

Carbon management plan

April 2015 - March 2020



Contents

| | Page |
|--|-------------|
| 1. Executive Summary | 1 |
| 1.1 Summary | 1 |
| 1.2 Vision | 1 |
| 1.3 Purpose (Outcome) | 1 |
| 1.4 Scope of plan | 1 |
| 1.5 Slough Borough Council Carbon Emissions | 2 |
| 2. Introduction | 3 |
| 2.1 Context | 3 |
| 2.2 Uses of Climate Change | 3 |
| 2.3 The Effects of Climate Change | 3 |
| 2.4 National Policy Drivers | 4 |
| 2.4.1. The Climate Change Act | 4 |
| 2.4.2. The Carbon Reduction Commitment | 4 |
| 2.4.3. Department of Energy and Climate Change (DECC) MOU | 4 |
| 2.4.4. Climate Local | 5 |
| 2.5 Council policy drivers | 5 |
| 2.6 External recommendations | 5 |
| 3. Priorities, key actions, outcomes | 6 |
| 3.1 Key Outcomes | 6 |
| 3.2 Priority 1 - Reduce CO2 emissions from energy consumption across all council operations | 6 |
| 3.2.1 Display Energy Certificates | 6 |
| 3.2.2 Energy Performance Certificates | 7 |
| 3.2.3 Corporate Landlord | 7 |
| 3.2.4 The Asset Management Plan | 7 |
| 3.2.5 The Waste Strategy 2015 - 2020 | 7 |
| 3.2.6 Slough Schools | 7 |
| 3.3 Priority 1 - Key Actions | 7 |
| 3.4 Priority 2 - Reduce energy consumption revenue costs across all council operations | 8 |
| 3.5 Priority 2 - Key actions | 8 |
| 3.6 Priority 3 - Embed carbon management in the council's policies and procedures | 8 |
| 3.7 Priority 4 - Raise awareness of carbon management among staff through the Green Champion Programme to reduce carbon emissions and energy consumption | 8 |
| 3.8 Priority 4 - Key actions | 9 |
| 3.9 Priority 5 - Incorporate high standards of energy efficiency into new buildings, equipment and contracts | 9 |
| 3.10 Priority 5 - Key actions | 9 |
| 4. Implementation and monitoring | 10 |
| 4.1 The Slough Borough Council Baseline | 10 |
| 4.2 Reporting The Slough Borough Council Baseline | 10 |
| 4.3 SBC Baseline Data 2013/2014 | 10 |
| 5. Glossary of terms | 13 |

| | |
|---|-----------|
| 6. Appendix 1 | 14 |
| 6.1 SBC Energy Revenue Spend April 2013 - March 2014 | 14 |
| 7. Appendix 2 | 15 |
| 7.1 List of Assets included in the 2013-2014 CO2 Baseline | 15 |
| 8. Appendix 3 | 16 |
| 8.1 BREEAM Criteria and Scores | 16 |
| 9. Appendix 4 | 18 |
| 9.1 Carbon Management Plan Slough Schools List September 2014 | 18 |

1. Executive Summary

1.1 Summary

'what gets measured gets managed'

(Source of the quote: Peter Drucker)

Slough Borough Council has been looking at reducing carbon emission across its corporate estate and its fleet since 2008. The revised carbon management plan describes our current emissions levels and looks at how we are going to further reduce them over the next five years.

It also describes how Slough Borough Council is going to become increasingly more energy efficient across the whole corporate estate and how the carbon management process will contribute to the councils revenue reduction targets over the next 5 years.

1.2 Vision

Slough Borough Council aspires to have a low carbon and energy efficient corporate estate, fleet and workforce to meet with the future economic challenges of local government.

1.3 Purpose (Outcome)

This document continues the work of the expired Carbon Management Plan, and sets out what Slough Borough Council will do to mitigate the carbon emissions from council activities and buildings managed, owned and operated by the council.

The previous plan aimed to reduce carbon emissions by 40% against the 2008/9 baseline, and during the course of the plan the council achieved a 49% reduction in CO2 emissions. This was achieved by a reduction in the number of council buildings, but also due to the removal of emissions from some schools from the baseline. This plan seeks to describe how the council will save carbon, energy and generate revenue savings over the next 5 years.

