

YOUR PARK, OUR PLANET



LONDON
LEGACY
DEVELOPMENT
CORPORATION

London Legacy
Development Corporation

Environmental Sustainability Report 2016/17

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ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES

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PARTNERS



ENERGY



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LIFESTYLES



INTRODUCTORY STATEMENT

Welcome to our 2016-2017 Environmental Sustainability Report for Queen Elizabeth Olympic Park.

As we prepare to hand over the baton for the Summer Olympics in Rio de Janeiro we continue to observe important environmental issues being highlighted of local and international significance. In London, there is a growing public awareness of the health hazards associated with air pollution which is significant for all cities across Great Britain, whilst the call for Clean Air Zones in all major UK cities, and continued encouragement in walking and cycling echoes our lifestyle ambitions and direction for electric vehicle infrastructure in new development.

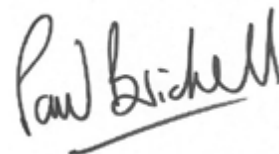
London Legacy Development Corporation (LLDC) continues to demonstrate its commitment and to make significant progress towards climate change mitigation and adaptation, demonstrated in our inclusion of 25 Zero Carbon Homes in the new Chobham Manor development and the extension of our district heating network to developments in the Hackney Wick Masterplan area.

As the communities in and around the Park are central to all we do, our ambitions to help address issues of fuel poverty are being explored through collaborations with businesses and researchers to help ensure the high levels of design in our developments are matched with regards to ongoing monitoring and improvement in the energy performance of residents' homes.

Internally, our ambitions for environmental sustainability match our ambitions for environmental sustainability across

the Park. Of particular note has been the establishment of baseline corporate greenhouse gas emissions which will help us to plan for future corporate environmental performance. We recognise responsible procurement as a valuable approach to achieving improved corporate and environmental performance, and acknowledge the opportunity such policies have in terms of demonstrating good practice to the public and suppliers who work with us. This priority is reflected in our contribution to and planned adoption of the newly updated GLA responsible procurement policy which will be integrated into all new tenders and contracts signed by LLDC later this year.

Through these initiatives we demonstrate our commitment to implementing environmental sustainability initiatives in all our work across the park, encouraging and supporting others in identifying and implementing solutions that will help tackle many of the environmental challenges we face today.



**Paul Brickell - Executive Director of Regeneration and
Community Partnerships**

INTRODUCTION



Welcome to the fourth Environmental Sustainability Report (ESR) for the London Legacy Development Corporation (LLDC) covering the third full year of the Park's opening.

This report presents progress made in our seven key environmental themes, during the period April 2016 to March 2017, as set out in our Sustainability Guide to Queen Elizabeth Olympic Park 2030.

The Mayor of London, local communities and businesses remain central to the sustainable transformation of Queen Elizabeth Olympic Park and its venues, and this reporting period reflects our continued commitment to partnership, collaboration and progress towards our sustainable development goals.

WHO WE ARE

The London Legacy Development Corporation is a Mayoral Development Corporation, formed in April 2012 to use the opportunity of the London 2012 Games and the creation of Queen Elizabeth Olympic Park to change the lives of people in East London and drive growth and investment in London and the United Kingdom by developing an inspiring and innovative place where people want – and can afford – to live, work and visit.

We achieve our objectives by fulfilling a range of different roles and responsibilities that extend beyond the boundaries of the park itself. We are a:

- Regeneration agency
- Land owner and developer, using some of our land to build new neighbourhoods

- Estate manager, overseeing the maintenance of the parklands and former Olympic venues
- Events host – we provide a platform for a range of events from international sporting and music events to local community events
- Local Planning Authority – publishing our own local plan (that sets out the policies and principles that developers must follow when building within this area) and making planning decisions within our boundary
- Employer of over 100 members of staff



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES

OUR SUSTAINABILITY FRAMEWORK

Our environmental sustainability commitments are divided across seven key themes. These were set out in 'Your Sustainability Guide to Queen Elizabeth Olympic Park 2030' which was published in 2012.



ENERGY

Zero carbon homes and a reduction in carbon emissions across all our areas of work.



WATER

Reduce water demand, tackle local flooding, and reduce water course pollution.



WASTE

Zero waste direct to landfill through minimising waste production and increasing reuse.



MATERIALS

Use locally sourced, low environmental impact, and socially responsible materials.



BIODIVERSITY

Provide a variety of usable open spaces that promote and protect biodiverse habitat and wildlife.



TRANSPORT

Create well connected places that facilitate the use of sustainable modes of transport to and across Queen Elizabeth Olympic Park.



LIFESTYLES

Inspire healthy, inclusive, and sustainable lifestyles.

Progress against these themes extends across four key areas of our work

NEW CONSTRUCTION

These targets apply to all new buildings we have or will design or develop following the Olympic and Paralympic Games as part of the Legacy Communities Scheme.

VENUES & PARKLANDS

These targets apply to the maintenance and operation of the Park, along with the venues for which we are responsible.

EVENTS

These targets apply to events that take place across the parklands and in the venues of which the LLDC maintains ownership.

CORPORATE

This covers the performance of our office and activities of our staff.

HIGHLIGHTS

OVER THE YEAR

2016/17



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES



May 2016

2016 European Aquatics Championships.

LLDC's Local Plan 2015-2031 wins the Excellence in Plan Making Practice category in the Royal Town Planning Institute's (RTPI) Awards for Planning Excellence 2016.



June 2016

The Arcelormittal Orbit opens.

London 2017 organising committee launch volunteering programme for 4,000 volunteers for the World Para Athletics Championship and IAAF World Championships.

July 2016

Shell Eco Marathon Europe.

September 2016

Mossbourne Riverside Academy Primary School opened.

Harvest Stomp Community Food Festival.



HIGHLIGHTS

OVER THE YEAR

2016/17



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES



October 2016

Climathon – Sustainable Mobility Hackathon.

Four Nations rugby tournament at the London Stadium.

November 2016

Smart home heating controls implemented in East Village, enabling occupants to have better and more informed control of their heating.

January 2017

Planning permission granted for the first phase of East Wick & Sweetwater, comprising two new neighbourhoods within the Park.

March 2017

The Arcelormittal Orbit and London Stadium ready to take part in **Earth Hour**.

