

Thames Gateway Eco-region: a prospectus



Acknowledgements

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Communities and Local Government
Eland House
Bressenden Place
London
SW1E 5DU
Telephone: 020 7944 4400
Website: www.communities.gov.uk

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Communities and Local Government Publications
PO Box 236
Wetherby
West Yorkshire
LS23 7NB
Tel: 0300 123 1124
Fax: 0300 123 1125
Email: communities@capita.co.uk
Online via the Communities and Local Government website: www.communities.gov.uk

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Thames Gateway Eco-region: a prospectus

FOREWORD

The Thames Gateway is one of Europe's biggest economic development and regeneration programmes. At the Thames Gateway Forum in November 2007, the Prime Minister set out the Government's belief that it has the potential to be a model of sustainable development for the 21st century as the UK's first eco-region – an exemplar that stands to raise the quality of life for all communities in the Thames Gateway, now and in the future.

This prospectus shows us how. It underlines how prosperity and sustainability can be achieved together, recognising that we must prevent dangerous climate change, because our social and economic wellbeing depends on us looking after our environment. The Gateway's rich and diverse array of species and habitats must be preserved and enhanced if the region is to be truly sustainable. Environmental sustainability must be the driving force behind innovation in design, products and services.

The current economic situation makes our aspirations all the more relevant. Our proposals may be ambitious at present but we believe they are realistic in the longer term. Investment in new environmental technologies now will increase resource efficiency and green collar jobs. Creating an eco-region is key to sustainable economic growth in the Gateway.

Nationally and internationally, we have set demanding ambitions for sustainability in the 21st century. The Climate Change Bill commits the Government to cut greenhouse gas emissions by at least 80 per cent by 2050. Early steps towards that goal include the Code for Sustainable Homes, our target for zero carbon new housing from 2016, our strategy for energy security and

diversity, the eco-towns initiative, and our strategic framework for sustainable development.

Developing the Thames Gateway as an eco-region will draw on these and go further. It can be an exemplar for the rest of the UK and for other countries, helping to answer many of the big challenges of development for the coming century. How do we integrate environmental sustainability fully into economic development and our aspirations for better lives? How do we manage water resources effectively? How do we mitigate and adapt to climate change and increased risks of flooding? How can cities reduce waste and reuse resources efficiently? What are the energy systems that will bring diversity and security of supply and much-reduced environmental impact?

The scale and nature of the Thames Gateway presents major challenges and opportunities to address them. The Gateway region handles much of London's waste; it faces significant flood risk and other challenges of climate change adaptation; it has potential for large-scale sustainable energy generation; it has the most ambitious new housing plans in the UK; it contains some of the UK's most deprived communities and



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damaged environments, alongside some of its wealthiest areas; and it has magnificent heritage in the historic built environment and in the parks, landscapes and wildlife of the Estuary.

And as a pioneer, the Gateway's future as an eco-region will present opportunities to households and businesses: in making it a good place to live, work and bring up families; to experience fresh thinking and new technologies; and using the best sustainable designs that will eventually be needed in all parts of the country.

We are grateful for the many valuable contributions from partner organisations to this prospectus, reflecting the progress already achieved in many areas of the Gateway. We look forward to your responses to this prospectus, and to discussing with partners in all sectors how to refine the strategy outlined here. The prospectus sets out a demanding ambition for the region, but one that is achievable and exciting. Together we can make the eco-region a reality, to the lasting benefit of all who live and work there.

**The Right Honourable Hazel Blears MP,
Secretary of State,
Communities and Local Government**

**The Right Honourable Margaret Beckett MP,
Minister for Housing**

**The Right Honourable Hilary Benn MP,
Secretary of State,
Department for Environment, Food and Rural Affairs**

**The Right Honourable Ed Miliband MP,
Secretary of State,
Department of Energy and Climate Change**

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1. INTRODUCTION AND INVITATION

“The Thames Gateway can lead the way with environmental jobs, greater use of renewables and new technologies, and environmental improvements to existing homes and building – truly becoming an eco-region for the rest of the country and other countries to follow.”

(Thames Gateway Delivery Plan, November 2007)¹

Government’s ambition for the Thames Gateway is twofold. First, it is to make use of the significant potential of the area to support economic and housing growth, to contribute to the Greater South East and national economies. Second, it is to tackle deprivation and increase opportunities for the existing communities in the area. Our aim is to strengthen the Thames Gateway as a great place to invest, work and live, with a proud past, a vibrant economic future and improved quality of life. Developing the Thames Gateway as an “eco-region” is key to advancing both these ambitions. It will foster sustainable growth and improve the environment for all that live, work and invest in the area, now and in the future.

This prospectus fleshes out the ambitions for the “eco-region” and describes what is being done to support their delivery. These are the first steps that we will take towards realising the vision of the Thames Gateway as the UK’s eco-region.

Taken together, these actions will help us more quickly and coherently to achieve existing challenging national aspirations in the Thames Gateway.

This vision can only be delivered by building and supporting a broad coalition working together. This has already proved vital in the development of this prospectus, through which our partners have both challenged its ambition and ensured that what it

What is the eco-region?

As an “eco-region” the Thames Gateway will be a place where:

- local communities shape, lead, own and benefit from sustainable development
- economic, social and environmental ambitions and actions are integrated and mutually supporting
- high environmental and ecological standards are sought for existing and new development and in making best use of natural resources
- innovation in response to environmental challenges is fostered and spread, as an exemplar for others to follow, and
- a wide range of partners – local, regional, national, international and private, public, academic, third and community sectors – collaborate ambitiously to support and embed sustainability.

Key Proposals

- up to £35m supporting the Parklands Vision
- up to £1.25m enhancing the Energy Saving Trust “Green Homes” programme
- eco-assessments for housing developments, including up to £160,000 to conduct the first for the Kent Thameside development
- creating an eco-quarter
- establishing an internationally recognised Institute for Sustainability
- a range of energy and water saving retrofitting programmes
- an Environmental Infrastructure Fund
- a Renewable Energy Challenge Fund
- exploring district heating networks as part of an integrated energy infrastructure strategy.

proposes is realistic and achievable. Through the actions proposed in this prospectus, we intend to encourage even broader coalition, bringing together all stakeholders around the eco-region to make the Thames Gateway an increasingly vibrant, prosperous, and sustainable region.

An Invitation

The prospectus is an invitation to all stakeholders to:

- engage with us and the new Homes and Communities Agency in further refining and enhancing the eco-region vision and developing it into a deliverable programme

- work together to implement the actions we propose for starting to make the eco-region a reality
- explore opportunities in your own policies and programmes for making further contributions to realising the vision.

Now is the time to act. Together, through vision and creative action, we can demonstrate the capacity of the Thames Gateway to be a world-leading eco-region.

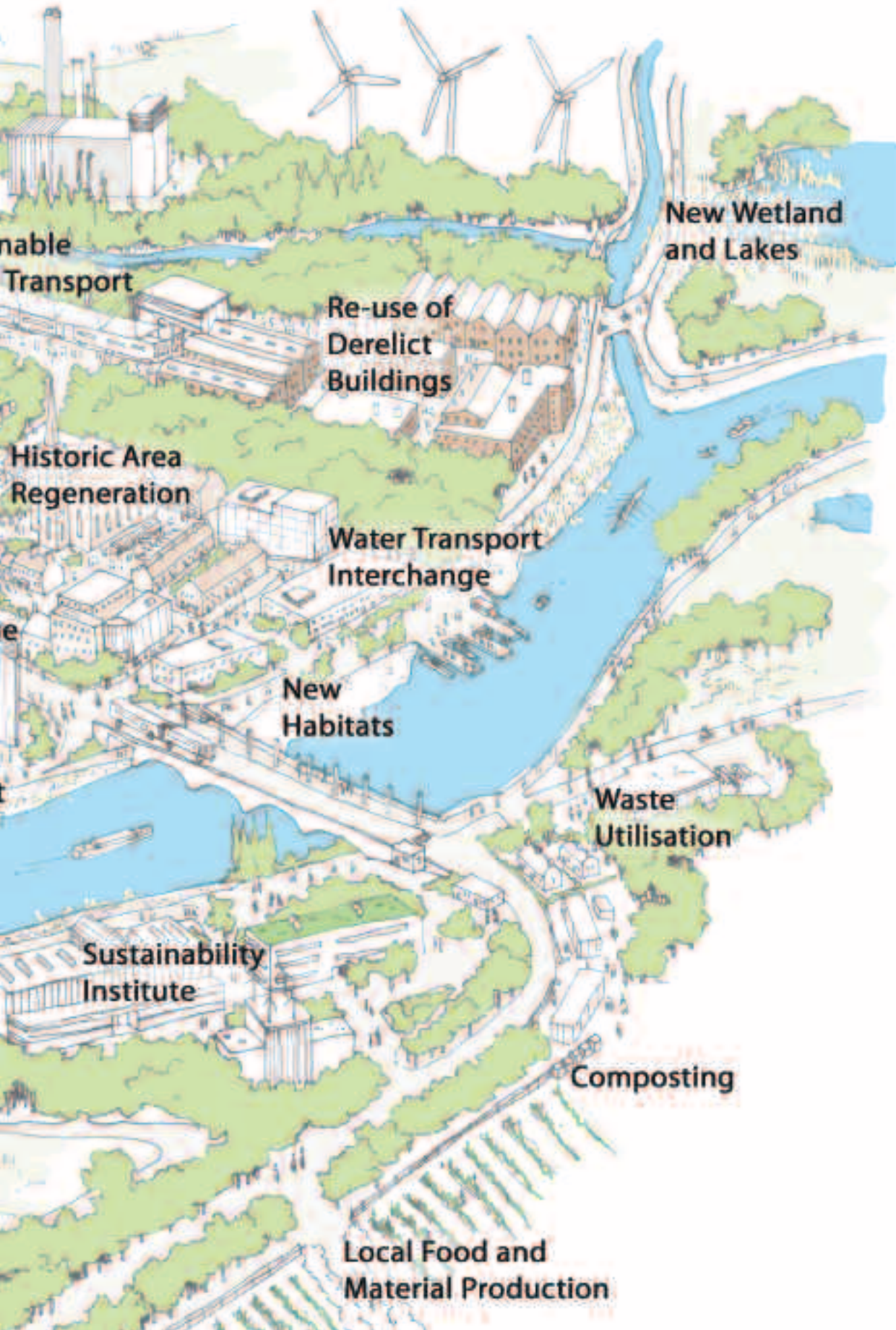


Image of GMV courtesy of Taylor Wimpey

Eco-region – the big picture



This artist's impression has been developed to illustrate some of the key opportunities that will support the achievement of the eco-region.



2. ECO-REGION STRATEGIC FRAMEWORK

An eco-region: obligations, opportunities, and an integrated approach

The Thames Gateway eco-region will:

- support the development of high quality places to live, work and raise a family in which people feel they are a part of, enjoy and are proud to live.
- be a region where people and businesses will want to settle and where they can thrive.
- be a place where economic development fully respects and is in tune with environmental limits and the services provided by ecosystems.²
- be an international exemplar of leading practice in development of environmentally sustainable infrastructure – for waste management, water supply, flood risk management, sustainable decentralised energy systems, and low-impact transport.
- exemplify effective approaches to mitigating and adapting to climate change.
- offer an attractive, vibrant and sustainably managed set of landscapes and living places, with wildlife protected and the historic environment enhanced.
- be a place where people, businesses and wildlife all find a sustainable and attractive home, and where environmental quality and sustainability are fundamental to economic development and thriving community life.

The Thames Gateway as an eco-region

In November 2007, we launched the Thames Gateway Delivery Plan which set out cross-government priorities for the Thames Gateway. The Delivery Plan refined the vision for the Thames Gateway, establishing the following priorities:

- enhancing economic growth by supporting new investments, jobs and skills
- enhancing quality of life, by supporting the community and improving our built and natural spaces, including the target of providing 160,000 good quality homes.
- developing the Thames Gateway as an “eco-region”.

These priorities are mutually supporting. Each contributes to the other. Developing the eco-region will enhance both economic growth and quality of life.

Reflecting the contributions of a wide range of partners from across the Thames Gateway and Government, this prospectus:

- focuses our diverse interests and ambitions into a single coherent vision
- considers the specific environmental opportunities, and obligations, that exist in the Thames Gateway
- describes the first steps we will take to realise the vision of the Thames Gateway as the UK's eco-region.

In developing this prospectus we and our partners have considered the following questions:



Why should the Thames Gateway be an eco-region?

As a leading UK growth area, the Thames Gateway will host significant new development, including new housing, expanded communities, and new places to work. Together, we have the *obligation* to accommodate developments within existing and emerging environmental constraints. As we grow in the Thames Gateway, we must grow sustainably.

