

**THE EXECUTIVE**

**Tuesday, 12 July 2005**

**Agenda Item 6.      Barking and Dagenham Sustainable Energy  
Strategy (Pages 1 - 79)**

Attached at Appendices A and B are the Sustainable Energy  
Strategy and Implementation Plan respectively..

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# **DELIVERING A LOW CARBON BOROUGH**

**A SUSTAINABLE ENERGY STRATEGY FOR BARKING AND  
DAGENHAM**

1 MARCH 2005

# **LONDON BOROUGH OF BARKING AND DAGENHAM SUSTAINABLE ENERGY STRATEGY**

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## **FOREWORD – by Councillor McKenzie**

The United Kingdom Meteorological Office records show that nine of the ten warmest years on record (which go back to 1766) have occurred since 1990. Records also show that the last few winters have been the wettest and warmest for many years. National governments, public and private organisations and even oil companies recognise this as a trend showing that the planet's climate is changing.

This is why I am committed to work within the national and regional frameworks to respond to the issue of climate change and this document is the first stage of this within Barking and Dagenham.

We must, as a community, act in a serious and sensible way. While there may be a great deal of scientific uncertainty about the full impacts of climate change, we know the factors that contribute to it and that it is happening. The local community and business have raised the issue of climate change through their Cleaner and Greener meetings, and together we will aim to address the greenhouse gas emissions which contribute to climate change.

This Energy Strategy sets out why and how the Council intends to reduce our climate change impact through improving energy efficiency and increasing the use of renewable energy. This strategy is a key step along the road to achieving the Council's community priority of *Making Barking and Dagenham Cleaner, Greener and Safer*.

Many thanks to all those involved in the production of this Energy Strategy,



**Councillor Milton McKenzie**  
**Lead Member for Cleaner, Greener & Safer Barking and Dagenham**  
**March 2005**

## **EXECUTIVE SUMMARY**

### **Climate change – The Need For Action**

- Climate change is already happening. Global temperatures have increased by 0.6 °C since 1860 and there is scientific consensus that this is mainly being caused by carbon dioxide (CO<sub>2</sub>) emissions from burning fossil fuels.
- The Government has committed to reducing CO<sub>2</sub> emissions by 60% by 2050.
- In July 2001, the Council signed up to the Nottingham Declaration on Climate Change which commits the Council to prepare a strategy to reduce energy consumption and greenhouse gas emissions.
- The Cleaner, Greener, Safer sub-group of the Barking and Dagenham Partnership has also requested a climate change strategy for the borough.

### **The Solution – Sustainable Use of Energy**

- The majority of the Borough's greenhouse gas emissions come from energy use in buildings, industry and for transport.
- We are currently extremely wasteful in our use of energy and consume far more fuel than is necessary to deliver the energy services that we require.
- Large potential exists to improve the efficiency with which we use fossil fuels and energy across all sectors and applications.
- Improving housing energy efficiency also helps in reducing fuel poverty in the borough.
- We can also improve the efficiency with which we provide energy through utilising combined heat and power systems and renewable energy.

### **A Low Carbon Vision for Barking & Dagenham**

- This Strategy presents a Sustainable Energy Vision for Barking and Dagenham which describes an energy efficient and renewably powered borough for 2050.
- The Vision helps illustrate how the borough's use of energy will need to change over the next 50 years in order to massively reduce carbon dioxide emissions to sustainable levels.

### **Delivering Sustainable Energy in the Borough**

- This Strategy assesses the energy use and associated carbon dioxide emissions of five key sectors in the borough – the Council's own operations, households, business, industry and transport.
- It identifies opportunities for reducing energy consumption across these sectors and outlines policies and measures to enable & encourage energy efficiency improvements.

### **The Council Leading by Example**

The Council will:

- Lead by example through implementing an Energy Efficiency Action Programme across its building stock and finance the energy efficiency improvements through an 'energy efficiency investment fund'.
- Adopt the Mayor's Energy Hierarchy (use less energy, use renewable energy, supply energy efficiently) and encourage all other stakeholders to use it as a guide to decision-making.
- Seek to install combined heat & power and renewable energy technologies whenever it is refurbishing its buildings and upgrading heating systems.
- Seek to establish a large scale wind turbine in the borough which supplies electricity directly to council offices.

### **Improving Energy Efficiency in Homes**

The Council will:

- Improve the energy performance of all council housing to the levels required by the Decent Homes standard by 2010.
- Assess the maximum energy efficiency level that can be achieved in the borough's council housing, and set a target for achieving this in the medium to long term.
- Run an energy efficiency programme in conjunction with partners to address fuel poverty in the borough.
- Compile an action plan for improving energy efficiency in the borough's private housing which will focus on assisting owners to implement energy efficiency measures.
- Evaluate the benefits of an Energy Centre that could maximise external funding opportunities to promote energy efficiency advice and grants to the borough's residents.

### **Encouraging Low Carbon Business and Industry**

The Council will:

- Encourage businesses in the borough to install cost effective energy efficiency measures to achieve reductions in energy consumption.
- Publicise environmental and energy advice services to business
- Use its planning powers to encourage high energy efficiency standards, CHP and renewable energy in all new commercial premises.
- Have at least one showcase low carbon commercial building by 2010.
- Ensure the Sustainable Industrial Park at Dagenham Dock showcases best practice in low carbon industrial processes and practices.

### **Sustainable Transport**

The Council will:

- Produce a Travel Plan aimed at reducing Council employee travel miles and increasing public transport and cycle.
- Use its planning powers to ensure that new developments provide cycling facilities and adequate access to public transport.
- Continue to help businesses to develop Travel Plans.
- The Council supports the Mayor of London's Transport Strategy and will introduce measures aimed at reducing growth in road traffic through its Local Implementation Plan.

### **Increasing Combined Heat & Power and Renewable Energy**

The Council will:

- Actively encourage developers and commercial buildings to establish, and participate in, combined heat and power and community heating schemes.
- Ensure that Barking & Dagenham plays its role in delivering the Mayor of London's renewable energy targets for solar water heating, photovoltaics and wind turbines.
- Use its planning powers to promote renewable energy within new developments and refurbishments in the borough.
- Ensure there is a landmark renewable energy building in the borough by 2010.
- Investigate the benefits of establishing an Energy Services Company (ESCO) in Barking and Dagenham to take forward high profile low carbon projects in the borough.
- The Council has adopted the Mayor of London's heating hierarchy which favours CHP over conventional heating, and will encourage all developments to follow the hierarchy.

### **Regeneration Presents A Low Carbon Opportunity**

- The substantial regeneration across the borough over the next twenty years presents a superb opportunity for Barking and Dagenham to provide leadership in building a low carbon future and to leap ahead in creating sustainable communities.
- Nonetheless, the borough's expected population growth of sixty thousand over the coming decades will also place increasing demands on energy services.

The Council will:

- Incorporate low carbon principles so as to control a potential increase in the borough's CO<sub>2</sub> emissions.
- Set 'carbon targets' for the borough's key regeneration sites.
- Use its planning powers and regeneration activity to ensure that there is at least one zero carbon large mixed-use development under construction in the borough by 2010.
- Establish an Energy Action Area in a key regeneration site that demonstrates best practice in both sustainable energy use and production across mixed land use types.

### **Strategic Planning for Sustainable Energy**

The Council will:

- Incorporate a whole suite of low carbon objectives and policies into the Core Strategy and the development policies of the Local Development Framework.
- Ensure that low carbon developments are promoted and implemented through the delivery of its Regeneration Strategy.

### **Implementation and Monitoring**

- This Strategy represents a first step in coordinating the Council's approach to reducing carbon dioxide emissions across the borough.
- The Council will establish an Energy Strategy Steering Group, to oversee the implementation of the Strategy.
- The policies and actions in the Energy Strategy will be reviewed every year to assess progress.

## **STRATEGIC OBJECTIVES OF THE STRATEGY**

**Objective 1:** To reduce carbon dioxide emissions in Barking and Dagenham by increasing energy efficiency and renewable energy use in the public sector, business, transport and homes.

**Objective 2:** For the Council to lead by example in implementing best practice in sustainable energy throughout its activities.

**Objective 3:** To improve the energy efficiency of all Barking and Dagenham's housing to the highest possible level.

**Objective 4:** To increase business energy efficiency and renewable energy use across Barking and Dagenham.

**Objective 5:** To reduce the growth in road traffic across the borough.

**Objective 6:** To substantially increase the amount of local power generated in Barking and Dagenham through renewable energy and combined heat and power.

**Objective 7:** For the growth and regeneration of the borough over the coming decades to be low carbon.

**Objective 8:** To promote the Sustainable Energy Strategy to all stakeholders and ensure the Strategy is implemented through planning policy and all other Council activities.



## 1 THE NEED TO ADDRESS CLIMATE CHANGE

### 1.1 Climate Change – What Is The Problem?

The earth receives energy from the sun as sunlight and also emits heat energy in the form of infrared energy from the earth back into space. The energy from the sun passes easily through the atmosphere almost unchanged but the outgoing infrared heat from the earth is partially absorbed by gases in the atmosphere in an effect which is similar to a greenhouse. When the energy coming in is more than the energy going out, the earth heats up.

Climate change due to global warming is being caused by a rise in the levels of these greenhouse gases in the atmosphere, which increase the absorption of infrared energy. Greenhouse gases include carbon dioxide, water vapour, methane, nitrous oxide and some industrial chemicals. Human enhanced climate change is now recognised as a serious environmental threat with unpredictable outcomes.

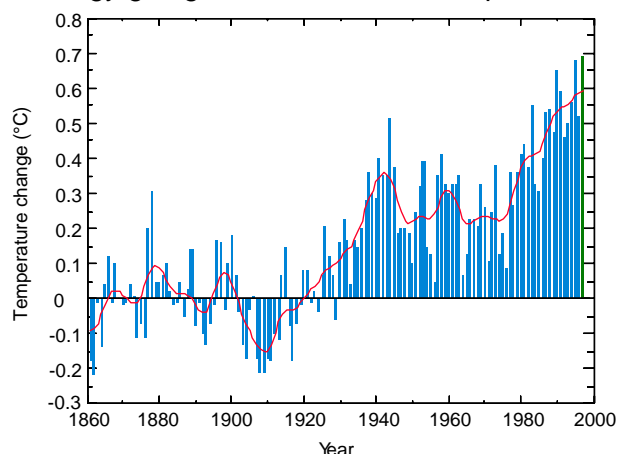


Figure 1: Global Temperature Change since 1860

#### The World is Warming

Global mean temperatures have risen about 0.6 °C since 1860 when systematic temperature records began. The 20th century was the warmest in the past 600 years. Nine of the ten warmest years since 1860 have occurred in the last two decades, with 1997 and 1998 the two warmest years ever recorded. Researchers are confident that most of the warming is due to increasing concentrations of greenhouse gases in the earth's atmosphere. Concentrations of these gases have risen by some 50% in less than 200 years, largely through the burning of carbon rich fossil fuels and deforestation. The United Nations Intergovernmental Panel on Climate Change (IPCC), which involves several thousand of the world's leading scientists, concluded in 1995 that "the balance of evidence suggests there is a discernible human influence on the global climate".

The international community has sought to address climate change through the United Nations Framework Convention on Climate Change through which the Kyoto Protocol was agreed. This Protocol has set carbon dioxide reduction targets for all developed world countries for 2010 as the first step towards substantially reducing emissions in the longer term. The largest polluter, the United States, and Australia have both since withdrawn from the Protocol but all other developed countries are still party to it.

#### The UK Response

The Government has made a commitment to reduce CO<sub>2</sub> by 20% compared to 1990 levels by 2010 which is higher than the target it faces under the Kyoto Protocol. The UK Climate Change Strategy, which was published in November 2000, outlines the policies that the Government hopes will enable the UK to meet this target. The Government has recently reviewed the UK Climate Change Programme to evaluate how existing policies are performing and to outline new measures for further reducing greenhouse gas emissions.

The Government's approach to climate change is summed up well by a statement that Margaret Beckett, Secretary of State for Environment, Food and Rural Affairs, made in April

2002, "Evidence is growing that the UK climate is warming and we expect this trend to continue. The Government recognises the importance of tackling climate change on two fronts: reducing greenhouse gas emissions to minimise the impact of climate change and planning for the climate change that we cannot avoid. Adaptation will be an essential part of the response to the threat of climate change. Everyone involved in making investment and policy decisions in the public and private sectors needs to have access to the best estimates of how climate change will affect the UK over the coming decades."

### **The Effects of Climate Change**

The Government has commissioned the Met Office to develop a set of scenarios outlining the likely effects of climate change for the UK over the next 100 years. Four scenarios are provided; Low, Medium-Low, Medium-High and High. The High Scenario assumes high emissions of carbon dioxide due to social, economic and cultural convergence across the globe with market driven economics, rapid economic growth and unrestrained population growth. The Low Scenario assumes lower carbon dioxide emissions through sustainability becoming the driving economic force globally, as well as in the UK.

Figure 2 below illustrates some of the key findings of these scenarios for the south east of England, which are the findings of interest for Barking and Dagenham (taken from 'Climate Change Scenarios for the UK: The UKCIP02 Scientific Report'). Temperatures are likely to be further increased in the London area by the 'urban heat island effect' that can raise temperatures in London several degrees higher than outside the M25.

### **What this could mean for Britain and for Barking & Dagenham**

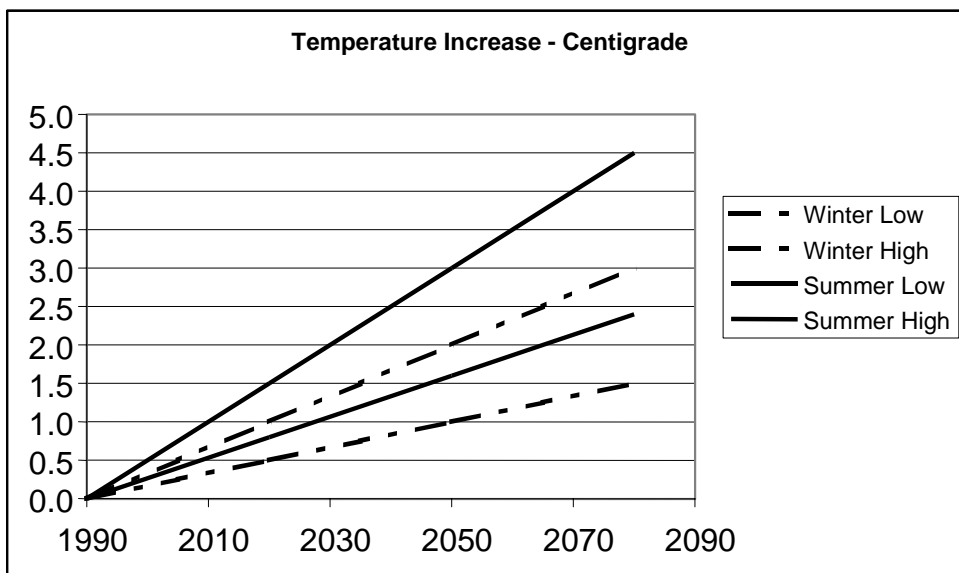
The London Climate Change Partnership was established a few years ago to investigate the climate change impacts that London is likely to face and to develop London's adaptation response. Its recent report 'London's Warming' outlines the key impacts and provides recommendations for an appropriate response. Key impacts include: transport, business and finance, tourism, lifestyle.

- Higher temperatures
  - Dryer and hotter summers encouraging people to spend more time outdoors
  - Increased frequency and temperatures of summer hot spells leading to increased demand for cooling
  - Milder winters with reduced heating bills and less fuel poverty
- Higher flood risk
  - Increased risk of floods from heavy rain, higher sea level and increased winter storm tidal surges.
- Potential water shortages
  - Reduced summer rainfall leading to water shortages
  - Increase in demand for water during summer for gardens.
- Health Impacts
  - Increase in mosquito population with new health risks, such as malaria
- Wildlife
  - Increased risk of environmental stress to wildlife. Risk of loss of some species of plants and animals that cannot adapt quickly.
- Built environment
  - Buildings need to cope better with hotter weather
- Lifestyle changes
  - More outdoor living and leisure

**Figure 2: Temperature and Rainfall Predictions for South East England to 2080**

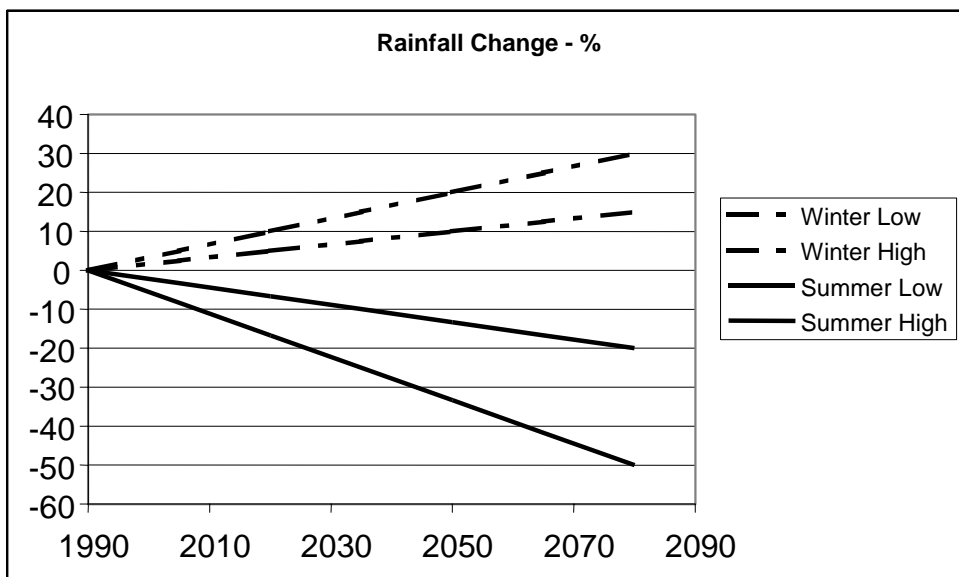
**Temperature Increase - Centigrade**

	1990	2020	2050	2080
Winter - Low Scenario	0.0	0.5	1.0	1.5
Winter - High Scenario	0.0	1.0	2.0	3.0
Summer - Low Scenario	0.0	0.8	1.6	2.4
Summer - High Scenario	0.0	1.5	3.0	4.5



**Rainfall Change - %**

	1990	2020	2050	2080
Winter - Low Scenario	0	5	10	15
Winter - High Scenario	0	10	20	30
Summer - Low Scenario	0	-7	-13	-20
Summer - High Scenario	0	-17	-33	-50



Source - UKCIP02

## 1.2 The Solution – Sustainable Use of Energy

### 1.2.1 Unsustainable Energy Consumption

Carbon dioxide (CO<sub>2</sub>) is the main greenhouse gas causing climate change, and the majority of CO<sub>2</sub> emissions come from the combustion of fossil fuels for energy provision. We burn oil in our cars, buses and trains; we burn coal, gas and oil in power stations that generate our electricity; and we burn natural gas in boilers in our homes and offices for heating. Industry also burns oil and gas to generate high grade heat and electricity for industrial processes.

The UK, and the rest of the world's, consumption of fossil fuels is highly inefficient and we are currently extremely wasteful in our use of energy. We use far more fuel than is necessary to deliver the services that we require as we have failed to utilise the technologies that are available for improving energy efficiency. For example, houses built in the UK have typically been half as energy efficient as those constructed in other northern European countries and our electrical appliances have far higher energy demand than is technically necessary. Due to draughty and poorly insulated homes, fuel poverty still affects thousands of households in the UK. As fast as people can pump heat into their homes it is lost into the outside environment. Notwithstanding the health impacts and discomfort of cold homes, this is not a sensible way to use an important – and non-renewable – natural resource.

The key sustainable solutions for reducing fossil fuel consumption are well known and easily available – they involve using our energy more efficiently and increasing our use of renewable energy. Together these two solutions are referred to as 'sustainable energy'. The Government has already highlighted these solutions as the key focus of its energy policy, and it has set a 2050 vision of an energy efficient renewably powered Britain which has reduced fossil fuel consumption by 60%.

### 1.2.2 Increasing Energy Efficiency

There is great scope for improving the efficiency with which we use energy across all sectors and thereby reduce our consumption of fossil fuels. The technical solutions are readily available and the challenge for reducing CO<sub>2</sub> emissions is to make the institutional changes that are required to ensure that these technologies are installed within our buildings and infrastructure.

Addressing energy use in buildings is the most important place to start as this is where the majority of UK energy consumption occurs. We need to improve the energy efficiency of our existing buildings and ensure that all new buildings achieve higher standards of performance. Fuel consumption (and the fuel bill) of the average home can be reduced by one third through the installation of simple insulation measures.

A huge amount of regeneration activity is taking place in the borough over the next 20 years and this represents a substantial opportunity for improving the energy efficiency of the borough's housing stock through incorporating best practice in energy efficient building design. For example, 'BedZED' (Beddington Zero fossil Energy Development) in Sutton in South London contains housing which produces no CO<sub>2</sub> emissions, whereas the average house is responsible for 6 tonnes of CO<sub>2</sub> per year.

