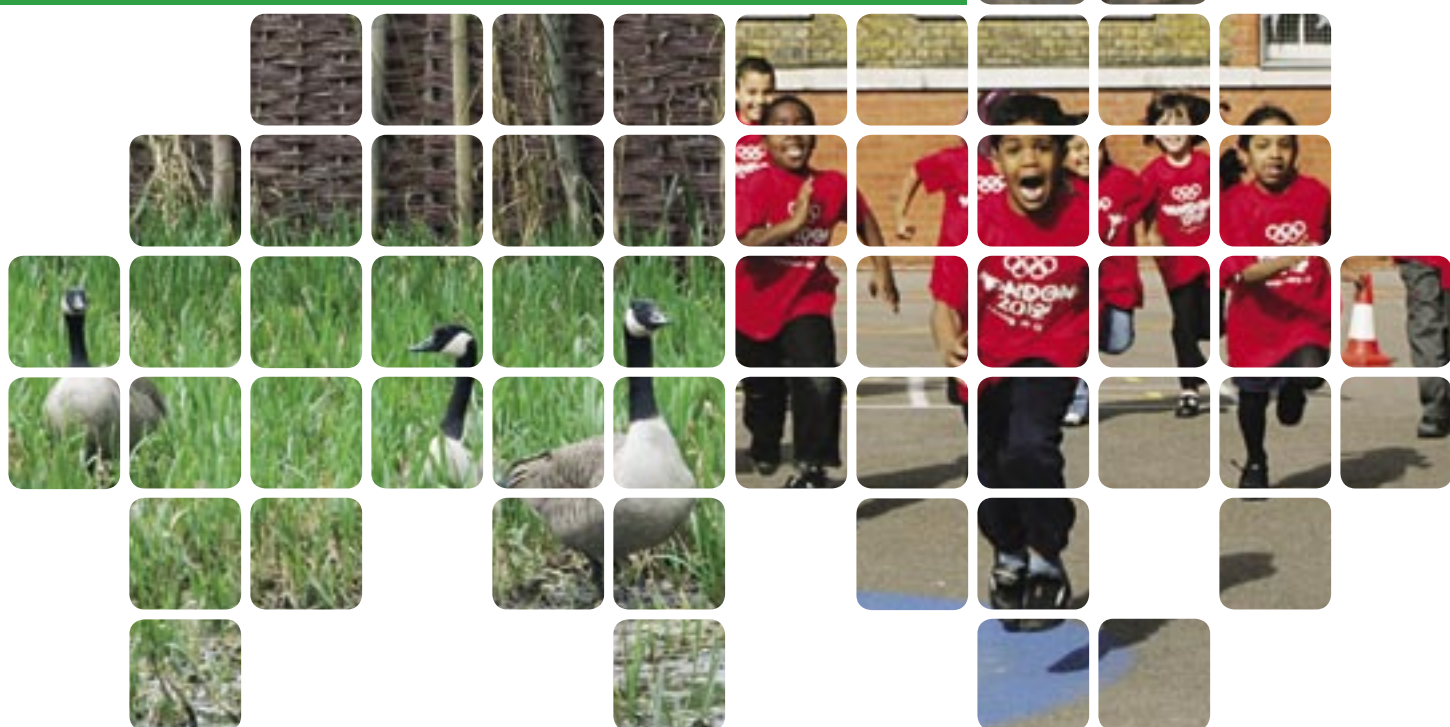
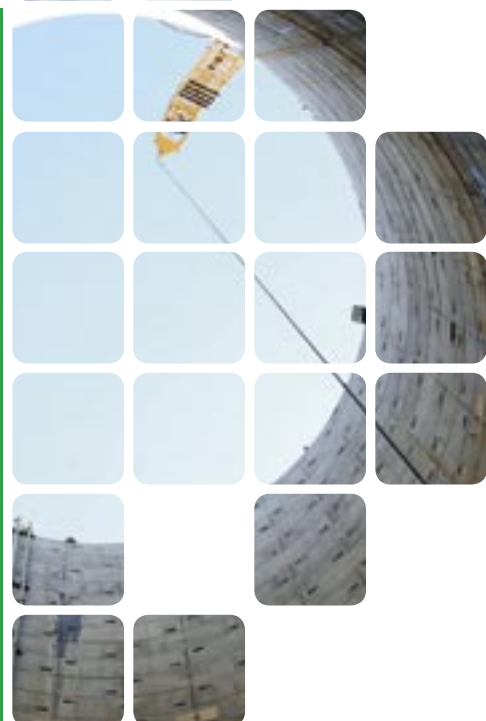


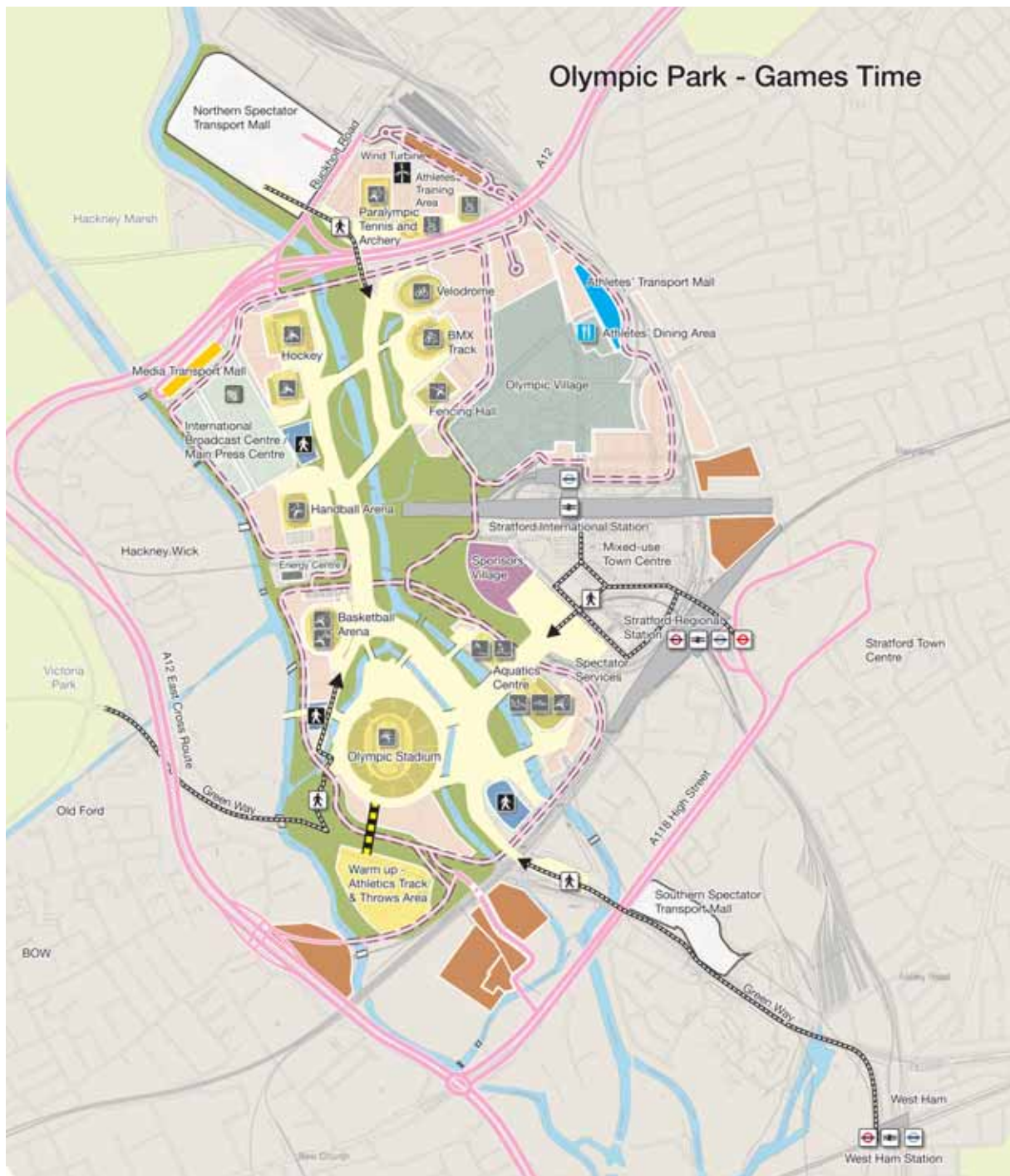


OLYMPIC DELIVERY AUTHORITY

Sustainable Development Strategy



Olympic Park - Games Time



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
Acting Chair of the Olympic Delivery Authority



Sebastian Coe
Chair of the London 2012 Organising Committee

Introduction

The Olympic Delivery Authority

The Olympic Delivery Authority (ODA) is an Executive Non-Departmental Public Body accountable to the Secretary of State for Culture, Media and Sport. It was established as a statutory corporation by the London 2012 Olympic Games and Paralympic Games Act 2006 on 30 March 2006, and is the statutory Planning Authority for the Olympic Park area.

As per Section 4 of the Act, the functions of the ODA are to do anything necessary for 'the purpose of:

- preparing for the London 2012 Olympic Games and Paralympic Games
- making arrangements in preparation for or in connection with the use or management before, during or after the Games of premises and facilities acquired, constructed or adapted in preparation for the Games, or
- ensuring that adequate arrangements are made for the provision, management and control of facilities for transport in connection with the London 2012 Games.'

In exercising its functions, the ODA must have regard to:

- the 'desirability, wherever relevant, of maximising the benefits that may be derived after the Games from its preparation, whilst contributing to sustainable development'
- safety of individuals participating in or attending the Games
- security of property.

The ODA's mission is to **'deliver venues, facilities and infrastructure and transport on time and in a way that maximises the delivery of a sustainable legacy within the available budget'**.

Delivery of this mission is key to the performance of the ODA.

The ODA is a relatively small organisation. It commissions work from various organisations to design and construct the Olympic Park and its infrastructure, as well as the new White Water Canoe Slalom course at Broxbourne, and additional works to existing venues at Eton Dorney and Weymouth and Portland. It also provides the transport infrastructure associated with the Olympic Park. The ODA's Delivery Partner is CLM. CLM assists the ODA in managing the design, procurement, and construction programme. The ODA also works with additional partners in the delivery of its transport programme, including Network Rail, Highways Agency and Transport for London (TfL).

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.

This strategy sets out how the ODA intends to deliver a sustainable legacy complementing its other objectives including delivery on time and the achievement of value for money, as the ODA must ensure that costs are firmly controlled and that the plans and budgets are deliverable.



This strategy sets out the context to the ODA's work, the key projects it is responsible for delivering, its sustainability objectives, and the strategy for advancing these objectives through the design, procurement and construction of the permanent venues, facilities, infrastructure and transport within the Olympic Park, and at Eton Dorney, Weymouth and Portland and Broxbourne.

The ODA, together with its supply chain, will seek to deliver against the measures identified within this strategy. The ODA is working closely with industry to encourage innovation and market response to its requirements.

The strategy sits alongside the ODA's Draft Procurement Policy, which states how the ODA needs to balance time, costs, and fit-for-purpose objectives to demonstrate value-for-money in the use of public funds. The final Procurement Policy will be published in spring 2007.

The ODA will work in partnership with those listed below including members of the Olympic Board; the London Development Agency (LDA) as the landowners for the Olympic Park; and other key stakeholders and agencies in order to deliver a shared programme on sustainable development that aims to deliver against the overarching London 2012 Sustainability Policy (Appendix A). A formal steering group¹ on sustainable development, reporting into the Olympic Board, has been established to co-ordinate this shared programme of activity.

Further information on this broader London 2012 sustainable development programme, incorporating the activities of the London Organising Committee of the Olympic Games and Paralympic Games, the Greater London Authority (GLA) Group, and Her Majesty's Government will be published in the spring of 2007.

Summary of Key ODA Stakeholders and Decision Makers

1. The London Organising Committee of the Olympic Games and Paralympic Games, responsible for the staging, planning and hosting of the Games.
2. The Greater London Authority (GLA), responsible for maximising the economic, social, health and environmental benefits the Games bring to London and all Londoners.
3. Her Majesty's Government, co-ordinated through the Department for Culture, Media and Sport (DCMS), responsible for maximising the economic, social, health and environmental benefits the Games will bring to the United Kingdom.
4. The London Development Agency (LDA), leading the land acquisition activity on the Olympic Park, will be the major landowner for the Olympic Park, and is funding a package of employment, training and business support in the five Host Boroughs² surrounding the Olympic Park through the Local Employment and Training Framework (LETf). The LDA will also be establishing the plan for legacy in conjunction with the ODA.
5. The five Host Boroughs of Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest.

