

**This draft is a 'work in progress' and subject to ongoing amendment and revision.  
A final version will be present to Cabinet for endorsement in the spring of 2010.**

## Appendix A:

# DRAFT

## Slough Borough Council Carbon Management Programme

### Carbon Management Plan (CMP) 2009-2014

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## Foreword from our Project Sponsor and Political Sponsor

In October 2008, a full Council meeting committed Slough Borough Council to becoming carbon neutral by 2020. This means we aim to reduce nett greenhouse gas emissions to zero, end the Council's contribution to global warming, and provide strong leadership to other local organisations on the issue.

To address this commitment, the Council joined the Carbon Trust's Local Authority Carbon Management Programme in May 2009. This programme has provided a focused process to develop the technical skills and organisational change needed for success. We are very grateful to the Carbon Trust for its experienced and dedicated support.

This Carbon Management Plan sets out the projects and processes that will achieve a 40% reduction in carbon emissions by 2014. There is no doubt that these projects are challenging, but equally that we must achieve them if we are to reach full carbon neutrality. Along the way, the Council aims to make significant efficiency gains and be best prepared for an era of increasing energy and fuel prices. We are pleased to endorse this Carbon Management Plan and look forward to its successful implementation.



Ruth Bagley  
Chief Executive



Councillor Rob Anderson  
Leader of the Council

## 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 to save money on energy and put it to good use in other areas, whilst making a positive contribution to the environment by lowering carbon emissions.

Slough Borough Council was selected in 2009, amidst strong competition, to take part in this ambitious programme. Slough 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 CO<sub>2</sub> by 40% by 2014 and underpins potential financial savings to the council of around £11.96 million.

There are those that can and those that do. Local authorities can contribute significantly to reducing CO<sub>2</sub> emissions. The Carbon Trust is very proud to support Slough Borough Council in their ongoing implementation of carbon management.



Richard Rugg  
Head of Public Sector, Carbon Trust



## Management Summary

In October 2008, Slough Borough Council made a commitment to tackle climate change within its own operations by voting to become carbon neutral by 2020. The Authority joined the Carbon Trust's Local Authority Carbon Management Programme. This provided a focus for reducing carbon dioxide emissions across the Council's own operations by developing a comprehensive Carbon Management Plan.

**Our Target: Slough Borough Council will reduce carbon dioxide (CO<sub>2</sub>) emissions from its own operations by 40% against the 2008/09 baseline by April 2014.**

Slough Borough Council's carbon emissions baseline is 31,540 tonnes CO<sub>2</sub> for the financial year April 2008 to March 2009. The Council's main CO<sub>2</sub> emission sources, shown below, are buildings and schools (65%), streetlighting (10%) and transport (25%).

**Table 1.1 – Summary of CO<sub>2</sub> emissions and costs for baseline year 2008/09**

	Total	Buildings	Street lights	Transport
<b>Baseline CO<sub>2</sub> emissions (tonnes)</b>	31,540	20,592	3,122	7,826
<b>Baseline Cost (£)</b>	£6,996,688	£3,506,090	£599,403	£2,891,195

Key strategic themes for the programme:

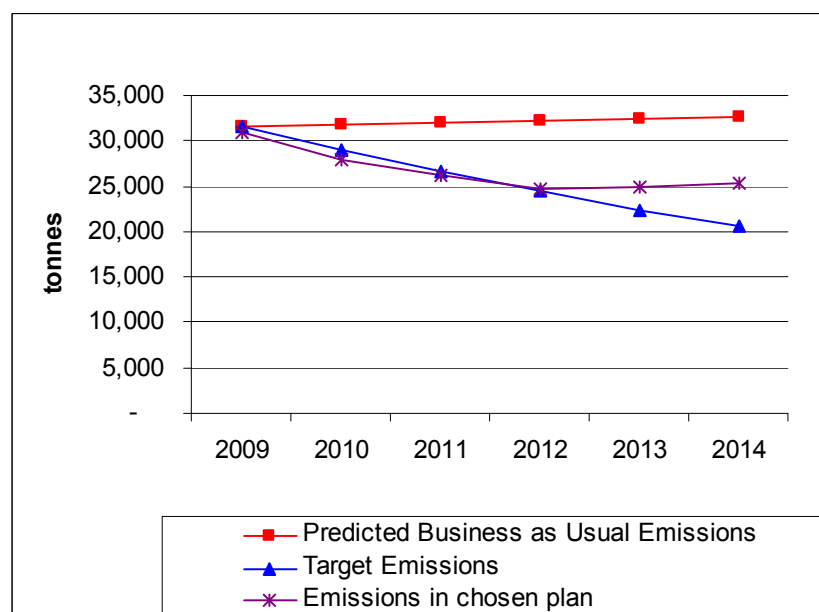
- Reduce CO<sub>2</sub> emissions from energy consumption in all Council buildings, schools, streetlighting, in-house and outsourced fleet transport and staff business travel.
- Fully embed carbon management within Council policies and procedures.
- Fund capital projects through the Council's new £1 million Salix Invest-to-Save scheme.
- Raise carbon management awareness among all staff and empower them to reduce energy consumption.
- Develop the interest and ability of schools to implement energy efficiency and renewables projects.
- Incorporate the highest possible energy efficiency specifications into new buildings, equipment and contracts.

The financial value at stake of the Council's Carbon Reduction Programme is £12.3 million. This is the projected cumulative savings that could be realised over the period 2009-2014 if emissions are cut by 40%.

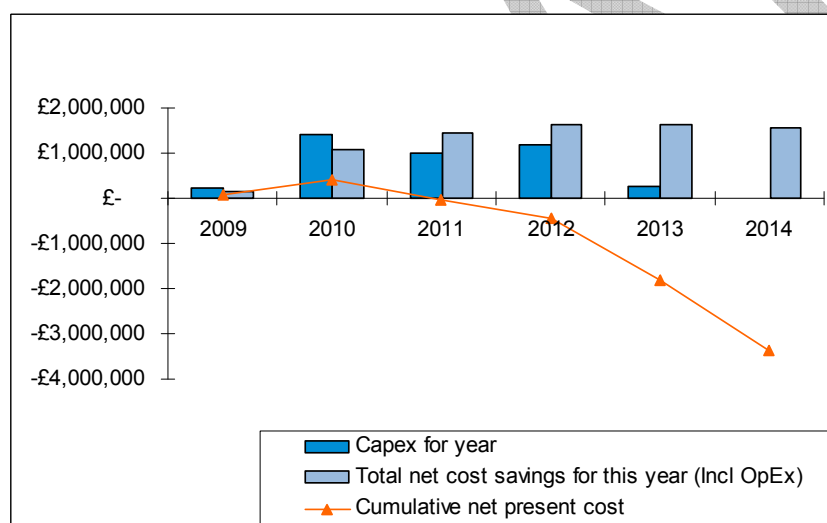
The Carbon Management Project Team has identified a variety of short, medium and longer term opportunities to reduce CO<sub>2</sub> emissions. These have been quantified and prioritised using an evaluation tool supplied by the Carbon Trust.

A forecast of carbon and financial progress for identified projects is shown:

**Figure 1.1 – Forecast of Carbon Progress against Target**



**Figure 1.2 – Forecast of Financial Progress against Target**



The annual cost and CO<sub>2</sub> savings for the Plan are shown below.

**Table 1.2 – Annual Cost and CO<sub>2</sub> Savings Proposed in this Plan**

	2009/10	2010/11	2011/12	2012/13	2013/14
Annual cost saving	£156,938	£915,139	£416,044	£252,175	£52,309
Annual CO <sub>2</sub> saving	712	3158	2343	1974	319
Planned % Reductions	27.5%	133%	107.5%	98.6%	17.4%
Cumulative target	27.5%	78%	87%	90%	77%

## 1.0 Introduction

The purpose of this Carbon Management Plan is to establish a framework for carbon management in Slough Borough Council and set out a programme of actions to reduce CO<sub>2</sub> emissions from Council operations until 2014.

The Carbon Management Plan goes a major way to implementing the Council agreement of October 2008 to become carbon neutral by 2020. The plan will be reviewed and revised annually to reflect progress made and new priorities identified.

The Carbon Management Plan is a result of the Council's participation in the Local Authority Carbon Management Programme (Phase 7) run by the Carbon Trust from May 2009 to March 2010.

The programme consists of five stages:

- 1) Mobilise the organisation by involving key players and providing structure
- 2) Set baseline, forecast and targets
- 3) Identify and quantify options
- 4) Develop a Carbon Management Plan
- 5) Implement the Plan

Implementation of the Carbon Management Plan will follow Council approval of this document in March 2010.



## 2.0 Carbon Management Strategy

### 2.1 Context and Drivers for Carbon Management

Climate change is the greatest environmental challenge facing the world today. Rising global temperatures will bring changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. The social, environmental and economic effects of climate change might be huge and will be felt across the UK and internationally.

Man-made climate change is now accepted as unambiguous fact by the global scientific community and Governments. The main human influence on global climate change is the emission of the key greenhouse gases, CO<sub>2</sub>, methane and nitrous oxide. The concentration of these gases in the atmosphere has now reached levels that are unprecedented in tens of thousands of years.

The UK is on track to meet its 1996 commitments under the UN's Kyoto Protocol on Climate Change to reduce greenhouse gas emissions by 12.5% below 1990 levels by 2010. The Climate Change Act (2008) has put into statute the UK's target to reduce carbon dioxide emissions by 34% below 1990 levels by 2020 and 80% by 2050.

The UN's successor agreement to Kyoto, the Copenhagen Accord was negotiated in December 2009. Copenhagen aims to tie global warming to a maximum 2°C temperature rise above 1990 levels. Nations must become signatories by 1<sup>st</sup> February 2010, prior to a legally binding agreement later in 2010. The European Union has so far offered a 20% cut on 1990 levels by 2020. Cuts in emissions so far offered may only hold temperature rises to between 3 and 3.5°C, so there is still a long way to go before the issue is settled on the international agenda.

The UK Government wants local authorities to set a leading example on climate change. A number of legislative drivers have been created for local authorities:

**Carbon Reduction Commitment (CRC):** The CRC is a mandatory CO<sub>2</sub> emissions “cap & trade” scheme for the UK's 5000 most energy-consuming local authorities, hospitals and businesses. CRC focuses on CO<sub>2</sub> emissions from buildings, schools and streetlighting, but not from transport, contracted-out services or PFI schools. In 2008/9, Slough Borough Council's “qualifying” electricity consumption was over 10,000 MWh. The threshold level for participation is 6 MWh, so Slough must participate in the CRC from April 2010.

CRC provides both a financial and a PR incentive to act, as all participants are ranked in a national league table. Organisations at the top of the league table will receive a bonus and those at the bottom must pay a penalty charge.

Licenses must be bought from Government at £12/tonne to cover all CO<sub>2</sub> emitted in the CRC baseline year of 2010/11. The Council's CRC-relevant carbon emissions were 16,577 tonnes in 2008/9. Therefore, Slough Borough Council should budget £198,924 to buy CO<sub>2</sub> licenses before April 2011.