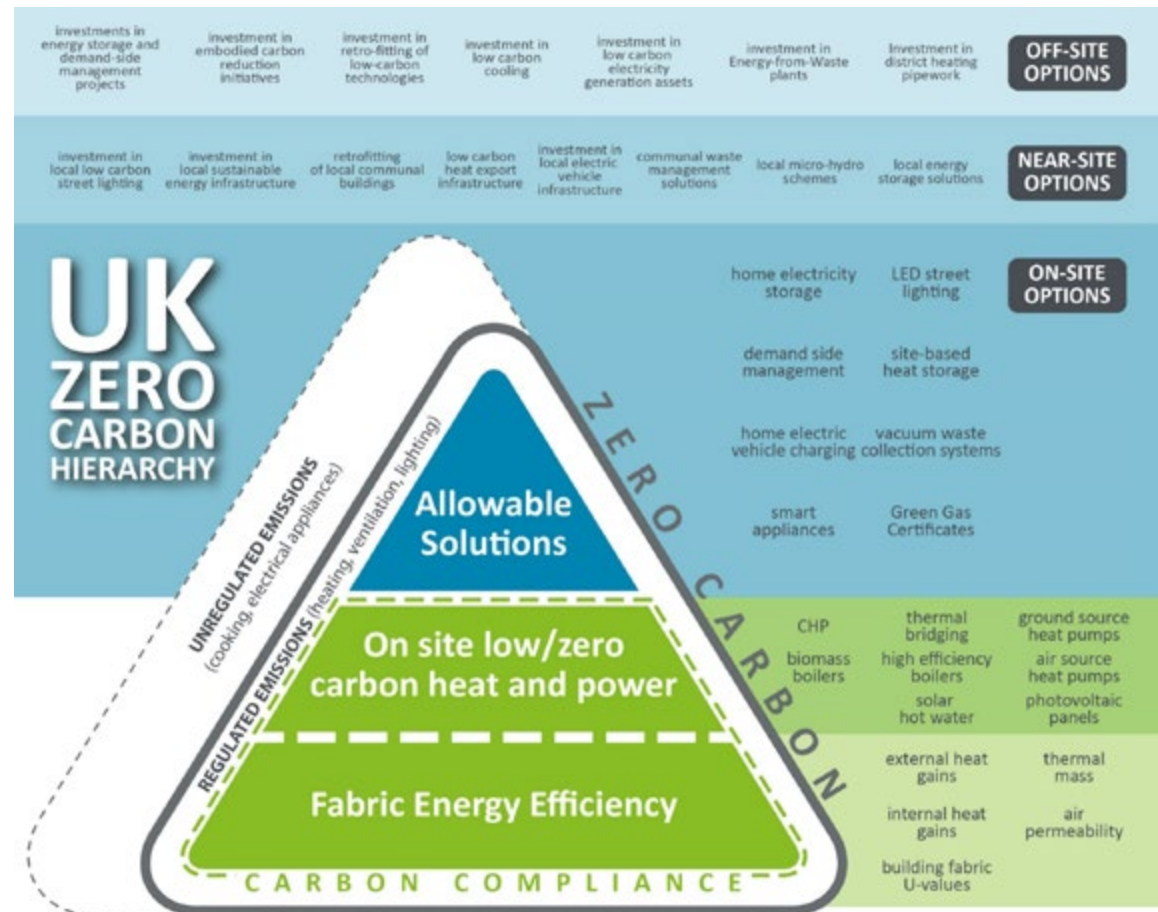


ENERGY

Our ambitions to achieve high levels of energy performance at the Park continues with our planning of the next phases of development for Eastwick and Sweetwater, where challenging targets have been set for energy and environmental performance. In addition to paying attention to future developments, we also monitor and review energy performance of completed developments, considering opportunities to further improve performance and comfort for existing residents.

KEY ACHIEVEMENTS

- East Wick and Sweetwater properties designed to meet LLDC zero carbon homes requirements
- East Wick and Sweetwater Phase 1 design showed a 60% reduction against Building Regulations 2013
- Carbon Offset Supplementary Planning Guidance has been written to encourage allowable solutions in surrounding communities
- Smart home heating controls have been tested and implemented in East Village, enabling occupants to have better and more informed control of their heating
- Chobham Manor Homes – 259 built and 859 planned – of which 25 units are 100% Zero Carbon homes



Zero Carbon Hierarchy

ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES

CASE STUDY

TACKLING RETURN TEMPERATURE CONTROL AND PEAK DEMAND CHALLENGES AT EAST VILLAGE

During this reporting period, we undertook monitoring of the existing heating controls to the original underfloor heating control panels and hot water control system at East Village, which is connected to our modern district heating network operated by Engie®.

PassivSystems' monitoring devices were installed in approximately 20 flats from November 2016 to January 2017 with the aim of understanding the performance of the current heating and hot water systems.

The monitoring data captured allowed us to carry out an analysis of patterns of room temperature and space heating, providing more detailed insight into the operation of the space heating and hot water production systems relative to pipe temperature sensor data.

Following the initial analysis, early statistics on power consumption profiles and average return temperatures in the district heating network were integrated with comfort and consumption data captured during interviews with residents in their homes. The interviews were carried out with 23 properties, and attended by researchers at Imperial College London and University College London, who conducted face-to-face, semi-structured interviews with one tenant in each property.

Improved heating controls were then installed at the sample properties.

After a period of a minimum of 2 weeks following installation of improved heating controls, 10 tenants were re-interviewed. The purpose of the interviews was to assess whether the upgrade to smart heating controls influenced tenant's use and experience of their heating system.

The technical monitoring of the system allowed us to identify opportunities for improvements in the network performance, and opportunities to manage the optimisation of flow rates to help improve heat exchange efficiencies, which also aided understanding of how different strategies (shifting of heats loads, improved heating control and temperature changes) would affect the systems performance as well as the wellbeing of the residents.



East Village, the former Athletes' Village.



WATER

Water management and conservation commitments at Queen Elizabeth Olympic Park have resulted in the exploration and implementation of innovative and unique water management systems and approaches.



ENERGY



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES

KEY ACHIEVEMENTS

- Grey water recycling incorporated into Chobham Manor homes scheme design
- Aquatics Centre has further reduced potable water usage by 11.2%
- Copper Box Arena further reduced potable water usage by 17.5%
- 56,103 m³ of greywater used in Parklands, irrigated through the non-potable water network
- A joint Canal River Trust/LLDC Olympic Legacy Waterways Framework launched, outlining future commercial and leisure activation projects for the Park waterways
- Sustainability Events Guide produced to encourage the reduction of bottled water

CASE STUDY

NON-POTABLE WATER USE VIA OLD FORD WATER RECYCLING PLANT

The Olympic Delivery Authority's (ODA) commitment to providing a sustainable legacy for the 2012 London Olympic and Paralympic Games included working with Thames Water to establish a 7-year research and development project (ending in 2019) centred around the provision of non-potable water to Queen Elizabeth Olympic Park from the Old Ford Water Recycling Plant (Old Ford). Old Ford reclaims waste effluent from the Northern Outfall Sewer, and processes it to improve it to a very high standard which is close to that of potable (drinking) water standard, and supplies non-potable water through a dedicated network to serve a range of current uses including:

- Copper Box Arena WC flushing
- Velodrome WC flushing
- Parklands and Public Realm irrigation
- Eton Manor WC flushing and irrigation



Old Ford Water Recycling Plant.

