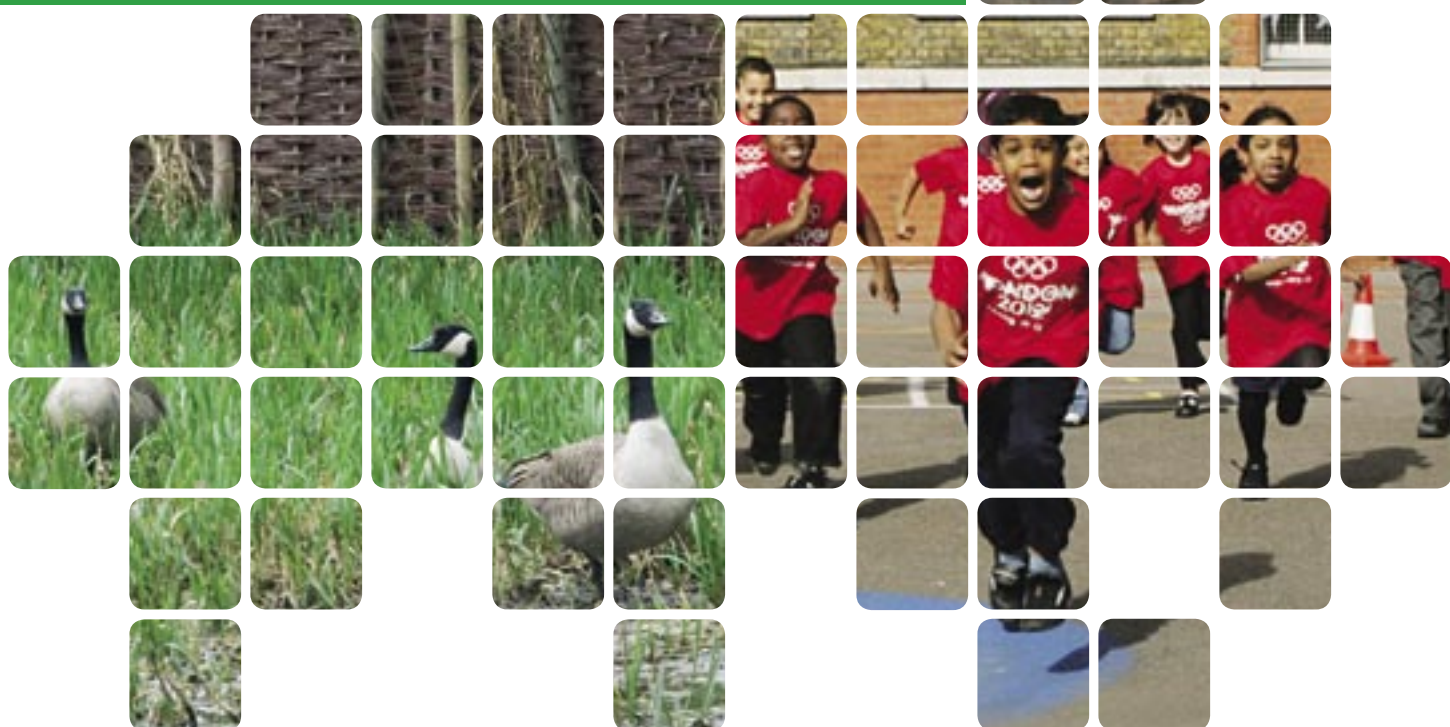
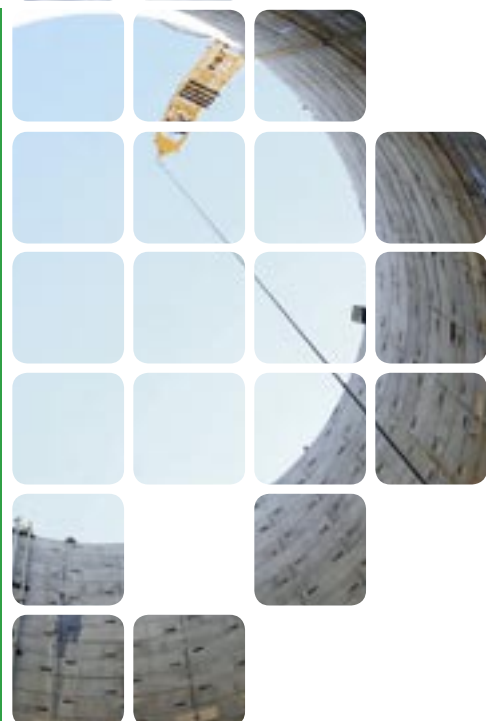




OLYMPIC DELIVERY AUTHORITY

Sustainable Development Strategy
Executive Summary

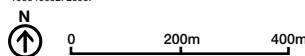




Legend

| | | | | | | | |
|--|--|--|--|--|----------------------|--|-----------------------|
| | Olympic Vehicle Route | | International Broadcast Centre / Main Press Centre | | Archery (Paralympic) | | Swimming |
| | Olympic Park Roads | | Wind Turbine | | Athletics | | Synchronised Swimming |
| | Pedestrian Route for Spectators | | Spectator Support Service Area | | Basketball | | Tennis (Paralympic) |
| | Access link between Olympic Stadium and Warm Up Area | | Dining Area (Athletes) | | Cycling (BMX) | | Water Polo |
| | Spectator Access Point | | Transport Mall | | Cycling (Track) | | |
| | National Rail Station | | Olympic Family Vehicle Screening/Parking Area Temporary | | Diving | | |
| | London Underground Station | | Olympic Park Common Domain (Pedestrian Circulation Area) | | Fencing | | |
| | London Bus station | | Green Space | | Handball | | |
| | Docklands Light Railway Station | | Servicing Area | | Hockey | | |
| | | | | | Modern Pentathlon | | |

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Foreword

One of the central reasons London won the right to host the 2012 Olympic Games and Paralympic Games was its long-term vision of the far wider role the Games could play in encouraging young people to participate in sport and regenerating east London.

The Olympic Delivery Authority's (ODA) central job is to deliver the Olympic Park and new venues and infrastructure for the 2012 Games, on time and to the agreed budget.

Equally important, though, is to achieve this in a sustainable manner, provide value for money, and to leave a lasting social, economic and environmental legacy for east London.