The Gateway offers significant and often unique *opportunities*, to provide and develop green and open spaces, enhance environmental quality, and involve communities in sustainable living, and to support the Thames Gateway economy, now and in the long term, by increasing resource efficiency and developing it as an international leader in new environmental technologies. Building the eco-region, we can provide a model for new strategies and initiatives throughout the UK.

Why is it a priority?

In the UK and globally, it has become accepted that environmental sustainability is an immediate priority. The challenges of climate change, economic insecurity and resource scarcity encourage us to use energy wisely, and to maintain the natural space around us. The current economic situation makes our aspirations all the more relevant. We increasingly understand that these are essential to a viable future, and that we can benefit economically and socially when we are proactive. Creating an eco-region is key to sustainable economic growth in the Gateway. But, we can only seize these opportunities, and meet these challenges, if we act now.



What is the scope of this prospectus?

This prospectus describes actions that more quickly and coherently support these ambitions. These are how we propose to achieve existing national aspirations in the Thames Gateway. They support existing national planning policy and the existing planning framework for new development. For the avoidance of doubt, they are not intended to override the Government's commitment to the plan-led system, nor will it set new planning standards or requirements. Instead we are encouraging voluntary and collaborative action towards common goals within these frameworks. Any long term proposals of strategic significance should feed into reviews of the Regional Spatial Strategies or the London Plan, and proposals of local significance should feed into Local Development Framework Reviews.

How can ecological and economic development be achieved together?

"Eco" can mean both "economic" and "ecological". The economy needs to treat the environment for what it is – our home, a dwelling place that makes the economy and all its benefits possible.

We see the Thames Gateway eco-region as a place where economic and social development take full account of the imperative of ecological sustainability, and where environmental projects are designed and delivered in an integrated way, bringing maximum social and economic gain as well as ecological value.

This integrated approach requires the following:

- a focus on involvement and empowerment throughout local communities
- strong connections between economic and environmental development plans and projects, within a framework of sustainable development and understanding of the essential services provided by ecosystems and resources in the Gateway. We see the opportunities for creating "green collar jobs", for encouraging research and innovation, and for attracting investment across a range of emerging areas including sustainable construction, low carbon energy solutions, and innovative manufacturing
- a vigilance against creating new burdens on business and others, including through impact assessments of emerging proposals
- supporting our natural spaces and historic environment, ensuring both community access and benefits from the "services" natural spaces provide, such as flood protection and biodiversity, and
- partnerships across all stakeholders, with integrated strategies and action plans for new development and the historic built environment.

Where does the eco-region sit within the Government's wider sustainable development framework?

The eco-region will be a national and international exemplar of leading practice in sustainable development from which others can learn.

The Thames Gateway eco-region builds on the 'pillars' of Government's Sustainable Development Strategy [Securing the Future (2005)]³:

Living within environmental limits:

- Our priorities must include mitigating and adapting to climate change, minimising waste, reusing and recycling buildings and materials, increasing our use of renewable sources of energy, and using our resources such as water and energy efficiently.

Ensuring a strong, healthy and just society:

- We can embed "sustainable" development by ensuring our communities are empowered and engaged, and have access to high quality green and open spaces, benefit from the historic environment around us, and have well designed homes and public realm.

Achieving a sustainable economy:

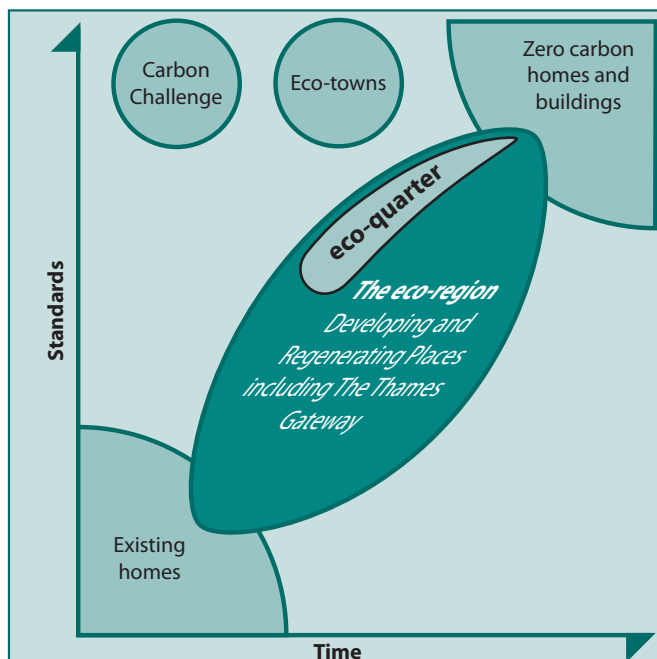
- Our economic success must also be sustainable, and we can achieve this by developing new skills and encouraging new investments, centred on environmental opportunities (including developing sustainable energy, water, and transport infrastructures, supporting renewable resource technologies, and increasing our efficiencies).

Promoting good governance:

- We will thrive when all members of our communities are empowered and encouraged to take personal and community leadership as we enhance the environment around us, and when all stakeholders throughout the region work together, in partnership, towards our common goals.

Using sound science responsibly:

- We are improving our set of environmental information to guide our strategy, and, more valuably, we are taking initiatives, such as the Institute for Sustainability, to bolster our research and innovation capacity in the eco-region.



The Thames Gateway provides a range of opportunities to address our wider ambitions to reduce carbon emissions in existing, developing, regenerating, and new places; it is one of a number of Communities and Local Government initiatives, as illustrated.

The eco-region reflects a wider national agenda to “green” new, developing, regenerating and existing places. It will be a place where the many elements of the Government’s supporting strategic framework for sustainable development will be brought together systematically in order to empower communities, support economic development, shape places, drive innovation and inform the design of places and buildings for the future, including:

- The **Statutory Development Plans** – including relevant parts of the London Plan and Regional Spatial Strategies for the East and South East, and Local Development Frameworks produced by each District and Borough
- The 2007 *Thames Gateway Delivery Plan*
- The 2008 *Thames Gateway Economic Development Investment Plan*,⁴ a joint statement from the three Regional Development Agencies in the Gateway - London Development Agency (LDA), East of England Development Agency (EEDA) and SE England Development Agency (SEEDA) on the economic potential and growth sectors and locations for the area
- The *Parklands Vision*,⁵ launched in October 2008, which sets the vision for green and open spaces in the Gateway.

The eco-region will be supported and informed by many other related Government action:

- **Economic stimulus and low-carbon manufacturing:** strategies for developing the low carbon environmental economy (as reviewed in the *Manufacturing Strategy Review 2008*).⁶
- **Climate Change:** the *Climate Change Bill*⁷ sets targets for dramatic reductions in green house gas emissions – by 80 per cent by 2050 from a 1990 baseline – and establishes a process for setting binding carbon budgets.
- **Sustainable Energy:** the *2007 Energy White Paper*⁸ calls for greatly reduced dependence on fossil fuels, boosting renewables and other low-carbon energy sources, and enhancing diversity and security of supply.
- **Planning:** the *Planning Policy Statement (PPS) on Climate Change*,⁹ PPS1¹⁰ and PPS3¹¹ help local authorities and their partners plan developments which mitigate and adapt to climate change and integrate good design practices.
- **Eco-towns:** Communities and Local Government is currently consulting on a draft PPS for eco-towns, which sets out a range of minimum standards which will be used to define an eco-town. Eco-towns are a response to the challenge of climate change, the need for sustainable living, and an acute housing shortage, and are intended to be freestanding settlements.

- **Green buildings:** the Government is consulting on the target for all new homes to be zero carbon from 2016¹² through a progressive tightening of the energy standards in the building regulations. The Government is also looking to strengthen the water efficiency requirements in the building regulations, and consulted earlier this year on new standards in the regulations, which are expected to come into force in 2009.
- **Zero Waste Places:** in October 2008 DEFRA launched an initiative with local authorities to pilot the concept of Zero Waste Places, areas (such as Lewisham) that will test new approaches to minimising waste and its environmental impacts.
- **Community involvement:** The community empowerment white paper *Communities in control: real people, real power*¹³ sets out a framework for supporting local people in decision-making and the eco-region will build on this. We also wish to see the eco-region pioneer effective ways to help local people get the information and advice services to support their own debates, decisions and investments concerning sustainable living.

How will it make the most of the Thames Gateway’s unique nature?

The 2012 Olympics

The Olympic and Paralympic Games will be a showcase not only for sport but also for sustainable building, waste management, energy efficiency and renewable energy. The Olympic Legacy Park in Stratford will be a place that promotes and exemplifies the benefits of a lower carbon footprint and a healthier way of life. The Olympic Delivery Authority has pledged to meet a target to recycle or reuse 90 per cent of waste from the main building phase for the Games – unprecedented for an event of this scale.

Eco-quarter

The eco-region will include a pilot **eco-quarter** – a demonstration area to develop and test sustainable technology and new approaches to sustainable design. It will provide an opportunity to “bring it all together”, by:

- establishing partnerships combining the community, developers, local authorities, regional agencies, and Government
- integrating a range of current and emerging “best-practices” to realise the full potential of sustainable living in one concentrated place.

Proposals for the eco-quarter are summarised and set out more fully in section four of this prospectus.

Eco-assessments

Eco-assessments help local authorities to assess opportunities to include sustainability “best practices” in significant new developments. We have proposed supporting eco-assessments for the ten main housing schemes in the Gateway. This does not replace planning system processes such as Sustainability Appraisal or Strategic Environmental Assessments of proposals but helps ensure that opportunities are identified to further the eco-region’s ambitions in these major new developments.

Strategy for the built environment

The existing and future buildings of the Thames Gateway, both homes and other buildings, are key to the eco-region concept. This prospectus explores the ways in which the Gateway could provide opportunities for exemplar developments and projects both for new developments’ construction and design and for existing buildings. Our proposals focus on reducing carbon emissions and increasing quality through retrofitting, advice services and promoting recent Government policies that have been introduced to drive a step-change in sustainable building practice like *The Code for Sustainable Homes*¹⁴, Energy Performance Certificates¹⁵ and *Buildings for Life*¹⁶.

Local Governance

The eco-region’s success will depend on partnership with and between local authorities in the Gateway and their partners at regional level and in Local Strategic Partnerships (LSPs). We look to local authorities and their LSP partners to consider how eco-region goals and values can be reflected in Sustainable Community Strategies and in Local Area Agreements.

We would expect local partnerships to review their plans to see how they can contribute. Currently all Thames Gateway local strategic partnerships have signed up to between two and eight of the 14 environment and sustainability national indicators in their Local Area Agreements. Also 15 out of the 18 local authorities in the Thames Gateway have so far signed the *Nottingham Declaration*,¹⁷ which recognises the central role of local authorities in leading society’s response to the challenge of climate change. By signing the Declaration authorities pledge to systematically address the causes of climate change and to prepare their community for its impacts. We would welcome further sign up by the remaining local authorities in the Thames Gateway.



3. ECO-REGION THEMES AND INITIATIVES

The sheer scale of economic development and regeneration in the Thames Gateway offers unique opportunities for it to become the UK's first eco-region. It can offer an innovative and living demonstration of the gains to be made for prosperity and wellbeing from working towards a "One-Planet"¹⁸, truly sustainable approach to development, consistent with the evolving policy and regulatory framework.

In this section we set out our proposals for taking the eco-region forward under four main headings:

- broad themes that cut across a range of environmental topics
- the Gateway's environmental context
- resource efficiency
- creating a sustainable development infrastructure.

In each case we state where we are now, what our ambitions are and current and next steps.

Strategic leadership

To provide overall strategic direction for the eco-region, and to maintain a high-level picture of the specific activities taking place to deliver it, we propose that a Steering Group is established, led by Communities and Local Government.

Initiatives and investments

This prospectus is the next step in fulfilling the ambitions presented in the November 2007 *Delivery Plan*. Three of the specific initiatives which have been developed and will be delivered over the next two years are:

- invest up to £35m for initiatives supporting the Parklands Vision, an integral component of the eco-region strategy
- invest up to £1.25m to enhance the Energy Saving Trust Energy Advice Service, accelerating progress on energy and water savings advice services specifically in the Thames Gateway¹⁹
- invest up to £160,000 to conduct the first eco-assessment, specifically to consider the energy infrastructure options in Kent Thameside.

