



London Borough of Waltham Forest **Energy Strategy**

Report to the London Borough of Waltham Forest

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Executive Summary

In 2006, the Government published its Energy Review¹, in which it identified two major long-term energy challenges:

- Tackling climate change, along with other nations, as global carbon emissions from human activity continue to grow; and
- Delivering secure, clean energy at affordable prices, as we become increasingly dependent on imports for our energy needs.

The London Borough of Waltham Forest (LBWF) recognises that, as a Local Authority, it has a lead role to play in driving measures at a local level. As such, AEA Energy and Environment were commissioned to assist the Council in the development of an Energy Strategy. This Strategy identifies actions that need to be taken as a priority, and longer-term measures that can be implemented to ensure the long-term continued commitment to energy and water efficiency.

The Energy Strategy is guided by the Mayor's 'Energy Hierarchy' to develop appropriate Policies and related Actions for the Council. This highlights three approaches:

- Use less energy, “be lean”;
- Use renewable energy “be green”;
- Supply energy efficiently, “be clean”.

Key Aims for LBWF

LBWF has set out a vision for energy and water in the Borough, as follows:

- To reduce energy consumption within the Borough by 80% by 2050, or any target subsequently adopted in line with the LBWF Climate Change Strategy;
- To demonstrate real progress towards this target by 2020, in line with the 2003 Energy White Paper, *Our Energy Future*²;
- To ensure that energy is used efficiently so that these targets are achieved, despite likely population growth and hopefully wealth retention within the Borough, as aspired to by the emerging Sustainable Communities Strategy (SCS);
- To ensure that heat input within buildings is reduced due to ultra efficient buildings and that older buildings have been raised to the highest possible energy efficiency standard;
- To generate a proportion of heat and electricity locally;
- To reduce water consumption and waste within the Borough through innovative use of existing and new technologies and behaviour change;
- To strive for LBWF's environmental sustainability to give the Borough a competitive edge for the local economy;

¹ DTI (2006) The Energy Challenge: Energy Review Report 2006, Department of Trade and Industry, July 2006

² DTI (2003) Our Energy Future - creating a low carbon economy: Energy White Paper, Department of Trade and Industry, February 2003

- To be seen to demonstrate leadership with the Local Strategic Partnership (LSP) and by partners and the community.

With this in mind, the review considered each area under the influence of the Council in turn, to assess whether further action was required and, if so, suggest appropriate measures.

General Findings

A key issue identified by the Council is the need to ensure a more consistent and thorough approach is taken with regards data collection and monitoring across the Borough. This is therefore considered to be a priority for this Strategy.

Measures within the Council itself

A recent carbon footprint study found emissions for the council to be 40,704 tonnes CO₂ per year. Approximately 77% of this derives from energy consumption in council owned or operated buildings, including schools, as well as street lighting. As such, this is seen as a key area for action. Proposed measures include the development of standard procedures towards data collection and monitoring; and the development of Action Plans to progress measures.

In addition, the Strategy considers measures that could be taken for the Council fleet, travel for work and staff commuting. Included here are the need to review current deployment of the Council fleet to identify whether improved fuel efficiencies can be achieved, and the need to develop and implement a comprehensive Travel Plan for staff.

In terms of energy generation, the Council already has a small number of Combined Heat and Power (CHP) and photovoltaic installations. Actions here should focus on ensuring these are fully operational, and investigating how further renewable and energy efficient generation technologies can be implemented across the Borough.

Housing within the Borough

Council Housing within the Borough is managed by Ascham Homes, who produce an annual Home Energy Conservation Report (HECR) detailing progress towards targets in home energy efficiency.

The HECR outlines measures that Ascham Homes has already identified for the Borough. As such, suggested policies here highlight these and aim to build on them where appropriate.

Planning activities

The Planning section of the Council already has a number of policies in place in relation to energy and water, which come from the Unitary Development Plan (UDP). The Strategy aims to reinforce the importance of these measures, and sets targets for the Council to use its planning powers to meet the Mayor's objective for each London

Borough, including the target set in the revised London Plan³ for all developments to “achieve a reduction in carbon dioxide emissions of 20% from on site renewable energy generation (which can include sources of decentralised renewable energy) unless it can be demonstrated that such provision is not feasible”; to have at least one showcase renewable energy project and one zero carbon development.

Ensuring the progression of the Energy Strategy

This Strategy is the first step in the Council’s long-term strategy to address energy and water consumption within the Borough. To be effective, policies must be developed further and implemented. As such, the Energy Strategy also sets objectives for the Council to ensure the internal procedures and funding are in place, and to seek additional support during implementation.

Summary of Policies Proposed

- Policy 1:* The Council will ensure that, by the middle of 2009, all policies that may affect energy and water consumption within the Borough are consistent with the recommendations of the Energy Strategy.
- Policy 2:* The Council will compile an accurate database of its energy and water consumption within all council-owned property, including street lighting and council vehicles, by the end of 2008.
- Policy 3:* The Council will develop, by the end of 2009, an Energy and Water Action Plan for its buildings, to incorporate a range of both short- and long-term measures for achieving real reductions in the Corporate Estate, with a goal of a 20% reduction in energy use by 2015, in line with the London Plan.
- Policy 4:* The Council will develop, by the end of 2009, a “Sustainable Energy and Water for Schools Action Plan” in conjunction with the BSF programme, to promote energy and water efficiency measures and encourage pupil participation.
- Policy 5:* The Council will aim for all school buildings to be models of energy efficiency, renewable energy use and water management by 2020.
- Policy 6:* The Council will, by the end of 2010, conduct a review of fleet deployment and fuel efficiency, and identify whether there are areas for improvements.
- Policy 7:* The Council will review and implement, by the end of 2010, appropriate options for collecting energy data for Street Lighting.
- Policy 8:* The Council will continue to investigate and, where appropriate, trial new energy-saving street lighting technologies in its drive to reduce energy consumption.
- Policy 9:* The Council will, by the end of 2008, produce and implement recommendations in a travel plan to promote sustainable transport by employees, minimising private vehicle use and promoting public transport and cycle use. The Council will then ensure all recommendations are implemented by the end of 2010.
- Policy 10:* The Council will actively promote renewable and energy efficient technologies, as well as green energy tariffs, throughout all corporate and school properties, to obtain 10% of energy requirements from renewable

³ GLA (2008) The London Plan: Spatial Development Strategy for Greater London, Consolidated with Alterations since 2004, February 2008

sources by 2010, increasing this percentage, and the proportion that comes from renewable technologies, as an ongoing activity.

Policy 11: The Council will actively promote water-saving technologies, including grey-water collection and recycling, throughout Council properties. This policy has an initial target of 2010 for identifying and implementing the first stage of measures, although is intended as an ongoing activity for the Council.

Policy 12: Ascham Homes will continue to seek to identify activities for improving the existing housing stock and associated SAP rating, to enable Waltham Forest to meet the requirements of HECA and any subsequent regulations.

Policy 13: The Council will actively promote energy and water efficiency within private housing in the Borough as an ongoing activity.

Policy 14: Waltham Forest will seek out proposals for at least one showcase renewable energy project to be developed by 2020, with which to demonstrate their commitment to future technologies.

Policy 15: Waltham Forest will seek out proposals for at least one new zero carbon development by 2016, with which to progress the Borough's energy efficiency targets.

Policy 16: The Council will review its internal procedures, budgets and structures to ensure that the objectives of the Energy Strategy are integrated into decision-making.

Policy 17: The Council will investigate schemes such as the Carbon Trust's Local Authority Carbon Management Scheme and the Mayor of London's Green500 scheme, to determine whether these might support LBWF in the implementation of the Energy Strategy.

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1 Introduction

1.1 Drivers for Change

In 2006, the Government published its Energy Review⁴, in which it identified two major long-term energy challenges:

- Tackling climate change, along with other nations, as global carbon emissions from human activity continue to grow; and
- Delivering secure, clean energy at affordable prices, as we become increasingly dependent on imports for our energy needs

Although described at a national level, each of these challenges has implications for every aspect of life in the UK, including local government, business and households.

1.1.1 The Link to Climate Change

Climate change is widely considered to be the most pressing environmental, social and economic problem facing the planet. The consequences of climate change affect us all; they are global and local, long-term and short-term.

Although the climate of the UK is not fixed, and has changed historically in response to natural processes of the earth, it is increasingly being recognised that human activities are altering global environmental conditions. The Intergovernmental Panel on Climate Change (IPCC) has concluded that most of the observed increases in global temperature since the mid 20th century are the result of human emissions of greenhouse gases (GHGs), particularly carbon dioxide (CO₂)⁵. CO₂ levels are higher than at any time in the past 650,000 years. The current stock of greenhouse gases in the atmosphere is equivalent to around 430 parts per million (ppm) of CO₂, compared with only 280 ppm before the industrial revolution (see Figure 1).

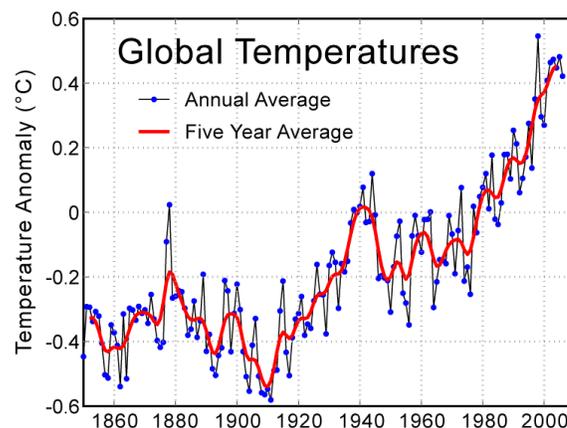


Figure 1 Global Mean Surface Temperature 1860-2006

⁴ DTI (2006) The Energy Challenge: Energy Review Report 2006, Department of Trade and Industry, July 2006

⁵ Other greenhouse gases include Nitrous Oxide and Methane

These increased concentrations have already caused the world to warm by 0.74°C in the last century. If annual global emissions were to remain at today's levels, GHGs in the atmosphere would reach double pre-industrial levels by 2050, at around 550 ppm. At this level, it is predicted there is a high probability of a global average temperature rise exceeding 2°C. In reality, however, global emissions are set to accelerate from today's levels, as demand for energy rises.

Reducing CO₂ emissions is synonymous with reducing energy use. The principal source of GHGs is from the burning of fossil fuels such as oil, gas and coal. The Government's Energy White Paper, *Meeting the Energy Challenge*⁶ states that today around 90% of the UK's energy needs are met by oil, gas and coal. By 2020, fossil fuels are still expected to supply the great majority of UK energy needs.

Using this energy more efficiently and trying to minimise use of fossil fuels where possible may reduce the predicted outcomes of climate change.

1.1.2 Secure, Clean and Affordable Energy

Issues of energy are not simply related to Climate Change. There are other significant reasons for taking action to improve our energy efficiency and find alternative methods of generating it.