In the first year, ranking position will depend largely on the number of automatic meter reading systems that have been installed.

A “recycling” payment will be paid in October 2011 based on our “performance” in a national league table against other Councils, hospitals and businesses. Good performance will result in a bonus and poor performance will result in a penalty. The bonus or penalty in the first year will be worth a maximum 10% of our £198,924 licenses or +/- £19,892. In the second year, the bonus or penalty maximum will escalate to 20% of this amount. By year five it will reach +/-50% or £99,462.

Performance in the first year will be 100% assessed on what is known as the Early Action Metric. This is calculated from participation in two activities, (a) smart metering, and (b) the Carbon Trust Standard. Slough will be unable to obtain the Carbon Trust Standard as this requires full energy billing and consumption data for 2007/8, which is unavailable. Therefore our only opportunity to improve performance in the first year will be to increase

the number of buildings that are smart metered. Smart metering is being encouraged by the Government in this way to enable organisations to measure energy consumption in real time. If you cannot measure it, you cannot manage it.

In the second year, the Early Action Metric will be worth 40% of performance, whereas reduction of carbon emissions over the baseline emissions will be worth 60%. In this year, we would have enough data history to apply for the Carbon Trust Standard. In the third year, the Early Action Metric will drop to being worth 20% of performance, with 80% coming from reduction in emissions from the baseline. In subsequent years all performance will be based on reduced emissions.

In April 2008, the Government introduced two National Indicators specific to CO<sub>2</sub> reduction:

- **National Indicator (NI) 185 – percentage CO<sub>2</sub> reduction from Local Authority (LA) operations:** The public sector is in a key position to lead on efforts to reduce CO<sub>2</sub> emissions by setting a behavioural and strategic example to the private sector and the communities they serve. NI 185 requires local authorities to calculate CO<sub>2</sub> emissions from buildings, schools and streetlighting as for CRC, but to also add in emissions from business transport, and contracted-out services. This is the same data set that has been used to prepare this Carbon Management Plan's carbon emissions baseline.
- **NI 186 – per capita CO<sub>2</sub> emissions in the LA area:** Local authorities are uniquely placed to provide vision and leadership to local communities by raising awareness and influencing behaviour change. NI 186 measures the percentage reduction in CO<sub>2</sub> per capita from business (including public sector), domestic housing and road transport across the whole LA area.

In April 2008, Slough Borough Council adopted NI 186 as part of its Local Area Agreement with the Government Office for the South East (GOSE). The target agreed with GOSE was a 9% reduction in CO<sub>2</sub> emissions by 2011 from a 2005 baseline year. The most recent data shows a 3% reduction in CO<sub>2</sub> emissions between 2005 and 2007. Data is produced two years in arrears, and is calculated by central Government.

Slough Forward, is the Local Strategic Partnership between the Council and its statutory, business and community sector partners. It established a Climate Change Partnership Delivery Group in October 2008 to coordinate CO<sub>2</sub> reduction activity across the Borough and meet NI 186 targets. The Council's Carbon Management Programme reports progress to this Local Strategic Partnership group.

Slough has amongst the lowest per capita emissions in the UK from transport and housing, but high emissions from business due to the concentration of businesses in the area.

- **Display Energy Certificates:** All public sector buildings with a floorspace over 1,000 m<sup>2</sup> are legally required, from 1<sup>st</sup> January 2009, to show a Display Energy Certificate (DEC) in a prominent position, usually in the foyer. DEC's rate a building's energy efficiency from A to G and include a recommendations report that suggests how this rating can be improved. Slough Borough Council has produced DEC's for 43 buildings over 1000 m<sup>2</sup> (including 33 schools). By December 2010, DEC's will be extended to smaller public buildings, perhaps those over 500 m<sup>2</sup> which would add a further 11 buildings. The DEC is a useful way to determine which buildings to prioritise for energy efficiency projects.
- **Energy Costs:** Measures to reduce CO<sub>2</sub> emissions will also reduce energy and fuel costs. Energy and fuel costs have seen a dramatic rise in recent years, with energy prices increasing by well over 50% since 2004. This trend is not expected to change. The Government forecasts a 5.4% annual increase in energy prices, based on International Energy Agency oil supply and price forecasts. The IEA admits that it has historically overstated the oil supply so for this reason, a 5.4% annual increase in energy prices is thought to be highly conservative.

The cost of energy for the Council's buildings and streetlighting has risen to almost £3.0 million per annum. To reduce gas and electricity charges, the Council has formed a

consortium with other Berkshire local authorities to procure energy through the NHS Procurement and Supply Agency (PASA). New electricity and gas supply contracts from October 2008 fall under this scheme. There will be cost and reporting benefits to transferring more buildings and schools to the PASA contract.

- **Nottingham Declaration on Climate Change:** The Leader and the Chief Executive of Slough Borough Council signed the Nottingham Declaration on Climate Change in August 2009. This committed the Council to supporting Government CO<sub>2</sub> emission reduction targets and producing local plans to address the causes and impacts of climate change. A Slough Climate Change Action Plan was under development for spring 2010 publication.
- **Local Authority Carbon Management Programme:** The Council was accepted onto the Carbon Trust's Local Authority Carbon Management Programme (LACM7) in May 2009. This Programme has used the NI185 CO<sub>2</sub> emissions baseline data for 2008/9 to set reduction targets, has provided technical support to prioritise carbon reduction projects, has supported and enabled organisational change and has required production of this Carbon Management Plan. The Carbon Trust will continue to provide technical and other support to Slough over the coming years to assist the Plan's implementation.

## 2.2 Our Low Carbon Vision – Where Do We Want to Get To?

By 2020, Slough Borough Council will be a model low carbon local authority, demonstrating good practice in its own operations and providing leadership on carbon reduction throughout the Borough.

## 2.3 Strategic Themes

- Reducing CO<sub>2</sub> emissions from energy consumption by all Council and outsourced buildings, schools, streetlighting, fleet transport and staff business travel.
- Funding capital projects through the Council's new £1 million Salix Invest-to-Save scheme.
- Fully embedding carbon management within Council policies and procedures.
- Raising carbon management awareness amongst all staff and empowering them to reduce energy usage.
- Developing the capacity of schools to implement energy efficiency and renewables projects.
- Incorporating the highest possible energy efficiency specifications into procurement of new buildings, contracts and equipment

## 2.4 Targets and Objectives

<b>Slough Borough Council aims to reduce CO<sub>2</sub> emissions from its own operations by 40% from a 2008/09 baseline by March 2014.</b>
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### 3.0 Emissions Baseline and Projections

#### 3.1 Scope

The Plan's scope matches central Government reporting requirements for National Indicator 185 (see Section 2.1). This includes electricity, gas, oil, LPG, diesel and petrol from all Council-used and contracted-out buildings, schools, fleet vehicles, staff business travel, streetlighting, roadside bollards, traffic signals, CCTV and monitoring equipment.

The major contracted-out services included within this Plan are Slough Enterprise (waste, street cleaning and parks), Interserve (facilities management), People 1<sup>st</sup> (housing), Slough Community Leisure (leisure centres), APCOA (car parking), Apetito (meals on wheels), Scolarest (schools catering), Southern Cross, BUPA, Care UK (and other smaller care home providers), home-to-school transport and social services transport. Electricity used in communal areas of People 1<sup>st</sup> blocks of flats for stairwell lighting and lifts was included, but energy used within individual homes was excluded.

The Plan excludes Council-owned premises leased to local businesses or community associations that pay their own energy bills. Carbon emissions attributable to water use and waste disposal were also excluded. This scope can be reviewed if new data becomes available or current targets are achieved.

#### 3.2 Baseline

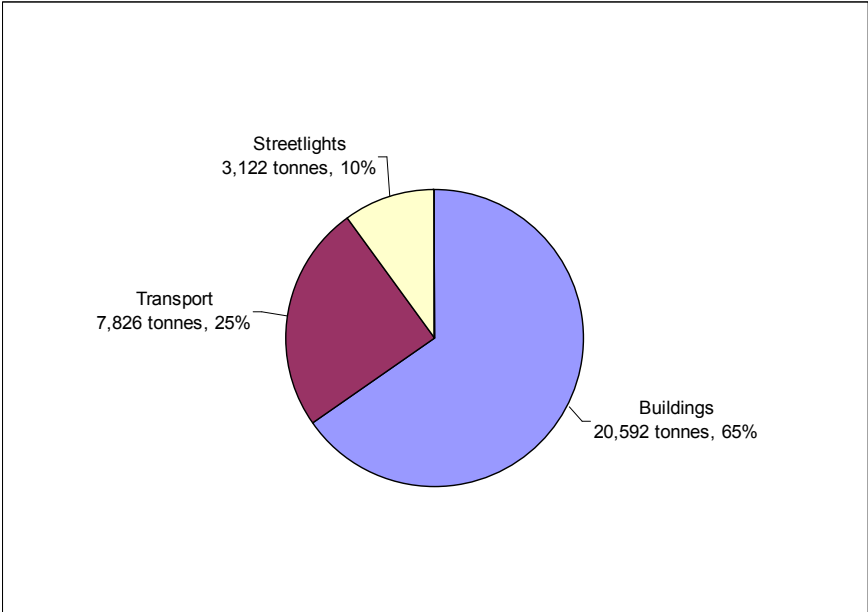
Slough Borough Council's baseline is 31,540 tonnes CO<sub>2</sub> for the financial year April 2007-March 2008. This aligns with the Council's financial reporting cycle and draws on existing data sources. In 2010, the same data sources will be used to report emissions for the Carbon Reduction Commitment.

The Council's main CO<sub>2</sub> emissions sources, shown in Table 3.1 and Figure 3.1 below, are buildings (65%), transport (25%) and streetlighting (10%). Council and school buildings metering and billing data for 2008/9 was collected by the Energy Projects Officer. Staff travel mileage was collected by the Performance Manager from the accounting system and fleet fuel consumption was collected by the Fleet Manager. Streetlighting data was collected by the Streetlighting Engineer. Data from outsourced services was collected by the Project Leader.