More broadly, we have worked together with the Regional Development Agencies to establish the Economic Development Investment Plan, as outlined in the *Delivery Plan*. We are now working with the Economic Development Investment Plan Steering Committee to further develop proposals for the wide range of initiatives presented in this prospectus. Key proposals include:

- creating an International Institute for Sustainability, in three locations
- a range of complementary retrofitting programmes to improve energy and water efficiency in existing building stock
- additional eco-assessments for housing developments
- establishing an Environmental Infrastructure Fund and a Renewable Energy Challenge Fund
- exploring further progress on establishing district heating networks and an integrated energy infrastructure strategy.

The *Delivery Plan*, the *Economic Development Investment Plan*, and this prospectus demonstrate our continued commitment to invest in the Thames Gateway eco-region. With the regional development agencies and the Homes and Communities Agency, we will work with the full range of key stakeholders to continue to make this a reality over the coming months.

Eco-region themes

Addressing Climate Change

Climate Change Carbon Footprint
Sea Level Rise Temperature

Supporting Environmental Economic Opportunities

'Green Collar' Jobs Universities
Sustainability Institute Industry

Transport

150,000 London Basin
20 Canary Wharf
300,000 North Downs

Thames Gateway Transformers
Key Housing Sites
Community Parklands

Managing Waste Wisely

Waste
Energy and Materials

Sustainable Energy Infrastructure

Enhancing Community Involvement

Workshop Consultation

Environment Around Us

Urban Rural

Water

4 London Gateway

RIVER THAMES

Flood Risk Management

Floodable Land Flood Defence

Using Water Efficiently

Rainwater Collection Low Flow Appliances

Wetlands Water Savings

Using Energy Wisely

Retrofitting Existing **Sustainable Construction**

Solar Panels New combi boiler Cross ventilation Extra floor and wall insulation Water savings

wind turbine Solar shading Green wall Thermal mass

Pre-fabricated bathroom pod Stack ventilation Green roof Double skin Water savings

FARRELLS

The big picture: broad themes

All environmental themes are interrelated – for example, when we preserve green and open spaces, we support biodiversity, help manage flood risk, and even support more sustainable travel when people choose to walk or cycle. Several topics, however, are particularly broad and are worth special consideration because they span environmental themes and provide an opportunity for integrated and strategic approaches:

- addressing climate change
- supporting environmental economic opportunities
- promoting community involvement.

Addressing climate change

Background – Where are we now?

Our climate is changing. In the UK it is anticipated that we will experience milder, wetter winters and hotter drier summers characterised by increased storminess and summer droughts. We will also experience sea level rise. In order to limit future climate change to manageable levels, global greenhouse gas emissions need to peak in the next 10-15 years and then fall rapidly. The greater and earlier reductions are introduced, the better.

Development within the eco-region needs to use resources wisely, be resilient to climate change and enable biodiversity to adapt. To deliver this, we must identify and plan at a strategic level the adaptation measures that will be required. Sustainable Urban Drainage Systems (SUDS) and other measures to effectively manage surface waters and rain water “run off” will be essential if new development in the Gateway is to be protected from the flooding events that increasingly affect other parts of the country. Extensive green spaces and other permeable surfaces will be key to providing sufficient built-in protection from flooding and supporting biodiversity. Ecosystem functions and resilience to climate change should be factored in to all developments.

The UK *Climate Change Bill* has proposed targets to reduce greenhouse gas emissions by 80 per cent of 1990 levels by 2050. Built development contributes significantly to these emissions through inefficient use of energy, water, materials and waste resources. The location, layout and design of developments can be improved to use these resources more efficiently and encourage more sustainable behaviour to contribute to the greenhouse gas emission reduction target.

Good work has begun, including, for example, the London Climate Change Action Plan, which sets out a path for London to tackle the challenge. But we must expand and extend these efforts.

The scale and nature of new development in the eco-region has the potential to demonstrate genuine low carbon results. It will be necessary for measures to be implemented in both existing and proposed development in order to minimise emissions and help to meet the UK's targets.

Our ambitions

The Thames Gateway eco-region will confront the national challenges posed by climate change by implementing a coherent strategy that integrates innovative approaches in energy use and production, transport, landscape management, and community action. We will support the national target for greenhouse gas reductions as established in the UK *Climate Change Bill*.

Because the eco-region supports an extensive and historic built environment, realistic success in carbon reduction will be measured by faster progress towards existing national targets, rather than simply establishing more stringent targets.



The eco-region will support the national and global response to climate change by becoming a leader in environmental research, innovation, investments, and skill development.

Energy, water supply, and construction companies, in partnership with local authorities and Government, can develop integrated and holistic strategies for supporting the community, enhancing the environment and combating climate change within the eco-region.

Current and next steps

1. We will work with the local authorities within the eco-region to identify and share best practice regarding climate change mitigation and adaptation following on from, and building on the progress currently being made across the London local authorities.²⁰
2. Our wider proposals to provide energy and water savings through retrofitting, to encourage low carbon energy production, to maintain open natural spaces, to encourage sustainable construction, and to support appropriate flood risk management contribute to our climate change mitigation and adaptation actions.



Your Home in a Changing Climate

The Three Regions Climate Change Group (TRCCG) report *Your Home in a Changing Climate*,²¹ highlights how important it is that action is taken now to retrofit and adapt existing homes to increase their resilience and long-term sustainability in the face of increased climate change. It proposes that by adapting our existing homes now we can address the impacts of present and future flooding, water resources and overheating. It demonstrates it is possible and cost effective to increase the resilience of the existing housing stock and that small changes can have a big impact, particularly when it comes to saving water and reducing carbon emissions through tackling overheating.

The report concludes that widespread adaptation of existing homes is crucial to ensuring that they are comfortable, marketable, resource efficient and fit for purpose in the present and the future. One key finding from the report was that the households most vulnerable to climate change impacts will be the disadvantaged and those who are the least able to adapt.

The report also advises that adaptation to future climate impact should be an integral part of housing stock improvement, suggesting that this can be done through existing local authority and social housing renewal programmes, large-scale retrofitting programmes and homeowner DIY projects.

Supporting environmental economic opportunities

Background – Where are we now?

Supporting the growth of environmental technologies and services is at the heart of our vision for economic growth in the Gateway.

The global market for environmental services and technologies is predicted to grow by 45 per cent by 2015. The Government, recognising the need for a “fourth technological transformation” to a low carbon, energy efficient economy, has recently announced plans for a tenfold increase in the amount of energy generated from renewables, including an expansion of renewable heat and transport fuels.²² This will offer major business growth opportunities. The Thames Gateway is primed to benefit from that growth – both as a front-runner in terms of low carbon, water and materials efficiency and economic development. It also recognises the potential of the area as the source of talent, technologies and ideas that can be put to use to benefit similar locations around the world.

For this to happen, the delivery of new development must be of the highest environmental and design standards. Meeting high standards, investing in green infrastructure, and promoting the development of regionally focused supply chains will, together, provide an exceptionally attractive location for the growth of environmental technologies and services. This sector generally has a high skills profile and has supply chain linkages to financial services, creative industries and transport and logistics.

Our ambitions

Communities and Local Government, the HCA, and the RDAs will support the Thames Gateway as an eco-innovation area. The Gateway will be a test site for new environmental technologies and will capture innovation and commercial potential. Research and business-led innovation will be supported by initiatives such as the International Institute for Sustainability, the Open Innovation Science Park for the Environmental Engine Hub, catalysing pan-Gateway activity through the Innovation and Enterprise Champion and by building knowledge around low carbon transport options.

A range of partners led by the regional development agencies will aim to influence the growth of local environmental enterprises in the Gateway by attracting environmental technology and service firms through approaches to inward investment. The Gateway can help model “closed loop” systems such as the recycling centre at Dagenham. We will also aim to demonstrate progress in creative and visual ways and build local, national and international partnerships around this.

All stakeholders should continually assess opportunities to link environmental needs and initiatives with specific efforts to promote skills development, job creation, and investment. This supports the Thames Gateway target of creating 225,000 new jobs by 2016.

Current and next steps

1. As part of the *Economic Development Investment Plan*, the Regional Development Agencies, London Thames Gateway Development Corporation, private sector stakeholders and the HCA are working in partnership to establish the Institute for Sustainability:

The Thames Gateway Institute for Sustainability (IfS) will be a world class, multi-disciplinary research institute that supports the development of practical solutions for sustainable living and working. It is a private sector-led initiative delivering research and demonstration projects with the results disseminated for use in the Thames Gateway and beyond. It is expected to be part of a network of similarly focused institutes around the world, one of which is the Dongtan IfS in Shanghai.

The location of the IfS within the Thames Gateway offers an opportunity for close collaboration with major local development projects and regeneration activities. The Thames Gateway will become a site for “field-study” for researchers involved in delivering practical solutions to the sustainability challenges faced by those living, working and investing in the area.

Through its close relationship between industry and academics, the Institute will deliver economic benefits for the Gateway and businesses by helping to solve real problems, which will have commercial benefits.

The Thames Gateway IfS will be a registered charity and will have campuses in London, Kent and Essex. Each campus will focus on research projects that will benefit specific developments in their respective areas:

London

A new research centre will be built for the London campus at Dagenham Dock. It will be located within the Sustainable Industries Park (SIP), a 60 acre business park built to high sustainability standards and populated by environmental technology businesses.

The research centre will be designed to encourage collaboration and open innovation between academic and corporate researchers. It will provide research laboratories, offices and exhibition spaces totalling approximately 15,000m².

Being based at the SIP will offer researchers (at the IFS research centre) close links with these environmental technology businesses and with the many large regeneration projects in the area. Research projects are currently under way to support both the Barking Riverside development (a 10,800 new home community) and the Olympics Delivery Authority. These include projects that focus on determining the commercial viability of green roofs and capturing lessons from delivering the most sustainable Olympic games ever.

Kent Thameside

The campus at Kent Thameside will focus on developing, demonstrating and monitoring community-wide solutions. Through rented space at The Bridge development in Dartford, the Kent campus will host living demonstrators. One of these is a retrofit project currently being undertaken on behalf of Dartford Borough Council. This project involves retrofitting different technologies to existing homes to improve their energy and water efficiency. The research will be used to inform further retrofit programmes on social housing and private homes, to enable the more effective adaptation of our existing housing stock to climate change.

Living laboratories such as these will create a virtuous cycle of learning by doing, sharing best practice and applying innovations.

Essex

A third campus is being developed in South Essex. It is envisaged that this campus will be a Bio-Renewable Energy Research Park, providing a research and development centre leading on new, sustainable bio-energy technologies for electricity, heat and transport fuel.

2. With the regional development agencies, we are proposing a series of "eco-region summits". These events would bring together eco-region stakeholders with leading academics on focused topics, such as integrating environmental and economic development. This process can invigorate innovation, providing practitioners with the best available international knowledge for moving forward.
3. We will work with the Thames Gateway Innovation Champion, a role recently created as part of the Economic Development and Investment Plan for the Thames Gateway, on approaches to enhance the synergy between environmental action and economic opportunity. For example, the Innovation Champion may provide leadership at the eco-region summits as appropriate.

The Thames Gateway Skills Framework

Today, economic development and environmental sustainability are mutually supportive. With this in mind, Communities and Local Government is releasing the *Thames Gateway Skills Framework* in parallel with this eco-region prospectus.

Led by the Thames Gateway Skills Envoy, Sir David Melville, and representing the input of a broad partnership, the *Skills Framework* has been developed to meet the long term challenge of ensuring that all who live and work in the Thames Gateway have access to high quality education and training. The Framework is structured around four key principles for future investment and targeted action in the Thames Gateway:

- a commitment to working in genuine partnership and collaboration across sectors and regions
- a closer match between skills development now and jobs in the next decade
- continuing innovations in infrastructure, pioneering new approaches to education and training
- a firm focus on progression – making the move from one skill level to the next – and ensuring that people are equipped with better skills for better opportunities

The *Skills Framework* and the *Eco-region Prospectus*, together, help build a unified vision of a sustainable economic future for the Thames Gateway.

Enhancing community involvement

Background – Where are we now?

Communities and Local Government published the empowerment White Paper *Communities in control: real people, real power* earlier this year.²³ It builds on work we started through *Strong and Prosperous Communities*, the local government White Paper 2006,²⁴ which focused on devolving power from central to local government, local partnership working and delivery. The vision is to build vibrant and cohesive communities of empowered, self-confident citizens who are active in many different ways in contributing to their local community.

Our ambitions

Through all our initiatives in the eco-region, Communities and Local Government and the Homes and Communities Agency will seek to create opportunities for community involvement, empowerment, and action. We will ensure that we are working with all members of the community, and we will listen and learn, to ensure that our aims are aligned with the aspirations of local communities.

We will encourage both youth engagement and community volunteering to help build lasting and broad support for sustainability within the eco-region.

We understand that working toward environmental sustainability requires new actions and ideas across members of the communities we serve. We will help members of the community through advising and other support measures.

