify how our five largest procurement contracts are managing their emissions.	Ongoing
	Ene 8	Establish a timetable to achieving Level 4 of the ACI Scheme 'Neutrality'.	December 2013
Water *"Promote water efficiency at the airport, with the objective to reduce water consumption per passenger"*	Wat 1	Develop procedure for tracking and recording water use at LCY monthly.	December 2012
	Wat 2	Implement a programme to install sub metering for high use areas.	December 2012
	Wat 3	Conduct feasibility study for utilising rainwater harvesting.	December 2013
	Wat 4	Conduct feasibility study for alterative non potable water sources for fire training.	December 2013
Community *"We will continue to reach out and support local projects and initiatives, whilst at the same time developing our business"*	Com 1	Evaluate additional opportunities for recording community benefits.	Ongoing
	Com 2	Evaluate opportunities to enhance the community work experience programme in the future.	Ongoing

Objectives	2012 – 2014 Targets and Actions		Timescales
Biodiversity "Promote awareness of biodiversity issues by LCY staff, local residents and school children "	Bio 1	Commence implementation of the agreed Biodiversity Strategy.	May 2012
	Bio 2	Undertake feasibility study on the costs and benefits of installing sedum mats (or alternative substrate) on the roof of City Aviation House.	December 2012
	Bio 3	Undertake an aquatic ecological survey of the King George V Dock, in conjunction with RoDMA[1].	December 2012
Noise *"Continue to monitor and manage noise carefully at the airport"*	Ns 1	Implement NOMMS in agreement with LBN[2].	Ongoing
Air Quality *"To implement measures that will minimise the impact of airport operations on local air quality"*	AQ 1	Deliver all 19 measures identified in AQAP[3] within a three year period.	June 2015
	AQ 2	Produce an annual statement on progress and performance against the measures set out in the AQAP with the APR[4].	July annually
	AQ 3	Review the AQAP every three years.	June 2015
Transport *"To promote the use of sustainable forms of surface access by passengers and staff travelling to and from the airport, in accordance with the LCY Travel Plan"*	Tra 1	Undertake a basic review of 2011 Travel Plan commitments, including progress against targets.	2011 APR
	Tra 2	Undertake a comprehensive review of the Travel Plan and amend targets as necessary to reflect changes at the airport.	February 2013
	Tra 3	Extend season ticket loans to an additional 5% of LCY staff.	December 2013
Sustainable Construction *"To ensure all new construction will be designed with consideration to sustainability"*	SC1	Develop a Sustainable Construction Strategy for future development at the airport.	December 2012
	SC 2	Ensure all new construction projects at the airport take account of relevant sustainable construction opportunities.	Ongoing
	SC 3	Deliver building projects, which are subject to planning permission, in accordance with recognised BREEAM Standards.	Ongoing
Environmental Management *"Ensure that everyone at the airport is able to participate in environmental management"*	EM1	Develop a Sustainability Leadership Panel and publish an Environmental Policy on LCY and LCACC websites.	December 2012
	EM2	Hold quarterly meetings to review monitoring data which will be reported in the APR for waste, energy and emissions and water consumption.	Ongoing
	EM 3	Undertake a full review of the Airport Sustainability Action Plan and identify new set of targets.	December 2014

[1]Royal Docks Management Authority Limited

[2]London Borough of Newham

[3]Air Quality Action Plan

[4]Annual Performance Report

Contents

Annexes

Executive Summary

Our overarching sustainability vision is:

To be a responsible airport operator by minimising our impact on the environment and surrounding communities, whilst supporting economic growth for London and the South East. We will strive for an honest and transparent approach to sustainability reporting developing actions to deliver genuine and long-term environmental improvements. We will lead by example; we wish to become a key partner for delivering sustainability in London's Docklands.

This Sustainability Strategy, alongside the Airport Sustainability Action Plan, establishes a series of objectives and targets for managing our key sustainability priorities. These are identified below:

Waste production: In 2010 the airport handled approximately 1040 tonnes of waste, which equates to 370g per passenger. We have established a series of measures within the Sustainability Strategy which follow the UK Waste Hierarchy, aiming to reduce waste, promote recycling and limit waste going to landfill. Our objective for waste management is simple: **"Promote the Waste Hierarchy and Reduce Waste to Landfill".** This Sustainability Strategy and Airport Sustainability Action Plan establishes targets for working towards this objective. We will report annually on progress we have made against this objective, including the total waste produced, waste generated per passenger and the recycling rate achieved.

Energy and Emissions: Energy use and the release of carbon dioxide and other emissions are closely linked. We are committed to energy efficiency and will adopt a series of measures which will drive down energy consumption at the airport. We have established two objectives, which are: **"to reduce energy consumption through targeted efficiency measures"** and **"to stabilise the emissions associated with the ground operations at the airport, with the goal to reduce the total amount of these emissions over the longer term".** To manage energy and emissions in the future, we plan to join the internationally recognised Airports Council International (ACI) Europe Airport Carbon Accreditation Scheme, and work progressively towards lowering our carbon footprint.

Water Resources: Through development of this Sustainability Strategy, we have identified an area of focus for water resources, which relates to our water consumption. We have adopted the objective: **"To promote water efficiency at the airport in order to reduce water consumption per passenger".** Our water consumption is relatively low by comparison to other UK airports[1]. In 2010 water use per passenger was approximately 8 litres. The airport already implements a number of water saving initiatives such as introducing proximity detection taps. We will continue to review and explore other options available to us, including the use of rainwater harvesting.

Biodiversity: The maintenance and enhancement of biodiversity is a key sustainability issue. In the context of London City Airport however, the airport's constrained footprint and operational use mean that the site itself has limited ecological value. We will therefore look to promote biodiversity in other ways, with the overarching objective: **"To help promote awareness of biodiversity issues by LCY staff, local residents and school children".** We will also explore opportunities to enhance biodiversity at the airport (or elsewhere in Newham borough) where such enhancements do not compromise the safety, operational controls or other functions of the airport. We have developed a Biodiversity Strategy which will deliver this objective[3].

Sustainable Transport: The airport is accessible by a number of sustainable forms of surface access, most notably the Docklands Light Railway (DLR) which carried 51% of our passengers in 2010. As a result of the airport's accessibility to the public transport network serving London and beyond, we believe we have the lowest proportion of private car use by passengers of any major UK airport. We continue to promote sustainable transport for our staff and passengers through our Travel Plan[2] and Airport Transport Forum, which meets annually. We have developed the objective: **"To promote the use of sustainable forms of surface access by passengers and staff travelling to and from the airport, in accordance with the Airport Travel Plan".** This objective reflects the work already underway in these areas.

Noise: Noise is a key environmental issue at the airport and is subject to close management. The airport is bound by many requirements to monitor and mitigate adverse effects of aircraft noise. Since 1999, the airport has operated a Noise Management Scheme (NMS), which has established a series of measures to manage noise arising from the operation of the airport. We have recently developed a Noise Monitoring and Mitigation Strategy (NOMMS) which will replace this in due course[4]. The NOMMS will provide a more enhanced system of noise monitoring and mitigation, including the measurement and monitoring of ground based noise. Our objective is: **"To continue to monitor, manage and mitigate noise carefully at the airport".** This Sustainability Strategy reflects the work underway for limiting noise arising from the airport's operation.

[1]Source: Independent study commissioned by London City Airport, comparing airport's published water consumption.

[2]Completed February 2011 with the London Borough of Newham

[3]The Biodiversity Strategy forms a separate strategy which has been developed by LCY and approved by the London Borough of Newham and is available at www.londoncityairport.com/environment.

[4]The NOMMS is in development with the London Borough of Newham.

Local Air Quality: Air quality is an environmental issue which is subject to ongoing monitoring, review and management. Nitrogen Dioxide and fine particulate matter (PM_{10}) are monitored at two automatic monitoring stations and a network of passive monitoring devices located in and around the airport boundary. We continue to meet emissions standards consistent with national air quality objectives which are in place to protect health and amenity. Recently, we developed an Air Quality Action Plan in conjunction with the London Borough of Newham[5] which identifies a range of measures to reduce emissions over time. Our overarching objective is: **"To implement measures that will minimise the impact of airport operations on local air quality".**

Sustainable Construction: The 2009 planning permission[6] enables the airport to grow by making best use of existing infrastructure. In the future however, we may look to upgrade our operations with the addition of new airport facilities, in accordance with our published Master Plan. We propose that any new development that is planned at the airport will be delivered to the highest practical standards of sustainable design and construction. In addition, we periodically carry out minor construction and refurbishment works. We have the objective: **"To ensure all new construction will be designed with consideration to sustainability".** We propose to deliver this through the development of a Sustainable Construction Strategy.

Community Benefits: London City Airport has developed a strong relationship with local communities and has contributed significantly to the regeneration of the London Docklands area. We have a long standing policy commitment to invest in local education, employment and charitable initiatives within our community. Our objective is: **"To continue to reach out and support local projects and initiatives, whilst at the same time developing our business".** To allow us to continue to plan and deliver community benefits effectively, we have developed a Community Strategy which is focused on five main priority areas: Consultation and Communication; Employment; Education; Health and Wellbeing; and, Charity. We will continue to make progress in these areas.