We have become used to an affordable, constant supply of energy and water. However, competition in the form of increasing global demand, depleted resources and climate change are all contributing to increased prices and reduced supply. As such, the UK Government is concerned about how to ensure a secure, clean and affordable supply.

Security of Supply

Being reliant on imports of oil and gas presents a potential risk to the UK. Global demand for these resources is rising, whilst the supplies are increasingly limited due to a declining number of distant reserves. This results in high levels of competition and concerns over the security of supplies.

Efforts to reduce our reliance on fossil fuels and diversify supply through the introduction of renewable technologies will help to reduce the UK's reliance on these imports.

Clean Energy

In order to tackle climate change and other environmental issues caused by our use of energy, it is essential that we find methods of meeting our energy requirements in more efficient ways with less harmful impacts. A number of 'clean' technologies are being developed, including distributed energy, renewable electricity, cleaning up fossil fuels and alternative transport fuels.

⁶ DTI (2007) *Meeting the Energy Challenge: A White Paper on Energy*, Department of Trade and Industry, May 2007

Developers, businesses, public bodies and individuals all need to ensure they play their part in the uptake of these technologies.

Affordable Energy

The UK Government’s goal is to ensure that every home is adequately and affordably heated. However, global energy prices are expected to remain high in the long-term, which in turn is likely to result in higher prices for households. The generally accepted definition of fuel poverty is when a household has to spend 10% or more of its income on energy to maintain a warm home. In order to ensure households can afford the energy they need, it will be necessary to both improve efficiency, so that less is needed, and find alternative sources, so that energy prices are less heavily affected by the availability and price of fossil fuels.

Governments, industry and society must work together in order to overcome the challenge of using energy more efficiently with reduced environmental impacts.

1.2 What this means for Waltham Forest

Local Authorities have a lead role to play in promoting and implementing measures within their Boroughs. The 2006 Local Government White Paper, *Strong and Prosperous Communities*, calls on Local Authorities to “drive local action” through:

- Strong and visible leadership;
- Leading by example;
- Responding to calls for action; and
- Coordinating innovative partnerships, which can deliver real changes.

Climate change will affect council services, assets and infrastructure. The prime example of the recent flooding shows just how large the impacts on infrastructure, services and society in general can be. The UK Climate Impacts Programme (UKCIP) notes that local authorities should be aware that it is within their interest to act now to find sustainable solutions that allow for climate change. The issues of secure, clean, affordable supplies affect all residents and businesses in the UK, and Local Authorities recognise the need to alleviate fuel poverty.

This Energy Strategy presents policies and actions that will be taken by LBWF in order to take this lead, taking measures within the Council’s own property, and using local development management powers to promote and encourage measures in the wider Borough.

1.3 What can Waltham Forest do?

The Mayor’s energy strategy, “*Green light to clean power*”, sets out the Mayor’s aims to reduce London’s contribution to climate change and tackle the problem of fuel poverty, whilst promoting London’s economic development through renewable and energy efficient technologies. The Energy Strategy outlines an “Energy Hierarchy”

which can help guide decisions on which energy measures to uptake in particular circumstances.

- Use less energy “be lean”
 - Reduce consumption through behaviour change
 - Improve insulation
 - Passive heating and cooling
 - Install energy efficient lighting and appliances
- Use renewable energy “be green”
 - Install renewable technologies (solar water heating, photovoltaics, biomass, wind turbines)
 - Import renewable energy generated elsewhere (e.g. green electricity tariffs)
- Supply energy efficiently “be clean”
 - Combined Heat and Power (CHP), Community heating
 - Local generation (reduce transmission losses)

The actions suggested in this plan take this hierarchy into account, in order to ensure the most efficient delivery of LBWF’s energy needs.

2 Towards Sustainable Energy in LBWF

2.1 An Energy Vision for LBWF

Meeting the Energy Challenge highlighted the key role that Local Authorities have in ensuring the UK meets energy policy goals, by leading carbon emissions reduction in their communities. LBWF, as a signatory of the Nottingham Declaration, has committed to developing plans, together with partners and local communities, to progressively address the causes and the impacts of climate change in order to achieve a significant reduction of greenhouse gas emissions from both their own authority's operations and wider community emissions within the Borough boundary.

This Energy Strategy aims to present the overarching principles that will guide LBWF towards sustainable energy use within the Borough over the coming 40 years. It seeks to provide actions that can be taken both for short and long-term improvements.

Aims:

- To reduce energy consumption within the Borough by 80% by 2050, or any target subsequently adopted in line with the LBWF Climate Change Strategy;
- To demonstrate real progress towards this target by 2020, in line with the 2003 Energy White Paper, *Our Energy Future*⁷;
- To ensure that energy is used efficiently so that these targets are achieved, despite likely population growth and hopefully wealth retention within the Borough, as aspired to by the emerging Sustainable Communities Strategy (SCS);
- To ensure that heat input within buildings is reduced due to ultra efficient buildings and that older buildings have been raised to the highest possible energy efficiency standard;
- To generate a proportion of heat and electricity locally;
- To reduce water consumption and waste within the Borough through innovative use of existing and new technologies and behaviour change;
- To strive for LBWF's environmental sustainability to give the Borough a competitive edge for the local economy;
- To be seen to demonstrate leadership with the Local Strategic Partnership (LSP) and by partners and the community.

⁷ DTI (2003) *Our Energy Future - creating a low carbon economy: Energy White Paper*, Department of Trade and Industry, February 2003

2.2 Strategic Framework

This Energy Strategy has been compiled against a range of policies and legislation at a national, regional and local level. An understanding of these measures will be instrumental in evaluating possible courses of action for the future.

2.2.1 National Policy

A range of national policies set targets for energy use and carbon emissions in the UK. These include:

- The Kyoto Protocol, under which the UK has committed to reduce greenhouse gas (GHG) emissions by **12.5%** below 1990 levels by 2008-2012.
- The Government's Climate Change Strategy, published in 1999, which sets a target of reducing CO₂ emissions by **20%** by 2010, compared to 1990 levels.
- The 2003 Energy White Paper, *Our Energy Future*, which sets a target of cutting CO₂ emissions by **60%** by 2050, with “real progress” by 2020.

More recently, in May 2007, the Government published its Energy White Paper, *Meeting the Energy Challenge*⁸. This set out a strategy for achieving four energy goals that were outlined in the *Our Energy Future*. These goals are:

- To put the UK on a path to cutting CO₂ emissions by 60% by about 2050, with real progress by 2020;
- To maintain the reliability of energy supplies;
- To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity; and
- To ensure that every home is adequately and affordably heated.

In order to achieve this, the paper identified three approaches:

- Save energy;
- Develop cleaner energy supplies; and
- Secure reliable energy supplies at prices set in competitive markets.

Meeting the Energy Challenge highlighted the key role that Local Authorities have in ensuring the UK meets energy policy goals, by leading carbon emissions reduction in their communities. This supported the statement in the 2006 Local Government White Paper⁹, which highlighted the “pivotal role” of local authorities to drive local action on climate change through:

- Strong and visible leadership;
- Leading by example through its own practices and the services it delivers;
- Responding to calls for action and the priority local people place on tackling these issues; and
- Coordinating innovative partnerships, which can deliver real changes.

⁸ DTI (2007) *Meeting the Energy Challenge: A White Paper on Energy*, Department of Trade and Industry, May 2007

⁹ DCLG (2006) *Strong and prosperous communities: The Local Government White Paper*, October 2006

This clearly sets out the national framework for action by Local Authorities.

2.2.2 Regional Policy

A key document for London Boroughs in relation to energy is the Mayor's Energy Strategy¹⁰. This sets a challenging target for London to significantly reduce its carbon dioxide emissions by 20 per cent (relative to 1990 levels) by the year 2010, and by 60 per cent (relative to 2000 levels) by 2050. Meeting this CO₂ target will require ambitious ongoing reductions of 4 per cent per annum.

The Mayor has set a target for every London Borough to establish at least zero carbon development in their area by 2010.

In terms of renewable energy, the strategy establishes an aim to generate at least 665GWh of electricity and 280GWh of heat from up to 40,000 renewable energy schemes by 2010. In addition, the Mayor has asked for every London Borough to establish at least one showcase renewable energy development.

Action Today to Protect Tomorrow (2007), the Mayor's Climate Change Action Plan sets out a path for London to tackle this challenge and to deliver London's CO₂ targets. In order to comply with wider legislative targets a limit to the total amount of CO₂ produced between now and 2025 of 600 million tonnes has been proposed.

2.2.3 LBWF Policies

The London Borough of Waltham Forest signed the Nottingham Declaration in June 2007. By doing so, the Borough has voluntarily agreed to develop plans with partners and local communities to address the causes and impacts of climate change on a local level. A key aim is to “encourage all sectors in our local community to take the opportunity to adapt to the impacts of climate change, to reduce their own greenhouse gas emissions and to make public their commitment to action”.

A key stage in meeting these goals is to set local targets and objectives. Full Council recently agreed a motion to “Tackle Climate Change in Waltham Forest”. This included a number of energy-related policies:

Working towards a policy of ‘green’ procurement

This policy will demonstrate the council's commitment to environmental issues to residents and partners, whilst using the corporate spending power to further stimulate “green industries”.

Improve insulation of council buildings

The council pledged to thoroughly check existing facilities to ensure that they are properly insulated and contributing to a reduction in energy usage and heating bills. Better insulation will also become a key consideration in any refurbishment of Council buildings.

¹⁰ GLA (2004) Green light to clean power: The Mayor's Energy Strategy, February 2004

Reduce council building temperatures in response to improved insulation

Liaise with Facilities Management in order to make suitable reductions to the temperature of the heating in Council buildings as a result of improved insulation and ‘heat efficiency’.

Lighting and Electrical Equipment

Implement, where possible, energy efficient lighting devices in Council buildings, such as energy saving light bulbs, motion sensitive lighting and timer switches.

Actively encourage all Council staff to switch off all unnecessary lights in empty buildings and to turn off all appliances in Council offices when they are not being used.

Renewable Energy

Investigate potential ways in which the Council could effectively make use of renewable energy or biofuels as part of its operations.

2.3 Establishing the current picture

2.3.1 Current Energy Consumption within the Borough

In September 2007, the Waltham Forest Carbon Footprint Report¹¹ was published. This calculated total annual CO₂ emissions for both the Council and the wider community emissions in the Borough. Data published by Defra in 2004 indicate total CO₂ emissions for Waltham Forest to be 1,149kt CO₂ per annum (see Figure 2). This shows the Borough to be one of the better performing London Boroughs, rated 7th lowest-emitting, or by CO₂ emissions per capita.

