

THAMES GATEWAY: GOALS FOR SUSTAINABILITY

Community, Economic, and Environmental Context

The population growth in the City of London over the next ten years is projected to be approximately ten percent. In a city of 7 million, that translates into an increase of 800,000 people. This level of population growth will put additional pressure on the already strained housing market, job market, infrastructure, and natural resources of London and the UK. Faced with these circumstances, there is a high risk of sprawl which can result in economic, social, and environmental degradation. These challenges facing London are similarly felt across the globe from Los Angeles to Mumbai to Beijing.

The continued growth of the global economy has forced massive change upon local economies within London and other large first-world cities, which find themselves driven from their historic, industrial based economies towards knowledge and service-based economies. This shift is felt more dramatically in former industrial waterfront communities, such as those in the Thames Gateway area. London is faced with the need to provide a means to help the populations who once worked in these industrial waterfront jobs and the communities who supported these operations transition from a production to a service economy.

Many believe we are approaching an inflection point with regards to climate change. With the increased recognition that the design of the Built Environment plays a significant role in green house gas emissions, resource depletion, and energy use, environmental concerns loom large over real estate development and urban planning. The EU countries in general have demonstrated a serious commitment to addressing this challenge by moving to reduce overall climate impacts.

London and the UK in general is faced with the challenge and opportunity to pursue planned urban growth which reduces the city's environmental impacts, renews the social fabric of its neighborhoods, and continues on a path of economic growth and stability. Regeneration or revitalization of former industrial urban areas has a long history. At its worst, it has been associated with gentrification, disenfranchisement, and creation of ethnic and racial tensions. The London Thames Gateway (LTG) provides an opportunity to define best practices in Sustainable Community Design and Development.

Strategic Vision and Key Principles

Given the context for sustainability described above, the UK, through the Office of the Deputy Prime Minister and the City of London, has developed the following strategic vision:

“Sustainable communities are places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned,

built and run, and offer equality of opportunity and good services for all. Our aim is to use growth to regenerate and develop the Thames Gateway in a sustainable way.”

The Key Principles establish for the sustainable development of the Thames Gateway are:

- Ensure that infrastructure and local services are in place to meet community needs
- Promote social inclusion
- Support good quality, sustainable development that integrates with existing communities
- Return Brownfields to productive use
- Preserve and enhance the Gateway’s rich environmental and cultural heritage
- Promote the prosperity and vitality of town centers and local business
- Respect and develop the diversity of Gateway communities

