

**City Airport Development Programme (CADP1)**

Condition 56: Sustainability and Biodiversity Strategy



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# 1. Introduction

1.1 The City Airport Development Programme (CADP) 1 planning application (13/01228/FUL) was granted planning permission by the Secretaries of State for Communities and Local Government and Transport in July 2016 following an appeal and public inquiry which was held in March/April 2016.

1.2 Condition 56 of the CADP1 permission requires:

*“No Phase of the Development shall commence until a Sustainability and Biodiversity Strategy has been submitted to and approved in writing by the local planning authority in respect of that Phase. The relevant approved Sustainability and Biodiversity Strategy shall be implemented on Commencement of the Development of each Phase.*

*A report shall be submitted to the local planning authority annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report on the performance and compliance during the previous calendar year with the targets in the approved Sustainability and Biodiversity Strategy/Strategies.*

*Every 3 years the Sustainability and Biodiversity Strategy shall be reviewed and the reviews shall be submitted to the local planning authority for approval in writing on 1 June (or the first working day thereafter) and implemented as approved.*

*Reason: In the interest of impacts on biodiversity and maximising the ecological potential of the site and in accordance with Policy SC4 of the London Borough of Newham Core Strategy (Adopted January 2012), Policies 5.11, 7.19 and 7.21 of the London Plan (consolidated with alterations Since 2011 and published March 2015), and Paragraph 109 of the NPPF”.*

1.3 Sustainable development is defined by the NPPF as *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is central to the economic, environmental and social success of the country and is the core principle underpinning planning. Simply stated, the principle recognises the importance of ensuring that all people should be able to satisfy their basic needs and enjoy a better quality of life, both now and in the future.”*

1.4 A Sustainability and Biodiversity Strategy was approved to discharge Condition 56 of the CADP1 permission in June 2017, and covered the period from 2017 until 2020. Key achievements under this strategy have been provided in Annex 2.

1.5 In accordance with Condition 56, the intent was to submit a revised Sustainability and Biodiversity Strategy to LBN before 1 June 2020, which would cover the period 2020 to 2023. However, the Covid-19 pandemic resulted in the closure of London City Airport to all commercial operations at the beginning of April 2020, and a delay to the review process was therefore agreed with LBN. . Following written approval by the London Borough of Newham (LBN) it will take immediate effect and supersedes all previous sustainability strategies. In accordance with the requirements of the condition, it will continue to be reviewed every three years (from the date on which LBN approve this revised version) and updated where necessary.

1.6 This Strategy has been informed by the relevant national and local policy context and the operational and environmental controls of the CADP planning permission. It includes actions and targets related to five topic areas as follows:

- Environmental Management System (EMS);
- Waste;
- Energy, Emissions and Climate Change;
- Wildlife and Habitat Management;
- Water.

The following three topics are also briefly discussed however other CADP1 pre-commencement conditions cover the measures and targets in place to manage these aspects, and therefore extensive detail has not been provided in this document.

- Noise;
- Local Air quality;
- Sustainable Construction.

1.7 Some of the targets and commitments remain unchanged from the Sustainability and Biodiversity Strategy that covered the period 2017-2020, whilst some have been updated to reflect policy updates, changes in circumstances and discussions held with LBN including the following:

- The impact of the Covid-19 pandemic on the aviation industry and LCA
- LBN's recently published [Climate Emergency Action Plan](#), [Air Quality Action Plan](#) and [Towards a Better Newham – Covid-19 Recovery Strategy](#)
- LCA's commitment to Net Zero Carbon by 2050
- The pause in construction at LCA at the end of 2020
- The national drive towards reducing single-use plastics.

This has resulted in 6 new targets, 7 revised targets and 10 ongoing targets and commitments that have been reaffirmed.

1.8 The individual targets relating to these key topics will continue to be monitored and reported internally on a quarterly basis and, where applicable, to external stakeholders including the London City Airport Consultative Committee (LCACC). Annual Reporting will occur as part of LCA's Annual Performance Report (APR).

1.9 All targets and measures in this strategy are subject to the extent and profile of LCA's recovery from the Covid-19 pandemic, and therefore may need to be reviewed on a rolling basis with LBN.

1.10 It should be noted that any monetary amounts contained within the targets of this report will be index linked (RPI).

## 2. Environmental Management System

2.1 LCA operates an EMS independently accredited to an ISO14001:2015 standard. The accredited EMS is internally available and covers the provision of airport operations, including both landside and airside activities as well as third parties that operate on site; it is all encompassing.

2.2 By utilising this EMS LCA seeks to continuously review and monitor its environmental performance in order to manage, and where possible minimise, the environmental impacts resulting from its activities. This is important as many of the actions and targets in this Strategy will be encompassed as part of LCA's EMS and as such will ensure they are achieved within the timescales provided.

2.3 The EMS is not publicly available, but the scope, aim and objectives are outlined in LCA's Sustainability Policy (<https://www.londoncityairport.com/corporate/Environment/environment>) which also informs this Strategy. LCA's EMS addresses the key areas of environmental sustainability, as listed below:

- Waste
- Energy, Emissions and Climate Change
- Water
- Biodiversity
- Noise
- Air Quality
- Sustainable Transport<sup>1</sup>
- Construction
- Environmental Management

2.4 In order to ensure improvement and effective streamlined operation of the EMS, LCA aims to continue developing an integrated management system, grouping together other similar practices with Health and Safety and Quality Management to ensure a consistent and coordinated approach across the business.

### **Environmental Management System Targets**

**EMS1** *Maintain LCA's current ISO14001:2015 certification*

**EMS2** *Continue to develop an integrated management system, grouping together similar practices across the airport to achieve a consistent and coordinated approach.*

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<sup>1</sup> Sustainable transport is included in the EMS however it should be noted it is driven primarily by the Airport's Surface Access Strategy and associated documents.

