

Sustainable Development Strategy For LTGDC projects



Date: January 2008

Version: LTGDC Sustainable Development Strategy v2.5.doc

Contents

Introduction.....	2
1. Carbon	5
2. Water	6
3. Waste.....	7
4. Materials.....	9
5. Biodiversity and ecology	11
6. Land, water, noise and air.....	12
7. Supporting communities	14
8. Transport and mobility.....	15
9. Access	16
10. Employment and business.....	17
11. Health and well-being.....	18
12. Inclusion.....	19
Managing Sustainable Development.....	20
Cost implications	22
A.1 Appendix A: Organisations and Standards.....	23
A.2 Code of Sustainable Homes	25
A.3 BREEAM.....	27

Introduction

This London Thames Gateway Development Corporation (The Corporation) Sustainable Development Strategy document has been produced in response to the challenges contained within the UK Government's Sustainable Procurement Action Plan. The Government's Action Plan describes in detail the actions to be taken collectively by Government and other public sector organisations to achieving the goals as laid out in "Securing the Future".

The purpose of this strategy document is to set out the sustainable developments standards the Corporation aims to achieve for any of its projects or developments. The minimum requirements are set out in "Minimum LTGDC Standards" section. This states the standards expected for both residential and non-residential developments plus standards for specific sustainable objective areas. The strategy document also describes the potential strategies for achieving our aspirations. Ultimately, these standards will need to be realised by our developers through the use of innovative and cost effective solutions and the Corporation will work with developers to achieve that.

The aims and standards in this strategy document apply primarily to:

- Projects/developments directly funded by the Corporation
- Projects/developments that are fully or partly grant funded by the Corporation
- Buildings and sites that are owned by the Corporation
- Projects/Developments that will take place on sites that the Corporation sells to developers

For projects and developments that take place within the Corporation's area of regeneration but do not fall within the scope highlighted above, the planning standards specified by the London Plan and London Boroughs will take precedence. However, the Corporation wants to encourage all developments in its area of regeneration to exceed the standards specified in the Planning Policy Statements (PPS) and other policies.

Regeneration of East London

The Corporation's main objective is the regeneration of East London which includes the delivery of new homes, jobs and key social infrastructure. It is important that the Corporation achieves its regeneration aims in a sustainable manner; provides value for money and leaves a lasting social, economic and environmental legacy for east London.

The Corporation is already 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.

We are seeking a collaborative approach with stakeholders – where we encourage our stakeholders to aim for the highest standards when developing out our sites. These standards are aimed to address the sustainable development issues including climate change, depleting natural resources, low skill levels and inequalities in employment. These are all challenging issues, but every development across east London has the opportunity to assist in tackling them if they adopt a socially and environmentally responsible approach to sustainability.

This strategy sets out how The Corporation intends to influence the sustainability agenda by complementing its other objectives including delivery on time and the achievement of value for money.

Minimum LTGDC Standards

The Corporation has adopted industry recognised standards as minimum requirements for any development on its sites. These are split between residential and non-residential developments, which have different assessment measures and standards:

Development Type	Assessment Measure	Minimum LTGDC Standards			
		2008	2010	2012	2014
Residential	Code for Sustainable Homes	Level 3	Level 4	Level 5	Zero Carbon
Non-residential ¹	Building Research Establishment Environmental Assessment Method (BREEAM)	Very Good	Excellent	Excellent	Excellent

[Standards level related to date of application, etc]

A key commitment to the Corporation's sustainability goals will be the goal of reaching zero carbon through a gradual "glide path". This will allow for a gradual increase in the standards over time.

The minimum standards for code for sustainable homes have been set to be in line with those set by the GLA, English Partnership and the Housing Corporation (see Appendix A1). However, The Corporation will look for developers to exceed these minimum standards and aspire for higher levels for new developments.

Further details on the Code for Sustainable Home and The Building Research Establishment Environmental Assessment Method can be found in Appendix A (Organisations and Standards) and details of the criteria for both are shown in Appendix A2 and A3.

Procurement

This strategy document is supported by the Corporation's Sustainable Procurement Policy. This policy sets out how The Corporation intends to manage sustainable procurement including sourcing alternative products and processes, minimising waste, reusing and recycling materials and stimulating demand for more environmentally friendly products.

LTGDC sustainable objectives

As part of the bid for the Olympics, a London 2012 policy set out the five sustainability 'headline themes' as key policy areas that need to be addressed as part of the regeneration of the area:

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

The five themes represent the areas where it is felt that the biggest impacts and most beneficial outcomes could be achieved whilst regenerating the Olympic site. The Corporation will be responsible for the area legacy after the Olympic Games.

The Corporation has adopted the same five headline themes (for reasons of consistency and relevance) and these will be applied across our areas of regeneration.

In order to allow targeting and monitoring of these five headline themes, they have been sub divided into twelve objective areas against which to measure progress.

¹ includes commercial floorspace such as offices, industrial business parks, retail and social infrastructure such as schools, colleges, communities facilities

Twelve sustainability objective areas

The twelve objective areas that The Corporation seeks to influence the sustainability agenda are:

1. **Carbon:** To minimise carbon emissions
2. **Water:** To optimise the opportunities for efficient water use, reuse and recycling
3. **Waste:** To optimise the opportunities to design out waste, and to maximise the reuse and recycling of material arising during demolition, remediation, excavation, refurbishment and construction
4. **Materials:** To identify, source, and use environmentally and socially responsible materials
5. **Biodiversity and ecology:** To protect and enhance the biodiversity and ecology of the Lower Lea Valley and London Riverside
6. **Land, water, noise, and air:** To optimise positive and minimise adverse impacts on land, water, noise, and air quality
7. **Supporting communities:** To develop our sites to create new, safe, mixed-use public space, housing and facilities appropriate to the demographics and character of the areas, adaptable to future climates
8. **Transport and mobility:** To develop our sites to encourage walking, cycling and the use of public transport and ensure during construction that the impact of transportation is minimised.
9. **Access:** To create highly-accessible areas by meeting the principles of inclusive design
10. **Employment and business:** To create new employment and business opportunities locally
11. **Health and well-being:** To provide for healthy lifestyle opportunities during the construction of, and in the design of new builds
12. **Inclusion:** To involve, communicate and consult effectively with stakeholders and the local communities

These twelve areas are now described in more detail. The objectives apply across the Corporation's activities