The Olympic Delivery Authority's Sustainable Development Strategy sets out the part it will play in helping to achieve this.

The strategy states how we will tackle climate change and waste and encourage biodiversity, inclusion and healthy living during the construction phase. It also sets robust performance measures which will set new standards for the sustainable construction of the venues, facilities, infrastructure and transport used for the Games. These are core components of our project and contract requirements. Of course the ODA cannot – and will not – achieve all of this on its own. The strategy sits within the context of the overall London 2012 Sustainability Plan which will be published later this year.

We are working in partnership with our stakeholders, but we also want to encourage industry to embrace these objectives and think innovatively about how it can deliver against them on the programme.

Ultimately we hope that the ODA's Sustainable Development Strategy can act as a catalyst for industry to deliver an improvement in the economic, social and environmental sustainability of development across the UK.

Climate change, depleting natural resources, low skill levels and inequalities in employment are all challenging issues, but every development across the UK has the opportunity to assist in tackling them if they adopt a socially and environmentally responsible approach to sustainability. This strategy sets a strong lead.

The London 2012 Olympic Games and Paralympic Games present a golden opportunity to change how large-scale regeneration is delivered within the UK. It is vital that we make the most of it and we are determined to do so.

Sir Roy McNulty

Sir Roy McNulty
Acting Chair of the Olympic Delivery Authority

Sebastian Coe

Sebastian Coe
Chair of the London 2012 Organising Committee

London 2012 overarching themes and the ODA's target objectives

London 2012 is planning the Olympic Games and Paralympic Games and their long-term legacy together for the first time. The vision for the Olympic Park flows from one overriding principle – that the project is about hosting a summer of brilliant Olympic and Paralympic sporting competition that will leave a lasting legacy for generations to come. The Games will act as a catalyst for the transformation of east London and help to build sustainable communities within and around the Park after the Games.

During the bid London 2012 committed to working ‘Towards a One Planet Olympics’ – demonstrating how the Games could help progress the concept of ‘One Planet Living’*.

In the summer of 2006, the Olympic Board, which oversees the 2012 programme of activity, published the London 2012 Sustainability Policy to show how London’s unique vision will be achieved.

It identified five headline themes, which are set out below.

The ODA has responsibility for delivering the venues and the infrastructure for the Games and it will aim to do so in a way which is truly sustainable. The ODA will target its activity around 12 areas, outlined in the diagram below.

* A joint initiative of WWF and BioRegional

ODA sustainable development objectives

The ODA seeks to deliver sustainable developments through the advancement of the following objectives.

- Carbon**
 To minimise the carbon emissions associated with the Olympic Park and venues.
 See pp8-9

Transport and mobility
 To prioritise walking, cycling and the use of public transport to and within the Olympic Park and venues.
 See pp14-15

Supporting communities
 To create new, safe, mixed-use public space, housing and facilities appropriate to the demographics and character of the Lower Lea Valley, adaptable to future climates.
 See pp18–19

Access
 To create a highly accessible Olympic Park and venues by meeting the principles of inclusive design.
 See p21

Health and well-being
 To provide for healthy lifestyle opportunities during the construction of, and in the design of the Olympic Park and venues.
 See p25
- Water**
 To optimise the opportunities for efficient water use, reuse and recycling.
 See pp10-11

Waste
 To optimise the reduction of waste through design, and to maximise the reuse and recycling of material arising during demolition, remediation and construction.
 See pp16–17

Materials
 To identify, source, and use environmentally and socially responsible materials.
 See p20

Land, water, noise, air
 To optimise positive and minimise adverse impacts on land, water, noise and air quality.
 See pp22–23

Employment and business
 To create new employment and business opportunities locally, regionally and nationally.
 See p24
- Biodiversity and ecology**
 To protect and enhance the biodiversity and ecology of the Lower Lea Valley and other venue locations.
 See pp12-13

Inclusion
 To involve, communicate, and consult effectively with stakeholders and the diverse communities surrounding the Olympic Park and venues.
 See pp26–27

London 2012 overarching themes

12 Olympic Delivery Authority objectives

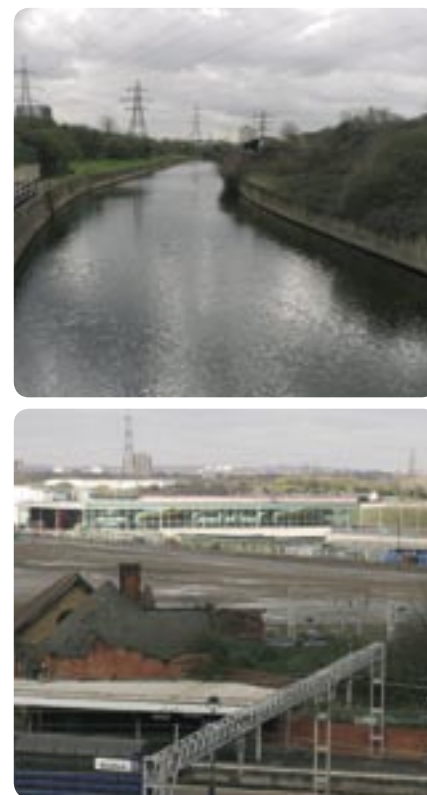
| | Carbon | Water | Waste | Materials | Biodiversity and ecology | Land, air, water, noise | Supporting communities | Transport and mobility | Access | Employment and skills | Health and well-being | Inclusion |
|--------------------------|--------|-------|-------|-----------|--------------------------|-------------------------|------------------------|------------------------|--------|-----------------------|-----------------------|-----------|
| Climate change | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | | |
| Waste | | ✓ | ✓ | ✓ | | | ✓ | | | | | |
| Biodiversity and ecology | | ✓ | | | ✓ | ✓ | | | | | | |
| Inclusion | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Healthy living | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | |

The Lower Lea Valley

Now

The Olympic Park is situated in the Lower Lea Valley – an area of great potential where natural beauty sits alongside landscape scarred by decades of neglect. A network of waterways runs through an area of poor infrastructure, derelict buildings and contaminated land. Electricity pylons dominate the landscape.