**Table 3.1 – Baseline carbon emissions and costs 2008/09**

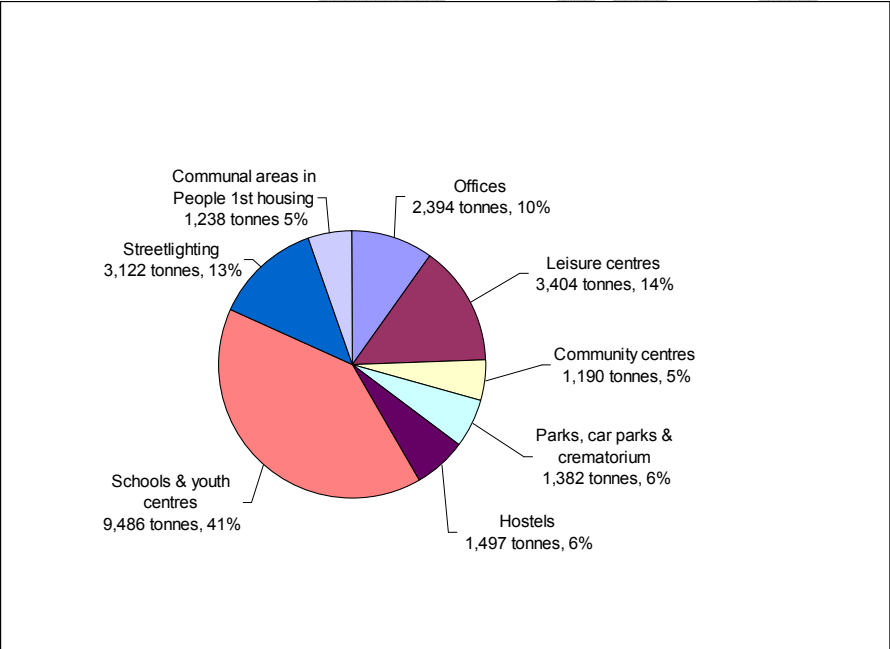
	Total	Buildings	Streetlighting	Transport
<b>Baseline CO<sub>2</sub> emissions (tonnes)</b>	31,540	20,592	3,122	7,826
<b>Baseline Cost (£)</b>	£6,996,688	£3,506,090	£599,403	£2,891,195

**Figure 3.1 – Baseline carbon emissions 2008/9**



Breaking down the buildings CO<sub>2</sub> emissions into different building types (Figure 3.2) shows that schools and youth services represent 41% of the Council's buildings carbon emissions. Leisure centres use 14%, streetlighting 13%, offices 10%, hostels 6%, parks, car parks and the crematorium 6%, whilst community centres and communal areas in People 1<sup>st</sup> housing use 5% each.

**Figure 3.2 – Baseline carbon emissions from buildings**



The Education & Children's Services Directorate is therefore responsible for 41% of building's CO<sub>2</sub> emissions through schools and youth centres. The Community & Wellbeing Directorate is responsible for 25% of CO<sub>2</sub> emissions through leisure centres, hostels and community centres. The Green & Built Environment Directorate is responsible for 24% of emissions through streetlighting, parks, car parks, the Crematorium and communal areas in People 1<sup>st</sup>



housing. The Resources Directorate is responsible for the remaining 10% of CO<sub>2</sub> emissions through offices. A simple analysis would suggest the greatest savings in carbon emissions might be made in schools.

### 3.3 Projections and Value at Stake

Two scenarios are outlined to assess the financial value of the Carbon Management Programme to Slough Borough Council. A Business as Usual (BAU) approach is compared with a Reduced Emissions Scenario (RES) which assumes the 40% target is to be achieved. The difference in cost to the Council is termed the Value at Stake (VAS) that can be saved in running costs through successful delivery of the programme.

In both scenarios, it is assumed there is (i) a 0.7% annual increase in demand for buildings, streetlighting and transport (based on Carbon Trust models) and (ii) a 5.4% annual increase in energy prices. Energy price forecasts are taken from middle of the road UK Government forecasts (DTI/DBERR EP68), based on International Energy Agency data.

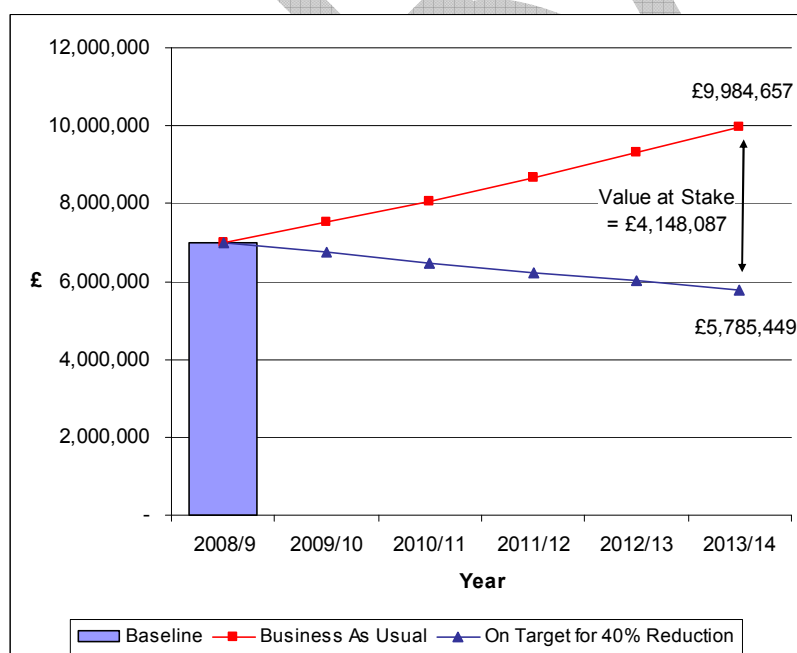
If the Carbon Management Programme successfully achieves its 40% targets, the cumulative Value at Stake by March 2014 would be £12,261,413.

**Table 3.2 – Financial Value at Stake (VAS)\* of Carbon Management Programme**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
BAU Total	£6,996,687	£7,509,339	£8,061,206	£8,655,413	£9,295,342	£9,984,657
RES Total	£6,996,687	£6,732,905	£6,480,396	£6,238,643	£6,007,150	£5,785,449
VAS Annual	£0	£776,434	£1,580,809	£2,416,770	£3,288,192	£4,199,208
VAS Cumulative	£0	£776,434	£2,357,243	£4,774,013	£8,062,205	£12,261,413

\*The VAS is the difference between Business as Usual (BAU) and the Reduced Emissions Scenario (RES), a 40% reduction in CO<sub>2</sub> emissions by 2014

**Figure 3.3 – Financial Value at Stake of Carbon Management Programme**



The cumulative Carbon Value at Stake is 43,757 tonnes over the lifetime of the project.

**Table 3.3 – Carbon Value at Stake (VAS)\* of Carbon Management Programme (tonnes)**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
BAU Total	31,540	31,761	31,983	32,207	32,432	32,659
RES Total	31,540	28,477	25,711	23,214	20,959	18,924
VAS Annual	0	3,284	6,272	8,993	11,473	13,735
VAS Cumulative	0	3,284	9,556	18,549	30,022	43,757

*\*The VAS is the difference between Business as Usual (BAU) and the Reduced Emissions Scenario (RES), a 40% reduction in CO<sub>2</sub> emissions by 2014*

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## 4.0 Carbon Management Projects

Slough Borough Council last employed an Energy Manager in 2004. Since then, there has been an ad hoc approach to carrying out energy efficiency projects. In order to make best use of officer time and investment capital, this Plan tries to prioritise projects based on their speed of payback and their ease of implementation. This will make it easier to demonstrate financial returns and to change the organisational culture.

### 4.1 Current Projects

Nine projects were completed in 2009/10 by the time of writing, saving an estimated 711.6 tonnes of CO<sub>2</sub>. The Combined Heat and Power plant at Montem Leisure Centre, installed in July 2009, was expected to save 421 tonnes of CO<sub>2</sub> per annum. IT server virtualisation, completed in December 2009, was expected to save a further 220 tonnes CO<sub>2</sub> per annum.

**Table 4.1 – Current Projects 2009/10**

Ref	Project	Lead	Cost		Annual Saving		Pay back	% of Target	Year
			Capital	Revenue	Financial	CO <sub>2</sub>			
1	Building fabric - Loft insulation - James Elliman School	Paul Butler	£140		£73	0.6 tCO <sub>2</sub>	1.9	0.00%	2009/10
2	Building fabric - Secondary glazing - 3 Schools	Paul Butler	£1,614		£1,366	11.5 tCO <sub>2</sub>	1.2	0.09%	2009/10
3	Combined Heat & Power - Montem Leisure Centre	Slough Community Leisure	£20,000		£87,409	421 tCO <sub>2</sub>	0.2	3.34%	2009/10
4	Communications - Awareness raising campaign - Offices	Kathryn Best		£300	£2,139	11.5 tCO <sub>2</sub>	0.1	0.09%	2009/10
5	Electrical equipment - IT - Printer rationalisation - Offices	Chris Wintermute	£200		£830	4.0 tCO <sub>2</sub>	0.2	0.03%	2009/10
6	Electrical equipment - IT - Virtualisation/thin computers - Offices	Unisys	£17,000		£45,750	220.3 tCO <sub>2</sub>	0.4	1.75%	2009/10
7	Streetlighting - Bulb replacement with high pressure sodium	Ken Mann	£450		£198	1.0 tCO <sub>2</sub>	2.3	0.01%	2009/10
8	Roadside Bollards - Bulb replacement with CFL & photocells	Dave Hall	£8,250		£3,262	15.7 tCO <sub>2</sub>	2.5	0.12%	2009/10
9	Transport - Fleet - Low carbon vehicles - Street-cleansing trucks	Enterprise	£165,000		£15,910	26.0 tCO <sub>2</sub>	10.4	0.21%	2009/10



## 4.2 Planned / Funded Projects

Nine further projects had been approved for implementation in 2010/11 by the time of writing this Plan (Table 4.2). These were expected to save 1033.2 tonnes of CO<sub>2</sub> per annum. The most significant project is the staff travel plan, expected to save 480.7 tonnes CO<sub>2</sub> per annum, and expected to be ratified by Cabinet in February 2010.

**Table 4.2 Approved and Funded Projects**

Ref	Project	Lead	Cost		Annual Saving		Pay back	% of Target	Year
			Capital	Revenue	Financial	CO <sub>2</sub>			
10	Boiler replacement with condensing boilers - Parks Changing Rooms	Paul Butler	£105,000		£17,112	143.9 tCO <sub>2</sub>	6.1	1.14%	2010/11
11	Communications - Awareness raising campaign - Offices	Kathryn Best		£10,000	£4,279	23.0 tCO <sub>2</sub>	2.3	0.18%	2010/11
12	Communications - Awareness raising campaign - Pilot project at 3 Primary Schools	Kathryn Horsepool		£5,000	£2,490	13.2 tCO <sub>2</sub>	2.0	0.10%	2010/11
13	Electrical equipment - IT - Virtualisation/thin computers - Offices	Unisys	£5,931		£11,150	53.7 tCO <sub>2</sub>	0.5	0.43%	2010/11
14	Electrical equipment - Pumps - Upgrades & timer controls - St Martin's Place	Geoff Lowe	£1,000		£2,047	9.9 tCO <sub>2</sub>	0.5	0.08%	2010/11
15	HVAC - Heating control adjustment - All Buildings	Tim Isbell		£20,000	£34,217	287.7 tCO <sub>2</sub>	0.6	2.28%	2010/11
16	Renewables - Photovoltaics - Powering ventilation fans - Schools	Paul Butler	£34,000		£1,115	5.4 tCO <sub>2</sub>	does not payback	0.04%	2010/11
17	Roadside Bollards - Compact fluorescent lighting & photocells	Dave Hall	£12,375		£3,262	15.7 tCO <sub>2</sub>	3.8	0.12%	2010/11
18	Transport - Staff Travel Plan - implementation	Viv Vallance	£233,646		£210,924	480.7 tCO <sub>2</sub>	1.1	3.81%	2010/11

## 4.3 Near Term Projects

Near-term projects that remain unfunded will need further assessment to decide how to fund them in 2010/11 (Table 4.3). Capital projects providing payback in under 5 years, and with sufficient carbon savings per £ invested, would be eligible for 50% funding through the Council's Salix Finance fund. Some projects are applicable to multiple sites and will be implemented over several years.