¹ Membership of Steering Group: DEFRA, DCMS, GLA, LDA, London 2012 Organising Committee, BOA and OPSU.

² Greenwich, Hackney, Newham, Tower Hamlets, Waltham Forest.

6. Transport for London (TfL) and other transport delivery agencies such as Network Rail, Highways Agency and BAA, who are responsible for delivery of necessary transport improvements.
7. Agencies involved in employment, skills, and business support initiatives – in particular JobCentrePlus (JCP) and the Learning and Skills Council (LSC).
8. London Thames Gateway Development Corporation.
9. Strategic Forum for Construction.
10. Construction Products Association.
11. Building Research Establishment.
12. WWF and BioRegional, co-authors of the 'Towards a One Planet Olympics' concept.
13. Environment Agency.
14. British Waterways.
15. Natural England.
16. Lea Valley Regional Park Authority.



Background

The London bid to host the 2012 Games set out a vision and plan for how the Games could play a major role in the revitalisation of east London, and for regeneration, in a sustainable way.

This sustainable development vision was encapsulated in the theme ‘Towards a One Planet Olympics’ developed in partnership with WWF and BioRegional. It set out a series of actions for how the Games could help advance the UK towards ‘One Planet Living’³.

In order to set out the key policy priorities to realise this vision, the Olympic Board published the London 2012 Sustainability Policy in the summer of 2006. This set out five ‘headline themes’ as key policy areas, which were:

- Climate change;
- Waste;
- Biodiversity;
- Healthy living;
- Inclusion.

These represent the priority sustainability themes across the entire London 2012 programme (including venues outside London), and form the basis of strategies and action plans for the delivery bodies and official stakeholders.

In order to allow targeting and monitoring, the ODA has sub-divided these five headline themes into twelve objective areas against which to measure progress. The relationship between the ODA’s twelve objectives and the five themes is set out in the figure below, with many of the objectives covering more than one of the key headline themes.

These twelve objectives areas have been adjusted as the programme has evolved, deriving from the initial twelve theme areas outlined in the Sustainability Statement which accompanied the first planning application for the Olympic Park development in 2004. In August 2006, the ODA published a Draft Sustainability Principles and Progress Report. This document sets out the context of the ODA’s activities, its draft sustainability objectives set against these twelve themes, and included a work in progress report.

Following comments received on these objectives, the ODA has worked to refine its approach. The amended objectives listed overleaf set out the ODA’s strategy for delivering a sustainable development, in line with the aspirations outlined by the original 2012 bid, working ‘Towards A One Planet Olympics’, and in the London 2012 Sustainability Policy.

Appendix B provides a table which sets out this evolution, and the relationship between these themes and other documents.

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				✓	✓	✓	✓	✓		✓	✓	

³ 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.
 - Water:** To optimise the opportunities for efficient water use, reuse and recycling.
 - Waste:** To optimise the reduction of waste through design, and to maximise the reuse and recycling of material arising during demolition, remediation and construction.
 - Materials:** To identify, source, and use environmentally and socially responsible materials.
 - Biodiversity and ecology:** To protect and enhance the biodiversity and ecology of the Lower Lea Valley, and other venue locations.
 - Land, water, noise, air:** To optimise positive and minimise adverse impacts on land, water, noise, and air quality.
 - 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.
 - Transport and mobility:** To prioritise walking, cycling and the use of public transport to and within the Olympic Park and venues.
 - Access:** To create a highly-accessible Olympic Park and venues by meeting the principles of inclusive design.
 - Employment and business:** To create new employment and business opportunities locally, regionally and nationally.
 - Health and well-being:** To provide for healthy lifestyle opportunities during the construction of, and in the design of the Olympic Park and venues.
 - Inclusion:** To involve, communicate, and consult effectively with stakeholders and the diverse communities surrounding the Olympic Park and venues.

These twelve areas are described in more detail from page 14 onwards.

The objectives apply across the ODA's activities, although much of the strategy document describes activity within the Olympic Park site. Information on some of the key sustainability aspects of non Olympic Park venues is found on page 52.

The ODA recognises that advancing these objectives requires a robust management approach, with sustainability and value for money being core components of decision making.

The management of sustainability requires it to be integrated into project procurement policies, project requirements, project definitions, and specific contracts across the programme. The sustainable development outcome sought will largely be determined by literally thousands of programme execution decisions by the many people and organisations involved.

Decisions will include the environmental, social, and economic considerations along with cost, schedule, and quality. In so doing, the ODA strives to create the 'triple bottom line' of successful outcomes for the environment, the economy, and society.

The ODA's final procurement policy will be published in the spring of 2007 and will include a commitment to sustainability being a core component of the many procurements, all achieving the ODA's value-for-money criteria.

Related strategy sections and other documents:

- Management
- ODA Draft Procurement Policy



The Olympic Park – A sustainable development

In establishing its Sustainable Development Strategy, the ODA has been mindful of the following challenges and opportunities.

The Olympic Park is an area of great potential situated around the River Lea, bordered by the A12 in the north and extending as far south as Stratford High Street and features approximately 110 hectares of open space.

The Park is primarily situated on contaminated and derelict land. The landscape of the valley is dominated by past industry and overhead electrical pylons. It is also home to some of the most deprived communities in the country. Three of the Host Boroughs contain the third, forth and the eleventh most deprived wards in the country⁴. East London also experiences significant levels of unemployment with three boroughs higher than 10 per cent, or roughly twice the English average: with Hackney 16.4 per cent, Newham 13.5 per cent, and Tower Hamlets at 11.8 per cent⁵.

As the centrepiece for the 2012 Games, the Olympic Park will host high volumes of visitors. From 2012, it will evolve to provide a high-quality, open space for legacy, providing a valuable resource to local communities and visitors alike.

Thousands of new homes are being built neighbouring the Olympic Park, which will house Olympic and Paralympic athletes during the Games. These will be converted post Games, and will be supported by new schools, new utilities infrastructure, roads, transport, and community and health facilities in the local area.

Stratford City, neighbouring the Olympic Park, will become a major new town and business centre with 139,350sq metres of retail space and 185,800sq metres of office space.

After the Games, the Lower Lea Valley will benefit from one of the largest new urban parks in Europe for 150 years, with an enhanced network of restored waterways and new wildlife habitat. The Park will form part of London’s network of green spaces, linking into the wider Lea Valley Park.

There will be world-class sports facilities available for both local use and as training grounds for elite athletes of the future and the hosting of world-class events.

Transport links are set to be improved with new stations, line extensions and additional trains.

Challenging environmental standards will be promoted to assist in reducing the impact of the development on climate change, and to avoid contributing to the growing amount of waste produced in London.

Significant employment and business opportunities will also arise as a result of the development with jobs being created in the construction of the Olympic Park.

⁴ London Divided: Income inequality in the capital, November 2002.
⁵ The London Plan SubRegional Development Framework: East London, May 2006.

ODA responsibilities

Olympic Park

The Park is located within the Lower Lea Valley. The ODA is responsible for the Masterplan for the Olympic Park, and the design and construction of the Park for the Games and for the immediate post Games legacy in 2013.

Venues

The ODA is responsible for the design and construction, and the post-Games deconstruction and transformation to legacy mode of the new permanent venues associated with the London 2012 Games, and for permanent works at existing venues. These venues include: Olympic Stadium, Aquatics Centre, Velodrome, Paralympic Tennis and Archery Centre, Broxbourne Canoe Slalom Centre, Weymouth sailing venue, and Eton Dorney’s rowing facility, as well as the International Broadcast Centre and Main Press Centre (IBC/MPC).

Infrastructure and utilities

The ODA is responsible for designing and constructing the roads, bridges and utility services within the Olympic Park.

Enabling works

The ODA is responsible for site clearance and the demolition of onsite buildings and structures, the remediation of contaminated land, the building of river walls, and earthwork movements across the site.

Transport

The ODA is responsible for the Transport Plan for the London 2012 Olympic Games and Paralympic Games, establishing the infrastructure to transport athletes, officials and spectators to the Games. It is also co-ordinating the improvements and upgrades to public transport systems and roads that serve the Games.

Olympic Village

The Olympic Village will be part of a mixed use development procured and delivered by private sector partners. The residential units will house athletes during the Games. After the Games, the Village will be transformed into a mixed tenure residential neighbourhood, incorporating a range of affordable housing options.

The sustainability objectives outlined in this strategy apply to the residential development as well as to the design and construction of the Park and venues. Where the performance measures for the design and construction of the residential development differ to those of the venues, then this is noted within the strategy.



ODA sustainable development objective areas

Carbon

Objective: To minimise the carbon emissions associated with the Olympic Park and venues.

The ODA aspires to achieve a reduction in carbon emissions for the built environment of 50 per cent by 2013⁶.

The ODA plans to deliver a low carbon development through a three-pronged approach:

1. Minimising the energy demand of the Park, venues and Village;
2. Efficient energy supply through low carbon technologies;
3. Supplying energy from new, renewable sources.

This approach is outlined in more detail below for the design of the Park, venues and Village, and then for the enabling and construction works.

The use of materials and transportation are also key elements to reduce the carbon emissions associated with ODA developments. More information on this is found in the Materials and Transport sections. The ODA's approach to carbon reduction will form part of the overall Games carbon reduction programme.

Design of the Park, venues and Village

1. Minimising demand

The ODA aims for the permanent venue structures post Games to be 15 per cent more energy efficient than 2006 Part L Building Regulations. The Olympic Village will be designed to be 25 per cent more energy efficient than the 2006 Regulations.

The ODA aims for all permanent Olympic Park venue structures post Games to achieve a Building Research Establishment Environmental Assessment Methodology (BREEAM) Excellent rating. While this does not in itself specify a certain level of energy efficiency or carbon emissions, performance above the current building regulations will be required. Further information on BREEAM is in the management section of the strategy on page 54.

The Olympic Village will be designed and built to the current Building Research Establishment (BRE) EcoHomes Excellent standard.

Demand for energy from the venues and buildings can be reduced through innovative design incorporating the following approaches:

- Buildings will be constructed to maximise the benefits of natural light and ventilation, balancing the requirements for heating and cooling.

⁶ Reduction against 'business as usual', assuming 2006 Building Regulations with no further low or zero carbon technologies.

- The thermal mass and structure of the building will be utilised to minimise heating, cooling and electrical demand.
- Lighting within the park will be designed to optimise energy use, subject to security, aesthetics and wayfinding objectives, through dimmed and timed systems.
- 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, manual overrides, and will be linked to effective operator awareness and activities.
- Monitoring and targeting will be included as part of the Building Management Systems to facilitate systems optimisation.

2. Efficient energy supply

Combined Cooling, Heating and Power Plants (CCHP) recover the heat that is a by-product of electricity generation, and distribute it alongside electricity in the form of hot water, which can be used for space heating and domestic use. The heat will also be used to generate cooling via absorption chillers to the IBC/MPC. The use of CCHP allows for more efficient energy generation, as it uses the heat which is generally lost by centralised power generation distributed through the National Grid. CCHP can be up to 90 per cent efficient, whilst central generation is approximately 37.5 per cent efficient by the time it is used.

It is proposed that energy to the Olympic Park and Village will be supplied efficiently through a gas-fired CCHP, housed at Kings Yard, on the western edge of the Park. The capacity of the building will allow for potential changes to fuel sources, as new renewable technologies become available. The heat network throughout the Park has been sized for legacy requirements, and is being shared with the Stratford City development, to provide the optimal solution. After the Games there will be opportunities for this network to grow into surrounding areas and for extra sources of heat and power to be added. The CCHP will allow for a further reduction in carbon emissions of some 20 to 25 per cent over current building regulations and industry standards.

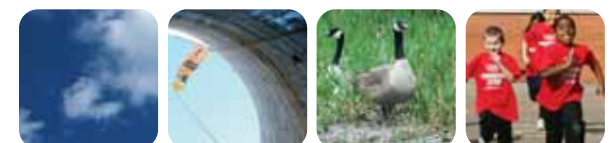
3. Renewable sources of energy

New renewable energy infrastructure will be provided for the site, providing 20 per cent of the Olympic Park and Village energy demand in the immediate post-Games period in 2013 from renewable sources.

Turbine

A 120-metre wind turbine is proposed for Eton Manor to the north of the Park site. The proposed turbine is anticipated to provide the energy equivalent to supply 1,200 homes over an average year. Subject to planning permission, construction is due to start in spring of 2008, with the turbine being fully operational by 2010. The turbine will continue to provide power for an expected 20 years.