- Here East WC flushing
- Energy Centre cooling water demand
- London Aquatics Centre WC flushing
- East Village irrigation and pond top-up



WATER



ENERGY



WASTE



MATERIALS



BIODIVERSITY



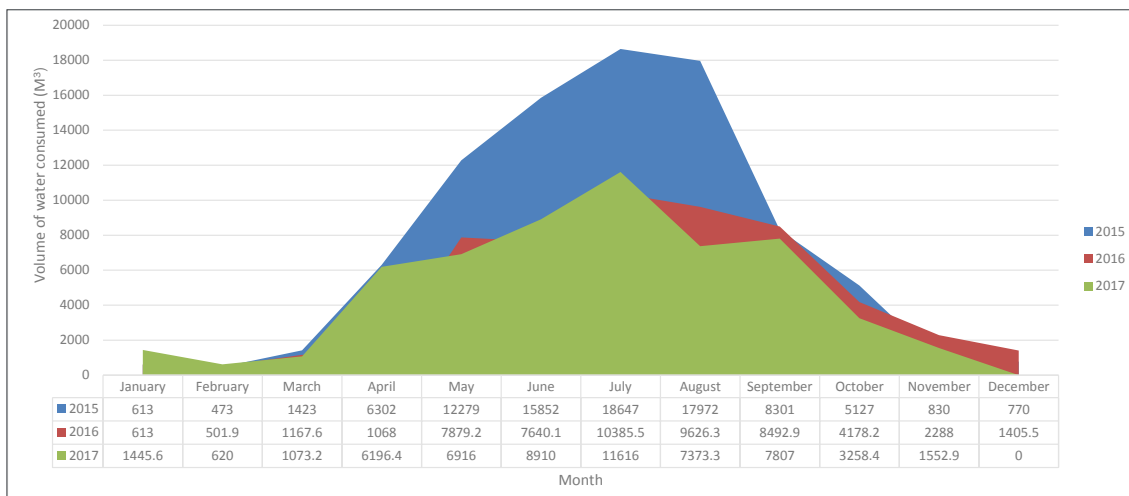
TRANSPORT



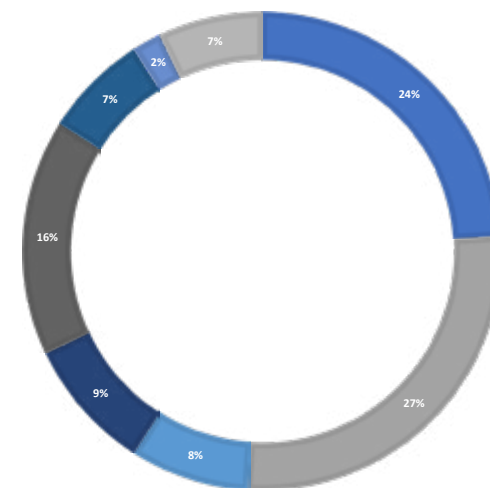
LIFESTYLES

The substitution of non-potable water for common water usage activities has helped to achieve significant reductions in potable water use on the Park and has provided additional drought resilience for the parklands in times of water stress. Capacity modelling of the water recycling plant to date has demonstrated that Old Ford could comfortably serve toilet flushing in the new mixed use (residential and commercial) developments that the LLDC will be bringing forward over the next few years, playing a key role in reducing demand on diminishing potable water supply and contributing to urban climate change resilience. This year, Old Ford brought the following benefits:

- London Aquatics Centre has further reduced potable water usage by 11.2%
- Copper Box Arena further reduced potable water usage by 17.5%
- 56,103 m³ of greywater used in Parklands, irrigated through the non-potable water network



Non potable water supply across the park 2015-2017.



- 24% Aquatic Centre
- 27% Energy Centre
- 8% Copperbox Arena
- 9% London Stadium
- 10% Eton Manor
- 7% Parklands
- 2% Velodrome
- 7% Here East

Breakdown of the water footprint of the Park based on assumptions in venue planning submissions



WASTE

LLDC has ambitious targets to divert 100% waste from landfill by 2025. To achieve this ambition, we have set targets for construction and demolition parkwide, and our own office space has specific targets which are monitored and reported on throughout the year.



ENERGY



WATER



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES

KEY ACHIEVEMENTS

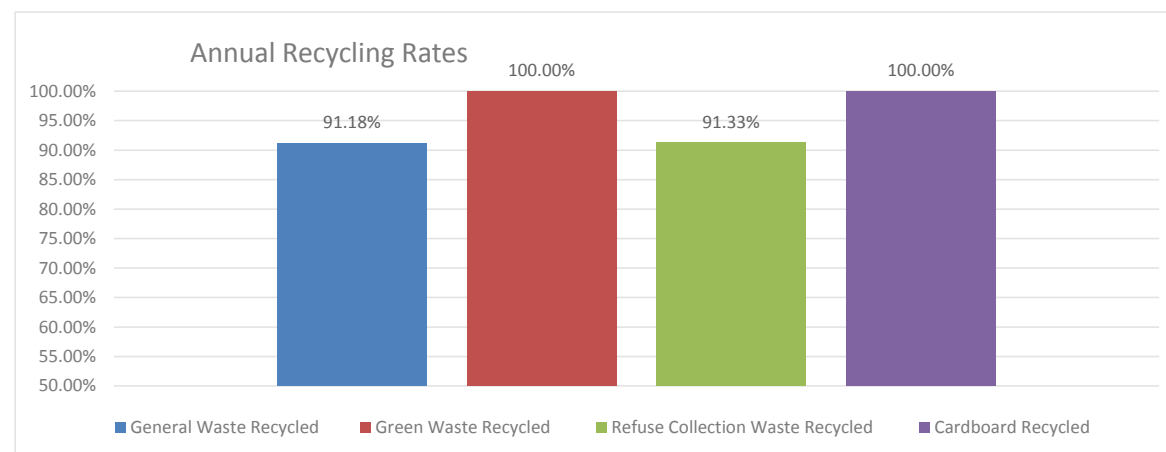
- 3% construction waste sent to landfill
- 100% green waste recycled from park operations
- 94% general waste recycled
- Construction partners provide toolbox talks on site including training workers in waste management

CASE STUDY

ACHIEVING 100% DIVERSION OF WASTE FROM LANDFILL

In a bid to ensure that recycling rates are as high as possible, Westfield and 1 Stratford Place have been declared a 'Black Bag Free Site' so all traditional black bin liners are banned from the site. As a result, all waste is disposed of in white or clear plastic bags, and a distinct guideline and disposal system has been put in place to ensure resources are captured efficiently and effectively.

This includes a clearly labelled system for capturing cardboard, plastic with separate collection streams for clear soft colourless plastic such as shrink wrap, bubble wrap, plastic film and packaging, and hard plastics such as clothes hangers, food trays, milk, soft drinks and water bottles in Dry Mixed Recycling (DMR).



Annual waste figures from April 2016 to March 2017 for waste collected by Marshgate Lane refuse recovery vehicles.



WASTE



ENERGY



WATER



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES

Glass, green food waste and food disposed of in its packaging has its packaging removed by machinery at an Anaerobic Digestion (AD) site. All food that is free from contamination is reserved to be sent directly to an anaerobic digester.

Glass, paper, magazines and newspapers; plastic bottles and cups, packaging such as plastic yogurt pots and food trays are collected in a separate bin and later sorted by hand to ensure that segregation is near 100%.

Following initial sorting, relevant waste streams (general, Dry Mixed Recycling and food), are then compacted for eventual transfer to waste facilities off site.

All general waste is incinerated at a Refuse Derived Fuel (RDF) plant to generate energy.

Dry Mixed Recycling is sent to a Materials Recovery Facility for maximum waste stream segregation to achieve 100% 'Zero Waste to Landfill.' Residual waste from this process is sent to an energy recovery from waste facility.

Soft clear cellophane quality plastic waste goes through initial hand sorting on site before leaving the site.

THE RESULTS

- 100% waste at 1 Stratford Placed diverted from landfill



Plastic waste collection point at the Park.



MATERIALS

LLDC encourages the use of responsibly sourced materials across all areas of our business, which extends to new tender contracts, construction materials and food packaging, helping us to achieve our ambitions to reduce the energy and environmental impact of material use at Queen Elizabeth Olympic Park.