The four outcomes of plan are:

Outcome 1: At least a 3% reduction of CO2 net emissions per annum of all council operations

Outcome 2: A 20% reduction of CO2 emissions against the 13/14 baseline

Outcome 3: A reduction of 7 tonnes to 6 tonnes per Full Time Equivalent Employee (fte)

Outcome 4: A revenue saving of 10% over lifetime of the plan against 13/14 baseline operating costs for the council please refer to Appendix 1

1.4 Scope of plan

This plan is concerned with:

1. Council assets where the councils pays for the energy costs such as corporate offices, community centres, libraries, car parks and the crematorium (*See Appendix 2 list of Assets Included in the 2013-2014 baseline*).
2. Community and foundation schools where the council maintains a degree of oversight.
3. Transport used for business purposes such as housing maintenance vehicles, community transport vehicles, staff business mileage (grey mileage) as well as the vehicles of contractors such as waste collection and maintenance.
4. Street assets such as lighting, signage, street furniture, traffic lights, air quality monitoring stations, electric vehicle infrastructure, parking meters.
5. Waste generated from corporate buildings.
6. Communal parts of the housing stock, only, such as stairwell lighting and heating.

The council's leisure buildings are out of scope of this plan and are managed by Slough Community Leisure
www.sloughleisure.com.

1.5 Slough Borough Council Carbon Emissions

When CO₂ emissions within Slough Borough Council are broken down by source (*please refer to Table 1 and Figure 1*), it is evident that the greatest contribution comes from transport, schools, street assets (signage and street lighting) and our buildings (assets). It is therefore these four areas we shall focus on, and which have the potential to deliver the greatest carbon savings.

Table 1: Carbon footprint by emissions source 2013/14

| Scope | Emissions source | Carbon footprint | |
|---------|-------------------------------|--------------------|------------|
| | | tCO ₂ e | % |
| Scope 1 | Fuel combustion | 2,515 | 17 |
| Scope 1 | Fugitive emissions | 0 | 0 |
| Scope 1 | Own transport | 1,189 | 8 |
| Scope 2 | Purchased electricity | 6,043 | 40 |
| Scope 3 | Purchased materials and waste | 2,200 | 14 |
| Scope 3 | Transport | 2,937 | 19 |
| Scope 3 | Waste | 64 | 0 |
| Scope 3 | Outsourcing | 293 | 2 |
| | Total | 15,242 | 100 |