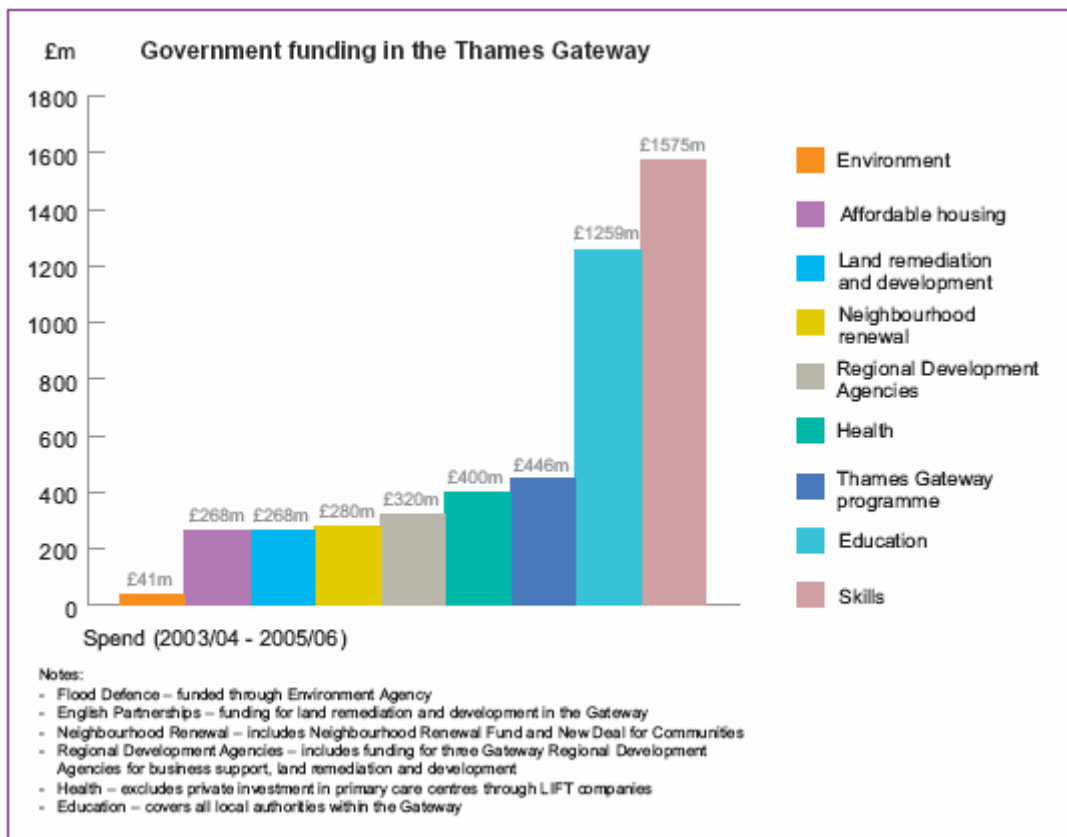


Figure 1 – Investment in Sustainability

THAMES GATEWAY: SUSTAINABILITY IN PRACTICE

Infrastructure Initiatives

Early and effective implementation of infrastructure has been critical to the success of the LTG. The extension of the Jubilee Line was the catalyst for development in Canary Wharf and has fostered a strong connection between Canary Wharf and downtown London. The LTG has undertaken multiple initiatives which will not only serve the near term transportation needs of London but will also accommodate long term growth of the City. These include:

- High speed train link set to open in 2009 which will connect communities within the LTG with downtown London, greatly reducing commuting times and auto commuting
- Community Infrastructure Fund of £200M to provide funding of transport schemes to facilitate development in outlying, lower income areas and reevaluation in 2010 to ensure needs are being met
- Extension of the Docklands light railway to the City Airport
- Thames Gateway Bridge (TGB), a local road bridge to regenerate East London featuring two segregated and dedicated public transport lanes and separate lanes for pedestrians and cyclists – forecasts show that the bridge would potentially create between 25,000 and 42,000 more jobs and population levels that are between 58,000 and 82,000 higher which would be a significant catalyst to the regeneration of East London

Community and Social Sustainability – Neighborhood Design

Significant income disparity exists in the London area and the LTG encompasses many of the poorest areas of the city. While minor initiatives have been launched, to allow for equitable rewards to all stakeholders, greater resources must be allocated to those residents in the poorest communities. While the LTG master plan calls for the development of small businesses, more must be done to ensure that the residents are capable of taking part in these businesses and participating in the economic development of their communities. Progress to date includes:

- Emphasis on involving community members as active participants in the decision making process: Neighborhood Charters will permit devolved budgets and include the ability for communities to own assets, such as green spaces and playgrounds
- Direct investment in blighted communities to improve public services
- New and upgraded primary care centers across the Gateway through Local Improvement Finance Trusts, 32 Sure Start programs, and four Early Excellence Centers have given parents and children in deprived areas access to improved childcare, training and healthcare opportunities
- Interim plan calls for 160,000 new homes over the next 10 years – 35% of them to be affordable

Building Design / Energy Initiatives

The built environment is beginning to implement green building and sustainability standards. The majority of these buildings rely on the Building Research Establishing Environmental Assessment Method ('BREEAM'). In addition, a voluntary scheme, The Code for Sustainable Buildings, is being jointly developed by the UK government and business community to promote more sustainable building practices. It is intended to be applied to all new buildings, with a focus on housing. Several initiatives are currently underway to proactively address future needs and explore initiatives through pilot projects. These projects are highlighted in the *Case Studies* section of this paper.

Public Space and Environment

The success of proposed public space and environmental initiatives will play out as development continues. Thus far, Canary Wharf stands as the litmus test for progress within the LTG and fails to achieve goals of efficiently designed public space. Criticisms include the stark and overwhelming buildings and space which does not allow for efficient public circulation.

