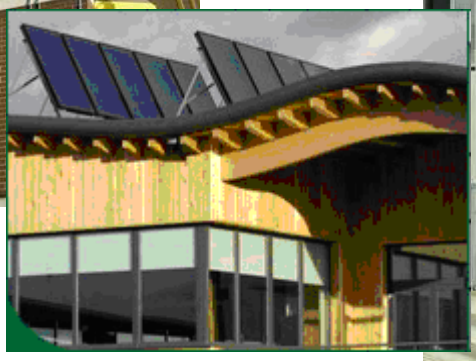
**Dartford Borough Council**
**Carbon Management Programme**

# Carbon Management Plan (CMP)

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|---|---|
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| | ***Management Team*** |
| | ***Carbon Management Board*** |
| | ***Cabinet (delegated to Managing Director)*** |
| ***Approval status:*** | |

# Contents

## Foreword from Managing Director and Member Carbon Champion

### Councillor Marilyn Peters, Member Carbon Champion

I am delighted to introduce the first Carbon Management Plan for Dartford Borough Council.

This plan identifies how we will take the lead for the Borough in cutting carbon emissions and setting our targets ambitiously, yet realistically, in order that we can make a real difference for our communities. We can influence our partners and suppliers to ensure that a sustainable approach to service delivery is the best way forward.

The issues of global warming, climate change and carbon management have become more significant in recent years as people and organisations recognise the impact our actions have on the planet. Unless we reduce our carbon emissions now the effects of our actions will be felt for generations and may never be reversed.

### Graham Harris, Managing Director

Dartford Borough Council is committed to meeting its obligations on climate change and carbon reduction and I wholeheartedly welcome the support from the Carbon Trust and our involvement in the Local Authority Carbon Management Programme.

At a time when local authorities are under pressure to increase operational efficiency it makes sense that we should combine cost savings with reduced energy consumption. As an organisation we are taking the lead for the Borough in cutting our carbon emissions and putting the environment at the heart of our decision making.

## Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for local authorities - it's all about getting your own house in order and leading by example. The UK government has identified the local authority sector as key to delivering carbon reduction across the UK in line with its Kyoto commitments and the Local Authority Carbon Management programme is designed in response to this. It assists councils in saving money on energy and putting it to good use in other areas, whilst making a positive contribution to the environment by lowering their carbon emissions.

Dartford Borough Council was selected in 2008, amidst strong competition, to take part in this ambitious programme. Dartford Borough Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Plan commits the council to a target of reducing CO2 by 35% by 2012 and underpins potential financial savings to the council of around £284,000

There are those that can and those that do. Local authorities can contribute significantly to reducing $CO_2$ emissions. The Carbon Trust is very proud to support Dartford Borough Council in its ongoing implementation of carbon management.

Richard Rugg
Head of Public Sector, Carbon Trust

working with

## Executive Summary

Dartford Borough Council has recognized its responsibility to be a local leader in tackling the causes of climate change. This means managing and reducing carbon emissions arising from our activities and properties used in delivering services.

In 2008/9 the Council took part in the Local Authority Carbon Management Programme led by the Carbon Trust. As a result, the Council now has a detailed picture of how much energy is consumed by its various activities, and how this could be reduced, leading to a reduction in harmful carbon emissions.

Based on this analysis, the Council adopted a target to reduce its carbon emissions by 35% by 2012. This will be challenging, but the analysis undertaken so far shows the target to be achievable, providing the Council organises its resources effectively to secure planned action. This Carbon Management Plan (CMP) provides the foundation for the work which is needed to ensure that the target is met.

This Carbon Management Plan details how the carbon baseline has been drawn together auditing all sources of carbon emissions so that the Council can measure progress against both cost and carbon savings.

At the core of the plan are Carbon Management Projects. The plan lists a number of projects which are already going ahead, or can be introduced in 2009/10 using resources already available. Further projects will be needed to sustain the reduction in carbon emissions in future years so that the full 35% reduction is achieved. Potential projects have been identified, and as part of the Carbon Management Plan the business case for these projects will be tested so that those which show the best potential and a sound business case can be brought forward in future years. From the work already completed, the Council is confident that projects will be introduced over the three year plan period which will result in the full CO2 saving of 35% from the 2007/2008 baseline by 2012. This equates to a reduction of over 1261 tonnes of CO2.

Projects for the first year (2009-10) of the Carbon Management Plan can be implemented using existing budgets, including a sum of money which has been set aside by the Council in its capital programme specifically for the purpose. Future years' projects will be assessed in more detail this year, and included as and when a business case can be made for them. The Council will also explore the scope for external funding of carbon reduction initiatives, including through the Carbon Trust's Salix fund.

The Council's Corporate Plan already includes a target to reduce the Borough's overall carbon footprint by 11% by 2011. When the Corporate Plan is updated in 2009/10 the 35% target for the Council's own carbon footprint will be included in it, together with the high level actions which will be incorporated into the Council's corporate planning framework to ensure that the plan is delivered.

The Council has nominated a Carbon Management Team which will continue to oversee the progress of the plan. However, responsibility for implementing the various actions which will secure delivery of the plan will rest with the relevant Service Managers; The Carbon Management Plan will provide the basis upon which the relevant actions are incorporated into service plans. In this way, carbon reduction will become embedded in the Council's corporate management framework.

The Council has recently recruited staff from teams throughout the Council who will act as Carbon Champions, and help the project by acting at grass roots level to promote carbon activities within their team and also to identify new projects for inclusion in the Carbon Management Plan in coming years.

# 1 Introduction

The Carbon Trust has been working with Local Authorities to help them address their carbon emissions and realise considerable financial savings by providing technical and change management support and guidance through a formal programme called the Local Authority Carbon Management Programme.

Dartford Borough Council is one of 65 Local Authorities to take part in the sixth phase of the Carbon Trust's Local Authority Carbon Management Programme, with the aim of providing a comprehensive programme to measure and manage the carbon emissions produced by local authority activity.

The Carbon Management Programme ran over a 10 month period. It was a 5 step programme during which the Council systematically audited energy use from its activities, provided a baseline from which to plan reductions in carbon emissions, assessed the options and opportunities for reductions in emissions and quantified as far as possible the costs and benefits of these.

This Carbon Management Plan is the main output from this programme and sets out a systematic approach to reducing the Council's carbon emissions. The document details the sources of the Council's emissions (from energy consumption in buildings and fleet/business travel) and establishes a baseline against which progress can be measured. It sets out the Council's approach towards carbon management and identifies key actions for the Council to take to meet its reduced emissions by 2012. Some of these measures have already been put in place or are in the process of being undertaken, whereas others require more detailed study before proceeding.

Preparing the Carbon Management Plan with assistance from the Carbon Trust has started the Council's journey towards becoming a low carbon authority. This action is necessary to demonstrate leadership to the community in order to encourage similar action throughout the domestic and business sectors in the Borough.

Carbon management needs to become routine within the Council and will be an activity practiced indefinitely to control carbon emissions and help manage fiscal expenditure on energy. This is particularly necessary against a background of volatile fuel prices. This document outlines the vision, emissions reduction target and strategic objectives of carbon management within the authority and describes a programme of practical actions, together with their associated costs and benefits.

The Carbon Management Plan has been initially prepared to look forward over a 5 year period from 2007 calendar year baseline data. The carbon savings achieved will be monitored primarily from utility and fuel bills and from fleet/business mileage.

The target and actions in the Carbon Management Plan will be updated in due course to ensure a continuous rolling programme of measures beyond the 5 year timescale of this initial plan.

# 2 Carbon Management Strategy

## 2.1 Context and drivers for Carbon Management

It is now widely accepted that changes to the global climate are being made as a result of man made emissions of greenhouse gases. The Council has an important role to play in helping to reduce carbon emissions. It can manage its own activities in such a way as to reduce its own carbon footprint, and can show leadership to others. The UK Government has recognised that action by Local Authorities will be critical to the achievement of the climate change objectives to which it has committed the nation.

There are also powerful business drivers for carbon management. Energy and fuel consumption represent growing costs for local authorities, and with volatile global fuel prices the cost of providing energy for local services is not only significant, but difficult to predict and plan for. Energy efficiency measures can enable local authorities to redirect their limited resources into service delivery at the same time as reducing the environmental impacts of those services.

The principal external drivers regarding climate change in local government are summarised below:

**International Drivers:**

The Kyoto Protocol

- UK legally committed to reduce its greenhouse gas emissions by 12.5% by 2008 – 2012

EU Energy Performance of Buildings Directive

- All local authority buildings of more than 1000m2 to carry energy labels.