The area is also home to some of the most deprived communities in the country. Three of the Host Boroughs contain the third, fourth and eleventh most deprived wards in the country¹. The four boroughs covering the Olympic Park in east London also experience significant levels of unemployment with three boroughs recording higher than 10 per cent unemployment, or roughly twice the English average.²



‘The 2012 Games are the perfect platform to demonstrate how high sustainability standards will help transform London into an exemplary, sustainable world city, in line with my London Plan.

The prize for hosting the 2012 Games will be to transform one of the most derelict and disadvantaged parts of Europe into a revitalised, sustainable, new urban quarter fit for the 21st century. To achieve this, the Olympic partners will need to set the highest standards of design, quality, resource management and environmental protection, and I welcome the approach set out in this document which will contribute towards my long term vision for a sustainable London.’

Ken Livingstone
Mayor of London

¹ London Divided: Income inequality in the capital, November 2002

² The London Plan SubRegional Development Framework: east London, May 2006

At a glance

Thousands of new homes to be built; Thousands of jobs created in construction phase; Approximately 110 hectares of open space created; 139,000sq metres of new retail space; 185,000sq metres of new office space.



Post Games

Thousands of new homes will be built to house Olympic and Paralympic athletes during the Games. After the Games the Olympic Village will become housing for a new community, incorporating a range of affordable housing options. The area will be supported by new schools, new utilities infrastructure, roads, transport, community and health facilities.

The new shopping centre developed at Stratford City will be an employment hub for the area.

Transport links to the area will be dramatically improved with new stations, line extensions and additional trains servicing the area.

The focal point for the area will be one of the largest urban parks built in Europe for 150 years with a lasting legacy of world-class sports facilities available for both local use and for elite athletes.



Carbon

ODA objective
To minimise the carbon emissions associated with the Olympic Park and venues

The challenge presented by climate change is significant. The ODA will take active steps to help reduce the carbon footprint of the development associated with the Games. The ODA seeks to halve carbon dioxide emissions for the built environment by 2013 and to provide the flexibility in infrastructure provision for the development to reduce carbon emissions even further after the Games.

The ODA plans to deliver this low carbon approach through a three-pronged strategy of 'mean, lean and green'.

Mean: minimising the energy demand of the Park, venues and Village;

Lean: using more efficient energy supply with low carbon technologies;

Green: supplying energy from new, zero carbon renewable sources.

The 'Mean' approach will allow the Olympic Village to be 25 per cent more energy efficient than 2006 Building Regulations, while the ODA aims for permanent venues after the Games to be up to 15 per cent more energy efficient than 2006 Part L Building Regulations.

Introducing such measures into sports facilities is an exciting endeavour. To date no UK venues have been built to such challenging standards.

Minimising demand

The ODA will reduce the demand for energy through innovative design, by maximising the benefits of natural light and ventilation, and by balancing the requirements for heating and cooling at venues.

Energy control and monitoring equipment will be installed, which will include smart metering, linked to Building Management Systems as appropriate. This will also include automatic controls such as motion, daylight or temperature sensors and manual overrides.

Efficient energy supply

The ODA will provide an efficient energy supply through a proposed gas-fired Combined Cooling, Heating and Power Plant (CCHP) within the Olympic Park at King's Yard.

The CCHP will be designed with the future in mind. Space in the building will allow for future growth of the plant and there will be opportunities for this network to grow into

surrounding areas and for extra sources of heat to be added after the Games, providing new community heating infrastructure.

Importantly, the CCHP will also allow for future potential changes to fuel sources, as new renewable technologies become established. In the future, the CCHP could operate as a zero carbon energy source to the legacy development, thereby assisting in further reducing carbon emissions over time.

The CCHP will be used to heat the pool water in the Aquatics Centre, while it will help to cool the International Broadcast Centre and Main Press Centre (IBC/MPC) by running chillers.



At a glance

The ODA will aim to meet the following targets:

- The Olympic Village will be 25 per cent more energy efficient than current Building Regulations.
- Permanent venues will aim for a 15 per cent reduction in carbon emissions above 2006 Part L Building Regulations.
- Renewable energy will provide 20 per cent of the Olympic Park and Village energy demand in the immediate post-Games period in 2013.
- The turbine will provide power for an expected 20 years.



Renewable sources of energy

A 120 metre wind turbine is proposed at the north of the Park in Eton Manor. This will provide the energy equivalent to supply 1,200 homes over an average year, and will continue to provide power for an expected 20 years.

Kings Yard will also house an Energy Centre, including the CCHP, biomass boilers and biomass storage. Biomass boilers provide zero carbon energy through the burning of solid wood or wood pellets, which will provide heating and hot water in the venues.

Combined Cooling, Heating and Power Plant (CCHP)

CCHP recycles the heat produced by generating electricity and distributes it to provide hot water, which in turn can be used for heating.

CCHP can also generate energy more efficiently than the National Grid, as it uses heat that is normally lost by centralised power generation.

This will allow for a 20 to 25 per cent reduction in carbon emissions over current Building Regulations.

CCHP can be up to 90 per cent efficient (central generation is approximately 37.5 per cent efficient).

Enabling and construction works

The ODA aims to reduce the carbon intensity during construction activities as part of its commitment to a low carbon development.

Monitoring and measurement

Monitoring is integral to the success of this strategy. Energy use and resulting emissions will be monitored throughout the construction activities.



Building excellence Building Research Establishment Environmental Assessment Methodology (BREEAM)

The ODA is committed to achieving high standards for its buildings.

BREEAM is used in the UK to assess the environmental performance of new and existing buildings.

To support the ODA in assessing the sustainability performance of the venues, the Building Research Establishment (BRE) is developing a new bespoke version of BREEAM for the permanent Games venues. This will include social as well as environmental aspects of sustainability.

The approach will allow for third-party assessment and certification of the sustainability related impacts of each new permanent Games venue after the Games.

As part of its sustainable legacy, there is potential for this assessment methodology to be used for sports venue design and construction in other locations in the future.

The ODA wants all permanent venues to achieve a BREEAM Excellent Rating.



Water

At a glance

- All permanent venues and non-residential buildings to be designed to reduce water consumption by 40 per cent in operational modes as based on current industry standards.
- Design residential buildings to reduce water consumption by 20 per cent from average London consumption.