	Environmental						Social / Economic					
	Carbon	Water	Waste	Materials	Biodiversity & Ecology	Land, air, water, noise	Supporting communities	Transport & mobility	Access	Employment and skills	Health and well-being	Inclusion
Climate Change	✓	✓		✓	✓		✓	✓				
Waste		✓	✓	✓		✓	✓					
Biodiversity & Ecology		✓			✓	✓						
Inclusion						✓		✓	✓	✓	✓	✓
Healthy living				✓	✓	✓	✓	✓		✓	✓	

1. Carbon

Objective: To minimise carbon emissions

Aim

The Corporation aims to achieve the following carbon standards for any buildings it owns or develops out by:

- Any new permanent residential structures built to achieve the appropriate minimum standards for Code for Sustainable Homes
- Any new permanent commercial structures it builds to achieve (BREEAM) appropriate minimum rating
- Demonstrate through an Energy Performance Certificate (EPC) a reduction in carbon emissions for refurbished residential and commercial structures where possible. Also improve energy efficiency through the use of new energy facilities where possible.

The Corporation will endeavour to achieve higher standards where possible.

Strategy

To deliver low carbon developments through a four-pronged approach:

a. Minimising the energy demand of any new buildings it creates

Demand for energy within buildings can be reduced through innovative design e.g. maximising natural light and ventilation, optimising energy use of lighting, etc.

b. Make use of efficient energy supply through low carbon technologies

We will seek to use low carbon technologies where appropriate. Potential technologies include Combined Cooling, Heating and Power Plant (CCHP) which generates cooling, heat and power (usually electricity) simultaneously, through a single process.

c. Supplying energy from new, renewable sources

New renewable energy infrastructure will be considered where appropriate e.g. use of solar energy, wind turbines, biomass boilers to supply heat, etc.

d. Embedded Carbon Footprint

Consider the embedded carbon footprint of all materials used - more information on this is found in the Materials and Transport sections

Actions:

- Ensure buildings design meets minimum standards
- Promote more efficient energy supply and renewable sources where feasible
- Monitor progress against aims set out above

2. Water

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

Aim

The Corporation seeks increased efficient water usage and reduced water demand in any building owned or sites developed by aspiring / achieving the following standards:

- Any new permanent residential structures built to meet mandatory points in the water sector for the relevant level in the Code for Sustainable Homes;
- Any new permanent commercial structures built to meet minimum points in the water sector from the relevant BREEAM assessment; and

Strategy

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

a. Reducing demand through water-saving technologies

Design teams will be encouraged to 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.

b. Utilising alternative sources of non-potable water

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

Actions:

- Ensure buildings design meets minimum requirements for reduced water consumption facilities
- Monitor progress against aims set out above

3. Waste

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

Aim

The Corporation seeks to minimise the generation of waste from any of its sites and developments. We aim to:

- Reuse or recycle at least 90 per cent, by weight, of the material arising through the demolition works at sites by 2008, where technical and financial viable;
- Achieve a minimum of 80% of construction material waste (excluding hazardous or deleterious materials) to be re-used or recycled and aspire for 100% where possible; and
- Ensure that developments meet the minimum standards for household waste storage and recycling facilities in the Code for Sustainable Homes or BREEAM section MW12 for non-residential recycling.

Strategy

The Corporation's approach to waste management is intrinsically linked to its approach to the use of materials (see Section 4) and follows the hierarchy of:

a. Eliminate - Remove the production of waste material where possible

Waste minimisation and management begins with design. The Corporation is seeking to design out, as far as practical, the production of waste during construction and operation of the facilities.

Resource efficiency is a key objective, alongside maximising the use of secondary materials. This can be achieved 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.

b. Reduce - Minimising the amount of waste produced

When designing sites, materials selection and structure will be kept under review to help minimise waste. The Corporation will also work with suppliers 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.

c. Reuse - Reuse of a product on more than one occasion

All temporary structures will be designed with reuse and recycling in mind. In demolition works, deconstruct and reclaim materials for reuse where technically and commercially viable.

d. Recycle – segregate, recover and reprocess discarded waste material to make it suitable for subsequent re-use

At least 90 per cent, by weight, of the material from demolition and excavation works to be reused or recycled (excluding hazardous or deleterious materials). At least 80 per cent, by weight, of the material from construction and refurbishment works to be reused or recycled (excluding hazardous or deleterious materials).

e. Recovery

Recover energy from waste where feasible e.g. Energy Recovery Incineration or other Waste to Energy technologies.

f. Dispose of waste

Reduce the reliance of disposing of waste through landfill and incineration.

Enabling and construction works

The Site Waste Management Plan (SWMP) is required to set targets for waste reduction and recovery based on an assessment of the likely composition and quantity of waste arising and identification of the most significant cost-effective options for improvement. This should be

supplemented by information on how the targets will be achieved during construction activities and how the actual levels of waste reduction and recovery will be monitored for comparison with the targets set. SWMP to be implemented in all construction site activities in line with good practice published by WRAP. See the WRAP publications “The efficient use of materials in regeneration projects” and “Achieving good practice waste Minimisation and Management”.

Actions:

- Monitor progress against aims set out above
- Appropriate **Site Waste Management Plan (SWMP)** to be produced by developers

4. Materials

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

Aim

The Corporation seeks to encourage the use of materials with recycled and reused content in the construction project. In addition, the Corporation will also seek to:

- Aspire for a minimum 80% of timber to be responsibly sourced as set out in the Code for Sustainable Homes and BREEAM.
- Encourage the use of A-rated material specifications in new permanent building as identified in the BRE Green Guide to Specification (2007) and requires the minimum standards as set out in the Code for Sustainable Homes and BREEAM.

Strategy

The materials used in the construction of sites are a key aspect of The Corporation's commitment to delivering sustainable developments. The Corporation has identified four principle sustainability considerations when sourcing materials:

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

a. 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 Corporation expects all timber to come from known legal sources. The Corporation 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).

b. Secondary materials

The Corporation aims to use recycled materials and reused/reclaim material arising from demolition of existing buildings. Where feasible, it will use materials from other sites in close proximity, as well as materials from other post consumer waste streams. In addition, it will use manufactured products containing above-average levels of recovered material. The proportion of secondary materials in all new permanent structures, as a percentage of materials value, will be at least 10 per cent.

c. Embodied impact of materials

The specification of 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.

d. Healthy materials

The health of the construction workforce and the future building occupants is important to The Corporation. Where possible, The Corporation 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, respirable particles and fibres, etc.