Current and next steps

1. We are engaging the new Communities and Local Government Youth Advisors to assist us in shaping the eco-region. As a specific first step, the Youth Advisors will be offering suggestions on making green spaces more attractive to young people and protecting them from vandalism.
2. Communities and Local Government will work with partners to scope initiatives to increase youth involvement in the eco-region, including, for example, an eco-region Youth Volunteering Programme. Such a programme could bring together volunteering support organisations with appropriate environmental training or advocacy organisations to assess youth perspectives, gather proposals, provide training for volunteers, and support these volunteers as they promote sustainability in the community. Areas of focus might include:
 - community energy/carbon/water saving advice and public awareness campaigning
 - in-school awareness programmes for students, as part of a Sustainable Schools strategy
 - college campus awareness programmes
 - encouraging alternative transport (public, cycling, walking)
 - supporting use of greenspace/parklands (by for example hosting walking tours and open house days, etc).
3. Communities and Local Government will investigate opportunities to establish additional volunteering and outreach initiatives to support sustainability in the eco-region.
4. Communities and Local Government with a range of partners will assess how concepts of “community shared” energy production, such as proposals for members of a community to “own” forms of renewable energy production could be taken forward in the Thames Gateway.
5. Communities and Local Government is supporting a range of community advisory services to assist with energy savings and sustainable living. Such initiatives help to involve and empower the community in these broader environmental themes. These programmes are described more fully in the section “Using resources wisely” (p30).



The environment around us

We live and work in an environmental context – the natural and built environment, the air we breathe, our rivers. Here we consider themes that address our relationship with this environmental context.

Biodiversity, landscapes, and Parklands

Background – Where are we now?

The Thames Gateway contains some of the UK's most important landscapes and natural areas: terrestrial, marine, urban and rural. These existing natural assets provide a wealth of opportunities for people to appreciate and understand the area's natural environment and should be key components and differentiators of the eco-region.

Enhancing landscape and biodiversity, creating quality natural environments and increasing people's opportunities for access and recreation across the Thames Gateway will maximise benefits to society. This "green infrastructure" will help shape a place fit to meet the challenges we, and future generations face. Green infrastructure, properly designed, managed and resourced can also play a vitally important role in addressing some of the cross-cutting sustainability issues in the Thames Gateway including: climate change adaptation; flood management; access to natural greenspaces and improving people's health and wellbeing.

The *Parklands Vision*, launched by Sir Terry Farrell in October 2008, will be central to the establishment and successful delivery of the eco-region by shaping and coordinating the collective contributions of organisations, communities, individuals and funding streams going forward.

Our ambitions

Communities and Local Government and the HCA will work to maintain and enhance landscapes, habitats, and biodiversity in the Gateway.

We will support the approaches and actions presented in the *Parklands Vision*, so that all communities, new and existing, will have access to areas of good quality natural greenspace close to the places where they live and work.

We will help embed this *Parklands Vision* into the work of our partners.

Current and next steps

1. Communities and Local Government and the HCA will work with Natural England and local partners to identify and collect a range of statistics to help monitor the quality of biodiversity, landscape quality and access to the natural environment and supporting factors such as habitat, in the eco-region.
2. The HCA will work with Partners in the Gateway to ensure the successful delivery of the Parklands projects which have received investment from Communities and Local Government this year, as the next steps towards delivering the *Parklands Vision*.
3. Working with the "Greening the Gateway" advisory group, the HCA will develop further proposals to enhance urban green spaces and the natural environment, skills, standards and necessary research and in general, support the *Parklands Vision*.
4. Communities and Local Government, the HCA, Natural England, EA, DEFRA, local authorities, developers and other appropriate groups and local partners, will assess opportunities, challenges, and actions associated with:
 - species and habitat monitoring
 - habitat enhancement and creation
 - developing specific responses to the challenges of development and enhancement of biodiversity in the Gateway
 - the integration of biodiversity and habitat across a range of environmental issues including development, flood risk management, SUDS, water and air quality, transportation, community involvement, economic investment and skills development, etc.

5. EA and partners will explore the potential of a River Restoration strategy and action plan. If initiated, the EA in partnership with other participants including the River Restoration Centre will conduct a study to determine the opportunity for and nature of a funded river restoration programme. Such a programme would build on existing initiatives in the Gateway sub regions, support the *Parklands Vision* and aim to naturalise engineered waterways and improve the biodiversity value of rivers and the river corridors, while supporting flood risk management and climate change response.
6. Natural England and Environment Agency are developing Greater Thames Coastal Habitat Management plan (CHaMP) to provide a framework for decision making for habitat management, in relation to future flood risk and coastal erosion. It will help to fulfil the UK Government's obligations under the *Habitats and Birds Directives*²⁵ and the Ramsar Convention,²⁶ and offers significant opportunities for the eco-region.
7. Communities and Local Government and the HCA will review the opportunities for, and challenges of, enhancing long-term ecological monitoring in new developments. By this we mean that in new developments, a strategy for ecological monitoring and maintenance should be produced and implemented from the start of development.
8. The HCA and partners will review the potential to create opportunities through agriculture across the eco-region, to support environmental and economic objectives as well as social and cultural objectives. This could include forging farm-urban links and working to reduce "food miles", the distance our food is shipped. The aim would be for agriculture to create links in terms of landscape enhancement, biodiversity, climate change management, renewable energy production, supporting sustainable transportation objectives, and public access.

Case studies

Deptford Creek Regeneration

Less than a decade ago, Deptford Creek, like many waterways in urban areas, was suffering from neglect and abuse. It was an unattractive area that provided a limited habitat for a few species.

The Creekside Greening and Cleaning Project for Deptford Creek has led to the creation of the Creekside Education Trust (CET). The work has enhanced wildlife habitats, enhanced and repaired floodwalls, removed rubbish and improved local access. In doing so it has raised broader community awareness of the values of the creek and has provided a rich habitat that supports biodiversity in the urban environment.

The CET Learning Centre provides opportunities to demonstrate a range of options for sustainable development of riverside areas including green roofs, river wall habitat enhancements, urban wasteland habitats and water recycling.

The Centre is run as a company with charitable status, with local people on the management committee. It provides a range of services that provide education and opportunities for involvement in the process of managing the creek and its diverse values.

Environmental quality

Background – Where are we now?

Much of the water environment of the Thames Gateway is highly modified to enable flood defence and navigation. Water quality in the estuary has, and must continue to improve to achieve the aim of good ecological potential and good chemical status by 2015.²⁷ Working with water companies and other industry has delivered improvements to water quality. Actions already planned and proposed will deliver further improvements but future development should also make a positive contribution to improving water quality.

Air pollution is currently estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20bn each year.²⁸ Air pollution also has a detrimental effect on our ecosystems and vegetation. Clearly there are significant benefits to be gained from further improvements to air quality to reduce as far as possible the effect air pollution has on people's health and the risks it poses to wildlife.

As presented in the 2008 State of the Gateway Update report, high levels of pollution are found around Dartford River crossing and in central London, while there appear to be significant recent improvements in the Medway towns²⁹.

The Thames Gateway has a long history of industrial use resulting in a legacy of over 3,000 hectares of previously developed brownfield land, much of which is contaminated. Redevelopment offers an opportunity to clean up or remediate land contamination, bringing brownfield land back into beneficial use and reducing pressure for development on green spaces.

To demonstrate its success as an eco-region the Thames Gateway will need to re-use brownfield land in a sustainable way to deliver new housing, sustainable economic growth and clear improvements in the environment.

Our ambitions

Government is committed to maintaining and enhancing water quality consistent with the objectives of the *Water Framework Directive*.³⁰

Waters in the eco-region will achieve their environmental objectives as set down in the relevant river basin management plan.

Within the Thames Gateway Government is committed to building at least 80 per cent of new homes on brownfield land.³¹

Communities and Local Government, the HCA and partners will promote development practices, such as integrating SUDS, to improve water quality.

We will also promote efforts to monitor and assess air quality in the eco-region in a strategic and integrated manner.

In the eco-region, we believe the level of intended development allows significant long-term improvements in air quality to be delivered by well planned, high quality development to benefit both new and existing communities. This can be achieved by mixed-use development that reduces the need to travel, particularly by car, promotes walking, cycling and use of public transport and helps to tackle traffic congestion.

Current and next steps

1. Working with the Environment Agency and Natural England, Communities and Local Government and the HCA will develop a State of the Environment analysis to include and highlight the pressures, state and response of key environmental indicators. The report will set the baseline key indicators. Future reports will highlight trends in Thames Gateway and provide an evidence base to measure achievement and review priorities. This work will be incorporated into future Thames Gateway monitoring reports.



2. The HCA will work with local authorities and across Government to:
 - review current benchmarking and National Indicator data across Government units
 - review current best practices in the region for dust/ emission control (from construction/demolition)
 - review opportunities in new development to minimise air quality impact (including appropriate transport solutions such as public transport, walking, cycling)
 - propose aspirations for air quality improvement
 - review proposals for improving air quality management.
3. Communities and Local Government, the HCA, DEFRA, and EA will work together to assess opportunities to support and accelerate the programme of actions to protect and improve water quality in the eco-region, including through the proposed River Restoration strategy and working with the Institute for Sustainability.
4. A variety of partners including local authorities, development agencies, English Partnerships, Environment Agency and local communities need to work together in Local Brownfield Partnerships to find creative and sustainable ways of addressing land quality challenges when rebuilding communities.

Case studies

London Tideway Tunnels Project

The London Tideway Tunnels Project is a proposed solution to the problem of combined sewer overflows (CSOs) discharging into the river Thames. It comprises a 34.5km tunnel under the Thames from West London through to the sewage treatment works in Beckton, including a 4.5km spur tunnel taking the Abbey Mills CSO discharge into the River Lea. The tunnel is, in effect, a storage tunnel that will take the discharges from the worst CSOs, and hold the effluent until it can be treated at the receiving sewage treatment works.

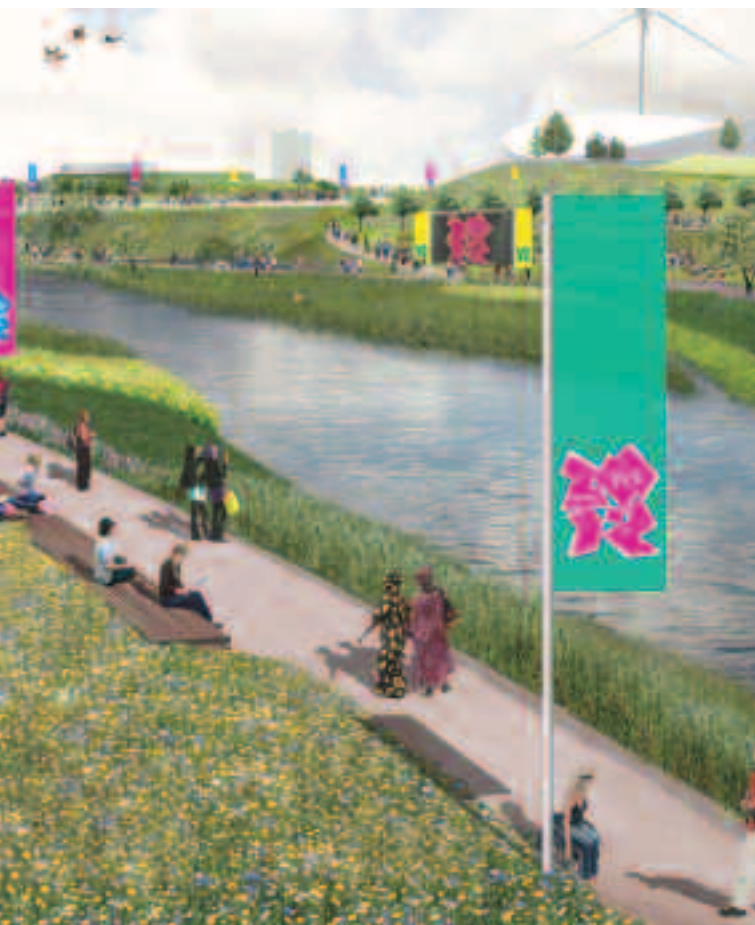
The tunnel will not only improve water quality during periods of rainfall and reduce the resultant fish kills, but also reduce the health risks of river recreation, the aesthetic pollution of the river and will support the much needed regeneration of the Lower Lea valley.

Global Remediation Strategies at the Olympic Park

Global Remediation Strategies (GRS) establish a framework to identify and deal with any risks at the Master Planning stage of land development and speeds up the planning process by compliance with PPS23.³² GRS help to identify land quality constraints and plan for any required clean up early in the planning process.