## 3. Waste

3.1 LCA has taken great steps to better manage its operational waste. Since 2013 LCA has revamped its waste processes, introduced new waste facilities and improved communication with third parties such as terminal concessions to encourage proactive waste management. LCA puts the waste hierarchy at the forefront of its waste management, considering ways to reduce and reuse waste before recycling and recovering energy.

3.2 Furthermore, by appointing a local waste contractor to handle waste disposal, recycling and reduction requirements on behalf of LCA, this has also provided other operational benefits such as airfield safety via better waste capture and reliable disposal reducing the amount of waste on-site thus lowering bird attractants. By sourcing a local waste contractor other benefits have been made such as lower transport emissions with shorter routes to the waste depot, and supporting the local economy.

3.3 Such step changes facilitate the segregation of waste streams throughout the Airport. LCA currently segregates many different waste streams such as food waste, glass, wood, metal and other mixed recycling, as well as hazardous waste generated by airport operations, such as waste oils and clinical waste. LCA's successful working relationship with its waste contractor means that when such waste occurs, it is disposed of in a safe and compliant manner. This has also enabled better operating procedures, training and ultimately, awareness and understanding of all Airport employees, both direct and indirect.

3.4 Whilst LCA manages the removal of waste across the airport, there are many different parties across the airport that generate waste including concessions, airlines and passengers. LCA can influence and educate these third parties in managing waste effectively, but has no direct control over their activities. These third parties are responsible for reducing and reusing the waste they generate, and for segregating waste into the appropriate bins.

3.5 In the past few years LCA has achieved many notable successes related to its waste management. These include:

- **27% reduction of waste per passenger in 2019 against the 2013 baseline**
- A reduction in the use of single-use plastics by banning plastic straws and stirrers across the airport, and installing a bottle refill point for passengers in the departure lounge, thereby reducing the disposal of bottles
- Segregating coffee granules and sending them for beneficial reuse as a biofuel
- Recycling over 60% of total waste throughout 2018 and 2019
- **Maintaining our record as a zero landfill company.** Waste generated that cannot be reused or recycled is sent to a waste-to-energy plant. This ensures no operational waste is diverted to landfill, the least environmentally preferred practice.

3.6 LCA has also prepared a Waste Management Strategy which has been approved by LBN. This document is consistent with that strategy, which also seeks to maximise the use of the River Thames and other waterways for the transport of construction waste materials from the Airport.

## Waste Reduction and Reuse

The Waste (England and Wales) Regulations 2011 set out a Waste Hierarchy which promotes waste reduction and reuse in advance of recycling, energy recovery and disposal. This principle is driven across the business to all staff under direct employment of LCA through our general environmental awareness training. LCA plans to further enhance this with better point-of-use signage and role-specific waste awareness training.

### **Reduction**

3.7 LCA will seek to reduce the amount of waste produced per passenger by 10% by the end of 2022 compared to a 2019 baseline. This may be done by encouraging third party concessions to reduce waste packaging, encouraging waste reducing behaviour, and seeking further ways that waste can be reduced across the business.

3.8 LCA will also undertake a feasibility study to determine how single-use plastic bags can be reduced or eliminated in security.

### **Reuse**

3.9 Another integral part of the waste hierarchy, which is sometimes seen as the most challenging step, is the reuse of products before they are classified as waste. LCA has implemented a furnishing reuse scheme whereby office furnishing that is no longer required, but is still usable, will be donated to a local charity to be sold at affiliated charity shops. LCA will promote this scheme to third parties across the Airport.

3.10 LCA acknowledges that food waste will rise in the future as a result of increased terminal footfall and the future expansion of the Airport under CADP1. The speed at which this will happen will depend on how quickly aviation recovers from the effects of the Covid-19 pandemic. Some concessions direct excess food to charity at the end of each day. Where this is not possible, food waste is used for waste to biofuel conversion or anaerobic digestion.

3.11 In addition, where items confiscated in the terminal security area are suitable and safe for reuse, these will also be sent to charity. Items mainly include toiletries and liquids over 100ml.

### **Recycling**

3.12 LCA 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 and removed on a daily basis to prevent the attraction of birds and vermin.

3.13 LCA is aiming to achieve a 70% recycle rate by the end of 2022 through continuously improving awareness of waste procedures across the site, including improved signage at point-of-disposal locations and incorporating waste procedures into new starter training. If any new concessions are introduced into the terminal over the duration of this strategy, their waste management procedures and commitment to

reducing waste, recycling and reducing single-use plastics will be assessed as part of the tender process, and enforcement of LCA's waste procedures will also be managed through the contract.

3.14 Other opportunities, i.e. construction and other similar works, to reduce, reuse and recycle waste will be explored through the preparation of Site Waste Management Plans (SWMP). Each SWMP would manage, record and identify potential reductions in generated waste. The SWMPs will be reviewed regularly during each active phase of the delivery of CADP1.

### **Waste Targets**

**WST1** *Implement SWMPs and review prior to each phase of CADP.*

**WST2** *Reduce total waste kg per passenger by 10% from 2019 baseline by the end of December 2022.*

**WST3** *Recycle 70% of total kg of waste by the end of December 2022.*

**WST4** *Promote the furniture reuse scheme to third parties across the airport*

**WST5** *Include waste management in the criteria for any new concessions, including how they will reduce waste and promote recycling, and integrate site-specific requirements into new contracts where practicable.*

**WST6** *Carry out a feasibility study for the reduction of single-use plastic bags used by passengers during security checks*

**WST7** *Carry out two employee and third-party engagement activities per year to promote reduction, reuse and recycling of waste.*



# 4. Energy, Emissions and Climate Change

4.1 The most significant challenge for sustainability is the threat of climate change. Reducing carbon emissions is paramount for LCA and the wider aviation industry, who have therefore targeted becoming a carbon zero airport by 2050 without the need for carbon offsetting. LBN's commitment to tackling climate change is demonstrated in their recently published Climate Action Plan, and LCA fully support this plan by setting ambitious targets in this strategy.