**National Drivers**

UK Climate Change Programme

- Economic incentives for carbon reduction e.g. via the Climate Change Levy and Carbon Reduction Commitment

Climate Change and Sustainable Energy Act

- Legal requirement to have regard to the latest energy measures report on how to tackle climate change and fuel poverty

- From 1 October 2008 there is a legal requirement for all public sector buildings with a total useful floor area of over 1000m2 to show a Display Energy Certificate (DEC) in a prominent place, clearly visible to the public. Dartford Borough Council has fulfilled this requirement

National Performance Indicators

- The new set of performance indicators (PIs) for local government and other local bodies was introduced in April 2007. The national indicator set includes 3 indicators that are directly linked to climate change:

| | |
|---|---|
| NI 185 | CO2 reduction from LA operations |
| NI 186 | Per capita CO2 emissions in LA area (KCC) |

| | |
|---|---|
| NI 187 | Tackling fuel poverty |
| NI 188 | Planning to adapt to climate change (KCC) |
| NI 189 | Flood and coastal erosion risk management (Environment Agency) |
| NI 194 | Air Quality |

**Local Drivers**

**Local Area Agreement**

The Local Area Agreement (Kent Agreement 2) includes climate change and carbon reduction targets, which will be monitored using the following indicators:

Under Economic Success:

| | |
|---|---|
| NI 188 | Planning to adapt to climate change |

Under Environmental Excellence

| | |
|---|---|
| NI 186 | per capita CO2 emissions in LA area |
| NI 189 | flood and coastal erosion risk management (Environment Agency) |

Under High Quality Homes

| | |
|---|---|
| NI 187 | Tackling fuel poverty |

**Dartford and Gravesham Sustainable Community Strategy**

The following has been set:

**Strategic Objective:**

| | |
|---|---|
| ET1 | To reduce carbon emissions |

**Actions:**

| | |
|---|---|
| ET1 (a) | ensure all partner agencies reduce their organizational carbon footprint (to be delivered by LSP Environment and Transport Task and Finish Group) |
| ET1 (b) | introduce appropriate planning policies and work with developers to reduce energy (to be delivered by Dartford and Gravesham Borough Council Planning Policy Departments) |

**Dartford Borough Council Corporate Plan**

**Strategic Objective**

| | |
|---|---|
| ET1 | to reduce carbon emissions |
| ET2 | ensure that development in Dartford is sustainable, with high standards of design, layout and energy efficiency |

**Actions:**

| | |
|---|---|
| ET1 (a) | work with developers, business and the local community to reduce the Borough's Carbon Footprint (to be delivered by Environmental Health Manager) |

| | |
|---|---|
| ET2 (a) | introduce appropriate planning policies and work with developers to reduce energy use and provide high quality living environment (to be delivered by Dartford Planning Policy, Building Control and Development Control Managers) |

### 2.2 Business Drivers

The need to achieve year-on-year efficiency savings

The need to improve service resilience and business continuity, and mitigate against volatility in global energy markets

## Our low carbon vision

**"Working together to minimise Dartford Council's Carbon emissions."**

Dartford Borough Council's approach to carbon management is set out below

**Table 1: Dartford's approach to Carbon Management**

- Establish a comprehensive process for managing carbon produced by the Council
- Identify and implement cost effective measures to reduce emissions
- Monitor carbon emissions effectively against a baseline figure and track improvements
- Obtain commitment and joint working at all levels to carbon management
- Promote the understanding of carbon management by members of the Council, employees etc.,
- Involve staff in carbon management activities
- Place the Council in a position of leading by example to the local community
- Save money through carbon management and reinvest savings from energy efficiency into carbon management and service delivery
- Promote team working across teams and directorates with a key aim
- Reduce carbon consumption by energy efficiency

### 2.3 Strategic themes

Delivery of our programme will be achieved principally by addressing the following areas:

Key Strategic Themes:

- Managing the energy consumption of our buildings and services more purposefully
- Adopting daily working practices which incorporate energy efficiency

- Increasing staff awareness of energy efficiency and carbon reduction opportunities
- Developing a Staff Travel Plan which will provide our employees with more sustainable travel options

### 2.4 Targets and objectives

**Dartford Borough Council will reduce the CO2 emissions from its activities by 35% from the 2007 baseline by 2012**

# 3 Emissions Baseline and Projections

## 3.1 Scope

The Carbon Management Programme has focussed on emissions that are under the Council's direct control, this means from all sources where Dartford Borough Council is the ultimate bill payer, and is primarily responsible for the amount of energy consumed. The emission sources fall under two main areas:

1) Energy consumption from the Council's buildings and sites. This includes the Civic Centre, Acacia, the museum, car parks, other buildings from which services are provided and the communal parts of sheltered housing schemes. It does not include leased or indirectly managed properties such as The Orchard Theatre and Fairfield Pool. It also excludes the Council's housing stock (except for communal areas), although the Council is investing significantly in energy efficiency in its stock, and has baseline information on energy consumption from this source.
2) Transport. Including business mileage, use of the Council's own fleet of vehicles and contractors' vehicles (waste collection, parks maintenance etc.) Staff commuting to and from work has not been included in the baseline, although this is currently being assessed and will be covered by the staff travel plan.

The scope of the Carbon Management Plan will be reviewed annually in the light of any changes in responsibilities or the construction/acquisition of new buildings.

- The electricity and gas consumption, fuel and car mileage figures were used (as appropriate) to provide the baseline calculation.
- A figure for the carbon footprint of social housing (provided by British Gas) was provided, but has been discounted from the baseline figures as the council is not directly responsible for the tenants energy bills
- Details regarding the energy efficiency of the social housing stock will be obtained from data supplied from the British Gas here to HELP scheme operating in our social housing stock.
- Some Sheltered Housing Schemes have communal areas (includes lounge, corridors, reception, laundry etc.,) which are within the Council's control. We currently recharge tenants a % of the costs for gas.
- The data collected mirrored that required for NI 185 - % CO2 reduction from LA operations.

## 3.2 Baseline

- The baseline year chosen by Dartford Borough Council was the calendar year 1 January to 31 December 2007. This was set in line with the original DEFRA Guidance for NI 185. This guidance was subsequently changed by DEFRA in July 08 for data to reflect the financial period 1 April to 31 March. However as the bulk of information had been obtained when the guidance was changed it was decided to keep the original baseline date.

Information about energy consumption and energy efficiency was obtained from the following sources

**Table 2: sources and owners of carbon baseline data**

| Category | Source | Owner | Key assumptions |
|---|---|---|---|
| Buildings | Portfolio gas and electricity spreadsheet (current consumption) | Finance | Some gaps in bill data, which required averaging also missed payments |
| | Corporate property database (energy efficiency) | Property services – corporate property | Gaps in data needs data for future legislation |
| Transport | Fleet fuel consumption | Finance – admin | Accurate recorded fuel consumption and mileage |
| | Staff car mileage claimed | Finance | Data validity (some officers do not report all of their mileage) |
| | Rail and bus travel costs claimed | Admin | Data validity (some officers do not report all of their mileage) |

Whilst the baseline data provides a relatively accurate basis for calculating of the Council's carbon emissions, the following should be noted:

- The data for electricity and gas consumption is primarily based on the information provided on bills by the utility companies (some of these have actual meter readings some are estimated readings)

- Business travel has been derived from mileage claims – some officers do not report all of their business travel mileage

- It was not possible to obtain the gross internal area data for all our corporate properties

The baseline Carbon Footprint from the Council's activities has been estimated at 3603 tonnes of CO2 per annum. The costs associated with the footprint are estimated at approximately £550265. The breakdown of this footprint by emissions source and cost is shown in Table 3.

**Table 3: summary table of emissions for baseline year 2007**

| | Electricity | Gas | Vehicle fleet | Business miles | Total |
|---|---|---|---|---|---|
| Tonnes CO2 | 1743 | 1321 | 492 * | 47 | 3603 |
| Cost £'s | £290019 | £235656 | £7607 | £16983 | £550265 |

* Figure includes refuse vehicles and street cleaners

**Table 4a: summary of main utility costs associated with corporate buildings**
**NOTE: a proportion of utility costs is recharged to supported housing residents**

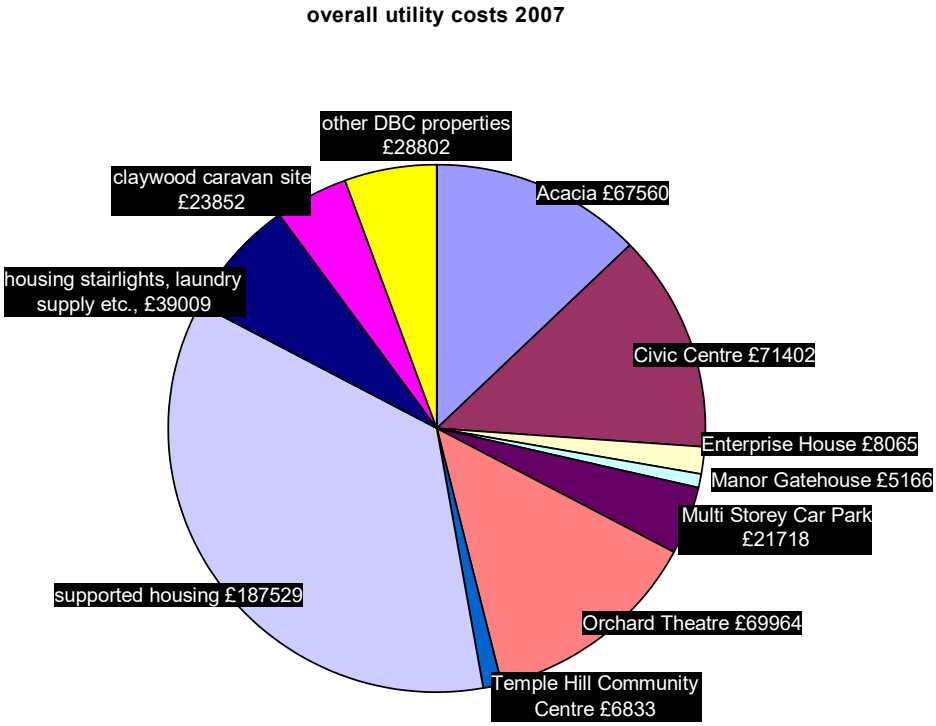
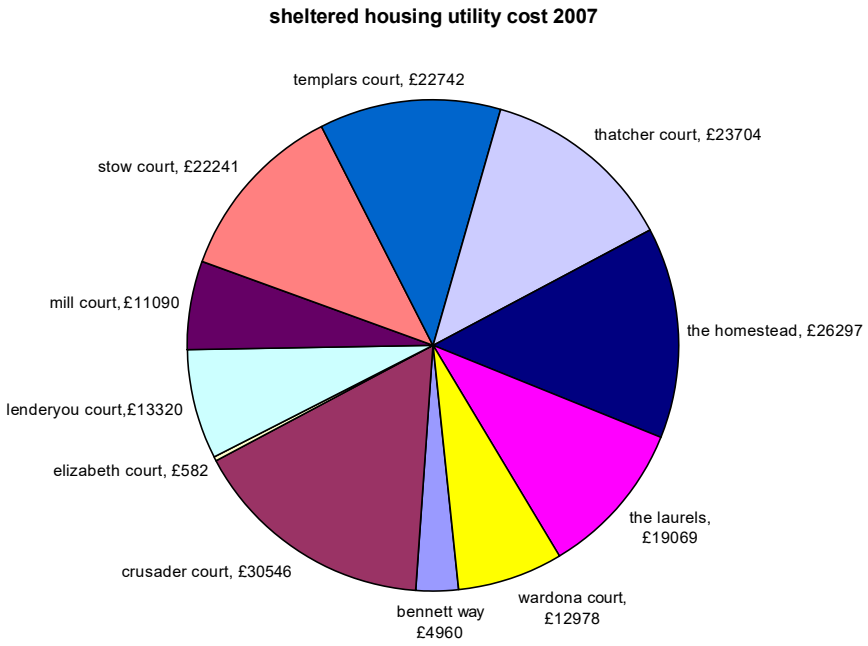