ODA objective
To optimise the opportunities for efficient water use, reuse and recycling

Water is a scarce resource, and is often used needlessly. The ODA seeks to minimise the use of water, during the construction and operation of the venues.

Key to this will be education and behavioural change which can bring about the significant reductions in water use. The ODA will also implement water saving measures during construction and in the design of the venues.

The ODA aims to minimise the demand for water by:

- Reducing demand through management techniques;
- Reducing demand via water-saving technologies;
- Utilising alternative sources of non-potable water such as rainwater and grey water harvesting – the recovering of water from sinks, showers and baths – where feasible and cost effective to do so.

Demand reduction
The ODA seeks a 40 per cent reduction in the demand for potable water, compared to current industry practice, for permanent venues. A target of 20 per cent reduction has been set for the residential development, reflecting the more challenging nature of meeting high targets in a residential context.

Venue design teams will seek to reduce demand for potable water through water saving technology such as low flush toilets, aerating flow restrictor taps with automatic shut off, low flow showers, leak detection systems, and proximity shut off valves and metering. These will be linked to a Building Management System.

Education and training of building users and managers is important to maximise possible demand reductions. Metering will also provide the necessary information to help with the management process.

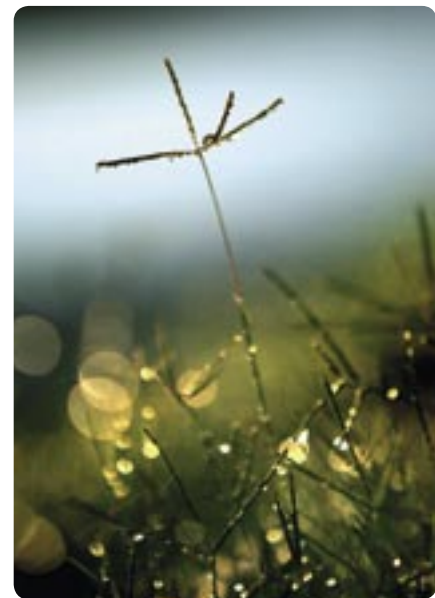
Supply
The ODA is also thinking of the future in its approach to water supply. Water supply pipe work and pumps will be provided to meet demand to 2025, thereby avoiding the need to put in additional below ground infrastructure after the Games. The new infrastructure for water supply will also reduce the losses into the ground from old pipes.



Water efficiency and management
Approaches to water management to reduce demand include:

Wheel washing equipment:
Self-contained wheel and vehicle washing systems re-circulating and reusing water via integral settlement tanks.

Dust suppression (haul routes and demolition):
Uncontaminated groundwater from excavations or grey water being collected from rainwater run-off and used for dust suppression.



Groundwater treatment:
Contaminated groundwater requiring treatment is being managed and treated in-situ, or in on-site treatment facilities, prior to discharge to the foul sewer or other suitable disposal.

Welfare facilities:
Considering the feasibility of portable building and welfare units that use water conservation initiatives such as sensor taps and dual-flush toilets.



‘Sustainability was at the heart of our bid for the Games; this strategy puts Sustainability at the heart of the ODA’s delivery of the Games’ infrastructure. The Olympic Park provides a huge window to the world to show the UK living up to its promises and responsibilities for the Games and beyond into a socially, economically and environmentally sustainable legacy.’

Tessa Jowell
Secretary of State for Culture, Media and Sport



Biodiversity and ecology

ODA objective

To protect and enhance the biodiversity and ecology of the Lower Lea Valley and other venue locations

The Olympic Park site contains significant habitats that will be protected and enhanced over the coming years.

Ecological management plans will be established for each stage of construction and will identify the risks on site, including ecological issues such as the presence of protected wildlife species and tree preservation orders.

The Olympic Park site largely comprises two habitat types: brownfield land and waterways.

Brownfield

Existing habitats in the areas to be developed vary from new vegetation on recently cleared sites, to grassland, scrub and woodland in long abandoned areas. Control programmes have been introduced to tackle Japanese Knotweed and Giant Hogweed in these areas.

Waterways

The river corridors are of significant value and contain associated important habitats, namely mudflats, reed beds and marginal vegetation, and associated species such as intertidal invertebrates, fish and birds. New freshwater habitats created within the Park can provide new ecological opportunities.

Retaining the habitat

Given the amount of land to be redeveloped, much of the existing vegetation cannot be retained. A number of sites, however, including waterside and woodland areas, have been identified as refuges, which will be safeguarded through construction and incorporated in the Park design.

Instead of having to fence off dedicated nature reserves from the public, the Park will be designed to function ecologically and recreationally post Games. Re-profiling of the waterways, both for and after the Games, will extend and widen wetland habitats, providing a major new inner-city wetland area.

Plants in the Park will largely be native to England, appropriate to London, and preferably of regional or local origin. On-site seed collections have already been undertaken for some species.

Park action plans

As part of the Environmental Impact Assessment process for the Park design, ecological impacts are being identified, along with mitigation and management measures. An outline Biodiversity Action Plan for the Olympic Park is under development with partners. The plan aims to set out a framework to identify, maintain and enhance the biodiversity of the Park. The plan will include Habitat Action Plans and Species Action Plans, which outline the aims, conservation status, issues, and factors affecting the species or habitat, as well as strategies for their management.



Green and brown roofs

In order to maximise the potential for ecological benefits, there is the opportunity for green or brown roofs to be incorporated where appropriate. The ODA is assessing the feasibility for a brown roof for the International Broadcast Centre and Main Press Centre.

Species habitats

The ODA will also evaluate the opportunities within buildings to provide cost-effective habitats for native species. This could include elements such as swift bricks and other nesting cavities.



Habitats during construction

Ecological management plans are being established for each stage of construction.

The ODA aims to protect much of the most valuable ecological resources where they are found.

For the areas to be cleared, much of the site biodiversity will be salvaged for reintroduction at a later date.

Bully Point log walls

The ODA will use log walls around safeguarded habitat refuges, such as Bully Point. These walls will be reclaimed from other areas of the Park, and used instead of the standard chain link fence used in construction zones, where feasible to do so, forming a protective and decorative boundary.