Environmental Management: In developing this Sustainability Strategy we have considered options for enhancing our existing environmental management systems. Our current management systems are robust but could be modified to implement, monitor and review the various targets and objectives contained within the Airport Sustainability Action Plan. We have developed a Sustainability Leadership Panel at the airport which meets each quarter to discuss progress against the objectives and targets. Progress against the objectives will be reported at board level and also communicated to stakeholders at the airport through the Employers' Forum for discussion and review. This will allow us to achieve our objective in this area, which is: **"To ensure that everyone at the airport is able to participate in environmental management".**

Our actions toward delivering this Sustainability Strategy will be published annually within the London City Airport Annual Performance Report (APR). The first report on sustainability will be for the year 2012 (reported in July 2013).

[5]The Air Quality Action Plan was approved by the London Borough of Newham in 2012 and is available at www.londoncityairport.com environment.

[6]Planning reference 07/0105/VAR

1 Overview

The production of this Sustainability Strategy represents an important milestone for the airport's operation. This Sustainability Strategy sets out our proposals for managing sustainability at the airport in the future and its implementation will ensure that LCY achieves or exceeds the highest standards set by the aviation industry as a whole. The Strategy focuses on the aspects of the airport's operation which could lead to greatest environmental, social and economic impacts. It sets out how these aspects are currently being managed and how we propose to manage these aspects going forward.

The Sustainability Strategy builds on past work undertaken by specialist consultants to LCY, including the Environmental Impact Assessment (EIA), Sustainability Appraisal and Health Impact Assessment (HIA), completed in 2007 in support of the planning approval for the increase in the number of aircraft movements to 120,000 per annum[7]. These detailed assessments demonstrated how the airport could continue to expand its operations whilst avoiding, reducing or otherwise compensating for its adverse effects and, at the same time, maximising the economic and other benefits to the community of Newham and beyond. The ability to grow whilst minimising adverse impacts is a key feature of this Sustainability Strategy, which will continue to be reviewed and developed as the airport expands.

The Sustainability Strategy is supplemented by an Airport Sustainability Action Plan. The Action Plan is provided as an annex to this Strategy and sets out a series of initiatives which will be implemented to an agreed timescale to deliver better sustainability outcomes. The Action Plan includes a series of targets which we will aim to achieve within the plan period. Such targets will be reviewed (on at least an annual basis) to ensure that they remain consistent with legal requirements, policy and 'best practice' principles.

A number of aspects of sustainability are already being closely managed at the airport; as part of LCY's overarching commitment to operate its business in a responsible and legally compliant manner. Various procedures exist or are currently being developed which will ensure that the airport minimises its environmental effects. These cover, inter alia, ground and air noise; air quality; encouraging the use of public transport; reducing carbon emissions; improving waste recycling levels; promoting local employment opportunities; investing in education initiatives and other community benefits. The Sustainability Strategy and Airport Sustainability Action Plan are aligned to reflect the work which is already underway in these areas, and how the associated objectives and targets for these topics contribute to the sustainability of the airport.

Since the grant of the 2009 planning consent by the London Borough of Newham (LBN), we have continued to monitor and record data which has assisted in the development of this Strategy. As such, the Strategy is informed by baseline data for the 2010 calendar year, supplemented by further site audits during 2010.

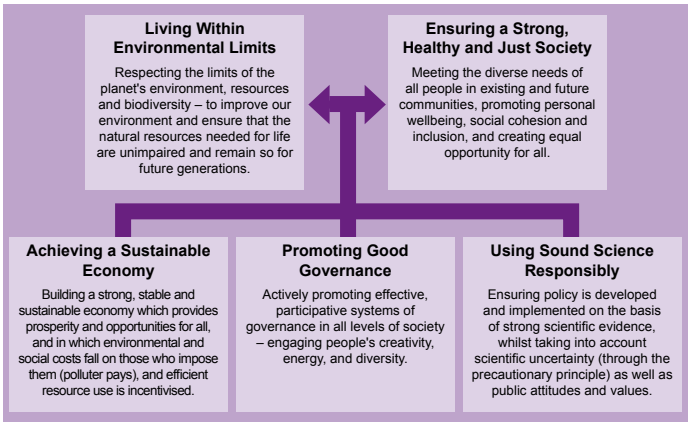
The airport handled 2.79 million passengers and 67,871 aircraft movements during 2010. This represents a small reduction from the previous year. As passenger throughput gradually increases, we will strive to reduce our 'per passenger impact', particularly on resource consumption relative to this growth. All targets established within this Strategy and Action Plan will be relative to this 2010 benchmark. Should the airport choose to establish new benchmarks in future, for example to align with any new nationally recognised targets, we will consult with LBN. We will provide an explanation as to why this is being done and what the implications will be for reporting.

[7]These documents are publicly available on the LBN website: http://pa.newham.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=JMIJOVJYS1000

What is Sustainability and Why is it Important to London City Airport?

1.1 We wish to develop a credible and progressive approach to sustainability management, which delivers tangible, longer term benefits for the environment and our surrounding communities. Many definitions of sustainable development exist, although a common objective is to meet the needs of people today without compromising the needs of future generations.

The UK Sustainable Development Strategy 'Securing the Future' (2005) establishes five guiding principles for sustainable development. These are shown below.



Source: UK Sustainable Development Strategy: Securing the Future (2005).

The UK Sustainable Development Strategy also identifies the four main priority areas for the UK. These are relevant to the operations at LCY and we can draw a number of parallels with the UK priorities and LCY's own areas of focus within this Sustainability Strategy, namely:

- **Sustainable consumption and production – working towards achieving more with less.** The airport operates in a relatively constrained footprint by comparison to other UK airports, with limited land-take, a relatively short runway, efficient infrastructure, terminal and other buildings. The 2009 Planning Approval seeks to make best possible use of this existing infrastructure, in accordance with the previous and current Government's stated policy objectives. LCY has always sought to achieve 'more with less' and because of its compact nature, the consumption of natural resources such as potable water, energy and the generation of waste per passenger is already lower than most other airports[8]. However, it is recognised that even greater efficiencies in resource consumption can be achieved.

  London City Airport is a consumer of goods and services. Our main procurement contracts relate to services such as air traffic control, electricity, security and cleaning. However, we provide a base for over 50 tenants and concessionary services, who themselves consume goods and services. Considerations for more sustainable procurement will be a part of achieving the objectives of this Sustainability Strategy. Whilst primarily focused on our own operations, we will also attempt to influence others as far as possible as the Strategy develops.

  London City Airport provides a permanent base for over 50 companies. These range from airlines, through to retail concessions, service providers and car rental companies. Currently, there are approximately 2000 staff based at the airport, of which circa 25% are employed by London City Airport Limited, the airport owner/operator. The majority of staff are employed by tenants and concessions at the airport, whose actions and activities we do not directly control. However, we are able to apply some influence through the facilities we provide, our Employers' Forum, as well as working with these companies to realise their own environmental and sustainability objectives. Through the implementation of the Sustainability Strategy and Action Plan, we work closely with all airport companies to encourage them to embrace and support our shared objectives.

- **Natural resource protection and environmental enhancement – protecting the natural resources on which we depend.** On the airport site itself, the options for enhancing biodiversity and the natural environment are severely limited due to space, operational and safety constraints. However, LCY's Biodiversity Strategy focuses on supporting wildlife education initiatives elsewhere in the Borough and thereby contributes to some of the key objectives of the Newham Biodiversity Action Plan. Furthermore, we are also conscious of our obligation to help

protect and enhance natural resources and will act to minimise the risk of pollution, emissions and waste generation from the airport.

- **From local to global: building sustainable communities creating places where people want to live and work, now and in the future.** London City Airport is located in the Royal Docks and is sited on former industrial land which began to be regenerated when the docks closed in the 1980's. The London Borough of Newham's (LBN) adopted Core Strategy[9] recognises that the airport is one of the key economic drivers within Newham (para 5.32), stating that the Royal Docks will be developed as a world class business destination within the knowledge economy and the area will develop a nationally significant niche in low carbon and high technology industries (para 5.30). The Core Strategy's vision for the Royal Docks also forms part of a wider strategy to create a Green Enterprise District across East London along the north bank of the Thames. "Within the Royal Docks a concentration of new low carbon technologies, manufacturing and research will be encouraged, that could lead the world in developing and providing low carbon goods and service" (para 5.34). Such developments and associated enhancements to the wider environment are seen as compatible with, and supported by the airport so long as they do not compromise its continued operation and growth.

  The interface between LCY and surrounding communities is an important aspect which we manage very carefully. Being a 'good neighbour' is particularly important to us, given the airport's unique position in proximity to surrounding local communities. We support a range of local education, employment, sports, cultural events and charitable organisations. Furthermore, a large number of local people work at the airport, which emphasises the strength of the link between LCY and those who live locally. We will continue to nurture this unique relationship to ensure that we are a 'force for good' in the community. Our actions to manage environmental issues such as noise, local air quality and sustainable transport will also assist in the successful delivery of this.

- **Climate change and energy – confronting the greatest threat.** In the UK, emissions from aviation represented 6% of the total emissions generated in 2009[10]. The majority of such emissions are associated with aircraft in flight and not from airport operations on the ground. Notwithstanding this, we do have a part to play in the overall challenge of reducing emissions progressively over time. Airports are energy intensive; lighting the runway and terminal building accounts for an estimated two thirds of our total power consumption at the airport. LCY is also obligated under the UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme to monitor its emissions and purchase carbon allowances.