ENERGY



WATER



WASTE



BIODIVERSITY



TRANSPORT



LIFESTYLES

KEY ACHIEVEMENTS

- 57% recycled content of aggregate used in new construction
- No hydrofluorocarbons (a greenhouse gas) used in construction
- 100% of timber and timber products from legal and sustainable sources
- Vegware and compostable packaging used for all food and hot/cold drinks at Timber Lodge
- Contribution to the newly updated GLA responsible procurement policy to be integrated into all new tenders and contracts signed by LLDC

CASE STUDY

SUSTAINABLE CATERING AT TIMBER LODGE

Unity Kitchen

Social enterprise Unity Kitchen takes commitment to sustainable business seriously, taking ethical purchasing beyond food and drink.

Disposable food packaging at Unity Kitchen is 100% compostable. Kitchen and cafe interior fit-outs use natural materials wherever possible and all marketing materials are printed on paper sourced from sustainable forests. To further incorporate sustainability into their enterprise model, Unity Kitchen offer different portion sizes for different appetites which results in less food waste, and promise to practice reducing, reusing and recycling at all their branches, including making compost from surplus food.



Timber Lodge employee.





MATERIALS



ENERGY



WATER



WASTE



BIODIVERSITY



TRANSPORT



LIFESTYLES

Packaging made from 100% plant material

Unity Kitchen use Vegware food packaging products, the UK's first and only completely compostable food packaging firm which helps to divert waste from landfill and reduce the carbon footprint from their operations.

Unity Kitchen cafes use low-carbon Vegware cups, sandwich wedges, bags, take away boxes and natural starch cutlery, all made from 100% plant material which is certified compostable and can be organically recycled together with food waste. In addition, the products are made only from annually renewable or recycled materials, making them better for the environment from the start.

Takeaway boxes used at Unity Kitchen are made of bagasse, the fibrous by-product coming from the pressing of sugar cane, and disposable cutlery is made of a mix of corn-starch and chalk which can withstand temperatures of up to 85°C.

Unity Kitchen's commitment to sustainable and ethical catering is reflected in their membership of the Sustainable Restaurant Association and Ethical Eats.



Timber Lodge café.



BIODIVERSITY

LLDC continues to protect and enhance the natural habitats throughout the Park, supporting the creation and maintenance of a diverse range of high quality biodiversity and wildlife habitats. We remain committed to providing a variety of safe, open spaces for Park users to enjoy as well as intimate spaces for exploring the Park's wildlife.

KEY ACHIEVEMENTS

- Park maintains Green Flag status for the second consecutive year
- A biodiversity trail is introduced to help Park visitors identify and understand the wildlife biodiversity on the Park

CASE STUDY

BIODIVERSITY ACTION PLAN AND ANNUAL MONITORING REPORT

Each year LLDC monitors and reports on the progress made against our Biodiversity Action Plan targets and summarise the results of all ecological survey work carried out on the Park in our Annual Monitoring Report.

The Annual Monitoring Report summarises the progress made towards the aims and objectives of the Biodiversity Action Plan and presents the results of all ecological survey work carried out on the Park in the monitoring year. The programme of annual monitoring enables results to be compared year-on-year and allows for any trends to be identified, meaning that management and mitigation actions can be targeted as appropriate. A sensitive approach to the Park's wildlife and habitats is required in order to successfully deliver the Biodiversity Action Plan targets and to achieve Site of Metropolitan Importance Nature Conservation status. The Biodiversity Action Plan provides a clear framework that highlights the importance of incorporating biodiversity into the day-to-day management and maintenance operations on the Park, and compliments all other management documents for the Park, most notably the Park Management Plan.



Blue Tit, confirmed breeding at the Park.



ENERGY



WATER



WASTE



MATERIALS



TRANSPORT



LIFESTYLES



BIODIVERSITY



ENERGY



WATER



WASTE



MATERIALS



TRANSPORT



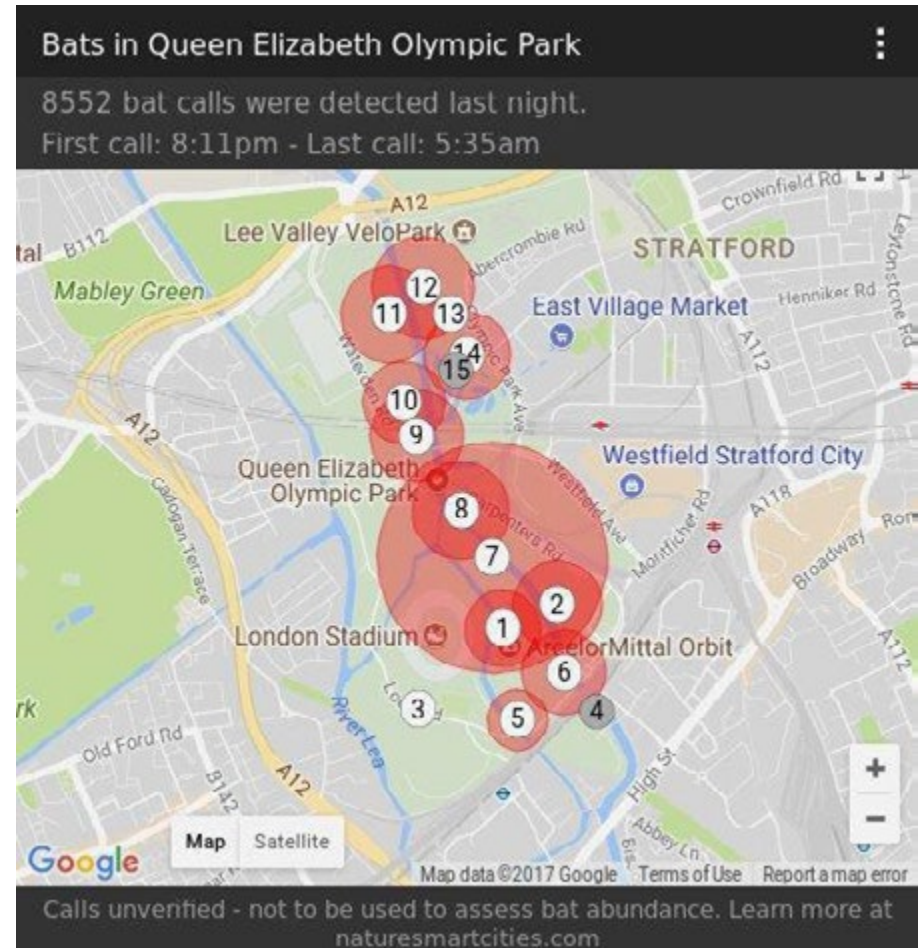
LIFESTYLES

The results of the first five years of annual monitoring will form an evidence base that will be used to develop a series of 'SMART' targets for the 2019 - 2024 Biodiversity Action Plan. A key objective of the Biodiversity Action Plan is to establish a Park-wide quantum of 49.1 hectares of Biodiversity Action Plan habitat that meets the criteria for designation as a Site of Importance for Nature Conservation by 2024.

THE RESULTS

The biodiversity monitoring programme is now 3 years post-baseline (2014). Through The Nature Smart Cities Project, five species of bat were detected on the site this year, including Nathusius' pipistrelle (*Pipistrellus nathusii*). In total, 62 species of bird were observed on the Park in 2016, the highest number since 2009, including kestrels. Particularly worthy of mention are the numerous records of black redstart around our Park HQ. This rare red-listed bird has adapted to life in urban environments, with estimates suggesting that there are fewer than 100 breeding pairs in the UK. Thirty-three bird species were confirmed or thought likely to be breeding on the Park this year, an increase on the twenty documented in the previous monitoring year.