A GRS was successfully developed by the LDA for the Olympic Park planning application which provided the framework for land quality constraints and remediation solutions to be identified early in the planning process.

Thurrock Thames Gateway Development Corporation now requires GRS to be developed for a number of their large development sites.



Flood risk management

Background – Where are we now?

Overall, the Thames Gateway benefits from the highest level of tidal flooding protection in the country. Flood risk management is of special importance within the Thames Gateway as it is situated along a major tidal river. The further development of the Thames Gateway provides us with the opportunity to facilitate a reduction in flood risk from all sources and to better management of the consequences of flooding. This will help us to adapt our towns and cities to climate change and to ensure the continued wellbeing of people and the economy.

To allow us to better manage the flood risk, we need to understand the nature, likelihood and consequences of flooding. The Environment Agency prepares flood risk management strategies which highlight and propose options to manage flood risk at a strategic scale.

In addition to managing tidal flooding risks, communities in the eco-region plan against weather-related flood risks. The eco-region can enhance these preparations through, for example, the broad commitment to high quality design and the use of SUDS.

Thames Estuary 2100³³

The Environment Agency, which has direct responsibility for planning and ensuring the continued maintenance of the Thames Gateway flood defences, is in the process of developing a far-reaching plan to tackle increasing tidal flood risk in the Thames estuary over this century. It covers an area from Teddington in the west of London to Sheerness in the east of the estuary.

The project, known as TE 2100, will take into account climate change and sea level rise, the longevity of defences, sinking land levels and changes to development in the floodplain. It will recommend the strategic directions for flood risk management throughout the estuary, as well as what will be required, and when, to manage the flood risk, based upon the effects of climate change over the century. The plan will also include recommendations for the creation of inter-tidal habitat lost due to rising sea levels.

The plan will be adaptable, so that if sea levels are found to be rising faster than anticipated it will set out the options for managing the resultant risk, and what we need to safeguard now to maintain those options.

Key findings so far:

The system of defences

- The existing defences are very effective with a greater safety margin than previously understood
- No major upgrade to the current system of defences or a new major engineering project is required before at least 2030
- We need to continue to maintain our defences and may need to improve many of the walls and embankments by 2050
- Under the Government's current climate change scenario the Thames Barrier, with some adaptation, will continue to provide protection through to the end of the century.³⁴

Climate change and making space for water

- Sea levels will rise in the Thames over the next century due to thermal expansion of the oceans and potential melting of polar ice. Although still uncertain, climate change is likely to increase sea levels, storm surge height and frequency in the North Sea less than previously thought
- Spatial and effective emergency planning will be an essential part of future flood management
- New inter-tidal habitats need to be created to offset the impact of rising sea levels before 2030
- By making space for water we can reduce the height that defences may have to be raised in the future, defer the need for a new barrier, and create open spaces for people and wildlife to enjoy.



Our ambitions

The eco-region will lead the nation in planning and implementing flood risk management strategies for both tidal and fluvial flooding risks.

- Recognise long-term flood risk management needs as identified by TE 2100 project are met
- All areas of the Gateway covered by flood risk assessments that have been updated to take into account best available climate change information eg UK Climate Impacts Programme
- Continued improvements to flood risk management infrastructure and provision of new infrastructure where needed, including land set aside to manage urban runoff (making space for water & TE 2100).

Flood risk management planning should be part of a holistic environmental strategy that includes habitat enhancement, improved public use of waterfronts and natural spaces, and respect for the region's heritage.

Communities and Local Government, the RDAs, and other partners can leverage flood risk management planning and implementation projects to create opportunities for research, innovation, and skills development, establishing the eco-region as a leading global innovator in the field.



Current and next steps

1. The Environment Agency will publish a draft TE 2100 plan in spring 2009 with the final plan submitted to Government in 2010.
2. Communities and Local Government and the HCA will work across Government, the third sector, developers, and architects to promote research and interest in building design and construction approaches which respond to the challenges of climate change. We will inform this effort through coordination with the broad range of sustainable construction themed organisations currently in place. This effort will help establish the eco-region as a technology leader in this emerging field, provide potential economic opportunities, and offer results which can be used in new development within the eco-region. This partnership will assess global best practice in flood resistant construction, the use of green roofs, sustainable urban draining systems, and other adaptive technologies. Working with the Institute for Sustainability, this partnership can identify opportunities for investment, research, and skills development around adaptive building approaches in the Thames Gateway.

Strategic Flood Risk Assessments (SFRAs) have been undertaken for all areas of the Gateway, but there is an ongoing programme of revision in the light of new information and policies.

3. Communities and Local Government, the HCA, and partners will assess opportunities to increase the strategic integration of SUDS in new development. For example, strategic SUDS schemes and multifunctional open spaces within the urban fabric can manage urban run-off resulting from intense downpours expected in future.³⁵ SUDS provisions like green roofs and rain water harvesting can be utilised in both new and existing development where they are cost efficient.

Using resources wisely

Using energy efficiently

Background – Where are we now?

The Gateway has a track record in use and reuse of older buildings – both commercial and residential – for community and cultural use. This enhances the distinctiveness of locations. But a significant share of emissions is associated with the existing building stock. Existing residential and commercial development also represents an opportunity to achieve significant improvements in water efficiency and sustainability of urban drainage systems. Communities and Local Government, the HCA, RDAs, and partners intend to identify and enhance approaches to retrofitting both residential and commercial buildings. This will demonstrate how major improvements to building efficiency can be achieved across a range of building types. We will also increase the level of support for residents wanting to improve the energy efficiency of their homes through energy saving advice services. Through these services, individuals and communities are empowered.

Our ambitions

The eco-region will be a national leader in improving energy efficiency within the residential, non-residential, and public built environment.

Communities in the eco-region can be empowered and informed to make a difference and reap the rewards that using energy efficiently brings.

Current and next steps

1. The HCA and the RDAs as part of the Economic Development and Investment Plan are developing plans for a major retrofitting programme for existing buildings. This programme will be coordinated with the Energy Saving Trust “Green Neighbourhoods eco-region Acceleration” programme, and will extend to non-domestic buildings.
2. Communities and Local Government is reviewing a proposal for the Energy Saving Trust ‘Green Neighbourhoods eco-region Acceleration’ programme which could provide whole house energy and water retrofitting for up to 3,000 domestic properties in the eco-region.
3. Communities and Local Government is exploring proposals to upgrade DEAs (Domestic Energy Assessors) to Community Energy Advisors and,

if implemented, will work with stakeholders in the eco-region to support early adoption. Community Energy Advisors could work throughout the community to provide an Energy Performance Certificate for participating households, provide advice on saving energy and using renewable energy, and assistance to help implement the measures (such as sourcing suppliers etc).

4. Communities and Local Government is investing £1.25m in a programme with the Energy Saving Trust to accelerate energy saving advice services within the eco-region. This programme, based on national activities supported by the Energy Saving Trust, provides a range of advice services to local authorities and members of the community to save energy and reduce greenhouse gases. Through this initiative, we will be able to share these services with more local authorities, with faster implementation.
5. The Office of Climate Change (OCC) is investigating ideas for innovative financing mechanisms to support domestic energy efficiency and retrofitting. OCC would like to work with stakeholders in the eco-region to better develop and test these emerging ideas. The approaches which will emerge from this process may help eco-region homeowners adopt energy efficiency measures.

Using water efficiently

Background – Where are we now?

Rising population and changing household occupancy patterns mean new development typically requires more clean water and generates more waste water. Providing this will increase the demands on the natural environment as well as water supply and waste water disposal and treatment infrastructure. The requirements of new development should be assessed and planned in advance, in order to deliver sustainable development objectives and secure timely delivery of new development.

The Thames Gateway has low rainfall levels and higher than average water use, and lies in an area considered “seriously” water stressed.³⁶ Total water demand is forecast to rise by eight per cent by 2016. High levels of development over the coming years will place pressure on water resources and quality. This demand should be anticipated and planned for, in order to reduce barriers to development and prevent unacceptable harm to the environment.

The needs of water for new development must be balanced with environmental needs for water. We support high levels of water efficiency, alongside the development of new water resources and treatment works where required, and with appropriate protection for vulnerable and low income customers.

In November 2007, the Environment Agency published a study entitled *Towards Water Neutrality in the Thames Gateway*.³⁷ This study investigated the current situation regarding water use in the Thames Gateway and considered potential scenarios for reducing water use with the goal of achieving “water neutrality”. As defined in this study, “Water neutrality in the Gateway would be achieved if the total water used after new development was equal to or less than total water use in the Thames Gateway before the development (in the baseline year of 2005-06)”.

Our ambitions

Government and partners will support the wise use of finite water resources by supporting water efficiency in new development and the existing built environment, working towards the goal of “water neutrality”.

We will integrate water supply and treatment into a holistic environmental strategy considering the relationship to, for example, climate change and energy use, flood risk management, and water quality.

Current and next steps

1. DEFRA, with EA, and Communities and Local Government, has formed a Water Neutrality Working Group which is leading the ongoing process of assessing and reducing water use in the eco-region.
2. This group has been working with WATERWISE to complete a study entitled *Evidence Base For Large-Scale Water Efficiency*,³⁸ which presents the best available evidence from a range of water efficiency projects carried out by water companies in the UK. This report both includes data gathered in the eco-region and will be used to inform our planning for further water savings measures.
3. As a next step towards water neutrality, we are conducting a follow on study to determine in more detail costs and benefits for achieving water neutrality in the eco-region.
4. Working with the Energy Saving Trust, Communities and Local Government has developed plans to include water savings retrofitting within any project to provide “whole house” energy retrofitting, demonstrating integrated solutions.

5. EA, Communities and Local Government, and the HCA are investigating options for further study of the link between carbon reduction and water savings, particularly through improvements in the use of hot water in homes. The eco-region provides an opportunity to focus and implement this research.
6. Through the Water Neutrality Working Group, we will ensure that the lessons being learned on a national level, such as the ongoing work of the *Walker Review of Charging and Metering for Water and Sewerage services*,³⁹ inform our ambitions and proposals in the eco-region.

Case studies

Gallions Ecopark, Thamesmead

Gallions Ecopark is an affordable housing scheme of 39 houses at Thamesmead, developed by Gallions Housing Association. The homes use cost-effective, practical water and energy efficiency design solutions that are easy to use and maintain. The water saving features include low-volume baths, water efficient showers, spray taps, flow regulators, low volume dual-flush toilets (4/2.5 litres) and water butts. Monitoring has shown that the average water consumption of Ecopark properties is just under 100 litres per person per day. Average water consumption from a house built to current building regulations is around 148 litres per person per day. Throughout the development, the landscaping is sensitive to the needs of the environment. Paved areas are limited, and the use of half-open pavement areas allows rainwater to infiltrate the ground and reduce run-off. Rainwater is biologically treated before entering the local canal system, and street water passes through oil separators before reaching the biological treatment area.

Creating a sustainable development infrastructure

It is often suggested that we should “think globally, and act locally”. In the Thames Gateway, we have the opportunity to bring these approaches together by thinking and acting regionally, especially in considering our infrastructure needs. While individuals will make an important contribution to meeting our environmental challenges, especially when using resources efficiently, some of the most significant opportunities exist when we think of joining up and larger scale initiatives.

A sustainable energy infrastructure

Background – Where are we now?

Energy is one of the most complex challenges the western world faces today, and decisions involve thinking about climate change, energy independence, and capacity to support economic and community development. In the eco-region, stakeholders are looking at many different and innovative ideas to reduce greenhouse gases, recover and use waste heat from power stations, and support renewable energy technologies. As a whole, the eco-region will be making progress against climate change and will serve as a significant example of leadership thinking, and action, on an entire range of environmental issues.

Some groups within the eco-region have begun to think about how energy can be produced in a more strategic, integrated manner. For example, in October 2008 London First released the summary report *Cutting the Capital's Carbon Footprint – Delivering Decentralised Energy*.⁴⁰ This report makes several recommendations on what they think is required to deliver decentralised energy solutions.

Challenges and opportunities:

Kingsnorth coal power station

E.ON has submitted an application to Government for planning permission for a £1bn investment to build two high efficiency units using the latest in “supercritical” technology to produce power from coal, as the company claims, “far more efficiently and far more cleanly than ever before in the UK.”

If approved, these would be the UK's first supercritical coal-fired units, and they would produce enough electricity to supply around 1.5 million homes. Rated at 800MW each, the new units would be 20 per cent more efficient than the existing power station, allowing for a reduction in carbon emissions of almost two million tonnes a year when compared to current plant performance.⁴¹

The Government recently consulted on whether new power plants should be required to be “carbon capture ready” – where the new plant should be designed and built so that it could be retrofitted with carbon capture and storage technology. E.ON has requested that no decision on their application to construct a new coal-fired station at Kingsnorth be taken until after the Government's consultation process is complete.