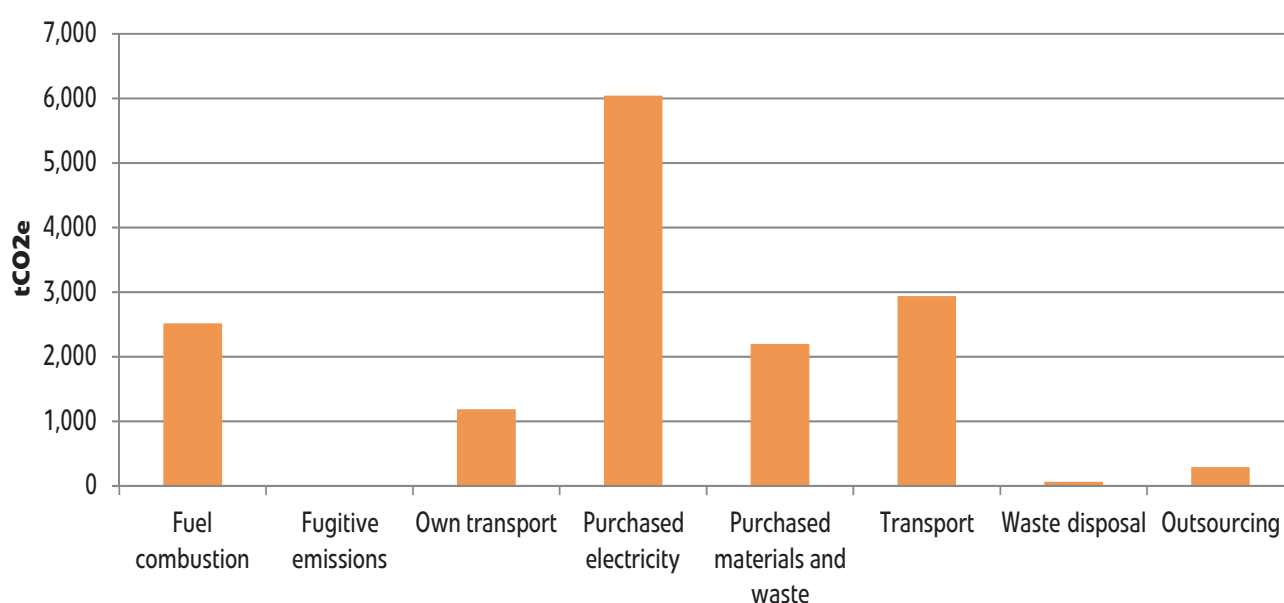


Figure 1: April 2013–March 2014 Carbon Footprint by Emission Source

2. Introduction

2.1 Context

There is clear evidence to show that climate change is happening. Measurements show that the average temperature at the Earth's surface has risen by about 0.8°C over the last century. Nine of the hottest years ever measured took place in the last 12 years and in the last 30 years each decade has been hotter than the previous one. This change in temperature hasn't been the same everywhere; the increase has been greater over land than over the oceans and has been particularly fast in the Arctic.

The UK is already affected by rising temperatures. The average temperature in Britain is now 1°C higher than it was 100 years ago and 0.5°C higher than it was in the 1970s.

Although it is clear that the climate is warming in the long-term, it should be noted that temperatures aren't expected to rise every single year. Natural fluctuations will still cause unusually cold years and seasons.

Along with warming at the Earth's surface, many other changes in the climate are occurring:

- warming oceans
- melting polar ice and glaciers
- rising sea levels
- more extreme weather events

2.2 Uses of Climate Change

Rising levels of carbon dioxide and other gases, such as methane and nitrous oxides, in the atmosphere create a 'greenhouse effect', trapping the Sun's energy and causing the Earth, and in particular the oceans, to warm.

The higher the amounts of greenhouse gases in the atmosphere, the warmer the Earth becomes. Recent climate change is happening largely as a result of this warming, with smaller contributions from natural influences like variations in the Sun's output.

Carbon dioxide levels have increased by more than 40% since before the industrial revolution. Other greenhouse gases have increased by similarly large amounts. All the evidence shows that this increase in greenhouse gases is almost entirely due to human activity. The increase is mainly caused by:

- burning of fossil fuels for energy
- agriculture and deforestation
- the manufacture of cement, chemicals and metals

About 43% of the carbon dioxide produced goes into the atmosphere, and the rest is absorbed by plants and the oceans. Deforestation reduces the number of trees absorbing carbon dioxide and releases the carbon contained in those trees.

This means that our action - or inaction - on greenhouse gas emissions today will have a substantial effect on climate change in the future.

2.3 The Effects of Climate Change

We can already see the impacts of climate change and these will become more severe as global temperatures rise.

If global emissions are not reduced, average summer temperatures in the south east of England are projected to rise by more than 2°C by the 2040s (hotter than the 2003 heatwave which was connected to 2,000 extra deaths in the UK) up to nearly 4°C by the 2080s.

Rises in global temperature will have both direct and indirect effects on the UK. The UK's food supplies could be affected as crops in the UK and overseas could fail or be damaged by changes in temperature, rainfall and extreme weather events.

These extreme weather events in the UK are likely to increase with rising temperatures, causing: heavier rainfall events - with increased risk of flooding; higher sea levels - with larger storm waves putting a strain on the UK's coastal defences; and more and longer-lasting heat waves.

Source Climate Change Explained DECC website www.gov.uk/government/uploads/system/uploads/attachment_data/file/380825/Climate_Change_Explained_-_referenced_version.pdf

2.4 National Policy Drivers

2.4.1 The Climate Change Act

The Climate Change Act 2008 is the world's first long term legally binding framework which introduces a target of reducing UK emissions by 80% by 2050, compared to a 1990 baseline.

The UK Government and the EU consider that global warming must be limited to no more than 2°C temperature rise above pre-industrial times to avoid dangerous impacts.