  This Sustainability Strategy therefore identifies a number of initiatives and objectives which will help LCY record, manage and, where possible, reduce carbon dioxide emissions from various sources at the airport.

[8]According to an independent study commissioned by London City Airport, based on publically available data from other major UK Airports.

[9]Planning Newham – The Core Strategy (Adopted January 2012)

[10]Department for Transport UK Transport and Climate Change Data Fact Sheet 5 (2010)

Our Sustainability Vision

1.2 We have developed a sustainability vision which summarises our intent to be a sustainable airport operator:

LCY's Sustainability Vision is:

To be a responsible airport operator by minimising our impact on the environment and surrounding communities, whilst supporting economic growth for London and the South East. We will strive for an honest and transparent approach to sustainability reporting developing actions to deliver genuine and long-term environmental improvements.
We will lead by example; we wish to become a key partner for delivering sustainability in London's Docklands.

The Airport's Impact

1.3 In order to develop this Sustainability Strategy, London City Airport has identified areas which require focus and management in order to meet the sustainability objectives set out above. These have been developed in consultation with the airport's environmental consultants, RPS, and were assessed, and in some cases quantified, by the Environmental Impact Assessment (EIA) and Sustainability Appraisal and Carbon Assessment (SACA) undertaken to support the airport's 2009 Planning Approval[11]. The Sustainability Strategy has also been informed by a review of sustainability policy and best practice at other airports. As a result, the following areas have been identified:

- energy consumption;
- carbon emissions;
- water consumption;
- water quality;
- waste generation;
- community impacts;
- transport impacts;
- noise generation; and
- local air emissions.

Many of these impacts are common to most major businesses, for example, energy use, transport and waste generation. However, some aspects are more specific to an airport operation, such as aircraft noise effects and impacts on water quality.

The previous EIA and SACA reports established that energy, waste, water and carbon emissions could be managed more closely in the future and that, in managing these impacts, the airport could expand its operations with proportionately less impact on resource use.

The airport already implements a series of statutory and voluntary controls and initiatives to manage its impact on local air quality, noise, transport and community amenity, and further commitments to minimising or reducing such impacts have been made as part of the 2009 Section 106 Agreement. For example, LCY has agreed to the introduction of a two tier sound insulation scheme[12] for noise-affected properties and the implementation of a surface access Travel Plan for the airport. As such, these impacts are already well understood and accounted for through the planning and regulatory system and no new, specific objectives are introduced by this Sustainability Strategy. In addition, the airport has demonstrated through the previous EIA, that the expansion of movements at the airport could be undertaken without adverse effects on ecology or biodiversity. Therefore, direct compensation or mitigation is unnecessary. Notwithstanding this, we are committed to improvements in this area through our Biodiversity Strategy.

[11]These documents are publicly available on the LBN website: http://pa.newham.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=JMIJOVJYS1000

[12]The two tier scheme provides sound insulation treatment or a grant to eligible residential units which fall into the 57 dB LAeq, 16h contour (Tier 1) and for properties within the 66 dB LAeq, 16h contour (Tier 2), which will receive enhanced sound insulation to reduce internal noise levels within these premises.

[13]The 2010 APR is available at www.londoncityairport.com

2 The Areas Under Management

Reporting Progress

1.4 LCY will report progress against sustainability targets in the Airport Sustainability Action Plan as part of the Annual Performance Report (APR). The first report on sustainability will be provided in 2013 for the calendar year 2012 following approval and implementation of the Airport Sustainability Action Plan. Further information on reporting progress against the specific initiatives contained in the Action Plan is provided in Annex 1.

The Airport Sustainability Action Plan, provided in Annex 1, includes a series of targets which can be defined as Key Performance Indicators (KPIs) to assess the performance for the past year.

Environmental performance measures covering noise, air quality, complaints etc. are already reported in the APR, the most recent edition for 2010 was issued on 1 August 2011 . In future, sustainability performance benchmarks will include such KPIs as the annual 'carbon footprint' of the airport, calculated in tonnes of CO_2 using the ACI Airport Carbon Accreditation Scheme methodology which is required to be compliant with ISO 14064. Resource use can also be measured by calculating energy, water and waste generation attributable to passengers, airport staff, airlines, retail concessions and other tenants. This Sustainability Strategy expresses LCY's impacts on resources, both in terms of total use as well as on a 'per passenger' basis. This approach is consistent with other airports and the recommendations of the Airport Operators Association (AOA) Environmental Guidance Manual 2006, and represents best practice reporting in the airport industry. This will also provide a useful metric for identifying progress against targets in these areas.

In some cases we will report progress against qualitative targets, for example, whether specific actions (e.g. feasibility studies) have been undertaken. These qualitative measures can also provide a suitable mechanism for appraising our performance.

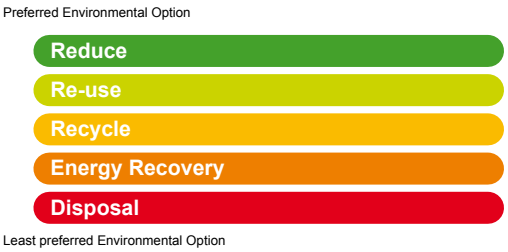
Waste Production

2.1 LCY has a duty of care for all waste which arises at the airport and which is stored, segregated and disposed of via the airport's facilities. We take this responsibility seriously and manage waste in a way which minimises our impact on the environment.

As part of this Sustainability Strategy, we have established a single objective for sustainable waste management, which is to: "promote the Waste Hierarchy and reduce waste to landfill". This simple, 'catch all' objective, demonstrates our commitment to work towards a number of initiatives, including hazardous waste reduction, product reuse, recycling, and the diversion of waste from landfill.

We will implement initiatives for waste management in accordance with The Waste (England and Wales) Regulations (2011); adopting a hierarchical approach to waste management wherever practically possible.

The Waste Hierarchy



The UK Waste Hierarchy

Waste is produced from a number of activities at the airport, only a proportion of which is in our direct control. However, the majority of waste is produced by airlines, tenants and retail concessions which we cannot directly control but are able to influence. Our objective for waste management will eventually extend to all waste arising at the airport; consequently, progress against this objective will be reported by taking into account waste arising from all sources. We will report annually on waste arising from the airport, including waste generated per passenger and the recycling rate achieved within that period. We will also report progress made towards specific initiatives that have been implemented within the reporting year.

We have already adopted a number of additional waste management initiatives through 2009 -2012 to assist in the development of this Sustainability Strategy:

- In the past, we have used a number of different waste contractors. However, in September 2009 we consolidated our waste management procedures and contracted BIFFA to manage the airport's entire waste contract. We are working closely with BIFFA to ensure that our targets for waste management can be delivered.
- We have conducted reviews of existing waste management procedures at the airport, including how tenants and concessions are able to implement their own waste management initiatives through the facilities provided.

Waste Reduction and Reuse

2.1.1 The UK Waste strategy applies a Waste Hierarchy which promotes waste reduction in advance of recycling and disposal. In terms of overall waste generation, London City Airport is not a substantial producer. Total waste generation in 2010 was approximately 1040 tonnes, which equates to approximately 370g per passenger, as shown in the table below. This compares favourably to other UK passenger airports. This is in part a result of the limited number of buildings, restaurants and shops at the airport providing concessionary services, and also by the relatively shorter time an LCY passenger may spend at arrival and departure from the airport by comparison to a larger UK airport. LCY will continue to monitor waste arising at the airport, and identify new ways of capturing and recording waste data.

Waste arising at LCY 2010

	Total kg	**Per Passenger kg[14]**
Total	**1,040,245**	**0.373**
General	779,412	0.28
Recyclable	230,192	0.08
Hazardous	30,641	0.02

LCY's own operations are estimated to be responsible for a small proportion of the total waste generated at the airport, the majority being derived from concessions, airlines and tenants. We understand that it will only be possible to make substantial reductions in total waste arising at LCY through closer working practices with such tenants and concessions. This will be most effectively achieved by ensuring that their waste management strategies are aligned to the LCY Sustainability Strategy. Our proposals include:

- We will monitor waste leaving the airport more closely. We intend to make use of more advanced collection vehicles, which include weighing scales;
- We will also develop better ways to monitor how and where waste is generated at the airport;
- We will develop a programme of awareness raising through staff training;
- We will review our own procurement procedures, including efforts to reduce packaging and other inherent wastage; and will review procurement and delivery procedures of concessions at airport forums;
- If necessary, we will look to adapt tenant lease conditions to ensure that the longer term targets of the Sustainability Strategy can be achieved.

Waste Recycling

2.1.2 LCY currently recycles a range of waste materials as part of its Dry Mixed Recyclable (DMR) collections. This primarily comprises paper, cardboard, cans, and plastic packaging. DMR is segregated on site at a central storage area ('the waste hub') and removed by BIFFA on a daily basis.

LCY undertook a routine waste audit in spring 2010. The outcome of the review found that the recycling rate achieved at the airport was approximately 13%. Since the review, we have adapted our waste recycling regime, with particular focus on providing better signage. In the months following this, the recycling rate increased to 29%.

[14]Sum totals may be affected by rounding

LCY will continue to increase the recycling rate through a series of initiatives, with the aspiration to exceed the London Wide recycling target of 45% by 2015 as set out in the London Plan (2011) (Policy 5.16 Waste Self-Sufficiency).