**Table 4.3 – Near-Term Projects**

Ref	Project	Lead	Cost		Annual Saving		Pay back	% of Target	Year
			Capital	Revenue	Financial	CO <sub>2</sub>			
19	Building fabric - Cavity wall insulation - 4 Primary schools	Paul Butler	£4,744		£899	7.6 tCO <sub>2</sub>	5.3	0.06%	2010/11
20	Building fabric - Draught proofing - Slough Grammar School	Slough Grammar School	£900		£316	2.8 tCO <sub>2</sub>	2.8	0.02%	2010/11
21	Building fabric - Loft and cavity wall insulation - Langley Grammar School	Langley Grammar School	£12,600		£939	7.9 tCO <sub>2</sub>	13.4	0.06%	2010/11
22	Building fabric - Loft insulation - Offices - SMP	Paul Butler	£7,564		£1,589	13.4 tCO <sub>2</sub>	4.8	0.11%	2010/11
23	Building fabric - Loft insulation - Slough Grammar School	Slough Grammar School	£10,000		£5,232	44. tCO <sub>2</sub>	1.9	0.35%	2010/11
24	Building fabric - Pipework insulation - Foxborough Primary School	Foxborough Primary School	£1,000		£321	2.7 tCO <sub>2</sub>	3.1	0.02%	2010/11
25	Building fabric - Pipework insulation - Slough Grammar School	Slough Grammar School	£2,000		£2,141	18.0 tCO <sub>2</sub>	0.9	0.14%	2010/11
26	Building Management Systems - Fine tuning - Slough Grammar School	Paul Butler	£500		£2,022	17.0 tCO <sub>2</sub>	0.2	0.13%	2010/11
27	Building Management Systems - Upgrades & fine tuning - Leisure centres	Slough Strategic Leisure	£8,525		£3,417	19.0 tCO <sub>2</sub>	2.5	0.15%	2010/11
28	Building Management Systems - Upgrades & fine tuning - Offices	Paul Butler	£22,624		£9,223	50.2 tCO <sub>2</sub>	2.5	0.40%	2010/11
29	Electrical equipment - IT - Shutdown Management software for PC Boxes - Offices	Chris Wintermute	£13,500		£14,849	71.5 tCO <sub>2</sub>	0.9	0.57%	2010/11
30	Electrical equipment timer controls - Offices	Charan Dhillon	£10,000		£14,923	71.9 tCO <sub>2</sub>	0.7	0.57%	2010/11
31	Electrical equipment timer controls - Schools	Geoff Lowe	£13,738		£9,291	44.7 tCO <sub>2</sub>	1.5	0.35%	2010/11
32	Electrical equipment timer controls - Slough Grammar School	Slough Grammar School	£90		£426	2.1 tCO <sub>2</sub>	0.2	0.02%	2010/11
33	HVAC - Air Conditioning - Heat Pump Strategy - Langley Grammar School	Langley Grammar School	£1,200		£1,364	6.6 tCO <sub>2</sub>	0.9	0.05%	2010/11
34	HVAC - Heating & ventilation strategy - Langley Grammar School	Langley Grammar School	£30,000		£4,392	21.2 tCO <sub>2</sub>	6.8	0.17%	2010/11
35	HVAC - Heating control upgrade - Primary schools	Paul Butler	£71,211		£13,213	111.1 tCO <sub>2</sub>	5.4	0.88%	2010/11
36	HVAC - Heating control upgrade - Secondary schools	Paul Butler	£111,871		£20,758	174.5 tCO <sub>2</sub>	5.4	1.38%	2010/11

37	HVAC - Heating control upgrade - Slough Grammar School	Slough Grammar School	£0	£95	0.8 tCO <sub>2</sub>	0.0	0.01%	2010/11
38	Lighting - Automatic control - Foxborough Primary School	Foxborough Primary School	£3,600	£1,961	9.4 tCO <sub>2</sub>	1.8	0.07%	2010/11
39	Lighting - Centralised control system - St Martin's Place	Geoff Lowe	£15,700	£3,505	16.9 tCO <sub>2</sub>	4.5	0.13%	2010/11
40	Lighting - Retrofit/replace halogens to LEDs - St Martin's Place	Geoff Lowe	£1,476	£1,407	6.8 tCO <sub>2</sub>	1.0	0.05%	2010/11
41	Lighting - Retrofit/replace T8 to T5 - Offices	Geoff Lowe	£8,260	£2,709	13.0 tCO <sub>2</sub>	3.0	0.10%	2010/11
42	Lighting - Retrofit/replace T8 to T5 - Schools	Geoff Lowe	£43,120	£14,143	68.1 tCO <sub>2</sub>	3.0	0.54%	2010/11
43	Lighting - Strategy - Langley Grammar School	Langley Grammar School	£33,600	£4,008	19.3 tCO <sub>2</sub>	8.4	0.15%	2010/11
44	Renewables - Biofuel switching from oil - Slough Grammar School	Slough Grammar School	£2,500	£1,211	21.2 tCO <sub>2</sub>	2.1	0.17%	2010/11
45	Transport - Fleet - Biodiesel replacement fuel	Enterprise	£8,548	£7,676	17.5 tCO <sub>2</sub>	1.1	0.14%	2010/11
46	Transport - Fleet - Driver training & maintenance	John Northam	£80,316	£72,505	165.2 tCO <sub>2</sub>	1.1	1.31%	2010/11
47	Transport - Fleet - Fuel management	John Northam	£51,921	£46,872	106.8 tCO <sub>2</sub>	1.1	0.85%	2010/11
48	Transport - Fleet - Low carbon replacement vehicles	John Northam	£405,635	£366,186	834.6 tCO <sub>2</sub>	1.1	6.62%	2010/11
49	Voltage optimisation - Herschel Multi-Storey Car Park	Geoff Lowe	£11,636	£13,644	65.7 tCO <sub>2</sub>	0.9	0.52%	2010/11
50	Voltage optimisation - Langley Grammar School	Geoff Lowe	£8,000	£3,539	17.0 tCO <sub>2</sub>	2.3	0.14%	2010/11
51	Voltage optimisation - Offices	Geoff Lowe	£35,636	£15,797	76.1 tCO <sub>2</sub>	2.3	0.60%	2010/11

#### 4.4 Medium to long term projects

Other projects running between 2011/12 and 2013/14 have been prioritised on the simplicity of introducing each technology and the speed of payback. These projects need reassessing each year.

**Table 4.4 Medium to Long-Term Projects**

Ref	Project	Lead	Cost Capital      Revenue	Annual Saving Financial      CO <sub>2</sub>	Pay back	% of Target	Year	
52	Building fabric - Cavity wall insulation - Secondary schools	Paul Butler	£7,453	£1,411	11.9 tCO2	5.3	0.09%	2011/12
53	Building fabric - Draught proofing - Schools	Paul Butler	£37,161	£7,699	64.7 tCO2	4.8	0.51%	2011/12
54	Building fabric - Loft insulation - Other schools	Paul Butler	£41,223	£8,663	72.8 tCO2	4.8	0.58%	2011/12
55	Building fabric - Pipework insulation - Leisure centres	Slough Strategic Leisure	£2,412	£608	5.1 tCO2	4.0	0.04%	2011/12

56	Building fabric - Pipework insulation - Other schools	Paul Butler	£1,887	£476	4.0 tCO2	4.0	0.03%	2011/12
57	Building Management Systems - Upgrades & fine tuning - Schools	Paul Butler	£115,994	£44,177	257.5 tCO2	2.6	2.04%	2011/12
58	Combined Heat & Power - Langley Leisure Centre	Slough Strategic Leisure	£20,000	£42,425	204.3 tCO2	0.5	1.62%	2011/12
59	Communications - Awareness raising campaign - Leisure centres	Slough Strategic Leisure	£9,331	£3,343	18.7 tCO2	2.8	0.15%	2011/12
60	Communications - Awareness raising campaign - Offices	Kathryn Best	£10,000	£6,149	33.5 tCO2	1.6	0.27%	2011/12
61	Communications - Awareness raising campaign - Schools	Kathryn Horsepool	£223,400	£76,664	446.8 tCO2	2.9	3.54%	2011/12
62	Electrical equipment - IT - LCD flat screens	Peter Webster	£2,742	£357	1.7 tCO2	7.7	0.01%	2011/12
63	Electrical equipment - Motors - Variable speed drives - St Martin's Place	Geoff Lowe	£32,000	£17,145	82.6 tCO2	1.9	0.65%	2011/12
64	Electrical equipment - Motors - Variable speed drives - Swimming pool halls	Slough Strategic Leisure	£31,530	£14,294	68.8 tCO2	2.2	0.55%	2011/12
65	HVAC - Air conditioning - Server room cooling - Primary schools	Paul Butler	£269	£112	0.5 tCO2	2.4	0.00%	2011/12
66	HVAC - Air conditioning - Server room cooling - Secondary schools	Paul Butler	£269	£112	0.5 tCO2	2.4	0.00%	2011/12
67	HVAC - Air conditioning - Server room cooling - Town Hall	Paul Butler	£102	£42	0.2 tCO2	2.4	0.00%	2011/12
68	Lighting - Automatic control - Slough Grammar School	Slough Grammar School	£750	£141	0.7 tCO2	5.3	0.01%	2011/12
69	Lighting - Zoning - Offices	Geoff Lowe	£49,953	£20,743	99.9 tCO2	2.4	0.79%	2011/12
70	Streetlighting - dimming at midnight	Ken Mann	£330,027	£137,045	660.1 tCO2	2.4	5.23%	2011/12
71	Streetlighting - replacement bulbs	Ken Mann	£40,828	£16,954	81.7 tCO2	2.4	0.65%	2011/12
72	Roadside Bollards - Compact fluorescent lighting & photocells	Dave Hall	£12,375	£3,262	15.7 tCO2	3.8	0.12%	2011/12
73	Voltage optimisation - Hatfield Car Park	Geoff Lowe	£11,636	£2,558	12.3 tCO2	4.5	0.10%	2011/12
74	Voltage optimisation - Schools	Geoff Lowe	£100,049	£41,298	198.9 tCO2	2.4	1.58%	2011/12
75	Boiler replacement with condensing boilers & boiler sequencing - Offices	Paul Butler	£39,193	£5,880	49.4 tCO2	6.7	0.39%	2012/13
76	Boiler replacement with condensing boilers & boiler sequencing - Schools	Paul Butler	£128,285	£22,194	186.6 tCO2	5.8	1.48%	2012/13
77	Building fabric - Secondary glazing - All Schools	Paul Butler	£115,318	£18,288	153.8 tCO2	6.3	1.22%	2012/13
78	Building rationalisation - reduced occupancy at Town Hall	Charan Dhillon	£0	£11,033	58.5 tCO2	0.0	0.46%	2012/13
79	Communications - Awareness raising campaign - Offices	Kathryn Best	£5,000	£8,557	46.0 tCO2	0.6	0.36%	2012/13
80	Electrical equipment - Motors - Variable speed drives - Schools	Geoff Lowe	£10,489	£4,755	22.9 tCO2	2.2	0.18%	2012/13
81	Electrical equipment - Other - Upgrades - CCTV	Peter Webster	£188,000	£7,526	36.2 tCO2	does not payback	0.29%	2012/13