2.4.2 The Carbon Reduction Commitment

The Carbon Reduction Commitment (CRC) Energy Efficiency Scheme is UK government's major driver to improve energy efficiency and cut carbon dioxide (CO₂) emissions in private and public sector organisations that are high energy users, by charging for CO₂ emissions.

Slough Borough Council participated in Phase 1 of the CRC (please refer to Figure 2), however we are now below the qualification threshold. This is due to a reduction in the number of council assets, and the removal from the scheme of state funded schools.

Slough Borough Council will continue to monitor whether the council is required to participate in Phase 3 which will run from 1st April 2018 to 31st March 2024.

2.4.3 Department of Energy and Climate Change (DECC) MOU

The DECC Memorandum of Understanding (MOU) with the Local Government Association (LGA) recognises the pivotal role local authorities have in reducing emissions at the local level, and requires sharing information on greenhouse gas emissions from local authorities own estate and operations.

SBC is required to calculate our Carbon Emissions on an annual basis and submit this to DECC - www.gov.uk/measuring-and-reporting-environmental-impacts-guidance-for-businesses. The information on the DCLG single data list is used in the calculation of our Local Government Finance Settlement and therefore is very important to complete.

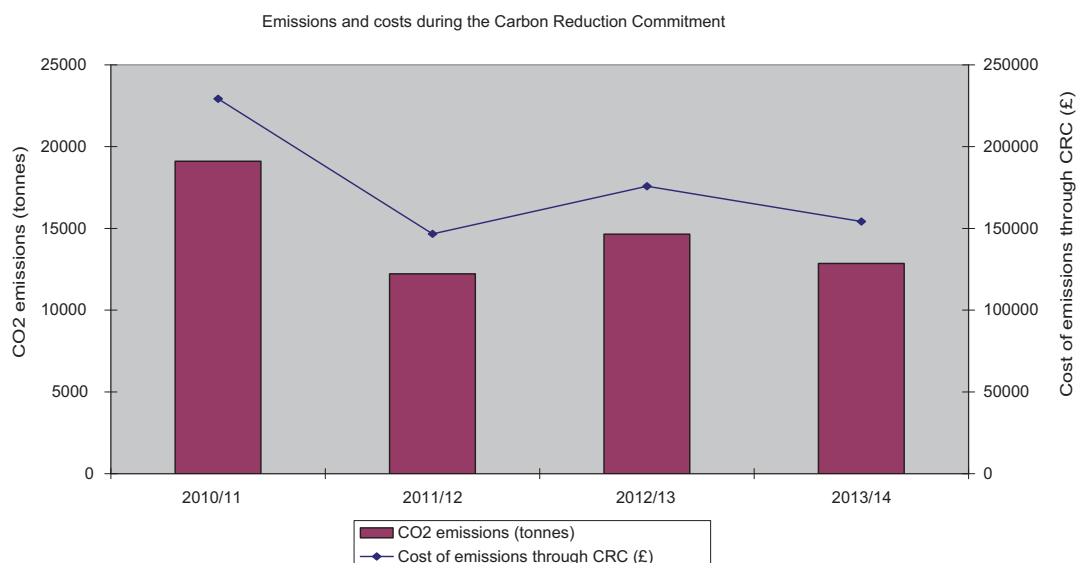


Figure 2: Slough Borough Council Emissions and Costs during Phase 1 of CRC

2.4.4 Climate Local

Climate Local is an LGA initiative supported by the Environment Agency Climate Ready service, to drive, inspire and support council action on climate change. Slough Borough Council signed up to Climate Local on June 14th 2014 and is using the support to share best practice with other local authorities.

This initiative is the successor to the Nottingham Declaration on Climate Change and aims to support councils both to reduce carbon emissions and to increase resilience to a changing climate.

Slough Borough Council will produce a climate local action plan for 2015 which will be published on our Slough.gov website. <http://www.slough.gov.uk/council/strategies-plans-and-policies/climate-change-and-carbon-management.aspx>

2.5 Council policy drivers

The Five Year Plan sets out the council's ambition for the town to 2020. The driver for the Carbon Management Plan is the Using Resources Wisely theme. The five year Plan sets out the actions the council will take, as well as providing community leadership for residents and external partners. The Plan is being used to drive the council's financial strategy and prioritisation. The Plan specifically seeks to increase council income, make better use of capital resources, secure savings through the procurement and the rationalisation of the council's assets.

