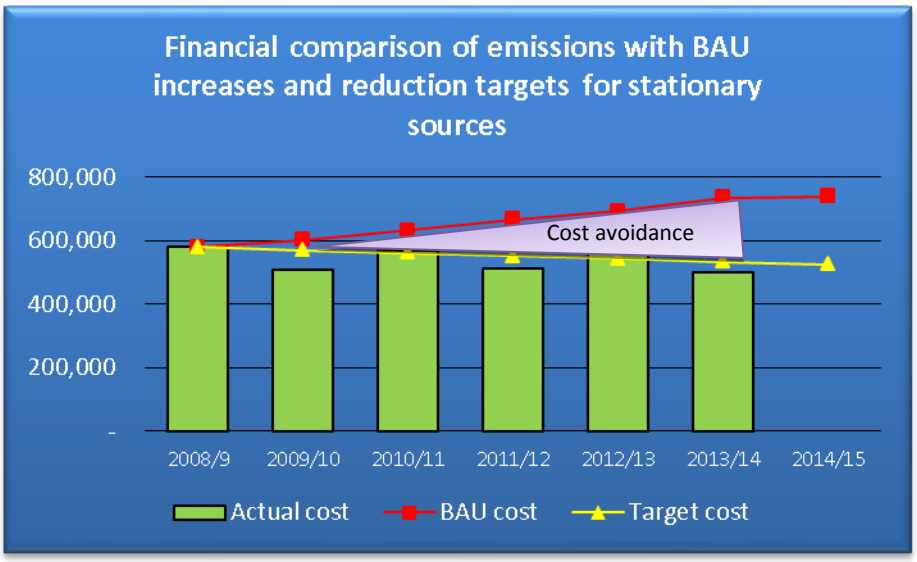
Energy Efficiency Plan 2015-2020

PV array at Cranleigh Leisure Centre

1 Introduction

Waverley's Carbon Management Plan 2010-2015 (CMP) was adopted in 2010 and committed Waverley to reducing energy consumption and cost. It has proven to be a very useful vehicle to engage with services across the Council. It pulled together many of the activities already taking place across the services and provided the framework for assessing future projects in terms of both their financial savings and carbon dioxide (CO_2).



Over the last 5 years it is estimated that we have avoided energy cost of approximately £680,000, from Council buildings, when comparing to a Business as Usual scenario (BAU) of increasing energy costs and natural growth. By adopting the CMP we have managed to maintain energy expenditure below 2008 levels.

A number of energy efficiency projects have already taken place and some further projects are underway. It remains important that Waverley is leading by example and encourages energy efficiency in the Borough as a whole. Over the next few years Waverley will aspire to become even more energy efficient and achieve further cost reductions. This Energy Efficiency Plan (EEP) will supersede the CMP and is setting ambitious and realistic targets for energy reductions. The new plan will be extending over a period of five years, with annual interim reviews.

The strategic management and delivery of the new plan will be overseen by The Energy Efficiency Board which comprises of the relevant portfolio holders and the Director responsible of sustainability.

2 Background

2.1 Drivers for energy efficiency and managing greenhouse gas emissions

There are direct benefits to organisations from measuring and managing energy consumption. The benefits are lower energy and resource costs, a better understanding of their exposure to the risks of our changing climate and a demonstration of leadership which will help strengthen their green credentials in an increasingly environmentally conscious marketplace.

National and regional legislation places requirements on Local Authorities to promote effective management of energy use and carbon emissions. Waverley recognises these major challenges and its responsibility to demonstrate leadership in these areas.

2.1.1 National Drivers

Legislation
The Climate Change Act 2008 sets a long-term greenhouse gas reduction target for the UK of 80% by 2050, with short-term goals of 35% by 2020 and 50% by 2025[1].

Greenhouse gas reporting
Recognising local authorities' pivotal role in leading energy efficiency and greenhouse gas (GHG) reductions, the Department for Energy and Climate Change (DECC) signed a Memorandum of Understanding (MOU) with the Local Government Association that requires LAs to measure and report their greenhouse gas (GHG) emissions[2] in line with the internationally recognised GHG protocol.