Our ambitions

Working with all stakeholders, Government can encourage a broad range of innovative energy solutions, from microgeneration to large scale district heating infrastructures, in a coherent energy strategy for the eco-region.

Where possible, Government may prioritise the national energy initiatives for early trial and deployment in the eco-region.

The RDAs, Communities and Local Government, and the HCA will also identify opportunities to develop new skills, attract investments and enhance technologies around the energy infrastructure in the Thames Gateway.

Current and next steps

1. In partnership with a range of key stakeholders, Communities and Local Government and the HCA will support the initial and continuing development of an innovative energy infrastructure strategy for the Thames Gateway. The focus of this initiative is to seize the range of innovative and low carbon energy solutions available within the Gateway. This will include assessing the challenges and opportunities associated with:

- Establishing district heating networks where practical to capture “waste heat” from existing power plants, supporting low carbon energy for new and potentially existing development
- Investigating the opportunity for regional networks of interconnecting local district heating hubs
- Integrating waste to energy facilities into the strategy, with a focus on utilising emerging technologies such as anaerobic digestion and plasma vitrification
- Exploring the opportunities for distributed (small scale) energy production, and integrating any proposals both conceptually and spatially in the overall strategy
- Exploring and implementing biomass energy production
- Utilising “microgeneration”, such as rooftop photovoltaic systems, where appropriate
- Working towards developing and deploying commercially viable “carbon capture and storage” technologies
- Exploring additional roles for both large and small scale wind power energy production
- Achieving energy savings through community support, energy efficiency measures in existing buildings, and encouraging high levels of sustainability in new construction.

Together, the components of this proposed strategy would combine to achieve the best possible results for both carbon reduction and increase in energy from renewable sources. Also, by integrating and pursuing these innovative solutions, we can, in partnership with the Institute for Sustainability, business, and other partners, encourage research and development, new skills, and new employment opportunities in the Gateway.

2. We will work with partners throughout the eco-region to encourage early and broad participation in the various announced Government funding initiatives, such as the Demonstration Project Capital Fund, the Environmental Transformation Fund, and anaerobic digestion projects.
3. As set out in the Economic Development Investment Plan, the regional development agencies and the HCA will develop a proposal to implement the Environmental Infrastructure Fund, presented in the Economic Development Investment Plan as supporting accelerated investment in projects of environmental importance in the Thames Gateway, drawing on the lessons of the European Investment Bank/LDA study on how European and other funding might help deliver this objective.
4. The regional development agencies and the HCA will develop a proposal to implement the Renewable Energy Challenge Fund, conceptualised in the Economic Development Investment Plan as catalysing and supporting the development of appropriate renewable energy generation capacity – to deliver secure, low carbon energy in the Gateway while contributing directly to the new Government/EU targets for a tenfold increase in electricity from renewables by 2020.
5. Communities and Local Government is reviewing a proposal with the LDA to conduct a detailed technical study to “commercialise” a district heating network to capture waste heat from the Barking power station and distribute it as low carbon energy to a new housing development in Barking Riverside.

Case studies

Energy from Waste Plant – Colnbrook

The new municipal waste incinerator in Colnbrook West London will start accepting waste in 2009. The filters minimise particulates leaving the plant and the air is recirculated within the plant to maximise the gases that are burnt off, minimising air pollution and odour releases to the environment. The plant will also generate energy for London.

The South East London Combined Heat and Power Consortium

In 1986, faced with the increasing scarcity and environmental problems of landfill, the London boroughs of Lewisham, Southwark, and Greenwich came together to find a realistic alternative. In 1988, they formed the South East London Combined Heat and Power Consortium and established an Energy Recovery Facility to use residual waste to produce power for the National Grid, to reduce reliance on fossil fuels and providing energy from a constantly renewable source.

Managing waste wisely

Background – Where are we now?

The investment in housing, retail and office space and new infrastructure in the Gateway will generate many million tonnes of construction, demolition, and excavation (CD&E) waste each year. For example, major infrastructure projects such as Crossrail, the Thames Tideway Sewer and London Gateway could produce 26 million cubic metres of spoil over the next ten years. Nationally, 20-25 per cent of this potential resource goes to landfill. We have an opportunity to do significantly better in the Thames Gateway – saving money and embodied carbon at the same time as reducing materials extraction and the environmental impact of waste.

An Environment Agency survey of the level of new homes planned for the Gateway from 2006 to 2016 estimates the production of more than 80 million tonnes of additional CD&E waste. Eighty-five per cent of this will be excavation waste, including a range of contaminated soils from brownfield sites. The residual after treatment, reuse and recycling is estimated to require over 14 million tonnes of landfill capacity.

This could create a demand for around five soil treatment centres as well as new landfills for the residual waste. Landfill volumes are currently falling – the remaining capacity at existing landfill sites around the Gateway (at end-2006) is only three-six years. This underlines the importance of investing in new treatment capacity in the Gateway area to deal with soils and demolition materials. It also underlines the value in pursuing the Government–industry target of halving CD&E waste to landfill, since reaching

agreement on new waste facilities can be challenging. A shortfall in waste management capacity could hinder regeneration and growth by increasing disposal and transport costs.

Disposal of hazardous wastes presents a particular problem, because few sites are available close to the Gateway. Ninety per cent of the hazardous material produced will be from contaminated land, highlighting the importance of land remediation, on-site reuse and designing projects so as to minimise net excavation.

The South East England Development Agency (SEEDA) is working with the Environment Agency and WRAP to demonstrate the 'Pathway Towards Zero Waste'.⁴² This new programme is targeting a halving of construction waste to landfill by 2011 as an intermediate milestone, by creating demand for waste reduction and the use of recovered materials, developing the recycling sector, and supporting the adoption of good practice through information and data systems.

Our ambitions

Working across a range of stakeholders, Government will encourage efforts to halve construction, demolition, and excavation waste going to landfill by the end of 2011 compared to 2008. We will look for synergies that create inherent economic incentives for the construction industry and encourage initiatives that support broad and strategic approaches to reducing waste.

We will look for ways to treat "waste" as a resource, such as encouraging the use of reclaimed and recycled materials and investigating low carbon waste to energy opportunities including anaerobic digestion and plasma gasification. We will link this work with opportunities for economic development through innovation.



Current and next steps

1. Government will consider opportunities to promote innovative “waste to energy” initiatives and technologies, such as anaerobic digestion and plasma gasification. As stated elsewhere in this document, we are encouraging participation in Government’s pilot programme to promote anaerobic digestion technology for waste to energy production.
2. Communities and Local Government and the HCA support the SEEDA/EA/WRAP demonstration of the ‘Pathway to Zero Waste’, and will investigate opportunities to expand this initiative throughout the Thames Gateway.
3. Communities and Local Government and the HCA will work with WRAP to ask every organisation responsible for influencing or delivering construction in the Thames Gateway to take exemplar action that contributes to the goal of halving CD&E waste to landfill in the eco-region by the end of 2011 relative to 2008 (one year ahead of the national target). This will require: commitment to corporate targets (eg through the national voluntary agreement managed by WRAP on *Construction Commitments: Halving Waste to Landfill*⁴³); setting procurement requirements for exemplar outcomes; adopting good practice for both waste reduction and recovery; and measuring and reporting annually on performance. For example, we will partner with WRAP to hold a series of ‘Halving Construction Waste to Landfill’ workshops for key stakeholders in the eco-region.
4. Communities and Local Government, the HCA, DEFRA, RDAs, WRAP, local authorities and others will work together to review opportunities for establishing:
 - a. a network of merchant soil remediation centres across the Gateway adopting high operational, technical and environmental standards
 - b. a “materials exchange” network covering London and the Thames Gateway, leading to the establishment of a vibrant recycling and reuse market in surplus materials; and
 - c. materials and waste consolidation centres designed to reduce waste and increase resource efficiency by feeding recovered materials to materials exchanges and reprocessing facilities.

Case studies

Olympic Delivery Authority

The Olympic Delivery Authority (ODA) is remediating 246 hectares of brownfield land within the Lower Lea Valley to provide a platform for development for the London 2012 Olympic and Paralympic Games and legacy developments. To encourage good practice, the ODA has embedded challenging targets for recovery and reuse of waste materials in the contract process.

The ODA recently appointed a Site Waste Management Contractor to help all projects on site recycle construction waste. Working with the contractor, the ODA aims to reuse or recycle 90 per cent of construction waste. To do this, the contractor will establish a single consolidation centre to separate materials and encourage reuse, and will put incentives in place for construction contractors to separate waste at source.

The ODA is currently exceeding its target of reclaiming 90 per cent of demolition material for reuse or recycling. Over 220 buildings have been demolished, with four buildings deconstructed for use off-site. Materials including paving, bricks, granite kerbs and sandstone edging have been stockpiled for use in the design of venues and the Park.

The Olympic Park project is the first to design, procure and maintain a Soil Treatment Centre or Hub within the United Kingdom, dedicated to receiving and cleaning/recycling site-derived materials from within the Park’s multiple construction zones, for the sustainable reuse of engineering products and fill. By the end of the remediation work, the ODA expects that over 1.3 million tonnes of soil will have been cleaned and reused on the Park.

Transport

Background—Where are we now?

Major transport investment is fundamental to supporting the growth projected in the Thames Gateway. The Department for Transport (DfT) has been working closely with Communities and Local Government, as well as other private and public sector partners, to ensure that plans for transport and housing development within the area are properly integrated. In Kent Thameside, for example, partners (including Communities and Local Government, Highways Agency and DfT) have agreed a package of measures to improve the existing network through smaller, targeted interventions and wide ranging demand management supported by a high quality public transport network. The agreed funding proposal to support this transport package includes contributions from Government (c. £80m) and the private sector (c. £90m), including a tariff arrangement being organised by Dartford and Gravesham borough councils. A detailed project appraisal is being prepared by Kent County Council as the accountable body for the comprehensive proposal.

At the more local level Communities and Local Government/DfT's Thames Gateway Transport Advisory Subgroup has in the past advised the Thames Gateway Strategic Partnership on which schemes under £20m should be prioritised for the Gateway. The schemes were prioritised using the Thames Gateway high level objectives on a geographically neutral basis. We have agreed thirteen projects funded under the Community Infrastructure Fund to provide local transport improvements.

Challenges and opportunities:

Airports in the eco-region

The issues surrounding the location and capacity of airports, and the sustainability of air travel versus other modes of transport, are complex. In the Thames Gateway, we are working to balance environmental considerations with the need to support economic development.

The *Future of Air Transport White Paper*⁴⁴ forecast that London City Airport (LCA) would handle around five million passengers per annum (mppa) by 2030.

Early in August 2007 LCA's operators applied to the London Borough of Newham to vary the limits in the present airport planning permission so as to increase the number of permitted flights to and from the airport. The application was approved (subject to the approval of a section 106 agreement) in October 2008 and the increased overall total of 120,000 air traffic movements per annum will allow the airport to carry up to 3.9mppa, compared to 2.5mppa in 2006 – an increase of nearly 50 per cent – but with noise impacts still measured, assessed and mitigated.

A number of proposals for alternative sites in the South East, including estuarial airports, were received and evaluated during the Future of Air Transport White Paper consultation in 2002-03. These were all rejected for a variety of reasons including lower net benefits, high construction costs, lengthy construction times, high costs for associated access infrastructure, impact on sensitive habitats and risk of bird strike (a safety issue), and risk of financial viability if demand proved less strong than forecast.

The Government concluded that none of the alternative schemes was clearly superior to the options for developing existing airports in the South East, or viable within the timescales under consideration.

Our ambitions

Government will continue to invest in appropriate transport infrastructure to facilitate access within the eco-region, encouraging more sustainable travel options both locally and regionally.

Within the eco-region, national and local authorities will work together to promote a continued shift towards more sustainable, and healthy, means of travel such as walking, cycling, and using public transport. Correspondingly, we will encourage a reduction in road travel when possible.

Parklands will encourage walking and cycling within the region, reducing the demand on vehicle based transport modes and contributing to public health and quality of life.

The eco-region will continue to serve as a leader and exemplar of sustainable transport strategy, creating opportunities for research, innovation, investment, and skills development.

Current and next steps

1. As presented in the *Economic Development Investment Plan*, the regional development agencies and the HCA will develop plans to conduct a Greater South East Connectivity Review – a programme of evidence gathering around transport priorities and opportunities.