The Plan states that all council capital funded schemes must break even within ten years. The operation cost of our assets must be reduced by 30%. The cost of waste collection should decrease and income from waste management should be maximised.

The Carbon Management Plan (CMP) can both contribute to these objectives and will also be bound by them.

Reducing energy consumption, water usage and the amount of carbon emissions generated is an aim under the regeneration and environment theme of the Slough Joint Wellbeing Strategy.

There are a number of other documents which the CMP links to, and they are referred to throughout the document where relevant, and include the Asset Management Plan which sets a target of 40% reduction in revenue costs from assets by 2017, this will be delivered through the Accommodation Strategy and the Corporate Landlord Model.

2.6 External recommendations

The council has worked with 'Anthesis Best Foot Forward' consultancy to develop a DECC compliant method of producing our CO2 baseline.

They have also made the following recommendations:

- 1 Prioritise areas for carbon reduction by:
 - Identifying buildings or operations that are responsible for most CO2 emissions
 - Identifying buildings or operations where SBC has the most control and where changes in operations that can reduce emissions can be achieved most easily
- 2 Research current best practice within other local government authorities to understand where the biggest wins could be achieved.
- 3 Investigate which technologies and changes to operations can be achieved across buildings to reduce impacts.
- 4 Undertake cost-effectiveness assessment to understand how different carbon reduction interventions can reduce cost and environmental impacts. Interventions should include analysis of return on investment and using methods such as Marginal Abatement Cost Curves (MACC) can help identify cost-effective opportunities by combining financial (e.g. Net Present Value) and environmental (e.g. carbon footprint) information. These recommendations have been taken into account during the development of the priorities within this plan.

3. Priorities, key actions, outcomes

3.1 Key Outcomes

Based on the evidence the outcomes of the plan are to:

| Outcome | Purpose and description | Target measures | Date |
|-----------|---|-----------------------|------------------------------|
| Outcome 1 | At least a 3% reduction of CO2 net emissions per annum of all Council Operations | 457 Tonnes of CO2e/yr | Reported each financial year |
| Outcome 2 | A 20% reduction of CO2 emissions against the 13/14 baseline | 3,050 Tonnes of CO2e | By 2020 |
| Outcome 3 | A reduction of 7 tonnes to 6 tonnes per Full Time Equivalent Employee (fte) | 6 tonnes per fte | by 2020 |
| Outcome 4 | A revenue saving of 10% over lifetime of the plan against 13/14 baseline operating costs for the council please refer to Appendix 1 | £222,047 | by 2020 |

The outcomes will be achieved by the following priorities

| Priorities | Purpose and description |
|------------|---|
| Priority 1 | Reduce CO2 emissions from energy consumption across all council operations |
| Priority 2 | Reduce energy consumption revenue costs across all council operations |
| Priority 3 | Embed carbon management in the council's policies and procedures |
| Priority 4 | Raise awareness of carbon management among staff through the Green Champion Programme to reduce carbon emissions and energy consumption |
| Priority 5 | Incorporate high standards of energy efficiency into new buildings, equipment and contracts |

3.2 Priority 1 - Reduce CO2 emissions from energy consumption across all council operations

The council's buildings are one of the main contributors to CO2 emissions, and one of the elements the council has a high degree of control over. Using available information to dispose of inefficient assets and maximise usage of the remaining buildings will be a key priority of the Asset Management Plan.

3.2.1 Display Energy Certificates

A Display Energy Certificate (DEC) and advisory report are required for buildings with a total useful floor area more than 500m² (reducing to 250m² from 9th July 2015) that are occupied in whole or part by public authorities and frequently visited by the public. This shows the energy performance of the building based on actual CO2 emissions recorded over twelve months. Slough currently has four qualifying buildings - St Martin's Place, Slough Library, New Horizons and the Thomas Grey Centre.

3.2.2 Energy Performance Certificates

SBC is required to complete an Energy Performance Certificate (EPC) each time one of its properties is built, sold or rented, containing information about a property's energy use and typical energy costs and recommendations about how to reduce energy use and save money. An EPC gives a property an energy efficiency rating from A (most efficient) to G (least efficient) and it is valid for 10 years.