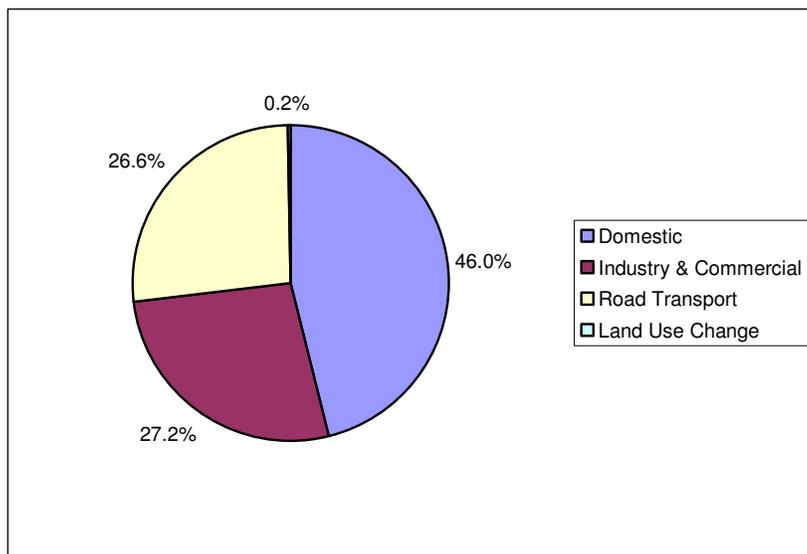


Figure 2 CO₂ emissions by sector for Waltham Forest. Source: SEA Renue (2007) from data published by Defra (2004)

The population of Waltham Forest is expected to rise from 227,000 in 2004 to 237,000 by 2012¹². The Carbon Footprint report estimated that this would result in an increase in emissions of 16.8kt CO₂ per annum by 2016. This has been calculated on the assumption that:

- 95% of new homes will be built to meet the requirements of the building regulations;
- Only 5% of new homes will be built to meet current best practices;
- Transport emissions grow at the same rate as population growth.

In order to avoid a scenario in which energy consumption and related emissions increase rather than decrease, as required by the various national and local policies described in Section 2.2, it will be necessary for Waltham Forest to ensure sustainable energy considerations are integrated into all aspects of future policy-making.

¹¹ SEA Renue (2007) Waltham Forest Carbon Footprint Final Report, September 2007

¹² 2003 Round Ward Projections v2: Greater London Authority, 2004

Policy 1: The Council will ensure that, by the middle of 2009, all policies that may affect energy and water consumption within the Borough are consistent with the recommendations of the Energy Strategy.

Actions identified to meet this Policy objective:

- *Action 1.1: The Council will review current policies to assess whether these meet the requirements of the Energy Strategy.*
- *Action 1.2: Where existing policies do not meet the requirements of the Energy Strategy, the relevant departments will make recommendations, together with appropriate timescales, as to how these policies might be amended to address energy and water concerns.*
- *Action 1.3: The Council will establish a framework for policy-making to ensure that all future policies incorporate the recommendations of the Energy Strategy.*

2.3.2 The need for complete and accurate data

The Waltham Forest Carbon Footprint Report makes a number of recommendations in relation to data collection. Accurate and comprehensive data is key to identifying priority areas where consumption is high or inefficient. This can then be used to evaluate the cost effectiveness of different approaches for tackling this. In addition, data recording is essential in order to assess the success of a given measure and to determine whether it therefore should be replicated, or else discontinued so that key resources can be deployed elsewhere.

Accurate measuring and monitoring of energy consumption is also a key requirement of the Nottingham Declaration, which Waltham Forest signed in 2007 (see Section 2.2.3). As such, a key action for this strategy is for the Council to compile a detailed database of the Borough's energy use within buildings, street lighting and transport.

This activity needs to be met as a priority. By October 2008, the Energy Performance of Buildings Directive will require all public buildings over 1,000 m³ to display a Display Energy Certificate, which will detail that building's energy use (see Section 3.1.1 for more details). As a result, the collection of good quality data is not only fundamental to develop and appraise future activities, but also to meet the requirements of this legislation.

Policy 2: LBWF will compile an accurate database of its energy and water consumption within all council-owned property, including street lighting and council vehicles, by the end of 2008.

Actions identified to meet this Policy objective:

- *Action 2.1: The Council will complete its review options for data collection procedures and IT system, and determine the most appropriate methods and approaches for going forward, including the identification of any necessary resource and training.*
- *Action 2.2: The Council will develop procedures to be followed by all departments when collecting and monitoring energy and water data.*

- *Action 2.3 The Council will use water data gathered to determine the water consumption baseline for the Borough, in order to support the case for water-efficiency measures.*
- *Action 2.3: The Council will conduct annual assessments of the energy and water consumption in its operations.*

2.4 Taking the lead within the Council

2.4.1 The Council's Energy Use

The Waltham Forest Carbon Footprint Report¹³ calculated the total annual CO₂ emissions for the council to be 40,704 tonnes CO₂ per year. As can be seen in Figure 3, the majority of these emissions, approximately 77%, are from energy consumption in council owned or operated buildings, as well as street lighting.

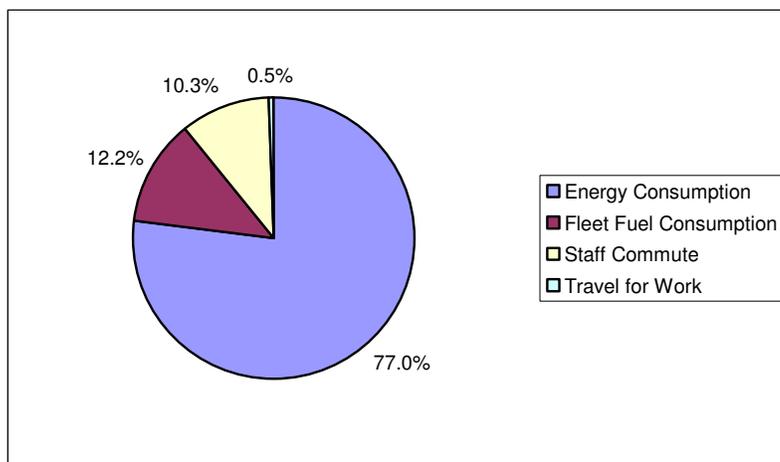


Figure 3 Total emissions for 2006 – 2007, excluding energy generation. Source: SEA Renue, 2007

2.4.2 Council Buildings

As discussed, Council-owned buildings account for the majority of the Council's carbon emissions, which is directly related to high energy consumption. Approximately 108GWh of energy was consumed within council owned or operated buildings (excluding street lighting), to include corporate buildings, schools and housing in 2006 – 2007 (see Table 1).

A point to note from the table is that electricity supplied on a 'green' tariff has been included in the total carbon footprint, rather than being counted as zero emissions. The authors of the Waltham Forest Carbon Footprint Report explain that this is due to both the emissions factors used, which already take account of renewable energy within the grid mix, and because it is felt there is a need to fully investigate whether the energy supplied qualifies for exemption of the Climate Change Levy (CCL),

¹³ SEA Renue (2007) Waltham Forest Carbon Footprint Final Report, September 2007

which would result in this electricity being zero emission, and therefore reduce the overall carbon footprint accordingly.

Table 1: Energy consumption and generation within the council Source: SEA Renue, 2007

	CO ₂ (tonnes CO ₂ / year)	Energy (kWh)
Energy Consumption	33,368	
Electricity	15,889	30,380,497
<i>of which Green Electricity Tariff</i>	3,332	6,370,000
<i>of which Street Lighting</i>	4,027	7,700,000
Gas	17,479	84,849,515

The Council recognises that many of its corporate buildings require energy performance improvements. An example of this is in the recent maintenance of the heating system in Waltham Forest Town Hall. This had been overheating for some time, which was both uncomfortable for staff and a waste of energy. Essential maintenance work has now been carried out, which has resulted in more efficient energy use. Ensuring activities such as this are carried out in a timely manner will have benefits both in terms of the council's energy consumption and emissions, and also cost savings from reduced fuel use and also staff well-being.

Measures are already underway, for example the Council aims to purchase energy efficient items where budgets allow, but has identified that making the case for the initial capital outlay can sometimes be problematic. Due to limited funding, there is a need to present an economic case for purchases and activities using whole life costings including future running costs.

Improved data collection and analysis would support any future cases for action, as this will enable priorities areas to be identified and resources to be focused on those areas where action can be most effective.

An Energy Efficiency Action Plan for the Council

There are numerous methods that can be adopted to improve energy efficiency in buildings, ranging from simple and low-cost measures, such as a campaign to encourage staff to switch off lights and electrical appliances when these are not needed, to approaches that may involve an initial capital outlay, but that result in cost savings from reduced fuel consumption into the future over whole life costings. Staff awareness is a key aspect of some of the lower-cost measures, which require a shift in behaviour.

In its Council Motion of December 2007 (see Section 2.2.3 for more details), Councillors agreed a range of actions that would improve energy efficiency within its buildings, to include:

- Green Procurement;
- Better insulation of buildings;
- Reduction of building heating as a result of improved insulation;
- Use of energy efficient lighting devices;

- Encouraging staff to switch off lights and appliances.

These measures must be taken forward in order for the council to demonstrate to the Borough its commitment to lead by example, as encouraged by the Nottingham Declaration. The Council's Leadership team has agreed lead officers and departments to take these actions forward. A project team has been created consisting of the Member and officer champions, the climate change project manager and the Chief Executive.

Policy 3: The Council will develop, by the end of 2009, an Energy and Water Action Plan for its buildings, to incorporate a range of both short- and long-term measures for achieving real reductions in the Corporate Estate, with a goal of a 20% reduction in energy use by 2015, in line with the London Plan.

Actions identified to meet this Policy objective:

- *Action 3.1: The Council will conduct an energy and water audit of its corporate buildings to determine priority areas in terms of energy and water consumption.*
- *Action 3.2: The Council will develop an Action Plan, which outlines energy and water efficient measures and required investment and financial savings over the next 5 years. This should build on actions agreed in the Council Motion on Climate Change.*
- *Action 3.3: The Council will actively promote and progress energy and water efficiency measures within its Corporate Buildings, aiming to increase awareness in staff with regards the steps they can take to support this.*

2.4.3 Schools

Schools Organisation Partnership and Development (SOPD) are responsible for the strategic planning and delivering of capital improvements to schools, and providing asset management advice to them. As of October 2007, LBWF had 83 registered schools, including nursery, infant, junior, primary, secondary, special and voluntary aided.

Table 2 presents data on the average gas, electricity and water consumption in schools, based on 2002 figures provided by LBWF. This data is then compared to the type and size of school. This was the most recent data available to the study, highlighting the need for a more comprehensive approach to data collection and analysis.

Table 2 does, however, provide an indication of the type of data that could be collected and a first step as to how this could be analysed. Secondary schools, as might be expected, are on average the largest buildings with the highest energy and water consumption. Further analysis of this data found large discrepancies between the 'best' and 'worst' performers. However, given the age of the data and that further investigation is required to establish the reasons behind discrepancies, it was felt that this would not be valid at this time.