This is in accordance with Defra's current Environmental Reporting Guidelines and Councils are required to publish annually a report on their GHG emissions and reductions.

Home Energy Conservation Act 1995
The Home Energy Conservation Act (HECA) requires local authorities in England, with housing responsibilities, to outline plans to improve the energy efficiency of residential properties. This should include measures to utilise finance available from

[1] More information on the Climate Change Act 2008 can be found at: http://www.legislation.gov.uk/ukpga/2008/27/contents
[2] More information on the MOU between DECC and the LGA and local authority GHG reporting can be found at: https://www.gov.uk/sharing-information-on-greenhouse-gas-emissions-from-local-authority-own-estate-and-operations-previously-ni-185

central government and involve local community groups, social housing partners and town/parish councils[3].

Carbon Reduction Commitment
The CRC is a mandatory emissions trading scheme for organisations whose total electricity consumption is greater than 6,000MWh across the private and public sector, recorder on half hourly meters. The scheme requires eligible organisations to purchase an emissions allowance for each tonne of CO_2 emitted. The current price is £12 per tonne of CO_2.

At present Waverley is not eligible for this scheme because the total electricity consumption from sites that are on half hour meters is only approximately 500,000 kWh a year. We should remain proactive and prepared for changes to this scheme which may result in eligibility[4].

2.1.2 Local Drivers

Energy Prices
Energy and fuel costs have risen dramatically in recent years, energy costs rose in the commercial sector by 115% for electricity and 95% for gas between 2004 and 2011[5]. This trend is expected to continue over the long-term with a further increase to energy bills of 42% predicted by 2020[5].

Community leadership
Councils have a unique insight and reach into communities. They can ensure carbon reduction policies benefit communities and protect the most vulnerable.

Waverley recognises the challenges presented by increasing energy and fuel costs and the need for activities and operations to become more efficient. Waverley also recognises its responsibility to demonstrate leadership in managing emissions and become a more efficient and resilient organisation.

Corporate Objectives
Waverley is committed to providing excellent services that deliver value for money. By taking action to reduce the use of energy across the organisation, we are reducing the impact of increased energy costs allowing monies to be available for service provision.

[3] More information on the HECA can be found at: http://www.legislation.gov.uk/ukpga/1995/10/contents

[4] More information on the CRC can be found at: https://www.gov.uk/government/policies/reducing-demand-for-energy-from-industry-businesses-and-the-public-sector--2/supporting-pages/crc-energy-efficiency-scheme

[5] Committee on Climate Change, 2012, Energy prices and bills – impacts of meeting carbon budgets

Energy efficiency can contribute to resolving the financial pressure and underpin Waverley's financial strategy.

2.2 Setting the scene

A complete data set for GHG emissions arising from buildings and transport for Waverley Borough Council were first collected in the financial year 2008-09. This data was gathered to comply with the then National Indicator 185 (NI185) and it was selected as the year which any future carbon reductions will be compared against. The year 2008-09 will remain the baseline year to demonstrate GHG emission reduction for the EEP period.

2.2.1 Scope

The scope of emissions reported under Government requirement is very specific and limited to non domestic emission sources; therefore it does not include emissions that result from Waverley owned council housing.

Waverley's carbon emissions were being monitored since 2008-09 and the emissions of form the baseline against which we monitor our progress. The following emission sources are included in the scope of this plan:

- Council buildings: Offices, leisure centres, car park lighting, pavilions, community rooms.
- Transport mileage: Mileage undertaken by contractors to provide services to residents on behalf of Waverley. Service include: waste collection, grounds maintenance, housing maintenance and some smaller services.
- Business mileage: vehicle mileage carried out by officers on council business.

2.2.2 Methodology

The Government continues to require all local authorities to report annually on their GHG emissions associated with their operations. This reporting is in line with the international Greenhouse Gas protocol that takes into consideration Methane (CH_4) and Nitrous Oxide (N_2O) emissions as well as carbon dioxide (CO_2). The unit used is tonnes of carbon dioxide equivalents (tCO_2e).

The GHG reporting methodology will be used to monitor and report progress under the Energy Efficiency Plan.

Under the EEP we will continue using this methodology for consistency purposes.