Untreated log walls provide habitat features beneficial to reptiles, amphibians, specialist deadwood invertebrates and lower plants.



Transport and mobility

ODA objective

To prioritise walking, cycling and the use of public transport to and within the Olympic Park and venues

The use of public transport and the ability to walk or cycle to venues after the Games are key aspects of the design and plans for the Olympic Park. New cycle and walking routes and rail links will be created through and around the Park.

Combined with new roads and public transport, this will greatly improve connectivity within this area of London. Post Games, residents to the west of the Park will be able to walk, cycle or travel by public transport to Stratford town centre with ease.

The Transport Plan for the London 2012 Olympic Games and Paralympic Games aims for every ticketed spectator to travel to venues by walking, cycling or using public transport.

The ODA has a strong commitment to providing access during and after the Games through cycling and walking/running routes. A total of 50 kilometres of new cycle routes are being built and 30 kilometres of walking routes.

Within the Park, new routes will include a park edge loop, a leisure loop, a terrain loop and the Eastway Cycle loop.

The National Cycle Network will continue along the Greenway, and a new route will be opened along the River Lea Navigation. These will provide unrivalled access to the Park for cyclists.

Approximately 4,000 temporary cycle parking spaces will be provided, with approximately 750 spaces remaining in the Park after the Games.

Pedestrian routes after the Games will contain a mix of traffic-free thoroughfares, waterway routes, a highway footpath along the loop road, projected pedestrian connections through local neighbourhoods, and jogging routes in and around the Park.



Materials transport

The ODA is committed not just to increasing options for more healthy and environmentally friendly travel to and within the Park during and after the Games, but also to reducing the environmental impact of transportation of materials during the construction phase.

The ODA's aspiration is for at least 50 per cent of materials, by weight, to be transported to the Park by rail and water during construction.



Water transport

The ODA is working closely with British Waterways, Transport for London, the Department of Transport and the Port of London Authority to find ways to transport materials by water. This would be facilitated by the water level control of the waterways through a proposed lock installed in the Prescott Channel.

After the Games, this would leave a lasting canal network providing recreational opportunities in this exciting new parkland area of London.

A public transport Games

- Aim for all ticketed spectators to travel to events by public transport;
- Aspiration for at least 50 per cent of materials, by weight, to be transported to the Park by rail and water during construction;
- 50 kilometres of new cycling routes to be built;
- 30 kilometres of new walking routes to be built.

'The Commission is tasked with providing independent assurance and commentary in order to enable the sustainability objectives of the London 2012 programme to be achieved and to support a sustainable legacy. We look forward to working with the ODA to meet this challenge.'

Shaun McCarthy
Chair of the Commission
for a Sustainable London 2012



Waste

ODA objective

To optimise the reduction of waste through design, and to maximise the reuse and recycling of material arising during demolition, remediation and construction

Avoiding the production of waste, and viewing any material created through the construction of the Park and venues, as a resource which has future alternative uses, is fundamental to the ODA's approach.

The development will see large volumes of material generated through the demolition of existing buildings and the cleaning up of the land.

The ODA is committed to reusing or recycling at least 90 per cent, by weight, of the demolition material. Buildings to be demolished are being recorded and photographed, with an overall 'materials register' being created. Designers will be able to look at the register to identify which materials they can reuse in the design. In this way, the ODA not only helps to avoid any material needlessly ending up in a landfill site, but also helps to create links between 'old' and 'new' within the Park.

To further this objective, the Olympic Park site has been designed to reduce the need for importing materials from outside to build the landforms within the Park, seeking only to remove the most contaminated material.

When designing venues, materials selection and structure will also be kept under review to help minimise waste. Resource efficiency will be a key objective, alongside maximising the use of secondary materials.

During the conversion from Games to legacy phase, all temporary venues and structures will be designed with reuse and recycling in mind to help minimise waste.

Designers will be required to provide the ODA with information on how any temporary elements of the design will be reused or recycled post-Games.

The ODA's overall prioritised approach to waste management is to eliminate, reduce, reuse, recycle, recover, and dispose.

Enabling and construction works

Maximum practicable reuse, recovery and recycling of materials will be achieved through on site processing and utilisation of Construction Material Recycling Facilities (CMRFs).

Representatives from the Waste and Resources Action Programme (WRAP) are currently working with the ODA to advise on appropriate targets for this phase of the programme.



Burying of powerlines

The ground dug up while burying overhead powerlines will, as far as possible, be used as fill material for the Park development, including for surface treatment and engineering structures, land bridges and landscaping.



Olympic Park concourse

The concourse requires 25 to 30 hectares of hard paving for Games-time use to support the high volume of spectators.

After the Games, the requirement will be for 5-10 hectares. The extra areas will be transformed to their long term use on-site, reused or recycled.

'We want London 2012 to be the sustainable Games. This strategy from the ODA shows us how. The best of British in science, technology and construction will be on display to the whole world. Delivering a Games to remember and a legacy to celebrate.'

Alistair Darling
Secretary of State for Trade and Industry



Supporting communities

ODA objective

To create new, safe, mixed-use public space, housing and facilities appropriate to the demographics and character of the Lower Lea Valley, adaptable to future climates

The Olympic Park is being designed and developed to be a sporting showcase for 2012 – and a thriving new home for local communities for generations to come.

The ODA is committed to the long-term social, economic, and environmental regeneration of the Lower Lea Valley, and to positive knock-on effects beyond.

The Park itself will be the largest new urban park in Europe for 150 years, and form the central part of a network of green spaces connecting the valley to the River Thames.

Its architecture, facilities and even landscape are being designed to serve the communities that live in the area for many years after 2012 – whilst retaining the character and history of the area.

The landscape and layout of the Park is being modelled to fit the long-term needs of the communities who will live there, with accessibility a high priority. The Park is also being designed to take account of climate change.

Between 30 and 35 new, permanent bridges will be built across the waterways, railways and roads that dissect the site. These will make new connections between the Park and surrounding areas and beyond.

Plans for the bridges, and all infrastructure works, are also being drawn up to 'design out' crime by avoiding the construction of overshadowed areas and maximising clear sightlines and lighting.

Whilst planning applications to fix the location of the venues within the Park are being submitted in early 2007, the longer-term proposals for the creation of new neighbourhoods within the Olympic Park site after the Games will form the basis of a forward-looking planning application in 2008.