4.2 LCA has already made considerable progress in reducing carbon emissions over the last decade. This success has been recognised with LCA being awarded Stage 3+ of the Airports Council International (ACI) Europe Airport Carbon Accreditation scheme, demonstrating that carbon neutrality has been achieved for emissions that LCA has direct control over, including power used in the terminal and office buildings, and fuel used in business-owned vehicles (excluding third party emissions such as surface access and aircraft emissions). LCA's direct emissions are disclosed and verified as part of the ACA scheme and will be shared with LBN once available and verified. This has been achieved through significantly reducing the energy demand, and offsetting emissions where they currently can't be eliminated.

4.3 Energy demand has been reduced across the airport through a significant number of measures. These measures include but are not limited to:

- Installation of Passive Infra-Red (PIR) sensors in office areas;
- The use of internal LED lighting in both public and office areas;
- A continued programme of modernising key pieces of building plant such as Air Handling Units;
- Upgrade of existing runway and apron lighting to low energy LED bulbs;
- Installation of heat curtains at key doors in the terminal to reduce heat loss;
- Setting minimum energy standards for fit-out of third party units;
- Carrying out energy audits across the site;
- Replacement of vehicles to more energy-efficient models;
- Replacement of boilers to units that are more energy efficient; and
- Staff awareness activities.

4.4 Carbon emissions relating to third party activities such as airline emissions and those related to surface access journeys to and from the airport are greater than emissions from the airport site. LCA has therefore been working closely with its business partners to incentivise and facilitate carbon reduction in these areas too.

4.5 Airlines have made robust commitments to decarbonise in recent years. For example IAG (including British Airways with makes up over 50% of the fleet at LCA) committed to offsetting all emissions from domestic flights from 2020 onwards. The Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) developed by ICAO will also result in the offsetting of aircraft emissions above a 2020 baseline from 2021 onwards (although the baseline year is under review due to the Covid-19 pandemic), and the scheme

will be further developed to help drive down emissions over time. The development of sustainable aviation fuels and electric aircraft is also accelerating, although is unlikely to result in carbon reductions in the lifetime of this strategy.

4.6 LCA are also supporting airlines to decarbonise. As part of the CADP development, larger stands have been built to accommodate the new generation of aircraft that have a slightly wider wingspan. These aircraft also produce 17% lower carbon emissions compared to the current fleet. Along with investing in new stands, LCA are participating in a UK-wide programme to modernise UK airspace, which will result in more efficient, direct flight routes and associated reductions in carbon emissions.

4.7 LCA are also collaborating with transport providers to drive a reduction in carbon emissions from surface access, by encouraging the use of sustainable modes of transport for passengers and staff. Further details on this can be found in LCA's recently published Travel Plans. During the Covid-19 pandemic and due to the risks associated with travel on public transport LCA followed Government advice and recommended the use of private vehicles. As LCA has restarted operations it is encouraging passengers and staff to use public transport, walking and cycling and will continue to work with the TfL and LBN to ensure that use of sustainable transport modes are prioritised.

4.8 In order to build on achievements so far, LCA will strive to achieve a 50% reduction in kg of carbon per passenger by the end of 2022 compared to a 2019 emissions baseline. This will largely be achieved through the purchase of electricity from a renewable energy source, demonstrated through REGO (Renewable Energy Guarantees Origin) certificates. Reductions in absolute emissions will also be reported, and an update will be provided annually on how LCA is intending to support the decarbonisation of the aviation industry to achieve net zero by 2050.

4.9 Ways to reduce energy demand will also however still be explored and progressed where possible. Measures to achieve this include, but are not limited to:

- Include energy minimisation in the criteria for any new concessions, including a minimum standard for equipment and LCA's expectations for how third party staff should minimise consumption.
- Staff energy awareness campaigns to improve awareness of how day-to-day energy saving can be achieved.

4.10 Significant energy efficiency measures will also be released when CADP is fully built out in future. In developing the energy strategy for the CADP project, the design approach has focused on the following energy hierarchy principles: 'be lean', by using less resources and minimising energy demand; 'be clean', by selecting the most energy-efficient heating and cooling infrastructure; and 'be green', by supplying energy from renewable sources on site. This approach will enable the CADP building to achieve a minimum 25% carbon emissions reduction against a Part L 2010 baseline and therefore meet the requirements of Condition 61 Energy Assessment. The latter contains further details of the proposed energy efficiency measures which, among others, include the integration of the following: photovoltaic panels; Combined Heat & Power -CHP units; highly efficient equipment and lighting systems; passive measures to reduce heat loss and maximise use of natural daylighting; provisions for connectivity to future district heating network. Further information can be found in the Condition 61 Energy Assessment and Reduction in Carbon Dioxide Emissions document.

## **Energy, Emissions and Climate Change Targets**

**EC1** *Improve employee awareness on energy reduction through two campaigns and training sessions per year. This target is ongoing, with evidence on progress being provided yearly*

**EC2** *Include energy minimisation in the criteria for any new concessions*

**EC3** *50% reduction in kg of carbon per passenger by the end of December 2022 compared to 2019 baseline*

**EC4** *Maintain Level 3+ Neutrality of the ACI Europe airport carbon accreditation scheme.*

**EC5** *Report on LCY's progress in quantifying and reducing scope 1 and 2 absolute emissions and provide an update annually on how LCA is intending to support the decarbonisation of the aviation industry to achieve net zero by 2050.*

# 5. Wildlife and Habitat Management

5.1 The Airport is situated in Newham and therefore the wildlife and habitat management elements of this Sustainability and Biodiversity Strategy are aligned with the SC4 Biodiversity section of [LBN's Local Plan 2018](#). LBN's Local Plan also recognises LCA's operational safeguarding requirements, detailed in INF1.