In order to achieve our three year target of 45%, LCY will seek to do the following:

- Recycle a wider range of materials than at present;
- Examine the potential for composting biodegradable materials; and
- Work closely with retail concessions, the airport's cleaning contractors and airlines to ensure all relevant stakeholders work towards this recycling target.

New recycling initiatives are already being successfully implemented. For example, waste is now transferred using clear bags to assist the identification of waste types. In addition, a number of waste awareness sessions have been run with key members of LCY staff, concessions and BIFFA to promote recycling.

Waste Disposal

2.1.3 The Waste Hierarchy identifies disposal of waste as the least sustainable option, however preference is given to generate energy from waste in advance of landfill.

In 2010, the majority of waste generated at the airport was sent to landfill. This is a statistic which we are committed to change, and actions identified within this Strategy will serve to achieve this. We aspire to achieving a zero waste to landfill target over the longer term. At this stage however, we are not in a position to set a timetable to deliver this goal - future actions will enable us to plan and set realistic targets for the achievement of this target.

Under our current waste management arrangements, no waste is sent to energy from waste (EfW) facilities. The airport will explore with BIFFA the opportunity to utilise this technology in the future. In addition, we will explore the opportunity to make use of Anaerobic Digestion (AD) facilities, and review new technology options as they arise.

Energy and Emissions

2.2 Perhaps the most significant challenge for sustainability is the threat of climate change. In accordance with the Air Transport White Paper - The Future of Air Transport (2003) and subsequent aviation and related policy, airport operators are encouraged to adopt practices that minimise the impact of their activities on climate change. This includes taking voluntary action to control greenhouse gas emissions. Such action could include emissions reporting and setting targets at a company level.

Energy consumption and emissions are intrinsically linked. Actions to reduce the airport's carbon footprint will be delivered through the adoption of energy efficiency measures, low carbon energy solutions and potentially, the utilisation of renewable energy. Carbon reduction will also be promoted in other ways, through for example waste management initiatives; encouraging sustainable transport; the design and construction of efficient new buildings and plant; and, working more closely with staff, tenants, concessions and passengers to deliver our objectives.

We are committed to high standards of energy efficiency and will adopt a series of measures which will help drive down energy consumption at the airport. We have established two objectives for energy and emissions, which are:

- To reduce energy consumption through targeted efficiency measures
and,
- to stabilise the emissions associated with the ground operations at the airport, with the goal to reduce the total amount of these emissions over the longer term.

London City Airport has a relatively limited number of buildings, operating scheduled flights from a single terminal building and 18 stands distributed over two piers. There are also a number of support buildings, including City Aviation House, the main administrative offices for the airport, two industrial type sheds, the Fire Station and the Jet Centre.

As shown in the table below, the primary fuel source powering buildings at the airport is electricity, which represents around two thirds of total energy consumed. Gas makes up less than one third.

Gas and Electricity Used at LCY in 2010

	Total (kWh)	Per Passenger (kWh)
Electricity	9,192,843	3.295
Gas	3,001,316	1.076

We also consume diesel, which is predominantly used by ground services, unleaded petrol for staff travel, and a small amount of LPG which is used for fire training. These are considered further below.

LCY is committed to ongoing improvements in energy efficiency and will take a series of measures to reduce energy demand at the airport. We have already undertaken a number of steps to achieve this:

- The utilisation of Fixed Electrical Ground Power (FEGP), which replaces less efficient diesel mobile ground power units;
- Trialling energy efficient lighting on the aprons;
- In 2009 we made several improvements to the airport, including replacing boilers, pumps and fans with newer, more efficient systems. A programme of upgrades to the terminal building is also underway which will lower the energy requirements of the building services through retrofitting energy efficient systems, upgrading the building's energy monitoring capabilities and making other consequential improvements to the building in accordance with Building Regulations Part L2a.

We will ensure that future capital expenditure programmes include an evaluation of energy demand and associated emissions as part of the criteria for decision making.

We are exploring the longer term possibility of accepting heat through a district heating main provided via the Greater London Authority's London Heat Network. District heating is regarded as an energy efficiency measure, as it allows end

users to make use of free latent heat which would otherwise be wasted from an industrial process or from a combined heat and power station. Such heat interconnections between sites are supported by a number of policies in the London Plan.

Any district heating connection could support the airport's longer term strategy for energy efficiency and carbon reduction. We will continue to work with the GLA and our other partners to determine the feasibility of delivering piped heat to the airport. We have already made certain upgrades to heating plant at the airport to allow future connectivity to such a district heating system.

We will also ensure that future development at the airport is brought forward in accordance with all relevant planning policies for emissions reductions, which may include the specific utilisation of small scale renewable energy technologies.

We will set progressive targets for energy reduction in future Action Plans. Over the first plan period, we propose to reduce energy consumption by 5% per passenger relative to the 2010 baseline by December 2013.

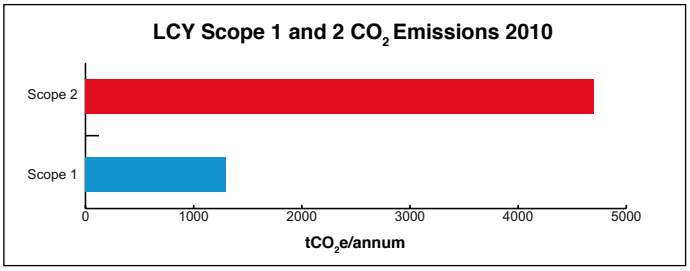
Emissions Management

2.2.1 The Air Transport White Paper - The Future of Air Transport, identifies that airport operators should adopt practices that minimise the impact of their activities on climate change. This includes taking voluntary action to control greenhouse gas emissions; such action could include emissions reporting and setting targets at a company level. Emissions associated with aircraft in flight are outside the scope of this Sustainability Strategy. This is because there are a number of existing mechanisms in place to address emissions from aircraft, including the European Union Emissions Trading Scheme (EU ETS) and sustainability initiatives such as ACARE 2020.

In the first instance, this Strategy focuses most closely on emissions which are under our direct control. According to the Greenhouse Gas Protocol, emissions from airport operations can be sub divided into three classes dependent on where the emission is generated. A simple definition, and how this relates to LCY, is as follows:

- Scope 1: Emissions on site, or an associated activity from the combustion of fossil fuels, i.e. gas, LPG and vehicles used for business travel.
- Scope 2: Emissions from electricity imported from the grid or from a third party supplier in the form of heat or electricity.
- Scope 3: Emissions as a direct consequence of the use of goods or services provided for the company. This includes aircraft movements on the ground, passenger and staff travel to the airport, airside activities, waste disposal, water and business travel.

A quantification of Scope 1 and 2 emissions at London City Airport is illustrated in the figure below.



A growing number of airports in Europe are choosing to address carbon management through entry into the Airports Council International (ACI) Europe Airport Carbon Accreditation (ACA) scheme. The scheme provides a four tier system, by which airports are able to monitor, manage and reduce their emissions.

The first tier 'mapping' level, requires that an inventory is produced of the airport's scope 1 and 2 emissions. These are emissions which the airport has direct control over. As illustrated above, LCY has already benchmarked its emissions for 2010 by applying the ACA scheme methodology. We are not currently in a position to accurately quantify all of our Scope 3 emissions; however we will endeavour to work towards calculating emissions in these areas in the future.

LCY will progress a management plan for carbon emissions which will be verified by entry into the ACA scheme. The airport intends to work progressively through the different stages of this scheme, with the long-term aspiration of delivering a 'carbon neutral' operation for those emissions over which we have direct control. This equates to Level 4 of the scheme. We will publish a timetable for achieving Level 4 of the scheme by December 2013.

- Over the course of implementing this Sustainability Strategy we will identify opportunities to reduce our emissions in a number of other areas. These will include:
- Reducing emissions from buildings at the airport;
- Reducing emissions from future construction projects;
- Promoting sustainable transport; and
- Reducing waste sent to landfill, and explore opportunities to generate energy from waste.

[15]Source: Independent study commissioned by London City Airport, comparing airport's published water consumption.

Water Resources

2.3 Through development of this Sustainability Strategy, we have identified two areas of focus for water resources; these relate to the water consumption, and water quality.

Water Consumption

2.3.1 Water consumption is a priority sustainability issue, particularly in the South East of England which receives less rainfall than any other part of the country. Coupled with population pressure in the Capital, this means that reducing water wastage and consumption are key challenges.

The airport is supplied water via two metered mains, managed by Thames Water. The airport currently monitors total water usage via metered information on an annual basis. In 2010 the airport used approximately 59 m^3 a day, which is equivalent to 8 litres per passenger. This compares favourably to other UK passenger airports[15].

We have developed a single objective for water consumption, which is: **promote water efficiency to reduce water consumption per passenger.** In order to achieve our objective we will continue to monitor water use at the airport, and will implement more widespread and regular meter readings against which we can track progress. At present there is insufficient sub-metering to properly determine water consumed by different operations. Therefore, LCY has undertaken a qualitative assessment of high water use areas and will implement a programme of sub-metering in these areas to ensure that efficiency measures can be monitored appropriately.

The airport already employs a number of water efficiency features within the building stock. We have installed low water fittings throughout the terminal building and City Aviation House. These are periodically tested and updated as the fittings reach the end of their operational lives. Our low water consumption relative to passenger throughput is testament to the headway we have already made in this area. It is unlikely that we will be able to significantly reduce water consumption further through efficiency measures applied to water appliances alone.