Retained features

The Olympic Park site has several cultural and historic features associated with its past as a pioneering industrial area.

The ODA will seek to retain, protect and enhance these areas to give the Park a 'sense of place' and the local community a sense of ownership.

Various original structures, such as river walls will be retained, as they form an important aspect of the heritage of the area.

Efforts will be made to incorporate elements of the existing buildings at King's Yard into the energy centre which will house the CCHP plant, biomass boilers and biomass storage.

A full list of the architectural elements to be retained is currently being developed. With some small-scale elements, pre-demolition audits are taking place to identify the architectural and other features that can be recovered and reused.

Climate Change

The drier summers likely through climate change mean that subsidence may become a greater issue, particularly in areas with clay soils. This risk will be incorporated into the design of foundations, to ensure they can cope with predicted stresses.

The landscaping of the Park will take into consideration the requirements of future climate change.

Permeable materials will help reduce run-off during high rainfall events and shade will be incorporated for users of the facilities.

Surface water and foul drainage will be kept separate to reduce unnecessary demand on sewage treatment facilities during high rainfall events, and to prevent pollution of surface or groundwater.

Even the choices of planting will reflect the possibility of low rainfall in summer, and to reduce the demand for water for irrigation.

Hackney Marshes

The London Development Agency (LDA) and the London Borough of Hackney are producing a strategy for wider sporting, recreational and environmental improvements for the whole of Hackney Marshes that will begin to be delivered ahead of the London 2012 Games and post Games.

This phasing will begin with improvements to pitches on the main Marsh in mitigation of the temporary loss of East Marsh pitches. After the Games, pitches will be restored on a re-landscaped East Marsh.

The detail of the re-provision of changing rooms and car parking is being taken forward by a steering group comprising the LDA, ODA, Hackney Council and Lea Valley Regional Park Authority.

At a glance

- Maximise timber from sustainable sources, supported by appropriate evidence as defined by the UK Central Point of Expertise on Timber (CPET) with all timber used from known, legal sources, with clear supply chain evidence.
- At least 20 per cent of construction materials, by value, to be from a reused or recycled source.
- Achieve a level of 25 per cent recycled aggregate, by weight, for the permanent venues and associated Olympic Park wide infrastructure.
- Work to identify additional tools and methods to reduce the embodied impacts of materials, including use of the BRE Green Guide to Specification as applicable.

Example

- There are approximately 1,000 tonnes of York stone and 300 tonnes of granite block paving which can be reclaimed from the site, and will be used in paving and features.
- A number of bricks from buildings being demolished at Eton Manor could be reused in utility housing and other small buildings on site.

Materials

ODA objective

To identify, source, and use environmentally and socially responsible materials

Key to delivery of a sustainable development is its design, and the methods used in its construction. Also pivotal is what materials are used to construct the facilities.

The materials used in the construction of the Olympic Park and venues are a key aspect of the ODA's commitment to delivering a sustainable development. The ODA is working closely with industry bodies to allow suppliers to respond positively to the ODA's requirements. Through this engagement, the ODA hopes to leave a lasting legacy of a more socially and environmentally responsible approach to materials use within development. Four principles apply when sourcing materials.

- Responsible sourcing;
- Use of secondary materials where possible;
- Minimising embodied impacts;
- Healthy materials.

Responsible sourcing

Suppliers will be asked to demonstrate, as appropriate, responsible sourcing of materials by providing evidence of the existence of legal sourcing, environmental management systems, or through the use of chain of custody schemes.

Secondary materials

The ODA aims to reclaim and reuse material in the Park and venues from the demolition of existing buildings, and to use materials arising on other sites in close proximity.

At least 20 per cent of materials used in permanent venues and the Olympic Village will have previously been used somewhere else, or be a recycled product.

All reuse of materials on site will be subject to the logistics, cost and timescale of secure site storage and transport.

Embodied impact of materials

The ODA aims to minimise the embodied impact of the materials it uses, such as the carbon emissions resulting from its production, or other adverse impacts during its manufacture such as high levels of toxicity.

Healthy materials

Where possible, the ODA will encourage the specification of materials that represent a lower risk to health.



Access

ODA objective

To create a highly accessible Olympic Park and venues by meeting the principles of inclusive design

The ODA aims to create and build venues, a park and transport infrastructure for the Games and for the long-term use of the facilities, which are inclusive for people of all cultures and faiths and highly accessible to disabled people.

The ODA aims to model a standard of accessibility which will act as a benchmark for others. The ODA will design the Park and venues along inclusive design principles.

Access strategies for each venue will be developed, while the gradients within the Park are being designed to ensure that all people can reach all destinations in the Park.

Designs will be subject to access testing and review by the Access Forum on the Built Environment, which the ODA will establish.

These inclusive design principles also apply to the development of the Olympic Village during the Games. All homes in the Olympic Village will be built in accordance with Lifetime Homes Standards after the Games, and ten per cent of the housing will be fully wheelchair accessible after the Games.

Lifetime Homes incorporate design features that together create a flexible blueprint for accessible and adaptable housing. The Lifetime Homes concept increases choice, independence and longevity of tenure, vital to individual and community well being.

Olympic Park landscape

The design of shallow gradients along accessible routes will ensure that reasonable measures are taken so that everyone can reach all destinations.

The design aim is to achieve shallow gradients – approximately 1:60 or less, which is generally considered 'level' – wherever possible.

A maximum gradient of 1:21 will be applied across the main routes throughout the Park. The cross-falls will be no greater than 1:50, as excessive cross gradients present difficulties when manoeuvring a wheelchair on a gradient.



Land, water, noise and air

ODA objective

To optimise positive and minimise adverse impacts on land, water, noise, and air quality

During the development of the Olympic Park, the ODA will take into account the impact on the environment, and will require robust management systems to be in place to reduce disturbance to local communities and the risk of any pollution incident occurring.

Contractor requirements

The ODA takes its responsibilities to the environment and to local communities very seriously.

Unlike many construction sites, ODA sites will require Tier One contractors to have environmental management systems and plans in place. Lower tiers of subcontractors will be required to have these systems in place or to operate within the systems of the ODA or its Tier One contractors.