In addition to the wind turbine, the Olympic Park will include biomass boilers to supply heat to the site. The potential for a Micro Hydro scheme is also under investigation.



Integrating renewables such as ground source heat pumps and photovoltaic cells into the permanent venues in the Olympic Park is also under consideration.

The ODA's energy supply strategy focuses on providing the energy infrastructure required for the immediate post-Games legacy requirements, thereby future-proofing the development, and avoiding the need to install additional infrastructure post-Games.

Enabling and construction works

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

Energy efficient options for site facilities will seek to be incorporated wherever possible. These may include energy efficient light bulbs and automatic controls, which will supplement good housekeeping such as switching off equipment when not in use.

Building plants will be well maintained, and only run as long as necessary. The ODA's Health and Safety Standard requires the control of noise, vibration and obtrusive light on site to help not only minimise carbon emissions, but also to reduce disturbance for workers and the surrounding communities.

Cost benefit analysis is currently under way to assess the options for small-scale use of renewables as part of site works. Small wind turbines are being considered to power satellite site offices, as is the use of solar street lighting.

Energy use and resulting emissions will be monitored throughout the construction activities.

Monitoring and measurement

The ODA believes that monitoring carbon emissions is important to be able to estimate the overall carbon footprint of the Games.

Actions:

- Each permanent venue to aim to achieve a 15 per cent carbon dioxide reduction above Building Regulations 2006 Part L from energy efficiency and demand reduction measures.
- The Olympic Village to be 25 per cent more energy efficient than 2006 Building Regulations.
- Permanent venues to achieve a BREEAM Excellent Rating.
- The Olympic Village to achieve an EcoHomes Excellent Rating.
- Provision of a Combined Cooling, Heating and Power plant.
- 20 per cent of all energy demands for the immediate post-Games legacy to be derived from on site renewable sources.
- Aspiration to reduce the overall carbon emissions associated with the built environment in the Olympic Park development by 50 per cent by 2013.

Related strategy sections and other documents:
Transport;
Materials.

Water

Objective: To optimise the opportunities for efficient water use, reuse and recycling.

A proactive and practical approach to water management will be taken throughout the Olympic site. The ODA proposes to minimise the demand for potable water by:

- Reducing demand through management techniques and encouraging behavioural change;
- Reducing demand via water-saving technologies;
- Utilising alternative sources of non-potable water, such as rainwater and grey water, where feasible and cost effective to do so.

Managing and seeking to minimise the demand for water during the construction and operation of the Olympic Park facilities is part of the ODA's approach to future-proofing the development, enabling it to adapt to the changing climate.

Demand reduction

The ODA seeks a 40 per cent reduction in the demand for potable water, compared to current industry practice, for permanent venues. For the residential development, a target of 20 per cent reduction has been established, recognising the more challenging nature of the development, including patterns of use and building structure.

Venue design teams will seek to reduce demand for potable water, through the incorporation of water saving technology such as low flush toilets, aerating flow restrictor taps with automatic shut off, low flow showers, leak detection systems, proximity shut off valves and metering for all substantive uses, linked to a Building Management System (BMS).

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.

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.

The ODA is undertaking feasibility work to assess the viability of alternate sources, such as rainwater harvesting from buildings around the site and the reuse of grey water on a lifecycle cost basis. The ODA will promote the use of these technologies within the permanent facilities where this is feasible and cost effective.

Enabling and construction works

Water efficiency is a key consideration during construction. There are a number of opportunities to both reduce water demand, and to utilise non-potable sources.



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 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.

Actions:

- 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.
- Promote rainwater harvesting and/or grey water recycling where feasible following a cost benefit analysis

Related strategy sections and other documents:

Land, water, noise and air;
Biodiversity and ecology.

Waste

Objective: To optimise the opportunities to design out waste, and to maximise the reuse and recycling of material arising during demolition, remediation and construction.

The ODA's approach to waste management is intrinsically linked to its approach to the use of materials. The ODA's approach to waste management follows the hierarchy of:

- Eliminate;
- Reduce;
- Reuse;
- Recycle;
- Recover; and
- Dispose of waste.

At least 90 per cent, by weight, of the material from demolition works will be reused or recycled.

Waste minimisation and management begins with design. The ODA is seeking to design out, as far as practical, the production of waste during construction and operation of the facilities. In line with its commitment to supporting communities (see page 31), the ODA is designing the Olympic Park and venues wherever possible for post-Games use.

Across all of the elements in the Park, care will be taken to optimise the provision of permanent elements for legacy and temporary elements for Games time. To minimise any waste during the conversion from Games to the legacy phase, all temporary venues and structures will be designed with reuse and recycling in mind.

Concourse

The concourse requires 25 to 30 hectares of hard paving in Games mode to support the high volume of spectators. In legacy the requirement will be for 5 to 10 hectares. After the Games the extra areas will be transformed on-site, reused or recycled.

The approach to designing for legacy will require significant market innovation, which it is hoped will benefit the management and design of future events. Designers will be required to provide the ODA with information on how any temporary elements will be reused or recycled post-Games.

The topographical modelling and design of the Olympic Park site has sought to minimise the export of material and to minimise the import of clean material or secondary aggregate. It has allowed for a design which aims to balance cut and fill, so that only the most contaminated material needs to be removed from site, subject to:

- The aim to provide highly accessible environments (see Access section, page 40), especially at the Stratford City interface;
- The desire to minimise the need for additional earth movement in the conversion phase post-Games;



- Allowing for existing and proposed infrastructure and bridge clearances;
- Providing the Games and legacy development platforms; large flat areas for venues and back of house activities;
- Providing appropriate measures to reduce flood risk.

When designing venues, materials selection and structure will be kept under review to help minimise waste. Resource efficiency will be a key objective, alongside maximising the use of secondary materials. This can be through designing around standard sizes to avoid cutting down and creating waste, and also by avoiding details which create waste material without enhancing the design. The ODA will also work with the supply chain to ensure, wherever practical, that pre-manufactured materials are made available to suit the design, rather than having to cut down and create waste on site. The choice of materials themselves can also have an implication on waste at the construction stage, particularly the use of materials that can be manufactured off site.

The design of venues and infrastructure will consider robustness and protection to minimise wear and damage. Venue and surrounding area designs will allow space for the effective segregation and management of waste, during Games and legacy, to encourage positive behaviour by users of the facilities.

Enabling and construction works

The works currently under way to bury the overhead powerlines are producing natural ground arisings from the tunnels and shafts. The natural ground will, as far as possible, be used as fill material as part of the Olympic Park development, including for surface treatment and engineering structures including land bridges and landscaping.

A Demolition and Site Clearance Materials Management Plan is in place for the demolition of on site buildings and site clearance. This plan sets out the hierarchy of actions for demolition and site clearance materials, i.e. the priority to reclaim, reuse, and recycle wherever possible. Pre-demolition surveys are taking place, identifying the types and volumes of materials. From these surveys, specific Site Waste Management Plans are developed, including specific targets for the reuse and recycling of materials, which form contractual commitments, as well as plans for the effective management of any contaminated waste.

A steering group has been established to maximise reuse and recycling on site. The Park and venue designers will be key participants in this steering group to assist in identifying the opportunities for reuse of material which will assist in maintaining the link between the current site and the site during the Games and post-Games legacy.

Significant contamination is known to exist on site and minimisation of waste is central to the strategy for its remediation.

The waste strategy and Site Waste Management Plans for the construction phase will be based on the proximity principle and source segregation. All materials are planned to be bulked and classified on site. Maximum practicable reuse, recovery and recycling of materials will be achieved through on site processing and utilisation of Construction Material Recycling Facilities (CMRFs). The Waste and Resources Action Programme (WRAP) are currently working with the ODA to advise on appropriate targets for this phase of the programme.

The ODA will work with its supply chain to reduce the waste packaging associated with construction materials. This will work in tandem with the approach to logistics, which will explore more opportunities for returning packaging to sender.

Actions:

- Operate within the ODA's waste hierarchy of eliminate, reduce, re-use, recycle, recover, dispose.
- At least 90 per cent, by weight, of the material arising through the demolition works will be reused or recycled.

Related strategy sections and other documents:

Materials.



Materials

Objective: To identify, source, and use environmentally and socially responsible materials.

The materials used in the construction of the Olympic Park and venues are a key aspect of the ODA's commitment to delivering sustainable developments.

The ODA has identified four principle sustainability considerations when sourcing materials as part of a performance-based approach:

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

1. 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. With reference to timber, the ODA expects all timber to come from known legal sources. The ODA will also seek to maximise timber from sustainable sources, with appropriate supporting evidence as defined by the UK Central Point of Expertise on Timber (CPET).

2. Secondary materials: The ODA aims to reclaim and reuse material in the Park and venues arising from demolition of existing buildings, and to use materials from other sites in close proximity, as well as materials from other post consumer waste streams. The proportion of secondary materials in the permanent venues and the Village, as a percentage of materials value, will be at least 20 per cent. The ODA aims to achieve a level of 25 per cent recycled aggregate, by weight, for the permanent venues and associated Olympic Park wide infrastructure.

Materials Re-use

An example of the reuse of materials in the Olympic Park development is the reuse of timber. The ODA will reuse timber arising from any trees which need to be removed as new log walls where practical to do so. Further information on this is found in the Biodiversity and Ecology Section.

In addition, there are 700 to 1000T of York Stone and 300T of granite setts available for reclamation on the site, which will be used in paving and features. A number of bricks set in lime mortar in buildings at Eton Manor could also be reused in utility housing and other small buildings on site. All reuse of materials on site will be subject to the logistics, cost and timescale of secure site storage and transport.

3. Embodied impact of materials: The specification of the major building elements will be expected to achieve an area-weighted average rating of A or B as defined in the current third edition of the Green Guide to Building Specification (due to be updated in 2007). Where specifications are not included in the current version of the Green Guide, the supply chain must demonstrate how the embodied impact of the specifications has been minimised.

4. Healthy materials: The health of the construction workforce and the future building occupants is important to the ODA. Where possible, the ODA will encourage the specification of materials that represent a lower risk to health. This includes, but is not limited to, prohibition of use of substances which contain volatile organic compounds and respirable particles and fibres, formaldehyde, and similar. Further healthy materials requirements are found within the ODA's Design and Construction Health and Safety Standard.

In addition to the overall four-pronged strategy, the ODA will be utilising a bespoke BREEAM approach and will also use the current version of EcoHomes approach as a tool for the integration of sustainability into the venue and residential design and construction, which is discussed in more detail in the Management section. Materials use is a key component of the credit system used in BREEAM (page 56).

The ODA is in discussion with the Construction Products Association and the construction products industry to enable industry to meet the ODA's requirements. This includes the timber, concrete, plastics, and steel industries.

These requirements will be incorporated into design briefs, contract requirements, and performance assessment.

Best Practice Design Workshops

To assist the ODA's designers in incorporating these material requirements into the design of the Park and venues, regular design workshops are taking place which seek to inform designers of the different types of materials they could use, and also to provide information on the materials arising through the demolition activities. The Construction Design and Management (CDM) co-ordinator will also seek to encourage designers to research and explore different options for using materials which assist in meeting ODA objectives.

The ODA is also exploring opportunities to measure the overall impact of using different materials.

Enabling and construction works

Enabling works have commenced on site, and the ODA is working to ensure that the commitments are being established within existing working practices.

A register of construction materials which may come into contact with the groundwater is being maintained with particular emphasis on List I/II substance elements (as defined by the Groundwater Regulations), and their use to avoid detrimental impact on the environment.



Actions:

- 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.
- Establish management, monitoring and reporting programmes to support and verify the materials strategy in practice.
- All timber used will be from known, legal sources, with clear supply chain evidence.
- The ODA will seek to maximise timber from sustainable sources, supported by appropriate evidence as defined by the UK Central Point of Expertise on Timber (CPET).
- At least 20 per cent, by value, of construction materials will be of a reused or recycled source.
- The ODA aims to achieve a level of 25 per cent recycled aggregate, by weight, for the permanent venues and associated Olympic Park wide infrastructure.

Related strategy sections and other documents:
Waste.

Biodiversity and ecology

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

The existing ecological character of the Olympic Park site falls loosely into two types: brownfield and waterways.

Existing brownfield habitats in the Lower Lea Valley vary from ephemeral and ruderal vegetation on recently cleared sites to grassland, scrub and woodland in long abandoned areas. Where topsoil is abundant, relatively simple communities, dominated by species like mugwort, nettle or Japanese knotweed, occur. Where substrate fertility is low, for example where the ground is made up of demolition waste, the flora is much more diverse.