Eight nationally scarce invertebrates were found on the Park in 2016 including the small leaf beetle *Longitarsus aeneicollis*.



Bat activity captured by detectors at the Park. The Nature Smart Cities Project.



TRANSPORT

LLDC continues to implement and plan infrastructure and social interventions that will help reduce the need for visitors and local people to use cars and public transport to move around the park and the surrounding areas.



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



LIFESTYLES

KEY ACHIEVEMENTS

- East Wick and Sweetwater – Phase 1 has included provision for Electric Vehicle charging parking spaces. Phase 1 will provide 20% of parking spaces with Electric Vehicle charging
- LLDC took part in the 2016 cycle challenge, encouraging staff to cycle to work



CASE STUDY LEA RIVER PARK

Two millennia of land use created a remarkable valley, but also a landscape which was hard to navigate, monofunctional and inaccessible to the public.

In a dramatic transformation, Park space is being created from early pieces of infrastructure, converting what is currently land used for gas storage, sewage pumping and transport infrastructure into the diverse Park spaces of the Lea River Park, turning what is an industrial backwater into the foreground of a new public space which people can access, use and enjoy. The 'Leaway' is the first stage – a linear park connecting disparate landscape areas and combining existing routes and left-over land. The landscape strategy for the park aims to:

- Emphasise the extraordinary landscape narratives that have shaped the valley.
- Respond to and enhance landscapes that already exist in the valley.
- Create new landscapes that help uncover the overlaid uses that have shaped the landscape.
- Create 'edible landscapes' referencing the valley's role in provisioning London.
- Use tree planting to create urban connections leading into the park, and to mark the course of the river.

The Lea River Park connects Queen Elizabeth Olympic Park to the Royal Docks and the River Thames with new continuous public parklands – completing a 26-mile long Lee Valley Regional Park. The strategic initial phase of this vision is the delivery of a linear park named The Leaway which provides a continuous walking and cycling route along the River Lea.



TRANSPORT



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY

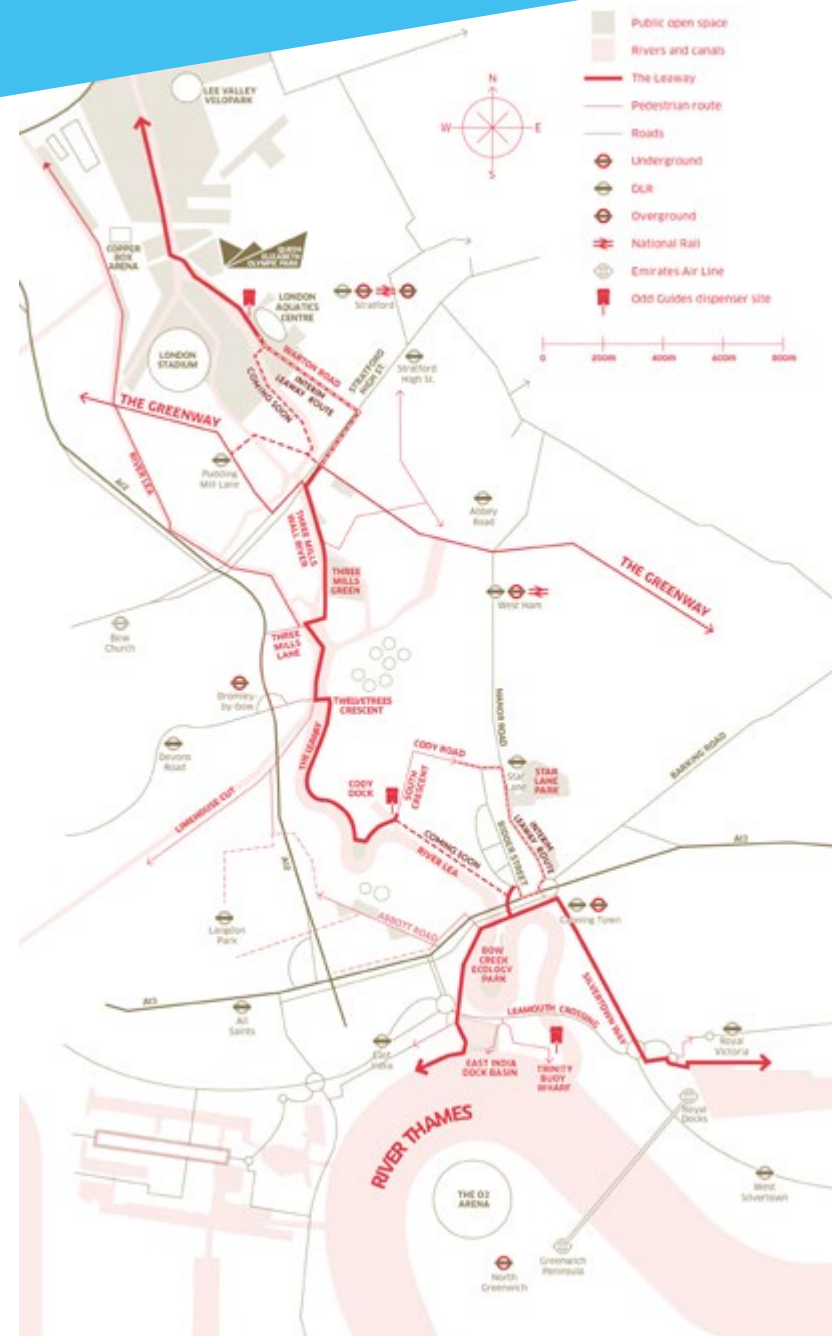


LIFESTYLES

The Leaway will provide 1.4 hectares of new and improved public open space of strategic importance: in tackling the most challenging physical severances to fulfil a key enabling role. The Leaway will be instrumental in creating and assembling 235 hectares of new and improved public open space within the Lower Lea Valley.

The project has been recognised through initiatives such as the Mayor of London's Great Spaces and the Big Green Fund, demonstrating the project's significance in supporting valley regeneration and addressing the east London context of deficiency of access to open spaces, realising the long-imagined connection between the Lee Valley Regional Park and the River Thames.

The Leaway is being delivered by the LLDC, the London Boroughs of Newham and Tower Hamlets and Transport for London, Poplar HARCA, and Gasworks Dock Partnership.



Map of The Leaway walking route.



LIFESTYLES

Health, wellbeing and lifestyles remains a key theme at Queen

Elizabeth Olympic Park, as our events and activities continue to encompass internal staff wellbeing, participation in park activities, and lifestyles and behaviour for park residents and visitors, through hosting thousands of events and including venue managers and caterers in incorporating health and wellbeing in their business activities.



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT

KEY ACHIEVEMENTS

- First residents move in to Chobham Manor
- Free Wi-Fi is now provided across the Park
- LLDC conduct research with East Village and Imperial College London on how to maximise the positive impact of smart meters on home energy usage
- Over 32,000 participants took part in over 4,000 Active People Active Park activities
- Park caterers sign up to and implement the Mayor's Food Legacy Pledge
- All LLDC new starters are now introduced to the LLDC Environmental Sustainability Policy as part of their staff induction

CASE STUDY

FIRST SCHOOL OPENS AT QUEEN ELIZABETH OLYMPIC PARK

In September 2016, Mossbourne Riverside Academy opened as the first new and permanent school at Queen Elizabeth Olympic Park. Located in Hackney and part of the Mossbourne Federation, the school provides education for Early Years Foundation Stage and Key Stage 1 – and will later provide education for all primary school age year groups.