A low carbon Barking and Dagenham will deliver a number of other benefits in addition to improving environmental sustainability, including:

- Helping to alleviate fuel poverty and advance social wellbeing;
- Delivering economic development;
- Contributing to sustainable development.

### **1.2.3 Increasing Renewable Energy**

When developed sensitively, renewable energy is a truly sustainable energy source that can provide continuous supplies of energy into the future. Although renewable energy currently contributes only a tiny fraction to London's energy needs, there is great scope for increasing the use of urban renewable energy. The UK currently makes far less use of renewable energy than most other European countries. Government policy is set to substantially increase the exploitation of renewable energy and the two large wind turbines at the Dagenham Ford works are a good example of renewable energy use in the borough.

As Barking & Dagenham is an urban borough, the greatest opportunity for exploiting renewable energy is through smaller scale 'urban renewables', such as passive solar heating, solar water heating, solar PV, mini-wind turbines, ground-sourced heat pumps and biomass fuelled combined heat and power. These smaller-scale renewable energy technologies are incorporated directly into the design of homes and offices, and thereby capture renewable energy directly from the local environment and are capable of supplying a significant proportion of the building's energy needs. The more energy efficient the building and the lower its energy demand, the greater the proportion of its energy needs that can be supplied through renewable energy.

Environmentalists have been waiting for many years for renewable energy to be taken seriously as a mainstream energy source. That wait appears to now be over, and we will all need to become more familiar with these renewable energy technologies as they become an increasingly common feature within our urban landscape.

## 1.3 An Energy Vision For Barking & Dagenham

### 1.3.1 A Low Carbon Barking And Dagenham

The key solutions for reducing CO<sub>2</sub> emissions in a sustainable way are greater energy efficiency and renewable energy. The Government's energy policy, 'Our Energy Future – Creating a Low Carbon Economy', and the Mayor of London's Energy Strategy both state that energy efficiency and renewable energy must constitute the basis of the country's national and local response to climate change. These documents also make it clear that much of the delivery lies at the local level and that the leadership for progressing energy efficiency and renewable energy must come from local authorities.

Reducing CO<sub>2</sub> emissions to climate friendly levels will take many years. The sustainable energy transition will not occur over night. This Energy Strategy aims to provide the overarching framework that enables Barking and Dagenham to move towards sustainable energy in the long term. It is useful to paint a clear picture of exactly where we want to go so as to guide our shorter term actions, generate enthusiasm and to develop consensus over the long term goals of policy.

The Vision of a Low Carbon Barking and Dagenham outlined below helps illustrate how the borough's energy system will need to change in order to deliver environmental and economic sustainability. In developing this energy vision for Barking & Dagenham we have drawn on the visions outlined in the Mayor of London's Energy Strategy and the Government's Energy Policy.

#### ***A 2050 Energy Vision for Barking and Dagenham***

*Barking and Dagenham consumes far less fossil fuel than at the beginning of the 21<sup>st</sup> Century with a 60% reduction in CO<sub>2</sub> emissions. Energy is used extremely efficiently across all applications - in buildings, in appliances and in transport - so that although the overall level of services provided by energy have increased the quantity of fuels and electricity consumed has decreased by 60%.*

*Much of Barking & Dagenham's housing, offices and public buildings are ultra energy efficient requiring only a tenth of the heat input of the average British building of the early 21<sup>st</sup> Century. All other (older) buildings have been raised to the highest efficiency levels possible so that their fuel demand has been halved and fuel poverty has been eliminated. All offices have extremely efficient electrical equipment and lighting, and computer controlled energy management systems that control temperature, and electricity consumption and production.*

*Heat and electricity is generated locally in mini combined heat and power plants powered by natural gas and biomass at both the neighbourhood and individual building level. Renewable energy infrastructure is fully integrated into the entirety of the built environment with passive solar design, solar water heating, solar PV, and mini-wind turbines. Hydrogen fuel cells are widely utilised for transport, electricity and heating, and their high conversion efficiency has further increased the efficiency of fossil fuel use. A dynamic local electricity wire network balances the large number of micro-generators across the borough so that households and offices can automatically sell electricity to other users when they are generating a surplus from their solar panels and mini-wind turbines.*

*Industry in the borough is highly resource and energy efficient with all industrial processes incorporating closed loop systems and powered by combined heat & power plants and renewable energy. These changes have been pioneered by the Sustainable Industrial Park in Dagenham Dock which established a UK centre of excellence that helped deliver more sustainable processes.*

*The development of a low carbon Barking & Dagenham has contributed to the borough's environmental sustainability and created a competitive edge for the local economy with Barking & Dagenham acting as a centre of excellence for energy efficiency and sustainable local electricity generation.*

### **1.3.2 Realising this Energy Vision**

Achieving this vision of a low carbon Barking and Dagenham constitutes a massive challenge that will take several decades and, as the following chapters make clear, it will require significant changes in how the Council, businesses and the community use energy. A concerted on-going programme of action across the Council's services and the borough's businesses and community is vital in order to deliver these energy efficiency improvements.

This Strategy aims to provide the vision and leadership for delivering sustainable energy in the borough, and bring together the necessary stakeholders so as to stimulate action for a low carbon future. The strategy identifies the key changes that are required in each sector in order to deliver sustainable energy and introduces policy measures for progressing these changes. The key objective of the strategy is to reduce Barking and Dagenham's impact on global climate change through lowering energy consumption and associated carbon dioxide emissions.

**Strategic Objective 1: To reduce carbon dioxide emissions in Barking and Dagenham by increasing energy efficiency and renewable energy use in the public sector, business, transport and homes.**

### **1.3.3 The Challenge of Population Growth in the Borough**

The borough's population is expected to increase by approximately sixty thousand people over the coming decades. This will place increasing demands on energy and other services, and under a business as usual approach to energy supply and use it will lead to an increase in the borough's energy consumption and CO<sub>2</sub> emissions.

Although the Energy Strategy's longer-term objective is to deliver the 2050 vision of a low carbon borough outlined above, in the face of substantial population growth the key challenge in the short to medium term is to control the resulting growth in the borough's energy consumption and CO<sub>2</sub> emissions. Even if the regeneration activity in the borough successfully incorporates low carbon development, these new homes and offices will still have some external energy demand and fossil fuel requirements – this will particularly be the case for the increased travel needs of a larger population. In addition, although some of the policy measures in this Strategy can be implemented quickly and bear results almost immediately, the majority will involve slow and gradual change - and the resulting reductions in CO<sub>2</sub> emissions will also be slowly accrued.

For these reasons, a realistic ambition for the Energy Strategy over the next 10 to 15 years is to keep the growth in the borough's CO<sub>2</sub> emissions to a minimum. Section 2.2 below outlines the Council's approach to calculating the borough's CO<sub>2</sub> emissions – a core aspect of this Strategy is the need for accurate information on energy consumption and CO<sub>2</sub> emissions in order to monitor the effectiveness of policy reduction measures. In an effort to keep CO<sub>2</sub> emissions growth associated with regeneration activity to a minimum, the Council can set a 'carbon target' for the key regeneration sites based on best practice low carbon developments.

## 2 DELIVERING SUSTAINABLE ENERGY IN THE BOROUGH

### 2.1 Strategic Framework For Delivering Sustainable Energy

#### 2.1.1 Government Policy on Climate Change

The Government's Energy Policy, 'Our Energy Future – Creating a Low Carbon Economy', outlines the Government's objective to radically reduce the consumption of fossil fuels over the next fifty years as a means of reducing greenhouse gas emissions and to deliver long term energy security. It highlights the key solutions of improving the efficiency with which we use energy and increasing our exploitation of renewable energy. The Government's energy policy further built upon the approach outlined in its Climate Change Strategy which was published in 1999 and outlined a strategy to reduce the UK's CO<sub>2</sub> emissions by 20% by 2010. The UK Climate Change Strategy is currently being reviewed.

As 'Our Energy Future' makes clear, local authorities will have a key role in bringing about this energy transition to greater energy efficiency and renewable energy use. In section 9.24 it states that central government will, *'encourage local authorities to take the lead, acting as catalysts for change, developing and facilitating cross-sectoral partnerships and providing advice and encouragement.'*

'Our Energy Future' describes the complex policy framework that influences energy consuming behaviour across the UK. It also outlines the wide range of policy measures that the Government has introduced to try and change this institutional and economic framework so as to encourage greater energy efficiency in all sectors, and to increase renewable energy use. These measures include removing institutional barriers, and providing financial support mechanisms and the provision of advice for sustainable energy. For example, to assist sustainable energy improvements in business the government has established the Carbon Trust which provides grants, free consultancy and a general advice service for business. However, most businesses are unaware of these services and the government relies upon local government and community organisations to promote the energy efficiency service provided by the Carbon Trust. The government has established the Energy Saving Trust to promote and facilitate sustainable energy improvements in homes.

The chapters below introduce the sustainable energy policy framework for each sector and outline a number of local policies aimed at implementing and increasing the effectiveness of these national policy measures within Barking and Dagenham.

#### UK Government National Targets

- To reduce UK greenhouse gas emissions by 12.5% by 2008/12 below 1990 levels (Kyoto Protocol target)
- To reduce UK CO<sub>2</sub> emissions by 20% by 2010
- To achieve a 60% reduction in CO<sub>2</sub> emissions by 2050
- To produce 10% of UK electricity demand from renewable energy by 2010 and 20% by 2020
- To double combined heat and power capacity by 2010 based on 2000 levels (generate 10 giga watts by 2010)
- To eradicate fuel poverty by 2018.

#### Other Relevant National Policy & Legislation

- Energy efficiency standards in the Building Regulations
- Climate Change Levy (tax on energy use)
- Energy Efficiency Commitment on Energy Suppliers
- Renewable Energy Obligation



- EU Directive on Energy Performance of Buildings
- European (carbon) Emissions Trading Scheme

### **2.1.2 The Mayor Of London's Energy Strategy**

The Mayor of London published his energy strategy in February 2004 and this sets out a blueprint for reducing London's CO<sub>2</sub> emissions. It contains 100 policies targeting carbon dioxide emissions, energy efficiency and renewable energy across all sectors of London's economy. Many of these policies apply directly to the London boroughs and this Strategy is in part a response to taking these forward.

The Mayor has set-up the London Energy Partnership as the main delivery mechanism for the Strategy, largely in recognition of the fact that he is unable to deliver on the Strategy without the help of a wide range of stakeholders. All London boroughs are members of the wider London Energy Partnership, and the membership of various working groups are in the process of being established. Barking and Dagenham is interested in being a member on one of these working groups and in particular the working group on Energy Action Areas (see section 2.8). The Mayor has also established the London Climate Change Agency which aims to provide practical support for energy efficiency and renewable energy projects – the Agency will work closely with a number of projects across the capital.

### **Mayor of London Targets**

- To reduce London CO<sub>2</sub> emissions by 20% by 2010 based on 1990 levels;
- To eradicate fuel poverty (based on the disposal income definition) by 2018;
- To generate 665GWh of electricity and 280GWh of heat from 40,000 renewable energy schemes by 2010;
- To install by 2010 at least 7000 domestic photovoltaics (PV) systems, 250 commercial/public building PV systems, 6 large wind turbines, 500 small wind turbines, 25,000 domestic solar water heating schemes and 2000 large building solar water heating schemes;
- London should then triple these renewable energy technology capacities by 2020;
- To double combined heat and power capacity by 2010 (based on 2000 level).

### **2.1.3 The Council's Response to Climate Change**

The Council signed the Nottingham Declaration on Climate Change in 2001 which commits the council to preparing this sustainable energy strategy so as to reduce the borough's energy consumption and greenhouse gas emissions. The Council recognises the vital importance of stimulating sustainable energy practices in the borough and will seek to embed sustainable energy principles in everything it does. This Strategy aims to address energy use across all sectors and communities in the borough including housing, business, transport and the Council's own activities. It aims to provide the framework and leadership for all stakeholders to address their climate change impact. Section 2.3 below highlights the Council's commitment to lead by example in delivering a low carbon Barking and Dagenham.

### **2.1.4 Relevant Council Policy**

A number of the Council's existing strategies and policies have consequences for energy consumption and climate change emissions. These strategies will have a key role to play in implementing the policies within this energy strategy. These Council documents include:

- Environmental Policy
- Unitary Development Plan
- Housing Strategy
- Private Sector Housing Strategy
- Affordable Warmth Strategy
- Barking and Dagenham Community Strategy

- Local Neighbourhood Renewal Strategy
- 2020 Vision
- Barking and Dagenham – An Urban Renaissance (Regeneration Strategy)
- Barking and Dagenham Economic Development Strategy
- Green Procurement Implementation Plan
- Capital Investment Strategy
- Corporate Asset Management Plan

#### **Future Strategy Documents of Importance**

- Local Development Framework
- Local (Transport) Implementation Plan
- Travel Plan
- Sustainable Waste Management Strategy

**Policy 1A: All Council policies affecting energy consumption will take the Sustainable Energy Strategy into account.**

#### **2.1.5 Barking and Dagenham Community Priorities**

The Barking and Dagenham Partnership produced the borough's Community Strategy in 2002 which aims to progress the seven community priorities. These community priorities were identified through a wide ranging consultation with local community groups, the wider community and voluntary organisations. This Sustainable Energy Strategy contributes to four of the borough's community priorities:

- ***Making Barking and Dagenham Cleaner, Greener and Safer***

The Cleaner, Greener and Safer sub-group of the Barking and Dagenham Partnership has specifically requested a climate change strategy for the borough. Addressing climate change and greenhouse gas emissions, arguably the most serious of all environmental issues, is key to making the borough greener. The Energy Strategy aims to stimulate the journey towards a low carbon Barking & Dagenham – which will be an essential element of a green and sustainable borough.

- ***Improving Health, Housing and Social Care***

Cold, draughty homes and high fuel bills are a problem for many of the borough's residents. Measures to address fuel poverty play an important role in improving health and housing, and quality of life for the public.

- ***Regenerating the Local Economy***

The Government's energy policy, 'Our Energy Future', makes it clear that the economy of the future will be low carbon. Encouraging sustainable energy businesses and infrastructure in the borough will be central to the long term competitiveness and regeneration of the local economy. Government expects substantial growth in the energy efficiency, combined heat and power and renewable energy industries over the next ten to twenty years.

- ***Raising General Pride in the Borough***

Landmark sustainable buildings and high profile renewable energy technologies can contribute to raising pride in the borough in a similar way to public art. The large wind turbines at the Ford plant have already generated a great deal of external interest and have been welcomed by many residents. The public are likely to be proud of environmental features and best practice within their borough.

## 2.2 Monitoring The Borough's Greenhouse Gas Emissions

### 2.2.1 Effective Action Requires Accurate Information

In order to effectively target activity to reduce energy consumption and carbon dioxide emissions in the borough, it is vitally important that we have accurate information about the sources of emissions. In addition, we will be unable to assess whether policies to reduce emissions have been successful unless we have the means of accurately measuring emissions. For this reason, accurate measuring and monitoring of energy consumption and CO<sub>2</sub> emissions is essential to all climate change strategies and is a core commitment under the Nottingham Declaration.

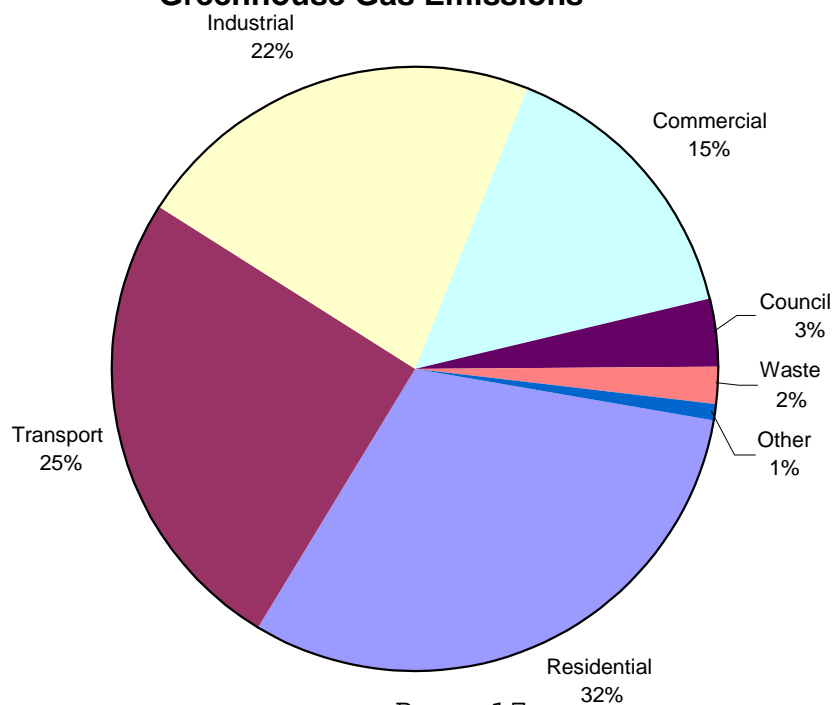
The Council will compile a detailed database of the borough's CO<sub>2</sub> emissions utilising computer software developed by Torrie Smith Associates especially for this purpose. This database will then be regularly updated and used to assess the success of the Energy Strategy in reducing energy consumption and CO<sub>2</sub> emissions. The Council will change the Outcomes for Action 7 in the Environmental Action Plan to a requirement to account for greenhouse gas emissions for the baseline of 1990 and for 2000, in order to be consistent with Government and other local authority reporting.

**Policy 1B:** The Council will compile an accurate database of the borough's energy consumption and greenhouse emissions so as to measure the success of carbon reduction policies.

### 2.2.2 An Estimate of Greenhouse Gas Emissions in the Borough

Greenhouse gas emissions in the borough are largely carbon dioxide (CO<sub>2</sub>) but there are also emissions of methane, nitrous oxide and fluorocarbons. Greenhouse gases are evaluated in the equivalent of carbon dioxide emissions – tonnes of eCO<sub>2</sub>. To help in the development of this Energy Strategy, the consultants ADSM have provided an initial estimate of the likely Year 2000 emissions from key sectors in the borough. This emissions estimate is based on comparison with government data and other metropolitan boroughs and is illustrated in Figure 3 below. It is estimated that Barking and Dagenham's eCO<sub>2</sub> emissions amount to over one million tonnes per year or 7.5 tonnes per year for each resident of the borough. For comparison, the per capita UK eCO<sub>2</sub> emissions in 1995 were about 9 tonnes per person, falling to about 8.5 tonnes in 2000.

**Figure 3 – Barking and Dagenham's Greenhouse Gas Emissions**

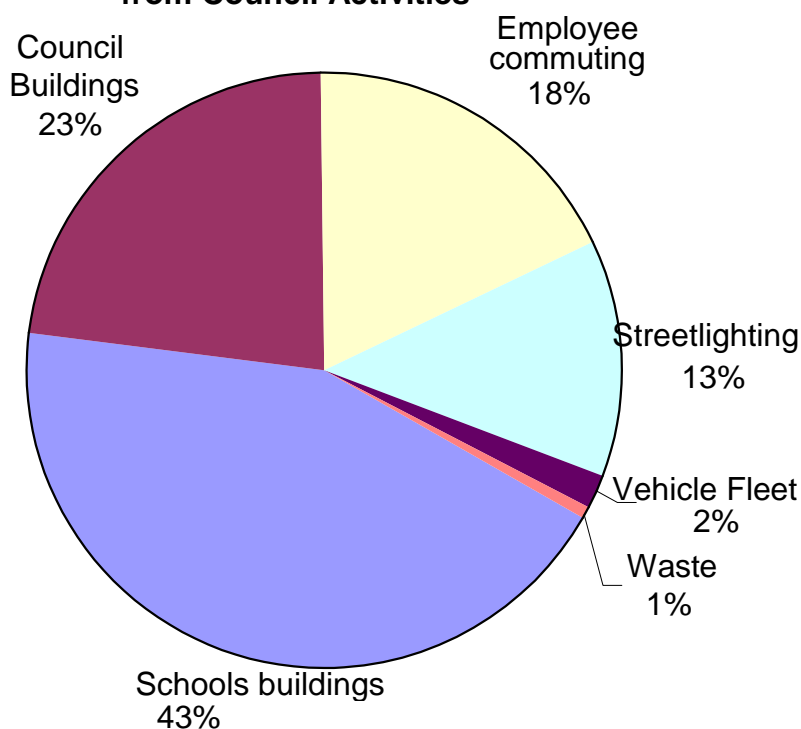


## 2.3 Leading By Example - The Council's Own Energy Performance

### 2.3.1 The Council's Energy Use

The Council's main uses of energy are for heating and powering council buildings, street lighting, employee commuting and travel during work which is responsible for approximately 39,000 tonnes per year or 3.5% of the borough's CO<sub>2</sub> emissions. The Council's building stock includes a number of old and inefficient properties for which it is likely to be possible to substantially reduce energy consumption. The Council also has a high number of employees driving to work compared to other London boroughs. As part of its programme to reduce this energy consumption, the Council will accurately measure its energy consumption and associated greenhouse gas emissions in the future.