The river corridors are of significant value and contain associated important habitats, namely mudflats, reed beds and marginal vegetation, and associated species such as inter-tidal invertebrates, fish and birds. The new freshwater habitats created within the Park can provide new ecological opportunities. The wider significance of having linear wetlands running north-south along the Lea Valley is strategically very important.

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. It aims to set out a framework to identify, maintain and enhance the biodiversity of the Olympic Park. The plan will include both Habitat Action Plans and Species Action Plans, which set out the aims, conservation status, issues, and factors affecting the species or habitat, as well as strategies for their management. This action plan will be a component part of the overall programme approach to biodiversity incorporating other sites and outreach and awareness raising initiatives linked to the Games.

It is also an internal tool and guide for site-specific ecological plans as work commences across the site. In this way, the ODA can protect and enhance biodiversity.

Habitat retention

Remediating and recontouring the site means that much of the existing vegetation cannot be retained. However, a number of relatively high value sites, including waterside and woodland areas, which will be retained have been identified as refuges which will be safeguarded through the construction phases and incorporated in the Park design. In order to provide continuity for wildlife during the construction phase and to provide alternative sites for legally protected species, a number of early temporary and permanent habitat creation projects will be undertaken.

New, open space totalling approximately 110 hectares will be provided as part of the Olympic Park and legacy development.



In the long term, the aim is for revived waterways, wetlands and other wild areas that will provide a recreational, as well as ecological bonus, for local people and London as a whole. A fundamental principle is the maintenance of continuous ecological corridors created for the Games and in the immediate legacy, crossing the Park and linking it with adjacent areas and networks, both aquatic and terrestrial, including the Greenway.

The Park has the opportunity to function both ecologically and recreationally. The Park will become a learning landscape, with the ecology providing a major educational resource, for school children to post-doctoral researchers. Re-profiling of the waterways both for and after the Games will extend and widen wetland habitats, included submerged, floating and emergent aquatic vegetation and reed beds, providing a major new inner-city wetland. The wetland elements will merge with and complement terrestrial habitats so that the new river system is an integral part of the Park.

The plant species for the Park are planned to be largely native to England, appropriate to London and preferably of regional or local origin. Seed collections have been carried out on site to this end. Habitats may include existing native mature woodland, scrub, woodland edge habitats (including tall herbs), wetlands (including reed bed and wet woodlands) and various species-rich grasslands. One form of grassland proposed is stony meadows: low nutrient and species rich grassland established on reused demolition waste. Amenity grassland is planned to be in the form of species-rich lawns, so that even the most robust and well-used areas will contribute to the overall ecological value of the Park.

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. The impact of bridge shading on waterways and banks will also be ameliorated by reducing the number and width of bridges in legacy.

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.

Safeguarded habitat refuges, especially Bully Point, will be surrounded by log walls created using timber felled in site clearance. 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 of great benefit to important groups such as reptiles, amphibians, specialist dead wood invertebrates and lower plants. They will also make a significant contribution to amphibian and reptile mitigation requirements.

Enabling and construction works

The ODA aims to protect much of the most valuable ecological resources in-situ in a defensible network from which re-colonisation can occur. For areas that must be cleared for remediation, the aim is to salvage much of the site biodiversity for reintroduction and expansion of the refuge network as soon as remediated sites become available.

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

Throughout the course of the enabling works, a number of ecological constraints and receptors will require a monitoring programme to minimise impact and guarantee statutory compliance. Japanese knotweed has been identified at West Ham and Giant Hogweed has been identified along the River Lea. Control programmes have been implemented. Hedgerows are being protected during construction. Ecological mitigation is required at two of the shaft sites in Hackney. Reinstatement and ecological mitigation will be undertaken from March 2007.

Actions:

- The design of permanent structures will have proper regard to the protection and enhancement of key species and habitats and ecology of the Lower Lea Valley, and to integrate with and support the objectives of the Olympic Park design and Olympic Park Biodiversity Action Plan.
- Site-specific ecological management plans will translate the Outline Biodiversity Action Plan into programme specific actions during the construction work.
- Enhancing the ecological value of the Park through the integration of habitat creation and landscape design.

Related strategy sections and other documents:
Land, water, noise and air.



Land, water, noise and air

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

The ODA is working proactively with its contractors to maximise environmental protection and to minimise both environmental harm and disturbance to local communities and businesses. Tier One contractors will be required to have environmental management systems and environmental management plans in place prior to work commencing. Subcontractors will either be required to have these systems in place or to operate within the systems of the ODA or its Tier One contractors.

The ODA seeks to ensure that the range of environmental risks are identified within the environmental management plans, as well as associated mitigation and management measures. Environmental management systems can either be separate, or integrated with contractor's health and safety and/or quality systems.

The ODA will publish a Design and Construction Environmental Standard in spring 2007 which will set out its detailed requirements for environmental management.

The ODA will be applying the Civil Engineering Environmental Quality Assessment and Award Scheme (CEEQUAL) to infrastructure projects to help manage environmental issues during design, enabling and construction works.

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

Information on CEEQUAL and CCS is described in more detail in the Management section (page 54).

The Olympic Park

Remediation of the contaminated land on site will bring hitherto inaccessible polluted land back into public use.

Due to the level of contamination on site, plus the extent of landscape remodelling to create the wetlands, Park and development platforms, much of the soil is being moved and treated within the site. Topographical modelling has been used to maximise the retention of soil where possible subject to contamination and design constraints. The remediation and remodelling will also necessitate the removal of many of the trees on site. Efforts will be made to retain trees where possible: trees at East Marsh and Bully Point are being protected, for example. The Outline Biodiversity Action Plan will provide for more biodiverse habitats such as species-rich grassland to be created and enhanced.

The ODA's delivery partner is establishing a Code of Construction Practice. The Code will address how activities will be delivered on site in order to minimise risk to the environment and disturbance for the local communities. Measures will include: limiting and managing emissions to air, water and land, operational schedules to reduce the risk of noise impacts, protection and enhancement of biodiversity and a link to Biodiversity Action Plans. An example may include planting to provide screens to protect against noise and visual impacts.

Waterways

Water courses and wetland features are key elements of the Park design. The waterways present an opportunity for leisure and commercial transport, environmental enhancement and public access and amenity. The ODA has been working with British Waterways, the Environment Agency, English Nature and the London Thames Gateway Development Corporation to develop a proposal for the reinstatement of a water control structure in the Prescott Channel. This proposal, which would be delivered by British Waterways, would allow for the delivery of some of the construction materials to the Olympic Park site as well as the removal of some of the waste materials by water.

Sustainable Drainage Systems (SuDS)

Sustainable Drainage Systems (SuDS) principles are being applied throughout the Park design, where underlying geology and contamination allow. Surface water and foul drainage systems will be separate to both minimise the risk of water pollution associated with combined sewage networks and reduce flows to sewage treatment works.

Flood risk

The Olympic Park landform and infrastructure will be established to manage one-in-100 year flood events, allowing for a 20 per cent increase in river flow and a six millimetre per year sea level rise due to climate change. This will support the legacy uses of the Park and surrounding neighbourhoods.

Internal air quality

Consideration of internal air quality is an important aspect of the design process for buildings. It is of particular concern for vulnerable groups such as the elderly, children, or those with particular susceptibilities.

A number of steps can be taken at design stage to maximise air quality. Air intakes need to be situated away from external sources of pollution. As noted in the Carbon section (page 14), natural ventilation will be 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 to design to 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.

External air quality

An important element of the ODA's environmental management approach will be monitoring air quality on site. A number of issues are covered in the Energy and Transport sections, however, the ODA is also committed to following the GLA London Best Practice Guidance in relation to Dust, Air Emissions and Construction Activities⁷.

⁷ London Councils and the Greater London Authority, November 2006, The Control of Dust and Emissions from Construction and Demolition, Greater London Authority.



Noise

Noise modelling will be updated as the Park designs develop. This will take account of the main sources of ambient noise (road, rail, aircraft and, as far as practicable, industrial noise).

Park soundscape design will not just address how transport and industrial noise can be mitigated, such as through screening and absorption, but will consider how far negative impacts of noise can be offset by sounds with typically positive associations, such as flora and fauna, and active water/waterside design.

Powerlines undergrounding

The Powerlines Undergrounding Project has a Code of Construction Practice (CoCP) covering the site set-up, remediation works and tunnel and shaft construction phases. The CoCP is a live document which will be regularly reviewed. The CoCP sets measures for:

- Ensuring compliance with legal and contract requirements;
- Controlling and minimising the impacts of the construction works;
- Establishing best practice; and
- Minimising risks and delays.

The CoCP includes measures for water management and pollution control, air quality and contaminated material.

Actions:

- Environmental Management Plans and Environmental Management Systems in place prior to commencement of construction.
- Publication of the ODA's Design and Construction Environmental Management Standard.
- Use of SuDS and separate surface and foul water drainage.
- Waterways planned to be improved for transport, amenity and biodiversity.
- ODA commits to following the GLA London Best Practice Guidance in relation to Dust, Air Emissions and Construction Activities.
- Planning and design to allow for one-in-100 year flood events, and a six millimetre per year sea level rise.
- Compliance with the Considerate Constructors Scheme (CCS), achieving a score of at least four in each section.
- All ODA development sites will register for and operate in accordance with CEEQUAL.

Related strategy sections and other documents:

ODA Design and Construction Health and Safety Standard;
Water;
Management;
Biodiversity and ecology.

Supporting communities

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 ODA is committed to working with its strategic partners to achieve the social, economic, and environmental regeneration of the Lower Lea Valley. The Olympic Park is being designed to form a major public park after the Games, serving local and sub-regional communities. It will form the 'glue' between new urban neighbourhoods created around the former Olympic and Paralympic venues. It will also create new east-west connections between previously divided communities. The aim is to support and enhance the existing communities, reflecting the local history, culture and diversity.

The Park will also form a central part in a network of green spaces connecting the Lea Valley Park to the north with canal and river routes to the Thames in the south. It is intended to be the catalyst for reinvigorating the recreational and ecological role of this important riverine valley. It will combine sports and active recreational uses (e.g. cycling, boating, running) with more passive leisure and educational pursuits, including bird watching, wetland walks, outdoor classrooms and wild meadow walks. The achievement of these outcomes is linked to ongoing work with partners to address many of the challenges associated with water quality and control.

Between 30 and 35 new permanent bridges will be built across the waterways, railways and roads. These will create new connections, facilitating the connectivity between the new Park and surrounding areas. The topography will have been reshaped and landscaped to make it the most accessible green space in London, with shallow gradients, and wheelchair-friendly pathways and green spaces.

The ODA aims to design the Park and facilities for legacy, making use of temporary demountable structures and overlay during the Games. The large 'back of house' and 'front of house' operational areas needed to support the major venues during the Games will be removed after the Games. They will leave new development platforms surrounding the permanent facilities that will form the basis of new residential and mixed-use neighbourhoods.

ODA designers are working to create a park for long term use which will reflect past heritage, but also the current and future culture of the surrounding diverse communities. Engagement with the diverse communities surrounding the Park is an important means of ensuring that the Park is appropriately designed for those who are likely to use it (see Inclusion section, page 49).

Olympic Park planning applications are being submitted in early 2007. These fix the overall location of the Park and venues.

The longer-term proposals for the creation of new neighbourhoods on former Olympic and Paralympic sites will form the basis of a forward-looking planning application in 2008.



This is referred to as the Legacy Masterplan Framework. Working with its partners in the Greater London Authority (GLA), London Development Agency (LDA), and local boroughs, the ODA will draw up this framework over the next two years. The ODA and its partners will actively engage with local communities in the Legacy Masterplan development.

The Olympic Park

The Park provides opportunities on many different levels. The Park design is being informed by the following:

- Rediscovering the waterways of the Lower Lea Valley;
- Exploiting topography to create a park that maximises views, reinforces character and provides activity;
- Accessibility for all;
- A legacy that provides sport, activity and play, as well as more passive recreation in places of beauty and tranquillity;
- Habitat connectivity and net increase in biodiversity on the site;
- Capturing the important existing character of the Lower Lea Valley and the ambition and excitement of the London 2012 Games;
- Designing for effective management and maintenance.