This study will define the issues and challenges that relate to the Thames Gateway area as a whole. It will document, collate and anticipate present and future capacity constraints on road and rail networks. It will assess the connectivity issues that the area has, and in particular how these affect inward investment and the role that national and international gateways play in assisting economic performance. The work is aimed to help support further growth, promote employment, encourage inward investment, enhance productivity, reduce the costs of congestion and help to realise the potential of the spatial transformers. It will help establish the regional priorities as suggested in the DfT's report *Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World (2007)*⁴⁵ and the assessment methodologies and focus of the New Approach to Appraisal (NATA) refresh process. It will assess present and future capacity constraints on road and public transport networks and consider how to create a sustainable freight system (including greater use of the river and high speed rail).

The outcome of the review is expected to be a detailed analysis of the issues, challenges and spatial priorities, which will be central to delivering a successful Thames Gateway and a clear economic basis upon which planning and investment decisions can be made. This will be used to build the knowledge and evidence and opportunities around specific areas:

- coordination of transport investment in the Gateway, alignment with funding programmes and development of a priority delivery schedule for future DfT funding (post-2014)
- carbon neutral transport (including a demonstration project)
- innovative financing approaches for major infrastructure
- better use of high-speed rail links and the Channel Tunnel.

2. Communities and Local Government and partners will promote an eco-region wide programme to support Local Authority "Personal Travel Planning" services. Personal Travel Planning (PTP) is an approach to delivering targeted information directly to travellers, to help them make sustainable travel choices. It seeks to overcome habitual use of the car, enabling more journeys to be made on foot, bike, bus, train or in shared cars. It can also seek to discourage unnecessary travel, through the provision of local or site-specific information. PTP can be applied in a number of contexts, for example schools, workplaces and residential communities.
3. Communities and Local Government and partners will develop a programme to support "new development public transport planning schemes" so that all new developments have support to review and propose transport enhancements, such as the innovative Kent Thameside Fastrack.

Case studies



Kent Thameside Fastrack

Fastrack is an innovative award-winning Bus Rapid Transit system being developed for Kent Thameside and is critical to the successful regeneration of the area. Studies as far back as 1995 recognised that major development would result in substantial public transport. One of the strengths of the Fastrack scheme is its flexibility, with routes being adjusted and expanded as development takes place.

Two Fastrack routes are now operational. Route B has been running between Dartford and Gravesend town centres since March 2006, operated by Arriva under contract to Kent County Council. Passenger levels have been 50 per cent above expectations and surveys have shown that 19 per cent of passengers would previously have used a car for their trip.

Sustainable construction and development

Background – Where are we now?

The Thames Gateway has long been identified as an area well suited for significant residential and commercial development. The Gateway's high levels of previously industrialised brownfield land and proximity to established infrastructure give the area the potential to be truly sustainable.

With the development of the *Code for Sustainable Homes* and the updating of several *Planning Policy Statements*, guidance is in place on best practices for sustainable development.

Our ambitions

The eco-region has the capacity to develop the infrastructure to establish the area as a global leader in sustainable construction strategy and practice, leveraging the opportunities for research, innovation, investment, and skills development.

As an exemplar development the eco-region should aim to facilitate adherence to the most appropriate levels of the *Code for Sustainable Homes* and BREEAM or an equivalent assessment methodology for new non-domestic developments.

By advocating modern methods of construction, waste efficiency, high design standards, energy generation, use of sustainable materials and pollution prevention, the eco-region concept will reduce carbon emissions, help mitigate the effects of climate change, develop job opportunities and build sustainable communities.

Current and next steps

1. As *Planning Policy Statements* and corresponding Local Development Frameworks and Regional Spatial Strategies are updated in the normal course of events, these can reflect the opportunities, challenges, and realities of advancing the Gateway as an eco-region.
2. As presented in the *Economic Development Investment Plan*, the regional development agencies and the HCA will support the proposed Kent Thameside Construction Consolidation Centre.

Consolidation Centres provide an effective supply chain management solution enabling the safe and efficient flow of construction materials and equipment from supplier to project and by returning any surplus materials. The development of a Construction Consolidation Centre at Kent Thameside will demonstrate the financial and resource efficiency improvements that can be gained from adopting up-to-date logistical practices and providing additional services needed by multiple construction sites in busy and challenging environments. This centre, which will be developed in partnership with the private sector, will help support major developments in Ebbsfleet Valley and may link to another possible centre at Swanscombe Peninsula that will serve the wider Kent Thameside area. This approach has been demonstrated to reduce construction costs as well as relieve the roads of unnecessary congestion. It makes better use of trades on-site, contributes to project delivery on time and improves the efficient use of materials.

3. As described above, Communities and Local Government will support and encourage the best approaches to sustainable design and construction, and promote opportunities for new research and development, investment, and skills development.

4. THE ECO-QUARTER: AN EMERGING CONCEPT

Background – where are we now?

Communities and Local Government is currently consulting on a draft *Planning Policy Statement for eco-towns*,⁴⁶ which sets out a range of minimum standards which will be used to define an eco-town. Eco-towns are a response to the challenges of climate change, the need for more sustainable living, and an acute housing shortage, and are intended to be freestanding settlements. The Department has committed to exploring how the draft proposals for eco-towns could be applied to existing settlements in the Thames Gateway. As a result, through this prospectus, we would like to test ideas on how to develop a Thames Gateway eco-quarter, which can spearhead ambitions for the eco-region.

The details set out below are ideas only at this stage which we would like to test with partners before consulting early next year on a firmer set of proposals. We then intend to formally invite local authorities in the Thames Gateway, in association with local partners, to submit proposals for an eco-quarter in their area. Through discussions, we want to explore what Government support of any kind would be needed to take this forward.

Communities and Local Government will work with stakeholders on proposals, and the HCA will invite and assess them.

Our ambitions

What are our objectives for the eco-quarter?

There are a number of key objectives that we might aim to achieve through the development of an eco-quarter:

- develop and test new sustainable technologies
- explore how to make quick progress towards national standards, and towards achieving our long-term ambitions for the Thames Gateway as an eco-region, as set out in this prospectus
- demonstrate that there are economic benefits to sustainable design and technology for residents, local authorities, developers and businesses
- demonstrate that there are health and wellbeing benefits from sustainably designed development with strategically planned green infrastructure
- illustrate the positive benefits that sustainable communities can have on neighbouring settlements – the impact that the new development within the eco-quarter has on the existing buildings, and the

impact of the eco-quarter as a whole on surrounding neighbourhoods

- demonstrate how delivery of sustainability can go hand in hand with high quality design, and to demonstrate the benefits of how regeneration can deliver both high quality new build and improve the existing built environment
- demonstrate that improvements to increase the sustainability and therefore desirability of an area do not result in it becoming an exclusive area, but one which remains accessible and a place the whole community will want to visit, live, work and raise a family
- show how we can effectively respond to climate change and reduce our ecological footprint
- increase community involvement in developing and delivering sustainable communities
- develop wider market demand for innovative technologies through example and experience
- design and test new business models for sustainable development and adaptability.

What are the characteristics of an eco-quarter?

We are proposing to support and facilitate the development of **one eco-quarter** in the Thames Gateway in an existing urban area. Our hope is for it to be an exemplar of many of the standards we aspire to across the region, and the country as a whole. We therefore propose that it should exhibit the following characteristics:

- **An exemplar of sustainable development and a showcase for innovation and best practice.** We envisage that the eco-quarter will be able to test and demonstrate the use of sustainable energy and new initiatives to counter the effects of climate change, such as:
 - household and community renewable technology, and uptake of renewable materials and products
 - improved environmental quality addressing issues of water, air and land quality
 - efficient use of water resources
 - reductions in and improvements in the management of waste, including residential, commercial and construction waste

- the management of flood risk and provision of appropriate infrastructure
 - a high quality landscape with enhanced bio-diversity
 - focus on the provision of high quality built environment
 - support sustainable lifestyles, for example lower levels of car use and opportunities for sport and healthy lifestyles.
- **A combination of existing buildings and new development.** We propose that the eco-quarter should encompass existing buildings and new development, and both will need to have positive, measurable benefits on each other and the wider surrounding area.
 - **Size of the eco-quarter.** At this stage, we do not wish to constrain potential proposals by applying maximum or minimum size conditions. The other criteria will help to determine this in some respects – for example the requirement to have positive benefits on the surrounding area.
 - **Recognisable as an eco-quarter.** The eco-quarter needs to stand out as an area of innovation, publicly demonstrating the benefits of new technologies, for example through public outreach and signage. For example, energy counters, greening of walls and roofs and making features from sustainable infrastructure. Indeed experience from Vauban in France has shown that public acceptance and interest in renewable technologies such as photovoltaics can be enhanced by making installations highly visible. The area will need to be clearly defined geographically. However, it will also need to fit in with the wider local context.
 - **A strong community focus.** Local communities, who live in or near the eco-quarter, must be consulted and involved in the development of plans for it, and involved in ensuring its continued success. It will also be key for the benefits for residents living within the eco-quarter to be clear to them – for example, lower energy costs, better quality public realm, less motorised traffic, reduced risks of water shortage and flooding and the creation of environmental jobs.
 - **Economic benefits.** The eco-quarter will need to demonstrate how sustainable energy, an enhanced and functional environment and eco-friendly initiatives generate and support economic growth and investment.

- **Green infrastructure and bio-diversity.** The natural environment of the Thames Gateway should be an integral component of the eco-quarter and strategically planned and delivered so as to create a network of multifunctional green spaces. It should also inform the regeneration of the old. Plans for the natural environment should take into consideration the themes and proposals set out in the Thames Gateway Parklands Vision as priorities for the area.

Why might public, private and third sectors organisations want to get involved in the eco-quarter?

The development of the eco-quarter and the model which is adopted needs to be deliverable and sustainable without significant financial investment from central Government. It should pull together a number of funding streams to make it a success, for example from the local authority where the eco-quarter is based and private sector partners and investors. If the eco-quarter is to be an exemplar of new approaches and technologies which could be adopted elsewhere, they need to be financially viable and economically sustainable.

We hope there will be a number of incentives for a range of partners to get involved; and that the eco-quarter will provide:

- **Local authorities.** An attractive and sustainable environment to encourage people to move to an area which offers improved quality of life, health and wellbeing, and to increase civic pride. Improvements to the appearance of the area could encourage increased investment and jobs creation. Provision of good quality green infrastructure has been shown to increase house prices in developments where it is provided.
- **Private developers.** An opportunity to develop and test new technology and materials, with the benefits of critical mass, and the chance to become leaders in specific environmentally friendly sectors. The opportunity to develop a stake in the Government's plans for making the Gateway a centre of environmental skills and technologies. Being part of the Gateway's first eco-quarter will also bring visibility for developers within the region and enhanced reputation – a chance to showcase the best approaches to sustainability, and, potentially, increases in land and property values.
- **Business community and investors.** Improved natural and built environment leading to improved perception of the area by businesses and improved health of the residents who will potentially make up the workforce. Eco credentials are increasingly appealing to a wide range of firms.

- **Utility companies.** An opportunity to test new technology in an area which is being improved in a number of different ways at the same time, and has the potential to provide a chance for economies of scale, and benefits of working together.
- **New and existing residents.** Improvements to the natural and built environment, quality of life, perception of the area, the possibility of lower cost energy, as well as the attraction of low carbon energy.

What are the standards and principles that it will need to meet?

Building on the work already carried out to define potential standards for eco-towns, and on which the Government is currently consulting, we have set out proposals for a number of possible standards which could be demonstrated in the eco-quarter; some would apply to the eco-quarter as a whole, some to new development and some to existing buildings. We would not expect all of these standards to be met in one eco-quarter, but we envisage that all should be actively considered when proposals are put together. These standards are set out for consultation and we would welcome your views.

Across the eco-quarter

- **Waste.** A sustainable waste and resources plan for the eco-quarter, covering both domestic and non-domestic waste, which:
 - sets targets for residual waste levels, recycling levels and landfill diversion, all of which should be substantially more ambitious than the *2007 National Waste Strategy Targets for 2020*⁴⁷
 - demonstrates how these targets will be achieved, monitored and maintained
 - establishes how all development will be designed so as to facilitate the achievement of these targets, including the provision of waste storage arrangements which allow for the separate collection of each of the seven priority waste materials as identified in the *Waste Strategy for England 2007*
 - provides evidence that consideration has been given to the use of locally generated waste as a fuel source for combined heat and power generation and that the social, economic and environmental costs and benefits have been assessed
- sets out how developers will ensure that no construction, demolition and excavation waste is sent to landfill, except for those types of waste where landfill is the least environmentally damaging option.
- **Reduction in carbon emissions** in existing buildings.
- **Decentralised renewable energy.** An energy strategy for the eco-quarter, covering both domestic and non-domestic energy demand, which:
 - assesses the demand for electricity, heating and cooling
 - assesses the local renewable energy resource, including waste
 - sets out proposals first to minimise the total energy demand and secondly to meet the residual demand, in ways which maximise efficiency and minimise carbon intensity.