2.2.3 Baseline

Over time Waverley has undergone structural changes such as the transfer of ownership or control of activities or operations. These changes can have an impact on the base year making it necessary to carry out a recalculation in order to remain reflective of the organisations current state. A baseline recalculation was carried out in 2014 that resulted in a small variation of the baseline emission figure that was initially calculated in 2008.

In 2008-09 the total GHG emissions arising from Waverley's operations was 5,287[6] tonnes of CO_2e.

Figure 1 demonstrates a breakdown of each Council area and its contribution to total Council GHG emissions during 2008.

In 2013/14 the total GHG emissions have reduced to 4,519 tCO_2e. This is a reduction of 14.5%.[7]

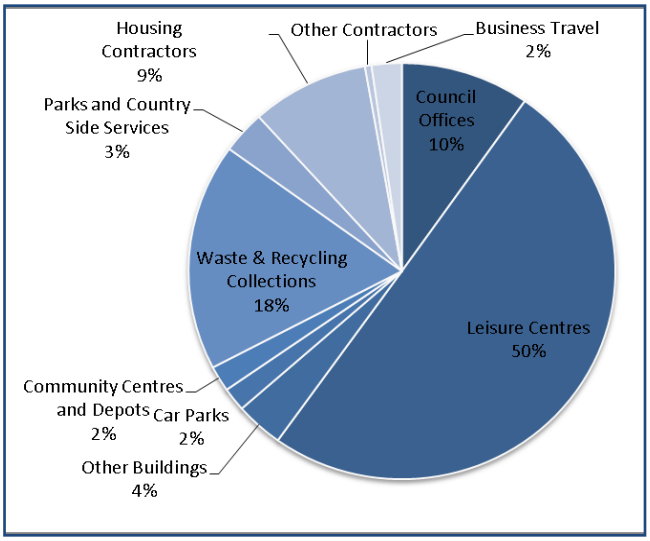


Figure 1: Baseline emissions 2008/09 by emissions source

During the period of the CMP Waverley has significantly increased service provision to our community that as a consequence increased the amount of resources consumed. Reaching more people than ever before Waverley invested in major refurbishments of leisure facilities, launched better waste and recycling services with the introduction of food and garden waste collection as well as investment in improvements to the Councils social housing stock. By embracing energy efficiency and building it into Waverley processes we have maintain energy expenditure below 2008 levels.

[6] Figure amended from initial report due to changes in the carbon conversion factors since initially produced.
[7] Figures for 2014/15 will be added to this plan once data analysis for the year is complete.

3 Energy Efficiency Plan 2015-2020

Energy efficiency is key to effective management of an organisation. Energy efficiency is not a new practice for Waverley and it will remain a priority in the years to come to help towards the financial pressure that the Council is currently facing. This Energy Efficiency Plan 2015-2020 (EEP) will supersede the Carbon Management Plan (CMP) 2010-2015.

3.1 Areas of focus

In order to deliver and implement the EEP it is important that we embed carbon management into our corporate priorities, our decision making and procurement strategy as well as continually investigating energy efficiency and renewable energy options. During the period of the new plan we will be looking at buildings we have not considered previously including sheltered accommodation as well as maximising energy efficiency in new build developments.

3.2 Targets

Having reviewed the progress from the CMP with its success and challenges, it is essential that the new targets are achievable, yet aspirational. The EEP we will be aiming to improve efficiency by reducing energy and GHG emissions, by at least 3% year on year. This target will be reviewed annually and will be adjusted if required. Its progress will be reported annually in line with our GHG emissions reporting responsibilities.

Waverley will aim to reduce its greenhouse gas emissions from Council operations by at least **3% year on year** from 2014/15 levels

3.3 Existing and planned projects

Table 1 below outlines a number of invest to save projects that have already been approved. Budgets have been allocated for implementation by March 2016. It is estimated that these projects will deliver an annual cost saving of approximately £30k and will contribute to the GHG target by 7%. These projects are subject to detailed feasibility and viability assessments.