The culture and heritage of the area can be transformed by the Games and the legacy of facilities within the Park. Apart from the venues, the need for four permanent service areas has been identified. These will be the focus of legacy community uses such as cafes, toilets and a potential visitor centre:

- North of the Great Eastern Line and west of the southern land bridge;
- Southern tip of Zone 4;
- Between the Handball Arena and Hockey Stadium;
- South of the A12, between the concourse and River Lea.

Through ongoing engagement and communication, the ODA will be working with local communities, interest groups and partners to help to ensure that the legacy Park design supports local social and cultural needs.

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 which will begin to be delivered ahead of the London 2012 Olympic Games and Paralympic 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 reprovision of changing rooms and car parking is being taken forward by a steering group comprising LDA, ODA, LB Hackney and Lea Valley Regional Park Authority.

Retained features

The Olympic Park site has cultural and historic features which the ODA is seeking to retain to protect and enhance both a ‘sense of place’ for the Park itself and a ‘sense of ownership’ for the local community.

Various original structures such as river walls will be retained. The Energy Centre, including the CCHP plant, biomass boilers and biomass storage, will be located at King’s Yard. Efforts will be sought to incorporate elements of the existing buildings into the design of the centre. Retaining industrial heritage is an important part of the heritage of the valley.

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

Community safety

A key objective is to seek to ‘design-out’ crime. The use of large amounts of temporary infrastructure is a key component of this approach. Scaling down the large bridges will reduce associated overshadowing. Designing a park on the principles of inclusive access (see Access section, page 40) and with clear sightlines also reduces the potential for crime through reducing ‘hidden’ places. The lighting for the Park in legacy is also being sensitively designed with community safety objectives in mind. Where possible, the security surveillance and information technology put in place for the Games will be retained to help users orientate themselves and feel safe walking through its network of spaces.

The ODA is working closely with police design advisors and a Park Expert Advisory Group to incorporate safety and legibility into the design.

The Park is also being designed on the principles of ‘Secured by Design’ (SBD), a police flagship initiative supporting the principles of ‘designing out crime’.

During the Games themselves, there will need to be substantial security infrastructure. Following the Games, fencing and screening areas will be dismantled and removed to create a more ‘public friendly’ park, other than in areas where its use may continue to be required, such as adjacent to the main stadium.

The Olympic Village

The Olympic Village will be designed and constructed in line with the Building for Life Standard. The standard addresses a development’s;

- character;
- roads, parking and pedestrianisation;
- design and construction; and
- environment and community.

The standard recognises that successful places tend to be those with their own distinct identity. They need to respond to their local context and create or reinforce local



distinctiveness. Good layout and design, focusing on attractive, usable, durable and adaptable spaces is key for sustainable development. High quality and well-managed open spaces are also recognised for their role in improving the sense of well-being within the local community. All housing will also be in accordance with the new Code for Sustainable Homes (see Management section, page 54).

The Stratford City development will utilise the transport links, including the new International Station, linking east London with Continental Europe, to provide an extensive mixed-use development. The aim is to increase the prosperity and well-being of local people, providing jobs, homes and leisure facilities, as well as a large retail centre. By reclaiming the contaminated area which will become the Olympic Park, an existing barrier is removed. It will create links between existing communities and new developments, providing open space and a platform for further economic development post-Games.

Climate change adaptation

The ODA is taking measures to ensure that its developments adapt to the changing climate. Among the measures are proactive flood risk management, the incorporation of sustainable drainage systems, reducing the demand for potable water, and investigating the potential for water reuse.

In addition, 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 keep under consideration the requirements of future climate change. Permeable materials will help reduce run-off during high rainfall events, while shade will be incorporated for users of the Park. 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.

Choices of planting can reflect the possibility of low rainfall in summer, and to reduce the demand for water for irrigation. An example will be the use of species and stock appropriate for the projected future climate, and taking into account London’s urban heat island effect. The stony meadows, in particular, provide a habitat that responds well to predicted climate change of wetter winters, drier summers, and generally warmer temperatures.

Venues and housing will be designed, as far as is reasonably practical, to adapt to future climate change. Design teams will provide a report to the ODA during RIBA Stage C for client approval, setting out how they will do this, using the London Climate Change Adaptation Checklist.

Enabling and construction works

A programme of archaeological works is being undertaken at the shaft sites where the powerlines will be buried underground. An historic building recording report was completed for the viaduct and historic road alignment at Warton Road. It is recognised that there are areas of archaeological interest within the site. Any initial works, including site investigation, are being supported by the Museum of London Archaeology Service.

Actions:

- Protect and enhance ‘sense of place’ and ‘sense of ownership’.
- Retaining original structures where appropriate.
- Creating character areas within the Olympic Park.
- All housing will be designed in accordance with the Code for Sustainable Homes.
- All Olympic Village homes to meet Lifetime Homes standard post Games, and at least 10 per cent of all units to be wheelchair accessible post Games.
- The Park, the Village, and all permanent venues to achieve Secured by Design Standards.
- The Park and Village will be designed and constructed in accordance with the Building for Life Standard. The ODA seeks for the residential development to achieve a gold award for this standard.
- Venues and housing will be designed, as far as is reasonably practical, to adapt to future climate change. Design teams should provide a report to the ODA during RIBA Stage C for client approval, setting out how they will do this, using the London Climate Change Adaptation Checklist.

Related strategy sections and other documents:

Inclusion;
Access;
Carbon;
Land, water, air and noise;
Water;
Biodiversity and ecology;
Management.



Transport and mobility

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

The Olympic Park location was chosen to optimise public transport access. The Olympic Stadium and Aquatics Centre in particular have been sited within the Park to benefit from proximity to Stratford, Hackney Wick and West Ham. The Transport Plan for the London 2012 Olympic Games and Paralympic Games sets out the vision for a public transport Games where the aim is to achieve 100 per cent of ticketed spectator travel to the competition venues through walking, cycling or public transport.

The principles of accessible transport are key elements of our approach. An ‘accessible network’ is integral to the Transport Plan. This will be supported by advice from a Transport Access Panel. More detail is included in the Access section and the Transport Plan.

The ODA aims to maximise the environmental and health benefits of its transportation and logistics planning for materials and the workforce during the enabling works and construction phases.

Design

One of the most difficult, yet crucial challenges for the Masterplan team, was to find the best possible locations for the numerous venues in this challenging site. The first step in this process was to design a park to be as compact as reasonably possible to minimise travel distances and maximise the benefits of co-locating facilities.

It was equally important to locate the venues in such a way as to best serve a legacy use. The Olympic Stadium and Aquatics Centre were therefore situated as close to Stratford City as possible to maximise access to public transportation. The northern cluster of facilities will create a second hub of activity which can benefit from co-location and proximity to future bus routes. These will also serve as active thresholds to the Lea River Park for the boroughs of Hackney and Waltham Forest.

As well as providing access to the Park during the Games, cycle links into the Park will come into play after the Games. Existing and programmed cycle routes encompass improvements to the National Cycle Network (NCN) links within the London Cycle Network, the Greenways programme and other new urban cycleways. Within the Park, new routes will include a park edge loop, a leisure loop, a challenging terrain loop and the eastway cycle loop. The NCN continues along the Greenway, and a new route will be opened along the River Lea Navigation. This combination of routes will provide unrivalled access to the Park for cyclists.

Cycle Parking

Bicycle parking forms a key part of the transport strategy for the Games. Approximately 2,000 temporary parking spaces will be provided at Hackney Marshes, 2,000 in Victoria Park, 200 on the Greenway west of Stratford High Street, 500 outside Stratford Regional Station and 500 on the Greenway east of West Ham Station. 350 permanent cycle spaces will be located at Stratford Town Centre, Stratford International and within open space. By 2014, approximately 1280 spaces will be located within the Park, distributed across each of the permanent venues, and at other destination points. Secure cycle parking is planned for visitors and staff in the permanent legacy facilities.

Pedestrian access during the Games will be limited to the northern access, western access, Stratford City access and southern access. Pedestrian routes in legacy will be formed of a mix of traffic-free pedestrian thoroughfares, waterway routes, highway footpath along the loop road, projected pedestrian connections through the legacy neighbourhoods, a park edge jogging route and in-park jogging routes.

Enabling and construction works

Workforce

The movement of significant numbers of construction workers to the Olympic Park site creates many challenges

To address these challenges, plans for the following are currently under development:

- On site facilities for workers, including catering, retail and health care;
- Working closely with the five Host Borough employment brokerage service to assist local people accessing jobs;
- No onsite parking will be provided for worker’s privately owned vehicles;
- Local public transport will be used extensively to reduce the load on the routes through the Boroughs;
- Private buses, from strategically located transit points, may also be utilised to move workers to site;
- To improve environmental quality of vehicles on site and those being used to transport workers, a central, site based, bio diesel storage facility is being investigated. Contractors will also be encouraged to use energy efficient, low emitting vehicles.

Materials

The ODA aims to enhance efficiencies and minimise emissions associated with transportation of materials during the construction works. A number of steps will be taken to achieve this.



a. Multi-modal transport

The ODA aspires for at least 50 per cent of materials, by weight, to be transported to the Park by sustainable means during construction. This will increase reliability of delivery whilst minimising the impact on the surrounding community and road networks. This will include facilitating full journeys, palletised deliveries, and routine road shipments during off peak travel times.

The ODA is also working closely with British Waterways, Transport for London, the Department of Transport and the Port of London Authority to create opportunities 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.

b. Logistics

The ODA plans to establish a logistics centre on site. Effective use of bulk purchasing and centralised supply will be used. The ODA will also establish a site marketplace using the Kanban approach for a package-free solution for use by all contractors. The approach to bulk buying and the marketplace can assist in achieving economies of scale, reducing vehicle movements, reducing waste and carbon emissions as well as supporting health and safety objectives.

Games

The Transport Plan for the Games was issued as a Consultation Draft during October 2006. It is recognised that the approach to transportation for the Games will have an impact on sustainability. The five key transport objectives are:

- provide safe, secure, inclusive, fast and reliable transport for the Olympic Family and Paralympic Family client groups;
- provide frequent, reliable, friendly, inclusive, accessible, environmentally-friendly and simple transport for spectators and visitors;
- facilitate the regeneration of east London and to leave a positive legacy;
- keep London moving during the Games and thus make it a positive experience to host the Games; and
- achieve maximum value for money for every pound spent on transport

In conjunction with TfL, boroughs and other agencies, the ODA is reviewing requirements for new and improved cycle and walking routes at all venues. A specific bid commitment was made to provide 50 kilometres of new cycling and 30 kilometres of new walking routes for the Games.

A Strategic Environmental Assessment was published alongside the public consultation draft of the Transport Plan.

Actions:

- Implementation of Transport Plan with the London 2012 Organising Committee.
- Logistics Plan for labour and material transportation
- The ODA aspires for at least 50 per cent of materials, by weight, to be transported to and from the Olympic Park by water or rail during construction.

Related strategy sections and other documents:

Transport Plan for the London 2012 Olympic Games and Paralympic Games;
ODA Draft Equality and Diversity Strategy;
Carbon;
Access.



Access

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

The ODA aims to model an excellent standard of accessibility which will act as an inspiration to others, and will be used as a benchmark by others.

The broad principles of inclusive design are set out in CAGE's document of the same name. It is clear that good design is inclusive design and specifically, that good design:

- places people at the heart of the design process;
- acknowledges diversity and difference;
- offers choice where a single design solution cannot accommodate all users;
- provides for flexibility in use;
- provides buildings and environments that are convenient and enjoyable to use for everyone.

Inclusive design principles call for places to be:

- **Inclusive:** so everyone can use them safely, easily and with dignity;
- **Responsive:** taking into account what people say they need and want;
- **Flexible:** so different people can use them in different ways;
- **Convenient:** so everyone can use them without too much effort or separation;
- **Accommodating:** for everyone, regardless of their age, gender, mobility, ethnicity or circumstances;
- **Welcoming:** with no disabling barriers that might exclude some people;
- **Realistic:** offering more than one solution to help balance everyone's needs and recognising that one solution may not work for all.

ODA designers will design the Park and venues along these principles. The ODA aims to design and build venues, Park and transport (both for the Games and for the legacy facilities) which are inclusive for people of all cultures and faiths and highly accessible to disabled people with a wide range of impairments.

These principles also apply to the development of the residential units to house athletes in the Olympic Village during the Games.

All homes in the Olympic Village will be built to Lifetime Homes Standards post Games, and 10 per cent of the housing will be fully wheelchair accessible post Games.

The Olympic Park Masterplan has been designed to date with these principles in mind.