Table 2: Gas, Electricity and Water Consumption in Schools by Type (2002 figures)

	Number of schools	Average Floor Area (m ²)	Average Gas Consumption (kWh)	Average Electricity Consumption (kWh)	Average Water Consumption (m ³)
Nursery	5	145	36,102	9,530	284
Infants	4	1,577	170,710	96,927	376
Junior	4	1,794	213,538	61,112	2,083
Primary	39	2,431	391,355	78,882	2,222
Secondary	15	7,430	804,278	256,472	3,139
Special	6	2,598	444,851	70,002	1,661
VA	10	1,367	391,734	50,660	1,466

Schools are subject to the Energy Performance of Buildings Directive (EPBD). As such, schools will be required to display Energy Performance Certificates (EPCs) with information about the building's energy efficiency rating and carbon emissions.

Current developments meet the statutory legal minimum requirements. The council is in contract with a Building Schools for the Future (BSF) partner, who has achieved BREEAM 'very good' ratings in three schemes under constructions, with 10% on-site renewables across the programme (although not at each site).

Schools are directed to spend devolved funds on more efficient boilers and double-glazing. At this time improvements take place from a common sense rather than measured and targeted approach. Comprehensive and regular data monitoring and assessment would ensure funds are targeted in a more strategic manner.

Children Services acknowledge that lack of up-to-date data is currently an issue. As such, the Council is putting in place a routine to ensure that data is collected in future to allow targets to be set and measured and improve the council's ability for making the business case for actions. This will also support the upcoming EPC legislation.

The Council have recognised the need for measures that would allow for pro-active management and targeted spending, such as half hourly metering in medium sized sites. In addition, there is a need to ensure headmasters, who have control over how budgets are spent, are fully involved in any plans and decision-making. This aspect of the strategy therefore seeks to address these issues.

Policy 4: The Council will develop, by the end of 2009, a "Sustainable Energy and Water for Schools Action Plan" in conjunction with the BSF programme, to promote energy and water efficiency measures and encourage pupil participation.

Actions identified to meet this Policy objective:

- *Action 4.1: The Council will conduct an energy and water audit of its school buildings to determine priority areas in terms of energy and water consumption.*

- *Action 4.2: The Council will use the information provided by the audits to evaluate the feasibility of different options, such as grey water recycling building management systems (BMS) and renewable energy technologies.*
- *Action 4.3: The Council will work with the Borough's schools to develop an Action Plan outlining energy efficiency and reduce CO2 emissions will be improved.*
- *Action 4.4: The Council will promote the activities detailed in the Action Plan to encourage participation by pupils and staff, such that measures are also learning opportunities.*

<p>Policy 5: The Council will aim for all school buildings to be models of energy efficiency, renewable energy use and water management by 2020</p>
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Actions identified to meet this Policy objective:

- *Action 5.1: The Council will regularly review both data on energy and water consumption in its schools, and energy and water saving measures, to build on and improve energy and water activities detailed in the Sustainable Energy and Water for Schools Action Plan, identifying both low-cost, easy to implement measures and longer term investment opportunities.*
- *Action 5.2: The Council will work with developers to ensure all new schools built from 2008 onwards achieve at least 'Very Good' BREEAM requirements and, where possible, 'Excellent'.*
- *Action 5.3: The Council will work with schools to ensure all refurbished schools will, by 2020, achieve at least 'Very Good' BREEAM ratings.*
- *Action 5.4: The Council will actively promote low or zero carbon developments in all new and refurbished schools.*

2.4.4 The Council Fleet and Travel for Work

Table 3 indicates the contribution of transport within the council, either using fleet vehicles or staff travelling on work business. These emissions represent approximately 13.5% of the total carbon footprint of LBWF, as such less of a priority than energy use in buildings. The vehicle fleet also includes six electric vans, although energy consumption for these has been included in the overall electricity consumption data quoted in Table 1.

Table 3: Vehicle fleet contributions to Waltham Forest Carbon Footprint

	CO ₂ (tonnes CO ₂ / year)	Volume of Fuel (litres)
Fleet Fuel Consumption	5,283	
<i>Diesel</i>	5,182	1,970,342
<i>Petrol</i>	91	39,309
<i>LPG</i>	10	6,676
Travel for Work	209	

The council has 195 registered vehicles within the fleet, comprising primarily vans, but also minibuses, refuse trucks, a small number of cars and a scooter. 92% of the fleet are diesel, which tend to be more energy efficient. The presence of electric vehicles also demonstrates the council's efforts to reduce energy consumption in their fleet.

There are a number of measures that might improve fuel efficiency in this area. A strategic review of how vehicles are deployed would determine whether the most appropriate vehicles are being utilised for a given job, for example is a large van being used for a delivery where a scooter would be sufficient? In some cases, driver training might be appropriate, as this can improve fuel efficiency as well as having other benefits, such as safety. The UK Department for Transport has recently extended funding for its Safe and Fuel Efficient Driving (SAFED) for vans scheme. This may be a useful consideration for Waltham Forest.

The emissions resulting from staff travel for work is a very small proportion (less than 1%) of the council's carbon footprint. This is therefore not felt to be a priority area for action, although it will be important for the council to monitor this situation and continue to collect and analyse data.

Policy 6: The Council will, by the end of 2010, conduct a review of fleet deployment and fuel efficiency, and identify whether there are areas for improvements.

Actions identified to meet this Policy objective:

- *Action 1: Gather further data on the fuel consumption and mileage of vehicles and their drivers to identify any priority areas for action.*
- *Action 2: Investigate the potential of funded SAFED for vans training for drivers.*
- *Action 3: Consider whether the most appropriate vehicles are being deployed for each job and examine how this might be addressed.*
- *Action 4: Review maintenance procedures. Vehicles that are maintained to their optimum performance offer fuel efficiency as well as safety benefits.*

2.4.5 Street Lighting

The Borough has approximately 16,000 streetlights, and 1,000 bollards that require some form of illumination. Street lighting is estimated to account for approximately 7.7GWh of electricity consumed within the Borough. This figure is estimated based on their rated energy consumption. An exact value is not available as the lights are not on a metered supply.

Various options for reducing energy consumption have been considered with regards street lighting. Options such as dimming the lights at certain times or utilising timers to switch lights off have been considered as inappropriate for a busy London Borough. As such, measures focus on the efficiency of the lights used.

Energy Efficient Lanterns Trial

A trial of new, energy-efficient street lanterns is about to commence. These use the patented 'CosmoPolis' technology, and provide the same light output as conventional street lights, but with a reported energy saving of 25%. In addition, the light is white light, which can be preferable for walkways.

LBWF has now finished testing 5 lanterns, and is waiting for an order of 167. These will be trialled in a pedestrian area in Leyton.

The lanterns cost approximately £80 more than conventional lights. In addition, life expectancy is approximately half that of conventional lamps. The additional cost of the trial is being covered by funding provided by TfL. If LBWF decide to roll these out across the Borough, the additional cost will need to be funded by LBWF. As such, it is essential that any benefits in terms of energy savings are monitored, so that the case for wider roll-out can be made.

Approximately 12,000 of all Borough street lights might be suitable for these new lanterns.

LBWF now need to ensure that the results of this trial are monitored so as to evaluate whether the long-term benefits outweigh the additional costs involved.

Non-illuminated Bollards

Traditional traffic bollards are lit using electronic lighting. LBWF has been rolling out non-illuminated bollards, which instead have highly reflective surfaces

Lighting restrictions require that areas of non-illuminated bollards are lit with a separate illuminated beacon, which may negate any energy benefit. As a result, LBWF are also rolling out bollards with solar panels, 10 of which are currently on order.

Indications are that these measures may result in approximately £1000 worth of savings.

Further data on this measure is being collated for a Borough-wide inventory, which should be available in a couple of months.

<p>Policy 7: The Council will review and implement, by the end of 2010, appropriate options for collecting energy data for Street Lighting</p>

Actions identified to meet this Policy objective:

- *Action 7.1: The Council will conduct a review to determine whether the metering of street lighting is a cost-effective approach for gathering energy consumption data.*
- *Action 7.2: Using the results of the review, the Council will develop and maintain an appropriate approach to energy data collection for street lighting.*

Policy 8: The Council will continue to investigate and, where appropriate, trial new energy-saving street lighting technologies in its drive to reduce energy consumption.

Actions identified to meet this Policy objective:

- *Action 8.1: The Council will continue to review and monitor existing demonstrations of alternative street lighting and non-illuminated bollards*
- *Action 8.2: Following the review of potential options, where these are proven to be beneficial the Council shall roll out the technology and retrofit across the Borough.*

2.4.6 Staff Commuting

The Waltham Forest Carbon Footprint report found that emissions from staff commuting comprised approximately 11% of the Council's total footprint. This area is therefore less of a priority than Council energy consumption, however there may be relatively simple actions that could be taken.

According to the results of a Staff Travel Survey conducted during 2007, the majority (56%) of staff drive to work, which also results in the greatest proportion of emissions (see Table 4).

Table 4 CO2 emissions from Staff commuting, by transport mode

Transport mode	CO ₂ Emissions (tonnes/year)
Walking/Cycling	0
Motorcycle	34
Car	3,479
Car share	228
Bus	392
Tube	22
Train	18
Public Transport (combination)	206
Public transport (with cycle)	23
Public transport (with car)	57
Total	4,459

The Council is currently developing proposals for a Travel Plan. This will have the aim of:

- Promoting sustainable travel;
- Reducing the number of staff and visitor single occupancy car trips to the Council offices;
- Increasing the number of staff cycling, walking and using public transport to commute;
- Increasing the number of staff cycling, walking and using public transport for work trips;
- Reducing the need to travel to access Council services.

Given the contribution that staff travel makes to the Council's overall footprint, it is vital that measures are taken to improve the current situation. One concern is that, whilst the Council continues to provide free, unrestricted parking to all staff, any measures to encourage other forms of transport may be less effective. It is therefore recommended that the Council review the Travel Plan as a priority, and set systems in place to ensure that any recommendations are subsequently implemented, monitored and reviewed.

Policy 9: The Council will, by the end of 2009, produce a Travel Plan to promote sustainable transport by employees, minimising private vehicle use and promoting public transport and cycle use. The Council will then ensure all recommendations are implemented by the end of 2010.

Actions identified to meet this Policy objective:

- *Action 9.1: The Council will conduct further surveys of employee travel patterns, to gain a better understanding of the modes of transport used to travel to work, the reasons for choosing these modes and identify possible options for changing behaviour.*
- *Action 9.2: The Council will compile a 'long list' of options for encouraging staff to use alternative modes of transport from single-occupancy cars.*
- *Action 9.3: Using the information gathered under Action 1, the Council will evaluate the options identified under Action 2 in terms of likely impact versus cost of implementation, and use this to develop the travel plan.*
- *Action 9.4: Once the Travel Plan has been developed and approved, the Council will put in place procedures to ensure the recommendations in the plan are implemented and monitored to evaluate success.*

2.4.7 Use of Renewable Energy and CHP within the Council

The Council already has a small number of CHP and PV installations, which generated approximately 5GWh during 2007. This includes six operational CHP plants that supplied power to approximately 1000 residential properties, predominantly council housing. Table 5 indicates how this contributed to the reduction in Waltham Forest's total carbon footprint.