In addition to the overall four-pronged strategy, The Corporation will use the current version of EcoHomes approach as a tool for the integration of sustainability into any residential design and construction. Materials use is a key component of the credit system used in BREEAM.

Actions:

- 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.
- Maximise timber from sustainable sources, supported by appropriate evidence as defined by the UK Central Point of Expertise on Timber (CPET).
- At least 20%, of the total value of construction materials used should derive from recycled and reused content in the products and materials selected.
- Provide evidence that show that the most significant opportunities to increase the value of materials derived from recycled and reused content have been considered. This could be achieved by considering the top ten Quick wins or equivalent and implement good practice where technically and commercially viable.

5. Biodiversity and ecology

Objective: To protect and enhance the biodiversity and ecology of the Lower Lea Valley and London Riverside

Aim

The Corporation seeks for a minimum impact on biodiversity and ecology from any buildings it owns and develops out, aspiring to achieve:

- Zero net loss in biodiversity and ecology value for any our developments;
- Inclusion of planting schemes of indigenous and drought tolerant species; and
- Ecological enhancements through designing biodiversity features into new and refurbishment development projects where possible

Strategy

The existing ecological character of the two areas falls loosely into two types:

a. Brownfield and waterways

Existing brownfield habitats in our area vary from ephemeral and ruderal vegetation on recently cleared sites to grassland, scrub and woodland in long abandoned areas.

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.

b. Habitat retention

Some remediating and recontouring of sites will mean that existing vegetation will not be retained. However, we will identify sites which can be used as refuges where feasible and these will be safeguarded within any regeneration plans. In order to provide continuity for wildlife during any construction phase and to provide alternative sites for legally protected species, temporary and permanent habitat creation projects will be undertaken if required.

c. Ecological Enhancement

Some remediating and recontouring of sites will mean that existing vegetation will not be retained.

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.

Ecological management plans to be established, where appropriate, 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. The potential risk of flooding and the likely impact this would have on biodiversity and ecology in the area will be considered where appropriate.

Actions:

- The design and management of permanent structures will have proper regard to the protection and enhancement of key species and habitats and ecology of the area
- Site-specific ecological management plans will be created where appropriate during the construction work
- Ensure that biodiversity and ecology impacts are highlighted and considered in project appraisals
- Ensure that all projects and developments meet the biodiversity and ecology standards set out by respective boroughs and work closely with other bodies such as the Environment Agency
- Carry out a tree survey prior to development of any land in our area
- Appoint an ecologist to survey area of development

6. Land, water, noise and air

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

Aim

The Corporation seeks to ensure any buildings or sites it owns and develops out will:

- Minimise emission of air pollutants of development;
- Reduce impact of developments on landscape;
- Minimise noise impact;
- Minimise light pollution where possible; and
- Minimise the impact of Surface Water Run-off from new developments.

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

Strategy

The Corporation will work proactively with its contractors to maximise environmental protection and to minimise both environmental harm and disturbance to local communities and businesses.

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 Corporation

The Corporation 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 Corporation will apply the Civil Engineering Environmental Quality Assessment and Award Scheme (CEEQUAL) to infrastructure projects to help manage environmental issues during design, enabling and construction works, where appropriate. Information on CEEQUAL can be found in Appendix A.

a. Waterways

The waterways present an opportunity for leisure and commercial transport, environmental enhancement and public access and amenity. The Corporation has been working with British Waterways, the Environment Agency, English Nature and the Olympic Delivery Authority to develop a proposal for the reinstatement of a water control structure in the Prescott Channel.

b. Sustainable Drainage Systems (SuDS)

Sustainable Drainage Systems (SuDS) principles will be considered at the design stage. 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 and for management of surface water run-off from the developments.

c. Flood risk

New infrastructure will be flood resilient in design and will manage flood risk from the site to the following standards, while taking into consideration impacts of climate change (as per Defra guidance).

- 1 in 100 year storm events for surface water
- 1 in 100 year flood events from fluvial rivers, and
- 1 in 200 from flood events from tidal rivers

There may be additional costs associated with flood resilient construction, through use of different materials and/or design principles, and environmental standards will need to be considered in sourcing these materials.

d. Air quality

Consideration of internal air quality is an important aspect of the design process for buildings. 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, natural ventilation to 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. The Corporation 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.

The Corporation will also encourage the installation of A-rated products and appliances in residential and commercial developments on our sites.

e. Noise

Buildings 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.

Actions:

- Ensure Environmental Management Plans and Environmental Management Systems are in place prior to commencement of construction;
- Use of SUDS for water quality improvement and for better management of flood risk from surface water Waterways planned to be improved for transport, amenity and biodiversity;
- Use of separate surface and foul water drainage where possible;
- The Corporation commits to following the GLA London Best Practice Guidance in relation to Dust, Air Emissions and Construction Activities;
- Developments will be sympathetic to the needs of flood risk management and will use flood resilient construction where necessary and appropriate;
- Compliance with the Considerate Constructors Scheme (CCS); and
- The Corporation development sites will register for and operate in accordance with CEEQUAL where appropriate.

7. Supporting communities

Objective: To develop our sites to create new, safe, mixed use public space, housing and facilities appropriate to the demographics and character of the areas, adaptable to future climates.

Aim

Our aim is to support and enhance the existing communities, reflecting the local history, culture and diversity, and to increase the prosperity and well-being of local people, providing jobs, homes and leisure facilities. This will be achieved through:

- Protect and enhance 'sense of place' and 'sense of ownership';
- Buildings will be designed in accordance with the CABE Building for Life Standard; and
- Buildings will be designed, as far as is reasonably practical, to adapt to future climate change, and Secured by Design standards where possible.

Strategy

The Corporation is committed to working with its strategic partners to achieve the social, economic, and environmental regeneration of the Lower Lea Valley and London Riverside. Through ongoing engagement and communication, The Corporation will be working with local communities, interest groups and partners to help to ensure that any designs supports local social and cultural needs.

a. Community safety

A key objective is to seek to 'design-out' crime. Designing areas on the principles of inclusive access and with clear sightlines also reduces the potential for crime through reducing 'hidden' places. The lighting for areas will also be sensitively designed with community safety objectives in mind.

The Corporation will work closely with police design advisors to incorporate safety and legibility into designs as and when it is appropriate. Plans will consider designing on the principles of 'Secured by Design' (SBD), a police flagship initiative supporting the principles of 'designing out crime'.

b. Buildings

These 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
- environment and community

The standard recognises that successful places tend to be those with their own distinct 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.