Gradients and the Olympic Park

Site topography and location inform the Park design. Distances and gradients along the approach to the Olympic Park will have a particular impact on accessibility. The design of shallow gradients along accessible routes will seek to ensure that reasonable measures are taken to ensure that all people have equality of experience and can reach all destinations within the Park.

The aim is to achieve shallow gradients (approximately 1:60 or less which is considered 'level') wherever possible. Bridging over existing and new infrastructure such as the existing topology, rail (a clearance of 8m is required above the railway lines), roads and river will give rise to steeper gradients than is usually recommended, though these will still be as gentle as can reasonably be achieved. A maximum gradient of 1:21 will be applied across the main routes throughout the Park. The cross-falls wherever practicable will be no greater than 1:50 as excessive cross gradients present difficulties when manoeuvring a wheelchair on a gradient.

Access Strategies will be required for all venues, and the designs will be subject to access testing and review by an ODA Access Forum on the Built Environment which the ODA will establish.

As part of the legacy of the Games, the ODA is keen to provide information to others on its approach to inclusive design. The ODA will publish its Inclusive Design Standards and Guidelines on the London 2012 website.

Accessible transport

The ODA and the London 2012 Organising Committee are working with local operators, local authorities and others to ensure that people with restricted mobility are able to access the Olympic and Paralympic venues.

The concept of an 'accessible network' is an integral part of the Transport Plan. The ODA is working with its transport delivery partners to develop an accessible network of transport services which will serve all the Games venues.

It is intended that accessibility planning for the Games will address the needs of spectators from the point that they leave home to the point at which they arrive at the venue and vice versa. A Transport Access Panel is to be established which will advise the ODA on its transport planning.

Inclusive Design is one of the five standards of the ODA's Draft Equality and Diversity Strategy. This sets out more detail on the ODA's activities in this area. Further detail on transport plans can be found within the Transport Plan.



Actions:

- Inclusive Design principles to inform all design processes for the Olympic Park and venues.
- Establish an access forum on transport and one on the built environment.
- Each venue will have an Access Strategy.

Related strategy sections and other documents:

Transport;
ODA Draft Equality and Diversity Strategy.

Employment and business

Objective: To create new employment and business opportunities locally, regionally and nationally.

London 2012 will provide new employment and business opportunities during the construction phase of the Games, during deconstruction and within the legacy uses of the site. The ODA seeks to work with partners to create new employment and business opportunities, particularly for communities surrounding the Park, to facilitate the achievement of overall regeneration aspirations.

In July 2006 the ODA published its draft Procurement Policy, and in January 2007 its draft Equality & Diversity Strategy for consultation. These documents are informing the ODA's strategies and implementation plans in respect of the workforce, skills and business opportunities as well as supply chain management.

Information in this section of the sustainable development strategy is intended to provide background and context to these associated policies and strategies and therefore they should be read in conjunction with this document.

Advancing the ODA's employment and business objective starts with design. The redesign of the Masterplan in June 2006 included some explicit changes to improve the legacy employment offer of the Park. The IBC/MPC 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. Post-Games, the IBC/MPC will be converted to legacy use. This could be educational, or commercial, but will provide lasting employment opportunities.

The operation and maintenance of the Park and the permanent venues within and outside of it, will also offer further employment and business opportunities, both during and after the Games. Opportunities will also be created by the Stratford City and Olympic Village developments neighbouring the Olympic Park.

Managing local impacts

The ODA recognises that there have been, and will be, impacts on local businesses as a result of the Olympic Park and venue developments. One of the driving forces of the changes to the Olympic Park Masterplan from the 2004 planning application to the January 2007 has meant that 79 businesses no longer need to be relocated.

The construction of the Park and venues will generate significant employment opportunities. Contracts related to the design and construction of the Park and venues are likely to represent about 90 per cent of the ODA's contracts. The majority will be of substantial size and scale. Further business opportunities will be created throughout the ODA's supply chain, through subcontracting, and through the remainder of the ODA's contracts, which are likely to be professional service contracts.



To facilitate advancement of its employment and business objective, the ODA, working with partners and contractors, aims 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;
- ensure that, wherever possible, and within the constraints of time and budget, communities have access to training and work placements to prepare them for sustainable employment opportunities;
- ensure that the procurement of all work, goods and services arising from the ODA's programme is transparent, fair and open to diverse suppliers.

Business

To achieve the ODA's aims of ensuring that the procurement of all work, goods and services arising from its delivery 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), women and disabled people, ODA direct contracting opportunities are publicly advertised via london2012.com/business

The website allows businesses to register their interest in tendering for contracts and receive information via email about London 2012 activities and forthcoming procurements. Contractors are also able to advertise subcontracting opportunities via this mechanism. The site links to other public sector procurement opportunities via the supply2.gov.uk website and to business support services.

Additional actions to achieve the ODA's aims to have diverse businesses operating in its supply chain are contained in its Draft Procurement Policy and Draft Equality and Diversity Strategy. A key aspect of this is equalities monitoring.

The ODA will also seek to inform the market of its forthcoming programme through participating in regular business to business events, and the Business Opportunities Network.

The ODA will establish a supply chain management programme linked to its strategies on equality and diversity, to provide support to its supply chain in advancing the ODA's employment and business objectives.

Employment and training

The ODA aims to regularly forecast forthcoming labour demand, skills requirements and procurements. This will be provided through established mechanisms to key partners who can assist in providing and funding training to help meet the needs of the ODA's supply chain.

The ODA will work with partners to advance measures to encourage women, Black, Asian and Minority Ethnic (BAME) communities and disabled people to train and apply for jobs in construction and allied areas where they have traditionally been under-represented, and to combat workplace discrimination. These measures are contained in the ODA's Draft Equality and Diversity Strategy.

The ODA will work proactively with members of the Five Borough Partnership Board to provide residents of the five Host Boroughs with information on employment opportunities related to the London 2012 Olympic Games and Paralympic Games through the Five Borough Employment Brokerage Service.

All construction workers will be required to have CSCS cards, and other CPCS or NVQ qualifications as appropriate. Induction training will include environmental, health and safety and diversity issues. The ODA will also work with existing training initiatives such as the newly launched Construction National Skills Academy.

Further information on the ODA's activities to advance its employment and business objectives are contained within the ODA's Draft Procurement Policy and in its Draft Equality and Diversity Strategy. The ODA intends to publish its final Procurement Policy in spring 2007.

Powerlines work

The contractor responsible for completing the powerlines undergrounding has been working closely with Docklands Recruitment Services who work with Jobcentre Plus and London Borough of Newham to support the training and recruitment of local people. The Contractor uses this service to source staff and at the end of 2006, 70 people had been employed via this route.

Working in partnership

Key to advancing the ODA's employment and business objectives is working in partnership. The ODA is working proactively with a number of training and employment initiatives underway which seek 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 its contractors in accessing a diverse fit-for-purpose business base, and a diverse skilled workforce. These initiatives include the London Skills and Employment Taskforce, and the Local Employment and Training Framework and National or sector initiatives including the Construction National Skills Academy.

- **The London Employment and Skills Taskforce (LEST).** Established to maximise the employment and skills benefits of the London 2012 Olympic Games and Paralympic Games, LEST looks far beyond the direct job opportunities arising out of the Games, to the impact of the Games as a catalyst for comprehensive regeneration and improved productivity across London as a whole, and specifically in east London, over the next 20 years.
- **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 enterprise start up and 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, vocational training, education and career pathways and support for delivery of local area agreement arrangements.



The ODA is also working directly with a number of agencies, including the Department of Trade and Industry, Regional Development Agencies, and Business Link to develop support mechanisms for regional business opportunities, as well as the Business Opportunities Network, and the Learning and Skills Council and Job Centre Plus on employment and training opportunities.

Actions

- Employment creation as design objective for legacy uses of the Park.
- Publish final Procurement Policy in spring 2007.
- Establish a supply chain management programme for ODA suppliers.
- Advertise direct contracting opportunities on london2012.com/business
- Promote and monitor diversity of supply chain.
- Work in partnership with the Five Borough Partnership Board, LEST, DTI and Regional Development Agencies.
- Forecast upcoming labour demand and procurements.

Related strategy sections and other documents:

The Local Employment and Training Framework – A Regeneration Programme to Deliver Benefits to the Residents and Businesses in the five Host Boroughs (LETF);
ODA Draft Equality and Diversity Strategy;
ODA Draft Procurement Policy;
Inclusion;
Management.

Health and well-being

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

Through its approach to design and construction, the ODA seeks to design out health and safety risks associated with the construction, maintenance and use of the Olympic Park and venues, and also to provide long-term benefits for the health and well-being of those constructing the Park and venues, and those who will use the facilities post-Games.

Health and safety risk management

The ODA Design and Construction Health and Safety Standard sets out the standards and management approach for health and safety for the design and construction activities carried out by the ODA. Design teams are expected to identify and exploit opportunities 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.

Healthy communities

The creation of a new park and recreational and sporting facilities within east London provides a significant opportunity to provide lasting benefits for physical and mental health and well-being of the local communities and beyond. The ODA seeks to ensure those facilities are accessible and appropriate to the needs of the users. Access for schools and for wider education purposes is a priority. The Active Spectator Programme will promote walking and cycling as key transport options during the Games, with associated health benefits for those involved. It is hoped that this will inspire a positive change in behaviour post-Games. The new footpaths and cycleways in the Park will create new, pleasant and healthy opportunities to travel across east London.

Within the design of the Park there will be consideration of the health and well-being of the local community and Park users. Planting and screening around roads and rail will mitigate noise and air pollution for Park users and residents post-Games.

Enabling and construction works

As well as maintaining safe systems of work on site at all times, the ODA's health and well-being programme also seeks to incorporate broader health issues for the construction workforce and for local communities.

The ODA aspires to provide occupational health support to suppliers and employees working on the Olympic Park site. Whilst the full suite of services is anticipated to be in place when the Olympic Park site as a whole has been secured and site facilities installed, the ODA is developing its programme now with the intention to include the health needs of the initial contractors engaged in site remediation and the undergrounding of powerlines.



The ODA Occupational Health Strategy aim is to support programme delivery whilst maintaining the health and safety of those who construct, commission and use the Olympic Park and venues prior to completion. The relevant overall aims are:

- To provide a high quality occupational health service;
- To provide evidence-based occupational health advice across the project;
- To minimise ill health and enhance productivity;
- To promote the well-being of all operatives and staff.

Applying Occupational Health Strategy

The ODA seeks to achieve the aims within its Occupational Health Strategy through 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.

These measures are reactive to health and safety issues and proactive to reduce the risk of issues arising, as well as driving improvement in health and welfare standards.

- The ODA is working with Newham Primary Care Trust to develop plans for general health promotion to the construction workforce.
- The ODA will seek to ensure that a diverse range of healthy eating options will be available for construction workers.
- Welfare facilities will be provided suitable for a diverse workforce, including showers, faith rooms, and changing facilities.
- No car parking will be permitted on site for construction workers to encourage more active based journeys to work.
- The ODA is working with Newham Primary Care Trust who are exploring the potential impact on local healthcare demand of the construction works. The ODA will seek to be responsive to requests for information on labour usage profiles and similar matters.

Actions:

- Application of Design and Construction Health and Safety Standard.
- Development and delivery of the Occupational Health Strategy.
- The ODA will provide welfare facilities suitable for a diverse workforce. Site induction will cover health and safety, environmental and diversity issues.
- Providing a park and permanent leisure facilities for legacy that have lasting health and well-being benefits for the local communities and beyond.

Related strategy sections and other documents:
ODA Design and Construction Health and Safety Standard.

Inclusion

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

The ODA, working with the London 2012 Organising Committee, is committed to an ongoing programme of communication and consultation with communities neighbouring the development of the Olympic Park and other venues, and to their active participation in this regeneration.

This programme will range from communications about construction activities through newsletters, to work with schools, and workshops with local organisations to help inform the designs of the Park and venues and the plans post-2012.

Through this activity, the ODA hopes to provide accurate and timely information about what is happening to those affected by it, and to encourage residents and businesses to get involved and develop a sense of ownership over the 2012 Games and Park.

The ODA is continuing to develop its community relations programme, which will include:

- Regular communication with the local communities, including exhibitions, events and articles in local magazines and papers;
- The development of a consultation database of organisations interested in the development;
- Keeping the london2012.com website updated with the latest activity;
- Providing a telephone hotline for people to be able to access basic information and to note any concerns they may have;
- Producing quarterly newsletters with the London 2012 Organising Committee;
- Establishing a visitors centre near to the Olympic Park site to provide up to date information on the Games and progress of the development;
- Regular public events to provide information on what's happening.