The Energy Act 2011 states that all buildings that do not meet the minimum energy performance standard (Grade E) will not be allowed to be let from 2018 until they have been upgraded.

Slough Borough Council will assess how many buildings commercial and domestic they have which are below a grade E and make arrangements for improving their energy efficiency before 2018.

3.2.3 Corporate Landlord

The Corporate Landlord Model aims to make best operational use of corporate buildings through central management. A corporate approach can help raise staff awareness of the most efficient use of energy in buildings and allows facilities management to monitor energy use across the entire asset base. Taking this model further could realise further carbon savings and any opportunities which can be identified to further centralise facilities management should be explored. We will also use the ongoing asset review to monitor energy consumption which will help inform future decisions around our assets.

3.2.4 The Asset Management Plan

The Asset Management Plan (AMP) has already identified that a greater understanding of the performance of existing assets in terms of their fitness for purpose and operational efficiency is required. Energy efficiency is identified in the gap analysis of the AMP.

The council has already set itself the Asset Challenge which aims to reduce overall asset operation costs by 40% over four years to 2017.

3.2.5 The Waste Strategy 2015-2020

Waste generated at corporate buildings contributes to the council's carbon footprint (although this is not measured as part of the Carbon Reduction Commitment). The Recycling Carbon Index shows the carbon benefit of collecting and recycling materials to reuse them as opposed to extracting and processing raw materials. Local authorities will be ranked according to their performance. The Waste Strategy 2015-2030 sets out the borough wide vision to move from waste disposal to waste management which can also be applied to corporate waste.

3.2.6 Slough Schools

There are currently 48 schools in Slough though this may change over time and not all schools are covered by this plan. The schools over which the council has the greatest control are community and foundation schools (listed in Appendix 4), and budget is devolved to these schools. Schools however do not have specific or substantial funding for carbon management activities, but it is in their best interests to reduce energy consumption where possible.

3.3 Priority 1 - Key actions

1. Ensure the Corporate Landlord Model covers all council buildings and that central monitoring of energy usage identifies opportunities for more efficient working and informs accommodation decisions.
2. Take all opportunities during refurbishment works to install the most efficient plant and use the most efficient building operation methods.
3. Include energy efficiency in the Asset Management Plan.
4. Link to the Carbon Management Plan to the Asset Challenge Process.
5. Use the Recycling Carbon Index to monitor and improve waste disposal from council buildings, and implement best practice identified through the Waste Strategy.

6. Identify small energy efficiency projects across the council's buildings suitable for CAPEX funding.
7. Replace existing street lighting with LED lanterns, capable of being remotely dimmed, to deliver a 70% carbon and revenue saving.
8. Replacement of lighting in council owned car parks with low energy LED lighting.
9. Consider the findings of the transport services review, and identify carbon and revenue savings which could be delivered.
10. Work with community and foundation schools to identify projects, funding and best practice to reduce their carbon emissions and energy consumption.
11. Carry out a detailed survey of all council owned assets to include floor area and heating systems.
12. Obtain EPCs for all council buildings, and identify those below grade E for improvement works as these cannot be let post 2018.
13. Identify all buildings smaller than 250m² which will require a Display Energy Certificate from July 2015.
14. Energy benchmark all council assets.

3.4 Priority 2 - Reduce energy consumption revenue costs across all council operations

Like many local authorities, Slough Borough Council is facing an extremely tough financial challenge. Funding to local authorities has reduced by 28% from 2011 to 2015 and many grants have stopped.

The 2015-16 financial year alone will see a reduction to the council's general grant (Revenue Support Grant, RSG) of almost 30%, with the RSG forecast to shrink by 63% or over £20m over the period of Slough Borough Council's Medium Term Financial Strategy (MTFS).

The council spent over £1.5 million on energy costs in 2013/14. Reducing energy consumption is one area the council can save money, leaving more funds for service delivery. This will also result in a reduction in carbon emissions which will help to deliver the outcomes of this plan.