**Figure 4 - CO<sub>2</sub> Emissions from Council Activities**



**Strategic Objective 2: The Council will lead by example in implementing best practice in sustainable energy throughout its activities.**

### 2.3.2 Energy Hierarchy

The Mayor of London's Energy Strategy contains an energy hierarchy to guide decision-making on energy use so as to optimise environmental and economic benefits:

- Use Less Energy (better insulation, more efficient lighting & appliances);
- Use Renewable Energy (install renewable energy technologies on site and purchase green electricity);
- Supply Energy Efficiently (use combined heat and power, cut transmission losses through local generation).

Barking and Dagenham Council will apply the energy hierarchy in all decisions relating to energy use and will also encourage businesses and the community to follow it.

### 2.3.3 Council Buildings

Council buildings, including schools, are responsible for the majority (estimated at about two thirds) of the Council's energy use and greenhouse gas emissions. The key focus of the Council's efforts to improve energy performance must be on its corporate building stock. The Council owns 350 properties covering a wide variety of building types across which these improvements will need to be delivered, ranging from offices, town halls and community centres to schools and swimming pools. The Council's electricity and gas bill last year was approximately £3.2 million consuming 172GWhs of energy.

It is imperative that the Council improves the energy performance of its building stock in order to stimulate action for a low carbon Barking & Dagenham. The Council will set a good example to all other stakeholders in the borough by demonstrating good practice in reducing this energy use through implementing an energy efficiency action programme across the council building stock.

#### **An Energy Efficiency Action Programme for the Council**

There are numerous good examples of local authorities implementing an 'invest to save' energy efficiency programme in their building stock. Redbridge Council have operated an energy and water efficiency programme for the last 15 years which has saved them an estimated £2.24 million, and even though it has run for 15 years they are still implementing energy efficiency measures each year. Through implementing a similar programme Woking Council has delivered financial savings amounting to £4.7 million over the past 10 years with annual savings of £700,000 a year.

The Council is working to improve information on the energy consumption of its building stock so as to better identify the efficiency measures that can be taken. These measures will then be implemented across the Council's properties and energy efficiency policies will be a key component of the council's Corporate Asset Management Plan.

**Policy 2A:** The Council will lead by example in implementing best practice in sustainable energy through implementing an energy efficiency action programme across the Council's building stock.

**Action 2A(i):** The Council will gather accurate data on the energy consumption of its building stock to establish a baseline for its energy efficiency action programme.

**Action 2A(ii):** The Council will develop a work programme which outlines the planned energy efficiency measures, and required investment and expected financial savings, over the next 5 years.

**Action 2A(iii):** The Council will establish a revolving energy efficiency investment fund for all council buildings that ring-fences and invests the money saved through reduced fuel consumption for further energy efficiency activity.

Under the new Best Value Indicator 180, the Council is required to benchmark and report on building energy use. Guidance on this performance indicator has been produced under the Government's Action Energy programme and is now available on the Office of the Deputy Prime Minister's Best Value website. The Council will follow this guidance in benchmarking and reporting its building energy use.

**Action 2A(iv):** The Council will seek to upgrade the energy performance of existing buildings to achieve the best practice benchmark standards described under the government's Action Energy programme.

Some sections of the Council have adopted an environmental management system and are aiming for ISO14001 status which requires continuous improvement in energy use. Under the Energy Efficiency Action Programme, the Council's Energy Unit will assist these departments in monitoring and improving their energy use.

### **The Carbon Trust and Action Energy Programme**

The Carbon Trust is a not-for-profit agency set-up by Government to stimulate greater use of low carbon technologies in business. The Carbon Trust administers the Action Energy programme which provides tailored energy efficiency advice to organisations seeking to reduce their energy consumption. This includes:

- free help and advice phone service;
- 'starter packs' on ways of reducing energy consumption;
- free site survey;
- interest-free loans for investment on energy efficiency measures;
- In-depth material for all building/ industry types; and,
- Enhanced capital allowances for energy efficient technologies.

The Council will take advantage of these services in implementing a programme of efficiency improvements across its corporate building stock.

The Carbon Trust also provides a Carbon Management Toolkit to help local authorities to reduce energy consumption in their buildings. They are currently assisting 24 local authorities to implement measures to reduce energy consumption by a combined £4.5 million.

**Action 2A(v):** The Council will utilise the support provided by the Carbon Trust and the Action Energy programme to reduce energy consumption across its buildings.

### **2.3.4 School Buildings**

Nationally, schools release eight million tonnes of CO<sub>2</sub> into the atmosphere annually and account for a quarter of all public sector energy costs. The consultants ADSM estimate that Barking and Dagenham's schools are responsible for an even greater proportion with approximately 44% of the Council's CO<sub>2</sub> emissions. The borough's schools have poor energy performance – they require a lot of heating and have a higher energy consumption than average. There are 60 schools in the borough consuming a total of approximately ? kWh of energy per year which contributes significant CO<sub>2</sub> emissions into the atmosphere.

There is substantial scope for improving the energy performance of the school building stock. The Government is encouraging schools to implement energy management systems by providing information and guidance through numerous channels, including the Department for Education and Skills, the Energy Saving Trust and the Carbon Trust's Action Energy programme. In 2001 the Council worked with five pilot schools to carry out energy and water audits and implement energy efficiency measures. These 5 pilots, named 'REWARD' (Reduce Energy and Water And Reap Dividends), were extremely successful with an approximate 60% reduction in energy consumption and CO<sub>2</sub> emissions. Following the success of these pilots, the Council promoted the benefits of energy efficiency improvements to the rest of the borough's schools but failed to capture their interest.

The borough's schools manage their own budgets which includes purchasing of electricity and gas. Although the Council manages the school building stock, it does so in partnership with the schools' budget choices – and therefore it is ultimately the school's choice whether or not to implement energy efficiency measures. The Council aims to encourage all the borough's schools to improve energy performance and to achieve the best practice

benchmark standards for school buildings outlined in the government's Action Energy programme.

There are also a number of grants available for schools to install renewable energy technologies such as solar panels and small wind turbines. At the same time as improving their energy efficiency schools should seek to utilise these grants to install renewable energy technologies which would also have useful educational benefits. There are a wide number of external initiatives from which a Barking and Dagenham school energy efficiency campaign could obtain support, including 'Eco-Schools' and the Energy Certification for Schools programme to name just two.

**Policy 2B: The Council will actively promote energy efficiency to the borough's schools and work with them to upgrade their energy performance so as to achieve the best practice benchmark standards as described under the government's Action Energy programme.**

**Action 2B(i): The Council will develop an action plan outlining how it will work with the borough's schools to improve their energy efficiency and reduce CO<sub>2</sub> emissions.**

### **2.3.5 Council Vehicle Fleet**

The use of vehicles in providing council services - 340 vehicles and 520 items of plant and equipment in 2001 - is responsible for approximately 2% of the greenhouse gas emissions from council activities. These vehicles travelled in excess of 3.5 million miles per year using 875,000 litres of fuel and producing around 810 tonnes CO<sub>2</sub> per year. The Council has already taken advantage of the Energy Saving Trust's Power-Shift grant programme to purchase some LPG vehicles.

However, the majority of the vehicles used in providing council services are now operated by external contractors and are not under the direct control of the council – for example much of the council's waste management is now provided by Shanks under its large waste contract and Thames Accord provide housing services. Therefore the environmental management of these vehicles will need to be implemented by these contractors.

**Policy 2C: The Council will implement, and encourage external contractors to implement, measures to minimise carbon dioxide emissions from vehicle use.**

**Action 2C(i): The Council will consider adopting the Good Practice Guide GPG318 Transport and Environmental Management System as a guide for management of the vehicle fleet.**

**Action 2C(ii): When purchasing new vehicles the Council will aim for the most energy efficient commercially available, favouring LPG or hybrid vehicles.**

**Action 2C(iii): The Council will ensure that drivers of all Council owned vehicles and all essential car users receive appropriate training that highlights how to reduce fuel consumption.**

### **2.3.6 Street Lighting and Street Furniture**

The Council currently purchases green electricity for all its street lighting power needs – and therefore provides carbon-free street lighting for the borough. The environmental impact of street lighting can also be reduced by improving the energy efficiency of lighting and installing renewably powered street lighting. The Council uses energy efficient luminaries to provide the levels of lighting to which it is committed. However, the street-lighting standards

are currently being improved across the borough, and this brighter level of lighting requires a greater electricity consumption. Part B of the Best Value Performance Indicator 180 also looks at benchmarking of energy consumption and CO<sub>2</sub> emissions from street lighting.

A number of local authorities across the country have pioneered solar powered street lighting and there have been recent examples of grid connected solar street lighting. Solar and wind powered street lighting represents a highly visible commitment to renewable energy and helps to bring renewable energy into the urban landscape. The Council intends to improve its knowledge of efficient and renewably powered street lighting and will take forward a pilot project to install renewably powered street furniture.

**Policy 2D: The Council will continue to purchase 100% green electricity and employ best practice technology for street lighting so as to minimise energy consumption.**

**Action 2D(i):** The Council will implement a pilot project to install renewably powered street furniture.

**Action 2D(ii):** The Council will ensure that renewably powered street furniture (including street lighting, solar bus shelters, street signs and parking ticket machines) is installed in key regeneration sites.

### **2.3.7 Renewable Energy And Combined Heat & Power in Council Buildings**

Both combined heat & power (CHP) and renewable energy are low carbon sources of heat and power. As outlined in section 2.7, combined heat and power is an extremely efficient means of supplying heat and electricity simultaneously from the same fuel. The installation of a CHP system is an effective means of reducing energy consumption in a building or collection of buildings. Building-integrated, or urban, renewable energy technologies, such as solar water heating, solar power and micro-wind are now available.

CHP and community heating systems will only be successful if buildings in the vicinity plug into the heating network, rather meeting their heating needs in the usual way. It is essential that a minimum base-load, or anchor, for the heat network is provided by a small number of buildings. This 'anchor' is normally provided by public sector buildings or social housing, and commercial buildings are then encouraged to join afterwards. Where an area is suitable for CHP & community heating, and particularly in mixed use regeneration sites, the Council, and other public sector partners, should help to provide the anchorage for community heating networks where they can.

**Policy 2E: The Council aims to increase the use of CHP and renewable energy in its buildings.**

**Action 2E(i):** The Council will seek to install CHP and renewable energy technologies whenever it is refurbishing its buildings and definitely when upgrading heating systems.

**Action 2E(ii):** Where possible the Council will help to provide an anchorage heat load for community heating networks.

The Council already purchases some of its electricity from renewable sources through a green tariff and will seek to increase this proportion when the energy supply contract is next reviewed.

**Action 2E(iii):** The Council will seek to establish a large scale wind turbine in the borough which supplies electricity directly to council offices.



As outlined in section 2.3.6 above, the Council will seek to incorporate photovoltaic panels in street lighting and other street furniture. Section 2.7 outlines further policies for promoting renewable energy and combined heat & power in the borough.

## **2.4) Making Homes Warm And Energy Efficient**

### **2.4.1 Heating our Homes**

Homes are responsible for approximately 31% of total greenhouse gas emissions across the borough and the residential sector is the largest user of energy. The majority of this energy consumption is for space heating, with the remainder for water heating and electrical appliances. The key means of reducing the borough's carbon dioxide emissions is to focus on reducing heating requirements in housing through improvements in energy performance.

There are many opportunities for improving energy efficiency through better insulation, improved heating systems and more efficient lighting and appliances. These improvements will yield social as well as environmental benefits – better insulated homes are also much warmer and cheaper to heat. Energy efficiency is the main means of tackling fuel poverty.

**Strategic Objective 3: To improve the energy efficiency of all Barking and Dagenham's housing to the highest possible level.**

### **2.4.2 Housing Energy Efficiency and Fuel Poverty Policy**

The Government's housing energy efficiency policies are outlined in its Fuel Poverty Strategy and Energy Efficiency Plan for Action. According to the Government definition, a fuel poor household is one that needs to spend more than 10% of its income on energy in order to maintain a satisfactory heating regime – which is defined as 21°C in the living room and 18°C in other occupied rooms. Due to higher living costs in London, the Mayor of London has adopted a definition of fuel poverty based on disposable income whereas the Government's definition is based on gross income. The Government has set a target to eradicate fuel poverty (through energy efficiency improvements) by 2016.

The Government has set a target to deliver carbon savings in households of 4.2 million tonnes by 2010. The Home Energy Conservation Act (HECA) 1995 requires all local authorities to report annually on the energy efficiency of housing in their borough and on progress to improve energy efficiency. HECA set a target to reduce energy consumption in homes by 30% by 2010 based on 1996 levels of consumption. The Government's key policy instruments include the Warm Front grant scheme for addressing fuel poverty, the Energy Efficiency Commitment (which obliges the energy utilities to spend millions on household energy efficiency measures) and improvements to the energy efficiency standards in the Building Regulations from 2005. The Energy Saving Trust runs energy efficiency programmes on behalf of the government and provides advice and support for local authorities operating housing energy efficiency schemes. It also funds the national energy efficiency phone hotline for householders.

Local authorities have two key roles in stimulating housing energy efficiency improvements and addressing fuel poverty:

- Through directly improving the energy performance of its social housing stock and harnessing government fuel poverty grants for its council housing; and,
- Through promoting the government's and energy utilities' grant programmes to its private sector housing residents – some local authorities have been more effective than others in promoting these grants to their residents and as a result have better insulated homes.

### **2.4.3 Current Energy Performance and Fuel Poverty in the Borough**

There are approximately 68,000 homes in the borough consisting of 43,000 private sector homes, 5,000 private homes to which the council owns the lease and 20,000 Council owned homes. Consultants ADSM have estimated that CO<sub>2</sub> emissions from the borough's housing is 359,498 tonnes per year which corresponds to 5.3 tonnes CO<sub>2</sub> per dwelling.

The Council undertook a detailed survey of the housing stock in 2002 which provides an invaluable database for statistical analysis and is now updated every year. The housing database provides information on all aspects of the housing and also includes data on the energy rating of properties. This information provides an accurate picture of the energy performance of the borough's housing and can also be used to aid energy efficiency programmes in targeting houses most in need of improvement.

The energy performance of a home is measured through the 'Standard Assessment Procedure' or SAP. The SAP rating ranges from one (very inefficient) to 120 (highly efficient), and the average SAP rating of homes in England is 45. However, today's Building Regulations require new houses to achieve a SAP rating of 90 to 100.

The average SAP rating of Barking and Dagenham's housing stock is 61, which is higher than both the national average and the London average – which is 45 for outer London and 46.5 for inner London – mainly due to the high number of post war housing in the borough which tends to be more energy efficient than older housing. This Barking and Dagenham SAP rating is equivalent to 4.5 tonnes of CO<sub>2</sub> per year for a typical two storey semi-detached house with gas central heating. The SAP rating does not take into account electricity used for lighting and appliances which leads to an additional 0.8 tonnes, giving a total of 5.3 tonnes per year.

The Council produced an Affordable Warmth Strategy in 1999 which aimed to raise the profile of fuel poverty and the grants available for fuel poor households in the borough. The Council worked with national fuel poverty agencies and local partners, such as the health authority, in compiling this affordable warmth strategy.

Although the average SAP rating in Barking and Dagenham is higher than the London, and national, average there is still substantial scope for improvement as many cavity walled private sector houses in the borough still lack insulation, and the average SAP rating could be increased well beyond 56. There is an upper limit to the SAP rating that existing houses can be raised to, which is determined by the particular type of property. It is unlikely that the energy performance of existing housing can be raised to the standard of new houses (which follow the 2002 Building Regulation standards), but significant increases in SAP rating can be achieved. The Council will evaluate what degree of energy efficiency improvement is possible in the borough's housing stock. The government reviewed the SAP rating system in 2001 which has affected the allocated scores – in general, properties rated under the new SAP rating system obtain a score 4 or 5 points higher than under the old SAP system. All the figures stated above were calculated under the old SAP rating system and would all be a little higher under SAP 2001.

#### **2.4.4 The Council's Housing Strategy and the Decent Homes Standard**

The Council's Housing Strategy addresses both social and private housing in the borough. It outlines plans for improving the borough's housing stock and meeting housing need in the borough. It also takes into account the regional needs for housing as Barking & Dagenham is a key Thames Gateway borough where the Government would like to see a growth in housing provision. The Housing Strategy outlines that the implementation of the Decent Homes standard in Council housing and, efforts to implement the Decent Homes standard in private sector housing, will be the main means by which the council will improve the energy performance of the borough's housing stock. In the face of changing government policy relating to housing management and financing, the council is carrying out the 'Housing Futures' project to evaluate future management options.

The Decent Home standard does not specify detailed energy efficiency criteria but states that homes must provide a 'reasonable degree of thermal comfort' and this criterion is not

met if the household is fuel poor. Decent Homes does not therefore require the highest possible energy efficiency standards and, in fact, it accepts minimum loft insulation standards significantly below that implemented by the fuel poverty Warm Front programme or the current building regulations.

So, although the implementation of Decent Homes will be challenging and deliver significant energy efficiency benefits, it will not necessarily raise the energy performance of the borough's housing to the highest levels that are practicable.

**Policy 3A:** The Council will aim for the highest feasible energy efficiency standard for the borough's housing. It will undertake a study to calculate the highest practicable energy rating that is achievable for the borough, and then develop an action plan for delivering this standard.

**Action 3A(i):** The Council will evaluate the options for increasing the borough's SAP rating and calculate the highest feasible average SAP rating that could be attained in the borough.

**Action 3A(ii):** Based on the results of this study the Council will develop a long term energy efficiency programme to raise the energy performance of the borough's housing to the highest practicable level.

**Action 3A(iii):** The Council will consider the benefits of establishing a Barking & Dagenham Energy Centre to facilitate and promote energy efficiency measures throughout the borough's housing.

**Policy 3B:** The Council supports the Government's target to eliminate fuel poverty by 2016 and will work with partners to meet this target in the borough.

#### 2.4.5 Council Housing Stock and Decent Homes Standard

The Council's capital works programme has already installed central heating systems in 99% of all council housing (with all new systems being fuelled by natural gas) and has made a good start for meeting the government's Decent Homes standard. The Council is committed to achieving the Decent Homes standard across all its council houses by 2010. The Council is also committed to going beyond simply providing a 'reasonable degree of thermal comfort' as required by Decent Homes, to implement the recommended minimum standards for loft and cavity wall insulation, lagging, draft-proofing and heating systems under the government's fuel poverty programme. Implementation of Decent Homes over the next 5 years will therefore ensure minimum levels of insulation (including filling all cavity walls) and good central heating systems in all the borough's council housing.

The Council does not fund all the insulation costs itself and utilises the Warm Front fuel poverty grant for eligible householders on low incomes – they 'pass on' these homes to the Warm Front programme. Warm Front funds insulation and heating improvements of up to £2000 for each eligible property. The Council also has an agreement with the Osborne Partnership which seeks to incorporate Energy Efficiency Commitment grants where possible for council housing energy efficiency improvements.

**Policy 3C:** The Council is committed to implementing the Decent Homes standard, which includes key energy efficiency measures, in all council housing by 2010.

**Policy 3D:** In the long term the Council aims for the highest feasible energy efficiency standards in its council housing. It will calculate the likely SAP rating that will be

**achieved through Decent Homes and assess the prospects for increasing this through additional measures.**

**Action 3D(i):** Based on the results of this study the Council will develop a long term energy efficiency programme to raise the energy performance of council housing to the highest practicable level.

#### **2.4.6 Private Sector Housing**

The 2002 Housing Survey identified 43,230 private sector houses in the borough. The consultancy ADSM estimated a total of 242,000 tonnes CO<sub>2</sub> emissions per year from heating and electricity usage in these homes. The average SAP energy efficiency rating of 55 is significantly higher than the national and London average in the UK. However 46% of the stock falls short of 55 (considered to be the 'acceptable' SAP rating) and only 6% of homes achieve a rating of 70 or above. A significant proportion of the stock fails to meet present day standards for heating systems and insulation levels.

The Council's principle means of influencing energy efficiency in private housing is through running information campaigns and promoting government grants that are available for alleviating fuel poverty. Energy efficiency grants are provided via the Warm Front and Energy Efficiency Commitment schemes - but most of the public are not aware of these grants. These grant programmes are only available for households in receipt of benefits or those on low incomes. The Council is keen to develop energy efficiency advice and encourage energy efficiency activity for all householders in the borough – the 'fuel rich' as well as the fuel poor.

**Policy 3E:** The Council aims for the highest feasible energy efficiency standard for private housing in the borough and will undertake a study to calculate the highest energy rating that is practicable and then develop an action plan for delivering this standard.

**Action 3E(i):** The Council will assess its current approach to promoting energy efficiency advice to private residents and consider options for increasing the profile and impact of energy efficiency activity in the borough.