- *Thames Estuary 2100* plan seeks to develop alternative flood management strategies, designate land for controlled storage of flood waters, and allow more space for the river
- *The East London Green Grid* seeks to provide more equitable access to open space, new wildlife habitat, and address the quality and quantity of surface runoff. Moreover, the Grid serves to knit urban to the river Thames, central London and the Green Belt
- In March 2001, the Government announced that it would provide a 150 percent tax relief to companies for costs incurred from cleaning up contaminated land. Exemption from Landfill tax may also be claimed for waste resulting from the cleaning up of contaminated land
- Requirements which stipulate that development must include building on brownfield sites

Thames Gateway: Case Studies

Greenwich Peninsula

A £217mm, 300ac (80 hectare) brownfield redevelopment scheme with goal to refit the site of the Millennium Dome for use in the 2012 Olympics Games whilst fully realizing Richard Rogers Partnership's master-plan for the site. When complete the peninsula will be home to more than 20,000 people, provide 24,000 permanent jobs and consist of 1.4mm sq. m of retail, commercial, entertainment, residential (13,000 homes of which 3,800 will be affordable) and community uses. Key sustainable features of the project include:

- Access to 50ac of parkland (planted in 1999) and 2.2km of river walkways along the Thames
- Proximity to mass transit via the Jubilee Line North Greenwich station and nearby bus transportation
- A highly developed pedestrian and cycle network
- The UK's first low energy supermarket, built in 1999
- 3,000 of the plans homes are part of the first "Millennium Community" – the result of a joint venture between Taylor Woodrow and Countryside Partners to develop ecologically friendly, mixed-tenure high-quality homes.
- London's first Low Emissions Zone – maximizing the use of more sustainable methods of transport



Pictures of Greenwich Peninsula courtesy of Richard Rogers Partnership

Dagenham Dock Industrial Park

A partnership between the London Development Agency and London Thames Gateway Development Corporation to create a “Sustainable Industrial Park” (SIP). Envisioned as a future centre for environmental technology development, the Dagenham Dock brownfield redevelopment will incubate new “green technology” companies – which might eventually help address the Thames Gateway Initiative’s pressing environmental challenges. Since 2002 Dagenham Dock has seen 70,000 sq. m of new construction providing 1500 new jobs. Future construction will include the flagship Closed Loop London recycling facility, further industrial development and renewable energy proposals such as large scale wind-turbines.



Image courtesy of the London Borough of Barking and Dagenham

Z-squared Project

Environmental consultancy BioRegional (developer of “BedZed” in Brixton) has partnered with the World Wildlife Federation (WWF), Bridge Housing Trust and the DCLG to locate a site for the flagship “One Planet Living Community” that will produce zero carbon and zero waste – to be called “Z-squared”. The community will be located within the extents of the Thames River Gateway plan and house as many as 5,000 people when completed.

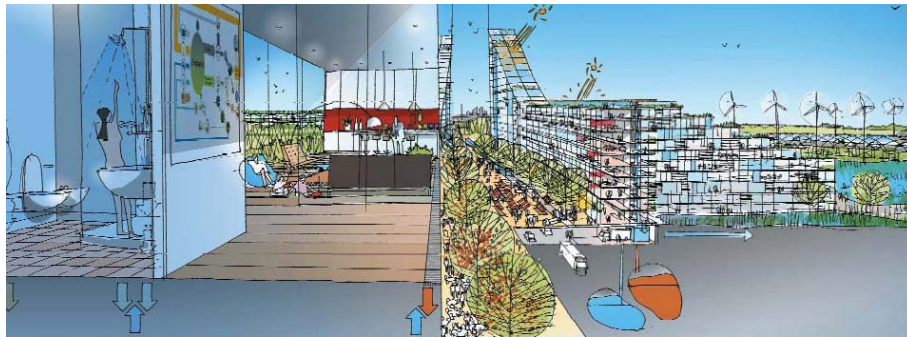


Image courtesy of WWF

Canary Wharf project / district

The Canary Wharf master plan provides for the development of 97 acres of former industrial and shipping sites into a new live-work financial hub for London. The development comprises twenty four office buildings, five retail malls, a department store, sports and health clubs, two conference and banqueting centers, two Docklands Light Railway stations, a London

Underground station, landscaped parks and gardens and five public car parks (in addition to car parking below the office buildings); 20 acres of landscaped open spaces. To date, 14.1mm sf of office and retail space have been constructed at Canary Wharf, providing jobs for 80,000.