3.5 Priority 2 - Key actions

Slough Borough Council shall use an energy broker through the Corporate Energy Contract to ensure the most cost effective price for energy and:

1. Transfer all corporate buildings to automated meter reading (AMR) to provide more reliable billing
2. Consider suitability of automated meter reading for water

3.6 Priority 3 - Embed carbon management in the council's policies and procedures

All capital Investments above the value of £10,000 are considered by the Capital Strategy Board as well as all Cabinet reports already require identification of energy and carbon implications, and mitigations that can be identified and signed off at director level.

3.7 Priority 3 - Key actions

1. Devise a method for assessing and appraising carbon and revenue saving projects which can be adopted corporately by the Capital Strategy Board
2. Determine how the Carbon Management Plan will fit into the Asset Challenge Process 1st Objective - Set annual savings and reduce overall asset running costs by 40% within 4 years

3.8 Priority 4 - Raise awareness of carbon management among staff through the Green Champion Programme to reduce carbon emissions and energy consumption

The Green Champions programme covers energy, waste and transport. It is the Council's principle staff engagement programme.

Staff travel to, from and during work adds a significant amount of carbon to the council's overall operations. Staff travel surveys help the council to identify which schemes will help staff to travel more sustainably.

Funding from the Local Sustainable Transport Fund has already been used to develop a number of projects including:

1. Personalised travel plans for staff
2. Provision of pool bikes, cycle salary sacrifice scheme, bicycle users group and other promotions
3. Season ticket loan scheme
4. Display of walking and cycling maps in key SBC buildings
5. Staff walking challenge

3.9 Priority 4 - Key actions

There are two key actions we intend to follow under priority 4:

1. Use Green Champions to engage staff around carbon management, reducing corporate waste and reducing energy consumption.
2. Provide additional measures to encourage staff to travel more sustainably including HGV driver cycle training and the implementation of a staff electric pool cars.

3.10 Priority 5 - Incorporate high standards of energy efficiency into new buildings, equipment and contracts

Sustainability Impact Assessments are currently required as part of any procurement the council carries out. These identify any impacts of the given procurement on the council's carbon footprint, pollution to air, water or land, and impacts on waste management. Bidders can be asked to mitigate the identified impacts as part of their bid.

3.11 Priority 5 - Key actions

There are two key actions we intend to follow under priority 5:

1. Tenders will routinely be asked to consider the impact on the council's carbon emissions as part of any procurement.
2. All Slough Borough Council new build project will be built to a minimum BREEAM very good standard (see Appendix 3).

4. Implementation and monitoring

The council's Carbon Management Board is the primary monitoring authority for this plan. The objective is to manage a sustained reduction in carbon emissions from all relevant council operations, council run schools and council contracted-out services. It also contributes to the delivery of the Joint Wellbeing Strategy in striving to reduce energy consumption, water usage and the amount of carbon emissions generated by the council, assists in reducing the council's impact on climate change as well as reducing operational running costs.

The board has representation from relevant departments of the council and is chaired by the Director of Customer and Community Services.

4.1 The Slough Borough Council Baseline

Slough Borough Council over achieved the target set in the last Carbon Management Plan of 40% reduction of carbon emissions from the 2008/09 baseline. The two datasets below chart our recent progress against the DECC/LGA Memorandum of Understanding.

Water consumption is not currently included in the carbon management plan, however

from the next reporting period (April 2014 to March 2015) we will be including carbon emissions from water in our baseline emission data.