The ODA will also continue the successful activity consulting on the Olympic Park Masterplan, undertaken at the end of 2006. Representatives of the ODA spoke to over 5,000 people about the plans for the Park during autumn 2006.

The ODA will run an active engagement programme with local people throughout the design and construction phases of work. So far the ODA has organised and participated in street exhibitions, youth parliaments and design workshops to encourage participation and involvement. It will also hold design and idea competitions and work with schools and the voluntary sector to broaden the involvement of young and disadvantaged people. The ODA will continue to provide information to local communities about the plans for the Park as they develop, and to consult on these at regular intervals. This will include further workshops, public events, exhibitions, and youth sessions.

As far as possible, the ODA will seek to work with the five Host Boroughs and in partnership with other agencies to avoid confusion and/or 'consultation fatigue'.



The ODA plans to build on these successful design workshops after the forthcoming planning applications have been submitted. The ODA will establish mechanisms for its design teams to gain input from local communities and organisations into the designs of the Park and venues. This will help to ensure that the designs reflect the needs and aspirations of local communities, and that the ODA is creating a park which will be used post Games, and has a strong sense of ownership by local communities.

The ODA is committed to engagement with the diverse communities surrounding the Park and will seek to ensure that its community engagement programme is targeted to achieve this objective. Further information on this is included within the ODA's Draft Equality and Diversity Strategy.

The ODA is also committed to encouraging fair employment practices as highlighted in its Draft Procurement Policy. This includes trade union recognition and absolute commitment to health and safety and sufficient wage levels. The ODA recognises that ensuring fair and open recruitment and equitable human resource management across its supply chain is a complex and challenging task, as all of the ODA's work to design and construct the Olympic Park, venues, infrastructure and transport will be contracted out to other organisations.

Although this cannot be a blanket condition for all contracts for legal reasons, ODA will be asking contractors if they would be prepared to adopt fair employment measures including the London Living Wage for any work they are doing as part of an ODA contract. These issues will be taken into account when advertising contracts and considering tenders. They will also form part of the overall value for money judgement. The ODA will seek to monitor wage rates to assist in assessing performance.

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 in the local area will be made available to help them gain the experience crucial to the achievement of NVQ qualifications.

Enabling and construction works

Powerlines

The Powerlines Undergrounding Project has employed a Community Relations Manager. A 24-hour free phone helpline exists to deal with complaints and enquiries regarding the project. A variety of media visits have been held. A programme of site visits by local schools is commencing shortly. Art workshops were held in four local primary schools and the artwork has been professionally mounted on the site hoardings outside the main construction site at Carpenters Road.

Actions:

- Create opportunities for community engagement in the design process in line with the ODA's community relations strategy.
- Establish opportunities for communities to be informed about construction activities through a dedicated helpline, regular newsletter and visitor centre.

Related strategy sections and other documents:

ODA Draft Equality and Diversity Strategy;
ODA Draft Procurement Policy;
Employment and business.



Non Olympic Park venues

BROXBOURNE:

Situated at the northern end of the Lea Valley Regional Park, the venue will host the Canoe Slalom events for the Olympic Games. In legacy, the site, which will be opened to the public for the first time in 100 years, will act as a local, regional, national and international sport competition venue. There is also strong potential for ecological enhancement through the creation and restoration of wetlands habitats. The overall site development will include a visitors/education centre and a nature reserve, and it is hoped it will become a catalyst for further development opportunities, the feasibility of which is currently being assessed.

WEYMOUTH & PORTLAND:

The venue that will host the Olympic and Paralympic sailing will undergo additional works providing a new slipway at the National Sailing Centre at Isle of Portland. These enhancements will provide additional and improved facilities in legacy for all levels of sailors, including disabled sailors. A private sector developer will construct a commercial marina adjacent to the site which will be used during the Games. Post 2012, the marina will provide an important legacy through employment and a boost to the local economy. The scheme is being developed in close consultation with the Environment Agency and Natural England.

ETON DORNEY:

An existing world-class venue which has already hosted a successful World Rowing Championships, Eton Dorney will be used for Rowing, Flatwater Canoeing and Paralympic Adaptive Rowing events in 2012. For Games configuration, works are needed to widen a bridge span at the entrance of the return lane, widen the return lane to the main course, and to provide a new cut-through from the return lane.

The same sustainability objectives described for the Olympic Park will be applied to these venues and any other ODA infrastructure projects.

A sustainable legacy

Management of the Park is a vital aspect of a successful and bio-diverse Park in legacy. The management organisation and resources will be agreed with the major stakeholders.

The ODA is committed to providing sustainable legacy plans for the Park and venues, and to devise and implement effective transport plans which provide for legacy use. Once the Games are over, the ODA will be responsible for decommissioning the Olympic and Paralympic facilities to their legacy transformation state, including the remodelling of the Olympic Park. The land will then be returned to the London Development Agency as the landowner.

The LDA will be responsible for creating and delivering the legacy development. The legacy development will be set out within the Legacy Masterplan mentioned in the Supporting Communities section. The Legacy Masterplan will be developed in close consultation with stakeholders and local communities, to be finalised by 2008.



Managing sustainability

The strategy sets out the forthcoming actions and the aims in relation to sustainable development. There are a number of important management steps to support the strategy. These are:

- Management systems and tools;
- Procurement;
- Assurance;
- Stakeholder engagement;
- Communications.

Management systems and tools

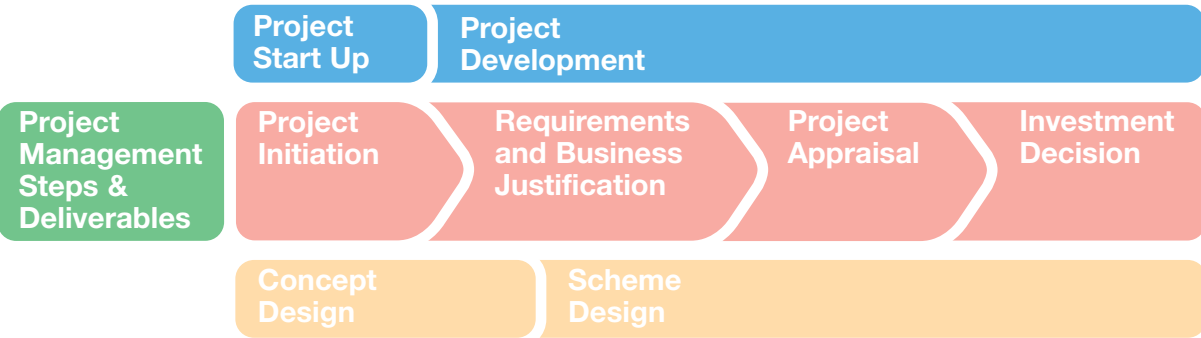
The achievement of the ODA's sustainable development objectives and performance measures is fully embedded into the ODA's approach to programme and project management.

Sustainability issues are addressed throughout the project lifecycle and across the ODA's programme of projects.

The ODA has developed a staged project management process, which applies to all projects and therefore all activities. These stages are:

- Project initiation;
- Requirements and business justification;
- Project appraisal;
- Investment decision;
- Readiness for service;
- Benefits realisation.

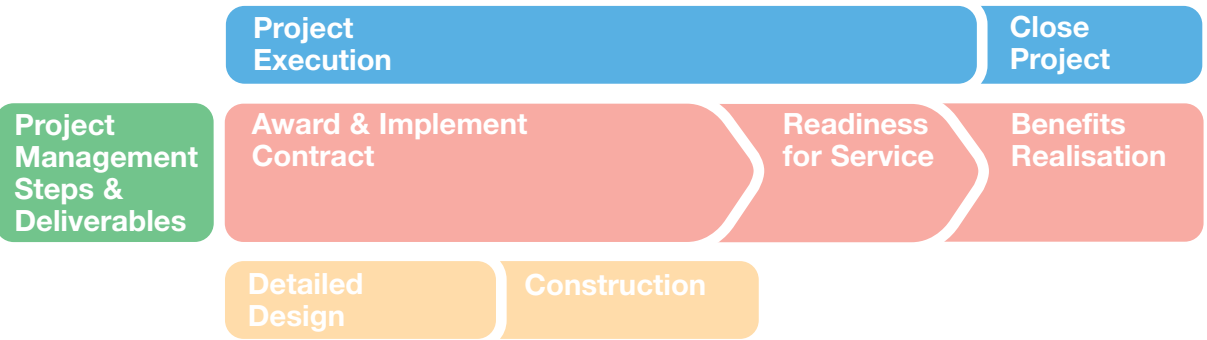
Each element requires review and approval. To ensure that sustainability is fully considered early in the project, there is an approval mechanism for the Head of Sustainable Development to review and approve the approach. This occurs at all stages.



In this way, the ODA can review sustainability options before any investment decisions have been made. The approach to options appraisal throughout the project is based on an assessment of key 'value categories', which include sustainability.

The ODA is building specific structures for a unique event within a tight timeframe. These need to be fit for purpose, delivered on time and within budget, have manageable risk profiles, and represent value for money. As part of the project business case and approvals process, project sponsors are therefore required to undertake feasibility work into the deliverability of the sustainability objectives and performance measures along with identifying the associated life cycle costs. This allows for technical innovation during project development to deliver the most cost-effective means of delivering against the ODA's sustainability objectives.

As the projects move into delivery and through to completion, the ODA's delivery partner is responsible for monitoring supply chain performance and the construction programme against the delivery of the sustainability requirements. The focus of the ODA shifts to providing assurance that the sustainability requirements are being delivered.



Sustainability management system

The ODA will be using a traditional management approach to plan, do, check and act, in relation to sustainability management. The Sustainability Management System will allow a flexible and holistic approach, establishing baselines, integrating the plans and programmes described in this strategy, and monitoring, recording and reporting on performance. Importantly, the ODA will be identifying lessons learnt in an effort to establish continual improvement in sustainability performance.

The ODA will use tried and tested tools to help maintain and monitor sustainability performance throughout the programme. Its systems will be in line with ISO14001 and British Standards on Sustainability Management. Where appropriate to the contracts, the ODA will expect its suppliers to operate appropriate sustainability or environmental management systems.



Sustainability design management

As part of the ODA’s design management process, designs are subject to regular client review and progress reports. Progress on delivery of the ODA’s sustainable development objectives is a key component of these design review sessions and reporting mechanisms. This process is supported by the use of BREEAM and other standards detailed in this strategy, such as Building for Life.

BREEAM

The Building Research Establishment (BRE) has an Environmental Assessment Methodology (BREEAM) which is used across the UK to assess the environmental performance of new and existing buildings. BRE is developing a bespoke assessment for Olympic and Paralympic venue buildings. This will be based on the 2007 version of BREEAM. The method will incorporate social aspects of sustainability traditionally not considered by this scheme. Over 3,500 developments have been certified to the BREEAM standard. The approach will allow for third-party assessment and certification of the environmental sustainability related impacts of each new permanent Olympic Park venue in legacy mode. The ODA aspires for all Olympic Park permanent venues to achieve a BREEAM Excellent Rating.

The assessment criteria will take account of the twelve sustainable development objective areas set out in this strategy. There are some specific requirements, in addition to the overall target to achieve an excellent rating, which are provided within this strategy document. These requirements will provide direction for design and construction teams to focus attention on key sustainability goals. Through the use of the BREEAM assessment method, the ODA aims to drive sustainability issues throughout the design process, whilst not constraining the technical solutions presented by the design teams.

The publication of the Code for Sustainable Homes in December 2006 signifies a future step in building regulations and sustainability assessments. The ODA performance measures set out in this document should enable compliance with the code for the Olympic Village. The ODA will review the level it expects to achieve once the technical guide is published in April 2007.

Sustainability construction management

CLM will manage the delivery of the ODA’s sustainability objectives across the construction programme. Contractors will be required to regularly report on progress against agreed sustainability indicators. This process is supported by the use of CEEQUAL and the Considerate Constructors Scheme.

CEEQUAL

The Civil Engineering Environmental Quality Assessment and Award Scheme (CEEQUAL) was developed by the Institution of Civil Engineers (ICE). The programme encourages attainment of environmental excellence in civil engineering projects. Attainment of a CEEQUAL Award aims to identify organisations which:

- Measure and compare standards and performance;
- Respect people and the society in which they operate;

- Seek to undertake its work in an ethical and sustainable manner;
- Acting in a socially and environmentally responsible way;
- Protect and enhance the environment.