5.2 LBN's SC4 Biodiversity Strategic Principle's are as follows:

- a. Biodiversity, including aquatic and riparian habitats, will be protected and enhanced, with all development contributing to the achievement of net gain, and where compatible, improvements to access to nature;
- b. Permitting development only where it can be demonstrated that significant adverse impact on protected species and habitats is avoided; and
- c. Water quality will be protected and enhanced, with development contributing to achievement of River Basin Management Plan objectives wherever relevant.

5.3 LCA is committed to supporting the wider protection, enhancement and understanding of biodiversity in the local and wider geographical area of the Airport. LCA's main objective is to help protect, enhance and promote awareness of wildlife and habitat management at the airport and in the community.

5.4 The targets outlined below have been developed to support the biodiversity objective iterated in LBN's Local Plan. To support the LBN's biodiversity objective, LCA will continue to focus activity both on and off site through measures as follows.

## On Site Biodiversity

5.5 LCA has a low ecological and biodiversity value, largely as a result of being an intensively managed Airport facility that, by necessity, discourages animals such as foraging and breeding birds which could disrupt or endanger safe operations. The urban greening factor is approximately 0.15 due to the predominance of sealed surfaces such as concrete and tarmac used for aircraft stands, taxiways and the runway.

5.6 A Phase 1 Habitat Survey (March 2013) and Preliminary Ecological Appraisal (June 2015) were carried out as part of the Environmental Impact Assessment for CADP1. Both also concluded that the airport site is of low ecological value.

5.7 LCA is required to comply with strict requirements set out by the Civil Aviation Authority (CAA), particularly in terms of managing bird strikes and safe aircraft movement. Therefore, on-site habitats must be carefully managed to minimise attractiveness to birds, particularly large species, to maintain a safe aerodrome at all times.

5.8 Landscaping improvements are being delivered as part of the CADP permission. However there is little opportunity to further improve biodiversity on-site whilst maintaining safe operating conditions for aircraft, particularly considering the Airport's small footprint. LCA's biodiversity strategy therefore primarily focuses on:

1. Supporting specific biodiversity enhancements off-site which are not deemed to pose a risk to the safety of the Airport and associated operations (see below); and
2. Promoting access to and appreciation of biodiversity in the wider community.

### **Artificial Fish Refugia**

5.9 LCA installed an artificial fish refugia (submerged wire mesh panels) into the KGV Dock prior to the construction of the new concrete deck over KGV Dock. This will compensate for the loss of the dock wall, by providing a suitable alternative substrate for the growth of algae and marine invertebrates, as well as providing a food source and shelter for fish fry. The artificial fish refugia will contribute to the long-term biodiversity and ecological health of the dock.

5.10 The refugia takes a number of years to be fully colonised. It is proposed to undertake inspection and maintenance of the structure in 2021 and to record by way of photographs whether colonisation is progressing.

### Off-Site Biodiversity

5.11 LCA is committed to working with local developers, the local community and the LBN to support the wider protection, enhancement and understanding of wildlife and habitat management in the borough. It is acknowledged that noise resulting from aircraft can affect biodiversity, although the impact of this in the urban environment around LCA is likely to be minimal.

5.12 LCA supports LBN's aspiration to protect, enhance and create habitats for biodiversity, so long as these are compatible with the continued and safe operation of the Airport. LCA is responsible for safeguarding against present and future potential infringements of the Airport's aerodrome. Due to the CAA requirements, LCA reviews all development applications within a 13km radius of the Airport. Where proposed developments are deemed to pose a risk to safe flying, e.g. attracting birds, LCA will outline such concerns to be considered by the Local Planning Authority in determining the application. The guidance will be updated regularly & in line with significant changes in regulations and site conditions; feedback will be considered and communicated to LBN annually.

5.13 Despite this, many enhancements can be made to biodiversity without posing a risk to aircraft safety. For example, the creation of habitats for small reptiles or mammals, the installation of bat boxes or beehives, or the installation of small water bodies. LCA encourages early discussion with developers to ensure that biodiversity is maximised whilst managing the risk to aircraft safety, and provide information regarding this on LCA's website. LCA will report on these discussions to LBN annually to demonstrate that biodiversity is not being unnecessarily constrained in the local area.

5.14 During the CADP1 construction works as part of the airport development, over 20,000 tonnes of excavated material was sent by barge to [Rainham Marshes Habitat Creation Scheme](#) in Essex. This helped to restore the wetland habitat in this area, enhancing this Site of Special Scientific Interest for wetland birds and wildlife. This is a further example of where LCA had been able to support biodiversity off-site.

5.15 In recent years LCA has also been supporting several biodiversity programmes in Newham through financial contributions. This has included:

- East Ham Nature Reserve, a key SINC in the borough, to promote environmental

stewardship and knowledge of biodiversity in the local community

- St John's Green - Sow & Grow Events
- Royal Docks Learning and Activity Centre - Biodiversity Event
- Royal Docks Spring Festival
- Silvertown Sow & Grow Garden Launch
- Earth Day Biodiversity Celebration
- Oasis Community Engagement Day
- Summer Bug Hunt & Picnics
- SAS (Surfers against sewage) clean up events

5.16 Few programmes have however been running in 2020 due to the pandemic, and the financial contributions offered to East Ham nature reserve have not yet been spent. The availability of this funding will therefore be paused until 2023.

5.17 LCA also operates a Community Trust Fund in which £75,000 is made available annually to local groups, such as mental health charities, disability groups, community gardens and sports teams as well as those providing family support, mentoring programmes and employability training. Applications are received for projects relating to wildlife and habitats, and from 2023 onwards if additional funding that LCA makes available for biodiversity projects in Newham cannot be used for its intended purpose then grants will instead be made through the Community Trust Fund to support such projects.

5.18 Evidence from 2020 confirming LCY engagement with developers for planning applications which had the potential to attract birds and consequently adversely affect the safety of the LCY operations has been provided to LBN for information.