The ODA will aim to ensure that the range of environmental risks are identified within the environmental management plans together with clear actions to mitigate against them.

These requirements will be set out in an Environmental Standard which the ODA will publish in spring 2007. The ODA hopes that this standard will be able to be adapted for developments elsewhere that also aspire to these high standards.

The ODA will also work closely with contractors to minimise disturbance to local communities and businesses during the construction phase.

Contractors will be required to register for the Considerate Constructors Scheme (CCS), and will be expected to achieve a score of at least four in each section of the scheme.

Air quality

The quality of internal air is an important aspect of the design process. Air intakes need to be situated away from external sources of pollution, with natural ventilation being maximised as much as possible.

In relation to construction materials and building finishes, the aim is to minimise materials that could have a negative impact on air quality. This would include Volatile Organic Compounds (VOCs), or materials containing formaldehyde. The ODA also aims that its designs facilitate effective air movement as well as maintenance and cleaning. In this way, the establishment and/or build up of dust, mould or other contaminants can be minimised.

The ODA is also committed to following the GLA London Best Practice Guidance in relation to Dust, Air Emissions and Construction Activities³.



Noise

The Park design will not only address how transport and industrial noise can be kept under control, such as through screening and absorption, but will consider how they can be offset by sounds with typically positive associations, such as birds and wildlife, and flowing water.

Setting the standards

CEEQUAL

Civil Engineering Environmental Quality Assessment and Award Scheme (CEEQUAL), was developed by the Institute of Civil Engineers to encourage environmental excellence in civil engineering projects. The ODA will ensure all contractors work towards achieving CEEQUAL where appropriate.

Attainment of a CEEQUAL aims to identify organisations which:

- Measure and compare standards and performance;
- Respect people and the society in which it operates;
- Seeks to undertake its work in an ethical and sustainable manner;
- Acts in a socially and environmentally responsible way; and
- Protects and enhances the environment.

Flood risk

Park infrastructure will be established to manage one-in-100 year floods, allowing for a 20 per cent increase in river flow and a six millimetre per year sea level rise that may occur as a result of the changing climate.

Sustainable Drainage Systems (SuDS) principles are being applied to the design of the Park, through minimising surfaces which do not allow absorption and considering infiltration opportunities, where possible.



‘This is a really ambitious strategy which will deliver the most sustainable Games in history and a sustainable legacy for the UK. I have no doubt the ODA will deliver the commitments set out in this strategy and more. It will be a great achievement.’

David Miliband
Secretary of State
for Environment,
Food and Rural Affairs

³ London Councils and the Greater London Authority, November 2006, The Control of Dust and Emissions from Construction and Demolition, Greater London Authority.



Construction National Skills Academy

The ODA will point contractors towards existing training initiatives such as the newly launched Construction National Skills Academy that is expected to play a key role in training those who will work on the sites up to 2012, and will give opportunities to students and local people to train them into local jobs.

Employment and business

ODA objective

To create new employment and business opportunities locally, regionally and nationally

The London 2012 Games will bring a large number of new employment and business opportunities which will be created before, during and after the Games.

Working with partners, the ODA seeks to ensure that all the processes used to recruit and manage employees working to build the venue, infrastructure and transport (including employees working within the supply chain) are demonstrably fair and offer opportunities to all.

The ODA also seeks to ensure that the procurement of work, goods and services arising from the ODA's programme is transparent, fair and open to a diverse range of suppliers, including small and medium sized enterprises (SMEs), social enterprises, and businesses owned by Black, Asian and Minority Ethnic (BAME) people, women and disabled people.

The ODA will publish its procurement policy in the spring of 2007.

Design

The ODA's employment and business objectives are at the centre of design. The redesign of the Masterplan in June 2006 included some explicit changes to improve the legacy employment offer of the Park. The International Press Centre/Main Broadcast Centre has been relocated to its new site in close proximity to Hackney Wick. This facility will offer employment opportunities from as early as 2008, as well as during the Games. After the Games, the IBC/MPC will be converted to educational, commercial or another use, but will provide lasting employment opportunities.

Partnership working

The ODA is working proactively on a number of training and employment initiatives to facilitate UK businesses and local people's access to the business and employment opportunities presented by the Games. The ODA is working with partners to develop these initiatives so that they can support contractors in accessing a diverse fit-for-purpose business base, and a diverse skilled workforce. These initiatives include the Local Employment and Training Framework, and national or sector initiatives including the Construction National Skills Academy.

The Local Employment and Training Framework (LETF)

A regeneration programme designed to deliver benefit to the residents and businesses of the five Host Boroughs, funded by the LDA to the value of £9.6m up to December 2009. The LETF aims to tackle barriers to employment and business competitiveness, reduce disparities in labour market outcomes, improve skills and maximise the potential for productivity and innovation. Initiatives are planned to include a local labour and business scheme, that supports local people into Games related vocational training and jobs, education and other career pathways.



Health and well-being

ODA objective

To provide for healthy lifestyle opportunities during the construction of, and in the design of, the Olympic Park and venues

One of the main reasons London won the right to stage the Olympic Games and Paralympic Games was its vision to develop and promote sport and healthy living through the Games.

The Olympic Park will feature new sports facilities that will serve the local communities as well as the rest of London and the UK. It will also create lasting opportunities for healthy lifestyles.

Creating opportunities for healthy lifestyles with the ODA starts in the construction phase. The ODA has broadened the traditional approach to Health and Safety, and is keen to promote healthy lifestyle opportunities to the workforce engaged in the construction of the Park and venues.

Healthy communities

The creation of a new Park with extensive recreational and sporting facilities provides a significant opportunity for lasting benefits in terms of health and wellbeing for local communities and beyond.

The ODA plans to ensure facilities are accessible and appropriate to the needs of the users, including local communities, with access for schools and for wider education purposes a priority.

During the Games, an 'Active Spectator Programme' will promote walking and cycling as key transport options, while it is hoped the new footpaths and cycleways in the Park will create healthier options for travel across east London after the Games.

Health and safety risk management

During construction, the ODA will require delivery against a set of comprehensive health and safety standards.

The ODA Design and Construction Health and Safety Standard sets out the standards and management approach for health and safety in design and construction activities.