Table 5 Energy consumption and generation within the council

	CO ₂ (tonnes CO ₂ / year)	Energy (kWh)
Energy Generation	-2,615	
<i>of which CHP</i>	-2,614	4,998,436
<i>of which PV</i>	-1	1,400

CHP systems are a more efficient method of producing energy, as transmission losses are reduced and the heat that would otherwise be wasted is utilised in heating water or buildings. This is in line with the third level of the Mayor's energy hierarchy, which refers to 'clean energy'.

Renewable energy, on the other hand, utilises sources of energy other than traditional fossil fuels. Options might include:

- Wind turbines;
- Solar power;
- Solar heating;
- Biomass energy.

Renewable technology is becoming more accessible as interest in the different approaches increases. As such, microgeneration schemes that may not have been viable just a few years ago due to high capital costs, may become more affordable, and therefore more cost effective, in the coming years. As such, it is important that the Council continually reviews options for renewable energy schemes, within new developments but also existing properties.

Policy 10: The Council will actively promote renewable and energy efficient technologies, as well as green energy tariffs, throughout all corporate and school properties, to obtain 10% of energy requirements from renewable sources by 2010, increasing this percentage, and the proportion that comes from renewable technologies, as an ongoing activity.

Actions identified to meet this Policy objective:

- *Action 10.1: The Council will ensure existing CHP and renewable installations are operational, conducting maintenance where necessary.*
- *Action 10.2: The Council will investigate the potential for further green electricity at low tariffs to contribute to overall reductions in carbon emissions from energy use.*
- *Action 10.3: The Council will investigate current options for, and then regularly review the status of, renewable technology to determine whether any are appropriate for existing or planned Council properties.*
- *Action 10.4: The Council will implement new renewable and energy saving measures in Council properties as appropriate.*

2.4.8 Water Saving and Grey Water Recycling within Council Properties

Unlike energy, for which a recent carbon footprint report has been published, data on the water consumption within Council properties is available, but not in a clear, usable form. Pressures on water resources are growing as the population within the Borough grows and more housing is developed. Climate change is likely to exacerbate any pressures, with the recent examples of droughts during the summer months highlighting potential problems.

In order to demonstrate its commitment to water efficiency, as well as energy, it is essential that the Council demonstrates leadership in this area. Measures range from relatively simple and low-cost options, such as using water displacement devices in

toilets so that less water is used per flush, to more sophisticated systems that recycle ‘grey’ water.

Policy 2 recommends that the Council should gather and analyse data on water consumption across the Council. This data should then be reviewed on a regular basis to highlight priority areas for action and determine what sort of measures might be most appropriate.

Policy 11: The Council will actively promote water-saving technologies, including grey-water collection and recycling, throughout Council properties. This policy has an initial target of 2010 for identifying and implementing the first stage of measures, although is intended as an ongoing activity for the Council.

Actions identified to meet this Policy objective:

- *Action 11.1: Using the data collected under Policy 2, the Council will identify key properties where water saving technologies could be most cost-effective.*
- *Action 11.2: The Council will investigate current options for water saving technologies and, using the results from Action 1, implement appropriate options in Council properties.*
- *Action 11.3: The Council will monitor and regularly review options for saving water consumption as an ongoing activity.*

2.5 Energy improvements within the Borough’s homes

2.5.1 Housing within the Borough

Council housing within LBWF is managed by Ascham Homes. As part of their duties, they are required to produce a Home Energy Conservation Report (HECR) under the Home Energy Conservation Act 1995 (HECA). This report covers, not just Council housing, but also Registered Social Landlords (RSLs or Housing Associations), owner-occupiers and private rented accommodation.

About the Home Energy Conservation Act (HECA)

The Home Energy Conservation Act came into force in England in 1996. This Act sets local authorities a challenging target of increasing the energy efficiency of all domestic housing within their boundaries by 30% over the next 10 - 15 years. Every UK local authority with housing responsibilities must produce an energy conservation report that identifies practicable and cost-effective ways of improving the energy efficiency of all residential accommodation in their area; and to report on progress made in implementing the measures.

HECA has focused local council’s attention on the energy efficiency of all residential accommodation, and on developing an integrated approach to their housing and energy efficiency strategies. Improvements achieved through HECA will contribute to meeting the UK's Climate Change commitments. It should be noted however that the HECA reporting process may change as the current method has been found to be less effective than was intended. LBWF must therefore ensure it keeps abreast of any new

requirements and takes new targets into account when considering priority actions and fund allocations.

Progress towards HECA targets

In their most recent progress report, covering the period of April to March 2007, Ascham Homes details progress towards the strategy, which has indicated a 16.18% increase in energy efficiency since 1995/96 levels, with a total energy saving to date of 1,374,948GJ or 124,955 GJ per year.

While the report illustrates the progression towards the HECA strategy, at its current rate it will take another 9.39 years to achieve the 30% increase in energy efficiency against the baseline target. The original number of years estimated to implement the plan was 14 years, therefore whilst improvements are being made, they are not at the rate required to achieve the desired change. Ascham Homes is dependent on LBWF funding, which may restrict the rate at which improvements can be made. This should be considered in the overall review of budgets and structure, discussed later in this Strategy.

The progress report also outlines the activities and planned activities to achieve the HECA strategy, which are believed to carry on in 2007/08 and are outlined below:

- Energy Efficiency Commitment Works (EEC2);
- Warm Front Measures North London Energy Efficiency Advice Centre (NELEEAC);
- Priority Energy Efficiency Central Heating (PEECHS);
- Home Energy Efficiency Training (HEET);
- GLEEN;
- HelpCo Tenant;
- WF Warm Zone.

Ascham Homes also produce a Monitoring Report every month in which the quarterly SAP rating of Local Authority-owned dwellings is monitored against the annual target. The most recent report outlines a target average for the year of 75, while the existing position at the 3-month period averaged 74. The year-to-date performance achieved an average SAP rating of 85, representing a 15% increase and therefore above the initial target.

Additional programmes planned for 2007/08

Ascham Homes, through the HECT have established a strategy to increase the energy efficiency of homes in the Borough. This includes the provision of additional programmes planned for 2007/08 and beyond. Activities include:

- Airtight Sealant;
- Compact fluorescent Lamps;
- Energy Advice to Sheltered Accommodation;
- Housing and Planning Climate Change Working Group;
- Sustainable Energy feasibility Study.

In addition to the targets set by HECA, the Government has set a target for all new homes to be zero carbon by 2016¹⁴. This will significantly influence any new developments in the Borough.

Policy 11: Ascham Homes will continue to seek to identify activities for improving the existing housing stock and associated SAP rating, to enable Waltham Forest to meet the requirements of HECA and any subsequent regulations.

Actions identified to meet this Policy objective:

- *Action 12.1: Continue existing programmes aimed at improving the existing housing stock and associated SAP rating.*
- *Action 12.2: Develop future activities identified in the planned activities for 2007/08, such as airtight sealant and the provision of fluorescent lamps.*
- *Action 12.3: Further investigate the potential of utilising sustainable sources of energy for existing and future developments.*
- *Action 12.4: Investigate the potential for green electricity at low tariffs to contribute to overall reductions in carbon emissions from energy use.*
- *Action 12.5: Work on reducing fuel poverty – national indicator.*

2.5.2 Private Housing within the Borough

Energy and water consumption within private residential housing is a more difficult area for the Council to address, although there are steps the Council can take. The first, as discussed, is leading by example. The measures in this Strategy will highlight the Borough's commitment to energy and water efficiency, as well as acting as a demonstration of workable, effective measures that can be taken.

In addition to this, however, are more targeted measures that can be taken. This may involve promotion of particular energy or water saving techniques. There may also be subsidies or incentives of which residents could take advantage. The Council should aim to highlight and promote these to ensure a wide uptake.

Policy 13: The Council will actively promote energy and water efficiency within private housing in the Borough as an ongoing activity.

Actions identified to meet this Policy objective:

- *Action 13.1: The Council will promote energy and water efficiency techniques and existing subsidy schemes to residents within the Borough.*
- *Action 13.2: The Council will ensure all achievements within Council-owned properties in terms of energy and water savings are well publicised, thus leading by example in the Community.*

¹⁴ Building a Greener Future: policy statement, 23 July 2007, <http://www.communities.gov.uk/publications/planningandbuilding/building-a-greener>

2.6 Planning for a low energy future

Planning has an important role to play in the growth of renewable energy use in the UK. Renewable energy sources will reduce greenhouse gas emissions in the long term and benefit the climate on a global scale. The LBWF Council, in the Waltham Forest Unitary Development Plan: First Review 2006, states that it

‘will seek to ensure that the non-local and long term benefits of renewable energy are given ample consideration in determining planning applications, so that the contribution the locality can make to reducing greenhouse gas emissions is recognised.’¹⁵

Existing LBWF Policies

The Unitary Development Plan, adopted in 2006, outlines planning policies within the Borough. Those policies that relate to energy and water use are outlined below:

- Energy Efficiency, WPM20 - In all new residential, commercial and industrial developments, the Council will seek to ensure that issues affecting design, density, location and orientation have regard to the principles of energy efficiency.
- Renewable Energy, WPM 21 - The Council expects proposals to incorporate and enable 10% of total predicted energy consumption to be from renewable energy sources, through on-site generation for all new commercial/ industrial developments over 1000 sq ms and housing developments of 10 or more units.
- Water Supply Demand Management, WPM17 - The Council will encourage the use of measures in new developments to reduce the demand for water from the mains supply network.
- Transport, BHE4 - Planning applications will be assessed for their transport impact, including cumulative impacts on the environment, the road network, and on all transport modes including public transport, walking, and cycling. The amount of car parking to be provided must have regard to the level of accessibility of the site (for public transport, shops and services) and the implications of the development for traffic congestion, traffic management and the safety of pedestrians, cyclists and other road users.
- Provision of Household Waste and Recycling Centres, WPM3 - The Council will review the provision of a household waste & recycling centre following closure of the Auckland Road waste transfer station.
- Recycling, WPM5 - Bottlebanks, can banks, or other such containers should be located where they are convenient and readily accessible to members of the public. The Council will seek the provision of bottle banks by the use of planning obligations with developers. This may take the form of on-site provision or a

¹⁵ LBWF (2006) Unitary Development Plan, First Review

financial contribution towards siting of the bottle banks in an appropriate location.

Planning is a key area with influence and power to improve energy efficiency within the London Borough of Waltham Forest. Long lead times may restrict how quickly actions can be taken, however the Council is able to apply updated policies on energy use to accompany those already included in the UDP. For example, the Mayor published a review of the London Plan in February 2008, which contains new policies on Climate Change that should be incorporated.

Progress to Date

Establishing the future energy requirements of the Borough, and savings needed to meet Energy targets, is a central issue relating to planning and its ability to inform future energy use in the Borough.