**Table 4b: summary of main utility costs linked with supported housing**



### 3.3 Projected carbon footprint and energy costs and Value at Stake

The Council's carbon footprint and associated costs will rise over time if no action is taken to control emissions. A projection of future carbon emissions and their associated costs have been calculated using a spreadsheet tool provided by the Carbon Trust.

The difference between projected energy costs under the 'business as usual scenario' (BAU) (i.e. the "do nothing" scenario) and the 'reduced emissions scenario' (RES) is termed the "Value at Stake" (VAS). The Value at Stake is the cumulative difference of pursuing a carbon management programme against continuing with business as usual.

Table 5 shows this comparison, assuming that the reduced emissions scenario produces a 35% reduction in carbon emissions. Table 5 shows that if business is allowed to continue as normal (BAU) the Council's energy related costs could rise from £550,265 in 2007 to £762,515 in 2012. If the Council reduces its carbon emissions by 35% its energy related costs could fall to £478,646 in 2012.

**Table 5: Comparison of actual emissions with Business as usual increases and reduction targets as predicted**

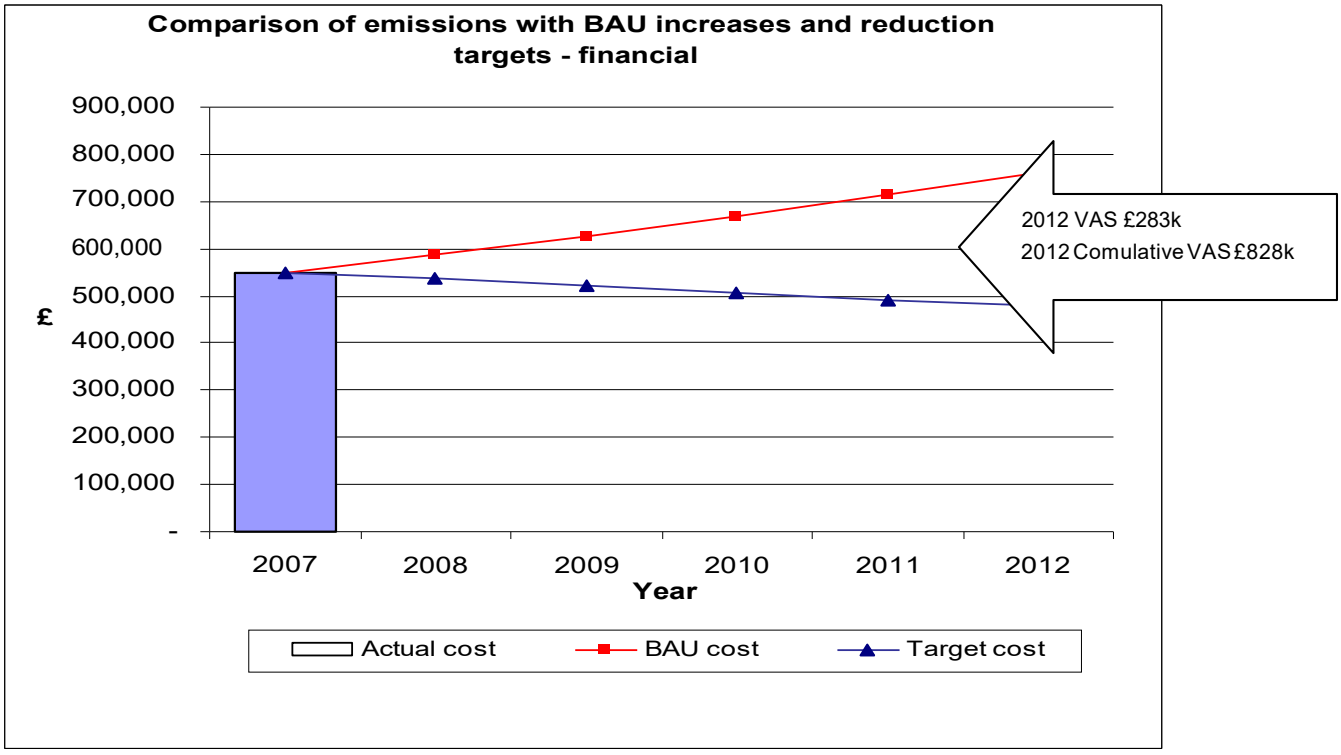



Table 6 shows these effects in more detail, with both the projected annual saving from reduced energy consumption and the cumulative savings over a five year programme of carbon management. It shows that over a five year period the value of a carbon management programme could be in the order of £828,000. It should be noted that investment in carbon saving projects would be needed to realise carbon reduction on this scale. It should also be noted that not all of the value may be "cashable".

**Table 6: Business as Usual Scenario V Value at Stake**

| | Business as usual £ | Reduced Emissions Scenario £ | Annual Value at Stake £ | Cumulative Value at Stake £ |
|---|---|---|---|---|
| **2007** | **550265** | | | |
| **2008** | **587364** | **535131** | **52232** | **52232** |
| **2009** | **626964** | **520414** | **106550** | **158782** |
| **2010** | **669234** | **506101** | **163133** | **321915** |
| **2011** | **714354** | **492182** | **222172** | **544086** |
| **2012** | **762515** | **478646** | **283869** | **827985** |

NOTE: The cost of energy is extremely volatile at present. Different energy cost assumptions can affect these projections significantly.

# 4 Carbon Management Projects

## 4.1 Existing Projects

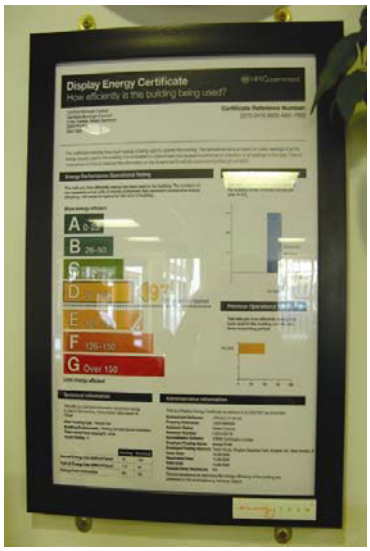
The Local Authority Carbon Management Programme has enabled the Council to consolidate action on carbon management. Co-ordinated action prior to involvement in the programme had been limited but some notable successes had been recorded. These are listed below.

**Table 7: Carbon related projects undertaken prior to joining the Local Authority Carbon Management Programme**

| Action | Details | Lead |
|---|---|---|
| **Energy efficient heating in Council housing** | Installing condensing boilers, TRVs standard on all heating upgrades to housing stock. | Paul Koster |
| **Renewable energy in Council buildings** | On refurbishment of properties, actively consider the use of renewable energy generation and use. | Property Services |
| **Water efficiency** | Water saving measures implemented in the Civic Centre, Swan Lane Pavilion and are planned for Acacia Hall | Property Services |
| **Travel Plan** | Travel plan in place at Princes Park football stadium to encourage use of public transport or walking to stadium through restriction of car parking and promoting Fastrack | Dave Bennett |
| **Energy efficiency in Council offices IT equipment** | Purchase of machines with low energy usage, especially IT flat screens, and low power shutdown mode facility ; low power shutdown mode employed on all machines; automatic system in place to turn off IT equipment | IT delivery |
| **Server virtualization** | Consolidation of the Council's servers as part of the 'VMware' project. Number of servers reduced from 27 to 3. | IT delivery |
| **Sustainable travel** | Contractors are encouraged to buy 'green' vehicles and motorized equipment. RCV's are turbo diesels. Contracts to be reviewed when next retendered | Dave Thomas |
| **Insulation improvements to Council housing** | Ongoing programme in Council housing including loft insulation and cavity wall upgrades. Door insulation programme operating. | Paul Koster |
| **Energy efficient light bulbs** | Supplied to Supported Housing Schemes. Council tenants benefitting from a new kitchen receive low energy light bulbs. Each Council house new void property receives up to 4 light bulbs in a Welcome Pack | Paul Koster/ Sandra Woodfall |
| **Insulation and energy efficiency of Council buildings** | Improvements incorporated in ongoing programme of building refurbishment, buildings. On refurbishment installing energy saving initiatives such as PIR lighting and ventilation, more efficient boilers, energy-efficient light bulbs etc. | Property services |

From October 2008 all public sector buildings over 1000m2 floor area must show a Display Energy Certificate as laid down in the EU Energy Performance of Buildings Directive. The Display Energy Certificate shows how efficiently the building is being used.