Actions:

- Retaining original structures where appropriate
- Monitor progress against targets set above

8. Transport and mobility

Objective: To develop our sites to encourage walking, cycling and the use of public transport and ensure during construction that the impact of transportation is minimised

Aim

The Corporation aims to maximise the environmental and health benefits of our developments through the creation of:

- New footpaths and public walkways to increase journeys by foot;
- New cycle paths to encourage use of bicycles;
- Increased public transport access – reducing usage of vehicles

The Corporation will seek to maximise where possible, the total materials transported to and from any site by sustainable means during the construction of developments.

Strategy

The principles of accessible transport are key elements of our approach. An ‘accessible network’ is integral to achieving this aim.

a. Design

Our development sites will include cycling paths and pedestrian routes, which will be formed of a mix of traffic-free thoroughfares, waterway routes and jogging routes where possible.

b. Workforce

The movement of construction workers to sites creates many challenges. To address these challenges, consideration needs to be given to

- Working closely with the Boroughs employment brokerage service to assist local people accessing jobs
- Encourage use of public transport

c. Materials

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

Multi-modal transport: Wherever possible, The Corporation aspires for at least xx per cent of materials, by weight, to be transported to the site by sustainable means during construction. The Corporation is also working closely with British Waterways, Transport for London, the Department of Transport, the ODA 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 new lock installed in the Prescott Channel.

Logistics: When practical The Corporation will establish a logistics centre on site. Partnership agreements will be developed for goods and services that are available locally and can comply with EU procurement legislation. Effective use of bulk purchasing and centralised supply will be used, where goods and services are unavailable within the region. 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.

Transport appraisals will be carried out for all developments, with a more comprehensive assessment carried out on larger sites to identify the most appropriate form of transportation.

Actions:

- Develop a logistics plan to minimise labour and material transportation

9. Access

Objective: To create highly-accessible areas by meeting the principles of inclusive design

Aim

The Corporation aspires 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 Corporation aims to deliver new connections and facilitate connectivity between areas, with every new development and building expected to have an Access Strategy

Strategy

The broad principles of inclusive design are set out in CABI's document (of the same name). 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 of:

- **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.

Where possible and appropriate, The Corporation will endeavour to include these principles for the development of its sites. We will encourage design and build structures which are inclusive for people of all cultures and faiths and highly accessible to disabled people with a wide range of impairments.

Access Strategies will be required for all new sites, with designs subject to access review.

Accessible transport

The concept of an 'accessible network' is an integral part of the regeneration of an area. The Corporation will work with its transport delivery partners to develop an accessible network of transport.

Actions:

- Inclusive Design principles to inform all design processes?
- Access Strategy included in all new development designs
- Improve accessibility for existing developments and to the transport network

10. Employment and business

Objective: To create new employment and business opportunities locally

Aim

The Corporation seeks to work with partners to create new employment and business opportunities, particularly for local communities, to facilitate the achievement of overall regeneration aspirations.

The Corporation aims to:

- Create over 10,000 new jobs locally by 2016
- Assist local people into employment

Strategy

The construction of new buildings will generate employment opportunities. To facilitate advancement of its employment and business objective, The Corporation, working with partners and contractors, aims to ensure:

- All the processes used to recruit and manage employees are demonstrably fair and offer opportunities to all
- 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
- The procurement of all work, goods and services arising from The Corporation's programme is transparent, fair and open to diverse suppliers locally

a. Business

To achieve The Corporation'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, The Corporation's direct contracting opportunities will follow best practise and be advertised where appropriate.

b. Employment and training

The Corporation 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.

All construction workers will be required to have CSCS cards, and other CPCS or NVQ qualifications as appropriate. The Corporation will also work with existing training initiatives such as the newly launched Construction National Skills Academy where appropriate.

c. Working in partnership

Key to advancing The Corporation's employment and business objectives is working in partnership. The Corporation is establishing links with a number of training and employment organisations which seek to facilitate local businesses and local people's access to the business and employment opportunities.

Actions

- Work in partnership with appropriate organisations and businesses

11. Health and well-being

Objective: To provide for healthy lifestyle opportunities during the construction of, and in the design of new builds.

Aim

The Corporation seeks to design out health and safety risks associated with the construction, maintenance and use of buildings / sites. It also aims to provide long-term benefits for the health and well-being of those constructing the structures, and those who will use the facilities.

Strategy

a. Health and safety risk management

The Corporation 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 Corporation. 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.

b. Healthy communities

The creation of new green space within east London provides a significant opportunity to provide lasting benefits for physical and mental health and wellbeing of the local communities and beyond. The Corporation seeks to ensure those facilities are accessible and appropriate to the needs of the users. The new footpaths and cycle ways will create new, pleasant and healthy opportunities to travel across east London. Planting and screening around roads and rail will mitigate noise and air pollution

Actions:

- Application of Design and Construction Health and Safety Standard;
- Decide upon appropriate health measures for local community; and
- Monitor and record accidents / incidents on site

12. Inclusion

Objective: To involve, communicate and consult effectively with stakeholders and the local communities

Aim

The Corporation aims to communicate with stakeholders and local communities to encourage their active participation in the regeneration objectives.

Strategy

Our strategy will range from communications about construction activities to workshops with local organisations to help inform the design of developments.

Through this activity, The Corporation 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.

The Corporation is continuing to develop its communications strategy, which will include:

- Communicating with the local communities through events and articles in local magazines and papers
- Keeping The Corporation website updated with the latest activity
- Consulting with local people throughout the design and construction phases of work
- All designs must reflect the needs and aspirations of local communities to ensure a strong sense of ownership by those local communities.

Actions:

- Establish opportunities for communities to be informed about regeneration activities;

Managing Sustainable Development

This Sustainable Development Strategy sets out the aims, strategies and actions. There are a number of important management steps to support the strategy. These are:

- Management systems and tools
- Procurement
- Assurance
- Communications and Stakeholder engagement
- LTGDC owned sites
- Grant funding

a. Management systems and tools

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

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

- Project initiation
- Project appraisal – including requirements, business justification and Investment decision

Each element requires review and approval. In this way, The Corporation can review sustainability options before any investment decisions have been made. The approach to options appraisal during the project appraisal process is based on an assessment of key 'value categories', which include sustainability. These also include being fit for purpose, delivered on time and within budget, have manageable risk profiles, and represent value for money.