The Annual Monitoring Report (AMR) provides information on the Council's performance in delivering its plan-making function. It monitors the success of development plan policies - assessing the extent to which policies have been implemented and related national and local targets/indicators met.

The results of the AMR in 2006/07 and the performance in relation to the key indicators are outlined in the table below:

- Renewable energy capacity installed by type: The Council has successfully persuaded some developers to include facilities for renewable energy in their housing developments. In 2006/07, 92% of applications for new residential developments over 10 units were approved with a requirement to submit a plan for using renewable energy.
- New residential developments (> 10 units) including recycling/storage facilities 50% of planning applications approved in 2006/07 had provisions for recycling facilities. In 2005/06 the number of new developments with recycling/storage facilities was greater. Recycling materials saves energy, as such encouraging recycling rates also assists with this strategy.

An issue highlighted by the Council was that of ensuring that any plans to incorporate energy and water saving techniques are actually implemented by developers. As such, it is recommended that the Council reviews possible approaches for follow-up of plans, to identify how this can be tackled.

Lean, Green and Clean Energy Generation

As discussed in Section 1.1, the key drivers behind an Energy Strategy are not only to reduce carbon emissions, but also to improve security of supply and reduce fuel poverty.

The promotion of renewable energy and CHP technologies support both of these measures. Renewable energy diversifies supply from one that relies solely on fossil fuels, whilst CHP can improve the efficiency of supply, such that overall demand for those fossil fuels reduces.

Local developments that incorporate these schemes also present benefits for local residents and businesses, as their annual fuel costs are likely to reduce.

In the Mayor's Energy Strategy, Local Authorities are requested to ensure they promote at least one 'zero emission development' in their area by 2010 and one 'showcase renewable energy project'. No target date has been set for this second objective, however given the Mayor's target to triple the capacity of renewable installations by 2020, LBWF should aim to achieve this by this date. In addition, the Government have committed to a target for all new housing developments to be zero carbon by 2016.

Policy 14: Waltham Forest will seek out proposals for at least one showcase renewable energy project to be developed by 2020, with which to demonstrate their commitment to future technologies.

Actions identified to meet this Policy objective:

- *Action 14.1: The Council will establish clear guidelines as to what it considers a 'showcase' project.*
- *Action 14.2: The Council will promote the policy to potential developers in order to encourage plans to be submitted.*
- *Action 14.3: The Council will work with developers to ensure plans maximise the potential of existing and emerging renewable energy technologies.*

Policy 15: Waltham Forest will seek out proposals for at least one new zero carbon development by 2016, with which to progress the Borough's energy efficiency targets.

Actions identified to meet this Policy objective:

- *Action 15.1: The Council will establish clear guidelines for developers as to what it considers a 'zero-carbon development'.*
- *Action 15.2: The Council will use its planning powers to encourage high energy efficiency standards, including the use of CHP and renewable energy in all new commercial and industrial developments.*
- *Action 15.3: The Council will actively promote the concept of zero carbon development to potential developers, and work with them to identify the potential options and mitigate any issue, such that the vision of at least one zero carbon development in Waltham Forest can be realised.*

2.7 Ensuring the progression of the Energy Strategy

The policies presented in this Energy Strategy will require commitment by all areas of the Council. It is vital that the relevant departments take ownership of those items that affect them. Some of the measures highlighted may be relatively straightforward activities that can be performed in the course of usual work. However, there are likely to be certain actions that will require additional effort. The Council must therefore ensure that any future actions take the appropriate resource and training requirements into account.

To support the Council in this approach, it may be useful to consider various organisations that are experienced in the development and implementation of measures to meet an Energy Strategy. Two examples of these are:

The Carbon Trust’s Local Authority Carbon Management Programme

This programme provides local authorities with technical and change management support and guidance to help them realise carbon emissions savings. The primary focus of the work is to reduce emissions under the control of the local authority such as buildings, vehicle fleets, street lighting and landfill sites. The Council has registered an interest with the Carbon Trust for its 2008 programme, although at time of writing a decision was yet to be confirmed.

Green500

This London-based scheme includes a number of services, including a structured carbon mentoring scheme providing expert help and advice on reducing participants’ London carbon footprint. The Green500 also includes an accreditation element. This takes the form of an annual Green500 awards ceremony hosted by the Mayor of London, which publicly rewards the efforts of member organisations.

Policy 16: The Council will review its internal procedures, budgets and structures to ensure that the objectives of the Energy Strategy can be integrated into decision-making.

Actions identified to meet this Policy objective:

- *Action 16.1: The Council will review the Energy Strategy in relation to its annual budget and consider ring-fencing of funds to ensure actions can be taken.*
- *Action 16.2: The Council will set up a team of stakeholders who will be responsible for driving the implementation of the Strategy.*
- *Action 16.3: The Council will review its internal procedures and structures and identify whether these assist with or present barriers to the implementation of the Energy Strategy. The council will then take necessary action to ensure internal structures and procedures support the implementation.*
- *Action 16.4: The Council will evaluate resource and training requirements for proposed actions and determine where these are most appropriately deployed.*

- *Action 16.5: The Council will seek additional sources of funding from Government and European energy and water efficiency initiatives*
- *Action 16.6: The Council will seek additional sources of funding from the private sector, such as through sponsorship of initiatives*

Policy 17: The Council will investigate schemes such as the Carbon Trust's Local Authority Carbon Management Scheme and the Mayor of London's Green500 scheme, to determine, by the end of 2008, whether these might support LBWF in the implementation of the Energy Strategy.

Actions identified to meet this Policy objective:

- *Action 17.1: The Council will contact the various organisations that provide support in the implementation of Energy strategies, to establish whether the support available meets the Council's needs.*

3 Appendices

3.1 Other Policies and Measures and their impact on the Energy Strategy

There are a large number of European, UK and regional policies and measures that might influence the implementation of the energy strategy, either by supporting any measures taken by LBWF, setting targets for achievements, making available funds or incurring penalties. This section attempts to highlight the key policies that are likely to have an impact.

3.1.1 Energy Performance of Buildings

The legislation for Energy Performance of Buildings Directive (EPBD) will be laid in Parliament in March 2007 and will come into force in a phased manner between 6 April 2007 and 4 January 2009.

The principal objectives of this legislation are:

- To promote the improvement of the energy performance of buildings within the EU through cost effective measures.
- To promote the convergence of building standards towards those of Member States which already have ambitious levels.

A key element of this legislation is the requirement for two forms of energy certificate. Firstly, all buildings will be required to have Energy Performance Certificates (EPCs) when they are constructed, rented or sold. These will grade performance of a building on a scale from A-G similar to the system used for grading domestic appliances such as refrigerators and washing machines.

An EPC will be accompanied by a recommendation report that lists cost effective and other measures (such as low and zero carbon generating systems) to improve the energy rating of the building. The certificate will also be accompanied by information about the rating that could be achieved if all the recommendations were implemented.

The second type of certificate is Display Energy Certificates (DECs). These must be displayed on all buildings that are occupied by a public authority or an institution providing a public service to a large number of persons that with a total useful area greater than 1000m², in a prominent place clearly visible to the public.

DECs show the actual energy use of a building, based on the energy consumption of as recorded by gas, electricity and other meters. A DEC will always be accompanied by an Advisory Report that lists cost effective measures to improve the energy rating of the building.

The introduction of the regulations will be phased as follows:

- By 1st April 2008, all newly constructed or converted homes will require an EPC. In addition, all buildings other than homes with a floor area of over 10,000 m² will require a certificate at construction, sale or rent.
- By 1st July 2008, EPCs will also apply to the construction, sale and rent of all buildings other than homes with a floor space of over 2500 m².
- By 1st October 2008 all homes will require EPCs on sale or rent, and all buildings other than homes will require them for construction, sale or rent. All public buildings over 1,000 m² will also require a DEC.
- A first inspection of all existing air-conditioning systems over 250kW must have been done by 4th January 2009. All remaining air-conditioning systems must be inspected by 4th January 2011.

Trading Standards will enforce certification of existing buildings. Penalty fines will apply if a valid certificate is not produced up to 6 months after the certificate was required or a valid Display Energy Certificate is not displayed. These fines will depend upon type of building and the particular breach of regulations.

3.1.2 Carbon Reduction Commitment

In order to meet its national commitment to deliver carbon savings of 1.2 MtC per year by 2020 from large commercial and public sector organisations. The UK Government has introduced the Carbon Reduction Commitment (CRC). This is a UK mandatory cap and trade scheme to secure the required savings by 2020.

CRC will target emissions from energy use by organisations whose mandatory half-hourly metered electricity consumption is greater than 6000 MWh per year. This would generally capture organisations with annual electricity bills above £500,000.

Under the scheme, participants will have to hold, and subsequently surrender, sufficient allowances to cover their emissions during the year in order to ensure compliance. Therefore, participants who did not reduce their emissions, or who had rising emissions, would be required to compete for allowances within an annually tightening market cap. Participants will be able to obtain allowances by bidding in an annual auction, through trading on the CRC market or through buying allowances through the CRC buy-only safety valve link to the EU ETS.

Revenue raised by the Government through the sale of allowances will be recycled back to participants, by means of a simple, annual payment proportional to their average annual emissions since the start of the scheme, with a bonus or penalty depending on their position in a CRC league table. Therefore, those organisations with rising emissions would receive a proportionally lower recycling payment than those organisations reducing their emissions. The CRC league table will be made public in order to further incentivise carbon reductions.

The government is proposing mandatory penalties for non-compliance with the scheme rules of £25 per tonne of CO₂ in Phase 1 rising to £75 per tonne of CO₂ in Phase 2.

Local Government Performance Network

Defra has released a new set of performance indicators, to be implemented from financial year 2008-2009 which place new responsibilities on Local Authorities as regards climate change. These include:

- Achieving CO₂ reduction in local authority buildings, operations & service delivery.
- Encouraging community action on climate change along the lines of CO₂ allocations per capita.

Progress to a climate resilient local area i.e. preparing to mitigate climate change. This is a clear indication from central government of the key role it sees local authorities playing in taking action on climate change and sustainable use of energy.

Defra Climate Change Bill

The Bill was introduced into the House of Lords on 14 November 2007 with the aim to receive Royal Assent by spring or early summer 2008. This would put into statute law the UK's targets to reduce carbon dioxide emissions through domestic and international action by at least 60 per cent by 2050 and 26-32 per cent by 2020, against a 1990 baseline.

This Bill will also seek to create a new approach to managing and responding to climate change in the UK through setting ambitious targets, providing powers with which to achieve them, strengthening the institutional framework, enhancing the UK's ability to adapt to the impact of climate change and establishing clear and regular accountability to the UK, Parliament and devolved legislatures.

Energy Efficiency and Water Standards in the Building Regulations

The Building Regulations in England and Wales were changed in 2006 to reduce CO₂ emissions from buildings in line with the commitments made in the 2003 Energy White Paper and to implement part of the Energy Performance of Buildings Directive (EPBD).