Design teams are expected to ensure that opportunities are identified and exploited to reduce risk for those who construct, operate, use and maintain what has been designed.

Hazards, including hazardous materials, will be identified and reviewed throughout the design process, so that they can be eliminated, minimised or managed prior to construction.

Workforce health

The ODA aspires to provide occupational health support to suppliers and employees working on the Olympic Park site to minimise ill health and enhance productivity, and to promote the wellbeing of all operatives and staff.

This could include the following:

- Health questionnaires;
- Specific health appraisals and surveillance;
- Annual health checks and exposure assessments;
- Health education and promotion programmes;
- Drugs and alcohol testing;
- Construction first aid and paramedic service;
- Attendance management, rehabilitation and return to work programmes.



Inclusion

ODA objective

To involve, communicate and consult effectively with stakeholders and the diverse communities surrounding the Olympic Park and venues

London 2012 is already working closely with the communities neighbouring the Olympic Park to ensure that they play a full part in the regeneration of the area. The ODA is committed to helping develop a strong sense of ownership by local communities for the 2012 Games and the legacy that will endure for decades afterwards around the Olympic Park.

Consultation events were held around the Host Boroughs to hear views of local residents on the Masterplan in the autumn of 2006.

These were supported by exhibitions and interactive material that allowed local residents the opportunity to express their opinion on the plans for the Park and the progress that has been made.

More than 5,000 people took the chance to have their say in a process designed to provide them with a true sense of ownership and involvement.

A series of youth workshops with young people from the Host Boroughs were also held.

The first edition of a dedicated newsletter 'Ahead of the Games' was distributed widely among the five Host Boroughs to keep residents informed.

In partnership with the London 2012 Organising Committee, the ODA is fully committed to deepening this programme of communication and consultation.

Through this activity, the ODA hopes to provide accurate and timely information about the project to those directly affected during the construction phase, and to highlight opportunities for residents and businesses to participate.

School involvement

The ODA is committed to encouraging under-represented groups to consider construction as a viable career option and to organising careers talks in schools, site visits, mentoring and buddy schemes. Work placements and 'taster' weeks for young people and students in the local area will be made available in the coming years to help them gain the experience crucial to the achievement of NVQ qualifications.

Working in partnership

In order to deliver the Olympic Games and Paralympic Games, and the performance measures, within the ODA's Sustainable Development Strategy, the ODA is working with the following organisations:

Delivery partner:

- CLM

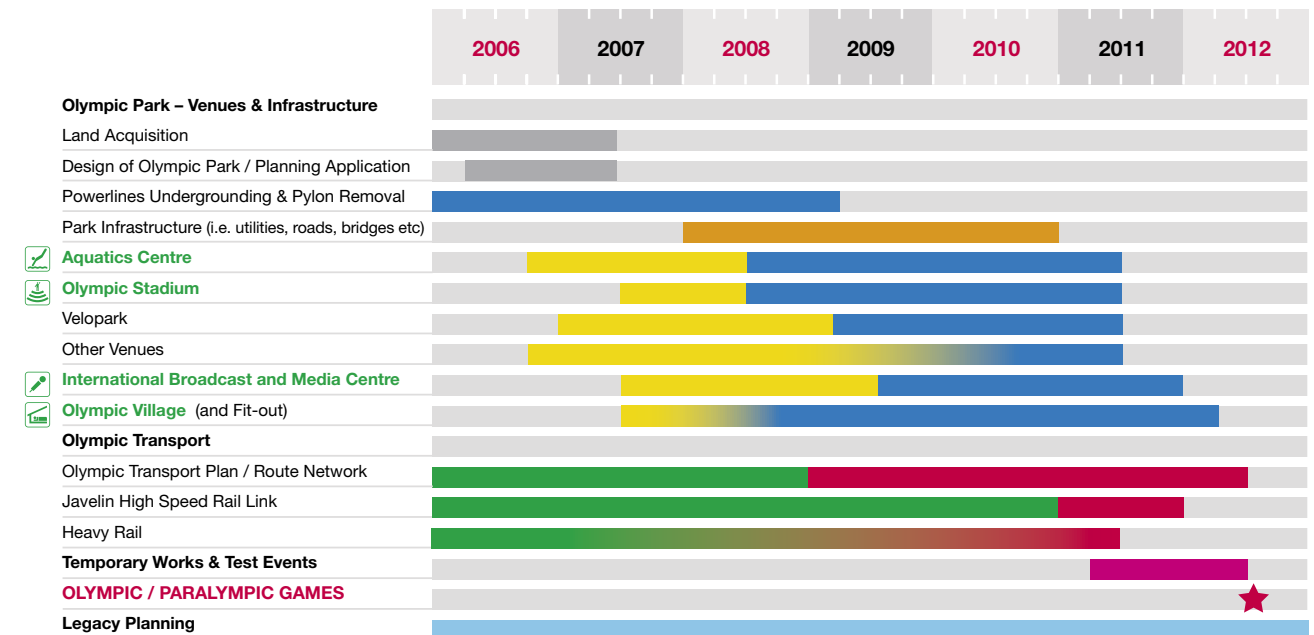
Other stakeholders:

- The London Organising Committee of the Olympic Games and Paralympic Games
- The Greater London Authority (GLA)
- Her Majesty's Government, co-ordinated through the Department for Culture, Media and Sport (DCMS)
- The London Development Agency (LDA)

- The five Host Boroughs: Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest
- Transport for London (TfL) and other transport delivery agencies such as Network Rail, Highways Agency and BAA
- Agencies involved in employment, skills, and business support initiatives – in particular JobCentrePlus (JCP), Business Link and the Learning and Skills Council (LSC)
- London Thames Gateway Development Corporation
- Strategic Forum for Construction
- Construction Products Association

- Building Research Establishment
- WWF and BioRegional, co-authors of 'Towards a One Planet Olympics', with London 2012 bid team
- Environment Agency
- British Waterways
- Natural England
- Lea Valley Regional Park Authority
- and a large number of other important organisations.

The ODA's funding package is made up of grants from the National Lottery, the London Development Agency and the Department for Culture, Media and Sport. Additionally the ODA receives Council tax precepts from the Greater London Authority.



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