82	HVAC - Air conditioning - Free cooling - Offices	Paul Butler	£5,097	£2,117	10.2 tCO <sub>2</sub>	2.4	0.08%	2012/13
83	HVAC - Heating control upgrades - Offices	Paul Butler	£3,671	£681	5.7 tCO <sub>2</sub>	5.4	0.05%	2012/13
84	HVAC - Heating zoning - Schools	Paul Butler	£13,798	£2,406	20.2 tCO <sub>2</sub>	5.7	0.16%	2012/13
85	Lighting - Photocell control - Car parks	Geoff Lowe	£100	£21	0.1 tCO <sub>2</sub>	4.7	0.00%	2012/13
86	Lighting - Retrofit/replace T8 to T5 - Dry leisure centres	Slough Strategic Leisure	£364	£120	0.6 tCO <sub>2</sub>	3.0	0.00%	2012/13
87	Lighting - Zoning - Schools	Geoff Lowe	£243,094	£100,946	486.2 tCO <sub>2</sub>	2.4	3.85%	2012/13
88	Renewables - Biofuel boiler switching from oil - Schools	Paul Butler	£366,963	£34,589	606.1 tCO <sub>2</sub>	10.6	4.80%	2012/13
89	Renewables - Small scale wind - 2x 6kW turbines	Schools	£50,000	£1,453	7.0 tCO <sub>2</sub>	does not payback	0.06%	2012/13
90	Streetlighting - Low energy photocells	Ken Mann	£22,115	£9,183	44.2 tCO <sub>2</sub>	2.4	0.35%	2012/13
91	Streetlighting - Switch off at midnight	Ken Mann	£20,414	£8,477	40.8 tCO <sub>2</sub>	2.4	0.32%	2012/13
92	Voltage optimisation - Leisure centres	Slough Strategic Leisure	£100,210	£41,364	199.2 tCO <sub>2</sub>	2.4	1.58%	2012/13
93	Boiler replacement with condensing boilers - Leisure centres	Slough Strategic Leisure	£46,092	£6,827	57.4 tCO <sub>2</sub>	6.8	0.45%	2013/14
94	Communications - Awareness raising campaign - Offices	Kathryn Best	£10,000	£8,557	46.0 tCO <sub>2</sub>	1.2	0.36%	2013/14
95	Lighting - Automatic control - Dry leisure centres	Slough Strategic Leisure	£4,836	£837	4. tCO <sub>2</sub>	5.8	0.03%	2013/14
96	Lighting - Automatic control - Offices	Geoff Lowe	£77,071	£13,335	64.2 tCO <sub>2</sub>	5.8	0.51%	2013/14
97	Lighting - Automatic control - Schools	Geoff Lowe	£120,958	£20,928	100.8 tCO <sub>2</sub>	5.8	0.80%	2013/14
98	Renewables - Photovoltaics - 20 m <sup>2</sup> of panels	Geoff Lowe	£14,220	£328	1.6 tCO <sub>2</sub>	does not payback	0.01%	2013/14
99	Renewables - Solar thermal hot water - 40m <sup>2</sup> of panels	Paul Butler	£8,416	£313	2.6 tCO <sub>2</sub>	does not payback	0.02%	2013/14
100	Streetlighting - electronic control gear	Ken Mann	£21,435	£8,901	42.9 tCO <sub>2</sub>	2.4	0.34%	2013/14

#### 4.5 Other Unquantified Projects

Other projects were known about but their timescales and scope were uncertain, making the potential carbon savings unquantifiable. Future versions of this Plan should include such projects once potential savings are known.

The major redevelopment of the Heart of Slough will remove Brunel car park, replace Slough Central Library and provide new offices and housing. There is good potential for a large-scale Combined Heat and Power plant to power the buildings. This option is currently being evaluated with Carbon Trust advice.

Other new developments are set to include parks changing rooms in Cippenham, the Iqra School, a Children's Centre in Colnbrook, the Britwell Regeneration project, a Bowling Alley replacing the Tennis Centre in Salt Hill Park and a variety of school redevelopments. Some of these may increase energy efficiency, but others will produce a nett increase in energy consumption. All these changes to buildings energy use need to be quantified in future versions of this Plan.

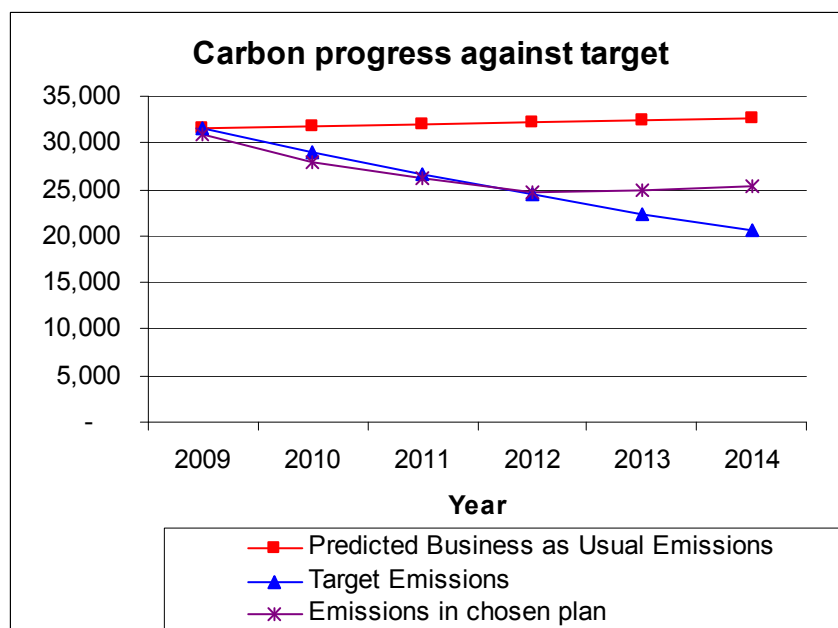
The office Smart Move programme is expected to yield significant office energy savings. More hot-desking will increase desk occupancy rates, meaning that less office space is required. There are also options to increase energy efficiency through contracting out services. Options may include contracting out the hosting of the IT server room. The Shared Services project is planning to contract out certain core services to Cambridgeshire. This will increase energy

efficiency if the buildings the core services are transferred to are more efficient than the Council's existing ones.

#### 4.6 Projected Progress Towards Target

The projects identified above contribute towards successfully meeting the Council's emissions reduction target between 2008/09 and 2011/12 (Figure 4.1). However, the Plan does not yet meet targets during 2012/13 and 2013/14. This shortfall will be made up by identifying other projects (as outlined in Section 4.5).

**Figure 4.1 – Carbon progress against target**

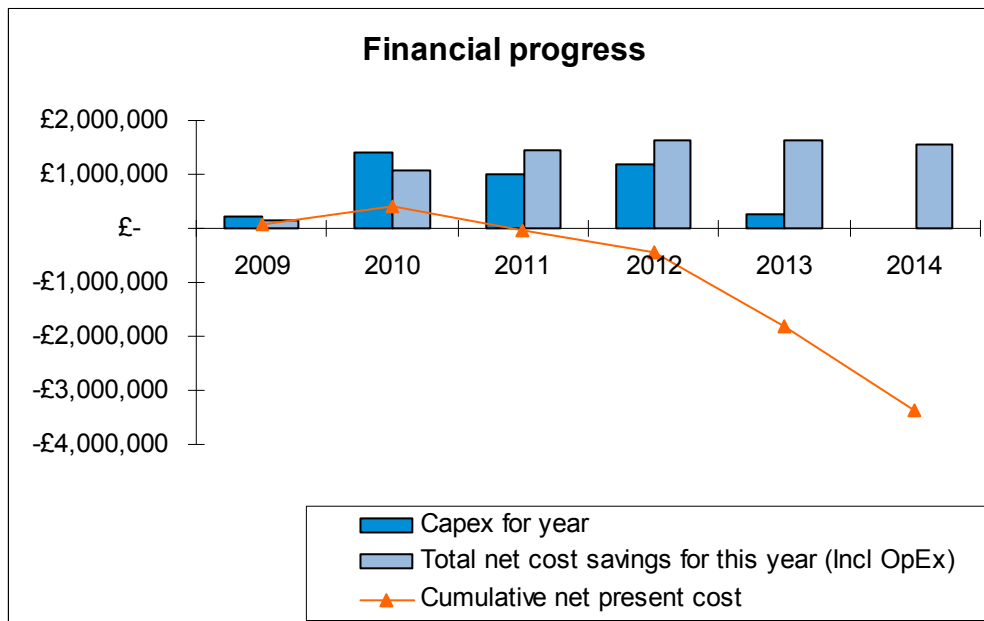


Please note that the year 2009 on the graph above is actually the 2008/09 baseline year etc.

## 5.0 Carbon Management Plan Financing

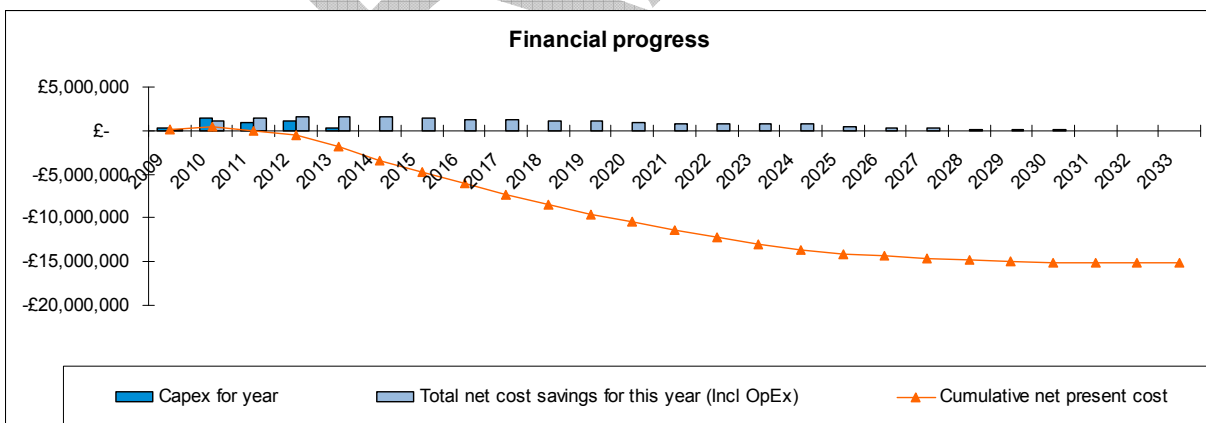
Capital expenditure and cost savings have been projected for each year of the Plan (Figure 5.1). Whilst the cumulative nett present cost curve shows that capital expenditure exceeds the nett cost savings in the short term, there are cost savings from the Plan by 2011/12 and on into the longer term. The cumulative nett present cost of the plan by 2014 is predicted to be -£3,363,334, a saving. By 2033, the nett present cost will fall to -£11,451,523 (Figure 5.2).