**Action 3E(ii):** The Council will compile an action plan aimed at assisting and encouraging all owners and occupiers of private housing in the borough to implement energy efficiency measures.

#### **2.4.7 Addressing Fuel Poverty in Private Sector Housing**

The two wards in the borough identified as having the highest levels fuel poverty have been assessed and found that 27% of the households were fuel poor. The Council's Private Sector Housing Team (PSHT) has now systematically approached every fuel poor household in these wards and provided them with the opportunity of coming out of fuel poverty. Over the next nine years the Council will continue to systematically identify every fuel poor household and by 2013 will have provided every household in the borough with the opportunity to come of fuel poverty. The Council is addressing fuel poverty in private sector homes through the following schemes:

- **Warm Front grants and London Warm Zone**

In partnership with London Warm Zone, the Council is undertaking fuel poverty and energy efficiency assessments of private homes across Barking & Dagenham on a ward by ward basis. During 2002/ 2003 the Village and River wards were assessed. Householders who qualify for a Warm Front fuel poverty grant are passed on to the EAGA partnership who administers the grant and the installation of energy efficiency measures under the grant.

As outlined above, the government's Warm Front grant is only available to fuel poor householders who meet strict eligibility criteria, and there are many other fuel poor households who are not eligible for the Warm Front grant. However, the London Warm Zone scheme is managing to offer energy efficiency grants to another sector of fuel poor householders not eligible for Warm Front through grant money made available by the Government Office for London (GOL). This GOL grant has been set for a period of three years and was awarded to the East London Renewal Partnership, a group of East London Councils including Barking and Dagenham. It will enable a further 4500 properties to be surveyed, offered advice on energy efficiency and to receive energy efficiency grants where eligible over the next three years. When the GOL grant ends in 2007/2008 the Council will continue to fund Warm Zone surveys on a ward by ward basis.

The GOL grant has also been used to establish a partnership with Barking and Dagenham Disabled Association. The Association take referrals from the Warm Zone surveys and help to ensure that fuel poor residents are receiving all the benefits to which they are entitled.

In partnership with the Primary Care Trust and Age Concern, the Council will also be offering Warm Zone grants to residents of the borough who are medically referred from Age Concern. These referrals will be on a medical basis that shows a direct link between the improvement of heating and the improvement of the resident's health to an extent that is likely to reduce hospital re-admissions.

- **Council Grants for Other Fuel Poor Households**

A number of older householders do not qualify for the Government's Warm Front grant because they are not receiving benefits, despite the fact that they are living in fuel poverty and spending a significant percentage of their available income on warming their homes. So as to address this issue the East London Renewal Partnership (ELRP) is providing energy efficiency grants to householders who do not qualify for Warm Front or GOL grants but are fuel poor and over 60. However, the ELRP boundaries exclude River and Village wards and so the Council is also providing grants for these wards. All these households will be identified through the Warm Zone surveys and the Council has already compiled information on 50 such households which will receive £150,000 in Council grants.

- **Council Grants for 'fuel rich' Households**

In partnership with London Warm Zone and London Electricity, the Council is offering insulation at a reduced cost to all private households. The scheme will be initially targeted at the Longbridge ward but will be advertised across the whole borough. Those households that are eligible will receive a 100% grant for cavity wall and loft insulation.

- **Targeted Energy Efficiency Advice**

The Council has a service agreement with the Osborne Partnership to help deliver energy efficiency measures in the both private sector and council housing, and this includes a freephone energy efficiency hotline for the borough's residents. In conjunction with the Osborne partnership, the Council's Housing Department and Energy Manager have provided energy efficiency advice to residents for many years. In addition, the North East London Energy Efficiency Advice Centre (NELEEAC) operates the Government's free 'energy efficiency phone hotline' for all the north east London boroughs. The NEL EEAC also runs a number of energy efficiency schemes and also provides targeted advice to householders in poor quality housing.

There may be opportunities for the Council to work more closely with these and other energy efficiency agencies, or directly with energy companies, so as to secure greater

promotion of energy efficiency within the borough whilst requiring little extra investment of resources by the Council itself.

Energy supply companies provide energy efficiency advice grants to householders under the requirements of the Energy Efficiency Commitment (EEC), and there is a great deal of funding available under EEC. The Council could develop a partnership with an energy supplier to target their EEC grants at households in the borough and thereby bring-in increased funding for energy efficiency measures in the borough.

**Action 3E(iii):** The Council will seek to maximise opportunities for partnership working with organisations implementing energy efficiency schemes so as to increase the range of energy efficiency schemes and resources operating in the borough.

#### **2.4.8 Renewable Energy and Housing**

The Council has joined the Solar for London scheme which provides help, advice and grants for householders to install solar water heating systems on their roofs. The Council has committed to providing a £500 grant for each participating householder – in addition to the £400 grant provided by central government under the Solar for London scheme. This brings down the price of a solar water heating system to approximately £1000 for the householder. The Council has committed to the Solar for London scheme for an initial five years and is providing £5000 for grants in the first year. As a Solar for London partner the council will promote the solar water heating scheme and the grants to the borough's residents. Barking and Dagenham's component of the Mayor of London's target for installing solar water heating systems is 760 applications by 2010 which corresponds to an annual installation rate of 108.

**Policy 3F:** The Council will promote solar water heating systems and other household renewables to the borough's residents.

**Action 3F(i):** The Council will develop an Action Plan for achieving the Mayor of London's target for installing 760 solar water heating systems in the borough by 2010.

Section 2.7 outlines a number of policies to promote the use of renewable energy in the borough.

#### **2.4.9 New Housing in the Borough**

The Council's 2020 Vision Strategy recommends that the Barking Riverside and South Dagenham developments should be seen as, 'a model for 21st Century sustainable city living and should promote innovation and energy efficiency in high standard Eco-dwellings'.

The substantial regeneration planned for the borough provides an excellent opportunity for improving the average energy performance of the borough's housing through building all new housing to a very high energy efficiency standard. It is also an opportunity to build best practice low carbon, and even zero carbon, homes that set the standard for the future and illustrate what sustainable homes look like. Over twenty thousand new homes will be built over the next 20 years and unless these incorporate low carbon features such as CHP and renewable energy we will not be able to achieve a low carbon Barking & Dagenham.

**Policy 3G:** The Council will aim for all new housing in the borough to achieve good practice in energy performance that goes beyond the minimum standards required by the Building Regulations.

**Action 3G(i):** The Council will evaluate the carbon performance of homes under the proposed new Building Regulations and develop a definition of energy good practice for new housing in the borough.

Sections 2.7, 2.8 and 3.1 outline policies aimed at ensuring that low carbon priorities, such as CHP and renewable energy, are incorporated in the regeneration of the borough.

#### **2.4.10 New Social and Affordable Housing**

All Housing Associations have to achieve a minimum requirement of Eco-homes 'Good' rating in order to qualify for funding from the Housing Corporation. The Housing Corporation is currently reviewing the Eco-Homes standard it requires and is likely to increase the requirement to 'Very Good' in the near future. There is significant scope for improving energy performance beyond that which is required for an Eco-homes 'Good' or 'Very Good' rating and the Gallions Eco-Park in Greenwich, built by Gallions Housing Association, is a good example of an Eco-Homes Excellent housing development.

The Council oversees the construction of new affordable and social housing in the borough through working with Housing Associations and other housing providers. The Council will work with its Housing Association partners to improve the energy performance of new affordable housing in the borough. It will also work with Housing Association and development partners to develop a best practice low carbon mixed tenure housing development. This low carbon housing development will be taken forward as a pilot project with all partners working together to set sustainability objectives and solutions.

**Policy 3H:** The Council will work with its Housing Association partners to improve the energy performance of new affordable housing in the borough.

**Action 3H(i):** The Council's Housing Strategy Division will work with Housing Associations to ensure that new social housing in the borough achieves a higher sustainability standard than the standard Eco-Homes 'Good' rating required by the Housing Corporation.

**Action 3H(ii):** The Council will work with Housing Association and development partners to develop a flagship low carbon mixed tenure housing development.



## 2.5 Delivering Low Carbon Business

### 2.5.1 Heat and Power Consumption in Industry, Offices and Retail Outlets

Consultants ADSM have estimated that business activity accounts for approximately 438,389 tonnes eCO<sub>2</sub> per year or 38% of the borough's greenhouse gas emissions due to energy consumption of industrial processes and for the heating, cooling and powering of office and retail premises. Barking and Dagenham has a more substantial industrial sector than most other London boroughs and the country as a whole. The main industrial presence is, of course, the Ford Dagenham plant although there is other heavy industry and plenty of light industry such as distribution centres.

Industry will continue to play a significant role in the mix of land-uses across the borough and as a source of employment. There is scope to reduce carbon emissions emanating from industrial energy use through the implementation of energy efficiency measures and increasing the use of combined heat and power and renewable energy. The regeneration of the Dagenham Dock industrial area will witness the arrival of a significant number of new businesses and industrial capacity. This new industrial capacity should follow best practice in sustainable energy so as to deliver low carbon industrial parks. We should build upon the excellent impetus and visibility of the wind turbines at Ford Dagenham.

There are two and a half thousand businesses in the borough. Notwithstanding the large employers such as Ford and Aventis Pharma, the majority of business employment in the borough is through small and medium enterprises. A growing business sector in recent years has been logistics (storage and transport) due to the good road links into London and out to the rest of the country. A strategic approach to improving energy efficiency across the borough's businesses requires an analysis of the key business sectors in the borough and the opportunities within these sectors for reducing energy consumption. The Council would need to work with business partners to disseminate and promote sector-specific energy advice and opportunities.

### **Strategic Objective 4: To increase business energy efficiency and renewable energy use across Barking and Dagenham**

#### 2.5.2 Dagenham Dock Sustainable Industrial Park

The Sustainable Industrial Park planned for Dagenham Dock will be an 'industrial ecosystem for business and environmental excellence' with complementary eco-industrial processes side by side. The Sustainable Industrial Park (SIP) aims to showcase sustainable industries such as reuse and recycling processes and to maximise resource efficiency through business clusters exchanging waste products and information and coordinating operations. In response to the plans for a SIP, numerous recycling and other environmental businesses are already vying for locations at Dagenham Dock.

The SIP will need to demonstrate best practice in sustainable energy and there is great potential for shared combined heat and power systems which maximise fuel efficiency across the site. Taking the lead from the Ford turbines, renewable energy technologies should be a core element of the Dagenham Dock industrial landscape. The SIP could also act as a location for London based renewable energy companies. Section 2.8 outlines the Council's ambitions for an **Energy Action Area** in the borough which showcases numerous sustainable energy features – the SIP has the potential to be a key element within such an Energy Action Area. The centre piece of the SIP will be an Environmental Technology Resource Centre for London (ETRCL) which will act as the nucleus for practical research on sustainable industries, which can then feed into the processes and practices within the SIP. The ETRCL could research energy efficient industrial processes and innovative energy generation technologies such as hydrogen fuel cell technology.

The Dagenham Dock area currently suffers from a power shortage - the wire infrastructure is under-developed and not able to supply the additional electricity required for regeneration. In the same way as most industrial processes, the sustainable industry planned for Dagenham Dock may have a large electricity demand. Public sector investment in the power supply for the area could be focused in a number of different ways; the most sustainable option will be to invest in innovative local electricity networks that facilitate local generation from CHP and renewable energy. The local power demand could even be met through an on-site fuel cell system.

**Policy 4A: The Sustainable Industrial Park will aim to showcase best practice in low carbon industrial processes and the development of innovative generation technologies.**

**Action 4A(i): The Council will work with the LDA and the other Dagenham Dock project partners to ensure that innovative sustainable energy technologies are utilised in the upgrade of the local power network.**

### **2.5.3 Industrial Combined Heat & Power**

Combined heat and power systems are well suited to industrial energy needs and indeed the majority of CHP capacity in the UK is industrial CHP. A key concern across the whole of the Thames Gateway area is the under-developed electricity wire network; the local generation of electricity through CHP represents an effective and sustainable way of resolving this potential power shortage. CHP could be a particularly effective solution for meeting the potentially substantial power requirements associated with the industrial regeneration of the Dagenham Dock area. The Council will work with local industry to encourage greater use of CHP systems in the borough. Section 2.7 outlines a number of policies promoting CHP.

**Policy 4B: The Council will encourage CHP systems as the means of providing heat & power for industrial processes in the borough and will encourage applications for new industrial buildings to include CHP.**

**Action 4B(ii): The Council will produce a CHP information pack for developers that signposts sources of information and advice.**

### **2.5.4 Barking Power Station**

The borough's most significant industrial presence in climate change terms is Barking Power Station which is a 1GigaWatt station supplying electricity to the grid. Although this is an efficient combined cycle gas turbine power station, it does not operate as a combined heat and power plant and therefore it wastes a lot of heat energy. As the power station consumes 2% of the UK's gas supply its carbon dioxide emissions are very high. The power station's electrical output is ploughed straight into the national grid and so isn't related to electricity consumption within the borough. It would be unfair to allocate these vast CO<sub>2</sub> emissions to Barking and Dagenham as these emissions will in fact be accounted for in the electricity consumption of businesses and households across the country.

This does not mean that we should ignore the power station's emissions and the power station could increase its efficiency through capturing its waste heat which in total amounts to about 1GWe of heat energy. The steam coming out of the turbines is cooled by water extracted from the Thames, and the condensate is fed back into the power station to begin the cycle once again.

Barking Power Station lies adjacent to the large regeneration sites of South Dagenham, Dagenham Dock and Barking Riverside which will accommodate over 15,000 new homes and new industry over the next twenty years. If some of the waste heat from the power station was used to heat these new buildings and industrial processes, then there would be no additional energy consumption for heating which would lead to savings of thousands of tonnes of carbon emissions annually.

**Policy 4C:** The Council will investigate the prospects for capturing waste heat from Barking Power Station so as to provide community heating for the borough's key regeneration sites.

**Action 4C(i):** The Council will work with regeneration partners to evaluate the options for installing and managing community heating infrastructure in key regeneration sites.

**Action 4C(ii):** The Council will work with regeneration partners to encourage Barking Power to install CHP capacity in Barking Power Station.

### 2.5.5 Reducing Energy Consumption in Offices and Retail Buildings

Offices and retail premises use significant quantities of energy for heating, cooling and lighting, and much of this energy is unnecessarily wasted due to large inefficiencies. Energy consumption in these buildings has increased substantially over the last twenty years as heating, cooling and lighting levels have risen – however, these improved heating and cooling standards have been delivered through increasing fuel and electricity consumption rather than through improved insulation, better building design or the use of energy management technologies.

The Government introduced the Climate Change Levy on business energy use in 2001 – this energy is tax based on the carbon content of different fuels and increases the cost of energy bills by an average of 8 to 10%. Although the Climate Change Levy has helped focus some attention on business energy efficiency, it has failed to have a substantial impact as energy bills are a small element of total cost for most businesses.

As with housing, the overall energy performance of offices and retail buildings can be substantially improved through raising the standard for new buildings and increasing the energy efficiency of existing buildings. The Government's Climate Change Programme estimates that business energy use could be reduced by 20% through the implementation of cost effective energy efficiency measures. However, the key challenge is that of marketing these energy and cost savings to business.

The Government runs a national energy efficiency advice service for business called Action Energy, which can also provide free site surveys and interest free loans for implementing energy efficiency measures. The biggest challenge faced by Action Energy is lack of awareness about energy efficiency and lack of awareness about the Action Energy programme itself. Even after the Government introduced the Climate Change levy, which is an energy tax on business, the majority of businesses across the country still failed to investigate the opportunities for installing measures to reduce their fuel bill.

The Council uses its central position within the borough to help link businesses into the Action Energy programme. The Council has worked with the North East London Energy Efficiency Advice Centre to provide energy efficiency advice to small businesses in the borough and to promote the services provided by Action Energy. The Council will now re-establishment an environment programme with the borough's businesses. In conjunction with the London Environment Centre, the Council will launch the **Green Mark Award** in the borough in Autumn 2004. The Green Mark Award is an environmental management initiative

with local businesses which will encourage businesses to reduce environmental impact including energy consumption. The Council will use the Green Mark Award initiative to further promote the benefits of energy efficiency and to publicise the services of the Action Energy programme. Through the Green Mark Award the Council will work with 80 businesses over the next 3 years to implement environmental audits and improvement measures.

**Policy 4D: The Council will encourage businesses in the borough to install energy efficiency measures to achieve reductions in energy consumption and increase renewable energy use.**

**Action 4D(i): In conjunction with the London Environment Centre, the Council will promote the Green Mark Award – which includes energy efficiency improvements - to the borough's businesses.**

**Action 4D(ii): The Council will help promote the Action Energy programme to businesses in the borough and encourage them to take advantage of cost effective energy efficiency measures.**

### **2.5.6 High Performance New Commercial Buildings**

A substantial amount of regeneration is taking place across the borough over the next twenty years and this will include numerous public sector and commercial buildings. This extensive regeneration represents a superb opportunity for Barking and Dagenham to leap ahead in terms of demonstrating sustainability in non-domestic buildings. It is essential that all new commercial buildings are built to high standards of energy efficiency if a low carbon borough is to be achieved. These new buildings can then help in raising the quality of the overall building stock rather than adding to the borough's burden on the national gas and electricity grids.

**Policy 4E: The Council will use its planning powers to encourage high energy efficiency standards, CHP and renewable energy in all new commercial and industrial premises.**

**Policy 4F: The borough will work with partners to have at least one showcase low carbon commercial building by 2010.**

## **2.6) ADDRESSING TRANSPORT ENERGY USE**

### **2.6.1 Transport and Carbon Dioxide Emissions in the Borough**

Nationally, transport carbon dioxide emissions increased by 4.5% from 1990 to 2000 and under business as usual would further increase by 15.5% during the next ten years. Road traffic, and associated CO<sub>2</sub> emissions, continues to grow year on year and this is a key concern for the national efforts to reduce CO<sub>2</sub> emissions – both the government's Climate Change and Transport Strategies aim to reduce this growth but are currently failing to do so.

The consultants ADSM estimate that transport accounts for approximately 292,092 tonnes eCO<sub>2</sub> per year or 25% of the borough's carbon emissions. Road travel accounts for over 60% of these emissions and will need to be a major target for emission reduction measures. This Strategy has not accounted for aviation emissions associated with travel undertaken by the borough's residents but it does consider the transport of products consumed by the borough's residents.

The borough's expected population growth of approximately sixty thousand people over the next twenty years will result in an increase in road traffic and CO<sub>2</sub> emissions in the short to medium term. In addition, the A13, which is a very busy main thoroughfare into London, also runs through the borough and the Council has little control over traffic growth on this road.

The Council will take forward the policies outlined in the Mayor of London's Transport Strategy through the development of a 'Local Implementation Plan'. The Council has already developed an interim Local Implementation Plan and will consult on its full Plan in 2005. The Local Implementation Plan will set out sustainable transport policies which aim to limit the growth in the borough's transport emissions.

### **Strategic Objective 5: To reduce road traffic growth across the borough.**

**Policy 5A: The Council supports the objectives and targets in the Mayor of London's Transport Strategy and will introduce measures aimed at reducing growth in road traffic through its Local Implementation Plan.**

### **2.6.2 Controlling Road Traffic Growth**

Road transport is the third largest source of greenhouse gas emissions in the UK and the main source of local air and noise pollution and congestion. A reduction in car journeys not only delivers environmental benefits but also health and community benefits through increased walking and cycling, and less neighbourhood disruption and disintegration. In this way, positive planning that enables residents to walk and cycle more and encourages greater use of public transport not only reduces carbon dioxide emissions but also delivers a number of other community and social benefits.

The borough's population growth will inevitably lead to a growth in road traffic and associated CO<sub>2</sub> emissions. The challenge for the Council, and its Local Implementation Plan of the Mayor's Transport Strategy, is to control this car growth and ensure that it is lower than the predicted scenarios.

Working with the Thames Gateway London Partnership the Council has been instrumental in establishing the Thames Gateway Car Share scheme which encourages and facilitates car sharing in East London. The Thames Gateway's car share website enables the creation of a database of people who are travelling around with empty seats or those who do not have access to a car and acts as a matching service for people who would simply like to share their journey. Organisations can also use the website to set up their own private car sharing scheme.

**Action 5A(i):** The Council will build upon the Thames Gateway Car Share scheme through the introduction of additional measures to promote car sharing.

Barking & Dagenham and Havering share a travel plan officer who is working with local businesses to help them develop transport plans. The Council will also develop a travel plan for its own employees in order to promote greater public transport and cycle use.

**Action 5A(ii):** The Council will produce a Travel Plan in relation to its employees travel requirements in order to minimise private vehicle use and to maximise public transport and cycle use.

**Action 5A(iii):** The Council will continue to help businesses to develop Travel Plans.

The Council's Parking Standards (planning policy) specify the maximum number of parking places that are allowed for new developments which should help in restricting car growth.

**Action 5A(iv):** The Council will continue to use its planning powers to restrict car parking spaces and to help minimise commuter distances through encouraging mixed residential and business areas.