Existing buildings

- **Energy efficiency.** Increase the energy efficiency of existing homes with poor SAP ratings. Possibly target homes with a SAP rating of 35 or below.⁴⁸
- **Water demand.** As many houses as possible retrofitted to reduce their water consumption to level 1/2 of the *Code for Sustainable Homes*.⁴⁹
- **Reduction in energy.** Targets for the reduction of actual energy usage.

New buildings

- **Existing national standards as a baseline.** Government already requires new development to meet high environmental standards and all of this existing policy and legislation would apply to the eco-quarter.
- **Code for sustainable homes.** New homes in the eco-quarter should, in parallel with the draft *Eco-towns PPS*, aim to achieve *Code* level 4 with some specific criteria on energy efficiency, carbon reductions and water, while recognising the particular opportunities and constraints of its specific location.

- **Zero carbon non-domestic buildings, including commercial and public sector.** New non-domestic buildings in the eco-quarter should aim to be zero carbon before 2019.
- **Draft eco-town standards.** We propose that a number of the draft standards which have been set out for eco-towns and are currently being consulted on we propose might also apply to the Thames Gateway eco-quarter. These are:
 - **Well designed development and good urban planning** can contribute to promoting and supporting healthier and more active living and reduce health inequalities. The eco-quarter, particularly the new sections, should be designed and planned to support healthy and sustainable environments, with strategic multifunctional green infrastructure planned and implemented from the outset.
 - **Climate change adaptation.** The eco-quarter should be a sustainable community which is resilient to and appropriate for the climate change now accepted as inevitable. It should be planned to minimise future vulnerability in a changing climate, with both mitigation and adaptation in mind.
 - **Transport.** The eco-quarter should be located to reduce the need to travel, supporting people's desire for mobility while achieving low carbon living. The new development in the eco-quarter should be designed so that access to it and through it gives priority to options such as walking, cycling and public transport, and thereby reducing reliance on cars.
 - **Water.** New development in the eco-quarter should be ambitious in terms of water efficiency and should contribute towards improving water quality. A water cycle strategy should be developed in partnership with interested parties and should:
 - assess the impact that the proposed development will have on water demand within the framework of the water companies' water resource management plans and set out the proposed measures which will limit additional water demand
 - demonstrate that the development will not result in a deterioration in the status of any surface waters or ground waters affected by it.

The eco-quarter should incorporate SUDS, where this does not constrain development, and should aspire to water neutrality.

- **Flood risk management.** The location, layout and construction of new development in the eco-quarter should reduce and avoid flood risk wherever practicable. It should not increase the risk of flooding elsewhere.

How will success be measured?

We will need to measure success against the final overall objectives for the eco-quarter, and the specific standards. We would expect a clear plan to be produced, including milestones and success factors. Plans would need to include details of how the objectives set out by central Government will be met but we are also keen for the project to have a life of its own and develop organically.

How will the location of the eco-quarter be selected?

The HCA will invite local authorities within the Thames Gateway region to submit proposals for an eco-quarter in their area, somewhere that will be genuinely exciting and exemplary. We would expect any proposals to be made in partnership with the community, local developers and, where possible, other relevant private and public sector bodies, and be taken through the established planning process. The local authority would be expected to act as the accountable body for the project as a whole. Any proposals submitted would need to set out how the overall ambition of producing an eco-quarter exemplar will be delivered. Additional innovative ideas and approaches will be encouraged.

As previously stated, this prospectus is not intended to override the Government's commitment to the plan led system. The preference is that the broad options for the location of an eco-quarter are explored in the development plan – in forthcoming reviews of either regional spatial strategies or local development frameworks, depending on the scale of proposals that will require planning permission.

Next steps

We would welcome your views on the proposals for the eco-quarter set out above, by 26 February 2009. Please write to us at tgecoregion@communities.gsi.gov.uk

- Q: What do you think of the proposals and standards set out for the eco-quarter?**
- Q: Besides financial subsidy, what other incentives could central Government offer public, private and third sector organisations to get involved in the eco-quarter?**
- Q: What other standards could apply across the eco-quarter as a whole?**

Case study

Hammarby Sjöstad, Stockholm

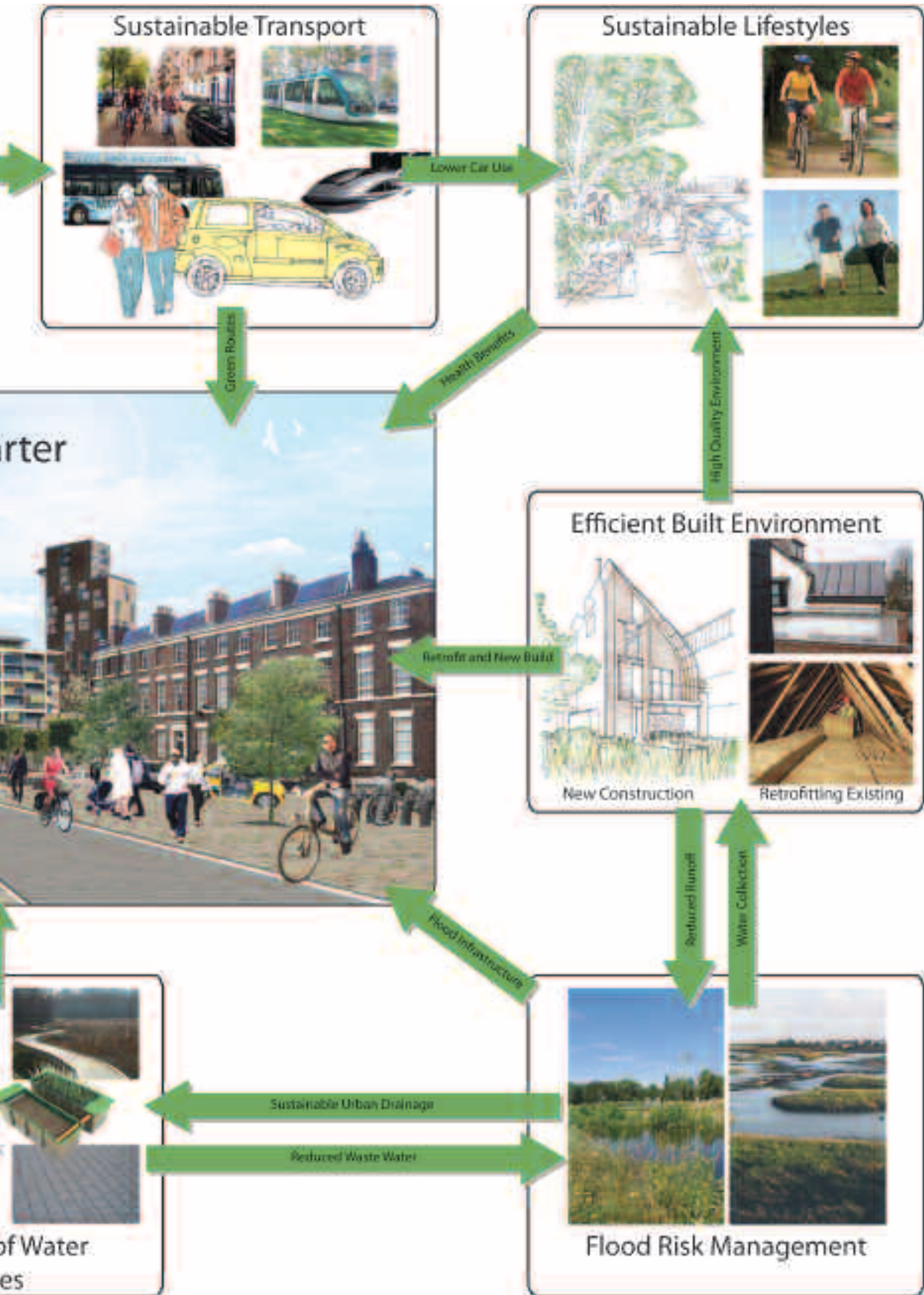
This eco-quarter development includes 10,000 homes on a former polluted and semi-derelict industrial and waterside area close to the centre of Stockholm. Its regeneration was the central plank of their bid for the 2004 Olympics, and, despite losing the bid, a commitment was made to continue with the developments in order to regenerate the area. The project will deliver 10,000 jobs by 2015.

Hammarby attracts policymakers and planners from around the world and has been a highly influential exemplar development. Hammarby includes a community centre, the Glashuset, offering to residents and visitors a range of study trips, exhibitions and demonstrations of new environmental technologies. This centre serves as a hub for community involvement in the development of the area and as a source of information and advice on using the eco-technologies on-site and living sustainably. Environmental impacts in Hammarby are said to have been reduced by 50 per cent compared with conventional developments, as a result of the innovative technologies used in construction and operation and of changes in consumption patterns by residents.

Environmental issues have been tackled at the planning and implementation stage, and there are a myriad of new technologies, including eco-friendly construction standards, rainwater harvesting, solar cells and panels, and vacuum sorted underground waste removal. The residential districts are designed to allow for maximum light and views as well as providing open access to the courtyards of residential blocks. A network of parks, green spaces and walkways runs through the development, and where possible, the natural landscape has been preserved. Community provision in the area includes a modern glass church building, two state schools, one pre-school and nursery, a doctors' surgery, a library, a sports centre, and ski-slope.

The eco-quarter





5. CONCLUSIONS

We began this prospectus by asking “Why should the Thames Gateway be an eco-region?”, “What is an eco-region?”, and “Why is this a priority now?”. We have answered these questions by showing how, in the Thames Gateway, economic development, enhanced quality of life, and environmental sustainability are all interrelated and mutually supporting. We have shown how opportunities can be seized when we bring together a broad coalition from across the region, and when we plan and act across a broad range of environmental areas.

We conclude this prospectus by considering two remaining questions: what are we achieving, and what do we need to do next?

What are we achieving?

This prospectus has shown that, together, we are making good progress towards enhancing our environment, and linking this to economic development, in the Thames Gateway. We have shown how we are managing flood risk, enhancing landscapes and supporting habitats, improving our land, water, and air quality, and maintaining biodiversity. We have also shown how we manage our resources wisely by working towards water neutrality, using energy efficiently, and exploring renewable energy resources. And, we present opportunities to think and work strategically throughout the Thames Gateway on initiatives around energy production, transportation, and waste management.

Beyond this, we have shown that environmental initiatives and economic development are inherently linked and mutually supportive. Working across Government and with partners including the RDAs and local authorities, we have made a joint commitment to considering how all environmental initiatives can lead to new investments, new skills, and new employment opportunities for the Thames Gateway. We have described the important programmes such as the Institute for Sustainability which will help make this connection on a daily basis.

In short, we have shown how, by working together and thinking holistically, we can create an “eco-region”.

What is next, and what do I need to do?

We see this prospectus as a step along a continuing path. We have previously announced the broad objectives of encouraging economic development and enhancing quality of life in the Thames Gateway, and suggested how we might think of the Thames Gateway as an eco-region. Our work with a wide range of partners in the last year has shown what an eco-region can be and how this concept links and supports these broader goals.

In this prospectus, we do not set out new regulation, extend planning policy or standards, or place new burdens on developers or local authorities. Instead, our aim is to help those in the Thames Gateway move, together, to make progress towards existing goals in a more timely manner.

Moving forward, we now invite all those with a stake in the success of the Thames Gateway, including members of the community, local authorities, businesses, developers, members of the third sector, and regional development agencies to work together with Government in a broad coalition. And together, by supporting a mutual and coherent strategy, we can take advantage of both immediate opportunities and achieve long-term objectives.

We have presented a range of current initiatives. We now invite all stakeholders to consider these initiatives and how they might be able to benefit from, and contribute to, each opportunity. We furthermore invite our stakeholders to extend our thinking, propose new action, and lead by example.

As we now face global, national, regional, and local challenges, there is no better time to meet our obligations, and seize these opportunities, by building an exemplar eco-region in the Thames Gateway that benefits us all, now and in the long-term.

6. NOTES

- 1 www.communities.gov.uk/documents/thamesgateway/pdf/565039.pdf
- 2 An 'ecosystem' is the relationship of place, life, and environmental processes, and the complex interactions between these factors. Ecosystems provide 'services' when they support human social and economic needs, such as providing food, capturing carbon from the atmosphere, and storing water to reduce flood risk.
- 3 www.defra.gov.uk/sustainable/government/publications/uk-strategy/index.htm
- 4 www.eeda.org.uk/2995.asp
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- 6 www.berr.gov.uk/whatwedo/sectors/manufacturing/strategyreview2008/page45271.html
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