**Figure 5.1 – Financial Progress (nett present cost curve)**



Please note that the year 2009 on the graph above is actually the 2008/09 baseline year etc.

**Figure 5.2 – Long-Term Financial Progress**



## 5.1 Assumptions

The following assumptions were made when calculating the financial progress for this Plan:

- A financial discount rate of 3.5% (taken from the UK Treasury Green Book 2008)
- An inflation rate of 2.5% (Carbon Trust estimate, based on historical data)
- A “persistence” discount rate of 3.0%, a discount on the energy saved (Carbon Trust estimate)



## 5.2 Benefits and Savings – Quantified and Unquantified

The Plan's benefits are quantified (Table 5.1). In 2010/11, the year following the Plan's publication, there is a planned annual cost saving of £915,139 if all projects are implemented. This represents 3158 tonnes of CO<sub>2</sub>. As projects will not meet targets in 2009/10, more projects have been programmed into 2010/11 to allow some catch up.

**Table 5.1 – Annual Cost and Carbon Savings Forecast**

	2009/10	2010/11	2011/12	2012/13	2013/14
<b>Annual cost saving</b>	<b>£156,938</b>	<b>£915,139</b>	<b>£416,044</b>	<b>£252,175</b>	<b>£52,309</b>
<b>Annual CO<sub>2</sub> saving (tonnes)</b>	<b>712</b>	<b>3158</b>	<b>2343</b>	<b>1974</b>	<b>319</b>
<b>Annual target % achieved</b>	<b>27.5%</b>	<b>133%</b>	<b>107.5%</b>	<b>98.6%</b>	<b>17.4%</b>
<b>Cumulative target % achieved</b>	<b>27.5%</b>	<b>78%</b>	<b>87%</b>	<b>90%</b>	<b>77%</b>

The unquantified benefits include:

- The Council has begun developing the capacity to participate effectively in the Carbon Reduction Commitment (CRC) from April 2010. This will bring with it annual financial penalties and bonuses, dependent on carbon management performance.
- Demonstrating local leadership on carbon management will give the Council far greater freedom to talk to businesses, statutory partners and homeowners about their energy efficiency.
- This in turn will help the Council and its partners to meet the Local Strategic Partnership's Local Area Agreement (LAA) NI 186 target, which would bring a cash reward from Government in 2011/12 enabling further LAA work on climate change.
- This Plan will strengthen the Council's Staff Travel Plan and forthcoming Climate Change Action Plan. It will help the Council to fulfill its requirements under the Nottingham Declaration to report how reductions in carbon emissions will be made.
- By raising financial awareness about resource efficiency for energy, it will become easier to make business cases for water conservation projects. These are likely to become increasingly desirable as an adaptation response to climate change.

## 5.3 Additional Resources

The Carbon Management Programme Board provides strategic oversight of the Programme, whilst the Carbon Management Project Team identifies and quantifies projects. Staff time put into these bodies is an essential resource if carbon management is to be managed, embedded and shared across the organisation.

Property Services in the Resources Directorate has staff time set aside for collecting building energy data. The Performance team in the Improvement & Development Directorate has staff time set aside for collecting transport energy data.

A capital budget is still sought to match fund our Salix Finance grant.



## 5.4 Financial Costs and Sources of Funding

Annual capital and revenue costs have been calculated (Table 5.2). In 2010/11, £951,699 of capital is as yet unfunded. Some projects may be funded from planned maintenance or capital improvement budgets.

Many capital projects can be 50% paid for through the Council's Salix Finance fund. This will reduce the capital funding requirements. The first tranche of £50,000 from Salix Finance plus £50,000 matched from the Council must be committed to capital projects by the end of March 2010. Then there will be further tranches of £100,000 from Salix to commit by the end of September 2010, and £150,000 by the end of March 2011, each again with match funding from the Council. At the moment, it is foreseen that this will be match funded with a Property Services contingency fund. In the Council's 2011/12 budget, capital must be set aside to ensure matching of the final Salix Finance payment tranche of £200,000 in April 2011. The rolling and ring-fenced Salix fund will generate some recycled income from energy savings to allow further projects to be match funded in subsequent years.

**Table 5.2 – Funding Schedule**

	2009/10	2010/11	2011/12	2012/13	2013/14
<b>Annual capital cost</b>	<b>£212,654</b>	<b>£1,343,651</b>	<b>£838,660</b>	<b>£1,307,111</b>	<b>£293,027</b>
<b>Committed annual capital</b>	<b>£212,654</b>	<b>£391,952</b>	-	-	-
<b>Unfunded annual capital</b>	-	<b>£951,699</b>	<b>£838,660</b>	<b>£1,307,111</b>	<b>£293,027</b>
<b>Annual revenue cost</b>	<b>£300</b>	<b>£115,316</b>	<b>£242,731</b>	<b>£5,000</b>	<b>£10,000</b>
<b>Committed annual revenue</b>	<b>£300</b>	<b>£35,000</b>	-	-	-
<b>Unfunded annual revenue</b>	-	<b>£80,316</b>	<b>£242,731</b>	<b>£5,000</b>	<b>£10,000</b>

## **6.0 Actions to Embed Carbon Management into the Organisation**

The Cabinet endorsed this Carbon Management Plan in March 2010. The target to reduce carbon emissions by 40% by March 2014 will then be included within the corporate Strategic Plan for 2011-13.

Responsibilities for this corporate target will be shared between Directorates by including CO<sub>2</sub> management responsibilities in Directorate Service Plans for 2010/11. This will provide a shared responsibility for the Carbon Reduction Commitment (CRC), which will require a greater degree of cooperation and accountability.

### **6.1 Corporate Strategy – Embedding Carbon Saving into the Organisation**

The Council began the Carbon Management Programme at only a basic level of carbon management capability across a range of disciplines (see Appendix A, the Carbon Management Embedding Matrix). To achieve success, the Programme will require a high level of capability to be reached in all supporting disciplines. This will be achieved by:

- Endorsement of this Plan by the Leader, Chief Executive, Environment Portfolio Holder and Cabinet.
- Publishing this Plan on the Council's website and communicating this to business, statutory and community partners through the Local Strategic Partnership.
- Communicating sustainability as a mainstream issue, giving it priority on the corporate agenda for staff and partners.
- Refreshing the corporate Strategic Plan in 2011-13 to refer to the Carbon Management Plan (and the linked Climate Change Strategy and Action Plan) as a key activity for the Council. This will help to embed carbon management into the Council's corporate planning processes and its performance management and audit functions.
- Devolving responsibility for carbon management to Directorates through the Council's annual service planning process. Heads of Service will need to choose how to meet their own devolved CO<sub>2</sub> reduction targets.

### **6.2 Programme Management – Embedding Technical Projects**

The following projects will not in themselves generate energy savings (so are not quantifiable in Section 4) but with them, the Council's technical capacity to implement projects will be significantly increased:

- Schools Energy Strategy – Schools have traditionally operated independently from the Council, so special efforts are needed to build relationships, and to sell the concept of energy efficiency. The Carbon Trust has provisionally offered the Council tailored support to develop a schools energy strategy. This would initially focus on upgrading boilers, which would save the largest tonnage of CO<sub>2</sub> emissions.
- Local Offsetting Fund – A way of allowing new developments that increase CO<sub>2</sub> emissions to be locally "offset" would be beneficial. Perhaps a capital value could be placed on the CO<sub>2</sub> emissions, as it is for the Carbon Reduction Commitment. A payment could then be levied to be later invested in energy efficiency measures elsewhere across the Council's estate.
- Planning Guidance for New Buildings – All major developments should be routinely assessed to see whether they are applicable to Combined Heat and Power plant and renewable energy options. There is currently dependence within local Planning Guidance on the use of BREEAM guidelines to introduce energy efficiency to new buildings. However, developers often choose cheaper measures such as bike racks or nectar-rich plantings to get their environmental score up, ditching the energy efficiency options. Guidance should instead specify the minimum energy efficiency requirement in units of Watts per square metre. The South East Plan expects that 10% of the

energy at major developments should be from renewables and Low Carbon Buildings Programme grants are available to enable this. A sustainable development document is being written by the Planning team in 2010 as part of the Local Development Framework, and recommended best practice should be incorporated into this document.

- There should also be Guidance for Council project managers and contractors that energy efficiency measures cannot be value engineered out after the design stage. This is recognised best practice adopted elsewhere.
- Smart Metering Technology – Automatic meters reporting live information about electricity and gas use in a building allow waste energy to be identified, especially at night and weekends. They are an essential tool in energy management and can save large amounts of time in collecting metering data. Although energy supply companies are required to install smart meters by 2016, these are unlikely to provide real-time data that the Property Services team will need to manage energy on a daily basis.
- Health & Safety Support – The vague issue of risk is sometimes raised as a reason for maintaining the status quo. Risk assessments should therefore be carried out to ensure that national lighting and heating requirements for IT offices, stairwells, toilets etc, support any energy efficiency work proposed.
- Contract Specification – The Interserve contract for buildings maintenance should have energy efficiency responsibilities built into it. For example, this would ensure that energy efficient light fittings were replaced with the correct equipment rather than a cheaper fitting of lower specification. Contracts with other large contracted-out services should also be assessed in terms of their contribution to CO<sub>2</sub> emissions. Annual energy and fuel data reporting to the Council should be built into all contracts as a matter of course.
- Audit of M&E Equipment – Mechanical and electrical equipment in all buildings should be surveyed and a log kept. This will allow a more focused programme of upgrades to take place. Without this information, the scope for introducing new technology is unknown, and it turns prioritisation of projects into educated guesswork.
- Register of Building's Longevity – New plans emerge all the time in Slough for buildings to be knocked down and replaced. Investing capital in energy efficiency measures within an existing building requires a knowledge of the life expectancy of each building. This ensures that each investment will generate a payback within the buildings lifetime, and allows prioritisation to buildings which with the greatest potential over their remaining lifetimes to save energy. Once corporate plans are shared, it might appear a better investment to focus on energy efficiency in schools, rather than at St Martin's Place, which was expected to last 30 years.
- Minimising IT Server Growth – an IT data management plan is needed to limit growth in server numbers. Currently, there are about 20 new IT servers each year to cope with the growth in data storage. There should be both a requirement to install these from new in virtualised form, and to limit the growth of data storage. Email attachments could be deleted after a while, freeing up lots of server space.