### **Wildlife and Habitat Management Targets:**

**WH1** *Review the safeguarding guidance for developers available on our website annually, which specifically details safe methods of increasing local biodiversity within developments without compromising aerodrome safety.*

**WH2** *Provide a report to LBN annually summarising where LCY has requested amendments to local development proposals in order to manage the operational safety risk of birds.*

**WH3** *Inspect and maintain the artificial substrate mesh for aquatic colonisation and the provision of shelter for fish fry within KGV Dock, and record whether colonisation is progressing.*

**WH4** *Provide £10,000 a year to LBN for educational biodiversity and environmental programmes for the local community from 2023 onwards. Where LBN are unable to use the money within 6 months of it becoming available, transfer the money to the Community Trust Fund for use on projects relating to biodiversity in the next round of grant allocation.*

**WH5** *Fund other environmental and biodiversity projects with preference given to areas of nature deficiency from 2023 onwards. Subject to interest from schools and community groups, options could include (1) funding allotment boxes in SINCs; (2) enhancing biodiversity by installing bat boxes or hedgehog homes to protect the <sup>45</sup> key species; or (3) funding biodiversity related projects in schools. Such projects would be subject to a combined annual funding of £5,000 from 2023.*

## 6. Water Resources

6.1 Through development of this Sustainability and Biodiversity Strategy, two areas focus on water resources; these relate to the water consumption at the Airport and the management and quality of surface water discharges from airport land.

### Water Consumption

6.2 LCA currently monitors total water usage via metered information available from invoices on a quarterly basis. In 2015, approximately 6.2 litres of water on average were used per passenger. LCA is committed to continuously reducing this figure, as outlined in this Strategy, including throughout the CADP works.

6.3 LCA will continue to monitor water use at the Airport, and will implement further metering in areas of high usage, especially within the terminal. Through the phased development of CADP, additional water efficiency measures will be introduced to reduce water demand at source, including by the design and specification of water fixtures and fittings within the West Terminal Extension (WTE) and East Terminal Extension (ETE).

6.4 The Airport already employs a number of water efficiency features across the site. LCA set buildings standards for consultants, designers, contractors, tenants and concessionaires fitting out areas of the airport, detailing the minimum standards for components and finishes. Included in this are approved items of kitchen fittings and sanitary ware that minimise water usage through measures such as:

- Low water use soffits in taps;
- Sensor taps; and
- Low flow toilets.

6.5 These Building Standards will be reviewed prior to issuing to any new tenants to ensure the standards are up to date and utilise best practice.

6.6 LCA's low water consumption relative to passenger throughput is testament to the headway that has already been made in this area. It is unlikely that LCA will be able to significantly reduce water consumption further through efficiency measures applied to water appliances alone.

6.7 LCA will however continue to explore opportunities for substituting potable water with non-potable alternatives where appropriate. The storage of rainwater has proven difficult due to space constraints at LCA, however this will continue to be considered as different areas are developed through CADP.

### Water Quality

6.8 A number of activities at the Airport have the potential to affect water quality of neighbouring water bodies including the River Thames and the Royal Docks. Through utilisation of LCA's EMS (described in Section 2), the impact of such activities has been considerably reduced and effectively monitored.

6.9 The Airport is surrounded by Royal Docks: King George V, Royal Victoria Dock and Royal Albert Dock. Suitable infrastructure has been present for many years at the Airport to eliminate contamination into the docks which include:

- Effective site-wide drainage system with built-in oil separator interceptors coupled with annual pressure tests of underground storage tanks;
- Designated bunded area for fire training, including the provision of a separate foam drainage tank;
- Suitable storage tanks and units, bunding and drip trays to minimise the potential of fuel and chemical leaks;
- Comprehensive system of operational procedures to ensure that the risks of accidental spills and other contamination are minimised; and
- Dedicated spill response service to contain and clear any airside spills.

6.10 With the delivery of new airside and landside surface water drainage systems (SWDS) in conjunction with the build-out of the CADP infrastructure, further measures will be put in place to: attenuate run-off to the surface drainage system; divert clean rainwater for discharge back into KGV Dock and/or for recycling; and install new interceptors and other pollution abatement equipment.

#### **De-icing of surfaces and aircraft**

6.11 During colder periods, as with all major airports in the UK, LCA employ the use of de-icing agents. This is necessary for the safety of passengers and to enable operations in colder conditions.

6.12 To reduce the likelihood of such agents causing pollution, the following measures are in place:

- The use of environmental-friendly ground de-icing fluid (compared to others on the market);
- Secure containment of de-icing fluid whilst not in use;
- The use of a Glyvac (Glycol Vacuum) vehicle to clear up any excess de-icing fluid from the ground on stands after aircraft de-icing has been completed and the aircraft is taxiing off stand. This vehicle effectively 'sucks up' de-icing fluid immediately after application to prevent it from entering drainage or watercourse;
- Disposal of all de-icing and anti-freeze liquids at a dedicated off-site recycling facility by a licensed third party;
- All activities are in line with LCA's Surface Water discharge permit; and
- Fortnightly sampling at a drainage outfall by a United Kingdom Accreditation Service (UKAS) accredited laboratory during the winter season (1st October – 31st March each year).

6.13 LCA is continuously exploring opportunities to improve management of de-icing activities without affecting airport operations or compromising the safety of airport employees or passengers. Such improvements will be made based on the close monitoring of the volume of de-icing liquid used and the amount of de-icing fluid recovered with the use of the Glyvac.

#### **Flood Management**



6.14 The Environment Agency's indicative floodplain maps identifies that the Airport is located within Flood Zone 3 associated with tidal flooding from the River Thames. Based on the presence of the River Thames flood defences the risk of flooding associated with the Airport is a residual risk.