The award also has a focus on the major impacts of construction on the environment and the earth’s resources. Assessors are involved in projects from an early stage to help to ensure that sustainability is considered from the initial stages. A credit-based framework of issues and questions is used. These cover, as appropriate: project environmental management, land use, landscape, ecology and biodiversity, archaeology and cultural heritage, impacts on water resources, energy, material use, waste management, transport, nuisance to neighbours, community relations and joy in use. ODA contractors will be required to use CEEQUAL where applicable to the contract.

Considerate Constructors Scheme

All site works will be registered with the Considerate Constructors Scheme. It is a not-for-profit scheme which was founded by the industry and funded by registered companies with the aim of improving the image of the construction industry. Registered companies signed up to a code of practice, committing them to be:

- Considerate and good neighbours;
- Clean;
- Respectful;
- Safe;
- Environmentally conscious;
- Responsible;
- Accountable.

Procurement

Achieving value for money, and enabling the delivery of the ODA’s sustainable development objectives is integral to the ODA’s approach to procurement.

The ODA’s core procurement values, which include sustainability, are set out in the Draft Procurement Policy, and will be updated in the final Procurement Policy due to be published in spring 2007. These values are based upon a high standard of probity and transparency. The values define the areas where the ODA wishes to measure success in implementing the programme. It will look towards its designers, suppliers and contractors and their suppliers to contribute towards this success, both for the Games and the legacy.

The commitment to, and experience of, delivering against these values by tenderers will be assessed throughout the procurement process. Delivery against them will then form a key component of contract management.

The ODA aims to work proactively and collaboratively with its supply chain to deliver against its sustainability requirements through its supply chain management programme. This will also allow for continuous improvement and for shared learning across the supply chain.



Assurance

The Commission for a Sustainable London 2012 will provide the external public assurance for the overall London 2012 sustainable development programme. The assurance framework is currently under development, and the Commission will publish information on this framework in the spring of 2007.

As a client, the ODA is also responsible for assuring its own sustainability performance and that of its supply chain. It will carry out or commission sustainability audits from time to time in order to assist with this internal assurance function.

Communications and stakeholder engagement

The ODA is committed to the transparency of its activities, and plans to publicly report annually on its progress on sustainable development.

Its approach to the delivery of its sustainable development objectives may change over time as the programme progresses and in accordance with the ODA's commitment to continuous improvement. The ODA anticipates publishing a revised strategy in two years' time, as it moves into the next key stage of its programme of constructing the Park and venues.

In line with the ODA's desire to improve standards within the construction industry and sustainable development, the ODA is keen to share lessons learnt through the delivery of this strategy with industry, policy makers and other interested parties.

To this end, the ODA will seek to provide information on its activities and approaches through the london2012.com website, regular participation in events, close working with industry and by using case studies and other mechanisms to share information.

In addition, together with its partners in the delivery of the overall London 2012 sustainable development programme, the ODA will participate in a regular, London 2012 programme wide, six monthly sustainability forum. This will be a forum where, alongside partners, the ODA will seek to provide information on its sustainability activities, and to communicate and discuss some of the challenges of delivery. Attendance to the forum will be open to a wide range of organisations who have an interest in the delivery of sustainable development.

Together with partners in the delivery of the London 2012 Sustainable Development programme, the ODA will also meet with key sustainable development organisations in a round table type environment to be able to discuss challenging issues and to seek assistance in their resolution.

Appendix A

London 2012 Sustainable Development Policy



LONDON 2012 OLYMPIC GAMES AND PARALYMPIC GAMES SUSTAINABILITY POLICY

London 2012's vision is to host inspirational, safe and inclusive Olympic Games and Paralympic Games and leave a sustainable legacy for London and the UK. This vision and the strategic objectives for the Games are underpinned by the principles of 'sustainable development'.

Drawing on these principles, the London Organising Committee of the Olympic Games and Paralympic Games and the Olympic Delivery Authority (ODA), along with HM Government, Greater London Authority (GLA), British Olympic Association (BOA) and British Paralympic Association (BPA), are committed to working together to maximise the economic, social, health, environmental and sporting benefits the Games bring to London and the UK.

This is encapsulated by the concept 'Towards a One Planet Olympics', which creates a powerful identity for London 2012's sustainability programme and provides a framework for achieving sustainable Games in accordance with the London 2012 Candidature commitments and with respect to Olympic ideals.

- We aim to deliver against our commitments through:-
- Respect for the planet's ecological limits and encouragement for the best possible sustainable lifestyle leading towards One Planet Living¹.
 - The celebration of our cultural diversity and the creation of a legacy for sport, the environment and the local, national and global community.
 - The development of thriving communities in and around the Olympic Park site in East London with new economic, educational, health, sporting and cultural opportunities, set within an ecological parkland and supported by resource efficient infrastructure and utilities.
 - A renaissance of sport in the UK, engaging young people in participatory sport.
 - An increased UK wide public awareness of the benefits of sport, exercise and healthy living and the links between the wellbeing of individuals and that of the planet.
 - Development of active citizenship and respect for communities and environment across the UK.
 - A boost to UK business, including 'green' industries and emerging technologies.
 - The development of tools and know-how for delivering future sustainable Games and spreading the benefits worldwide.

Whilst we will address all elements of the diverse themes which make up sustainability we believe we can make the biggest impact and achieve the most beneficial outcomes by focusing London 2012's sustainability efforts upon five headline themes.

Climate Change
Climate change is a global issue. The UK is leading the world in facing up to this challenge and the Games provide a platform for demonstrating long-term solutions in terms of energy and water resource management, infrastructure development, transport, local food production and carbon offsetting.

We aim to minimise the environmental footprint and carbon emissions of the Games and legacy development, notably by optimising energy efficiency, energy demand and use of low carbon and renewable energy sources.

Waste
Our aim is for the 2012 programme to be a catalyst for new waste management infrastructure in East London and other regional venues and to demonstrate exemplary resource management practices. We will minimise waste at source, divert construction waste wherever feasible and all Games-time waste away from landfill, and promote the waste hierarchy of 'reduce, reuse, recycle' to facilitate long-term individual behavioural change.

Biodiversity
We aim to enhance the ecology of the Lower Lea Valley and other London and regional 2012 venues, and to encourage the sport sector generally to contribute to nature conservation and enhancing the natural environment.

Inclusion
We aim to host Games which promote access, celebrate diversity, and facilitate the physical, economic and social regeneration of the Lower Lea Valley and surrounding communities. This will be supported by the provision of new infrastructure and facilities, employment, training and education opportunities. Communities across the rest of London and the UK will be encouraged to identify and take full advantage of direct and indirect opportunities arising from the Games.

Healthy living
We will use the Games as a springboard for inspiring people across the country to take up sport and develop active, healthy and sustainable lifestyles.

Management and Delivery of Sustainability
The Olympic Board together with the Boards of Stakeholder organisations will ensure the delivery against these objectives through:

- Integrating sustainability principles into the day-to-day management of the London 2012 organising committee and the ODA, working closely with the Host Boroughs, the GLA Group, nations and regions, central government, BOA, BPA, sports authorities and the International Olympic Committee.
- Developing active partnerships with non-governmental organisations, community groups, businesses, professional bodies and academia to help leverage the opportunities provided by the Games and to utilise the power of the Olympic brand to mobilise enthusiasm and maximise benefits.
- Procuring goods, services and sponsorship sustainably with an emphasis on supplier diversity, fair employment and environmental attributes, as well as other social and ethical criteria as appropriate.
- Establishing an independent assurance function to be overseen by the London Sustainable Development Commission in partnership with the national Sustainable Development Commission and equivalent regional structures.

Progress against the overall objectives will be charted by annual sustainability reporting. The London 2012 organising committee, the ODA and official stakeholders will ensure that adequate resources and personnel are engaged to deliver against the objectives. Each organisation will also have its own specific objectives, key performance indicators and targets, which will be reviewed every two years to take account of evolving policies, standards, best practices and technology.

Tessa Jowell
Ken Livingstone
Sebastian Coe
Colin Moynihan

The Olympic Board
(Mayor of London, Ken Livingstone; Secretary of State for Culture, Media and Sport, Tessa Jowell; London 2012 organising committee Chair, Sebastian Coe; and British Olympic Association Chair, Colin Moynihan)
28th June 2006

¹ One Planet Living[®] is a joint initiative between WWF and BioRegional.



Appendix B:

Table of interrelationship between sustainability themes

London 2012 Headline Themes	ODA Sustainability Objective Areas January 2007	ODA Sustainability Principles August 2006	One Planet Living Principles	BREEAM
Climate change	Water	Global, Local and Internal Environments		Water
	Carbon	Energy	Zero Carbon	Energy
Waste	Waste	Waste	Zero Waste	
	Materials	Use of Materials	Local and Sustainable Materials	Material and Waste
Biodiversity	Biodiversity and Ecology	Biodiversity and Ecology	Natural Habitats and Wildlife	Ecology
	Land, Water, Noise and Air	Land, Water, Noise and Air		Land Use
				Pollution
			Sustainable Water	
Inclusion	Inclusion	Inclusion		
		Culture, Heritage and Built Form	Culture and Heritage	
			Equity and Fair Trade	
	Employment and Skills	Education and Employment		
	Transport and Mobility	Transport and Mobility	Sustainable Transport	Transport
	Access			
	Supporting Communities			
Healthy Living	Health and well-being	Health and well-being	Health and Happiness	Health and well-being
		Housing and Amenity		
			Local and Sustainable Food	

This table maps the interrelationship between the London 2012 Sustainability Policy themes and the ODA's objective areas in this strategy, as well as those proposed in the Draft Principles and Progress Report published in August 2006. The relationship between these and the One Planet Living themes and BREEAM areas is also demonstrated.

The ODA recognises that the Headline Themes are cross cutting, as are many aspects of sustainability. This table, therefore, is a comparison for interpretation, rather than a definitive representation of all links. For example, aspects from the Supporting Communities objectives will have an impact on Healthy Living as well as Inclusion.



Appendix C:

Definitions, Acronyms, and References

Acronyms

BAME	Black, Asian and Minority Ethnic
BOA	British Olympic Association
BRE	Building Research Establishment
BREEAM	Building Research Establishment Environmental Assessment Methodology
CCS	Considerate Constructors Scheme
CDM	Construction, Design and Management
CEEQUAL	Civil Engineering Environmental Quality Assessment Scheme
CHP	Combined Heat and Power
CMRF	Construction Material Recycling Facilities
CoCP	Code of Construction Practice
CPCS	Construction Plant Competence Scheme
CPET	Central Point of Expertise on Timber
CLM	CH2M Hill, Laing O'Rourke, Mace (Delivery Partner)
CSCS	Construction Skills Certification Scheme
CTRL	Channel Tunnel Rail Link
CABE	Commission for Architecture and the Built Environment
DCMS	Department for Culture, Media and Sport
DEFRA	Department for Environment, Food and Rural Affairs
ESOL	English for Speakers of Other Languages
GLA	Greater London Authority
GRS	Global Remediation Strategy
HA	Highways Agency
IBC	International Broadcast Centre
ICE	Institute of Civil Engineers
JCP	Job Centre Plus
LETF	Local Employment and Training Framework
LEZ	Low Emission Zone
LDA	London Development Agency
LSC	Learning and Skills Council
MPC	Media Press Centre
NCN	National Cycle Network
NR	Network Rail
NVQ	National Vocational Qualification
ODA	Olympic Delivery Authority
OPSU	Olympic Programme Support Unit
PAT	Portable Appliance Testing
PCT	Primary Care Trust
PPE	Personal Protective Equipment
UDC	Urban Development Corporation
SuDS	Sustainable Drainage Systems
VOC	Volatile Organic Compound
WWF	World Wide Fund for Nature

Documents referenced in the strategy

These are or will shortly be available to via london2012.com

- London 2012 Sustainability Policy
- London 2012 Sustainability Plan (to be published spring 2007)
- Towards a One Planet Olympics
- London 2012 Candidate File
- Olympic Delivery Authority Draft Sustainability Principles and Progress Report
- Transport Plan for the London 2012 Olympic Games and Paralympic Games
- Olympic Delivery Authority Design and Construction Environmental Standard (to be published in spring 2007)
- Olympic Delivery Authority Design and Construction Health and Safety Standard
- Olympic Delivery Authority Draft Procurement Policy
- Olympic Delivery Authority Procurement Policy (to be published spring 2007)
- Olympic Delivery Authority Draft Equality and Diversity Strategy



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Published January 2007. Printed on recycled paper at an environmentally friendly printer.