As the projects move into delivery and through to completion, The Corporation's delivery partner is responsible for the monitoring and delivery of the sustainability requirements. This will be achieved through the use contract clauses (see Appendix B: Model Procurement Clauses). The focus of The Corporation shifts to providing assurance that the sustainability requirements are being delivered.

Sustainability management system: The Corporation 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 aims and strategies described in this document, and monitoring, recording and reporting on performance.

Importantly, The Corporation will be identifying lessons learnt in an effort to establish continual improvement in sustainability performance.

Where appropriate to the contracts, The Corporation will expect its suppliers to operate appropriate sustainability or environmental management.

Sustainability design management: As part of The Corporation's design management process, designs are subject to regular client review and progress reports. Progress on delivery of The Corporation'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.

b. Procurement

The UK Government's well-established policy is that all public procurement should be based on value for money, having due regard to propriety and regularity. Value for money is set out in Chapter 22 of Government Accounting 2000 as the "optimum combination of whole life cost and quality (fitness for purpose) to meet the user's requirement". e.g. energy efficient products often have increased capital cost that is more than offset by reduced operating costs and energy and water and disposal costs are examples of possible award criteria.

The EU Procurement Directives set out the legal framework, detailed procedures and criteria for specification, selection and award of contracts above certain thresholds. Even below these thresholds, the EU Treaty-based principles of non-discrimination, equal treatment, transparency, mutual recognition and proportionality apply.

The Corporation's Sustainable Procurement Policy is a separate document which provides our overall strategy for sustainable procurement. This policy documents covers sustainable issues related to goods and services and the equality, ethics and environment impact. It also provides guidelines when procuring service and products including aspects to consider when deciding which services and products to purchase - both for The Corporation's operations as well as development of its sites.

The Corporation's core procurement values are set out in the Procurement Policy and Guidance document. Further guidance on sustainable procurement can be found in the Sustainable Procurement Policy (see Appendix A). These procurement values are based upon a high standard of probity and transparency. The sustainable development strategy defines the areas where The Corporation wishes to measure success in implementing its regeneration aims. It will look towards its designers, suppliers and contractors and their suppliers to contribute towards this success.

The commitment to, and experience of, delivering against these values by suppliers will be assessed throughout the procurement process. Delivery against them will then form a key component of contract management. The Corporation aims to work proactively and collaboratively with its suppliers to deliver against its sustainability requirements.

c. Assurance

The Corporation is also responsible for assuring its own sustainability performance. It will consider carrying out or commissioning sustainability audits from time to time in order to assist with this internal assurance function.

d. Communications and stakeholder engagement

The Corporation is committed to the transparency of its activities. Its approach to the delivery of its sustainable development objectives may change over time as the various regeneration projects progress and in accordance with The Corporation's commitment to continuous improvement.

In line with The Corporation's desire to improve standards within the construction industry and sustainable development, The Corporation is keen to share lessons learnt through the delivery of this strategy with industry, policy makers and other interested parties. The Corporation is also keen to learn from other bodies in respect of implementing their sustainable development strategy – using the opportunity to share experiences and learn quickly.

e. LTGDC owned sites

i. Tenants requirements

Sites that the Corporation acquire may be let out to tenants. The Corporation will encourage these tenants to adopt a sustainable approach to their activities. As a minimum the Corporation expects tenants to:

- Reduce waste and increase recycling of waste
- Efficient consumption of resources – e.g. where possible use energy efficient products as per quick wins

ii. Conditions on sale of sites

The Corporation will include conditional clauses in its contracts when selling on sites to developers which will specify that any future development on that site must aim to meet the minimum targets as set out in this document.

f. Grant funding

The Corporation will stipulate that any grant funded projects will need to meet the minimum applicable standards as set out in this document.

The grant recipient will need to demonstrate to the Corporation that grant funded projects are performing to the required levels. Data will be gathered from the grant recipient to enable monitoring and reporting.

The grant funding agreement will set out the individual project's sustainable development objectives and targets.

Cost implications

Code for Sustainable Homes

The current premium anticipated over traditional methods/costs, to meet a Code Level 3 requirement, would be in the order of 4.3% to 6.7%. These findings are set out in 'A Cost Review of the Code for Sustainable Homes' (February 2007) issued by Housing Corporation/English Partnerships and undertaken by Cyril Sweett.

BREEAM

The BRE and Cyril Sweett published a report titled: 'Putting A Price On Sustainability' (2005). As an indication, this report suggests that the increased capital cost of achieving a BREEAM 'Excellent' rating is in the order of 3.3% to 7.0% for an air-conditioned office. This would be offset by savings in energy costs – which is one reason that we are asking for a whole life perspective on costs, which clearly identifies savings in energy costs which will arise over time.

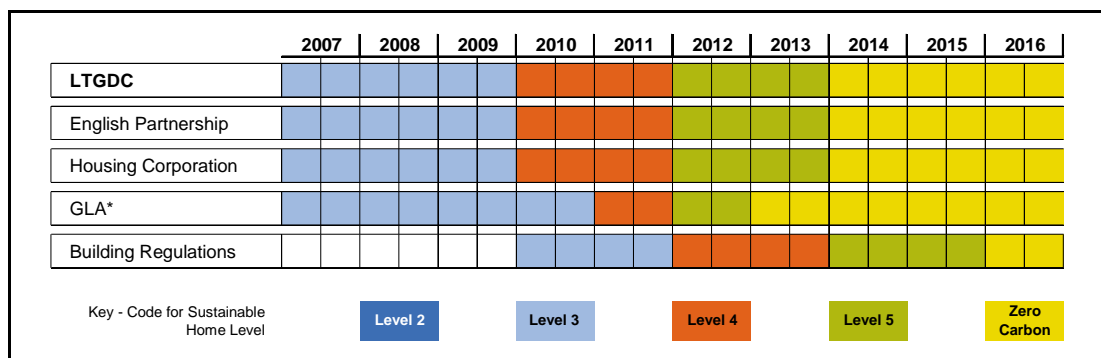
The projections do not take account of the likelihood that costs will fall as the technologies and materials to support delivery become cheaper as demand for them increases.