### **2.6.3 Encouraging Greater Use of Public Transport**

The borough is fortunate in having good access to underground and mainland rail services, particularly in the west of the borough at Barking station which is a transport hub for the area. However, parts of the borough away from the train and tube stations can feel isolated and poorly linked with the rest of London.

Improvements in public transport provision will be a core aspect in the regeneration of the borough. The house building programme in the south of the borough, particularly at Barking Riverside, will require new transport links. The East London Transit will be a guided bus route that will directly connect Barking Riverside with Barking station. The East London Transit may be upgraded to a tram service once the Barking Riverside development becomes more established. The Dockland Light Railway (DLR) is likely to be extended to Dagenham Dock station so as to provide a direct connection with the DLR system into the docklands.

The Council is committed to improving the integration of public transport systems across the borough so as to deliver seamless travel. Efforts will concentrate on the network interchanges - the transport hubs - where the best opportunities exist for ensuring synergy between rail and bus, or different bus routes. Both hard and soft measures can be utilised, such as better information provision, balancing of service timetables and better design of transport related street furniture.

**Policy 5B: The Council will work with partners to improve the integration and usability of public transport systems across the borough.**

**Action 5B(i):** The Council will seek to identify structural and social barriers to the use of public transport and to find ways to overcome these barriers.

**Action 5B(ii):** The Council will encourage its own employees to use public transport for work related journeys.

Buses cover all parts of the borough but are affected by general traffic levels. The London Bus Priority Network is a London-wide initiative which aims to provide a better bus service for passengers by improving the entire journey experience including waiting, bus accessibility and journey times. Bus priority schemes will be investigated and implemented in the borough. The Council will consider measures that help reduce congestion and thereby free-up the roads so that bus services can be fully effective and offer a reliable and competitive alternative to the car.

**Policy 5C:** The Council will consider bus priority schemes for the borough which will improve the speed and comfort of bus travel.

#### 2.6.4 Cycling and walking

Cycling and walking are both healthy and environmentally-sound means of travelling. 45% of all journeys are less than 2 miles - substituting cycling for short car journeys would produce a significant reduction in CO<sub>2</sub> emissions and would also offer considerable health and financial benefits to the borough's residents.

The Council is committed to encouraging walking for transport purposes, particularly through improvements to the street environment. The Council's Just Walk initiative has been effective in promoting the health benefits of walking to the borough's residents and the Council needs to build upon this success to promote the transport benefits of walking. The Council is also working with the borough's schools to encourage children to walk to school and there are a number of 'walking buses' established in the borough.

**Policy 5D:** The Council will seek to improve conditions for cyclists and pedestrians through its planning powers and encouraging employers to provide cycling facilities.

**Action 5D(i):** The Council will continue to encourage pupils to cycle and walk to school, through promoting safe routes to school and walking buses.

**Action 5D(ii):** The Council will build upon the success of the Just Walk initiative to promote the advantages and benefits of walking for transport purposes.

In the UK, cycling is perceived to be difficult, dangerous, uncomfortable and of low status whereas in other countries, such as The Netherlands, it is a key mode of transport. There are numerous barriers to cycling: cycle routes are frequently blocked by parked cars, covered in broken glass or discontinuous and there is a lack of storage and showering facilities at work. The borough's Cycling Strategy aims to increase cycling in the borough through improved facilities and safety for cyclists. The Council provides safety information and maps showing the borough's cycle routes on its website. The Council will also look to working with the London Cycling Network to implement strategic routes across the borough.

**Action 5D(iii):** The Council will use its planning powers to ensure that new developments provide cycling facilities and adequate access to public transport.

#### 2.6.5 Food Miles

Much of our food is transported extremely long distances by air, sea and road and there is a large carbon footprint associated with these food miles. Some ecological footprint studies have calculated that the energy consumption associated with food miles represents a surprisingly significant proportion of an individual's total energy use.

Food miles can be reduced through increased consumption of more locally, or at least nationally, produced food. The Council will work to promote locally grown food and

vegetable gardening in order to displace CO<sub>2</sub> emissions from transporting food and as a means to reduce packaging waste. An increase in vegetable consumption and the exercise from gardening also has significant health benefits, and it will link with efforts to increase composting under the Council's Sustainable Waste Management Strategy. The borough's residents have raised their interest in establishing local produce markets through the Local Neighbourhood Renewal Strategy. The Council will consider establishing local produce markets in the borough and encourage the use of gardens, allotments and city farms for growing local produce. The Parks and Green Spaces Strategy will also emphasis the health and environmental benefits of allotments and vegetable gardening.



## 2.7) Progressing Sustainable Heat And Power

### 2.7.1 Sustainable Heat And Power for Barking and Dagenham

The regeneration and population growth of the borough over the coming decades will place increasing demands upon energy services. Potential power shortages, due to an under-developed electricity wire network, are a key concern for much of the Thames Gateway area. The local generation of electricity - through combined heat and power systems and renewable energy - represents an effective and sustainable way of resolving this potential power shortage and of meeting an increasing power demand. Public sector investment will be needed in the energy supply and generation network for the key regeneration sites, and this represents an excellent opportunity for investing in low carbon generation technologies. In addition to the better established renewable energy and CHP technologies, hydrogen fuel cells are an emerging technology for heat and power generation, as well as transport. A well-established fuel cell in Woking town centre has been providing heat and power for a number of years.

**Strategic Objective 6: To substantially increase the amount of local power generated in Barking and Dagenham through renewable energy and combined heat and power**

**Policy 6A: The Council would like to meet any potential increase in the borough's electricity demand (due to regeneration and population growth) through local and on-site generation, using renewable energy and combined heat and power technologies.**

**Action 6A(i):** In the regeneration of the borough, the Council will encourage developers to meet power needs through local generation of electricity.

### 2.7.2 Combined Heat and Power

Combined Heat and Power (CHP) is a highly efficient way of supplying the mix of electricity and heat that houses and businesses require through generating both power and heat from the same fuel. Approximately 30% of the energy in the fuel is converted to electricity which is used in the local buildings with the excess supplied to the local grid. The rest of the energy content is converted to heat, which is supplied via hot water pipes to houses and offices. The heat can also be used to power air-conditioning systems in summer through absorptive-cooling technology.

The Government target is to double the use of CHP electricity generation by 2010 and the Mayor of London has also adopted this target for London. The Mayor of London introduces a 'heating hierarchy' in the London Plan which places CHP and community heating at the top, as the most sustainable (and low carbon) option, and conventional electric heating at the bottom.

**Policy 6B: The Council has adopted the Mayor of London's heating hierarchy and will encourage all developments to follow the hierarchy.**

The development of combined heat and power and community heating systems requires greater planning and upfront investment than conventional heating systems. The Council needs to use its planning powers and regeneration activity to drive forward, and facilitate the development of, CHP plants and community heat networks. Community heat networks should be incorporated in all development briefs and master plans for regeneration sites. As well as promoting CHP through its planning policies, the Council will do all it can to help developers and others to establish CHP and community heating networks, and to encourage other buildings to plug-into established networks.

**Policy 6C:** The Council will use its planning powers to promote combined heat and power and community heating, and where possible it will consider all public sector buildings as a base-load anchor for community heating networks.

**Action 6C(i):** The Council will actively encourage developers and commercial buildings to establish, and participate in, combined heat and power and community heating schemes.

**Action 6C(ii):** The Council will ensure that combined heat and power and district heating are considered for all housing developments in the borough.

### 2.7.3 Renewable Energy

The Government has set a target for 10% of electricity to be generated from renewable sources by 2010 and the Mayor of London has set 2010 targets for increasing solar water heating, photovoltaics and wind turbines in London.

When developed sensitively, renewable energy is a truly sustainable energy source that can provide continuous supplies of energy into the future. Although renewable energy currently contributes only a tiny fraction to London's energy needs, there is great scope for increasing the use of urban renewable energy. Smaller-scale urban renewable energy technologies can supply a significant proportion of a building's energy requirements.

These technologies include:

- **Biomass fuelled combined heat & power** and community heating – can supply whole neighbourhoods with renewable heat and electricity.
- **Solar water heating** – this can provide over 50% of a home's hot water needs;
- **Photovoltaic solar panels** – this can provide approx 50% of home's electricity needs;
- **Micro-wind turbines** – soon to be launched on the market, these can be fitted directly to the building to generate a significant proportion of a home's electricity requirements; and,
- **Ground sourced heat pumps** – this is an energy efficient way to heat a building electrically: the heat pump delivers three times the amount of heat output compared to the electricity input.

The Government's objective is for renewable energy to be the main energy source of the future. The incorporation of renewable energy technologies within the development of the Thames Gateway - and within Barking & Dagenham as a key area of the Thames Gateway - will be a key feature in making urban renewables a reality within the UK.

As outlined in section 2.1 the Mayor of London has set London renewable energy targets for 2010. When these London-wide targets are divided between the London borough's they correspond to borough 2010 targets of:

- 200 (or 450kWp) domestic photovoltaic applications (annual installation of 28),
- 8 (or 360kWp) commercial photovoltaic applications (annual installation of 1), and
- 760 solar water heating applications (annual installation of 108).

Although these are not particularly high numbers they nonetheless represent a significant increase on the present installation rate - which is close to zero. For this reason these are very challenging targets for the borough and the Council will need to consider how it can help deliver them. The Council has already signed-up to the Solar for London scheme which provides information and grants for householders to install solar water heating systems. The Mayor's London Renewables initiative has produced a 'toolkit' to help developers and planners calculate how they can incorporate renewable energy within buildings.

**Policy 6D:** The Council will work to ensure that Barking & Dagenham plays its role in delivering the Mayor of London's renewable energy technology targets for solar water heating, photovoltaics and wind turbines.

**Action 6D(i):** The Council will develop an Action Plan for delivering its share of the Mayor of London's renewable energy targets.

#### **2.7.4 Landmark Renewable Energy Developments in the Borough**

The large wind turbines at the Ford plant provide an excellent visible renewable energy landmark in the borough. The Council can best contribute to increasing the profile of renewable energy by purchasing its own electricity from green sources. The Council shall investigate the prospects for installing a large turbine on council land that supplies the Council's electricity.

The Millennium Centre at Eastbrookend Country Park and the Centre for Engineering and Manufacturing Excellence (CEME) at Rainham are great examples of energy efficient renewable energy demonstration buildings. There is substantial scope to further promote renewable energy in the borough, and to have a high profile demonstration building in a key location in the borough, such as Barking town centre.

**Policy 6E:** The Council will work to increase the number of high profile renewable energy schemes in the borough.

**Action 6E(ii):** The Council will ensure that there is another high profile, highly visible renewable energy demonstration building in the borough by 2010.

#### **2.7.5 Information and Advice**

There is advice and numerous sources of funding available for renewable energy, including:

- General and tailored advice on renewable energy technologies & grants is available to Barking & Dagenham residents and businesses from the North East London Energy Efficiency Advice Centre;
- Grants and advice on photovoltaics and solar water heating are available for householders and businesses from the Energy Saving Trust.

In addition, there are a number of renewable energy initiatives across London which aim to provide simple to use 'one-stop-shops' for householders and businesses to install renewable energy technologies. For example, Barking & Dagenham is a partner in the Solar for London scheme which promotes and facilitates the installation of solar water heating systems for householders.

**Policy 6F:** The Council will promote key sources of renewable energy advice and information to building owners and developers.

**Action 6F(i):** The Council will promote renewable energy initiatives such as the Solar for London scheme that help householders and businesses to install renewable energy technologies.

#### **2.7.6 Planning For Renewable Energy**

A key means by which the Council can encourage renewable energy is through its planning powers. Section 3.1 below outlines how renewable energy can be promoted through planning policy. The borough's planning policy should not only be generally supportive of renewable energy but also prescribe the need for renewable energy in developments. For example, the London Borough of Merton has a renewable energy policy in its Unitary

Development Plan which requires developments of 1,000 sq m or 10 dwellings or more to generate at least 10% of predicted energy requirements from on-site renewable energy.

**Policy 6G: The Council will use its planning powers to promote renewable energy within new developments and refurbishments in the borough.**

### **2.7.7 Facilitating Local Power Generation - Sustainable Energy Infrastructure**

In order to facilitate the increased local generation of electricity from CHP and renewable energy, the local wire network in Barking and Dagenham will need to be designed, with suitable levels of investment, for receiving electricity from large numbers of small and intermittent generators. The accommodation of local small-scale electricity generation within the local electricity networks is known as 'decentralised or embedded energy' and is vital to the development of CHP and renewable energy in London and the rest of the UK.

There is an excellent opportunity in the main regeneration sites, particularly those sites where the infrastructure is currently lacking such as Barking Riverside, to pioneer active local electricity networks which are capable of dynamically balancing large numbers of generators with consumers. In fact, the power network in Dagenham Dock and Barking Riverside is under-developed and will need substantial investment in order to facilitate the regeneration plans for the area. The electricity regulator, Ofgem, has suggested piloting 'Registered Power Zones' which focus on introducing new technologies into the local wire network in a particular geographical area so as to enable the integration of local generation.

In addition, energy supply companies can enable local generation by allowing customers with PV roofs to sell electricity back to the grid. Npower and Solar Century have produced a product package that enables householders to sell electricity back to the grid.

**Policy 6H: The Council supports the development of innovative local electricity networks which enable the local generation and distribution of power.**

**Action 6H(i):** The Council will work with the LDA, developers and the local electricity network operator to a Registered Power Zone ensure the development of a dynamic local network that facilitates local power generation from CHP and renewable energy.

**Action 6H(ii):** The Council will promote energy supply companies that offer two-way metering and purchase locally generated electricity at a fair & competitive price.

### **2.7.8 An Energy Services Company (ESCo) for Barking & Dagenham?**

The development of CHP, community heating and renewable energy requires an innovative approach to planning, financing and operational management/ maintenance. Installing the CHP and renewable energy infrastructure tends to require higher upfront investment than conventional approaches and the ownership and management of the infrastructure needs to be determined. Of course, the operational / user costs tend to be cheaper than the conventional, higher carbon approach.

An Energy Services Company (ESCo) can provide the business model for financing, constructing and maintaining CHP and renewable energy infrastructure. There are a number of ESCOs operating in the UK; the best known is Thamesway Energy Services which operates the Woking Town Centre community energy network. This public/ private joint venture not-for profit ESCo is part-owned by Woking Borough Council and escapes the capital controls that would be imposed on a purely local government company.

**Policy 6I: The Council will investigate the benefits of, and prospects for, establishing an ESCo in Barking and Dagenham to take forward high profile low carbon projects in the borough.**

## 2.8 Low Carbon Regeneration

### 2.8.1 Incorporating Sustainable Energy Infrastructure into Key Regeneration Areas

The majority of the borough's regeneration activity over the coming decades will facilitate the expected population increase in the borough of approximately sixty thousand people. Although the Energy Strategy's longer-term objective is to deliver the 2050 vision of a low carbon borough outlined in section 1.3, in the face of substantial population growth the key challenge in the short to medium term is to keep the resulting growth in the borough's energy consumption and CO<sub>2</sub> emissions to a minimum.

A business-as-usual approach to satisfying energy service requirements during the borough's growth would lead to substantial increases in the borough's energy consumption and CO<sub>2</sub> emissions. Regeneration activity in the borough will need to comprehensively incorporate low carbon features in order to contain this growth in CO<sub>2</sub> emissions.

The Council will need to establish a strategic approach to embedding low carbon priorities and practices within the key regeneration sites in the borough. A potential methodology is to undertake an initial energy study for these main sites and set a 'carbon target' to guide their regeneration and development.

**Strategic Objective 7: For the growth and regeneration of the borough over the coming decades to be low carbon.**

**Policy 7A: The Council will set 'carbon targets' for the borough's key regeneration sites.**

**Action 7A(i): The Council will undertake energy and carbon assessments at the outset for each of the main regeneration sites in order to inform a 'carbon target' for the regeneration process.**

### 2.8.2 Low Carbon Regeneration of Barking Town Centre

Of the key regeneration sites in the borough, major redevelopment activity will occur first in Barking town centre; the town centre regeneration will therefore need to provide the lead in embedding low carbon practices. Although a large number of dwellings will be demolished and replaced – which is a great opportunity for replacing them with better performing buildings – an additional 4000 new residential units will also be built in the town centre. With 4000 new residential units it is likely to be difficult to reduce energy consumption and CO<sub>2</sub> emissions across the town centre as a whole. The Council needs to obtain a better idea of how it can manage this potential growth in gas and electricity demand during the regeneration process.

Although the town centre's regeneration consists of a number of sites being taken forward separately, they will all follow a shared design code so as to deliver a coherent and improved environment for the town centre as a whole. However, there are also shared elements of a sustainable energy infrastructure which would need to be managed across all the individual sites, such as a community heat network. The Council needs to carry out a strategic assessment of the various options for reducing the carbon footprint of regeneration across the town centre as a whole.

**Policy 7B: The Council aims for a low carbon regenerated Barking Town Centre.**

**Action 7B(i):** The Council will undertake an energy assessment of Barking Town Centre's regeneration to evaluate the options for reducing carbon emissions and to inform a carbon target for the regeneration.

The regeneration of Barking town centre will involve the construction of a number of new high profile commercial and public buildings. As the key business and retail centre in the borough, Barking town centre should lead the way in demonstrating sustainable buildings. The redevelopment of public, commercial and residential buildings in the town centre should achieve high energy standards to visibly illustrate the borough's commitment to sustainable energy and addressing climate change.

### **2.8.3 Zero Carbon Developments**

The Beddington Zero (Fossil) Energy Development (BedZED) in Sutton, South London is a zero carbon development of approximately 80 flats. It achieves zero carbon status through its highly energy efficient design (extensive use of passive solar energy and extensive insulation levels from large concrete mass) and renewable energy (biomass fuelled) CHP plant.

In the London Energy Strategy the Mayor of London has stated his desire for a zero carbon development in every London borough by 2010. With the large amount of regeneration occurring within the borough, Barking & Dagenham is better placed than most London boroughs to take forward a zero carbon development. Indeed the Council has already engaged in discussions with relevant partner organisations about securing a zero carbon development in the borough.

**Policy 7C:** The Council will use its planning powers and regeneration activity to ensure that there is at least one zero carbon large mixed-use development under construction in the borough by 2010.

**Action 7C(i):** The Council will continue to work with potential zero carbon development partners to secure a zero carbon development in the borough.

### **2.8.4 An 'Energy Action Area' for Barking and Dagenham**

The London Energy Strategy outlined that the Mayor would like a number of Energy Action Areas to be established across London. He envisages these Energy Action Areas to, "act as showcase low-carbon communities, delivering a range of sustainable energy technologies across a number of applications". The Greater London Authority is further developing the concept of energy action areas and in the near future will look for partners and sites across London to practically take forward a select number of Energy Action Areas.

The extensive regeneration in the borough – covering both housing and industry - provides an excellent opportunity for establishing an Energy Action Area in the borough. The most effective Energy Action Areas will include mixed land use types where synergies can be developed across commercial and residential energy requirements. An area of great potential in the borough is south Dagenham where current arrangements and planned regeneration activity could deliver a number of high profile sustainable energy features in close proximity. These features include the Dagenham wind turbines, the Sustainable Industrial Park and the potential to harness large quantities of waste heat from Barking Power Station – and could be combined with a sustainable housing development.

**Policy 7D:** Barking and Dagenham will establish an Energy Action Area in one of its main regeneration sites that will demonstrate best practice in both sustainable energy use and production across mixed land use types.

**Action 7D(i):** The Council will work with the Greater London Authority and the London Energy Partnership to develop a framework plan for an Energy Action Area in the borough.



### **3 IMPLEMENTATION AND MONITORING**

#### **3.1 Delivery Through Strategic Planning and Regeneration**

##### **3.1.1 Sustainable Energy and Council Planning Policy**

One of the main tools available to the Council for encouraging a low carbon Barking and Dagenham is its planning powers. In its capacity as a local planning authority, the Council has the power to influence the structure of the built environment and new building design. The Council's planning department has to follow national and regional planning guidance, and in particular the Mayor's London Plan that was published 2004. The London Plan has 4 policies promoting low carbon buildings and the Mayor's office is in the process of producing a Supplementary Planning Document on Sustainable Design and Construction that will provide further guidance on the London Plan's sustainability policies. The Government is currently developing the 'Code for Sustainable Buildings' which will be a voluntary initiative encouraging developers and planners to implement higher environmental standards in the building industry.

The Council is beginning production of the Local Development Framework (LDF), which will replace the adopted Unitary Development Plan (UDP). The LDF is a requirement of the *Planning and Compulsory Purchase Act*, which commenced on 28 September 2004. The LDF is seen as a key document by Government in the delivery of the sustainable development agenda, and production of the LDF presents an excellent opportunity for encouraging low carbon developments in the borough. The LDF will be required to reflect the aspirations identified in the Barking and Dagenham Partnership Community Strategy, as well as embrace other Council strategies including this Energy Strategy. In incorporating low carbon policies in its LDF the Council will be following both national and regional planning guidance relating to the promotion of sustainable energy features in all new buildings and developments. The Council will also produce supplementary planning documents to provide further details and advice underlying the planning authority's policy on promoting a sustainable built environment.