6.15 As set out in the Flood Risk Assessment (FRA) appended to the UES, LCA are implementing the following measures to mitigate this risk:

- Incorporation of flood resilient construction techniques at ground floor level, where possible; and
- Implementation of a Flood Management Plan and designation of a flood warning officer, to ensure occupants and staff follow appropriate controls in the event of a flood.

6.16 By completion of the CADP works a reduction of 63% of surface water run-off will have been achieved against the 2013 baseline by incorporating sustainable drainage systems into the design.

**Water Resources Targets:**

**W1** *Review of the Building Standards and contractual requirements for tenants and concessionaires in relation to water usage.*

**W2** *Operate within the conditions stipulated in LCA's water discharge permit with regards to BOD (biochemical oxygen demand) and evidence performance by the end of May each year.*

**W3** *Achieve a reduction in surface water run-off of at least 63% against the 2013 baseline (as assessed in the UES) by completion of the CADP works.*

# 7. Noise

7.1 LCA has some of the strictest noise controls of any airport in the UK. LCA's 2016 CADP1 planning permission which allows 111,000 flights per annum, requires a range of controls including:

- No flights permitted from 22.30 to 06:30 hours;
- Hourly cap on aircraft movements to 45;
- Number of early morning flights limited to 6 from 06.30 to 07.00 hours;
- Weekend closure from 12.30 hours on Saturday to 12.30 hours on Sunday;
- Standard noise abatement procedures in place such that aircraft must:
  - a. climb to at least 1,000ft before turning off track;
  - b. Aircraft to follow a descent path no less than prescribed by the Instrument Landing System;
- Aircraft approach on a glide slope of 5.5 degrees, rather than the usual 3 degrees;
- Fixed/defined noise contour area to limit noise impacts;
- Commitment to seek to reduce contour area over time;
- An aircraft noise categorisation scheme, including a quota count scheme;
- A noise and flight track monitoring system which operates continuously;
- A noise management scheme including NOMMS (Noise Monitoring and Mitigation Strategy), including an incentives and penalties scheme;
- A noise barrier running along the southern perimeter of the airside areas;
- A three tier Sound Insulation Scheme (SIS) for eligible buildings (further details below);
- A Purchase Scheme for eligible residential premises within the 69 dB LAeq,16h contour; and
- A Noise Insulation Payment Scheme to assist permitted developments not yet built.
- Additional ground noise control schemes, including:
  - Ground Engine Running Strategy;
  - Ground Running, Testing and Maintenance Strategy;
  - Auxiliary Power Unit Strategy;
- Construction Noise and Vibration Management and Mitigation Strategy (CNVMMS) to protect eligible dwellings prior to commencement of construction works, including an extensive noise monitoring and management scheme;

7.2 In addition, The Airspace & Environment Sub-Committee forms part of the LCACC whose aim is to achieve the agreed objectives established at the inaugural meeting in October 2016.

## **Sound Insulation Scheme**

7.3 LCA is required to mitigate the impact of environmental noise on eligible residential premises and public buildings as a result of Airport operations. The SIS offers the communities living close to the Airport within the scheme boundaries the opportunity to treat eligible homes and community buildings against noise. Over 3,000 properties have benefitted from the SIS to date. The scheme provides different levels of sound insulation depending on the noise levels to which they are exposed.

7.4 LCA operates a SIS comprising a three-tier system. Residential and public buildings become eligible under the SIS, subject to when they were built, when first exposed to air noise at the First Tier Eligibility criterion of 57 dB  $L_{Aeq,16h}$ . Additional mitigation is offered at air noise exposure levels of 63 and 66 dB  $L_{Aeq,16h}$ .

**Noise Targets:**

**N1** Continued operation of The Airspace & Environment Sub-Committee as part of the London City Airport Consultative Committee (LCACC) to achieve the agreed objectives established at the inaugural meeting in October 2016.

**N2** Maintain compliance with all noise mitigation measures as required under the CADP1 planning permission.

## 8. Local Air Quality

8.1 Aircraft, vehicles and traffic at and around airports produce a number of pollutants, particularly nitrogen dioxide (NO<sub>2</sub>) and fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>).

8.2 Since 2010 air quality monitoring has been 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. At the end of 2018 a further automatic monitoring station was installed at KGV House, measuring PM<sub>2.5</sub> and PM<sub>10</sub>. 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. There have been no recorded exceedances of the nitrogen dioxide, PM<sub>10</sub> or PM<sub>2.5</sub> standards at these automatic sites since monitoring commenced at the Airport. There were a number of recorded exceedances of the annual mean nitrogen dioxide objective at some of the diffusion tubes sites in 2011 and 2012; however none of these were at locations relevant to public exposure.

8.3 Air quality management and monitoring strategies are in place to minimise emissions from Airport-related sources including from:

- Aircraft operations;
- Ground-based aircraft support equipment (e.g. Mobile Ground Power Units);
- Airside vehicles;
- Taxis (black cabs); and
- Passenger and staff travel.

8.4 LCA will continue to manage its operations so as to minimise its adverse air quality impacts. An annual statement on progress and performance, will be included within the Annual Performance Report (APR).

# 9. Sustainable Construction

9.1 Construction projects at the Airport are all undertaken in compliance with LCA's EMS. Through this, LCA takes steps to minimise disturbance and environmental impacts associated with construction activity at the Airport, including noise, carbon, air quality, biodiversity, water, archaeology and land contamination. Environmental requirements are set out to contractors during the tender stage, and monitored throughout the duration of the works.

9.2 Construction Environmental Management Plans (CEMP) are required for all large projects. The purpose of the CEMP is to ensure that adverse effects of construction on the environment are kept to a minimum. Overall, it aims to mitigate nuisance to the public and to safeguard the environment. CEMPs are 'live' documents and may be revised from time to time in light of relevant legislation, discussions with the local planning authority and/or other affected parties.