Below is a picture showing the Display Energy Certificate for the public to view at Civic Centre reception area.




Display Energy Certificates haves been undertaken for:

| | | |
|---|---|---|
| Orchard Theatre | c rating | 57 score |
| Civic Centre | d rating | 97 score |
| Princes Park | c rating | 73 score |
| Acacia Hall | d rating | 76 score |
| Acacia Hall sports hall | f rating | 107 score |

NOTE: 100 is a typical score – G rating is low and A rating is high

### 4.2 Planned / funded projects

To effectively reduce carbon emissions in a large organisation a range of projects with different purposes is required. This is to ensure changes in behaviour and management priorities are integrated into the culture of the future operation of the business and not just a short term commitment. Projects can be implemented for the following purposes:

- Policy Making
- Awareness raising
- Measuring/monitoring
- Reducing demand
- Improving efficiency
- Renewables

A large number of projects have been identified as having potential for carbon reduction. As part of the carbon Management Plan, these will be assessed in detail and their benefits and costs quantified. Where a business case for their inclusion in the programme can be made, they will be included for implementation in future years of the programme.

Some projects have already been assessed, and their carbon saving and efficiency potential is clear. These projects are listed in Table 8, and form the basis for year 1 of the Carbon Management Plan. The projects listed here have come from a number of sources including:

- Existing and forthcoming projects suggested by the Carbon Management Team
- Savings identified during the Carbon Trust's audits during site visits
- Projects identified during the Display Energy Certificate audit and listed within the Advisory Reports
- Issues raised by staff via the Carbon Champions

## Table 8: Projects under way or programmed and funded in 2009/10

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cap'l | Rev'ue | Res'ce | Fin | $CO_2$ | | | |
| 1-1 | Energy management policy and action plan throughout organisation | | | | 1000 | 10513 | 56 | 0.1 | | |
| 1.2 | Formal corporate energy programme | | | | 500 | 5256 | 28 | 0.1 | | |
| 1-3 | Develop a green travel plan | | | | | | 4.6 | | | |
| 1-4 | Green procurement considered during the review of the procurement strategy | | | | 0 | | | | | |
| 1-5 | Recruit and train environmental champions | | | | 2000 | 10513 | 56 | 0.2 | | |
| 1-6 | Staff awareness training and communication plan | | | | 3000 | 10513 | 56 | 0.3 | | |
| 1-7 | Introduce basic environmental training for staff through induction | | | | 500 | 5256 | 28 | 0.1 | | |
| 1-8 | Eco driver training | | | | 3000 | 10513 | 56 | 0.3 | | |
| 1-9 | PC screen stand by | | | | 0 | 5000 | 10.8 | - | | |
| 1-10 | Investigate an audit bill checking system with an invoice data collection company and request exception reports | | | | 10000 | 23420 | 115.7 | 0.4 | | |
| 1-11 | Lighting – good housekeeping, replace tungsten filament fittings for energy bulbs in standard and emergency lighting fittings. Install passive lighting controls in selected areas of buildings | | | | 3000 | 6611 | 40.7 | 0.5 | | |
| 1-12 | Time switches fitted to cooling machines, hot water boilers and vending machines (based on 50 machines) | | | | 500 | 651 | 1.4 | 0.8 | | |
| 1-13 | Delivery of improved recycling rates | | | | | | | | | |
| 1-14 | Printer and photocopiers switch off and review of printer use | | | | | | | | | |
| 1-15 | Multi Storey Car Park – current night time (12.30am – 06.30am) is 20% of total electricity. Reduce night time electricity load by 10% | | | | 300 | 2171 | 9.3 | 0.1 | | |
| 1-16 | Multi Storey Car Park – energy conservation awareness on site. | | | | 0 | 434 | 1.9 | - | | |

working with

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cap'l | Rev'ue | Res'ce | Fin | $CO_2$ | | | |
| | **Develop and agree an action plan 2% savings** | | | | | | | | | |
| **1-17** | **Multi Storey Car park – reduce number of electrical fires in rest rooms. Upgrade standard of fires to incorporate temperature control and one hour on time switches** | | | | **300** | **702** | **3** | **0.4** | | |
| **1-18** | **Multi Storey Car park – negotiate new electricity contract 0.6p night and 0.8p day tariff** | | | | **-** | **7818** | **-** | **-** | | |
| **1-19** | **Multi storey car park – install time switches to hot water boilers and chilled water drinks machine** | | | | **300** | **388** | **1.7** | **0.8** | | |
| **1-20** | **Multi storey car park – thermostat set at 15 degrees c. Reset thermostat to 5 degrees c. block up holes and close lattices** | | | | **0** | **43** | **0.2** | **-** | | |
| **1-21** | **Multi storey car park – upgrade lighting using T5 fluorescent lighting controlled by time clocks and presence and lighting sensor detection controls** | | | | **25000** | **6840** | **29.4** | **3.7** | | |
| **1-22** | **Civic centre – reduce night electricity consumption from 30% to 15% by revamping use of air conditioning system and curtailing the number of domestic appliances left on to include:**<br>**Reducing the number of fridges and freezers on each floor**<br>**Capital cost to reduce the size of room IT equipment is in, plus review heating in anti space before IT servers room**<br>**Ground floor room opposite CCTV room requires a ventilation fan** | | | | **10000** | **13000** | **81.2** | **0.8** | | |
| **1-23** | **Civic centre voltage optimisation (quote supplied by Powerperfector following datalogger on site)** | | | | **25935** | **7281** | **34.26** | **3.7** | | |
| **1-24** | **Civic centre insulation of heating pipes** | | | | **1000** | **1000** | **4.2** | **1** | | |
| **1-25** | **Civic centre – rolling on programme for lighting replacement** | | | | **25000** | **7000** | **43.7** | **3.6** | | |
| **1-26** | **Swan lane pavillion-implement common sense practices with regards to Legionella practices and switching on and off, of the hot water heaters. Training required for staff from Health and Safety office** | | | | **0** | **482** | **3** | **-** | | |
| **1-27** | **Swan Lane pavillion – sports ground is utilised at weekends, but** | | | | **0** | **209** | **1.3** | **-** | | |


working with


| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cap'l | Rev'ue | Res'ce | Fin | $CO_2$ | | | |
| | **from Mon – Frid 89% of electricity was consumed between April and July. Re-calibrate time clocks** | | | | | | | | | |
| **1-28** | **Swan Lane Pavillion – connect 3kw fire to time clock and frost thermostat** | | | | **100** | **66** | **0.4** | **1.5** | | |
| **1-29** | **Swan Lane Pavillion – isolate all lighting in changing rooms when not required** | | | | **0** | **48** | **0.3** | **-** | | |
| **1-30** | **Temple Hill Community Centre insulation of loft space at 469 sq meter** | | | | **1407** | **247** | **1** | **5.7** | | |
| **1-31** | **Temple hill community centre – improve energy management procedures, adopt an energy policy, appoint energy champions. Organise energy awareness training for all staff. Implement energy strategy and energy reduction target** | | | | **0** | **136** | **0.8** | **-** | | |
| **1-32** | **Temple Hill Community Centre – install room space thermostats in tamper proof boxes. Reduce room space temperature to 19 degrees C** | | | | **0** | **262** | **1.1** | **-** | | |
| **1-33** | **Temple hill community centre – negotiate new gas contract currently 4.6p/kW – should be 2.6-2.8p/kW** | | | | **0** | **647** | **-** | **-** | | |
| **1-34** | **Temple Hill community centre – connect hot water heaters to time switches** | | | | **0** | **470** | **2.9** | **-** | | |
| **1-35** | **Temple hill community centre – look at boiler controls – other recommendations for site received from Les** | | | | | | | | | |
| **1-36** | **Temple hill community centre – insulation of pipes etc., some recommendations received from Les Richards regarding site** | | | | | | | | | |
| **1-37** | **Acacia hall loft insulation** | | | | **6000** | **1500** | **6.3** | **4** | | |
| **1-38** | **Acacia hall rolling programme of replacement of lighting** | | | | **5000** | **1300** | **8.1** | **3.8** | | |
| **1-39** | **Acacia Hall mansion house replacement lighting** | | | | **1500** | **402** | **2.5** | **3.7** | | |
| **1-40** | **Crusader Court insulation of loft space at 5526 sq meter** | | | | **16578** | **3486** | **21.9** | **4.8** | | |
| **1-41** | **Crusader court – install thermostatic radiator valves to all radiators** | | | | **9600** | **2324** | **14.6** | **4.1** | | |