Sustainable strategies employed at Canary Wharf include:

- Developing new buildings in line with Building Research Establishing Environmental Assessment Method ('BREEAM') requirements
- Reduce mains water usage in new buildings and decrease non-renewable energy consumption by the use of best practice
- To reduce construction site waste by reusing and recycling - ongoing recycling program and initiatives to contractors and tenants resulted in 34% of the Canary Wharf estate's waste being recycled during 2002-2003 (18.4% 2001-2002)
- Canary Wharf encompasses one of the largest, if not largest, intensive green roofed areas in England, at between 5,000 and 6,000 square meters.



Retail East and Retail West Canary Wharf Extensive Greenroofs



Canary Wharf Underground Station



Churchill Place Development, Canary Wharf

SUSTAINABLE COMMUNITY DESIGN REFERENCES

London and Thames Gateway -

UK Communities & Local Government Department

<http://www.communities.gov.uk/index.asp?id=1503250>

Communities and Local Government's goal is that places and communities will be planned, built, upgraded and managed in a way which respects and sustains the global, national and local environments. It is the government department responsible for building regulations and planning in England. They play a key role to play in meeting the Government's targets of a 20 per cent decrease in CO2 emissions by 2010 and a 60 per cent decrease by 2050. Sustainable development principles are firmly embedded into Communities and Local Government's identity, culture, policies, programs and operations.

Building a Greener Future - Consultation Document

<http://www.communities.gov.uk/index.asp?id=1505157>

This publication is a consultation document seeking views on the Government's proposals to reduce the carbon footprint of new housing development. It sets out the Government's views on the importance of moving towards zero carbon in new housing. It explores the relationship between the planning system, Code for Sustainable Homes and Building Regulations in delivering their ambitions for zero carbon. And it proposes a timetable for revising the Building Regulations so as to reach zero carbon development in all new housing in England & Wales.

Code for Sustainable Homes

<http://www.planningportal.gov.uk/england/professionals/en/1115314116927.html>

On 13 December 2006, the Code for Sustainable Homes was established as a new national standard for sustainable design and construction of new homes.

Consultation - Planning Policy Statement: Planning and Climate Change (Supplement to Planning Policy Statement 1)

<http://www.communities.gov.uk/index.asp?id=1505140>

The PPS sets out how planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions and resilient to the climate change now accepted as inevitable.

Creating sustainable communities: Delivering the Thames Gateway

<http://www.communities.gov.uk/index.asp?id=1500004>

The Government strategy for developing the Thames Gateway sub-region as one of the four growth areas. It demonstrates what has been achieved to date, provides key priorities & direction for the future, showing how the program will be rolled forward.

Dagenham Dock Industrial Park

<http://www.lbbd.gov.uk/5-work/regeneration/riverside/dagenham-dock/dag-dock-menu.html>

Canary Wharf Environmental and Social Report

<http://www.canarywharfenvironmentalandsocialreport.com/>

One Planet Living

www.oneplanetliving.org/uk

One Planet Living is a joint initiative of BioRegional and WWF partnering with progressive developers to provide expertise to build the most advanced sustainable communities in the world.

BioRegional Development Group

www.bioregional.com

BioRegional Development Group is an entrepreneurial, independent environmental organization developing commercially viable products and services which meet more everyday needs from local renewable and waste resources.

General Sustainability in Community Design –

World Wide Web Virtual Library on Sustainable Development

<http://www.ulb.ac.be/ceese/meta/sustvl.html>

The World Wide Web Virtual Library on Sustainable Development offers many links to international resources.

US Green Building Council

<http://www.usgbc.org/>

The U.S. Green Building Council's core purpose is to transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life.

World Wildlife Foundation

<http://www.wwf.org.uk/sustainablehomes/>

“One Million Sustainable Homes” program

Smart Communities Network

<http://www.smartcommunities.ncat.org/welcome.shtml>

Useful information to understand the concept of sustainable development. Includes: overview articles, case studies slide shows, links to other sources of information, recommended books and videos, and educational materials and programs.

China-US Center for Sustainable Development

<http://www.chinauscenter.org/>

The China-U.S. Center for Sustainable Development is a new type of international organization, focused on achieving results to accelerate sustainable development in China, the United States and the world.

William McDonough & Partners

<http://www.mcdonoughpartners.com/projects/liuzhou/default.asp?projID=liuzhou>

Guantang Chuangye Sustainable Development Demonstration Project

Jonathan Rose Companies

<http://www.rose-network.com/index.html>

Planning and Development firm committed to developing diverse and environmentally sound communities