Part L of the Building Regulations relates to the conservation of fuel and power. These now include maximum CO₂ emissions for whole buildings and higher CO₂ standards. The regulations will apply both to the construction of new buildings and renovation of existing buildings (with a total surface area over 1,000m²).

Compliance will be determined by demonstrating that the CO₂ performance target has been met; energy efficiency limits are met by all elements of the design (unless there are exceptional circumstances); the building will not suffer from excessive solar gain; the constructed building matches the design; and information is provided to enable the building to be operated efficiently. The Government has stated that it will work with

local authorities to see how compliance with the Building Regulations could be improved.

Code for Sustainable Homes

The Code for Sustainable Homes (CSH) was launched on the 13 December 2006, as a new national standard for sustainable design and construction of new homes. Since April 2007 the developer of any new home in England can choose to be assessed against the Code.

On the 27 February 2008 the Government confirmed mandatory rating against the Code will be implemented for new homes from 1 May 2008.

The Code measures the sustainability of a new home against categories of sustainable design, rating the 'whole home' as a complete package. The Code uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home. The Code sets minimum standards for energy and water use at each level and, within England, replaces the EcoHomes scheme, developed by the Building Research Establishment (BRE).

The Code also gives new homebuyers better information about the environmental impact of their new home and its potential running costs, and offer builders a tool with which to differentiate themselves in sustainability terms.

The Code complements the system of Energy Performance Certificates for new homes, under the Energy Performance of Buildings Directive (EPBD).

Climate Change Levy (tax on energy use)

The Climate Change Levy (CCL) was set up to encourage the business and public sectors to improve energy efficiency and reduce emissions of greenhouse gases through a price based signal on energy consumption. To maintain the levy's environmental impact, from 1 April 2007 CCL rates are being increased on a yearly basis in line with inflation. The rate of the levy varies dependant on the fuel utilised. The London Borough of Waltham Forest is liable to pay the CCL.

Planning Policy Statements

Planning Policy Statements (PPS) set out the Government's national policies on different aspects of land use planning in England.

PPS1, released on 31st January 2005, sets out the overarching planning policies on the delivery of sustainable development through the planning system. This states that development plan policies should take account of environmental issues such as mitigation of the effects of, and adaptation to, climate change through the reduction of GHG emissions. In addition, in December 2007, the Government published the Planning and Climate Change supplement to PPS1 which sets out how planning should help shape places with lower carbon emissions and resilient to the climate change now accepted as inevitable.

Planning Policy Statement 22 (PPS22), 'Renewable Energy' sets out the Government's policies for renewable energy, which planning authorities should have regard to when preparing local development documents and when taking planning decisions. Local authorities are encouraged to set a target for renewable energy generation from new development in their area. Merton pioneered this policy with a 10% onsite renewable energy target.

Home Energy Conservation Act (HECA):

The Home Energy Conservation Act came into force in England in 1996. This Act sets local authorities a challenging target of increasing the energy efficiency of all domestic housing within their boundaries by 30% over the next 10 - 15 years.

The London Borough of Waltham Forest is required to produce annual progress reports on energy efficiency, which outline the actions taken in their communities to improve energy efficiency under this legislation. The HECA reporting process may change however as the current method has been found to be less effective than was intended.

3.2 Detailed Actions for Implementation

The following details the specific actions the Council will take in order to meet the Policy statements in the Energy Strategy, together with estimations of timescales, resource requirements, responsibility and potential energy and water savings. These are then presented in a GANTT chart for ease of viewing.

Timescales:

- Short-term refers to actions that should be taken within the next two years, either because they are required in order to comply with other legislation, or because they underlie the ability of the Council to take the remaining actions.
- Medium-term is considered to be the period from 2010 to 2016. Actions here are less of a priority, however must be met by 2016 to comply with regulations.
- Long-term is considered to be actions that must be taken up to 2050.
- Ongoing refers to activities that must be performed on a regular basis.

Resources:

- Actions with low resource requirements are assumed to require little additional effort to the work currently performed by the Council
- Medium is considered where additional effort and commitment is likely by those involved.
- High resource requirements might require a substantial amount of time from a team of individuals.

Potential Energy Savings:

- This refers to the possible impact on energy and water consumption within the Borough, where low would result in minimal effect, but high could have a large beneficial impact.
- Items listed as ‘Supporting Measures’ are key to the implementation of the Strategy, however will not, in isolation, result in energy and water savings. Instead they support the Council in implementing measures.

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
Policy 1: The Council will ensure that, by the middle of 2009, all policies that may affect energy and water consumption within the Borough are consistent with the recommendations of the Energy Strategy.	<ul style="list-style-type: none"> • <i>Action 1.1: The Council will review current policies to assess whether these meet the requirements of the Energy Strategy</i> 	Mid 2009	Medium	All departments	High
	<ul style="list-style-type: none"> • <i>Action 1.2: Where existing policies do not meet the requirements of the Energy Strategy, the relevant departments will make recommendations, together with appropriate timescales, as to how these policies might be amended to address energy and water concerns.</i> 	Short-term	Low		
	<ul style="list-style-type: none"> • <i>Action 1.3: The Council will establish a framework for policy-making to ensure that all future policies incorporate the recommendations of the Energy Strategy</i> 	Short-term	Low		
Policy 2: The Council will compile an accurate database of its energy and water consumption within all council-owned property, including street lighting and council vehicles, by the end of 2008.	<ul style="list-style-type: none"> • <i>Action 2.1: The Council will complete its review options for data collection procedures and IT system, and determine the most appropriate methods and approaches for going forward, including the identification of any necessary resource and training</i> 	Medium term	Medium	All departments, supported by Energy Efficiency	Supporting measure
		End 2008	Medium		
		Short-term	Low		

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<ul style="list-style-type: none"> • <i>Action 2.2: The Council will develop procedures to be followed by all departments when collecting and monitoring energy and water data</i> • <i>Action 2.3 The Council will use water data gathered to determine the water consumption baseline for the Borough, and use this to support the case for water efficiency measures</i> • <i>Action 2.4: The Council will conduct annual assessments of the energy and water consumption in its operations.</i> 	<p>Short-term</p> <p>Short-term</p> <p>Ongoing</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p>		
Policy 3: The Council will develop, by the end of 2009, an Energy and Water Action Plan for its buildings, to incorporate a range of both short- and long-term measures for achieving real reductions in the Corporate Estate, with a goal of a 20% reduction in energy use by 2015, in line with the London Plan.	<ul style="list-style-type: none"> • <i>Action 3.1: The Council will conduct an energy and water audit of its Corporate buildings to determine priority areas in terms of energy and water consumption</i> • <i>Action 3.2: The Council will develop an Action Plan, which outlines the energy and water efficient measures and required investment and financial savings the next 5 years. This should build on actions agreed in the Council Motion on Climate Change.</i> • <i>Action 3.3: The Council will actively promote and progress energy and water efficiency measures within its Corporate</i> 	<p>End 2009</p> <p>Short-term</p> <p>Short-term</p> <p>Short-term</p>	<p>Medium</p> <p>Low</p> <p>Medium</p> <p>Medium</p>	<p>Energy Efficiency and Property</p>	<p>Medium to High</p>

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<i>Buildings, aiming to increase awareness in staff with regards the steps they can take to support this.</i>				
Policy 4: The Council will develop, by the end of 2009, a “Sustainable Energy and Water for Schools Action Plan” in conjunction with the BSF programme, to promote energy and water efficiency measures and encourage pupil participation.	<ul style="list-style-type: none"> • <i>Action 4.1: The Council will conduct an energy and water audit of its school buildings to determine priority areas in terms of energy and water consumption</i> • <i>Action 4.2: The Council will use the information provided by the audits to evaluate the feasibility of different options, such as grey water recycling building management systems (BMS) and renewable energy technologies.</i> • <i>Action 4.3: The Council will work with the Borough’s schools to develop an Action Plan outlining energy efficiency and reduce CO2 emissions will be improved.</i> • <i>Action 4.4: The Council will promote the activities detailed in the Action Plan to encourage participation by pupils and staff, such that measures are also learning opportunities.</i> 	<p>End 2009</p> <p>Short-term</p> <p>Short-term</p> <p>Short-term</p> <p>Ongoing</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>	<p>Energy Efficiency and Schools</p>	<p>High</p>

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
Policy 5: The Council will aim for all school buildings to be models of energy efficiency, renewable energy use and water management by 2020	<ul style="list-style-type: none"> <i>Action 5.1: The Council will regularly review both data on energy and water consumption in its schools, and energy and water saving measures, to build on and improve energy and water activities detailed in the Sustainable Energy and Water for Schools Action Plan, identifying both low-cost, easy to implement measures and longer term investment opportunities.</i> 	End 2020	Medium	Energy Efficiency and Schools	High
	<ul style="list-style-type: none"> <i>Action 5.2: The Council will work with developers to ensure all new schools built from 2008 onwards achieve at least 'Very Good' BREEAM requirements and, where possible, 'Excellent'.</i> 	Medium-term	Low		
	<ul style="list-style-type: none"> <i>Action 5.3: The Council will work with schools to ensure all refurbished schools will, by 2020, achieve at least 'Very Good' BREEAM ratings.</i> 	Ongoing	Low		
	<ul style="list-style-type: none"> <i>Action 5.4: The Council will actively promote low or zero carbon developments in all new and refurbished schools</i> 	Long-term	Medium		
Policy 6: The Council will, by the end of 2010, conduct a review of fleet deployment and fuel efficiency, and identify whether there are areas for improvements.	<ul style="list-style-type: none"> <i>Action 6.1: The Council will gather further data on the fuel consumption and mileage of vehicles and their drivers to</i> 	End 2010	Medium	Transport	Medium
		Short-term	Medium		

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<p><i>identify any priority areas for action.</i></p> <ul style="list-style-type: none"> <i>Action 6.2: The Council will investigate the potential of funded SAFED for vans training for drivers.</i> <i>Action 6.3: The Council will consider whether the most appropriate vehicles are being deployed for each job and examine how this might be addressed.</i> <i>Action 6.4: The Council will review maintenance procedures for vehicles, to improve fuel efficiency and safety.</i> 	<p>Medium-term</p> <p>Medium-term</p> <p>Medium-term</p>	<p>Low</p> <p>Low</p> <p>Medium</p>		
Policy 7: The Council will review and implement, by the end of 2010, appropriate options for collecting energy data for Street Lighting	<ul style="list-style-type: none"> <i>Action 7.1: The Council will conduct a review to determine whether the metering of street lighting is a cost-effective approach for gathering energy consumption data.</i> <i>Action 7.2: Using the results of the review, the Council will develop and maintain an appropriate approach to energy data collection for street lighting.</i> 	<p>End 2010</p> <p>Short-term</p> <p>Medium-term</p>	<p>Low</p> <p>Low</p> <p>Medium</p>	Street Lighting	Supporting Measure
Policy 8: The Council will continue to investigate and, where appropriate, trial new energy-saving street lighting technologies in its drive to reduce energy consumption.	<ul style="list-style-type: none"> <i>Action 8.1: The Council will continue to review and monitor existing demonstrations of alternative street lighting and non-illuminated</i> <i>Action 8.2: Following the review of potential options, where</i> 	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>	<p>Medium</p> <p>Low</p> <p>Medium</p>	Street Lighting	Medium to High