The school will become the heart of the new residential community, forming part of East Wick, one of five new communities on the Park, neighbouring Here East, a new hub for creative media and technology industries. Mossbourne Academy will form part of a neighbourhood of up to 870 homes with a mix of housing types, including family housing and private rented housing, framing the western edge of the parklands. Residents will benefit from a primary school that overlooks the tranquillity of the Canal Park, but will also be neighbour to the vibrant businesses and community spaces lining the route into the Park from Hackney Wick.

The school presents another landmark achievement for LLDC on the development of the park as the first school to be built on the park and will include world class facilities, creating an exciting place to learn, offering an exceptional learning experience for children, and will compliment Mossbourne Federation, as Mossbourne Riverside Academy is founded on the same principals of educational excellence as its partner Academies in Hackney, where pupils excel academically, in the arts, and in sporting fields.



Mossbourne Riverside Academy School.

LOOK AHEAD

PEDESTRIAN SUBWAY TO BE INSTALLED UNDER RAILWAY LINE AT HACKNEY WICK

Passengers will be able to get to their trains quickly and easily when the new station is completed next year, following the installation of a pedestrian subway.

The subway is part of a £25 million scheme to transform Hackney Wick station and deliver major improvements for Londoners and businesses in the surrounding area. It will provide access at ground level, north to south, beneath the existing railway line, and replace the footbridge which was taken out in early February this year. Network Rail is delivering the project as part of its Railway Upgrade Plan, on behalf of London Legacy Development Corporation, which is funding the scheme.

In the coming months, work will take place to install an illuminated glass wall through the subway to separate paying customers using the station and those who want to use it to walk through. The design of the subway draws on the area's industrial heritage and waterways and the wall has been designed to look like light reflecting off water.

A new entrance and ticket hall is also being built at ground floor level along with new stairs and two new lifts which will significantly improve access to the revamped station for local people and commuters when work is completed in early 2018.



AUTONOMOUS SHUTTLE BUS TRIALS – VISITORS TO THE PARK WILL BE ABLE TO TAKE PART IN A SELF-DRIVING VEHICLE TRIAL

During 19 days throughout September, visitors can test out an innovative new way to explore the Park – on an autonomous shuttle bus, a completely self-driving vehicle. Those wanting to take part can hop aboard the free service in the north of the Park and experience a new and developing technology. The shuttle buses use state-of-the-art technology, including sensors, cameras and GPS mapping to navigate the route. And while there will be an operator on board to answer questions, the service will be completely autonomous, so everyone on board can sit back, relax and enjoy the scenery.



FREE SHUTTLE BUS CONNECTS STRATFORD STATIONS TO HERE EAST ON THE NORTH OF THE PARK

Here East is the digital quarter for east London, the former Press and Broadcast Centres for the London 2012 Olympic and Paralympic Games. Park visitors regularly include Here East in their trip to the Park as many events take place near there, and it is also home to Canalside, a beautiful strip of bars, cafes and restaurants located right next to the stunning canal. Visitors will be able to jump on board the free, dedicated shuttle bus service which leaves from two conveniently located pick up points from Stratford City station and Stratford International – both journeys take approximately 5 minutes to reach Here East.



ENERGY



WATER



WASTE



MATERIALS



BIODIVERSITY



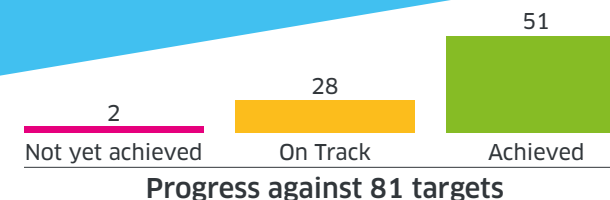
TRANSPORT



LIFESTYLES



YOUR PARK, OUR PERFORMANCE



TARGETS

PROGRESS 2016/17

NOTES

NEW CONSTRUCTION

Require a minimum achievement of Code for Sustainable Homes Level 4 for all new homes under current standards.



Homes in Chobham Manor have been designed to meet levels 4 and 5. All homes at East Wick and Sweetwater have been designed to meet the measurable standards set out in the Code for Sustainable Homes.

Achieve Zero Carbon Homes on LLDC-led development before 2016.



There will be 25 Zero Carbon homes included in the Chobham Manor development. East Wick and Sweetwater will meet LLDC zero carbon homes requirements as required through planning.

Require a 65% reduction in emissions over Building Regulations 2010 through fabric improvements and on-site features.



East Wick and Sweetwater Phase 1 Reserved Matters application showed a 60% reduction against Building regulations 2013. We continue to work towards this target.

Permit up to 35% of emissions mitigation through allowable solutions in surrounding communities as part of the Development Corporation's regeneration remit.



A carbon offset supplementary planning guidance has been written to encourage allowable solutions in surrounding communities. Carbon offset projects will be developed in the coming year.

35% reduction in emissions over Building Regulations 2010 for non-residential buildings on LLDC-led developments; Zero Carbon standard for non-residential buildings when required by government.



We are at outline design stages for Stratford Waterfront and require further work to quantify precisely our improvement against this requirement.

15% reduction in emissions by 2020 from in-use energy through engagement with occupants of LLDC led developments and the promotion of energy efficient home appliances.



Since November 2016, smart home heating controls have been tested and implemented in East Village, enabling occupants to have better and more informed control of their heating.

Support the extension of the district heating network beyond the Park following connection to the Stratford Halo/Genesis development.



Feasibility work is under way by ENGIE to cross the Lee River Navigation to establish an east-west spine network and a north-south route.

Explore provisions to mitigate fuel poverty.



Zero carbon homes at Chobham Manor and in the design of East Wick and Sweetwater help mitigate fuel poverty.

VENUES & PARKLANDS

25% reduction in operational emissions intensity in LLDC owned venues and parklands by 2020.



Throughout the calendar year of 2016 the London Aquatic Centre saved 26.2% in energy use compared to the 2014 baseline, whilst the Copper Box Arena saved 2.7% against the baseline.

Provide low carbon site lighting and use energy efficient park maintenance equipment.



Our Park management company currently have 2 electric vehicles servicing the Park.

EVENTS

Work towards delivering low or zero carbon events in the Park.



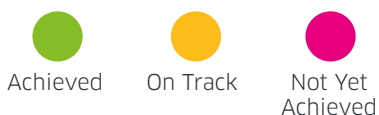
Each events provider is required to work towards our "Guide for Sustainable Events" helping deliver low carbon events.

CORPORATE

25% reduction in corporate emissions intensity by 2020.



A baseline for our corporate greenhouse gas emissions has been established, and will be used to monitor emissions reduction going forward.