**Strategic Objective 8: To promote the Sustainable Energy Strategy to all stakeholders and ensure the Strategy is implemented through planning policy and all other Council activities.**

<p><b>Policy 8A: The Council will incorporate a whole suite of low carbon objectives and policies into the Core Strategy and the development policies of the Local Development Framework.</b></p>
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Key low carbon policies that the Council should include in its LDF are:

- Highly energy efficient design and on-site electricity generation for all developments;
- The incorporation of renewable energy generation to provide at least 10% of major developments' (above a threshold of 1,000 sq m or 10 dwellings) predicted energy requirements.

##### **3.1.2 Regenerating the Borough**

In shaping Barking and Dagenham's regeneration, the Council has a great opportunity to implement low carbon policies so as to ensure energy efficiency and renewable energy are incorporated within the borough's built environment. The Council's Regeneration and Planning staff will need to ensure that they give a high priority to low carbon policies when implementing Council planning and regeneration policy.

The Council's Regeneration Strategy, and its continuous monitoring and review, is a key vehicle through which low carbon developments can be implemented and promoted.

**Policy 8B: The Council will ensure that low carbon developments are promoted and implemented through the delivery of its Regeneration Strategy.**

## 3.2 Monitoring Implementation of the Strategy

### 3.2.1 Partnership Working for Sustainable Energy

Barking and Dagenham can only take forward a more sustainable approach to energy, and thereby reduce carbon dioxide emissions, if all stakeholders work together to implement low carbon solutions. Each of the different council departments and divisions responsible for implementing this Strategy will need to work together in prioritising sustainable energy issues. The Council will provide leadership in implementing the Energy Strategy through demonstrating good practice in reducing its own energy use and ensuring low carbon regeneration of the borough. However, most energy use in the borough is out of the direct control of the Council and the Energy Strategy will only deliver success on the ground if it has buy-in from all other partners. The support and commitment of business and the general community, and from partner organisations in key sectors, such as developers and regeneration agencies, will be particularly important for achieving the targets in this Strategy.

### 3.2.2 Promoting the Energy Strategy

Awareness of sustainable energy issues is generally low amongst businesses and the general public. The delivery of a low carbon borough in the long-term will be dependent upon an increased awareness of climate change issues and the sustainable energy solutions outlined in this Strategy. The Council will produce a summary of this Energy Strategy which highlights the main sources of climate change emissions and the measures available for improving energy efficiency and increasing renewable energy use. This summary will be distributed to schools, businesses and the local community along with a simple guide outlining what residents can do to reduce their own impact.

**Policy 8C:** The Council will disseminate the key objectives of the Energy Strategy to residents and organisations in the borough and keep stakeholders informed of progress.

### 3.2.3 Ensuring Implementation of the Energy Strategy

Although the implementation of this strategy will be overseen by the Environmental Sustainability Team, its success will depend upon the contribution of a number of different council departments and divisions. It will be essential that these divisions embrace the Energy Strategy and embed its targets, objectives and policies within their own work programmes and action plans.

**Policy 8D:** The Council will review its internal structures and budgets to ensure effective delivery of the Energy Strategy policies and actions.

### Energy Strategy Steering Group

The Council will establish an Energy Strategy Steering Group consisting of these various council divisions to oversee the implementation of the Strategy. Each of the Policies and Actions within the Energy Strategy will be allocated to these divisions who will report on their implementation to the Energy Strategy Steering Group (see Appendix 1). The policies and actions in the Energy Strategy will be reviewed every year to assess progress and an annual progress report will be issued to the Council's Executive.

**Action 8D(i):** The Council will establish an Energy Strategy Steering Group to oversee the implementation of the Energy Strategy and provide an annual report to the Executive.

### Resource Implications of Implementing the Energy Strategy

The implementation of this Strategy will require increased council activity in operating energy efficiency programmes and promoting low carbon technologies and practices. Many

of the policies and actions may require some up-front investment either for initial capital outlay or additional staff resources. For example, the Energy Efficiency Action programme for the Council's building stock will require greater investment in energy efficiency hardware. However, this is an 'invest to save' programme and will deliver financial savings in the longer term through a lower electricity and gas bill. In addition, increasing the promotion of energy efficiency to the borough's households may require a new staff member to manage the marketing activity and the harnessing of available grants.

The potential resource implications associated with the delivery of each of the policies and actions will be assessed and incorporated within the numerous action plans that will be needed for the implementation of this Strategy. Ownership of these action plans and their resource implications will reside with the council division responsible for their implementation.

<p><b>Action 8D(ii):</b> The Council will determine the resource requirements associated with the delivery of each of the Energy Strategy's policies and actions.</p>
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## Appendix 1 - List of Policies and Actions

POLICY OR ACTION	RESPONSIBILITY
<b>Objective 1: To reduce carbon dioxide emissions in Barking and Dagenham by increasing energy efficiency and renewable energy use in the public sector, business, transport and homes.</b>	
<b>Policy 1A:</b> All Council policies affecting energy consumption will take the Energy Strategy into account.	All departments and divisions
<b>Policy 1B:</b> The Council will compile an accurate database of the borough's energy consumption and greenhouse emissions so as to measure the success of carbon reduction policies.	Environmental Sustainability
<b>Strategic Objective 2: The Council will lead by example in implementing best practice in sustainable energy throughout its activities.</b>	
<b>Policy 2A:</b> The Council will lead by example in implementing best practice in sustainable energy through implementing an energy efficiency action programme across the Council's building stock.	Construction Services (Energy Conservation)
<i>Action 2A(i): The Council will gather accurate data on the energy consumption of its building stock to establish a baseline for its energy efficiency action programme.</i>	Construction Services (Energy Conservation)
<i>Action 2A(ii): The Council will develop a work programme which outlines the planned energy efficiency measures, and required investment and expected financial savings, over the next 5 years.</i>	Construction Services (Energy Conservation)
<i>Action 2A(iii): The Council will establish a revolving energy efficiency investment fund for all council buildings that ring-fences and invests the money saved through reduced fuel consumption for further energy efficiency activity.</i>	Construction Services (Energy Conservation)
<i>Action 2A(iv): In response to Best Value Indicator 180, the Council will upgrade the energy performance of existing buildings so as to achieve the best practice benchmark standard for each type of building as described under the government's Action Energy programme.</i>	Construction Services (Energy Conservation)
<i>Action 2A(v): The Council will utilise the support provided by the Carbon Trust and the Action Energy programme to identify, and install, measures for reducing energy consumption across its buildings.</i>	Construction Services (Energy Conservation)
<b>Policy 2B:</b> The Council will actively promote energy efficiency to the borough's schools and work with them to upgrade their energy performance so as to achieve the best practice benchmark standards as described under the government's Action Energy programme.	Education, Arts & Libraries (Assets)/ Environmental Sustainability
<i>Action 2B(i): The Council will develop an action plan outlining how it will work with the borough's schools to improve their energy efficiency and reduce CO<sub>2</sub> emissions.</i>	Education, Arts & Libraries (Assets)/ Environmental Sustainability
<b>Policy 2C:</b> The Council will implement, and encourage external contractors to implement, measures to minimise carbon dioxide emissions from vehicle use.	Environmental Management

<i>Action 2C(i): The Council will consider adopting the Good Practice Guide GPG318 Transport and Environmental Management System as a guide for management of the vehicle fleet.</i>	Environmental Management
<i>Action 2C(ii): When purchasing new vehicles the Council will aim for the most energy efficient commercially available, favouring LPG or hybrid vehicles.</i>	Environmental Management
<i>Action 2C(iii): The Council will ensure that drivers of all Council owned vehicles and all essential car users receive appropriate training that highlights how to reduce fuel consumption.</i>	Environmental Management
<b>Policy 2D:</b> The Council will continue to purchase 100% green electricity and employ best practice technology for street lighting so as to minimise energy consumption.	Environmental Management
<i>Action 2D(i): The Council will implement a pilot project to install renewably powered street furniture.</i>	Environmental Management
<i>Action 2D(ii): The Council will ensure that renewably powered street furniture (including street lighting, solar bus shelters, street signs and parking ticket machines) is installed in key regeneration sites.</i>	Environmental Management/Regeneration
<b>Policy 2E:</b> The Council aims to increase the use of CHP and renewable energy in its buildings.	Construction Services/Regeneration/Planning
<i>Action 2E(i): The Council will seek to install CHP and renewable energy technologies whenever it is refurbishing its buildings and definitely when upgrading heating systems.</i>	Construction Services/Regeneration/Planning
<i>Action 2E(ii): Where possible the Council will help to provide an anchorage heat load for community heating networks.</i>	Environmental Sustainability/Planning
<i>Action 2E(iii): The Council will seek to establish a large scale wind turbine in the borough which supplies electricity directly to council offices.</i>	Environmental Sustainability/Planning
<b>Objective 3: To improve the energy efficiency of all Barking and Dagenham's housing to the highest possible level.</b>	
<b>Policy 3A:</b> The Council will aim for the highest feasible energy efficiency standard for the borough's housing. It will undertake a study to calculate the highest practicable energy rating that is achievable for the borough, and then develop an action plan for delivering this standard.	Housing
<i>Action 3A(i): The Council will evaluate the options for increasing the borough's SAP rating and calculate the highest feasible average SAP rating that could be attained in the borough.</i>	Housing
<i>Action 3A(ii): Based on the results of this study the Council will develop a long term energy efficiency programme to raise the energy performance of the borough's housing to the highest practicable level.</i>	Housing
<i>Action 3A(iii): The Council will consider the benefits of establishing a Barking &amp; Dagenham Energy Centre to facilitate and promote energy efficiency measures throughout the borough's housing.</i>	Environmental Sustainability/ Housing
<b>Policy 3B:</b> The Council supports the Government's target to eliminate fuel poverty by 2016 and will work with partners to meet	Housing/ Energy Conservation

this target in the borough.	
<b>Policy 3C:</b> The Council is committed to implementing the Decent Homes standard, which includes key energy efficiency measures, in all council housing by 2010.	Housing
<b>Policy 3D:</b> In the long term the Council aims for the highest feasible energy efficiency standards in its council housing. It will calculate the likely SAP rating that will be achieved through Decent Homes and assess the prospects for increasing this through additional measures.	Housing (Landlord Services)
<i>Action 3D(i): Based on the results of this study the Council will develop a long term energy efficiency programme to raise the energy performance of council housing to the highest practicable level.</i>	Housing (Landlord Services)
<b>Policy 3E:</b> The Council aims for the highest feasible energy efficiency standard for private housing in the borough and will undertake a study to calculate the highest energy rating that is achievable and then develop an action plan for delivering this standard.	Housing Strategy
<i>Action 3E(i): The Council will assess its current approach to promoting energy efficiency advice to private residents and consider options for increasing the profile and impact of energy efficiency activity in the borough.</i>	Housing Strategy/ Energy Conservation/ Environmental Sustainability
<i>Action 3E(ii): The Council will compile an action plan aimed at assisting and encouraging all owners and occupiers of private housing in the borough to implement energy efficiency measures.</i>	Housing Strategy/ Energy Conservation/ Environmental Sustainability
<i>Action 3E(iii): The Council will seek to maximise opportunities for partnership working with organisations implementing energy efficiency schemes so as to increase the range of energy efficiency schemes and resources operating in the borough.</i>	Housing Strategy/ Energy Conservation/ Environmental Sustainability
<b>Policy 3F:</b> The Council will promote solar water heating systems and other household renewables to the borough's residents.	Housing Strategy (Private Sector Housing)
<i>Action 3F(i): The Council will develop an Action Plan for achieving the Mayor of London's target for installing 760 solar water heating systems in the borough by 2010.</i>	Environmental Sustainability/ Housing Strategy
<b>Policy 3G:</b> The Council will aim for all new housing in the borough to achieve good practice in energy performance that goes beyond the minimum standards required by the Building Regulations.	Environmental Sustainability/ Planning/ Regeneration
<i>Action 3G(i): The Council will evaluate the carbon performance of homes under the proposed new Building Regulations and develop a definition of energy good practice for new housing in the borough.</i>	Environmental Sustainability
<b>Policy 3H:</b> The Council will work with its Housing Association partners to improve the energy performance of new affordable housing in the borough.	Housing Strategy
<i>Action 3H(i): The Council's Housing Strategy Division will work with</i>	Housing Strategy

<i>Housing Associations to ensure that new social housing in the borough achieves a higher sustainability standard than the standard Eco-Homes 'Good' rating required by the Housing Corporation.</i>	
<i>Action 3H(ii): The Council will work with Housing Association and development partners to develop a flagship low carbon mixed tenure housing development.</i>	Housing Strategy and Regeneration
<b>Objective 4: To increase business energy efficiency and renewable energy use across Barking and Dagenham</b>	
<b>Policy 4A:</b> The Sustainable Industrial Park will aim to showcase best practice in low carbon industrial processes and the development of innovative generation technologies.	Economic Development/ Environmental Sustainability
<i>Action 4A(i): The Council will work with the LDA and the other Dagenham Dock project partners to ensure that innovative sustainable energy technologies are utilised in the up-grade of the local power network.</i>	Environmental Sustainability
<b>Policy 4B:</b> The Council will encourage CHP systems as the means of providing heat & power for industrial processes in the borough and will encourage applications for new industrial buildings to include CHP.	Economic Development/ Environmental Sustainability
<i>Action 4B(i): The Council will produce a CHP information pack for developers that signposts sources of information and advice.</i>	Environmental Sustainability
<b>Policy 4C:</b> The Council will investigate the prospects for capturing waste heat from Barking Power Station so as to provide community heating for the borough's key regeneration sites.	Environmental Sustainability
<i>Action 4C(i): The Council will work with regeneration partners to evaluate the options for installing and managing community heating infrastructure in key regeneration sites.</i>	Environmental Sustainability
<i>Action 4C(ii): The Council will work with regeneration partners to encourage Barking Power to install CHP capacity in Barking Power Station.</i>	Environmental Sustainability
<b>Policy 4D:</b> The Council will encourage businesses in the borough to install energy efficiency measures to achieve reductions in energy consumption and increase renewable energy use.	Economic Development/ Environmental Sustainability
<i>Action 4D(i): In conjunction with the London Environment Centre, the Council will promote the Green Mark Award – which includes energy efficiency improvements - to the borough's businesses.</i>	Environmental Sustainability
<i>Action 4D(ii): The Council will help promote the Action Energy programme to businesses in the borough and encourage them to take advantage of cost effective energy efficiency measures.</i>	Economic Development/ Environmental Sustainability
<b>Policy 4E:</b> The Council will use its planning powers to encourage high energy efficiency standards, CHP and renewable energy in all new commercial and industrial premises.	Environmental Sustainability/ Planning/ Regeneration
<b>Policy 4F:</b> The borough will work with partners to have at least one	Regeneration



showcase low carbon commercial building by 2010.	
<b>Objective 5: To reduce road traffic growth across the borough</b>	
<b>Policy 5A:</b> The Council supports the objectives and targets in the Mayor of London's Transport Strategy and will introduce measures aimed at reducing growth in road traffic through its Local Implementation Plan.	Strategic Transport
<i>Action 5A(i): The Council will build upon the Thames Gateway Car Share scheme through the introduction of additional measures to promote car sharing.</i>	Strategic Transport
<i>Action 5A(ii): The Council will produce a Travel Plan in relation to its employees travel requirements in order to minimise private vehicle use and to maximise public transport and cycle use.</i>	Strategic Transport
<i>Action 5A(iii): The Council will continue to help businesses to develop Travel Plans.</i>	Strategic Transport
<i>Action 5A(iv): The Council will continue to use its planning powers to restrict car parking spaces and to help minimise commuter distances through encouraging mixed residential and business areas.</i>	Planning
<b>Policy 5B:</b> The Council will work with partners to improve the integration and usability of public transport systems across the borough.	Strategic Transport
<i>Action 5B(i): The Council will seek to identify structural and social barriers to the use of public transport and to find ways to overcome these barriers.</i>	Strategic Transport
<i>Action 5B(ii): The Council will encourage its own employees to use public transport for work related journeys.</i>	Strategic Transport
<b>Policy 5C:</b> The Council will consider bus priority schemes for the borough which will improve the speed and comfort of bus travel.	Strategic Transport
<b>Policy 5D:</b> The Council will seek to improve conditions for cyclists and pedestrians through its planning powers and encouraging employers to provide cycling facilities.	Strategic Transport
<i>Action 5D(i): The Council will continue to encourage pupils to cycle and walk to school, through promoting safe routes to school and walking buses.</i>	Strategic Transport
<i>Action 5D(ii): The Council will build upon the success of the Just Walk initiative to promote the advantages and benefits of walking for transport purposes.</i>	Strategic Transport
<i>Action 5D(iii): The Council will use its planning powers to ensure that new developments provide cycling facilities and adequate access to public transport.</i>	Planning
<b>Objective 6: To substantially increase the amount of local power generated in Barking and Dagenham through renewable energy and combined heat and power systems</b>	
<b>Policy 6A:</b> The Council would like to meet any potential increase in the borough's electricity demand (due to regeneration and population growth) through local and on-site generation, using	Regeneration/ Planning/ Environmental

renewable energy and combined heat and power technologies.	Sustainability
<i>Action 6A(i): In the regeneration of the borough, the Council will encourage developers to meet power needs through local generation of electricity.</i>	Regeneration/ Planning/ Environmental Sustainability
<b>Policy 6B:</b> The Council has adopted the Mayor of London's heating hierarchy and will encourage all developments to follow the hierarchy.	Regeneration/ Planning
<b>Policy 6C:</b> The Council will use its planning powers to promote combined heat and power and community heating, and where possible it will consider all public sector buildings as a base-load anchor for community heating networks.	Planning/ Regeneration
<i>Action 6C(i): The Council will actively encourage developers and commercial buildings to establish, and participate in, combined heat and power and community heating schemes.</i>	Planning/ Regeneration
<i>Action 6C(ii): The Council will ensure that combined heat and power and district heating are considered for all housing developments in the borough.</i>	Planning/ Regeneration
<b>Policy 6D:</b> The Council will work to ensure that Barking & Dagenham plays its role in delivering the Mayor of London's renewable energy technology targets for solar water heating, photovoltaics and wind turbines.	Environmental Sustainability
<i>Action 6D(i): The Council will develop an Action Plan for delivering its share of the Mayor of London's renewable energy targets.</i>	Environmental Sustainability
<b>Policy 6E:</b> The Council will work to increase the number of high profile renewable energy schemes in the borough.	Environmental Sustainability
<i>Action 6E(i): The Council will seek to establish a large scale wind turbine in the borough which supplies electricity directly to council offices.</i>	Environmental Sustainability
<i>Action 6E(ii): The Council will ensure that there is another high profile, highly visible renewable energy demonstration building in the borough by 2010.</i>	Environmental Sustainability/ Regeneration
<b>Policy 6F:</b> The Council will promote key sources of renewable energy advice and information to building owners and developers.	Environmental Sustainability
<i>Action 6F(i): The Council will promote renewable energy initiatives such as the Solar for London scheme that help householders and businesses to install renewable energy technologies.</i>	Environmental Sustainability
<b>Policy 6G:</b> The Council will use its planning powers to promote renewable energy within new developments and refurbishments in the borough.	Planning/ Regeneration
<b>Policy 6H:</b> The Council supports the development of innovative local electricity networks which enable the local generation and distribution of power.	Regeneration/ Planning
<i>Action 6H(i): The Council will work with the LDA, developers and the local electricity network operator to a Registered Power Zone ensure the development of a dynamic local network that facilitates local power generation from CHP and renewable energy.</i>	Environmental Sustainability/ Regeneration