We will explore opportunities for substituting potable water with non-potable alternatives where appropriate. We believe that rainwater harvesting may present an opportunity for this in the future. We will also explore through feasibility studies, how high water use areas, particularly fire training, could reduce potable water demand, for example through greywater capture or potentially through abstracting dock water. We will review these opportunities over the course of the Strategy, as and when new infrastructure or building refurbishments are required.

Water Quality

2.3.2 The airport is located within the Royal Docks, between the King George V Dock and the Royal Albert Dock. The Royal Docks Management Authority (RoDMA), ensures that water is pumped into and out of the Thames so as to maintain water levels in the Docks at a reasonably consistent level. The quality of the dock water is directly influenced by the quality of the water in the tidal Thames.

A number of activities at the airport have the potential to affect water quality. During colder periods, the airport uses antifreeze and de-icer. The discharge of these substances into waterbodies is known to reduce the level of dissolved oxygen in water available to plants and fish. In addition, the airport periodically uses pesticides and herbicides for habitat management.

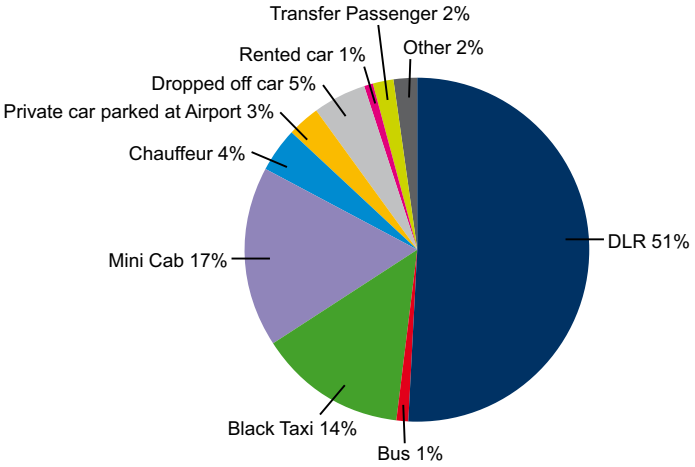
Given the airport's proximity to the docks, we have been exploring opportunities to manage the potential impacts from de-icer, pesticide and herbicide use more carefully. We have already trialed more environmentally friendly de-icers, which affect water quality less than traditional glycol based alternatives. The fire teams have also trialed 'Fluorine Free Foam', which is proven to be a less damaging alternative than traditional Film-Forming Flouro Protein (FFFP) foam, which is commonly used for fire fighting at other UK airports.

LCY has in place a drainage system which reduces the risk of potential contamination. With the extension of the apron in 2007, a new set of slot drains and pipes was constructed including a new fuel/oil interceptor. This has an automatic closure device, so that any pollution from the apron is detected and contained. This is supported by a comprehensive system of operational procedures to ensure that risks of accidental spills and other contamination are minimised.

We will report on water quality as part of the sustainability reporting made annually within the APR. This will include the number of days antifreeze is used at the airport, the quantities used and monitoring the biological oxygen content of dock water.

Sustainable Transport

2.4 Being located just six miles east of the City of London, and two miles east of Canary Wharf, London City Airport is positioned in a sustainable location relative to its main markets. The airport is accessible by a range of public transport options, making sustainable travel the most common way of accessing the airport. The primary method of surface access is by the Docklands Light Railway (DLR), which provides frequent services to and from central London. In 2010 the DLR carried 51% of our passengers. We believe that this is the highest proportion carried by any airport rail link in the UK. The mode share of different surface access options is illustrated in the pie chart below.



Surface Access by Mode 2010

To promote sustainable transport further, and in line with Department for Transport Guidance, we host an Airport Transport Forum, comprising various representatives from the airport, local authorities, regional planning bodies, transport operators, infrastructure providers, local businesses and other interested bodies. The primary objective of the Forum is to make access to the airport more sustainable and encourage passengers and staff to use public transport. In order to achieve this, the Forum undertakes the following:

- Draws up short term and long term targets for increasing the use of public transport by passengers and staff;
- Devises an Airport Surface Access Strategy for meeting targets; and
- Monitors the implementation of the Strategy.

Since 2005, LCY has monitored staff travel through periodic travel surveys. We have also developed a Travel Plan through which we will strive to deliver year on year improvements towards a number defined objectives. The objectives of this Travel Plan are as follows:

- To increase employee and passenger awareness of, and access to, sustainable modes of travel.
- To facilitate access to appropriate travel information for employees and passengers.
- To reduce the impact of the site on the local highway network.
- To reduce unnecessary or unsustainable use of the car for the journey to and from the site.

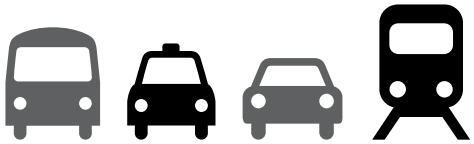
The Travel Plan focuses on both staff and passengers. The proportion of passengers that park at the airport is very low, approximately 3%. We believe that this is the lowest proportion for any airport in the UK offering scheduled flights. We will continue to monitor car park charges on-site at the airport and endeavour to encourage airport passengers to use public transport wherever possible.

We will encourage sustainable transport in a range of areas, such as:

- Ensuring our own staff get involved with regular travel surveys, and encouraging participation from other on-site employees to engage with the Travel Plan process;
- Promoting walking and cycling through initiatives such as the '10,000 steps a day' campaign and investigating the potential for cycle clubs;

- Promoting public transport through, for example, extending the uptake of season ticket loans which was successfully launched in 2007; and
- Providing financial contributions to the DLR and other transport networks.

The Travel Plan will be the primary way of delivering sustainability improvements to surface access journeys at the airport. Progress against the Travel Plan objectives and targets is reported annually in the APR.



Biodiversity

2.5 Conserving a site's biodiversity and promoting ecological enhancements is an important element of any Sustainability Strategy. In the context of London City Airport however, the airport's constrained footprint and operational use mean that the site itself has limited ecological value. Furthermore, there are various restrictions to promoting biodiversity through ecological enhancements for an operational airport. This is because of requirements imposed by the Civil Aviation Authority (CAA) which reduce the potential to enhance biodiversity on the site, for example reducing the potential of bird strike.

We have developed an Airport Biodiversity Strategy which has been approved by LBN. In preparing the Biodiversity Strategy, we took account of the objectives listed within the Newham Local Biodiversity Action Plan and promoted by the Newham Biodiversity Partnership (NBP). However, in view of the operational, safety and space constraints at London City Airport, at this stage it is considered that the Airport Biodiversity Strategy is best focused on raising the general awareness and appreciation of biodiversity by LCY staff, school children and the local community, rather than creating new habitats or attracting wildlife to the airport itself. This objective is consistent with LCY's long standing commitment to support local educational initiatives across a broad spectrum of age groups and learning abilities and will help meet the corresponding objective of LBN and the Newham Biodiversity Partnership.

A summary of the objectives and commitments in the Biodiversity Strategy is given below:

- LCY will participate as a "Delivery Partner" in the Newham Biodiversity Partnership (NBP).
- LCY will promote awareness-raising activities on the benefits of wildlife habitats, including making an offer to support the delivery of outdoor events in conjunction with local centres.
- In partnership with an expert organisation such as the Field Studies Council, to fund to the total value of up to £2000, the development and delivery of specific biodiversity projects in schools within the 57dB noise contour for that year.
- LCY will advertise opportunities and consider sponsorship requests from local schools and community-led organisations for the establishment of small educational wildlife gardens (or similar) at appropriate locations in the airport's catchment.
- LCY will also inform LCY staff of the importance of biodiversity as part of a "sustainability awareness" briefing in their initial induction.
- LCY will fund and assist the organisation of the placement of, interpretation boards at local Sites of Interest for Nature Conservation (SINC) within the Borough, including North side of the Royal Albert Dock (adjacent to Building 1000), Newham City Farm SINC, King George V Park and Beckton District Park.

  In addition to these commitments, we will explore opportunities for localised enhancements to the biodiversity of the airport site, where practical. For example, we propose to undertake a feasibility study on the costs and benefits of installing sedum mats (or alternative substrate) on the roof of City Aviation House or another suitable building at the airport, with the objective of providing a micro-habitat for BAP priority species such as invertebrates. We will also undertake an aquatic ecological survey of the King George V Dock, in conjunction with RoDMA, to determine whether any enhancements can be made to the bio-chemical quality and ecology of this water body. Performance against the Airport Biodiversity Strategy will be reported in the APR.

Noise

2.6 Noise associated with LCY is managed under the terms of the planning agreement between the airport and the London Borough of Newham (LBN). The airport is bound by various requirements to monitor, mitigate and compensate for adverse effects of aircraft noise. As part of this obligation, we have implemented a number of specific initiatives which allow us to continue to manage noise carefully.

During the 2010 calendar year, LCY continued to operate its existing Noise Management Scheme (NMS), which amongst other things provides a system of incentives and penalties in order to minimise noise disturbance from aircraft using the airport. The NMS also controls the maximum noise levels of the type of aircraft authorised to use the airport. Furthermore, there are a number of long standing characteristics of the operation of the airport which help reduce its noise impact:

- The airport is closed at night and for 24 hours at the weekend;
- Because of specific obstacle clearance requirements, aircraft landing and departing at London City Airport are required to approach at a steeper angle than other airports. This reduces the area affected by noise; and
- There is a sound insulation scheme where homes and public buildings may qualify for sound insulation, set at thresholds which represent some of the lowest noise levels of any UK airport.