WATER

YOUR PARK, OUR PERFORMANCE

 Achieved
  On Track
  Not Yet Achieved

	TARGETS	PROGRESS 2016/17	NOTES
NEW CONSTRUCTION	Potable water use of no more than 105 litres per day per person (lppd) in homes on LLDC led developments through reducing demand and use of low flow fittings and appliances.		LLDC planning requires all future developments to achieve maximum water credits in BREEAM. Chobham Manor is designed to deliver 90lppd, exemplar homes; 80lppd, East Wick and Sweetwater Phase 1 Reserved Matters application shows 97lppd (excluding external irrigation).
	Rainwater harvesting and greywater treatment to be incorporated in new LLDC led developments.		Opportunities to incorporate rainwater harvesting are limited due to Environment Agency flood risk attenuation advice received. However, East Wick and Sweetwater – are seeking to provide rain water butts in residential gardens, and Chobham Manor exemplar homes will have grey water recycling.
	Initiate studies to optimise the use of the Old Ford Water Recycling Plant and non-potable water network for irrigation and toilet flushing.		LLDC explored innovation funding in order to connect East Wick and Sweetwater to the Old Ford network and is working with Thames Water and East Bank partners, to explore the potential to maintain Old Ford beyond its R&D test period and connect to the Old Ford Water network.
VENUES & PARKLANDS	Protect and improve on the 40% reduction in potable water use designed into the venues.		Through the Smart Sustainable Districts work undertaken in this period, the London Aquatics Centre has further reduced potable water usage by 11.2% alongside a 17.5% reduction in the Copper Box Arena.
	Irrigate parklands through rainwater harvesting and greywater.		Parklands are irrigated through the non-potable water network, with 56,103 m ³ of greywater used in this reporting period.
	Develop a strategy with Canal & River Trust (CRT) to enhance and protect the Park's blue ribbon network.		The joint CRT/LLDC Olympic legacy waterways framework was successfully launched on Feb 2016. The strategy outlines future commercial and leisure activity projects for the Park waterways, a number of which have been delivered or are under development.
EVENTS	All LLDC events to limit use of bottled water by encouraging the provision of alternative water supplies.		Our Sustainability Events Guide encourages the reduction of bottled water with the provision of water filling stations and refillable bottles.
	Work with external event companies to reduce potable water usage in the operation of their events.		Our Sustainability Events Guide encourages the reduction of potable water usage through the efficient operation of events.
CORPORATE	Measure water intensity against DEFRA benchmark.		Target under review as we consider revision of the benchmark and key performance indicators.



ENERGY



WASTE



MATERIALS



BIODIVERSITY



TRANSPORT



LIFESTYLES



WASTE



ENERGY



WATER



MATERIALS



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TRANSPORT



LIFESTYLES

YOUR PARK, OUR PERFORMANCE



Achieved



On Track



Not Yet Achieved

	TARGETS	PROGRESS 2016/17	NOTES
NEW CONSTRUCTION	Maximum 5% of construction, demolition and excavation waste directly sent to landfill (excluding hazardous material).		3% sent to landfill from construction in this period.
	Monitor and report on construction waste.		This target is under revision this year as our developers now use a range of tools that satisfy our waste reporting requirements.
	Zero municipal waste directly sent to landfill by 2025. Interim target of 30% maximum municipal waste directly to landfill by 2020.		89% municipal waste sent to landfill during reporting period.
	Ensure all new buildings have adequate internal and external storage space for recyclable household waste.		All homes at East Wick and Sweetwater, Chobham will meet their waste authority requirements for internal and external storage space for recyclables.
VENUES & PARKLANDS	Promote on-site compost facilities to reduce the amount of household waste sent to landfill.		Provision of space for food collection caddies has been allowed for in residential design for East Wick, Sweetwater and Chobham.
	Recycle or compost 70% of venues and parkland's waste by 2015.		Green waste recycled at 100% and General waste recycled at 94%
	Zero parkland's waste direct to landfill by 2030.		94% of parkland's waste is currently recycled. This will continue to rise as work continues to limit waste going to landfill.
	100% provision of recycling facilities in public areas.		Recycling facilities have been provided across the Park.
	Signs and information across the Park will support recycling and composting.		Recycling facilities are clearly signposted across the Park.
EVENTS	Develop best practices to reduce waste production and require event operator to comply with guidelines.		Sustainable Events Guide is given to all events organisers with best practices outlined for events operators to reduce the waste associated with their events.
	Zero events waste direct to landfill by 2020. For events held in venues, work towards the target immediately.		We are working with the events team to effectively measure this target. Work is already in place to encourage events providers to minimise their waste through the Sustainable Events Guide.
CORPORATE	Deliver education programmes for visitors, workers, and residents about reduction and management of waste.		Construction partners provide toolbox talks on site, training workers in waste management. Shell eco marathon raised awareness of minimising waste and reusing materials. The Design Engineer Construct! programme encourages local students to minimise waste in the design and construction of buildings.
	Explore ways to improve our office recycling and reuse rates.		Waste system reviewed and new waste system being put in place to help improve recycling rates.



MATERIALS

YOUR PARK, OUR PERFORMANCE



Achieved



On Track



Not Yet Achieved

TARGETS

PROGRESS 2016/17

NOTES

NEW CONSTRUCTION

15% reduction in embodied carbon in new construction, as compared to industry baseline (to be monitored and published).



East Wick and Sweetwater Phase 1 anticipate a 47% reduction in embodied carbon reduction through use of steel frames versus use of a concrete frames. Chobham Manor is also designed to reduce embodied carbon.

At least 25% recycled content of aggregate within new buildings and infrastructure (by weight).



57% recycled content of aggregate used in new construction during this reporting period.

At least 20% of construction materials to be from a reused or recycled source (by value).



LLDC is seeking to issue partners with updated guidance.

100% of timber and timber products from legal and sustainable sources.



LLDC anticipates 100% compliance in all new construction.

No use of HFCs where acceptable alternatives exist.



No uses of HFCs have been identified in new construction.

VENUES & PARKLANDS

100% of timber and timber products from legal and sustainable sources.



Our Parks facilities management company only use timber from sustainable sources in their supply chain.

Use of recyclable and biodegradable materials for packaging, particularly for food.



Timber Lodge – use Vegware, compostable packaging, for all food and hot/cold drinks, and we are working with other food vendors to support further adoption.

EVENTS

Temporary structures for events must be designed and built for reuse.



The Sustainable Events Guide provides recommendations for the reuse of all temporary structures. This has become the norm in the events industry and it is very rare to find non-reusable structures used for events.

CORPORATE

Collaborate with universities, NGOs and other research bodies to identify low impact building materials and products.



The Park enables the development of new approaches to low impact building materials by working with Smart Sustainable District partners, and providing a test bed to foster the development of innovative approaches to city challenges.

Require all suppliers of goods and services to adhere to our Sustainable Procurement Policy.



The newly updated GLA Responsible Procurement Policy will be integrated into all new tenders and contracts signed by the LLDC in 2017.