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<i>these are proven to be beneficial the Council shall roll out the technology and retrofit across the Borough</i>				
Policy 9: The Council will, by the end of 2008, produce and implement recommendations in a travel plan to promote sustainable transport by employees, minimising private vehicle use and promoting public transport and cycle use. The Council will then ensure all recommendations are implemented by the end of 2010.		End 2010	Medium	Environmental Services – Transportation Policy	Medium to High
<ul style="list-style-type: none"> • <i>Action 9.1: The Council will conduct further surveys of employee travel patterns, to gain a better understanding of the modes of transport used to travel to work, and the reasons for choosing these modes</i> 	Short-term	Medium			
<ul style="list-style-type: none"> • <i>Action 9.2: The Council will compile a ‘long list’ of options for encouraging staff to use alternative modes of transport from single-occupancy cars</i> 	Short-term	Low			
<ul style="list-style-type: none"> • <i>Action 9.3: Using the information gathered under Action 1, the Council will evaluate the options identified under Action 2 in terms of likely impact versus cost of implementation, and use this to develop the travel plan.</i> 	Short-term	Medium			
<ul style="list-style-type: none"> • <i>Action 9.4: Once the Travel Plan has been developed and approved, the Council will put in place procedures to ensure the recommendations in the plan are implemented and monitored to evaluate success.</i> 	Medium-term	Medium			

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
Policy 10: The Council will actively promote renewable and energy efficient technologies, as well as green energy tariffs, throughout all corporate and school properties, to obtain 10% of energy requirements from renewable sources by 2010, increasing this percentage, and the proportion that comes from renewable technologies, as an ongoing activity.	<ul style="list-style-type: none"> • <i>Action 10.1: The Council will ensure existing CHP and renewable installations are operational, conducting maintenance where necessary</i> 	2010 and ongoing	Medium	Environmental Services – Property and Energy Efficiency	Medium to high
	<ul style="list-style-type: none"> • <i>Action 10.2: The Council will investigate the potential for further green electricity at low tariffs to contribute to overall reductions in carbon emissions from energy use</i> 	Short-term	Medium		
	<ul style="list-style-type: none"> • <i>Action 10.3: The Council will investigate current options for, and then regularly review the status of, renewable technology to determine whether any are appropriate for existing or planned Council properties.</i> 	Medium-term	Low		
	<ul style="list-style-type: none"> • <i>Action 10.4: The Council will implement new renewable and energy saving measures in Council properties as appropriate</i> 	Ongoing	Medium		
Policy 11: The Council will actively promote water-saving technologies, including grey-water collection and recycling, throughout Council properties. This policy has an initial target of 2010 for identifying and implementing the first stage of measures, although is intended as an ongoing activity for the Council.		2010 and Ongoing	Medium	Environmental Services – Property and Energy Efficiency	Medium to high
	<ul style="list-style-type: none"> • <i>Action 11.1: Using the data collected under Policy 2, the Council will identify key properties where water saving</i> 	Ongoing	Medium to High		
		Medium-term	Low		

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<p><i>technologies could be most cost-effective</i></p> <ul style="list-style-type: none"> <i>Action 11.2: The Council will investigate current options for water saving technologies and, using the results from Action 1, implement appropriate options in Council properties.</i> 	Medium to Long	Low to High, depending upon measure		
Policy 12: Ascham Homes will continue to seek to identify activities for improving the existing housing stock and associated SAP rating, to enable Waltham Forest to meet the requirements of HECA and any subsequent regulations	<ul style="list-style-type: none"> <i>Action 12.1: Continue existing programmes aimed at improving the existing housing stock and associated SAP rating</i> <i>Action 12.2: Develop future activities identified in the planned activities for 2007/08, such as airtight sealant and the provision of fluorescent lamps</i> <i>Action 12.3: Further investigate the potential of utilising sustainable sources of energy for existing and future developments</i> <i>Action 12.4: Investigate the potential for green electricity at low tariffs to contribute to overall reductions in carbon emissions from energy use</i> <i>Action 12.5: Work on reducing fuel poverty – national indicator</i> 	<p>Ongoing</p> <p>Ongoing</p> <p>Short-term</p> <p>Medium-term</p> <p>Medium-term</p> <p>Ongoing</p>	<p>Medium</p> <p>Low</p> <p>Low</p> <p>Medium</p> <p>Low</p> <p>Medium</p>	Ascham Homes	Medium

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
Policy 13: The Council will actively promote energy and water efficiency within private housing in the Borough as an ongoing activity.	<ul style="list-style-type: none"> • <i>Action 13.1: The Council will promote energy and water efficiency techniques and existing subsidy schemes to residents within the Borough</i> • <i>Action 13.2: The Council will ensure all achievements within Council-owned properties in terms of energy and water savings are well publicised, thus leading by example in the Community.</i> 	Ongoing	Medium	Housing	Medium to High
		Short-term	Medium		
		Ongoing	Medium		
Policy 14: Waltham Forest will seek out proposals for at least one showcase renewable energy project to be developed by 2020, with which to demonstrate their commitment to future technologies.	<ul style="list-style-type: none"> • <i>Action 14.1: The Council will establish clear guidelines as to what it considers a ‘showcase’ project.</i> • <i>Action 14.2: The Council will promote the policy to potential developers in order to encourage plans to be submitted</i> • <i>Action 14.3: The Council will work with developers to ensure plans maximise the potential of existing and emerging renewable energy technologies</i> 	End 2020	Medium	Sustainable Communities Delivery Unit	High
		Medium-term	Low		
		Medium-term	Low		
		Long-term	Medium		
Policy 15: Waltham Forest will seek out proposals for at least one new zero carbon development by 2016, with which to progress the Borough’s energy efficiency targets.	<ul style="list-style-type: none"> • <i>Action 15.1: The Council will establish clear guidelines for</i> 	End 2016	High	Sustainable Communities Delivery Unit	High
		Short-term	Medium		

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<p><i>developers as to what it considers a ‘zero-carbon development’</i></p> <ul style="list-style-type: none"> <i>Action 15.2: The Council will use its planning powers to encourage high energy efficient standards, including the use of CHP and renewable energy in all new commercial and industrial developments</i> <i>Action 15.3: The Council will actively promote the concept of zero carbon development to potential developers, and work with them to identify the potential options and mitigate any issue, such that the vision of at least one zero carbon development in Waltham Forest can be realised</i> 	<p>Medium-term</p> <p>Long term</p>	<p>Medium</p> <p>High</p>		
Policy 16: The Council will review its internal procedures, budgets and structures to ensure that the objectives of the Energy Strategy can be integrated into decision-making.	<ul style="list-style-type: none"> <i>Action 16.1: The Council will review the Energy Strategy in relation to its annual budget and consider ring-fencing of funds to ensure actions can be taken.</i> <i>Action 16.2: The Council will set up a team of stakeholders who will be responsible for driving the implementation of the Strategy.</i> <i>Action 16.3: The Council will review its internal procedures and structures and identify whether these assist with or present barriers to the implementation of the Energy Strategy. The council will then take necessary action to</i> 	<p>Mid 2009</p> <p>Short-term</p> <p>Short-term</p> <p>Short-term</p>	<p>Medium</p> <p>Medium</p> <p>Low</p> <p>Low</p>	<p>Procurement, Finance & Energy Efficiency</p>	<p>Supporting Measure</p>

Policy	Action	Timescale	Resources (high / med / low)	Responsibility	Potential Energy / Water Savings
	<p><i>ensure internal structures and procedures support the implementation.</i></p> <ul style="list-style-type: none"> <i>Action 16.4: The Council will evaluate resource and training requirements for proposed actions and determine where these are most appropriately deployed.</i> <i>Action 16.5: The Council will seek additional sources of funding from Government and European energy and water efficiency initiatives</i> <i>Action 16.6: The Council will seek additional sources of funding from the private sector, such as through sponsorship of initiatives</i> 	<p>Short-term</p> <p>Short-term and ongoing</p> <p>Medium-term</p>	<p>Low</p> <p>Medium</p> <p>Medium</p>		
Policy 17: The Council will investigate schemes such as the Carbon Trust’s Local Authority Carbon Management Scheme and the Mayor of London’s Green500 scheme, to determine whether these might support LBWF in the implementation of the Energy Strategy.	<ul style="list-style-type: none"> <i>Action 17.1: The Council will contact the various organisations that provide support in the implementation of Energy strategies, to establish whether the support available meets the Council’s needs.</i> 	<p>End 2008</p> <p>Short-term</p>	<p>Low</p> <p>Low</p>	<p>Environment & Regeneration / Climate Change</p>	<p>Supporting Measure</p>

3.2.1 Suggested GANTT Chart of Actions

Policy	Short term				Medium Term				Long term		
	Mid 2008	End 2008	Mid 2009	End 2009	Mid 2010	End 2010	End 2011	End 2012	End 2016	End 2020	End 2050
1	█	█	█								
1.1	█	█									
1.2			█	█							
1.3		█	█								
2	█	█									
2.1	█										
2.2		█	█								
2.3	█	█									
2.4	Ongoing										
3		█	█	█							
3.1		█									
3.2			█	█							
3.3		Ongoing									
4		█	█	█							
4.1		█									
4.2		█	█								
4.3			█	█							
4.4				Ongoing							
5			█								
5.1			Ongoing								
5.2			█	█	█	█	█	█	█	█	
5.3			█	█	█	█	█	█	█	█	
5.4				Ongoing							
6			█								
6.1			█	█							
6.2				█	█	█	█	█	█	█	
6.3				█	█	█	█	█	█	█	
6.4				█	█	█	█	█	█	█	
7	█	█	█	█	█	█	█	█	█	█	█
7.1	█	█									
7.2			█	█	█	█	█	█	█	█	█
8	█										
8.1	Ongoing										
8.2	Ongoing										
9	█										
9.1	█	█									
9.2	█										
9.3		█	█								
9.4			█	█	█	█	█	█	█	█	
10	█										
10.1	█	█	█								
10.2		█	█								
10.3			Ongoing								
10.4				Ongoing							
11	█										
11.1					█	█	█	█	█	█	

Policy	Short term				Medium Term					Long term	
	Mid 2008	End 2008	Mid 2009	End 2009	Mid 2010	End 2010	End 2011	End 2012	End 2016	End 2020	End 2050
11.2											
12											
12.1	Ongoing										
12.2											
12.3											
12.4											
12.5	Ongoing										
13											
13.1											
13.2				Ongoing							
14											
14.1											
14.2											
14.3											
15											
15.1											
15.2											
15.3											
16											
16.1											
16.2											
16.3											
16.4											
16.5											
16.6											
17											
17.1											