### **6.3 Responsibility – Saving CO<sub>2</sub> is Everyone's Job**

A key element of this Plan is to devolve responsibility for energy targets, usage and budgets to Heads of Service, building managers and all other employees. Training and awareness activity will be needed to explain to staff their responsibilities in helping to meet Council CO<sub>2</sub> targets. Energy management can only be effective where there is good measurement of energy use. Data quality must be improved through building management systems, automatic metering systems, and streamlined and centralised processes for data processing. Responsibility will be devolved to Heads of Service to set targets with their building managers, fleet managers and outsourced contract managers to set targets for energy consumption through the Directorate Service Plan process. In addition, the Council will take the following

actions to ensure that carbon management becomes the responsibility of all staff across the organisation:

- Green Champions - a network of 24 self-nominated Green Champions are helping to raise awareness of energy, transport and waste issues. They raise green issues at regular team meetings, monitor electrical equipment usage in their place of work, help organise staff awareness events and put forward energy-saving ideas to the Carbon Management Project Team. The aim is to continue recruiting Champions until all areas of work are covered. Further training is planned on energy conservation. Ways to incentivise staff volunteering to become Green Champions should be sought. These could be either financial incentives or gifts.
- CO<sub>2</sub> reduction targets will be included in all Service Plans and job descriptions for all Heads of Service, building managers, fleet managers and other relevant roles. These targets will be reviewed during appraisals to encourage the uptake of energy efficient working practices.
- Carbon management policies and aspirations will be integrated into the recruitment process through job descriptions, job adverts, new starter packs and induction training for all staff.
- An Environmental Code of Conduct is envisaged, based on policies already in place, that explains what environmental behaviour is expected of staff. This Code would be promoted to Directors, Heads of Service, managers and Green Champions and made available to staff on the intranet. It could also be added to all new employment contracts.
- Annual “environmental management” seminars about energy and carbon management issues will be held for building managers, facilities managers, procurement staff, Head Teachers and Bursars.
- A Communications Plan to sell carbon management to all stakeholders will help to generate a staff culture that supports the measures being introduced. One outcome might be to encourage team leaders to ask their staff to use pool bikes to get around the Borough.

#### **6.4 Data Management – Measuring the Difference, Measuring the Benefit**

Data on energy usage is collected for all buildings (including schools), streetlighting, transport and contracted-out services. It is analysed by the Property Services and Performance teams and the Carbon Management Programme Leader, then reported to the Department for Energy and Climate Change (DECC) as performance indicator NI 185.

Data is currently being collected annually and then compared with the previous year's performance. This will allow the effectiveness of carbon management projects to be quantified. Collecting building energy data will, in future, be simplified through the introduction of Automatic Meter Reading, Building Management Systems and sub-metering. This will make it possible to move towards quarterly data collection and reporting.

Data will be used to inform staff on progress in achieving targets, important for motivation. Progress will be reported to the Corporate Management Team, Carbon Management Programme Board, Carbon Management Project Team, Local Strategic Partnership Climate Change Group, Heads of Service and departmental management teams.

NI 185 data will continue to be externally verified by DECC on an annual basis.

The advent of the Carbon Reduction Commitment now requires every participating organisation to nominate a Data Controller who must hold all billing and metering data for Council and school buildings in one place. The data must be up to date and immediately available to the Environment Agency upon request. There are substantial fines for failure to



provide complete, accurate and verified data. Smart metering is another way of minimising the workload in collecting and presenting this data.

## 6.5 Communication and Training – Ensuring Everyone is Aware

A Communications Plan has been developed to promote the Carbon Management Plan, provide regular updates to stakeholders over the course of the Programme, and bring about cultural change.

Residents will be informed about progress on carbon management through the local press and Council website. Carbon management best practice will be shared with other public sector bodies in Slough through the Local Strategic Partnership's Climate Change group.

A staff energy awareness campaign was launched during Energy Saving Week, October 2009. This involved the Green Champions, Energy Saving Trust and Green Doctor providing advice and giveaways to staff and getting staff to sign a pledge to save energy. Energy and staff travel events will be repeated throughout the Programme.

In addition, the following other internal communications actions will take place:

- Carbon management induction training will be given to new staff
- Intranet content will be developed for Green Champions pages
- Staff will be kept informed on progress of the Programme through the staff newsletter
- Sustainable procurement policies will ensure that energy efficiency ratings of electrical equipment and the lifecycle carbon content of products and services are considered
- More Green Champions will be recruited and trained
- Briefings will be provided at team meetings
- Managers and employees handbooks will describe an Environmental Code of Conduct
- Alternative travel modes will be promoted through the Staff Travel Plan
- Fleet vehicle drivers will be given fuel efficiency training
- Carbon management will be covered in the Leadership Development Programme for Corporate Management Team and other senior officers
- Managers will be trained to embed carbon management into job descriptions and Personal Development Plans, and report on carbon management through the annual reporting cycle
- Head Teachers, Bursars and Governors will be advised and informed through a variety of mechanisms
- Staff awareness of the issue will be measured through the annual staff attitude survey

## 6.6 Finance and Investment – the Money to Match the Commitment

The Council will take the following actions to ensure that carbon management is embedded into finance and investment procedures (please also see Section 5):

Category	Action	Owner	By when
Embed the Council's £1mn Salix Finance ring-fenced invest-to-save fund	Identify capital funding of £350,000 for Year 2 of the Salix Finance programme to enable a further £350,000 of match funding to be drawn down from Salix. Promote Salix fund to Service Heads and school managers. Ensure Property Services M&E project	Carbon Management Programme Board, Finance, Salix Fund Manager, Property Services	Mid-2010

	managers are able to assess projects for Salix compliance.		
Obtain external funding for non-Salix-compliant projects	Identify external funding opportunities for renewable energy, district heating and Combined Heat and Power	Carbon Management Project Team, Slough Community Leisure, Carbon Management Programme Board	Ongoing; there is potential for Energy Saving Trust support to train staff

## 6.7 Policy Alignment – Saving CO<sub>2</sub> Across the Organisation

Rather than developing a raft of new policies, top level priorities in the Corporate Strategy and Sustainable Community Strategy will be aligned. The following corporate policies will then also be aligned:

- Draft Sustainable Procurement Strategy
- Draft Carbon Emissions in the Local Area (NI 186) Delivery Plan
- Directorate Service Plans – a shared responsibility for targets in the Carbon Management Plan
- Asset Management Plan – capital spending programme, property maintenance, streetlighting programmes will secure financial and carbon reduction savings, with a proportion of energy use through on-site renewables
- Sustainable Transport Strategy – this will reinforce commitments to reducing carbon through fleet and business travel in the Staff Travel Plan
- Employee Contracts – inclusion of carbon management responsibilities and an Environmental Code of Conduct in all new employee contracts will be assessed
- Building Schools for the Future and Primary Strategy for Change Programmes
- Renewable Energy Policy – yet to be developed
- Sustainable Development – A Development Plan Document will be produced as part of the Local Development Framework during 2010
- Corporate Property Strategy
- Driving Policy
- Travel and Subsistence Policy
- Environmental Policy
- Cultural Strategy
- Housing Strategy
- Training and Development Strategy
- Economic Development Strategy
- Air Quality Strategy
- Older People's Strategy

### Contracted-out Services

People 1<sup>st</sup>, Enterprise, Interserve, Slough Community Leisure and other major contracted-out services will be encouraged to align their policies with the Carbon Management Plan.

### Major Developments

Carbon management considerations will be incorporated into plans at major regeneration projects where new Council buildings will be constructed. These might include new development at Chalvey. Major development sites are often ideal candidates for community heating projects.

## **7.0 Programme Management of the CM Programme**

Carbon Management has become an important local authority function driven by national performance indicators and carbon reduction targets. It also has significant financial and resource implications for the organisation, requiring strategic oversight by senior management and elected members.

The Carbon Management Programme contains a diverse set of projects affecting every part of the organisation. Coordination of these projects will be provided by a representative Carbon Management Project Team reporting to the Programme Board.

### **7.1 Carbon Management Programme Board – strategic ownership and oversight**

The Programme Board will continue to provide oversight of the Carbon Management Programme and promote support for the programme from senior management and elected members.

The Board comprises:

- Roger Parkin, Director Improvement & Development (Chair)
- Councillor Satpal Parmar, Portfolio Holder for the Environment
- Nigel Dicker, Assistant Director of Environmental Services (Vice Chair)
- Clair Pyper, Director Education & Children's Services
- Julie Evans, Director of Resources
- Jane Wood, Director Community & Wellbeing
- Kevin Gordon, Assistant Director of Transformational Change
- Neil Simon, Assistant Director of Property Services
- Jo Head, Assistant Director of Commissioning, Procurement and Shared Services
- Trevor Lambert, Head of Communications
- Jim Merriman, Head of Corporate Finance
- Kevin Lowry, Director of People 1<sup>st</sup> (Housing ALMO)

Board meetings will take place every two months, approximately one week after the Carbon Management Team meeting.

At each meeting, the Chair will provide a progress report from the Carbon Management Team and highlight any risks to the programme.

By 31<sup>st</sup> July each year, the Carbon Management Project Team will produce an annual Carbon Management Report for endorsement by the Board and presentation to the Corporate Management Team and elected members. This Carbon Management Plan will be refreshed annually.

### **7.2 Carbon Management Project Team – Delivering the Projects**

The Council's Carbon Management Project Team is chaired by the Programme Leader and there is membership from across the Council's services (Table 7.1). The group meets monthly to report progress, be briefed and solve problems. Responsibility for delivering projects will be assigned to individuals through the Council's service planning process.

**Table 7.1 – Carbon Management Project Team Membership**

<b>Name and position in the LA</b>	<b>Contact details</b>
John Palmer Agenda 21 Officer (Programme Leader)	01753 875573 john.palmer@slough.gov.uk
Amanda Renn Policy Officer (Deputy Programme Leader)	01753 875560 amanda.renn@slough.gov.uk
Tim Isbell Programmes and Procurement Manager (Property Services)	01753 875602 tim.isbell@slough.gov.uk
Paul Butler Senior Project Manager (Mechanical and Heating)	01753 875874 paul.butler@slough.gov.uk
Geoff Lowe Senior Project Manager (Electrical and Lighting)	01753 875876 geoff.lowe@slough.gov.uk
Kathryn Best Internal Communications Officer	01753 875007 kathryn.best@slough.gov.uk
John Northam Transport Manager (Fleet)	01753 477301 john.northam@slough.gov.uk
Tony Madden Capital and School Organisation Adviser	01753 875739 tony.madden@slough.gov.uk
Kathryn Horsepool Agenda 21 Officer	01753 875912 kathryn.horsepool@slough.gov.uk
Jo Head Assistant Director of Commissioning, Procurement and Shared Services	01753 875285 joanna.head@slough.gov.uk
Andrew Pate Accountant (Capital)	01753 875865 andrew.pate@slough.gov.uk
Roger Fraser Performance Manager	01753 875639 roger.fraser@slough.gov.uk
Viv Vallance Senior Travel Plan Consultant	01753 477344 viv.vallance@slough.gov.uk
Ken Mann Streetlighting Engineer	01753 477478 ken.mann@slough.gov.uk
Daljit Purewal Contracts Officer (Care Homes)	01753 474044 daljit.purewal@slough.gov.uk
Auvtar Lakhan Business Support Manager (Community & Wellbeing)	01753 875577 auvtar.lakhan@slough.gov.uk
Surjit Nagra Human Resources Business Partner (Improvement & Development)	01753 875727 surjit.nagra@slough.gov.uk
Chris Wintermute IT Technical Infrastructure Manager	01753 875095 chris.wintermute@slough.gov.uk



### 7.3 Succession Planning for Key Roles

The Carbon Management Programme remains vulnerable to losing key post holders until carbon management is fully established and embedded in the running of the Council.