9.3 LCA monitors compliance with the CEMP by ensuring that:

- The Contractors submit reports on the performance and other relevant matters sufficient to inform the appointed Project Manager regarding compliance with the CEMP;
- Arrangements for auditing are in place and are implemented;
- Accountability and responsibilities, throughout the contractor organisations, are clearly allocated and identified; and

9.4 Local community engagement is also important throughout construction activities in order to maintain transparency. A quarterly newsletter is therefore distributed to the immediate local area, detailing what is going on at the Airport.

## **Sustainable Construction Targets**

**SC1** Distribution of a Community leaflet detailing construction activity at least four times a year to the immediate local area.

# Annex 1 - Summary of actions under the Sustainability and Biodiversity Action Plan 2020-2023

Area	Target Number	Targets + Actions	Timeframe
Environmental Management System (EMS)	EMS1	Maintain LCA's current ISO14001:2015 certification	On-going (evidenced yearly)
	EMS2	Continue to develop an integrated management system, grouping together similar practices across the airport to achieve a consistent and coordinated approach.	End of 2023
Waste	WST1	Implement SWMPs and review prior to each phase of CADP.	Prior to each phase of CADP
	WST2	Reduce total waste kg per passenger by 10% from 2019 baseline by the end of December 2022.	End of December 2022
	WST3	Recycle 70% of total kg of waste by the end of December 2022.	End of December 2022
	WST4	Promote the furniture reuse scheme to third parties across the airport	End of April 2021
	WST5	Include waste management in the criteria for any new concessions, including how they will reduce waste and promote recycling, and integrate site-specific requirements into new contracts where practicable.	End of December 2021
	WST6	Carry out a feasibility study for the reduction of single-use plastic bags used by passengers during security checks	End of July 2021
	WST7	Carry out two employee and third-party engagement activities per year to promote reduction, reuse and recycling of waste.	On-going (evidenced yearly)

<b>Energy, Emissions and Climate Change</b>	<b>EC1</b>	Improve employee awareness on energy reduction through two campaigns and training sessions per year. This target is ongoing, with evidence on progress being provided yearly	On-going (evidenced yearly)
	<b>EC2</b>	Include energy minimisation in the criteria for any new concessions	End of December 2021
	<b>EC3</b>	50% reduction in kg of carbon per passenger by the end of December 2022 compared to 2019 baseline	End of December 2022
	<b>EC4</b>	Maintain Level 3+ Neutrality of the ACI Europe airport carbon accreditation scheme.	On-going (evidenced yearly)
	<b>EC5</b>	Report on LCY's progress in reducing scope 1 and 2 absolute emissions and provide an update annually on how LCA is intending to support the decarbonisation of the aviation industry to achieve net zero by 2050.	June 2021
<b>Wildlife and Habitat Management</b>	<b>WH1</b>	Review the safeguarding guidance for developers available on our website annually, which specifically details safe methods of increasing local biodiversity within developments without compromising aerodrome safety.	On-going (evidenced yearly)
	<b>WH2</b>	Provide a report to LBN annually summarising where LCY has requested amendments to local development proposals in order to manage the operational safety risk of birds.	End of December 2021
	<b>WH3</b>	Inspect and maintain the artificial substrate mesh for aquatic colonisation and the provision of shelter for fish fry within KGV Dock, and record whether colonisation is progressing.	End of December 2021
	<b>WH4</b>	Provide £10,000 a year to LBN for educational biodiversity and environmental programmes for the local community from 2023 onwards. Where LBN are unable to use the money within 6 months of it becoming available, transfer the money to the Community Trust Fund for use on projects relating to biodiversity in the next round of grant allocation.	2023

	<b>WH5</b>	Fund other environmental and biodiversity projects with preference given to areas of nature deficiency from 2023 onwards. Subject to interest from schools and community groups, options could include (1) funding allotment boxes in SINCs; (2) enhancing biodiversity by installing bat boxes or hedgehog homes to protect these key species; or (3) funding biodiversity related projects in schools. Such projects would be subject to a combined annual funding of £5,000 from 2023.	2023
<b>Water Resources</b>	<b>W1</b>	Review of the Building Standards and contractual requirements for any tenants and concessionaires in relation to water usage.	End of December 2021
	<b>W2</b>	Operate within the conditions stipulated in LCA's water discharge permit with regards to BOD (biochemical oxygen demand) and evidence performance by the end of May each year.	On-going (evidenced yearly)
	<b>W3</b>	Achieve a reduction in surface water run-off of at least 63% against the 2013 baseline (as assessed in the UES) by completion of the CADP works	By completion of the CADP works
<b>Noise</b>	<b>N1</b>	Continued operation of The Airspace & Environment Sub-Committee as part of the London City Airport Consultative Committee (LCACC) to achieve the agreed objectives established at the inaugural meeting in October 2016.	On-going until end of December 2023
	<b>N2</b>	Implement and maintain a Construction Noise and Vibration Management and Mitigation Strategy (CNVMMS) as required under the CADP planning permission at the commencement of the CADP works.	On-going
<b>Local Air quality</b>		Please see London City Airport's Air Quality Management Strategy 2020-2023	
<b>Sustainable Construction</b>	<b>SC1</b>	Distribution of a Community leaflet detailing construction activity at least four times a year to the immediate local area.	On-going