<i>Action 6H(ii): The Council will promote energy supply companies that offer two-way metering and purchase locally generated electricity at a fair &amp; competitive price.</i>	Environmental Sustainability
<b>Policy 6I:</b> The Council will investigate the benefits of, and prospects for, establishing an ESCo in Barking and Dagenham to take forward high profile low carbon projects in the borough.	Environmental Sustainability/Regeneration
<b>Objective 7: For the growth and regeneration of the borough over the coming decades to be low carbon</b>	
<b>Policy 7A:</b> The Council aims for the growth and regeneration of the borough over the coming decades to be low carbon.	Regeneration
<b>Policy 7B:</b> The Council will set 'carbon targets' for the borough's key regeneration sites.	Regeneration
<i>Action 7B(i): The Council will undertake energy and carbon assessments at the outset for each of the main regeneration sites in order to inform a 'carbon target' for the regeneration process.</i>	Environmental Sustainability/Regeneration
<b>Policy 7C:</b> The Council aims for a low carbon regenerated Barking Town Centre.	Regeneration
<i>Action 7C(i): The Council will undertake an energy assessment of Barking Town Centre's regeneration to evaluate the options for reducing carbon emissions and to inform a carbon target for the regeneration.</i>	Environmental Sustainability/Regeneration
<b>Policy 7D:</b> The Council will use its planning powers and regeneration activity to ensure that there is at least one zero carbon large mixed-use development under construction in the borough by 2010.	Regeneration/ Planning/ Environmental Sustainability
<i>Action 7D(i): The Council will continue to work with potential zero carbon development partners to secure a zero carbon development in the borough.</i>	Regeneration/ Environmental Sustainability
<b>Policy 7E:</b> Barking and Dagenham will establish an Energy Action Area in one of its main regeneration sites that will demonstrate best practice in both sustainable energy use and production across mixed land use types.	Environmental Sustainability/Regeneration
<i>Action 7E(i): The Council will work with the Greater London Authority and the London Energy Partnership to develop a framework plan for an Energy Action Area in the borough.</i>	Environmental Sustainability
<b>Objective 8: To promote the Sustainable Energy Strategy to all stakeholders and ensure the Strategy is implemented through planning policy and all other Council activities</b>	
<b>Policy 8A:</b> The Council will incorporate a whole suite of low carbon objectives and policies into the Core Strategy and the development policies of the Local Development Framework.	Planning
<b>Policy 8B:</b> The Council will ensure that low carbon developments are promoted and implemented through the delivery of its	Regeneration

Regeneration Strategy.	
<b>Policy 8C:</b> The Council will disseminate the key objectives of the Energy Strategy to residents and organisations in the borough and keep stakeholders informed of progress.	Environmental Sustainability
<b>Policy 8D:</b> The Council will review its internal structures and budgets to ensure effective delivery of the Energy Strategy policies and actions.	
<i>Action 8D(i): The Council will establish an Energy Strategy Steering Group to oversee the implementation of the Energy Strategy and provide an annual report to the Executive.</i>	Environmental Sustainability
<i>Action 8D(ii): The Council will consider the resource requirements associated with the delivery of each of the Energy Strategy's policies and actions.</i>	All departments and divisions

## Appendix 2 - Glossary of Terms

TERM	DESCRIPTION
Carbon Dioxide (CO <sub>2</sub> )	The main greenhouse gas responsible for climate change. It is produced during the combustion of fossil fuels. Although CO <sub>2</sub> is the main waste product of respiration in all plants and animals, the combustion of fossil fuels has disturbed the global carbon cycle and CO <sub>2</sub> is now building up in the atmosphere.
Climate Change	The warming of the atmosphere, due to increased levels of greenhouse gases, is causing the world's climate to change. A higher global temperature will cause changes in rainfall patterns, regional temperatures, storm activity and sea-level rise.
Climate Change Levy	A tax on business use of energy, it is levied on the carbon content of fuels and is highest for electricity, then coal, then oil and then gas.
Combined Heat and Power (CHP)	Combined heat and power stations generate and distribute heat at the same time as generating electricity. Through using the same fuel to generate both heat and power, it is an efficient way of using fossil fuels.
Community Heating	Also known as district heating this involves distributing heat (through hot water pipes) from a central generating plant to many local buildings. In conjunction with CHP it is an energy efficient and flexible form of heating.
Energy Action Area	The Mayor of London promotes Energy Action Areas – geographical areas which showcase low carbon communities and sustainable energy technologies.
Energy Efficiency Commitment (EEC)	The EEC is a government commitment obliging the energy supply companies to invest in energy efficiency improvements (insulation measures) in housing.
Energy Hierarchy	An environmental hierarchy for energy: use less energy, use renewable energy and supply energy efficiently.
Energy Services Company (ESCO)	ESCOs provide the whole energy service and concentrate on improving energy efficiency (such as better insulation) as well as providing fuel & electricity supply. ESCOs can also build and operate community heating networks.
Food Miles	The total distance that food is transported (including food processing) in order to get to your supermarket and dinner plate.
Fuel Poverty	Households who spend 10% or more of their income on trying to heat their home are considered to be living in fuel poverty – mainly caused by draughty and poorly insulated houses as well as low incomes.
Green Mark	An environmental scheme for businesses, the Green Mark is awarded to businesses who undertake a programme of actions to reduce their environmental impact.
Greenhouse Gases	The 6 gases which accumulate in the upper atmosphere and trap infra-red energy thereby causing global warming and resulting climate change. The six greenhouse gases are carbon dioxide, methane, nitrous oxide, chlorofluorocarbons (CFCs), perfluorocarbons (PFCs) and sulphur hexafluoride.
Ground-sourced Heat Pumps	An energy efficient heating technology which utilises the warmth stored underground to heat buildings.

Heating Hierarchy	The Mayor of London's environmental hierarchy for heating buildings: passive solar design followed by solar water heating, then combined heat & power and community heating, then heat pumps and then gas condensing boilers (individual boilers).
Intergovernmental Panel on Climate Change (IPCC)	The international research body studying the causes and effects of climate change – have come to a robust consensus that the burning of fossil fuels is causing the world's climate to change.
Kyoto Protocol	The international agreement to begin reducing greenhouse gas emissions. The USA has now opted out of this agreement but it is still in force amongst the rest of the world's developed nations.
Local Development Framework (LDF)	The new approach to local planning, this framework will set the policy and guidance for local regeneration – it is currently under development in Barking & Dagenham.
Nottingham Declaration on Climate Change	A voluntary commitment amongst local authorities to reduce greenhouse gases and carbon dioxide emissions in their areas – Barking and Dagenham Council is signed up to this declaration.
Photovoltaic cells (PV)	Also known as solar power panels, these are placed on roofs and walls and generate electricity which is fed directly into the building – the electricity can also be sold to the grid.
Renewable Energy	Energy that is naturally available in the environment and is replenished at a rate even to, or greater than, that at which is utilised. Put another way, they are energy sources that can last forever, such as wind, solar, biomass, hydro, wave and tidal.
Solar Water Heating	These roof-mounted systems use the sun to provide hot water and can typically meet 50% of a household's hot water needs.
Standard Assessment Procedure (SAP)	This assessment method for calculating the energy efficiency of housing provides a rating between 1 (very poor) and 120 (very efficient).
Sustainable Industrial Park	The Sustainable Industrial Park is planned for the Dagenham Dock industrial site – it will showcase sustainable industries, such as reuse & recycling processes and sustainable energy.
United Nations Framework Convention on Climate Change	The international convention for addressing climate change – the Kyoto Protocol was agreed, and will be monitored, under this convention.
Warm Front	A means-tested national fuel poverty grant scheme for fuel poor households.

### **Appendix 3 - References**

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## Appendix 4 - External Funding Sources of Relevance to the Energy Strategy

POLICY AREA	FUNDING SOURCE
<b>Energy Efficiency</b>	<p><b>Warm Front</b> Warm Front is the Government's main grant-funded programme for tackling fuel poverty providing grants of up to £1,500 for insulation and improved heating systems for eligible households. Larger grants are available to householders who are over 60 and receive an income-related benefit.</p> <p><b>EU - Directorate-General For Environment</b> <a href="http://www.europa.eu.int/comm/environment/index_en.htm">www.europa.eu.int/comm/environment/index_en.htm</a> <b>Call for proposals in the field of environmental awareness and media</b> The overall aims of this programme are to improve the information available to the general public and to raise awareness level in relation to environmental protection and create partnerships at a European level and to promote an efficient ecological approach to economic activities. Climate Change is one of four priority areas for funding. There are calls for proposals each year.</p> <p><b>EU - Directorate-General for Energy and Transport</b> <b>Intelligent Energy for Europe (EIE)</b> <a href="http://www.europa.eu.int/comm/energy/intelligent/index_en.html">www.europa.eu.int/comm/energy/intelligent/index_en.html</a> 'Intelligent Energy – Europe' is the EU support programme for non-technological actions in the fields of energy efficiency and renewable energy. The duration of the programme is from 2003-2006 and is structured into four fields including SAVE the improvement of energy efficiency, in particular in the building and industry sectors.</p>
<b>Combined Heat and Power</b>	<p><b>Community Energy Programme</b> <a href="http://www.est.org.uk/communityenergy/">www.est.org.uk/communityenergy/</a> The Community Energy programme provides grant support for combined heat and power and community heating schemes in the public sector across the UK. 'Development grants' are available for undertaking feasibility studies and business plans, and 'capital grants' are available for funding the capital costs of implementing a community heating scheme.</p> <p><b>Bio-energy Capital Grants Scheme</b> <a href="http://www.dti.gov.uk/energy/renewables/support/capital_grants.shtml">www.dti.gov.uk/energy/renewables/support/capital_grants.shtml</a> This is a £30 million DTI programme to encourage the efficient use of biomass, and particularly energy crops, for energy production by stimulating the early deployment of biomass fuelled heat and electricity generation projects. The scheme is supported by the New Opportunities Fund, which provided around £33 million for energy crops' power generation and £3 million for small-scale biomass/CHP projects. This programme is currently being reviewed.</p>
<b>Renewable Energy</b>	<p><b>Clear Skies</b> <a href="http://www.clear-skies.org/">www.clear-skies.org/</a> The government's Clear Skies programme provides renewable energy grants for householders and communities of up to £5000 and £100,000 respectively. Grants are available for solar thermal, wind turbines, micro/small scale hydro turbines, ground source heat pumps, room heaters/stoves with automated wood pellet feed and wood fuelled boiler systems.</p>



	<p><b>Major Photovoltaics Demonstration Programme</b>  <a href="http://www.est.co.uk/solar/">www.est.co.uk/solar/</a>                  A government funded programme for solar panels (photovoltaic – PV) providing grants of between 40 and 60 per cent towards the installation of solar electricity equipment, for householders, businesses or social housing groups. The current funding programme ends in early 2005.</p> <p><b>Bio-energy Capital Grants Scheme</b>  <a href="http://www.dti.gov.uk/energy/renewables/support/capital_grants.shtml">http://www.dti.gov.uk/energy/renewables/support/capital_grants.shtml</a>                  This is a £30 million DTI programme to encourage the efficient use of biomass, and particularly energy crops, for energy production by stimulating the early deployment of biomass fuelled heat and electricity generation projects. The scheme is supported by the New Opportunities Fund, which provided around £33 million for energy crops' power generation and £3 million for small-scale biomass/CHP projects. This programme is currently being reviewed.</p> <p><b>Energy Crops Scheme</b>  <a href="http://www.defra.gov.uk/erdp/schemes/energy/default.htm">www.defra.gov.uk/erdp/schemes/energy/default.htm</a>                  The energy crops scheme provides grants for landowners to grow crops such as short rotation coppice and miscanthus for heat, CHP and electricity generation. The scheme, which has £29m available, will run until 2006.</p> <p><b>EU - Directorate-General for Energy and Transport                  Intelligent Energy for Europe (EIE)</b>  <a href="http://www.europa.eu.int/comm/energy/intelligent/index_en.html">www.europa.eu.int/comm/energy/intelligent/index_en.html</a>                  'Intelligent Energy – Europe' is the EU support programme for non-technological actions in the fields of energy efficiency and renewable energy. The duration of the programme is from 2003-2006 and is structured into four fields including ALTENER the promotion of new and renewable energy sources for electricity and heat and their integration into local energy systems.</p>
<p><b>Transport</b></p>	<p><b>PowerShift</b> <a href="http://www.transportenergy.org.uk/grantsavailable/powershift/">www.transportenergy.org.uk/grantsavailable/powershift/</a>                  The PowerShift programme provides grants for both individual motorists and fleet managers towards the additional cost of buying a new cleaner vehicle or converting an existing vehicle to run on cleaner fuels. liquefied petroleum gas (LPG), natural gas, electric and hybrid vehicles.</p> <p><b>CleanUp</b> <a href="http://www.transportenergy.org.uk/grantsavailable/cleanup/">www.transportenergy.org.uk/grantsavailable/cleanup/</a>                  The Clean-Up grant programme assists with the fitting of emission reduction technologies to commercial and public sector diesel vehicles over 3.5 tonnes.</p> <p><b>New Vehicle Technology Fund</b>  <a href="http://www.transportenergy.org.uk/grantsavailable/vehicletechnologyfund/">www.transportenergy.org.uk/grantsavailable/vehicletechnologyfund/</a>                  The New Vehicle Technology Fund is designed to help demonstrate innovative emission reduction technologies through 50% funding of the preparation of new technology vehicles or engines to take part in demonstration projects. Examples of the technologies that are currently being funded include diesel electric series hybrids, long range electric vehicles, hydrogen powered vehicles and light weight vehicles</p> <p><b>Low carbon bus challenge</b></p>

	<p><a href="http://www.transportenergy.org.uk/grantsavailable/vehicletechnologyfund/lowcarbon/">www.transportenergy.org.uk/grantsavailable/vehicletechnologyfund/lowcarbon/</a> The primary purpose of the Low Carbon Bus Programme is to provide grants to support fleets of low carbon buses to demonstrate their performance, reliability, operating costs and effectiveness across a range of routes. Applications should be made jointly by consortia of bus manufacturers and operators. However, other interested parties such as local authorities may also wish to join consortia.</p> <p><b>EU - Directorate-General for Energy and Transport Intelligent Energy for Europe (EIE)</b> <a href="http://www.europa.eu.int/comm/energy/intelligent/index_en.html">www.europa.eu.int/comm/energy/intelligent/index_en.html</a> 'Intelligent Energy – Europe' is the EU support programme for non-technological actions in the fields of energy efficiency and renewable energy. The duration of the programme is from 2003-2006 and is structured into four fields including STEER the support for initiatives relating to all energy aspects of transport, the diversification of fuels, such as through new developing and renewable energy sources, and the promotion of renewable fuels (biofuels) and energy efficiency in transport.</p>
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BARKING AND DAGENHAM SUSTAINABLE ENERGY STRATEGY

IMPLEMENTING POLICIES AND ACTIONS

Objective 1: To reduce carbon dioxide emissions in Barking and Dagenham by increasing energy efficiency and renewable energy use in the public sector, business, transport and homes.				
Policy or Action	Lead	Target	Actual	Resource Implication
<b>Policy 1A:</b> All Council policies affecting energy consumption will take the Energy Strategy into account.	All departments and divisions	Energy Strategy referenced in key documents		None, or not quantifiable.
<b>Policy 1B:</b> The Council will compile an accurate database of the Borough's energy consumption and greenhouse emissions so as to measure the success of carbon reduction policies.	Environmental Sustainability	Complete CO <sub>2</sub> database by September 2005		£25k to pay for the database software and for the consultant's time

Objective 2: The Council will lead by example in implementing best practice in sustainable energy throughout its activities.

Objective 2: The Council will lead by example in implementing best practice in sustainable energy throughout its activities.				
Policy or Action	Lead	Target	Actual	Resource Implication
<b>Policy 2A:</b> The Council will lead by example in implementing best practice in sustainable energy through implementing an energy efficiency action programme across the Council's building stock.	Environmental Sustainability/ Asset Management	Energy efficiency action programme to commence by August 2005		<ul style="list-style-type: none"> <li>For Asset Management (Energy Conservation) to determine.</li> <li>See bullet points in associated Actions below.</li> </ul>

<p><b>Action 2A(i):</b> The Council will gather accurate data on the energy consumption of its building stock to establish a baseline for its energy efficiency action programme.</p>	<p>Environmental Sustainability/ Asset Management</p>	<p>Energy audits of sample buildings by June 2005</p>	<p>Initial consultancy fees for energy audit.</p>
<p><b>Action 2A(ii):</b> The Council will develop a work programme which outlines the planned energy efficiency measures, and required investment and expected financial savings, over the next five years.</p>	<p>Environmental Sustainability/ Asset Management</p>	<p>Develop business plan for 'energy efficiency action programme' by July 2005</p>	<p>Staff time in writing business plan</p>
<p><b>Action 2A(iii):</b> The Council will establish a revolving energy efficiency investment fund for all council buildings that ring-fences and invests the money saved through reduced fuel consumption for further energy efficiency activity.</p>	<p>Environmental Sustainability/ Asset Management</p>	<p>Report to Executive by August 2005</p>	<ul style="list-style-type: none"> <li>Up to Council to decide - Redbridge invest 200k each year</li> <li>Financial system needs to allow investment of fuel bill savings in further efficiency measures</li> </ul>
<p><b>Action 2A(iv):</b> In response to Best Value Indicator 180, the Council will upgrade the energy performance of existing buildings so as to achieve the best practice benchmark standard for each type of building as described under the government's Action Energy programme.</p>	<p>Asset Management (Energy Conservation)</p>	<p>Incorporate benchmark standard objectives within the business plan</p>	<p>None – costs covered by the actions above.</p>
<p><b>Action 2A(v):</b> The Council will utilise the support provided by the Carbon Trust and the Action Energy programme to identify, and install, measures for reducing energy consumption across its buildings.</p>	<p>Asset Management (Energy Conservation)</p>	<p>Utilise Action Energy in developing business plan</p>	<p>None but should bring resources into Council to help with above actions.</p>
<p><b>Policy 2B:</b> The Council will actively promote energy efficiency to the Borough's schools and work with them to upgrade their energy performance so as to achieve the best practice benchmark standards as described under the government's Action Energy programme.</p>	<p>Environmental Sustainability/ Education, Arts &amp; Libraries (Assets)</p>	<p>Covered by Actions below</p>	<ul style="list-style-type: none"> <li>Development &amp; promotion of energy efficiency - costs staff time &amp; leaflets</li> <li>Investment Capital needed for each school – external funds or from school itself?</li> </ul>

<i>Action 2B(i): The Council will develop an action plan outlining how it will work with the Borough's schools to improve their energy efficiency and reduce CO<sub>2</sub> emissions.</i>	Environmental Sustainability/ Education, Arts & Libraries (Assets)	Develop business plan for school energy efficiency programme by August 2005	Staff time - Research suitable approaches to providing energy efficiency advice to schools
<b>Policy 2C:</b> The Council will implement a range of measures to minimise carbon dioxide emissions from its vehicle fleet.	Environmental Management		This is happening anyway (already in Environmental Management work programme)
<i>Action 2C(i): The Council will consider adopting the Good Practice Guide GPG318 Transport and Environmental Management System as a guide for management of the vehicle fleet.</i>	Environmental Management	Adopt the GPG318 by July 2005	This is happening anyway (already in work programme)
<i>Action 2C(ii): When purchasing new vehicles the Council will aim for the most energy efficient, commercially available, favouring Liquid Petroleum Gas (LPG) or hybrid vehicles.</i>	Environmental Management	Environmental purchasing policy written by August 2005	This is happening anyway (already in work programme)
<i>Action 2C(iii): The Council will ensure that drivers of all Council owned vehicles and all essential car users receive appropriate training that highlights how to reduce fuel consumption.</i>	Environmental Management	Timetable of training schedule for all drivers by September 2005	
<b>Policy 2D:</b> The Council employs best practice technology for street lighting so as to minimise energy consumption.	Environmental Management	Covered by Actions below	Already in work programme
<i>Action 2D(i): The Council will implement a pilot project to install renewably powered street furniture.</i>	Environmental Management	Business plan for pilot project produced by September 2005	Unknown at this stage – Environmental Management to determine
<i>Action 2D(ii): The Council will ensure that renewably powered street furniture (including street lighting, solar bus shelters, street signs and parking ticket machines) is installed in key regeneration sites.</i>	Environmental Management/ Regeneration	Renewably-powered street furniture policy (incorporated in the Barking Code) ready by August 2005	Unknown at this stage
<b>Policy 2E:</b> The Council aims to increase the use of combined heat and power and renewable energy in its buildings.	Asset Management/ Regeneration/ Planning	Covered by Actions below	Unknown at this stage

<i>Action 2E(i): The Council will seek to install CHP and renewable energy technologies whenever it is refurbishing its buildings and definitely when upgrading heating systems.</i>	Asset Management / Regeneration / Planning	Asset Management to produce CHP & renewables policy by September 2005	The extra cost to a construction project of CHP/ renewable energy will vary on a site by site basis and will be paid for under specific scheme
<i>Action 2E(ii): Where possible the Council will help to provide an anchorage heat load for community heating networks.</i>	Asset Management / Regeneration	See Target above	Will require increased investment in public construction projects
<i>Action 2E(iii): The Council will seek to establish a large scale wind turbine in the Borough which supplies electricity directly to council offices.</i>	Environmental Sustainability	Feasibility assessment by September 2005	None – other than staff time overseeing contract development

**Objective 3: To improve the energy efficiency of all Barking and Dagenham's housing to the highest possible level.**

Policy or Action	Lead	Target	Actual	Resource Implication
<b>Policy 3A:</b> The Council will aim for the highest feasible energy efficiency standard for the Borough's housing. It will undertake a study to calculate the highest practicable energy rating that is achievable for the Borough and then develop an action plan for delivering this standard.	Housing	Covered by Actions below		Housing to determine
<i>Action 3A(i): The Council will evaluate the options for increasing the Borough's standard assessment procedure (SAP) rating and calculate the highest feasible average SAP rating that could be attained in the borough.</i>	Housing	<ul style="list-style-type: none"> <li>Terms of Reference for Housing energy efficiency study to be agreed by July 2005</li> <li>Study to be completed by December 2005</li> </ul>		<ul style="list-style-type: none"> <li>Consultant to develop options for efficiency improvements</li> <li>Study to be split into two –social &amp; private housing</li> </ul>
<i>Action 3A(ii): Based on the results of this study the Council will develop a long term energy efficiency programme to raise the energy performance of the Borough's housing to the highest practicable level.</i>	Housing	Housing energy efficiency programme plan completed by March 2006		See cost in policy above