On the Programme Board, Councillor Satpal Parmar, Portfolio Holder for Environment is supported by Councillor James Walsh, Chair of the Communities, Leisure and Environment Scrutiny Panel. Roger Parkin, Director Improvement & Development is Programme Sponsor and Chair of the Programme Board. This is a key role which, if vacated, will be delegated to another member of the Corporate Management Team by the Chief Executive. The Deputy Programme Sponsor, Nigel Dicker, Assistant Director of Environmental Services, will deputise as Chair during any gaps in cover.

John Palmer, Programme Leader, is Chair of the Project Team. If this key role is vacated, it will be delegated to another member of the Project Team by the Chairman of the Programme Board. The Deputy Project Leader, Amanda Renn, will deputise during any gaps in cover. All other team members are delegated by their Heads of Department, who will nominate alternates, should vacancies occur.

### 7.4 Ongoing Stakeholder Liaison

A stakeholder liaison plan has been drafted to help engage key stakeholders in making this Plan a success. As schools have traditionally been independent of local authorities but are now required to provide regular data on

Active engagement of schools has begun through:

- presentations to head teachers and bursars on the Carbon Reduction Commitment and Salix Finance
- presentations to advanced skills teachers on carbon management and the curriculum
- development of curriculum materials about climate change
- an offer of support on metering and billing
- an offer to add schools to the Council's competitively-priced energy contract
- a consultant-led behaviour change programme at 3 primary schools
- offers of building walkabouts by Carbon Trust-funded energy consultants to identify energy efficiency projects

Staff and Directorates engagement is being addressed through the Communications Plan.

### 7.5 Annual Progress Review

The Programme Board will submit an annual Carbon Management Report for review by the Council. The report will include:

- CO<sub>2</sub> savings against targets
- Projects implemented
- Value and sources of project funding
- Financial savings
- Progress on Carbon Management Matrix - Embedding
- Less quantifiable benefits
- Forward planning
- NI186 and Local Area Agreement alignment
- Carbon Reduction Commitment alignment (from 2011)

Progress reports will also be submitted to the Corporate Management Team by the Programme Board Chair at regular intervals.

## Appendix A: Definition of Prince2 Project Work Package

<b>Project Name:</b>	Voltage Optimisation in Herschel Car Park		
<b>Project Reference:</b>	LA7-SLO-49		
<b>Project Manager:</b>	Geoff Lowe	<b>Team Manager:</b>	Tim Isbell
<b>Date Work Package Agreed:</b>	October 2009		

### Overview: *Summarise the work that needs to be done*

Voltage reduction equipment will be added to the voltage supply to reduce unnecessary over-powering of equipment, especially lighting. Power Perfector has quoted for installation. Awaiting Carbon Trust consultants report on other energy saving options at Herschel Car Park to assess relative prioritisation.

### Details:

<b>Product:</b>	<b>Processes &amp; Procedures:</b>	<b>Quality Methods: (how assessed?)</b>	<b>Interfaces: (with other products, people etc)</b>
Approval by Carbon Management Programme Board			
Funding by Asset Management Board			
Procurement through Shared Services			

### Budget and Tolerance Agreements:

	<b>Agreed Target</b>	<b>Tolerance (+/-)</b>
Capital Cost (£)	£11,636	
Revenue Cost (£)	-	
Electricity Saved (kWh pa)	122,368 kWh pa	
Gas Saved (kWh pa)	-	
Other Fuel (please specify)	-	
Revenue Savings (£ pa)	£13,644	
Payback on investment (years)	0.9 yr	
Annual CO <sub>2</sub> Emissions Reduction (tonnes)	65.7 tonnes	
% of Baseline CO <sub>2</sub> emissions	0.52%	
Start date	2010	
End date		

### Reporting, Problem Handling & Escalation: *what process will be followed?*

Tim Isbell to update progress and sign off product to Programme Leader/Asset Management Board by email.

## Appendix B: Embedding Carbon Management across Slough Borough Council

	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *	ENGAGEMENT OF SCHOOLS
<b>BEST</b> 2013/14 <b>5</b>	<ul style="list-style-type: none"> <li>Top level target allocated across organisation</li> <li>CO<sub>2</sub> reduction targets in Directorate Business Plans</li> </ul>	<ul style="list-style-type: none"> <li>Cabinet / CMT review progress against targets on quarterly basis</li> <li>Quarterly diagnostic reports provided to Directorates</li> <li>Progress against target published externally</li> </ul>	<ul style="list-style-type: none"> <li>CM integrated in responsibilities of senior managers</li> <li>CM part of all job descriptions</li> <li>Central CO<sub>2</sub> reduction advice available</li> <li>Green Champions leading local action groups</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly collation of CO<sub>2</sub> emissions for all sources</li> <li>M&amp;T in place for: <ul style="list-style-type: none"> <li>buildings</li> <li>streetlighting</li> </ul> </li> <li>Data externally verified</li> </ul>	<ul style="list-style-type: none"> <li>All staff given formalised CO<sub>2</sub> reduction: <ul style="list-style-type: none"> <li>induction and training</li> <li>communications</li> </ul> </li> <li>Joint CM communications with key partners</li> <li>Staff awareness tested through surveys</li> </ul>	<ul style="list-style-type: none"> <li>Finance committed for 2+ yrs of Programme</li> <li>External funding being routinely obtained</li> <li>Ring-fenced fund for carbon reduction initiatives</li> </ul>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> friendly operating procedure in place</li> <li>Central team provide advice and review, when requested</li> <li>Barriers to CO<sub>2</sub> reduction routinely considered and removed</li> </ul>	<ul style="list-style-type: none"> <li>A 'whole school approach' including curriculum</li> <li>Mature programme of engagement in place</li> <li>CO<sub>2</sub> saving in schools having a wider community impact</li> </ul>
2010/12 <b>4</b>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> reduction commitment in Corporate Strategy</li> <li>Top level targets set for CO<sub>2</sub> reduction</li> <li>Climate Change Strategy reviewed annually</li> </ul>	<ul style="list-style-type: none"> <li>Sponsor reviews progress and removes blockages through regular Programme Boards</li> <li>Progress against targets routinely reported to CMT</li> </ul>	<ul style="list-style-type: none"> <li>CM integrated in to responsibilities of department heads</li> <li>Cabinet / CMT regularly updated</li> <li>Staff engaged through Green Champion network</li> </ul>	<ul style="list-style-type: none"> <li>Annual collation of CO<sub>2</sub> emissions for: <ul style="list-style-type: none"> <li>buildings</li> <li>street lighting</li> <li>transport</li> <li>waste</li> </ul> </li> <li>Data internally reviewed</li> </ul>	<ul style="list-style-type: none"> <li>All staff given CO<sub>2</sub> reduction: <ul style="list-style-type: none"> <li>induction</li> <li>communications</li> <li>CM matters communicated to external community</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Coordinated financing for CO<sub>2</sub> reduction projects via Programme Board</li> <li>Finances committed 1yr ahead</li> <li>Some external financing</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive review of policies complete</li> <li>Lower level policies reviewed locally</li> <li>Unpopular changes being considered</li> </ul>	<ul style="list-style-type: none"> <li>A clear emphasis on energy / CO<sub>2</sub> reduction in schools</li> <li>Council activities fully coordinated</li> <li>Broad set of education stakeholders</li> </ul>
2009/10 <b>3</b>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> reduction vision clearly stated and published</li> <li>Climate Change Strategy endorsed by Cabinet and publicised with staff</li> </ul>	<ul style="list-style-type: none"> <li>Project team regularly review CM progress: <ul style="list-style-type: none"> <li>actions</li> <li>profile &amp; targets</li> <li>new opportunities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>An individual provides full time focus for CO<sub>2</sub> reduction and coordination across the organisation</li> <li>Senior Sponsor actively engaged</li> </ul>	<ul style="list-style-type: none"> <li>Collation of CO<sub>2</sub> emissions for limited scope i.e. buildings only</li> </ul>	<ul style="list-style-type: none"> <li>Staff environmental or energy group given ad hoc: <ul style="list-style-type: none"> <li>training</li> <li>communications</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>A view of the cost of CO<sub>2</sub> reduction is developing, but finance remains ad-hoc</li> <li>Some centralised resource</li> </ul>	<ul style="list-style-type: none"> <li>All high level and some mid level policies reviewed, irregularly</li> <li>Substantial changes made, showing CO<sub>2</sub> savings</li> </ul>	<ul style="list-style-type: none"> <li>A person has responsibility for Schools CO<sub>2</sub> reduction</li> <li>Schools CO<sub>2</sub> reduction projects coordinated</li> <li>Ad-hoc funding</li> </ul>
2008/09 <b>2</b>	<ul style="list-style-type: none"> <li>Draft Climate Change Policy</li> <li>Climate Change references in other strategies</li> </ul>	<ul style="list-style-type: none"> <li>Ad hoc reviews of CM actions progress</li> </ul>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> reduction a part-time responsibility of a few department champions</li> </ul>	<ul style="list-style-type: none"> <li>No CO<sub>2</sub> emissions data compiled</li> <li>Energy data compiled on a regular basis</li> </ul>	<ul style="list-style-type: none"> <li>Regular awareness campaigns</li> <li>Staff given CM information on ad-hoc basis</li> </ul>	<ul style="list-style-type: none"> <li>Ad hoc financing for CO<sub>2</sub> reduction projects</li> </ul>	<ul style="list-style-type: none"> <li>Partial review of key, high level policies</li> <li>Some financial quick wins made</li> </ul>	<ul style="list-style-type: none"> <li>Ad-hoc schools projects to specifically reduce energy / CO<sub>2</sub></li> </ul>
<b>1 Worst</b>	<ul style="list-style-type: none"> <li>No policy</li> <li>No Climate Change reference</li> </ul>	<ul style="list-style-type: none"> <li>No CM monitoring</li> </ul>	<ul style="list-style-type: none"> <li>No recognised CO<sub>2</sub> reduction responsibility</li> </ul>	<ul style="list-style-type: none"> <li>No CO<sub>2</sub> emissions data compiled</li> <li>Estimated billing</li> </ul>	<ul style="list-style-type: none"> <li>No communication or training</li> </ul>	<ul style="list-style-type: none"> <li>No specific funding for CO<sub>2</sub> reduction projects</li> </ul>	<ul style="list-style-type: none"> <li>No alignment of policies for CO<sub>2</sub> reduction</li> </ul>	<ul style="list-style-type: none"> <li>No CO<sub>2</sub> / energy reduction policy for schools</li> </ul>

The **red line** indicates the self-assessed position at the outset of the Programme in May 2009. The **black line** indicates the position that the organisation aspires to reach by the end of the Programme, in April 2014.



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