A.1 Appendix A: Organisations and Standards

Code for Sustainable Homes

The Code for Sustainable Homes has been produced by the Department for Communities and Local Government which assesses residential properties for the areas of Energy/CO, Water, Materials, surface water run-off, ecology, waste, pollution, health and well-being, management. Each individual dwellings is assessed on their performance for all areas There six levels of performance ranging from one star to six stars with minimum targets requirements for Energy/CO, water, materials, surface water run-off and waste to achieve certification.

The chart below highlights the minimum standard set by other relevant organisation for the Code for Sustainable Homes. The Corporation has aligned itself with the standards set by these organisation but will encourage developments to exceed the minimum standards wherever possible.



*potential phasing

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. The approach will allow for third-party assessment and certification of the environmental sustainability related impacts of each new permanent building. The Corporation aspires for all new builds to achieve a BREEAM Very Good 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 Corporation aims to drive sustainability issues throughout the design process, whilst not constraining the technical solutions presented by the design teams.

Sustainability Construction Management

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. The Corporation 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

A.2 Code of Sustainable Homes

Achieving a sustainability rating					
Minimum Standards					
Energy			Water		Other Points ⁴ Required
Code Level	Standard (Percentage better than Part L' 2006)	Points Awarded	Standard (litres per person per day)	Points Awarded	
1(★)	10	1.2	120	1.5	33.3
2(★★)	18	3.5	120	1.5	43.0
3(★★★)	25	5.8	105	4.5	46.7
4(★★★★)	44	9.4	105	4.5	54.1
5(★★★★★)	100 ²	16.4	80	7.5	60.1
6(★★★★★★)	A zero carbon home ³	17.6	80	7.5	64.9

Notes

1. Building Regulations: Approved Document L (2006) – ‘Conservation of Fuel and Power.’
2. Zero emissions in relation to Building Regulations issues (i.e. zero emissions from heating, hot water, ventilation and lighting).
3. A completely zero carbon home (i.e. zero net emissions of carbon dioxide (CO₂) from all energy use in the home).
4. All points in this document are rounded to one decimal place.

Minimum standards		
Code Level	Category	Minimum Standard
1(★)	Energy/CO₂ Percentage improvement over Target Emission Rate (TER) as determined by the 2006 Building Regulation Standards	10%
2(★★)		18%
3(★★★)		25%
4(★★★★)		44%
5(★★★★★)		100%
6(★★★★★★)		A 'zero carbon home' (heating, lighting, hot water and all other energy uses in the home)
1(★)	Water Internal potable water consumption measured in litres per person per day (l/p/d)	120 l/p/d
2(★★)		120 l/p/d
3(★★★)		105 l/p/d
4(★★★★)		105 l/p/d
5(★★★★★)		80 l/p/d
6(★★★★★★)		80 l/p/d
1(★)	Materials Environmental impact of materials [†]	At least three of the following 5 key element of construction are specified to achieve a BRE Green Guide 2006 rating of at least D <ul style="list-style-type: none"> – Roof structure and finishes – External walls – Upper floor – Internal walls – Windows and doors
1(★)	Surface Water Run-off Surface water management	Ensure that peak run-off rates and annual volumes of run-off will be no greater than the previous conditions for the development site
1(★)	Waste Site waste management	Ensure there is a site waste management plan in operation which requires the monitoring of waste on site and the setting of targets to promote resource efficiency
	Household waste storage	Where there is adequate space for the containment of waste storage for each dwelling. This should allow for the greater (by volume) of the following <p>EITHER</p> accommodation of all external containers provided under the relevant Local Authority refuse collection/recycling scheme. Containers should not be stacked to facilitate ease of use. They should also be accessible to disabled people, particularly wheelchair users and those with a mobility impairment
		OR
		at least 0.8m ² per dwelling for waste management as required by BS 5906 (Code of Practice for Storage and On-site Treatment of Solid Waste from Buildings)

A.3 BREEAM

Credit Reference	MANAGEMENT	Points	
		Design & Procurement	
M01	Where evidence provided demonstrates that an appropriate project team member has been appointed to monitor commissioning on behalf of the client to ensure commissioning will be carried out in line with current Building Regulations, BSRIA/CIBSE guidelines and (where applicable), best practice and where there are complex systems then a specialist agent or manager is appointed.	1.67	
	Evidence should also be provided to show that seasonal commissioning will be carried out during the first year of occupation of the building. NOTE: These point scores <u>ARE</u> cumulative.	1.67	
M04	Where the project complies with either the Considerate Constructors scheme or an alternative independently assessed scheme and where a firm commitment is made to achieve certification under that scheme to the following standards:		
	<ul style="list-style-type: none"> • Better than industry standard OR <ul style="list-style-type: none"> • Best practice NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.	1.67	
M05	Where evidence provided demonstrates that		
	<ul style="list-style-type: none"> • 2 or more of items a-g, listed below are achieved. OR	1.67	
	<ul style="list-style-type: none"> • 4 or more of items a-g, listed below are achieved. OR	3.33	
	<ul style="list-style-type: none"> • 6 or more of items a-g, listed below are achieved. a) Monitor and report CO ₂ or energy arising from site activities. b) Monitor and report on water consumption from site activities. c) Monitor and report transport to and from site to enable CO ₂ emissions arising from transport to be calculated. d) Monitor construction waste on site. e) Sort and recycle construction waste on site. f) Adopt best practice policies in respect to air (dust) pollution. g) Adopt best practice policies in respect to water (ground and surface) pollution. NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.	5	
	Where temporary timber is used on site during construction, this is from a sustainably responsible source OR is re-used or recycled.	1.67	
M11	Where evidence provided demonstrates the provision of a simple guide that covers information relevant to the tenant/occupants and non-technical building manager on the operation and environmental performance of the building.	1.67	