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cap'l | Rev'ue | Res'ce | Fin | $CO_2$ | | | |
| 1-42 | Crusader court – central heating programmer left on constant not auto – install optimisation controls | | | | 1000 | 1859 | 11.7 | 0.5 | | |
| 1-43 | Crusader court – install passive lighting detection controls | | | | 2000 | 730 | 4.4 | 2.7 | | |
| 1-44 | Crusader court - connect hot water heaters to time switches | | | | 100 | 71 | 0.9 | 1.4 | | |
| 1-45 | Crusader court – improve energy management procedures, adopt an energy polity, appoint energy champions. Organise energy awareness training for all staff. Implement energy strategy and energy reduction target | | | | 0 | 610 | 3.9 | - | | |
| 1-46 | Crusader court – insulation of pipework, valve flanges and fittings | | | | 200 | 200 | 1.3 | 1 | | |
| 1-47 | Wardona Court insulation of loft space at 2343 sq meter – CEN SURVEYOR COMMENT – HAS 100MM LOFT INSULATION AND COULD BE TOPPED UP TO 270 MM | | | | 7029 | 4779 | 21.7 | 1.5 | | |
| 1-48 | Wardona Court – insulation of pipework and domestic hot water cylinder | | | | 100 | 100 | 0.5 | 1 | | |
| 1-49 | Wardona Court – connect hot water heaters to time switches | | | | 100 | 71 | 0.4 | 1.4 | | |
| 1-50 | Wardona court – negotiate new gas contract currently 4.07 p/kW. Should be 2.6-2.8p/kW | | | | 994 | 0 | 0 | - | | |
| 1-51 | Wardona Court – improvement energy procedures, adopt energy policy | | | | 0 | 259 | 1.4 | - | | |
| 1-52 | Wardona Court – central heating programmer left on constant not auto. Replace with optimisation controls | | | | 1000 | 254 | 1.2 | 3.9 | | |
| 1-53 | The Laurels insulation of loft space at 896 sq meter | | | | 2688 | 2295 | 10 | 1.2 | | |
| 1-54 | The Laurels – connect hot water heaters to time switches | | | | 0 | 71 | 0.9 | - | | |
| 1-55 | The Laurels – improve energy management procedures, adopt on energy policy appoint energy champions. Organise energy awareness training for all staff. Implement energy strategy and energy reduction target | | | | - | 381 | 1.8 | - | | |

working with

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cap'l | Rev'ue | Res'ce | Fin | $CO_2$ | | | |
| **1-56** | **The Laurels – central heating programmers let of constant not auto** | | | | **-** | **100** | **0.4** | **-** | | |
| **1-57** | **The Laurels – negotitate new gas contract currently 4.26p/kW – should be 2.6-2.8p/k** | | | | | **5244** | **0** | **-** | | |
| **1-58** | **Sheltered housing – review of existing lighting (including motion sensors etc., ) still being considered** | | | | | | | | | |
| **1-59** | **Sheltered housing – cavity wall insulation – details to be agreed** | | | | | | | | | |
| **1-60** | **Sheltered Housing – loft insulation – details to be agreed** | | | | | | | | | |
| | | | | | | | | | | |

It is estimated that these projects will secure an annual CO2 saving of 793 tonnes, which will put the Council on target to achieve an overall CO2 saving of 1,261 tonnes (35%) by 2012.

## 5 Carbon Management Plan Financing

The majority of projects in year one (2009/10) of the Carbon Management Plan will be funded from the Council's capital programme for corporate property maintenance and, in the case of housing projects, from the approved Housing Revenue Account budget. The Council has also approved a capital allocation of £50,000 a year for the next three years for Carbon Management Plan projects.

Projects to be funded from this allocation will need to be justified by a business case which demonstrates the revenue savings which can be achieved and the timescale for these. This should also demonstrate whether and how such savings can be captured as cashable savings.

For years two and three of the Carbon Management Plan these same principles will be applied. In addition, the Council will explore the potential for external funding of projects, including from the Carbon Trust's Salix fund.

Taken together, the financial commitment which the Council has made to year one of the Carbon Management Plan through the corporate maintenance programme, the HRA and the capital programme amounts to an overall investment of £171,000, against expected annual savings from the Carbon Management Plan of £165,000.

**Table 9: Financial costs and sources of funding – year one**

| Funding Source | Projects | Total cost 1 | Total annual savings 1 | Total annual CO2 savings |
|---|---|---|---|---|
| **2009-10 Year 1 Carbon Management Projects:** | | | | |
| **Capital Budget** | Westgate Car Park Improvements, utility bill checking system, loft insulation (Temple Hill Community Centre), Civic Centre: voltage optimisation, pipe insulation, reduction in night electricity. Timer and frost thermostat review (Swan Lane Pavilion), upgrade of lighting | **£52,542** | **£55,149** | **291.16** |
| **HRA and Capital Budget** | Loft insulation, hot water timers, pipe insulation, heating programmer optimisation, passive lighting detection | **£55,995** | **£17,843** | **96.4** |
| **Capital Budget** | Westgate: install timers, upgrade lighting, Civic Centre lighting replacement programme | **£50,300** | **£14,490** | **75.9** |
| **Nil cost/existing resources** | Including PC screen standby, improved recycling, energy awareness training | **£0** | **£61,283** | **312.9** |
| **Contract renewal** | Wardona Court, Westgate, The Laurels | **£0** | **£14,056** | **0** |

| | | | | |
|---|---|---|---|---|
| **Capital budget** | Replacement lighting | **£6,500** | **£1,702** | **10.6** |
| **Capital budget** | Loft insulation | **£6,000** | **£1,500** | **6.3** |
| **Total** | | **£171,000** | **£165,000** | **793** |

1. it should be noted that the Total Costs are one-off costs, whilst the Total Annual Savings will be a saving every year on the base cost, for the life of the building or equipment purchase. Capital funding includes the dedicated Energy budget, Corporate property and HRA capital budget.

These figures are based on a number of assumptions which may prove to be inaccurate. In particular:

- Developing the plan within the context of a highly volatile energy market. A variety of price scenarios have been used based on the 2007 baseline consumption data:

  Baseline data 2007: electricity price 8.70 per unit average
  Gas price 3.30 per unit average

  Whilst the Carbon Management Plan was being drawn together some utility contracts were due for renewal in October 2008 and the prices were:

  October 2008 electricity price 14.53 per unit average
  Gas price 4.80 per unit average

  The Utility contract has recently been renegotiated and the prices agreed are:

  Contract commences 1/10/09 electricity price 7.044 per unit
  Contract commences 1/7/09 gas price 3.61 per unit

- At present a system is in place to monitor the Council's energy consumption through logging data received from utility bills. Consideration needs to be given to developing a system for measuring accurate changes in consumption as a result of the implementation of the carbon management projects. This will involve improving the metering arrangements for some of the Council's sites and buildings, and recording metered data on a more frequent basis.

### 5.2 Benefits /savings – quantified and unquantified

This table illustrates the annual level of CO2 reduction which is planned for in order to achieve a 35% saving by 2012. It also shows the estimated financial value of these savings. As the Implementation Plan is developed it will include specific projects which will deliver the savings each year.

| | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
|---|---|---|---|---|
| **Annual cost saving** | | **£165,000** | **tba** | **tba** |
| **Annual $CO_2$ saving** | | **793 tonnes** | **1008 tonnes (target)** | **1260 tonnes (target)** |
| **% of target achieved** | | **22% estimated** | **28% target** | **35% (target)** |

# 6 Actions to Embed Carbon Management in the Council's Organisation

This section discusses the steps that the Council will take to ensure that carbon and energy management become a core consideration in the Council's corporate business planning from strategic to operational levels.

At the start this programme officers considered how the Council performed against the Carbon Trust matrixes of best practice. . This self-assessment is presented in Appendix A, together with a target assessment for 2012. Appendix A also includes an assessment of individual corporate properties.

## 6.1 Corporate Strategy – embedding $CO_2$ saving across the Council

The Council's three year Corporate Plan will be refreshed and the targets rolled forward in the summer of 2009. At this point, the Council will be invited to adopt annual corporate targets for reduced carbon emissions which are consistent with a 35% reduction in its carbon footprint from 2007/08 to 2011/12.

NI 185 will be used to monitor progress towards this target.

The corporate target will be driven down into Service Plans through the adoption of service-specific actions and targets. The Council is currently identifying the actions and targets which are required to ensure that its corporate target will be met, and these will feature in Service Plans from 2009/10 onwards.

Progress towards Service Plan targets and actions will be monitored through the Council's performance management system, using Covalent software.

The Council has nominated Carbon Champions throughout the organisation whose role will be to provide a communication network for the rolling out of organisation-wide initiatives.

## 6.2 Programme Management – bringing it all together effectively

The Carbon Trust based on experience from previous phases of the Carbon Management Programme recommend that a formal structure be established that will remain in place throughout the life of the programme and beyond to ensure that projects are implemented and their results monitored and quantified effectively when compared against the individual project goals. Ownership of the Carbon Management Implementation Plan is key to the programme's success.

Arrangements for Programme Management are set out in Chapter 7.

## 6.3 Responsibility – being clear that saving $CO_2$ is everyone's job

Achieving success in carbon management, maintaining momentum and commitment to continuing improvement can only be achieved when all levels of the organisation understand the issues and have a sense of ownership and ability to make a contribution. The roles and responsibilities and organisational arrangements for ensuring that the Carbon Management Programme is delivered as a shared effort are set out in Chapter 7.