<b>Action 3A(iii):</b> <i>The Council will consider the benefits of establishing a Barking &amp; Dagenham Energy Centre to facilitate and promote energy efficiency measures throughout the Borough's housing.</i>	Environmental Sustainability/ Housing	Energy efficiency programme plan completed by March 2006 – case for Energy Centre to be evaluated in plan	Staff time and consultant study to assess benefits of an Energy Centre
<b>Policy 3B:</b> The Council supports the Government's target to eliminate fuel poverty by 2016 and will work with partners to meet this target in the Borough.	Housing/ Energy Conservation	Already covered through Council support of the Warm Zone scheme	Already covered through Council support of the Warm Zone scheme
<b>Policy 3C:</b> The Council is committed to implementing the Decent Homes standard, which includes key energy efficiency measures, in all council housing by 2010.	Housing	This is a core policy of the Housing Strategy.	Already/ Will be funded
<b>Policy 3D:</b> In the long term the Council aims for the highest feasible energy efficiency standards in its council housing. It will calculate the likely SAP rating that will be achieved through Decent Homes and assess the prospects for increasing this through additional measures.	Housing (Landlord Services)	See target under Action 3A(i) above	Consultant to develop options for efficiency improvements
<b>Action 3D(i):</b> <i>Based on the results of this study the Council will develop a long term energy efficiency programme to raise the energy performance of council housing to the highest practicable level.</i>	Housing (Landlord Services)	See target under Action 3A(ii) above	Staff time/ consultant cost in developing programme
<b>Policy 3E:</b> The Council aims for the highest feasible energy efficiency standard for private housing in the Borough and will undertake a study to calculate the highest energy rating that is achievable and then develop an action plan for delivering this standard.	Housing Strategy	See targets under Action 3A(i) and 3A(ii) above	Consultant to develop options for efficiency improvements
<b>Action 3E(i):</b> <i>The Council will assess its current approach to promoting energy efficiency advice to private residents and consider options for increasing the profile and impact of energy efficiency activity in the Borough.</i>	Housing Strategy/ Energy Conservation/ Environmental Sustainability	See target under Action 3A(iii) above	Staff time/ consultant cost in developing programme

<p><i>Action 3E(ii): The Council will compile an action plan aimed at assisting and encouraging all owners and occupiers of private housing in the Borough to implement energy efficiency measures.</i></p>	<p>Housing Strategy/ Energy Conservation/ Environmental Sustainability</p>	<p>See target under Action 3A(iii) above</p>	<ul style="list-style-type: none"> <li>• Staff time and research</li> <li>• Development of action plan requires staff time</li> <li>• Implementation of action plan may require substantial resources, e.g. new staff, marketing</li> </ul>
<p><i>Action 3E(iii): The Council will seek to maximise opportunities for partnership working with organisations implementing energy efficiency schemes so as to increase the range of energy efficiency schemes and resources operating in the Borough.</i></p>	<p>Housing Strategy/ Energy Conservation/ Environmental Sustainability</p>	<p>Business plan to increase private housing energy efficiency activity to include promotion of more funding schemes – by March 2006</p>	<p>Staff time - but pulls in extra resources</p>
<p><b>Policy 3F:</b> The Council will promote solar water heating systems and other household renewables to the Borough's residents.</p>	<p>Housing Strategy (Private Sector Housing)</p>	<p>Covered by Action below</p>	<p>Already doing this, but may need increased promotional costs.</p>
<p><i>Action 3F(i): The Council will develop an Action Plan for achieving the Mayor of London's target for installing 760 solar water heating systems in the Borough by 2010.</i></p>	<p>Environmental Sustainability/ Housing Strategy</p>	<p>Work with Solar for London and Regeneration to develop action plan by November 2005</p>	<p>Some promotional costs</p>
<p><b>Policy 3G:</b> The Council will aim for all new housing in the Borough to achieve good practice in energy performance that goes beyond the minimum standards required by the Building Regulations.</p>	<p>Environmental Sustainability/ Planning/ Regeneration</p>	<p>Covered by Action below</p>	
<p><i>Action 3G(i): The Council will evaluate the carbon performance of homes under the proposed new Building Regulations and develop a definition of energy good practice for new housing in the Borough.</i></p>	<p>Environmental Sustainability</p>	<p>Energy assessment of new Building Regulations completed by April 2006</p>	<p>Consultant to develop Council's own minimum standards – approx £10k – but could be done in partnership with other councils</p>



<b>Policy 3H:</b> The Council will work with its Housing Association partners to improve the energy performance of new affordable housing in the Borough.	Housing Strategy	Covered by Actions below	Covered by Actions below
<i>Action 3H(i): The Council's Housing Strategy Division will work with Housing Associations to ensure that new social housing in the Borough achieves a higher sustainability standard than the standard Eco-Homes 'Good' rating required by the Housing Corporation.</i>	Housing Strategy	Incorporate Eco-Homes Excellent into the Housing Association preferred partners agreement by September 2005	Pilot development of Eco-Homes Very Good or Excellent may be needed before cross-the-board policy is imposed
<i>Action 3H(ii): The Council will work with Housing Associations and development partners to develop a flagship low carbon mixed tenure housing development.</i>	Housing Strategy/ Regeneration	Initial agreement with HA & developer partners by December 2005 to build a low carbon development	Potential higher cost of low carbon development covered by external funding and innovative financing systems

#### **Objective 4: To increase business energy efficiency and renewable energy use across the London Borough of Barking and Dagenham**

Policy or Action	Lead	Target	Actual	Resource Implications
<b>Policy 4A:</b> The Sustainable Industrial Park will aim to showcase best practice in low carbon industrial processes and the development of innovative generation technologies.	Economic Development/ Environmental Sustainability	Dagenham Dock Steering Group to target sustainable energy business – by March 2006		No specific cost for council
<i>Action 4A(i): The Council will work with the London Development Agency (LDA) and the other Dagenham Dock project partners to ensure that innovative sustainable energy technologies are utilised in the up-grade of the local power network.</i>	Environmental Sustainability/ Economic Development	Ensure that the specification for the new power contract with EDF Energy includes innovative features – May 2005		No specific cost for council
<b>Policy 4B:</b> The Council will encourage CHP systems as the means of providing heat & power for industrial processes in the Borough and will encourage applications for new industrial buildings to include CHP.	Economic Development/ Environmental Sustainability	Provide CHP training for Economic Development, Regeneration & Planning		No cost to council – need to improve council's knowledge of CHP and district heating.

<i>Action 4B(i): The Council will produce a CHP information pack for developers that signposts sources of information and advice.</i>	Environmental Sustainability	Produce CHP info pack by December 2005	Small cost involved in producing the pack.
<b>Policy 4C:</b> The Council will investigate the prospects for capturing waste heat from Barking Power Station so as to provide community heating for the Borough's key regeneration sites.	Environmental Sustainability	Covered by Actions below	Already covered – council already commissioned study
<i>Action 4C(i): The Council will work with regeneration partners to evaluate the options for installing and managing community heating infrastructure in key regeneration sites.</i>	Environmental Sustainability	Commission study for Barking Town Centre - Feb 2005	In-depth study needed for key regeneration sites – at approx £30k a time.
<i>Action 4C(ii): The Council will work with regeneration partners to encourage Barking Power to install CHP capacity in Barking Power Station.</i>	Environmental Sustainability	Host follow-up meeting on the findings of the study in June 2005	Staff time from Environmental Sustainability
<b>Policy 4D:</b> The Council will encourage businesses in the Borough to install energy efficiency measures to achieve reductions in energy consumption and increase renewable energy use.	Economic Development/ Environmental Sustainability	Economic Development to promote sustainable energy to all businesses	The Green Mark project is covered by funding from the European Regional Development Fund (ERDF)
<i>Action 4D(i): In conjunction with the London Environment Centre, the Council will promote the Green Mark Award – which includes energy efficiency improvements – to the Borough's businesses.</i>	Environmental Sustainability	London Environment Centre to begin Green Mark promotion in the Borough May 2005	See above
<i>Action 4D(ii): The Council will help promote the Action Energy programme to businesses in the Borough and encourage them to take advantage of cost effective energy efficiency measures.</i>	Economic Development/ Environmental Sustainability	Green Mark scheme to promote Action Energy – London Environment Centre to report on 'uptake' of Action Energy	Also covered by the Green Mark project
<b>Policy 4E:</b> The Council will use its planning powers to encourage high energy efficiency standards, CHP and renewable energy in all new commercial and industrial premises.	Environmental Sustainability/ Planning/ Regeneration	Planning authority to request sustainable energy considerations for all major applications	Training needs to increase planning authority's expertise

<b>Policy 4F:</b> The Borough will work with partners to have at least one showcase low carbon commercial building by 2010.	Regeneration	Initial plans for low carbon commercial building by September 2005	No specific cost for council – extra costs of eco-design & construction to be borne by developer?
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### Objective 5: To reduce road traffic growth across the Borough

Policy or Action	Lead	Target	Actual	Resource Implications
<b>Policy 5A:</b> The Council supports the objectives and targets in the Mayor of London's Transport Strategy and will introduce measures aimed at reducing growth in road traffic through its Local Implementation Plan.	Transportation	Undertaken by Transportation Group		In Transportation work programme
<b>Action 5A(i):</b> The Council will build upon the Thames Gateway Car Share scheme through the introduction of additional measures to promote car sharing.	Transportation	Undertaken by Transportation Group		In Transportation work programme
<b>Action 5A(ii):</b> The Council will produce a Travel Plan in relation to its employees travel requirements in order to minimise private vehicle use and to maximise public transport and cycle use.	Transportation	Undertaken by Transportation Group		In Transportation work programme
<b>Action 5A(iii):</b> The Council will continue to help businesses to develop Travel Plans.	Transportation	Undertaken by Transportation Group		Officer post covered by Transport for London (TfL)
<b>Action 5A(iv):</b> The Council will continue to use its planning powers to restrict car parking spaces and to help minimise commuter distances through encouraging mixed residential and business areas.	Transportation	Undertaken by Transportation Group		No cost
<b>Policy 5B:</b> The Council will work with partners to improve the integration and usability of public transport systems across the Borough.	Transportation	Undertaken by Transportation Group		In Transportation work programme
<b>Action 5B(i):</b> The Council will seek to identify structural and social barriers to the use of public transport and to find ways to overcome these barriers.	Transportation	Undertaken by Transportation Group		Transportation to determine
<b>Action 5B(ii):</b> The Council will encourage its own employees to use public transport for work related journeys.	Transportation	Undertaken by Transportation Group		No cost

<b>Policy 5C:</b> The Council will consider bus priority schemes for the Borough which will improve the speed and comfort of bus travel.	Transportation	Undertaken by Transportation Group	In Transportation work programme
<b>Policy 5D:</b> The Council will seek to improve conditions for cyclists and pedestrians through its planning powers and encouraging employers to provide cycling facilities. <i>Action 5D(i): The Council will continue to encourage pupils to cycle and walk to school, through promoting safe routes to school and walking buses.</i> <i>Action 5D(ii): The Council will build upon the success of the Just Walk initiative to promote the advantages and benefits of walking for transport purposes.</i> <i>Action 5D(iii): The Council will use its planning powers to ensure that new developments provide cycling facilities and adequate access to public transport.</i>	Transportation	Undertaken by Transportation Group	No specific costs
	Transportation	Undertaken by Transportation Group	No specific costs
	Transportation	Undertaken by Transportation Group	No specific costs
	Transportation	Undertaken by Transportation Group	No cost

**Objective 6: To substantially increase the amount of local power generated in the London Borough of Barking and Dagenham through renewable energy and combined heat and power systems**

Policy or Action	Lead	Target	Actual	Resource Implication
<b>Policy 6A:</b> The Council would like to meet any potential increase in the Borough's electricity demand (due to regeneration and population growth) through local and on-site generation, using renewable energy and combined heat and power technologies. <i>Action 6A(i): In the regeneration of the Borough, the Council will encourage developers to meet power needs through local generation of electricity.</i>	Regeneration/ Planning/ Environmental Sustainability Regeneration/ Planning/ Environmental Sustainability	Covered by Actions below  Regeneration & planning staff to request CHP and renewables in new developments – incorporated in all development briefs by July 2005		No specific costs for council  No specific costs – but council needs to increase knowledge of renewable energy and CHP, and promote these technologies to developers.

<b>Policy 6B:</b> The Council has adopted the Mayor of London's heating hierarchy and will encourage all developments to follow the hierarchy.	Regeneration/ Planning/ Environmental Sustainability	Advice note that promotes heating hierarchy to all developers & applications by September 2005	No specific costs for council
<b>Policy 6C:</b> The Council will use its planning powers to promote combined heat and power and community heating and where possible it will consider all public sector buildings as a base-load anchor for community heating networks.	Planning/ Regeneration	Asset Management to produce CHP & renewables policy by September 2005	No specific costs – but council needs to increase knowledge of renewable energy and CHP, and promote these technologies to developers.
<i>Action 6C(i): The Council will actively encourage developers and commercial buildings to establish, and participate in, combined heat and power and community heating schemes.</i>	Planning/ Regeneration	See target for <i>Action 6A(i)</i> above	Small cost involved in producing CHP information pack.
<i>Action 6C(ii): The Council will ensure that combined heat and power and district heating are considered for all housing developments in the Borough.</i>	Planning/ Regeneration	See target for <i>Action 6A(i)</i> above	No cost for council – developer needs to cover CHP study & implementation.
<b>Policy 6D:</b> The Council will work to ensure that the London Borough of Barking & Dagenham plays its role in delivering the Mayor of London's renewable energy technology targets for solar water heating, solar electric and wind turbines.	Environmental Sustainability	Covered by Action below	Covered by Action below
<i>Action 6D(i): The Council will develop an Action Plan for delivering its share of the Mayor of London's renewable energy targets.</i>	Environmental Sustainability	Renewable energy action plan by November 2005	Not necessarily a cost for the Council – renewables to be installed by developers, external funding etc
<b>Policy 6E:</b> The Council will work to increase the number of high profile renewable energy schemes in the Borough.	Environmental Sustainability	Covered by Action below	Covered by Action below
<i>Action 6E(ii): The Council will ensure that there is another high profile, highly visible renewable energy demonstration building in the Borough by 2010.</i>	Environmental Sustainability/ Regeneration	Initial plans for demonstration building by December 2005	To be negotiated with a developer

<b>Policy 6F:</b> The Council will promote key sources of renewable energy advice and information to building owners and developers.	Environmental Sustainability	Advice note that promotes renewable energy to all developers & applications by September 2005	No cost for council
<i>Action 6F(i): The Council will promote renewable energy initiatives such as the Solar for London scheme that help householders and businesses to install renewable energy technologies.</i>	Environmental Sustainability	See target for <i>Action 3F(i)</i> above	Some promotional costs
<b>Policy 6G:</b> The Council will use its planning powers to promote renewable energy within new developments and refurbishments in the Borough.	Planning/Regeneration	Planning authority to request sustainable energy considerations for all major applications	No specific costs for the council
<b>Policy 6H:</b> The Council supports the development of innovative local electricity networks which enable the local generation and distribution of power.	Regeneration/Asset Manage/Environmental Sustainability	Council to promote all new power infrastructure to be innovative and a Registered Power Zone for the Borough – an action plan by February 2006	No specific costs for the council
<i>Action 6H(i): The Council will work with the LDA, developers and the local electricity network operator to a Registered Power Zone ensure the development of a dynamic local network that facilitates local power generation from CHP and renewable energy.</i>	Environmental Sustainability/Economic Development	Produce initial plan with LDA for a RPA at Dagenham Dock by December 2005	Consultancy study for RPA in Dagenham Dock – costs covered by council or LDA?
<i>Action 6H(ii): The Council will promote energy supply companies that offer two-way metering and purchase locally generated electricity at a fair &amp; competitive price.</i>	Environmental Sustainability	Work with 'foyer' development scheme to choose energy supplier that buys back power	No cost to council
<b>Policy 6I:</b> The Council will investigate the benefits of, and prospects for, establishing an Energy Services Company (ESCo) to take forward high profile low carbon projects in the Borough.	Environmental Sustainability/Regeneration	Arrange meeting with regeneration partners to promote ESCo for Barking Town Centre – June 2005	May require consultancy costs for ESCo business plan

<b>Objective 7: For the growth and regeneration of the Borough over the coming decades to be low carbon</b>				
<b>Policy or Action</b>	<b>Lead</b>	<b>Target</b>	<b>Actual</b>	<b>Resource Implications</b>
<b>Policy 7A:</b> The Council aims for the growth and regeneration of the Borough over the coming decades to be low carbon.	Regeneration	Covered by Policies and Actions below		Covered by Policies and Actions below
<b>Policy 7B:</b> The Council will set 'carbon targets' for the Borough's key regeneration sites.	Regeneration	Carbon targets highlighted as objective in the Regeneration Strategy in next review		Consultancy cost of carbon assessment study covered by the Council or by any other regeneration partner
<i>Action 7B(i): The Council will undertake energy and carbon assessments at the outset for each of the main regeneration sites in order to inform a 'carbon target' for the regeneration process.</i>	Environmental Sustainability/Regeneration	See above		See above
<b>Policy 7C:</b> The Council aims for a low carbon regenerated Barking Town Centre.	Regeneration	Covered by Action below		Covered by Action below
<i>Action 7C(i): The Council will undertake an energy assessment of Barking Town Centre's regeneration to evaluate the options for reducing carbon emissions and to inform a carbon target for the regeneration.</i>	Environmental Sustainability/Regeneration	Commission Barking Town Centre study by Feb 2005		Approx £20k
<b>Policy 7D:</b> The Council will use its planning powers and regeneration activity to ensure that there is at least one zero carbon large mixed-use development under construction in the Borough by 2010.	Regeneration/ Planning/ Environmental Sustainability	Regeneration / Planning to allocate zero carbon objectives to a large development site by Dec 2005		No specific costs for the council
<i>Action 7D(i): The Council will continue to work with potential zero carbon development partners to secure a zero carbon development in the Borough.</i>	Regeneration/ Environmental Sustainability	Continue to promote the Borough as a site for a zero carbon development where relevant		No specific costs for the council

<p><b>Policy 7E:</b> The London Borough of Barking and Dagenham will establish an Energy Action Area in one of its main regeneration sites that will demonstrate best practice in both sustainable energy use and production across mixed land use types.</p>	<p>Environmental Sustainability/Regeneration</p>	<p>Covered by Action below</p>	<p>Covered by Action below</p>
<p><i>Action 7E(i): The Council will work with the Greater London Authority and the London Energy Partnership to develop a framework plan for an Energy Action Area in the Borough.</i></p>	<p>Environmental Sustainability</p>	<p>Commission a study for an Energy Action Area in south Dagenham area with TGLP/ LDA/ UDC by November 2005</p>	<p>Consultancy cost of EAA study covered by the Council or any other regeneration partner</p>

**Objective 8: To promote the Sustainable Energy Strategy to all stakeholders and ensure the Strategy is implemented through planning policy and all other Council activities**

Policy or Action	Lead	Target	Actual	Resource Implications
<p><b>Policy 8A:</b> The Council will incorporate a whole suite of low carbon objectives and policies into the Core Strategy and the development policies of the Local Development Framework.</p>	<p>Planning</p>	<p>Ensure baseline data is ready to underpin these objectives and policies – for energy efficiency standards and renewable energy</p>		<p>Potential studies &amp; consultations for the accurate baseline data &amp; policies</p>
<p><b>Policy 8B:</b> The Council will ensure that low carbon developments are promoted and implemented through the delivery of its Regeneration Strategy.</p>	<p>Regeneration</p>	<p>Relevant policies and action from this Strategy to be included in the Regeneration Strategy at next review</p>		<p>No costs to the council</p>
<p><b>Policy 8C:</b> The Council will disseminate the key objectives of the Energy Strategy to residents and organisations in the Borough and keep stakeholders informed of progress.</p>	<p>Environmental Sustainability</p>			
<p><b>Policy 8D:</b> The Council will review its internal structures and budgets to ensure effective delivery of the Energy Strategy policies and actions.</p>	<p>All departments and divisions</p>			



<p><i>Action 8D(i): The Council will establish an Energy Strategy Steering Group to oversee the implementation of the Energy Strategy and provide an annual report to the Executive.</i></p>	<p>Environmental Sustainability</p>			
<p><i>Action 8D(ii): The Council will consider the resource requirements associated with the delivery of each of the Energy Strategy's policies and actions.</i></p>	<p>All departments and divisions</p>			

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