HEALTH & WELLBEING			
Credit Reference		Points	Design & Procurement
HW01	Where at least 80% of net lettable office floor area is adequately daylight.	1.154	
HW02	Where evidence provided demonstrates that all desks are within a 7m radius of a window.	1.154	
HW03	Where evidence provided demonstrates that an occupant controlled glare control system (e.g. internal or external blinds) is fitted.	1.154	
HW04	Where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	1.154	
HW05	Where evidence provided demonstrates that all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE.	1.154	
HW06	Where evidence provided demonstrates that lighting, in all occupied areas, is zoned to allow separate control.	1.154	
HW08	Where evidence provided demonstrates that external façade windows to all occupied areas are operable	1.154	
HW09	Where air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air.	1.154	
HW11	Where either: <ul style="list-style-type: none"> In the case of <u>mechanically ventilated</u> and <u>air conditioned</u> buildings, fresh air is provided at 12l/s/person. OR <ul style="list-style-type: none"> In the case of <u>naturally ventilated</u> buildings, trickle vents are provided on the majority of windows, where the windows operable area is the equivalent to 5% of the gross internal area of the building and the plan depth is no more than 15m otherwise extra ventilation is required. 	1.154	
HW14	Where thermal comfort levels are assessed at design stage, this is used to evaluate appropriate servicing options, and appropriate thermal comfort levels are achieved	1.154	
HW15	Where evidence provided demonstrates that local control is available for temperature adjustment in each area to reflect differing load requirements.	1.154	
HW16	Where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised.	1.154	
HW17	Where the building design can be shown to achieve ambient internal noise levels as specified below: <ul style="list-style-type: none"> 35-40dB L_{AeqT} in single occupancy, cellular offices 40-45 dB L_{AeqT} in medium sized, multi-occupancy open plan offices – ≤ 4 work stations ≤ 40m² 45-50 dB L_{AeqT} in large multi-occupancy, open plan offices > 4 work stations > 40m² 	1.154	
Total points achieved to carry forward			

ENERGY		Points	Design & Procurement
Credit Reference			
E01	<p>Where the building demonstrates a percentage improvement above the requirement for CO₂ emissions as set out in the 2006 Building Regulations.</p> <ul style="list-style-type: none"> • +1% • +2% • +4% • +6% • +8% • +10% • +12% • +14% • +18% • +22% • +30% • +40% • +50% • +60% • ≥70% 	0.78	
		1.52	
		2.27	
		3.03	
		3.79	
		4.55	
		5.30	
		6.06	
		6.89	
		7.57	
		8.33	
		9.09	
		9.85	
		10.61	
11.35			
NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.			
E02	<p>Where electricity sub metering is provided for substantive energy uses within the building covering <u>lighting</u> and <u>small power</u>, and each of the following where present:</p> <ul style="list-style-type: none"> • Computer Room • Humidification Plant • Cooling Plant • Fans (major) • If a building has other major energy consuming items, they should be covered as appropriate e.g. catering facilities. 	0.78	
E03	Where evidence provided demonstrates sub-metering of energy use by tenancy/areas is installed within the building.	0.78	
E04	Where energy efficient external luminaires are specified and all light fittings controlled for the presence of daylight.	0.78	
Total points achieved to carry forward			

TRANSPORT		Points		Design & Procurement
Credit Reference				
T01	Where good access is available to and from public transport networks for <ul style="list-style-type: none"> • Commuting AND/OR <ul style="list-style-type: none"> • Business travel. NOTE: These point scores <u>ARE</u> cumulative.	0.78		
		0.78		
T02	Total Net CO ₂ emissions arising from transport to and from the building will be predicted based on location. Credits given are based on the scale below: <ul style="list-style-type: none"> • RURAL location with TYPICAL public transport connections • EDGE OF TOWN location with TYPICAL public transport connections • SMALL TOWN location with TYPICAL public transport connections • CITY / TOWN CENTRE location with TYPICAL public transport connections • CENTRAL URBAN CONURBATION location with TYPICAL public transport connections • CLOSE TO MAJOR TRANSPORT NODE location with TYPICAL public transport connections NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.	0		
		1.52		
		3.03		
		4.55		
		6.06		
		7.57		
T05	Where evidence is provided to demonstrate that there is adequate provision of covered, secure and well lit cycle racks and showers. Compliant cycle storage facilities must be provided for a percentage of building occupants in accordance with the following figures: <ul style="list-style-type: none"> • 10% of building occupants up to 500 PLUS • 7% for building occupants in the range of 501 – 1000 PLUS • 5% for building occupants over 1000 Where in addition to the above, information is provided to demonstrate that there is adequate provision of changing facilities and lockers for clothes or a dedicated drying space for wet clothes. NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.	0.78		
		1.52		
T08	Where evidence is provided to demonstrate that a travel plan has been developed and tailored to the specific needs of the users of the assessed development. <ul style="list-style-type: none"> • walking; • cycling; • public transport; • use of the private car for travel to work; • mopeds/motorcycles; • reducing the need to travel; • visitors/customers; • deliveries. 	0.78		

WATER		Points	Design & Procurement
Credit Reference			
W01	<p>Credits are awarded based on the improvement over standard specification of water fittings. A standard specification would include 6 litre flush toilets, urinals with no controls, a shower that uses 12-15 litres per minute, standard taps with no flow restrictors. In a formal BREEAM assessment the predicted water consumption will be calculated using the BREEAM water calculator, as a guide the following can be used as a rough estimate of likely number of credits:</p> <ul style="list-style-type: none"> • where some of the fittings use less water than a standard fitting <p>OR</p> <ul style="list-style-type: none"> • where all of the fittings are low water or, where only some of the fittings are low water, rainwater or grey water systems are specified. <p>OR</p> <ul style="list-style-type: none"> • where the water fittings are all low water and rainwater or greywater fittings have been specified. <p>NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.</p>	0.83	
		1.67	
		2.5	
W02	Where evidence is provided to demonstrate that a water meter with a pulsed output will be installed on the mains supply to each building.	0.83	
W03	Where evidence is provided to demonstrate that a leak detection system is specified or installed.	0.83	
W04	Where proximity detection shut off is provided to water supply for all urinals and WC's.	0.83	
Total points achieved to carry forward			

MATERIALS		Points	Design & Procurement
Credit Reference			
MW01	<p>Where evidence provided demonstrates that the major building elements specified have an 'A rating', as defined in the <i>Green Guide to Specification</i>. In a formal BREEAM assessment the number of credits will be calculated using the BREEAM materials calculator, but as a guide the following can be used as a rough estimate of the likely number of credits achieved. The following elements are considered:</p> <ul style="list-style-type: none"> • Where at least 80% of upper floor slab specifications achieve an 'A' overall rating. • Where at least 80% of external wall specifications achieve an 'A' overall rating. • Where at least 80% of roof specifications achieve an 'A' overall rating. • Where at least 80% of windows specifications achieve an 'A' overall rating. <p>NOTE: These point scores <u>ARE</u> cumulative.</p>	0.83	
		0.83	
		0.83	
		0.83	
		0.83	
MW03	Where carpets and other floor finishes are specified by the future occupant or, in tenant areas of speculative buildings, where carpets or floor finishes are installed in a limited show area only.	0.83	
MW05	Where at least 50% of the new building's total façade comprises re-used façade and at least 80% by mass of the reused façade comprises in-situ re-used material	0.83	
MW06	Where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.	0.83	
MW07	Where significant use of crushed aggregate, crushed masonry or alternative aggregates (manufactured from recycled materials) are specified for 'high grade' aggregate uses (such as the building structure, ground slabs, roads, etc.).	0.83	
MW08	Where materials used in structural and non-structural elements are responsibly sourced. For timber products this requires third party certification to show that the timber has come from a sustainably managed source and for non-timber products that the materials have EMS certification at either the process stage or the process and extraction phases.	2.5	
MW12	Where the presence of a central dedicated storage space for recyclable materials either within the building or on site skips are provided with good access for collections (2m ² per 1000m ² of floor area, up to 10m ² max).	0.83	
Total points achieved to carry forward			