The airport has prepared a Noise Monitoring and Mitigation Strategy (NOMMS) as part of the 2009 Section 106 Agreement. This Strategy builds on the existing Noise Management Scheme, but also introduces new initiatives, including:

- The measurement and monitoring of ground noise;
- Formalising measures for limiting the use of Auxiliary Power Units (APUs) before departure and after landing;
- Encouraging, consistent with safe operations, the minimum use of reverse thrust on landing.

The airport has also prepared a draft Noise Insulation Payments Scheme (NIPS) which will compensate eligible landowners and developers for construction costs arising from the need for increased insulation against aircraft noise.

Consistent with other major UK airports, LCY has produced a Noise Action Plan (NAP) in accordance with the Environmental Noise (England) Regulations 2006. This document was subject to formal consultation between September 2009 and January 2010 and was adopted by DEFRA in May 2012.

The NAP includes a series of minimum requirements, which includes, amongst other things, details of noise management measures which are adopted at the airport, the long term strategy for managing noise and methods for the evaluation of the application and results of the airport's NAP.

We will continually review progress against all aspects of the airport's noise management measures, and report annually on these within the APR. Our overarching objective is: **To continue to monitor and manage noise carefully at the airport.**

Local Air Quality

2.7 Aircraft, vehicles and traffic at and around airports produce a number of pollutants, particularly nitrogen dioxide (NO^2) and fine particulate matter (PM_{10}). LCY and LBN monitor air quality from a number of fixed sites around the airport. Monitoring is carried out at two automatic monitoring stations; one situated on the roof of City Aviation House, the other to the north of Royal Albert Dock, adjacent to the Newham Dockside building. These automatic sites are supplemented by a network of passive monitoring devices (nitrogen dioxide diffusion tubes) located at a further 16 locations in and around the airport boundary.

The airport continuously monitors air quality and provides quarterly reports stating performance against national Air Quality Objectives. We are continually looking for ways to reduce air emissions and have implemented a number of operational management initiatives to help reduce air emissions attributable to ground operations at the airport. Examples include:

- The extended use of electric vehicles for airside operations;
- Restrictions on the use of aircraft Auxiliary Power Units (APUs) and Mobile Ground Power Units (MGPU) for all aircraft types;
- Making ongoing improvements to aircraft taxi procedures;
- New fire training procedures which utilise LPG rather than aviation fuel; and
- The continued development of the Travel Plan.

Following the 2009 Planning Approval, we have also produced an Air Quality Action Plan (AQAP). This Action Plan sets out how we intend to manage our operations over a three year period between 2010 and 2013, so as to mitigate air quality impacts.

The scope of the AQAP includes the management and mitigation of air quality impacts affecting the local community within the vicinity of the airport. This takes account of impacts arising from the operation of the airport, including vehicles going to

or from LCY. The AQAP establishes a mechanism for meeting national air quality objectives, which are in place to protect human health. Nineteen specific measures have been identified in the current Action Plan, many of which will contribute to other objectives in the Sustainability Strategy, particularly energy and emissions and sustainable transport.

The measures cover the following:

- Minimising use of aircraft Auxiliary Power Units (APU) and Mobile Ground Power Units (MGPU), and extending the facilities for Fixed Electrical Ground Power (FEGP) during any future apron improvements;
- Minimising aircraft taxi and hold times prior to takeoff;
- Introduction of cleaner airside vehicles and plant, through investigating the potential for low emission or electric vehicle replacements. We will also require third parties to implement a fleet management strategy, setting out their intention for vehicle replacement;
- Adopting new maintenance and operational procedures, including routine and random vehicle emissions testing; and
- Raising awareness through publicity and promotion.

The measures identified within the AQAP will be implemented over a three year period, and progress against these will be reported annually within the APR.

Community Benefits

2.8 Since opening in 1987, London City Airport has developed a trusted relationship with local communities and contributed significantly to the regeneration of the Docklands area. We have a strong commitment to the local communities around the airport, especially those which are most local to us. We wish to be a force for good in the local community to ensure that the social and economic benefits of the operation of the airport are shared with those living in close proximity to the site.

Through regular and voluntary interaction with residents, schools, colleges, charities, local businesses, landowners, developers and other stakeholders, as well as local boroughs, we will continue to work towards accomplishing our objective: **To continue to reach out and support local projects and initiatives, whilst at the same time developing our own business.**

We employ the largest team of community relations staff compared to any other UK airport relative to the number of passengers we serve. The main role of this team is to implement the LCY Community Strategy, which provides our comprehensive approach to managing community benefits. The Strategy is focused on five main priority areas, which are:

- Consultation and Communication;
- Employment;
- Education;
- Health and Wellbeing; and
- Charity.

Consultation and Communication

2.8.1 Communicating with our neighbours and operating as part of the community is important to us. To maintain our two-way dialogue with stakeholders, London City Airport:

- Ensures an open and transparent relationship with local people, businesses, organisations, elected politicians and representatives and other local groups through provision of information about the operation and policies of the airport.
- Provides information through verbal, electronic and paper-based formats, accessible to all individuals as far as reasonably practicable.
- Proactively seeks opinions and views on matters affecting local people living, working or engaging with the area around LCY.
- Provides forums for discussion and dissemination of information about the airport.

To ensure that we deliver clear and effective consultation and communication, we use a number of different means. Some examples include:

- The London City Airport Consultative Committee (LCACC) meetings, email distribution and its website (www.lcacc.org) as well as the airport website (www.londoncityairport.com) which includes general information, links and news releases detailing our programmes;
- We have developed Runway News Community Newsletter, which is delivered to 33,000 local homes quarterly. This is also available on the airport website with a link from the Consultative Committee website.
- We publish telephone numbers and email addresses of key airport personnel on a regular basis; and
- Regularly attend community meetings and events.

Employment

2.8.2 Being a large employer within the London Docklands, we are keen for the benefits of the airport to be passed to those who live nearest. We have agreed targets with the LBN to endeavour to employ from within the Borough of Newham and immediately surrounding Boroughs:

- 70% of its employees from the “local area” defined as the 10 East London Boroughs;
- 35% from the London Borough of Newham.

We are showing progress against this target. In 2010, 27% of people employed at the airport who provided address infomation, resided in Newham. In total, 63% lived in the “local area”.

We will continue to work towards these targets and, to facilitate this, we will continue to engage with our own community at the airport, which is made up of approximately 2000 staff from over 50 businesses, through the airport’s Employers’ Forum. The Forum enables us to work closely with our on-site partners on a range of issues; our recruitment targets form one aspect of this. The Employers’ Forum is also used to raise awareness of other sustainability targets at the airport.

In 2010 London City Airport was awarded a Lord Mayor of London Dragon Award for Economic Development in recognition of the ‘Take Off to Work’ Scheme. The scheme, which was launched in 2009, has been developed with Newham Workplace. It recruits candidates with an interest in working at LCY and provides airport specific employability workshops, followed by a two to nine week work placement and an interview. Whilst employment is not guaranteed through the programme, it does provide candidates with an opportunity to gain the skills and knowledge required to work at LCY and with other local employers. During 2010, seventy-one unemployed Newham residents gained employment through the programme, of which 59% were previously unemployed for a year or longer. We will continue to identify new ways of benefitting local employment; as the airport expands so too will these local benefits.

Education

2.8.3 Our education initiatives are aimed at both our own staff as well as the wider community. We are committed to investing in our staff through a wide range of learning and development activities. In 2010, LCY provided staff training in a series of core areas, ranging from performance management through to coaching skills. As part of our Sustainability Strategy, we will extend staff training to include environmental awareness issues. This will help us deliver other targets set out within this Strategy.

In 2010 we contributed to a number of local education initiatives. This ranged from supporting the Newham Education Business Partnership Organisation (NEBPO) which benefits primary and secondary education programmes, through to supporting higher education with a University Prize Scheme (UPS). The UPS provides three students per year with a financial contribution and other support to help them obtain a degree.

We also provide work experience for residents of Newham and surrounding boroughs. We have a target to offer 40, one-week work experience places per year for residents in Newham, and a minimum of eight spaces for residents of four neighbouring boroughs. In 2010, 44 placements were taken up and in 2011 we engaged with the NEBPO to administer the programme to reach out to more educational establishments. We will continue to monitor the success of this scheme and evaluate further opportunities to enhance this programme in the future.

We will continue to review new opportunities as they arise, as well as to provide updates on our education initiatives annually, through the Annual Performance Report which is available on both the London City Airport and LCACC websites.

Health And Wellbeing

2.8.4 Positive health and wellbeing choices are actively promoted to airport staff and local communities. We achieve this in many ways, for example, through sponsorship of local football leagues and cheerleading squads, local people have the opportunity to participate in sports teams.

We also promote health and wellbeing through our Travel Plan initiatives such as the cycle to work scheme. We will continually explore new opportunities to promote health and wellbeing of staff, residents and passengers at the airport.

Charity

2.8.5 We will continue to provide charitable donations to Richard House Children's Hospice and various other trusts and charities.

Richard House Children's Hospice has been London City Airport's chosen charity since 1996. Richard House provides care and facilities for life-limited children as well as other children with complex health conditions. London City Airport, its employees and onsite partners have together raised over £500,000 for this worthy cause.