ENERGY



WATER



WASTE



BIODIVERSITY



TRANSPORT



LIFESTYLES



BIODIVERSITY

YOUR PARK, OUR PERFORMANCE

 Achieved
  On Track
  Not Yet Achieved



ENERGY



WATER



WASTE



MATERIALS



TRANSPORT



LIFESTYLES

	TARGETS	PROGRESS 2016/17	NOTES
NEW CONSTRUCTION	Public areas to contribute to Biodiversity Action Plan and link to existing natural corridors.		LLDC Biodiversity requirements have been integrated in East Wick, Sweetwater and Chobham designs.
	Incorporate Sustainable Urban Drainage Systems (SUDS) in streets and the public realm where feasible enabling species-rich planting and local irrigation potential.		SUDS have been incorporated into the landscape as far as practicable, and in keeping with Environment Agency advice in relation to flood and remediation requirements.
	Design buildings and public space to reduce the urban heat island effect.		East Wick and Sweetwater and Chobham have been designed to minimise overheating impacts through the incorporation of green spaces and green roofs.
VENUES & PARKLANDS	Provide 102 hectares of publicly accessible open space, capable of being designated as Metropolitan Open Land.		Achieved on opening of the Park.
	Provide 45 hectares of Biodiversity Action Plan habitat and links with existing corridors.		Achieved and regularly monitored.
	Achieve designation as a Site for Metropolitan Importance for Nature Conservation by 2024.		Biodiversity Action Plan monitoring continues to be encouraging, and the Park maintained its Green Flag status for the second year. We continue to work towards this target.
	Achieve green flag status by 2015.		Green Flag status has been maintained.
	Aim to enhance the ecological value of the Park and ensure the land and its natural resources are protected forever.		Our targets for Site for Metropolitan Importance for Nature Conservation, Biodiversity Action Plan and Annual Monitoring Reports continue to uphold this ambition.
	Landscaping designs that avoid chemical control of weeds, pests and diseases.		This was incorporated in the original design of the Park and continues to be upheld in the ongoing management of the Park.
	No peat or peat-based products to be used on site.		No peat or peat-based products are used on the Park.
	Maintain parkland access while ensuring the protection and improvement of habitats.		The Park continues to be open to access for all, whilst ensuring habitats continue to establish themselves.
EVENTS	Assist the attendees in an appreciation of the Park's biodiversity.		The biodiversity trail has been introduced, helping Park visitors and event goers to discover different biodiversity highlights of the Park. In early 2017, UCL, Intel and LLDC partnered to deliver 15 remote bat sensors on the Park – enabling all Park visitors to discover nocturnal wildlife on the Park.
	Respect and protect open space through attention to event location, pedestrian circulation and sight lines.		Events are held in environmentally unsensitive areas, and the Park's biodiversity team are involved in all events that may impact biodiversity areas. In addition, pedestrian circulation is kept to pavements and footpaths to reduce erosion.
CORPORATE	Encourage staff to take part in biodiversity awareness activities.		Staff are encouraged to use 3 volunteer days per year, as part of this, staff can take part in local biodiversity volunteering days to promote the Park's habitat.
	Provide opportunities for local people to get involved in nature conservation work and biodiversity-related activities		The biodiversity trail encourages local people to discover the Park's different biodiversity elements. Local schools and community groups often use these trails to educate children on urban wildlife.



TRANSPORT

YOUR PARK, OUR PERFORMANCE

 Achieved
  On Track
  Not Yet Achieved

	TARGETS	PROGRESS 2016/17	NOTES
NEW CONSTRUCTION	Design walkable and cycle-friendly neighbourhoods with safe streets and paths, and secure cycle parking in homes, offices, and venues.		All LLDC developments are designed to uphold these principles.
	No home to be more than 350m away from a bus stop.		All homes are/and will be within 350m of a bus stop.
	20% of car parking spaces to have access to electric charging facilities.		East Wick and Sweetwater Phase 1 has included provision for Electric Vehicle charging parking spaces and will provide 20% of parking spaces with Electric Vehicle charging plus an additional 20% of passive provision. We are working with TFL and the GLA to install further recharging points across the park.
	Support demand management techniques to discourage private transport and encourage public transport, car-sharing, car-clubs, cycling, and walking.		LLDC is becoming a test-bed for the development of advanced mobility approaches into the future, this will involve the development of demand management techniques.
	Ensure provision of shower and changing facilities in offices to support commutes by cycle.		Developers are required to meet these requirements.
	Parking ratios to be London Plan Standard or less.		Our Local Plan in 2016/17 is in conformity with London Plan requirements. LLDC led development is being designed to comply with these requirements.
VENUES & PARKLANDS	Ensure that 95% of visitors to venues and attractions arrive by public transport, cycle or foot.		2016 visitor survey suggests 15.6% of visitors arrive by personal car, and we continue to work on this target.
	Facilitate a cycle hire scheme within the Park.		Santander Bikes are now the on Park with 7 hire stations.
EVENTS	Ensure that 95% of visitors to events arrive by public transport, cycle or foot.		Events managers encourage their attendees to arrive by public transport, cycle or foot, we are looking into new methods to accurately track progress towards this target.
	Information provided with tickets on sustainable transport options to the Park.		This is a requirement for events on the Park.
CORPORATE	Maintain our Travel Plan Framework for all new developments and initiatives within the Park.		Due to the small number of residents who have moved into properties (100) at the time of reporting, we have not conducted a travel plan review as the numbers are too small. Suggested review following feedback from the Chobham development and Policy updates from the mayor due later this year.
	Encourage sustainable transport modes for staff commuting and work-based travel.		LLDC took part in cycle challenge 2016, encouraging staff to cycle to work. Staff are also encouraged to use sustainable modes of transport daily with the provision of facilities to support this – such as showers, bike maintenance support and cycle to work scheme.



ENERGY



WATER



WASTE



MATERIALS



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LIFESTYLES



YOUR PARK, OUR PERFORMANCE

 Achieved
  On Track
  Not Yet Achieved

	TARGETS	PROGRESS 2016/17	NOTES
NEW CONSTRUCTION	Develop an occupant engagement programme to achieve a 15% reduction in emissions over five years, with savings to be maintained each year.		First occupation of Chobham Manor achieved in 2016. LLDC will work with partners to understand baseline energy use and measure to take to reduce further through the Carbon Reduction Strategy.
	Through the Estate Management Strategy, develop incentives and programmes for residents to optimise sustainable lifestyles.		Over 2016 LLDC has been trialling a series of initiatives to encourage sustainable behaviours and will report against progress in 2017/18.
	100% of homes to have smart meters to collect energy consumption data to make more efficient use of resources.		This continues to be implemented in all homes. LLDC have also supported research with East Village and Imperial College London to understand how smart meters impact on home energy usage and how to maximise their positive impact.
	Facilitate IT infrastructure including super fast broadband and Wi-Fi to support working from home and venues in and around the Park.		Free Wi-Fi is now provided across the Park.
VENUES & PARKLANDS	Encourage the public to use open space for sport, physical wellbeing, leisure activities, social gathering and cultural events.		Over 32,000 participants took part in over 4,000 Active People Active Park activities throughout this period. In 2017/2018 we are testing out new approaches to encouraging physical activity.
	Adopt and implement the Mayor's Food Legacy Pledge and the Healthier Catering Commitment.		Park caterers have signed up to and implement the Mayor's Food Legacy Pledge.
EVENTS	Collaborate with the event industry and non-governmental organisations to share knowledge and integrate sustainability into the sector.		LLDC is working with NGOs to embed sustainable practices into events, such as reduction in plastics.
CORPORATE	Promote educational initiatives and research programmes to enable sustainable behaviour to become the norm in and around the Park.		The LLDC's Smart Sustainable Districts programme enables different research strands which enable sustainable behaviours throughout the Park.
	Provide environmental awareness training for all staff and contractors.		All LLDC new starters are now introduced to the environmental sustainability policy as part of their staff induction; contractors are required to provide proportionate and relevant environmental training to their staff, including toolbox talks and environmental alerts. LLDC issues sitewide notices of best practice and shares best practice with construction contractors through its Environmental Forum.
	Deliver a visitor centre within the energy centre by 2014.		Energy Centre Visitor Centre is now open.



ENERGY



WATER



WASTE



MATERIALS



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