LAND USE		Points	Design & Procurement
Credit Reference			
LE01	Where the site has been previously built upon or used for industrial purposes within the last 50 years.	1.5	
LE02	Where evidence is provided to demonstrate that the land used for the new development has, prior to development, been defined as contaminated and where adequate remedial steps have been taken to decontaminate the site prior to construction.	1.5	
LE03	Where evidence is provided to demonstrate that the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.	1.5	
LE04	<p>Credits are awarded based upon the degree of negative impact the new development has on the site's existing ecology. In a formal BREEAM assessment the ecological impact of the development is calculated based on the area of habitat and number of floral species displaced, using BREEAM's ecological value calculator. As a guide, the following can be used to estimate the likely number of credits:</p> <p>No credits can be awarded where the new development will displace a significant majority of the existing site's ecological habitat types and areas.</p> <p>Where a majority of the existing site's ecological habitat types and areas are not displaced as a result of the new development.</p> <p>Where either the development displaces none of the existing site's ecological habitat types and areas. Or, where there is no, or very limited existing site ecology; for example the new development is a refurbishment, or it is on contaminated land or Brownfield land that has been derelict/unoccupied for less than one year.</p> <p>NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.</p>		
		1.5	
		3	
LE05	<p>Where evidence is provided to demonstrate that the design team (or client) has</p> <p>i) appointed a professional to advise and report on enhancing and protecting the ecological value of the site; AND</p> <p>ii) implemented the professional's recommendations for general enhancement and protection for site ecology.</p> <p>OR</p> <p>Where, in addition to the above, evidence is provided to demonstrate a positive increase in the ecological value of the site of up to (but not including) 6 species.</p> <p>OR</p> <p>Where, in addition to the above, evidence is provided to demonstrate a positive increase in the ecological value of the site of 6 species or greater.</p> <p>NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.</p>	1.5	
		3	
		4.5	

LE06	<p>Where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements listed below and:</p> <ul style="list-style-type: none"> At least two of the additional requirements. <p>OR</p> <ul style="list-style-type: none"> At least four of the additional requirements. <p>NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.</p> <p>Mandatory Requirements A suitably qualified ecologist must confirm in writing that:</p> <ul style="list-style-type: none"> All relevant UK and EU legislation relating to protection and enhancement of ecology has been, or will be, complied with during the design and construction process. An appropriate management plan is produced covering at least the first 5 years after project completion. This should include details of the scope of the management plan. Key responsibilities, and with whom these responsibilities lie, e.g. owner, landlord, occupier, FM, other. <p>Additional Requirements</p> <ul style="list-style-type: none"> A 'Biodiversity Champion' has been nominated The relevant site work-force has been trained on how to protect site ecology during the project. Record and monitor actions taken to protect biodiversity throughout key stages of construction The client requires that a new ecologically valuable habitat, appropriate to the local area, be created. The client requires the contractor to programme site works to minimise disturbance to wildlife. The client requires actions to be taken to protect/enhance biodiversity A Biodiversity Champion must have sufficient authority and time on site to influence activities and ensure that they have minimal detrimental impact on biodiversity Local biodiversity expertise should be sought at, or before, the design stage Where a site is deemed to have no ecological value <p>The refurbishment of a listed building may be exempt from the credit requirements if they conflict with the need to maintain the building's listed features</p>	1.5	
		3	
Total points achieved to carry forward			

POLLUTION		Points	Design & Procurement
Credit Reference			
P01	Where evidence provided demonstrates the use of refrigerants with a global warming potential (GWP) of less than 5 or where there are no refrigerants specified for use in building services.	1	
P02	Where evidence provided demonstrates that refrigerant leaks can be detected or where there are no refrigerants specified for use in the building or development. Where there are refrigerants, evidence should be provided to demonstrate that the provision of automatic refrigerant pump down is made to a heat exchanger (or dedicated storage tanks) with isolation valves. NOTE: These point scores <u>ARE</u> cumulative.	1	
		1	
P04	Where evidence provided demonstrates that the specification of insulating materials avoids the use of substances with a global warming potential (GWP) of 5 or more in either manufacture or composition	1	
P06	Where evidence provided demonstrates that the maximum dry NO _x emissions from delivered space heating energy are: <ul style="list-style-type: none"> • ≤100 mg/kWh (at 0% excess O₂). • ≤70 mg/kWh (at 0% excess O₂). • ≤40 mg/kWh (at 0% excess O₂). NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.	1	
		2	
		3	
P07	Where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. OR Where evidence provided demonstrates that the assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location. NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement. Where evidence provided demonstrates that Sustainable Urban Drainage techniques are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site through development.	2	
		1	
		1	
P08	Where evidence provided demonstrates that on site treatment such as oil separators/interceptors or filtration have been specified for areas at risk from pollution, i.e. vehicle manoeuvring areas, car parks, waste disposal facilities, delivery facilities or plant areas.	1	
P11	Where evidence provided demonstrates that :		

	<p>A feasibility study considering renewable and low emission energy has been carried out and the results implemented. OR In addition to the above, 10% of total energy demand for the building/development is supplied from local renewable or low emission energy, sources. OR In addition to the above and 15% of total energy demand for the building/development is supplied from local renewable or low emission energy, sources.</p> <p>NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.</p>	1	
		2	
		3	
P12	Where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005.	1	
Total points achieved to carry forward			

Rating	Minimum Score Required
	Design stage & Post Construction Review
PASS	25
GOOD	40
VERY GOOD	55
EXCELLENT	70