# Annex 2- Summary of actions completed under the Sustainability and Biodiversity Strategy 2017-2020

Sustainability and Biodiversity Objective		Indicative Timescale	Status update
EMS1	Integrate the Airport's accredited ISO 14001:2004 EMS into an ISO 9001:2015 quality management system which includes Health and Safety and Airfield Operational aspects by the end of 2019.	End of 2019	A Quality Manager has been appointed and the management system has been developed.
EMS2	Update the Airport's current ISO14001 certification to be one of the first UK airports to hold ISO14001:2015 by the end of 2018.	End of 2018	Complete – updated accreditation received Sep 18.
WST1	Implement a site waste management plan and review prior to each phase of CADP.	Prior to each phase of CADP	In place with each contractor prior to works commencing.
WST2	Reduce total waste kg per passenger by 10% (0.05 kg per passenger) from 2013 baseline by the end of December 2018.	End of December 2018	Complete - 0.36 kg per pax in 2013, 0.26kg per pax in 2018 (27% reduction).
WST3	Recycle 70% of total kg of waste by the end of December 2018.	End of December 2018	62% in December 2019. This is not in LCA's direct control, however further measures are in place to increase this rate during 2020.
WST4	Conduct a feasibility study into using sustainable methods for disposing of food waste including biofuel conversion and anaerobic digestion	End of April 2017	Complete and implemented in 2018.
WST5	To create and implement a furnishing recycling programme to help local charities and reduce office waste	End of July 2017	This has been set up with Reyooz, and has been communicated internally.
EC1	Improve employee awareness on energy reduction through two campaigns and training sessions per year.	Ongoing (evidenced yearly)	An article on energy awareness was published in the summer 2019 edition (now called Inside E16) as part of a sustainability double-page. Staff were also engaged in the Carbon Neutrality announcement in December 2019.
EC2	20% reduction in kg of carbon per passenger by the end of December 2020 compared to 2013 baseline.	End of December 2020	Exceeding the target with 50% reduction achieved in 2018 (2019 data not yet ratified).
EC3	Implementation of a concession energy efficiency and low carbon fit out guide including policy by the end of December 2018.	End of December 2018	Shared with LBN Dec 2018
EC4	Installation of low energy LED runway lighting	End of January 2017	Completed

EC5	Achieve and maintain Level 3+ Neutrality ACI Europe carbon accreditation or equivalent by the end of January 2020.	End of January 2020	Achieved in December 2019
WH1	Implement a state of the art bird deterrent scheme, a quiet and less intrusive method of bird management at the airport	End of December 2017	A laser deterrent scheme has been installed, with pyrotechnics used only in exceptional circumstances.
WH2	Investigate, produce and make publicly available safeguarding guidance for developers, which specifically details safe methods of increasing local biodiversity within developments without compromising aerodrome safety	End of December 2017	Complete and visible on the website.
WH3	Provision of artificial substrate mesh for aquatic colonization and the provision of shelter for fish fry within KGV Dock	Mid 2017	An artificial fish refuge has been installed.
WH4	Continue providing £10,000 per year until 2018 to East Ham Nature Reserve to deliver an educational biodiversity and environmental programme for the local community.	Until 2018	Available and offered throughout 2018 and 2019, however due to a change of management for the nature reserve the programme could not be delivered. Discussions are ongoing to ensure this fund is spend appropriately and the 2018 fund remains available.
WH5	Fund other environmental and biodiversity projects with preference given to areas of nature deficiency. Subject to interest from schools and community groups, options could include (1) funding allotment boxes in SINC; (2) enhancing biodiversity by installing bat boxes or hedgehog homes to protect these key species; or (3) funding biodiversity related projects in schools. Such projects would be subject to a combined annual funding of £5,000 pro-rata from the commencement of CADP until January 2020, or a sum to be agreed between Newham and LCA.	Annually until end of January 2020	Funds were distributed to sponsor biodiversity events in the Royal Docks, including: <ul style="list-style-type: none"> <li>● St John's Green – Sow &amp; Grow Events</li> <li>● Royal Docks Spring Festival</li> <li>● Britannia Village Green Spring Festival</li> <li>● Silvertown Sow &amp; Grow Garden Launch</li> <li>● Earth Day Biodiversity Celebration</li> <li>● Oasis Community Engagement Day</li> <li>● Summer Bug Hunt &amp; Picnics</li> <li>● SAS (Surfers against sewage) clean up events</li> </ul>
W1	Reduction in litres of water use per passenger by 10% (against 2015 baseline) by the end of January 2020.	End of January 2020	
W2	Upgrade and increase the number of meters (from the existing 12) to effectively monitor areas of high water usage	End for December 2017	Survey completed to identify the high areas of use. Additional meters installed at

			CADP sites and will be installed as new concession spaces open.
W3	Operate within the conditions stipulated in LCA's water discharge permit with regards to BOD (biochemical oxygen demand) and evidence performance.	End of May each year	No breaches were detected throughout 2019. The permit is currently being amended to reflect operational changes as part of CADP.
W4	Achieve a reduction in surface water run-off of at least 63% against the 2013 baseline (as assessed in the UES) in accordance with the CADP Surface Water Drainage Strategy (SWDS) by completion of the CADP works.	By completion of the CADP works	CADP works have not yet been completed. However this has been integrated into the design and delivery is on track.
W5	Create and implement a Flood Management Plan for the Airport in accordance with Environment Agency guidance	End of December 2017	Completed, and a copy shared with LBN.
N1	Continued operation of The Airspace & Environment Sub-Committee as part of the LCACC to achieve the agreed objectives established at the inaugural meeting in October 2016 until end of December 2020.	On-going until end of December 2020	In place and ongoing
N2	Continue installation of sound insulation measures to high density tower blocks located in Tower Hamlets as part of the airport Sound Insulation Scheme (SIS)	End of August 2017	Completed August 2018 (although additional properties that came forward late have been treated since)
N3	Implement and maintain a Construction Noise and Vibration Management and Mitigation Strategy (CNVMMS) as required under the CADP planning permission at the commencement of the CADP works.	Ongoing, beginning at the commencement of the CADP works	Implementation of the construction Noise and Vibration Management and Mitigation Strategy (CNVMMS) is ongoing following the commencement of CADP. Noise and vibration monitoring also is being undertaken independently by noise consultants.
SC1	Distribution of a Community leaflet detailing construction activity at least four times a year to the immediate local area for the duration of the CADP works.	On-going throughout the CADP works	Ongoing and issued quarterly throughout 2019.