### 6.4 Data Management – measuring the difference, measuring the benefit

The exercise in obtaining data for our baseline figure has given the opportunity to consider the way that the data is collected, stored, monitored and used to inform on progress on specific projects. At present meter readings are being taken manually at a number of corporate sites. There are very few sites at the moment that have automated meter readings. Data from utility bills are currently being captured on an excel spreadsheet.

The data gathering exercise has highlighted the importance of sharing the data with relevant staff so that they can see the data is being used, can monitor the data and have progress on carbon reduction acknowledged.

The use of the corporate performance management system to monitor progress against actions will provide a structured way of collecting data, note challenges and delays that are being encountered with projects and provide a simple system for reporting to relevant staff and councillors.

### 6.5 Communication and Training – ensuring everyone is aware

Dartford Borough Council is aiming to minimise its energy consumption and maximise energy efficiency in its offices, buildings and vehicles. This will in turn reduce the council's carbon emissions – with a target of a 35% reduction by 2012. The council should also benefit from financial savings by reducing its energy consumption.

The carbon management communications plan aims to:

- Increase employees', members' and residents' understanding of carbon emissions, energy reduction and efficiency and climate change.
- Encourage DBC employees to become involved in the carbon management scheme
- Ensure stakeholders are kept informed regarding the development of the carbon management scheme.

Communication will be via a variety of channels including:

- Posters within the civic centre and other council owned buildings
- Stickers (e.g. to remind staff to switch off lights and monitors and close windows when leaving for the day)
- Intranet
- In Touch (DBC's internal magazine)
- Face to face meetings and presentations by carbon champions and members of the carbon management team
- Members Information Bulletin (MIB)
- Dartford Life (resident's magazine)
- Press releases

<u>Awareness Campaign</u>

Raising staff awareness across an organization can aid in the reduction of CO2 as individuals learn to take responsibility for their own Carbon Footprint. Raising awareness is an ongoing process and one that will include further phases on promotion. We should aim to always keep these fresh and fun, whilst communicating important information.

<u>Environmental Champions Scheme</u>

The establishment of an environmental champion's scheme within the Council will form a central part of the communication plan. The aim of the programme is to bring about

measurable environmental improvements in order to reduce carbon emissions from Council offices by at least 5%.

The champions will receive training on environmental issues and how to audit their sites in relation to energy use and waste/recycling. After undertaking the audit a second training day will involve looking at the audit results, converting them into meaningful statistics and supporting the champions in creating an action plan. The champions will then be guided through running a series of environmental campaigns still to be decided. Following completion of the campaigns the Champions will repeat the initial audit to measure the success of the programme. After the first year, the programme will continue to run, building on the campaigns already undertaken. Appendix B lists the variety of projects raised at the stages of developing the Carbon Champion network.

### 6.6 Finance and Investment – the money to match the commitment

The Council has identified funding within its Corporate Maintenance and Housing Revenue Account budgets which will support the majority of the capital investment initiatives planned for implementation in the current financial year 2009/10. It has also set aside £50,000 a year for the years 2009/10-11/12 to fund carbon saving initiatives for which a Business Case can be made. It will review the case for supplementing these sources with Salix funding.

### 6.7 Policy Alignment – saving $CO_2$ across all operations

The Council will need to carry out a systematic review of its policies, strategies and service plans to identify any implications for carbon emissions. A timetable will be developed for undertaking this piece of work.

## Programme Management

Central to the successful implementation of the Council's Carbon Management Programme is the need for clear ownership of the overall plan and the activities necessary to maintain its progress. The Management Team, the Carbon Management Programme Board and the Carbon Management Team have key roles in managing the Council's Carbon Management Programme as a whole and driving it forward.

The Project Sponsor guides the Project Leader who during the production and implementation of the Carbon Management Plan has day to day co-ordination of the programme and projects.

### 7.1 The Programme Board – strategic ownership and oversight

The role of the Programme Board is to set overall targets for programme delivery, oversee the effectiveness of the project, build commitment and clear blockages to progress. The Programme Board comprises:

- Rob Scott, Regeneration Director and Climate Change Champion
- Councillor Marilyn Peters – Climate Change Member Champion
- Jenny Erby – Deputy Accountant – Finance Climate Change Champion
- Sandra Woodfall – Environmental Promotions Officer and Project Lead
- Teresa Ryszkowska – Planning Policy Manager and Deputy Project Lead

The Programme Board meets at regular intervals related to the progress milestones of the programme and implementation plan.

### 7.2 The Carbon Management Team – delivering the projects

The role of the Carbon Management Team is to develop and assess carbon management projects and the implementation plan needed to deliver them, ensure that milestones are met and project objectives delivered, identify the resources needed to deliver the plan and where these can be obtained from, resolve blockages and barriers to progress, and raise issues with the Programme Board as necessary..

The Carbon Management Team comprises :

- Sandra Woodfall Environmental Promotions Officer
- Teresa Ryzskowska Planning Policy Manager
- Jenny Erby Deputy Accountant
- Dave Thomas Waste and Recycling Manager
- Vacant Communications Manager
- Frank Brown Leisure Services Manager
- Paul Koster Corporate Property Manager
- Lewis Boudville Transport Engineer
- Diane Simes Optimisation Officer
- James Fox Scientific Officer
- Vacant post Customer Services Manager
- Helen Blanchard Senior Graphic Designer
- Richard James IT Manager (delivery)

The Carbon Management Team meets monthly.

### 7.3 Project Sponsor

The Project Sponsor is currently the Regeneration Director, Rob Scott. The role of the project sponsor is to provide overall direction to the project, and raise issues and barriers to progress with Management Team which cannot be resolved by the Carbon Management Team, such as organisational and resource issues. The Project Sponsor is a member of the Programme Board.

### 7.4 Project Lead

The Project Lead is currently the Environmental Promotions Officer, Sandra Woodfall. The Project Lead is the project manager for the Carbon Management Implementation Plan. The Project Lead coordinates the Carbon Management Team, leads the development of the carbon projects and the programme needed to deliver them, monitors progress to ensure that milestones are met and objectives achieved, and reports to the Project Sponsor and Carbon Programme Board.

### 7.5 Service Managers

Although the responsibility for the delivery programme lies with the Carbon Management Team and the Project Lead, the individual actions which are needed to deliver the plan will rest with the relevant Service Manager. The Project Lead will liaise as necessary with Service Managers to ensure that actions are included in Service Plans and delivered on time. Where appropriate, Service Managers may be co-opted onto the Carbon Management team. This might be necessary if, for example, a Service Manager is required to deliver a particularly critical element in the programme, or needs to co-ordinate delivery with other Service Managers.

### 7.6 Carbon Champions

Carbon Champions have been nominated in all Service Teams and on all floors of the building. The role of Carbon Champions will be to provide a communication network throughout all parts of the organisation, so that information can be disseminated, ideas exchanged, and initiatives championed. The Carbon Champions will be especially useful in driving forward those initiatives which are generic rather than service specific, such as “switch-it-off” type initiatives. The Carbon Champions will link with the Carbon Management Team via the Project Lead.

### 7.7 Ongoing stakeholder management

A number of managers, officers and members are involved in the management of the programme. In addition, a number of other groups will have involvement in the programme. These include:

- The staff who will be involved in the specific projects
- Staff generally
- Members generally
- Partners
- The community
- Contractors
- Business tenants

Involvement of these stakeholders includes communication using a number of channels, discussion at the appropriate points to explore how to expand the programme in the future.

### 7.8 Annual progress review

Progress on the Carbon Management Plan will be reported to the Cabinet on an annual basis throughout the life of the Plan, commencing one year after its adoption.

The review will cover the cost and all benefits from the Programme and will include the following:

- Progress on identified projects, including milestones for each project covering planning of project, commencement and completion
- Spend on each project within the financial year
- Financial savings achieved by project and in total
- Estimated CO2 savings by project and in total (with assistance from Carbon Trust)
- CO2 and financial trajectories showing progress against 5 year plan
- Financial savings reinvested into fund for carbon projects
- Future investment profile
- Other less quantifiable benefits, including staff awareness, embedding carbon management in the corporate culture and influencing the local community

The data will be monitored using the Council's performance monitoring software and will be updated on a quarterly basis. Quarterly updates will be reported to the Programme Board

The Carbon Management Team and Programme Board will use the monitoring results to review performance of the programme and identify whether any mitigating action is needed to keep targets on track.