Project name	Capital Cost	Estimated Annual	Contribution to

		cost benefit	GHG reduction target
Cranleigh – CHP	£88,000	£15,000	4.6%
Cranleigh – AHU	£55,000	£9,000	2.0%
The Burys – LED lighting	£30,000	£3,200	0.2%
The Burys – Gas conditioning magnet	£5,800	£1,560	0.2%
Cranleigh LC – PV's	£22,000	£2,400	0.2%
Total	**£200,800**	**£31,160**	**7.2%**

Table 1: Existing planned projects

3.4 Examples of potential future projects

Over the years we have developed a portfolio of successful invest to save projects. Their implementation have armed officers with the experience to consider rolling those out to a number of other Waverley buildings. Each project will be examined for feasibility and viability on its own merits and funding will be sought on a project by project basis.

Table 2 below expresses the projected cost savings and energy reductions of some further potential projects, some already being considered. An additional 4% GHG reduction could be achieved from the implementation of these.

Project name	Capital Cost	Estimated Annual cost benefit	Energy reduction	Contribution to GHG reduction target
Sheltered Units (8) – Boiler replacement	£480,300	£17,390	10.2%	2%
Sheltered Units (6) – PV (50/50 option)	£242,000	£32,235	7.2%	1.4%
Sheltered Units (7) – LED communal lighting	£550,000	£51,909	2.7%	0.5%
Total	**£1.272m**	**£101,534**	**20.1%**	**3.9%**

Table 2: Potential future projects

3.5 Financing the projects

Reducing energy is in alignment with Waverley's corporate priorities to deliver value for money. The financial benefits of invest to save projects are recognised and encouraged especially with a payback of five years or less.

More efficiency projects will be considered every year to coincide with the capital budget setting in the autumn. Waverley funds most of its core capital projects from its own revenue and New Homes Bonus. Whilst this is a limited amount each year due to financial constraints, the Council has developed a prioritization methodology which covers a number of criteria including any ongoing revenue costs or savings, deliverability, the extent to which the proposed scheme meets the Council's priorities and the environmental credentials of the project. Invest to save capital projects are encouraged and supported particularly when achieving a revenue payback of 5 years or less. Good examples recently have been improvements to the Councils offices and Leisure Centres where utility cost savings have been quickly achieved.

Waverley will continually look for external funding sources as they become available to supplement the cost of installations.

We will support invest to save projects and aim to achieve a revenue payback of 5 years or less

4 Embedding, management and review

Embedding energy efficiency into an organisation requires commitment from the Corporate Management Team, Councillors all the way through to officers at all levels.

4.1 Embedding energy efficiency

Through our procurement processes we will seek to work with organisations that value the principles of sustainable procurement. This considers Social, Economic and Environmental implications of their services.

Energy efficient and renewable technologies will be considered and compared against conventional practices in order to identify the most suitable solution.

Through the budget setting process Waverley will give special consideration on invest to save projects and prioritise them against others.

4.2 Energy Efficiency Board - Strategic management

The Energy Efficiency Board will have a strategic role to oversee the progress of the plan. It will comprise of the Director responsible for sustainability and the portfolio holders responsible for each relevant area. The Board will meet twice a year for a strategic overview and management of projects and achievements.

4.3 Project delivery

The relevant Head of service and the portfolio holder will meet regularly with the Sustainability Manager to review and monitor projects and their delivery. Progress of these meetings will be reported to the Efficiency Board twice a year.

4.4 Annual reporting and progress review

A progress report will be presented to the Executive in line with GHG reporting in July/August every year. The report will include a review and adjustment of the targets if necessary.

5 Wider energy efficiency

Outside the scope of the EEP, Waverley has a wider responsibility in promoting energy efficiency at home to local residents. Waverley is presented with a great opportunity to promote energy conservation through the new build programme and will strive to deliver affordable housing that protects residents from rising energy bills. Waverley is committed to providing high standard new homes that are of good quality and promote energy efficiency.

In support of private sector housing in the local area, Waverley is supporting a Surrey wide independent energy advice centre for local residents that are seeking to

make their homes more energy efficient. Action Surrey is a partnership organisation between all Surrey Local Authorities and will provide full support from acquiring government funding all the way through to implementing efficiency measures. Waverley also provides a discretionary grant for a range of works to improve health and wellbeing of vulnerable residents and manage the risk of fuel poverty.