We will continue to support Richard House Children's Hospice and celebrated a 15 year partnership in 2011.

Sustainable Construction

2.9 The 2009 planning permission provides consent for an increase in aircraft movements without physical infrastructure enhancements. In the future however, we may look to upgrade our operations with the addition of new airport facilities, in accordance with our published Master Plan. We propose that any new development that is planned at the airport will be delivered to the highest practical standards of sustainable design and construction.

It is important to recognise that any significant new development at the airport would be subject to a new planning application, which would have to address principles of sustainable design and construction in accordance with relevant planning policy and regulations that are appropriate at that

time. The London Plan, which constitutes part of the Development Plan for the Capital, includes a number of policies for sustainable design and construction. Amongst other things, the Plan includes targets for energy efficiency and the utilisation of renewable energy, as well as the adoption of sustainable design criteria set out within Supplementary Planning Guidance. Whilst not forming part of the Plan, there are also recognised targets for sustainability set out within BREEAM (Building Research Establishments Environmental Assessment Method), which new development at the airport could be expected to meet.

A number of smaller projects may also be taken forward at the airport, some of which may not be subject to separate planning applications. As part of our Sustainability Strategy, we intend for all new construction projects at the airport to conform to our sustainability standards.

- We will develop a Sustainable Construction Strategy which will set out a series of simple steps that we will take each time we plan new development. This will ensure that new development at the airport is planned to take account of sustainable design criteria;
- We will review the implications of new construction projects on the ability to meet our long term targets set out in this Strategy, and plan these accordingly;
- For major building projects, we will design and construct buildings and other facilities to recognised standards, including BREEAM and, where appropriate, CEEQUAL, which is a sustainability standard appropriate for infrastructure projects.

We will report against the achievement of sustainable construction annually within the Annual Performance Report.

Environmental Management

2.10 We have developed a Sustainability Leadership Panel, which consists of key stakeholders at the airport. This Panel is responsible for ensuring that the necessary environmental management systems, procedures, responsibilities and resources are in place, and maintained, to deliver the objectives of the Sustainability Strategy. It meets once a quarter to review and monitor the progress against the initiatives and targets contained within the Airport Sustainability Action Plan. This progress is reported at board level and communicated to stakeholders at the airport through the Employers' Forum and the LCACC.

An initial objective of the Leadership Panel is to further raise awareness of environmental issues by the publication of an Environmental Policy, which we intend to publish on the LCY website by December 2012. The Leadership Panel will regularly review opportunities for improving environmental management at the airport, which may include adopting a more formal Environmental Management System in the future, potentially accredited by a third party to BS:EN:ISO 14001.

Annex 1

THE 2012 AIRPORT SUSTAINABILITY ACTION PLAN

Objectives	2012 – 2014 Targets and Actions		Timescales
Waste *"Promote the waste hierarchy and reduce waste to landfill"*	Wst 1	75% of waste collections to be on weigh scale vehicles	December 2013.
	Wst 2	Introduce a new waste storage hub to promote waste segregation.	December 2012
	Wst 3	Increase waste recycling rate to 20% by summer 2011.	December 2012
	Wst 4	Implement a training programme to ensure that 100% of LCY staff have been trained in waste management.	Ongoing
	Wst 5	Conduct a feasibility study to explore opportunities for Energy from Waste and/or Anaerobic Digestion.	December 2012
Energy and Emissions *"To reduce energy consumption through targeted efficiency measures"*	Ene 1	Implement a training programme to ensure that 100% of LCY staff have been trained in energy efficiency.	2012 - Ongoing
	Ene2	Implement a programme to install sub-metering on high energy use areas.	2012 - Ongoing
	Ene 3	Implement a programme of energy efficiency measures to be agreed in 2013 cost plan.	December 2013
	Ene 4	Energy use per passenger reduced by 5% relative to 2010 baseline.	December 2013
"to stabilise the emissions associated with the ground operations at the Airport, with the goal to reduce the total amount of these emissions over the longer term"	Ene 5	Publish a carbon management policy at the airport.	December 2012
	Ene 6	Entry into the ACI Europe Airport Carbon Accreditation Level 1.	December 2012
	Ene 7	Implement a programme of studies to identify how our five largest procurement contracts are managing their emissions.	Ongoing
	Ene 8	Establish a timetable to achieving Level 4 of the ACI Scheme 'Neutrality'.	December 2013
Water *"Promote water efficiency at the Airport, with the objective to reduce water consumption per passenger"*	Wat 1	Develop procedure for tracking and recording water use at LCY monthly.	December 2012
	Wat 2	Implement a programme to install sub metering for high use areas	December 2012
	Wat 3	Conduct feasibility study for utilising rainwater harvesting	December 2013
	Wat 4	Conduct feasibility study for alterative non potable water sources for fire training.	December 2013
Community *"We will continue to reach out and support local projects and initiatives, whilst at the same time developing our business"*	Com 1	Evaluate additional opportunities for recording community benefits.	Ongoing
	Com 2	Evaluate opportunities to enhance the community work experience programme in the future.	Ongoing

Objectives	2012 – 2014 Targets and Actions		Timescales
Biodiversity "Promote awareness of biodiversity issues by LCY staff, local residents and school children "	Bio 1	Commence implementation of the agreed Biodiversity Strategy.	May 2012
	Bio 2	Undertake feasibility study on the costs and benefits of installing sedum mats (or alternative substrate) on the roof of City Aviation House.	December 2012
	Bio 3	Undertake an aquatic ecological survey of the King George V dock, in conjunction with RoDMA.	December 2012
Noise *"Continue to monitor and manage noise carefully at the Airport"*	Ns 1	Implement NOMMS in agreement with LBN.	Ongoing
Air Quality *"To implement measures that will minimise the impact of Airport operations on local air quality"*	AQ 1	Deliver all 19 measures identified in AQAP within a three year period.	June 2015
	AQ 2	Produce an annual statement on progress and performance against the measures set out in the AQAP with the APR.	July annually
	AQ 3	Review the AQAP every three years.	June 2015
Transport *"To promote the use of sustainable forms of surface access by passengers and staff travelling to and from the Airport, in accordance with the Airport Travel Plan"*	Tra 1	Undertake a basic review of 2011 Travel Plan commitments, including progress against targets.	2011 APR
	Tra 2	Undertake a comprehensive review of the Travel Plan and amend targets as necessary to reflect changes at the Airport.	February 2013
	Tra 3	Extend season ticket loans to an additional 5% of LCY staff.	December 2013
Sustainable Construction *"To ensure all new construction will be designed with consideration to sustainability"*	SC1	Develop a Sustainable Construction Strategy for future development at the airport.	December 2012
	SC 2	Ensure all new construction projects at the airport take account of relevant sustainable construction opportunities.	Ongoing
	SC 3	Deliver building projects, which are subject to planning permission, in accordance with recognised BREEAM Standards.	Ongoing
Environmental Management *"Ensure that everyone at the airport is able to participate in environmental management"*	EM1	Develop a Sustainability Leadership Panel and publish an Environmental Policy on LCY and LCACC website.	December 2012
	EM2	Hold quarterly meetings to review monitoring data which will be reported in the APR for waste, energy and emissions and water consumption.	Ongoing
	EM 3	Undertake a full review of the Airport Sustainability Action Plan and identify new set of targets.	December 2014

Annex 2

THE SECTION 106 AGREEMENT REQUIREMENTS

This Sustainability Strategy has been prepared and is submitted to LBN for approval in accordance with the 3rd Schedule (Part 6/1- Page 34) of the Section 106 (S106) agreement.

In accordance with the S106 agreement, the definition of the Airport Sustainability Strategy is:

"A Strategy to improve the sustainability of the airport which shall consider the impact of operations at the airport on matters such as environmental management systems in operation at the airport, supply chains, noise, energy, socio-economics, health, waste (including recycling), surface access, water and greenhouse gas emissions (Including Carbon Dioxide and including options for managing and mitigating impacts without placing at risk the safety of operations at the airport and an Airport Sustainability Action Plan all of which shall substantially in accordance with the mitigation measures described in the Environmental Statement".

The Sustainability Strategy addresses the above scope under the following areas under management.

- .Waste Production
- .Energy and Emissions
- .Water Resources
- .Sustainable Transport
- .Biodiversity
- .Noise
- .Local Air Quality
- .Community Benefits
- .Sustainable Construction and
- .Environmental management

In accordance with the 3rd Schedule (Part 6/2- Page 34) of the S106 agreement, the Council shall either approve or refuse to approve the Airport Sustainability Strategy within three months of the date of its submissions provided that if the Council refuses such approval the Airport Companies shall use reasonable endeavours to obtain such approval as soon as reasonably practicable, including resubmitting for approval modified drafts of the Airport Sustainability Strategy.

In accordance with the 3rd Schedule (Part 6/3-- Page 34) of the S106 agreement, within six months of receipt of written approval from the Council of the Airport Sustainability Strategy the Airport Companies shall implement the Approved Airport Sustainability Action Plan 2011.

In accordance with the 3rd Schedule (Part 6/4-- Page 34) of the S106 agreement, during the operation of the approved Airport Sustainability Action Plan, the Airport Companies shall report to the Council annually on 1st July as part of the Annual Performance Report on the Performance of the Airport Companies during the Previous calendar year against the targets in the Airport Sustainability Action Plan. The first reporting year for sustainability is expected to be 2012, following approval and implementation of the Airport Sustainability Action Plan.