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## Appendix A LACM Carbon Management Embedding Matrix - Self Assessment

For each column below please write down:

- where you feel your organisation is now (a score of 1-low to 5-high)
- where you feel you organisation should be in 5 years time (a score of 1-lowto 5-high)
- which area(s) you think will provide the greatest challenge (please tick)

Note: each higher level builds on what has been achieved in the level below. All aspects are not repeated in each increasing level

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Now** | **2** | **1** | **2** | **2** | **1** | **2** | **2** |
| **5yrs** | **5** | **4** | **3** | **4** | **3** | **3** | **3** |
| **Challenge** | | | | | | √ | √ |

| | CORPORATE STRATEGY | PROGRAMME MANAGEMENT | RESPONSIBILITY | DATA MANAGEMENT | COMMUNICATION & TRAINING | FINANCE & INVESTMENT | POLICY ALIGNMENT * |
|---|---|---|---|---|---|---|---|
| **Best** 5 | Top level target allocated across organisation<br>$CO_2$ reduction targets in Directorate Business Plans | • Cabinet / SMT review progress against targets on quarterly basis<br>• Quarterly diagnostic reports provided to Directorates<br>• Progress against target published externally | • CM integrated in responsibilities of senior managers<br>• CM part of all job descriptions<br>• Central $CO_2$ reduction advice available<br>• Green Champions leading local action groups | • Quarterly collation of $CO_2$ emissions for all sources<br>• Data externally verified<br>• M&T in place for:<br>○ buildings<br>○ street lighting<br>○ waste | • All staff given formalised $CO_2$ reduction:<br>○ induction and training<br>○ communications<br>• Joint CM communications with key partners<br>• Staff awareness tested through surveys | • Finance committed for 2+yrs of Programme<br>• External funding being routinely obtained<br>• Ring-fenced fund for carbon reduction initiatives | • $CO_2$ friendly operating procedure in place<br>• Central team provide advice and review, when requested<br>• Barriers to $CO_2$ reduction routinely considered and removed |
| 4 | $CO_2$ reduction commitment in Corporate Strategy<br>Top level targets set for $CO_2$ reduction<br>Climate Change Strategy reviewed annually | • Sponsor reviews progress and removes blockages through regular Programme Boards<br>• Progress against targets routinely reported to Senior Mgt Team | • CM integrated in to responsibilities of department heads<br>• Cabinet / SMT regularly updated<br>• Staff engaged though Green Champion network | • Annual collation of $CO_2$ emissions for:<br>○ buildings<br>○ street lighting<br>○ transport<br>○ waste<br>• Data internally reviewed | • All staff given $CO_2$ reduction:<br>○ induction<br>○ communications<br>○ CM matters communicated to external community | • Coordinated financing for $CO_2$ reduction projects via Programme Board<br>• Finances committed 1yr ahead<br>• Some external financing | • Comprehensive review of policies complete<br>• Lower level policies reviewed locally<br>• Unpopular changes being considered |
| 3 | $CO_2$ reduction vision clearly stated and published<br>Climate Change Strategy endorsed by Cabinet and publicised with staff | • Core team regularly review CM progress:<br>○ actions<br>○ profile & targets<br>○ new opportunities | • An individual provides full time focus for $CO_2$ reduction and coordination across the organisation<br>• Senior Sponsor actively engaged | • Collation of $CO_2$ emissions for limited scope i.e. buildings only | • Environmental / energy group(s) given ad hoc:<br>○ training<br>○ communications | • A view of the cost of $CO_2$ reduction is developing; finance remains adhoc<br>• Some centralised resource allocated<br>• Finance representation on CM Team | • All high level and some mid level policies reviewed, irregularly<br>• Substantial changes made, showing $CO_2$ savings |
| 2 | Draft Climate Change Policy<br>Climate Change references in other strategies | • Ad hoc reviews of CM actions progress | • $CO_2$ reduction a part-time responsibility of a few department champions | • No $CO_2$ emissions data compiled<br>• Energy data compiled on a regular basis | • Regular awareness campaigns<br>• Staff given CM information on ad-hoc basis | • Ad hoc financing for $CO_2$ reduction projects | • Partial review of key, high level policies<br>• Some financial quick wins made |
| **Worst** 1 | No policy<br>No Climate Change reference | • No CM monitoring | • No recognised $CO_2$ reduction responsibility | • No $CO_2$ emissions data compiled<br>• Estimated billing | • No communication or training | • No specific funding for $CO_2$ reduction projects | • No alignment of policies for $CO_2$ reduction |

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| Now | Civic centre 2 | Civic centre 3 | Civic centre 3 | Civic centre 3 | Council as a whole 2 |
|---|---|---|---|---|---|
| 5yrs | Civic centre 4 | Civic centre 5 | Civic centre 5 | Civic centre 5 | Council as a whole 4 |
| | Challenge √ | | √ | | √ |
| | **BOILERS** | **INSULATION** | **HEATING** | **LIGHTING** | **TRAVEL** |
| **Best** 5 | • Regular:<br>  ○ Efficiency monitoring<br>  ○ "Preventative", regular maintenance<br>• BMS systems set to reflect occupancy | • All Lofts insulated to >270mm,<br>• All cavity walls filled<br>• Internal solid wall insulation where appropriate<br>• Floor /flat roof insulation where applicable<br>• All window's double/secondary glazed | Heating strategy includes:<br>• Zoned controls<br>• Bottom-up issue reporting<br>• Weather correction<br>• Regular Reviews<br>• Advanced BMS | • Occupancy and daylight controlled lighting systems installed<br>• Consideration of best lamp and luminaire for job<br>• Official switch off policy includes training to cleaners,<br>• All switches labelled | • Full time travel coordinator<br>• Procurement of vehicles considers CO2 emissions<br>• Mileage reimbursement carbon sensitive<br>• Comprehensive travel plan includes: car sharing, cycle paths, subsidised bus pass<br>• Internally bicycle compound, showers & drying room |
| | • Combustion conditions maintained regularly<br>• Results regularly logged & profiled | • Loft insulation min 200mm, over half of cavity walls filled<br>• Draught proofing/ draught strips to leaky windows doors<br>• Majority of windows double/secondary glazed | • Zoned controls accommodate:<br>  ○ Local occupancy<br>  ○ Temperature<br>  ○ Times<br>• Regular review | • Zones created separate lighting controls for areas<br>• Triphospor specified for new fluorescent lamps<br>• Failing lamps replaced quickly<br>• WSL cleaned quarterly<br>• Switch off policy security led most switches labelled | • Part time travel coordinator<br>• Clean pool cars and vehicles available to staff are hybrid some electric but no green tariff in place<br>• Thorough travel plan<br>• Mileage reimbursement carbon sensitive |
| 3 | • Meters on all boilers<br>• Results regularly logged | • Loft insulation 100mm in majority of buildings,<br>• A quarter of cavities filled<br>• Door closers to external spaces<br>• Double/secondary glazing over half of all sites | • Controls have:<br>  ○ Weather correction<br>  ○ 24/7 time control<br>  ○ Local adjustment capacity<br>• Ad hoc Review | • Time delay switches in some low occupancy areas<br>• Failing lamps are replaced<br>• WSL cleaned twice a year<br>• Switch off campaign staff responsibility some labelling | • Ad hoc travel coordination<br>• Pool cars are available for short trips but are petrol/diesel<br>• Basic green travel plan in place<br>• Ad hoc promotion of cycling, walking and public transport |
| 2 | • Operational controls:<br>  ○ In place<br>  ○ Programme not changed regularly | • Number of properties with pitched roofs/cavity wall known and majority not insulated<br>• Majority of solid walls/floors not insulated<br>• Less than half of windows are double/secondary glazed | • Thermostatic Radiator Valves<br>• Timed controls are 24h only | • Sensors control external lighting<br>• T2 fluorescent tubes replaced with T8 tubes<br>• *Failing* lamps are replaced when a number require replacement<br>• WSL cleaned once/yr<br>• Informal switch off policy manual control only, no switches labelled | • Little travel consideration<br>• Draft travel plan<br>• Some public reference to walking & cycling |
| 1 **Worst** | • Operational controls:<br>  ○ Manual<br>  ○ Statutory maintenance only | • Number of properties wit pitched roof or cavity wall unknown<br>• Majority of windows single glazed<br>• Basic instructions for door operation i.e. to keep shut | • Boiler thermostat only control of temperature<br>• Single pipe heating system | • Like for like replacement of lamps on failure<br>• Windows, Skylights, Luminaires (WSL) cleaned once or every other year<br>• Only *failed* lamps replaced<br>• No switch off policy or staff awareness | • No green travel policy<br>• No long term sustainable consideration of travel<br>No cycle lanes or reference to walking or public alternatives |

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| Now | The Orchard 2 | The Orchard 2 | The Orchard 3 | The Orchard 2 | |
|---|---|---|---|---|---|
| 5yrs | The Orchard 4 | The Orchard 4 | The Orchard 4 | The Orchard 5 | |
| Challenge | | | | √ | |
| | **BOILERS** | **INSULATION** | **HEATING** | **LIGHTING** | **TRAVEL** |
| **Best** 5 | • Regular:<br>  ○ Efficiency monitoring<br>  ○ "Preventative", regular maintenance<br>• BMS systems set to reflect occupancy | • All Lofts insulated to >270mm,<br>• All cavity walls filled<br>• Internal solid wall insulation where appropriate<br>• Floor /flat roof insulation where applicable<br>• All window's double/secondary glazed | Heating strategy includes:<br>• Zoned controls<br>• Bottom-up issue reporting<br>• Weather correction<br>• Regular Reviews<br>• Advanced BMS | • Occupancy and daylight controlled lighting systems installed<br>• Consideration of best lamp and luminaire for job<br>• Official switch off policy includes training to cleaners,<br>• All switches labelled | • Full time travel coordinator<br>• Procurement of vehicles considers CO2 emissions<br>• Mileage reimbursement carbon sensitive<br>• Comprehensive travel plan includes: car sharing, cycle paths, subsidised bus pass<br>• Internally bicycle compound, showers & drying room |
| | • Combustion conditions maintained regularly<br>• Results regularly logged & profiled | • Loft insulation min 200mm, over half of cavity walls filled<br>• Draught proofing/ draught strips to leaky windows doors<br>• Majority of windows double/secondary glazed | • Zoned controls accommodate:<br>  ○ Local occupancy<br>  ○ Temperature<br>  ○ Times<br>• Regular review | • Zones created separate lighting controls for areas<br>• Triphospor specified for new fluorescent lamps<br>• Failing lamps replaced quickly<br>• WSL cleaned quarterly<br>• Switch off policy security led most switches labelled | • Part time travel coordinator<br>• Clean pool cars and vehicles available to staff are hybrid some electric but no green tariff in place<br>• Thorough travel plan<br>• Mileage reimbursement carbon sensitive |
| 3 | • Meters on all boilers<br>• Results regularly logged | • Loft insulation 100mm in majority of buildings,<br>• A quarter of cavities filled<br>• Door closers to external spaces<br>• Double/secondary glazing over half of all sites | • Controls have:<br>  ○ Weather correction<br>  ○ 24/7 time control<br>  ○ Local adjustment capacity<br>• Ad hoc Review | • Time delay switches in some low occupancy areas<br>• Failing lamps are replaced<br>• WSL cleaned twice a year<br>• Switch off campaign staff responsibility some labelling | • Ad hoc travel coordination<br>• Pool cars are available for short trips but are petrol/diesel<br>• Basic green travel plan in place<br>• Ad hoc promotion of cycling, walking and public transport |
| 2 | • Operational controls:<br>  ○ In place<br>  ○ Programme not changed regularly | • Number of properties with pitched roofs/cavity wall known and majority not insulated<br>• Majority of solid walls/floors not insulated<br>• Less than half of windows are double/secondary glazed | • Thermostatic Radiator Valves<br>• Timed controls are 24h only | • Sensors control external lighting<br>• T2 fluorescent tubes replaced with T8 tubes<br>• *Failing* lamps are replaced when a number require replacement<br>• WSL cleaned once/yr<br>• Informal switch off policy manual control only, no switches labelled | • Little travel consideration<br>• Draft travel plan<br>• Some public reference to walking & cycling |
| 1 **Worst** | • Operational controls:<br>  ○ Manual<br>  ○ Statutory maintenance only | • Number of properties wit pitched roof or cavity wall unknown<br>• Majority of windows single glazed<br>• Basic instructions for door operation i.e. to keep shut | • Boiler thermostat only control of temperature<br>• Single pipe heating system | • Like for like replacement of lamps on failure<br>• Windows, Skylights, Luminaires (WSL) cleaned once or every other year<br>• Only *failed* lamps replaced<br>• No switch off policy or staff awareness | • No green travel policy<br>• No long term sustainable consideration of travel<br>No cycle lanes or reference to walking or public alternatives |

**For each column below please note:**

- where you feel your organisation is **now** (a score of 1-low to 5-high)
- where you feel you organisation should be **in 5 years** time (a score of 1-low to 5-high)

working with

- which area(s) you think will provide the greatest **challenge** (please tick)

| | | | | | |
|---|---|---|---|---|---|
| **Now** | **Acacia Hall site 1** | **Acacia Hall site 2** | **Acacia hall site 2** | **Acacia Hall site 2** | |
| **5yrs** | **Acacia Hall site 3** | **Acacia hall site 4** | **Acacia Hall site 4** | **Acacia Hall site 4** | |
| | **Challenge** √ | | | √ | |
| | **BOILERS** | **INSULATION** | **HEATING** | **LIGHTING** | **TRAVEL** |
| **Best** 5 | • Regular:<br>  ○ Efficiency monitoring<br>  ○ "Preventative", regular maintenance<br>• BMS systems set to reflect occupancy | • All Lofts insulated to >270mm,<br>• All cavity walls filled<br>• Internal solid wall insulation where appropriate<br>• Floor /flat roof insulation where applicable<br>• All window's double/secondary glazed | Heating strategy includes:<br>• Zoned controls<br>• Bottom-up issue reporting<br>• Weather correction<br>• Regular Reviews<br>• Advanced BMS | • Occupancy and daylight controlled lighting systems installed<br>• Consideration of best lamp and luminaire for job<br>• Official switch off policy includes training to cleaners,<br>• All switches labelled | • Full time travel coordinator<br>• Procurement of vehicles considers CO2 emissions<br>• Mileage reimbursement carbon sensitive<br>• Comprehensive travel plan includes: car sharing, cycle paths, subsidised bus pass<br>• Internally bicycle compound, showers & drying room |
| 4 | • Combustion conditions maintained regularly<br>• Results regularly logged & profiled | • Loft insulation min 200mm, over half of cavity walls filled<br>• Draught proofing/ draught strips to leaky windows doors<br>• Majority of windows double/secondary glazed | • Zoned controls accommodate:<br>  ○ Local occupancy<br>  ○ Temperature<br>  ○ Times<br>• Regular review | • Zones created separate lighting controls for areas<br>• Triphospor specified for new fluorescent lamps<br>• Failing lamps replaced quickly<br>• WSL cleaned quarterly<br>• Switch off policy security led most switches labelled | • Part time travel coordinator<br>• Clean pool cars and vehicles available to staff are hybrid some electric but no green tariff in place<br>• Thorough travel plan<br>• Mileage reimbursement carbon sensitive |
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| 2 | • Operational controls:<br>  ○ In place<br>  ○ Programme not changed regularly | • Number of properties with pitched roofs/cavity wall known and majority not insulated<br>• Majority of solid walls/floors not insulated<br>• Less than half of windows are double/secondary glazed | • Thermostatic Radiator Valves<br>• Timed controls are 24h only | • Sensors control external lighting<br>• T2 fluorescent tubes replaced with T8 tubes<br>• *Failing* lamps are replaced when a number require replacement<br>• WSL cleaned once/yr<br>• Informal switch off policy manual control only, no switches labelled | • Little travel consideration<br>• Draft travel plan<br>• Some public reference to walking & cycling |
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| Now | Princes Park 5 | Princes Park 5 | Princes Park 5 | Princes Park 5 | |
|---|---|---|---|---|---|
| 5yrs | Princes Park 5 | Princes Park 5 | Princes Park 5 | Princes Park 5 | |
| Challenge | | | | | |
| | **BOILERS** | **INSULATION** | **HEATING** | **LIGHTING** | **TRAVEL** |
| **Best** 5 | • Regular:<br>  ○ Efficiency monitoring<br>  ○ "Preventative", regular maintenance<br>• BMS systems set to reflect occupancy | • All Lofts insulated to >270mm,<br>• All cavity walls filled<br>• Internal solid wall insulation where appropriate<br>• Floor /flat roof insulation where applicable<br>• All window's double/secondary glazed | Heating strategy includes:<br>• Zoned controls<br>• Bottom-up issue reporting<br>• Weather correction<br>• Regular Reviews<br>• Advanced BMS | • Occupancy and daylight controlled lighting systems installed<br>• Consideration of best lamp and luminaire for job<br>• Official switch off policy includes training to cleaners,<br>• All switches labelled | • Full time travel coordinator<br>• Procurement of vehicles considers CO2 emissions<br>• Mileage reimbursement carbon sensitive<br>• Comprehensive travel plan includes: car sharing, cycle paths, subsidised bus pass<br>• Internally bicycle compound, showers & drying room |
| 4 | • Combustion conditions maintained regularly<br>• Results regularly logged & profiled | • Loft insulation min 200mm, over half of cavity walls filled<br>• Draught proofing/ draught strips to leaky windows doors<br>• Majority of windows double/secondary glazed | • Zoned controls accommodate:<br>  ○ Local occupancy<br>  ○ Temperature<br>  ○ Times<br>• Regular review | • Zones created separate lighting controls for areas<br>• Triphospor specified for new fluorescent lamps<br>• Failing lamps replaced quickly<br>• WSL cleaned quarterly<br>• Switch off policy security led most switches labelled | • Part time travel coordinator<br>• Clean pool cars and vehicles available to staff are hybrid some electric but no green tariff in place<br>• Thorough travel plan<br>• Mileage reimbursement carbon sensitive |
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| Now | Council Housing Stock 1 | Council Housing Stock 3 | Council Housing Stock 2 | Council Housing Stock 2 | |
|---|---|---|---|---|---|
| 5yrs | Council Housing Stock 5 | Council housing stock 4 | Council housing stock 4 | Council housing stock 4 | |
| Challenge | √ | √ | | | |
| | **BOILERS** | **INSULATION** | **HEATING** | **LIGHTING** | **TRAVEL** |
| **Best**<br>5 | • Regular:<br>  ○ Efficiency monitoring<br>  ○ "Preventative", regular maintenance<br>• BMS systems set to reflect occupancy | • All Lofts insulated to >270mm,<br>• All cavity walls filled<br>• Internal solid wall insulation where appropriate<br>• Floor /flat roof insulation where applicable<br>• All window's double/secondary glazed | Heating strategy includes:<br>• Zoned controls<br>• Bottom-up issue reporting<br>• Weather correction<br>• Regular Reviews<br>• Advanced BMS | • Occupancy and daylight controlled lighting systems installed<br>• Consideration of best lamp and luminaire for job<br>• Official switch off policy includes training to cleaners,<br>• All switches labelled | • Full time travel coordinator<br>• Procurement of vehicles considers CO2 emissions<br>• Mileage reimbursement carbon sensitive<br>• Comprehensive travel plan includes: car sharing, cycle paths, subsidised bus pass<br>• Internally bicycle compound, showers & drying room |
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