LondonCityAirport

Goinggreener

City Aviation House
Royal Docks
London
E16 2PB

environment@londoncityairport.com
www.londoncityairport.com/environment

June 2012

APPENDIX 2

CADP BREEAM Pre-Assessment Framework

Credit Ref	Credit Name	Credits Available	Target Credits	Requirement
MANAGEMENT (Each credit worth 0.55%)				
Man 01	Sustainable Procurement	8	4	1) Team roles, responsibilities and a training schedule will be defined in accordance with BREEAM standards; 2) Compliant commissioning of building services will be carried out; 3) Compliant seasonal commissioning of building services will be carried out; 4) Water/energy consumption data recorded and aftercare support will be provided for 12 months.
Man 02	Responsible Construction Practices	2	2	1) Considerate construction scheme will be used or required to be used by the principal contractor; 2) Target performance level set for the site/contractor will be 32 or above.
Man 03	Construction Site Impacts	5	5	1) site energy and water consumption will be metered/monitored; 2) timber will be sourced in accordance with the Government's Timber Procurement Policy; 3) principal contractor will adopt best practice pollution prevention policies & procedures; 5) the prinicpal contractor will operate an Environmental Management System; 4) the transport of construction materials and waste to/from site will be measured/monitored.
Man 04	Stakeholder Participation	4	3	1) an appropriate level of consultation activities will be undertaken; 2) Building user guides and relevant user information will be provided; 3) a CABE compliant access statement will be developed and appropriate building user facilities will be provided.
Man 05	Life Cycle Cost and Service Life Planning	3	0	
Management Totals:		22	14	
Management score totals:		12	7.64	

HEALTH & WELLBEING (Each credit worth 1.07%)				
Hea 01	Visual Comfort	3	1	1) All fluorescent lamps will be fitted with high frequency ballasts and internal/external lighting will be specified in accordance with the relevant CIBSE Guides/British Standards;
Hea 02	Indoor Air Quality	4	0	
Hea 03	Thermal Comfort	2	2	1) Thermal modelling of the admin building design will be carried out; 2) The modelling will inform the development of a thermal zoning and control strategy.
Hea 04	Water Quality	1	1	1) All water systems will be designed to comply with the relevant HSE Approved Code of Practice and Guidance; 2) A wholesome supply of accessible, clean and fresh drinking water will be supplied for building users.
Hea 05	Acoustic Performance	2	2	1) a suitably qualified acoustician will be appointed to provide appropriate design advice; 2) the building will meet the relevant internal acoustic performance standards and testing requirements.
Hea 06	Safety and Security	2	1	1) A suitably qualified security consultant (e.g. ALO/CPDA) will be appointed/consulted and security considerations accounted for;
Health & Wellbeing Totals:		14	7	
Health & Wellbeing score totals:		15	7.50	
ENERGY (Each credit worth 0.7%)				
Ene 01	Reduction of CO2 Emissions	15	6	Considered achievable based on applying energy efficiency measures with CHP to improve upon Building Reg requirements for CO2 emissions by at least 25%.
Ene 02	Energy Monitoring	2	2	1) A BMS or sub-meters will be specified to monitor energy use from major building services systems; 2) A BMS or sub-meters will be

				specified to monitor energy use by tenant/building function areas.
Ene 03	External Lighting	1	1	1) External light fittings and controls will be specified in accordance with the BREEAM criteria.
Ene 04	Low and Zero Carbon Technologies	5	3	1) Compliant LZC feasibility study will be undertaken based on operational stage carbon savings/emissions; 2) the target percentage net reduction in operational stage CO2 emissions due to LZCT will be 20%;
Ene 06	Energy Efficient Transportation Systems	2	2	1) a transportation system analysis will be carried out to determine the optimum number and size of lifts; 2) three energy-efficient features offering the greatest potential energy savings will be part of the lift system.
Ene 08	Energy Efficient Equipment	2	0	
Energy Totals:		27	14	
Energy score totals:		19	9.85	
TRANSPORT (Each credit worth 0.89%)				
Tra 01	Public Transport Accessibility	3	3	Based on high PTAL rating
Tra 02	Proximity to Amenities	1	1	1) A grocery/food shop, cash machine and post box are all located within 500m walking distance of the site.
Tra 03	Cyclist Facilities	2	0	
Tra 04	Maximum Car Parking Capacity	2	2	The maximum car parking capacity criteria of 1 space per 5 staff is achieved.
Tra 05	Travel Plan	1	1	1) A transport plan based on site specific travel survey/assessment will be developed.
Transport Totals:		9	7	
Transport score totals:		8	6.22	

WATER (Each credit worth 0.75%)				
Wat 01	Water Consumption	5	3	Based on low flow sanitary fittings throughout.
Wat 02	Water Monitoring	1	1	MANDATORY CREDIT. 1) there will be a water meter on the mains water supply to the building(s); 2) metering/monitoring equipment will be specified on the water supply to any relevant plant/building areas; 3) all specified water meters have a pulsed output.
Wat 03	Leak Detection	2	1	1) a mains water leak detection system will be installed on the building's mains water supply.
Wat 04	Water Efficient Equipment	1	0	
Water Totals:		9	5	
Water score totals:		6	3.33	
MATERIALS (Each credit worth 1.39%)				
Mat 01	Life Cycle Impacts	5	3	1) Achieving a high Green Guide rating (A or A+) for materials used in the main building elements.
Mat 02	Hard Landscaping and Boundary Protection	1	0	
Mat 03	Responsible Sourcing of Materials	3	2	1) A proportion of the building materials used must be responsibly sourced.
Mat 04	Insulation	2	2	1) The building will target an insulating index of 2 or more OR the building's insulating materials be responsibly sourced; 2) The building will target an insulating index of 2 or more AND the building's insulating materials be responsibly sourced.
Mat 05	Designing for Robustness	1	1	1) suitable durability/protection measures will be specified and installed to vulnerable areas of the building.
Materials Totals:		12	8	

Materials score totals:		12.5	8.33	
WASTE (Each credit worth 1.25%)				
Wst 01	Construction Waste Management	4	4	Based on achieving best practice resource efficiency targets via the effective management and reduction of construction waste. At least 70% of non-hazardous construction waste and 80% of non-hazardous demolition waste will be diverted from landfill.
Wst 02	Recycled Aggregates	1	0	
Wst 03	Operational Waste	1	1	1) appropriate facilities for the storage of operational recyclable waste volumes will be provided.
Wst 04	Speculative Floor and Ceiling Finishes	1	1	1) The building's occupant will specify floor/ceiling finishes.
Waste Totals:		7	6	
Waste score totals:		7.5	6.428571429	
LAND USE & ECOLOGY (Each credit worth 1%)				
LE 01	Site Selection	2	2	1) at least 75% of the proposed development's footprint will be located on previously developed land; 2) the site is deemed to be contaminated and remediation will be carried out in line with a remediation strategy.
LE 02	Ecological Value of Site and Protection of Ecological Features	1	1	1) the land within the construction zone is defined as 'land of low ecological value'; 2) all features of ecological value surrounding the construction zone/site boundary will be protected.
LE 03	Mitigating Ecological Impact	2	2	1) There will be no negative change in ecological value (plant species richness) as a result of the sites development.
LE 04	Enhancing Site Ecology	3	1	1) a suitably qualified ecologist will be appointed to report on enhancing and protecting site ecology.

LE 05	Long Term Impact on Biodiversity	2	2	The building will meet BREEAM's mandatory criteria for this BREEAM issue.
Land Use & Ecology Totals:		10	8	
Land Use & Ecology score totals:		10	8	
POLLUTION (Each credit worth 0.91%)				
Pol 01	Impact of Refrigerants	3	0	
Pol 02	NOx Emissions	3	1	1) the target/maximum NOx emission level of 100mg/kWh will be met for the space heating/cooling system.
Pol 03	Surface Water Run Off	5	2	1) the actual/likely annual probability of flooding for the assessed site is considered to be low; 2) a compliant Flood Risk Assessment will be undertaken;
Pol 04	Reduction of Night Time Light Pollution	1	1	1) the external lighting will be designed to reduce light pollution.
Pol 05	Noise Attenuation	1	1	1) a noise impact assessment will be completed and noise attenuation measures will be specified and adopted.
Pollution Totals:		13	5	
Pollution score totals:		10	3.85	
INNOVATION/ EXEMPLARY CREDITS (Each credit worth 1%)				
Man 01	Sustainable Procurement	1	1	1) water/energy consumption will be recorded/reported for 3 years post construction.

Man 02	Responsible Construction Practices	1	0	-
Hea 01	Visual Comfort	1	0	-
Ene 01	Reduction of CO2 Emissions	5	0	-
Ene 04	Low or Zero Carbon Technologies	1	0	-
Ene 05	Cold Storage	1	0	-
Wat 01	Water Consumption	1	0	-
Mat 01	Life Cycle Impacts	1	0	-
Mat 03	Responsible Sourcing of Materials	1	0	-
Wst 01	Construction Waste Management	1	0	-
Wst 02	Recycled Aggregates	1	0	-
Innovation Totals:		15	1	
Innovation score totals:		15	1	
OVERALL SCORE TOTALS:		100	62.15	VERY GOOD RATING