4.2 Reporting The Slough Borough Council Baseline

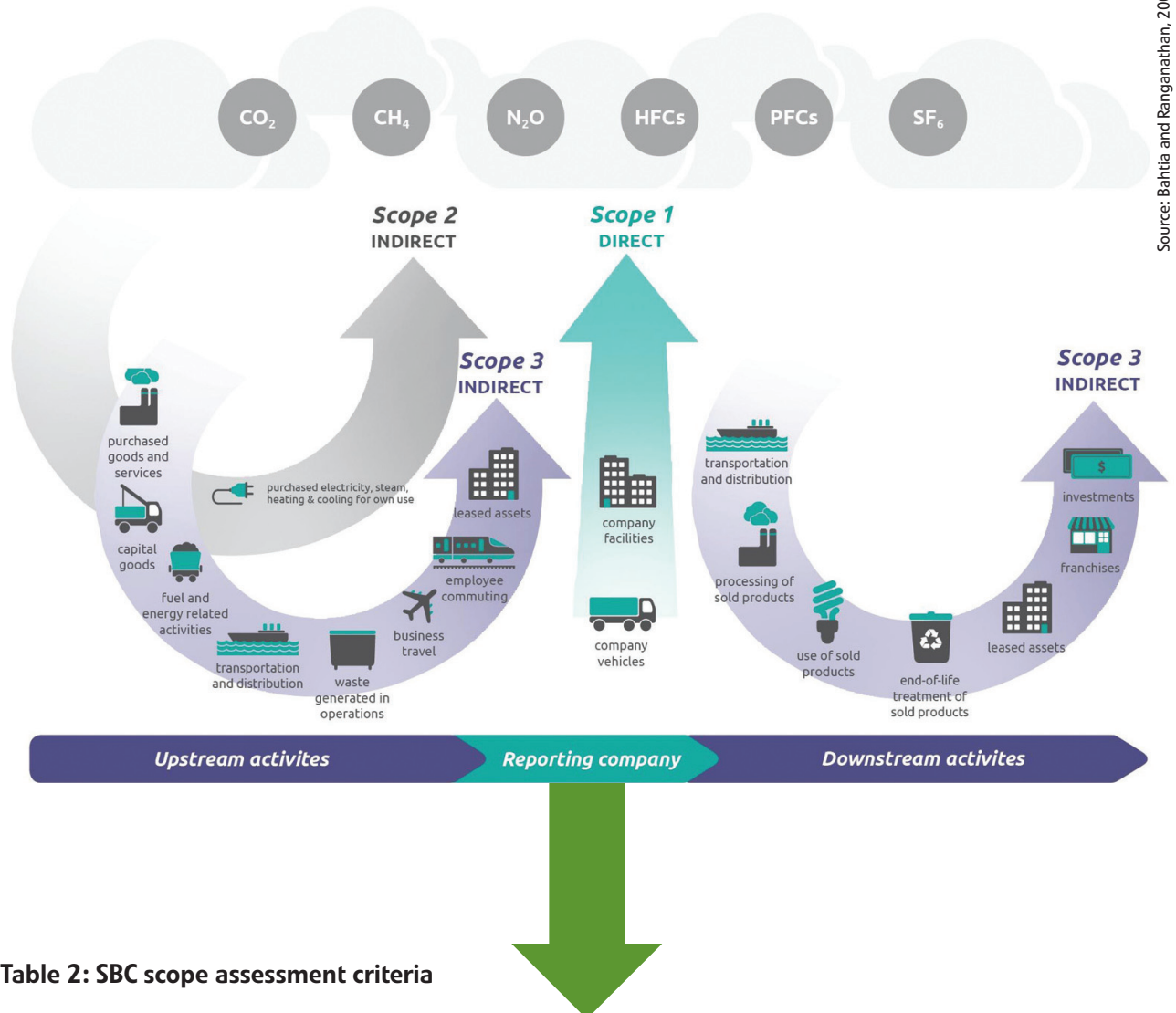
There will be two Key Performance Indicators reported to the board on an annual basis in July

1. The total carbon emissions for Scope 1,2 and 3 for all Council operations for the preceding financial year (1st April-31st March)
2. The Energy Revenue Spend for Scope 1,2 and 3 for all council operations (please refer to Appendix 1)

4.3 SBC Baseline Data 2013/2014

The Government requires the reporting of carbon emissions broken down into three scopes see Figure 4 and Table 2, which are explained below, along with the council's emissions in each scope please refer to Table 3 and Table 4.

Figure 4: Overview of CHG Protocol scopes and emission across the value chain



Source: Bahtia and Ranganathan, 2004

Table 2: SBC scope assessment criteria

| Scope 2 | Scope 1 | Scope 3 |
|---|--|------------------------------------|
| Emissions from electricity in SBC assets, communal housing areas and relevant schools | Gas emissions from SBC assets, communal housing areas and relevant schools | Emissions from outsourced services |
| Street assets e.g. streetlighting | Fugitive emissions from corporate fridges | Corporate waste |
| | Business transport | |

Table 3: Slough Borough Council CHG Submission to DECC by Scope

| GHG emissions for period 1 April 2013 – 31 March 2014 | tCO ₂ e |
|---|--------------------|
| Scope 1 | 3,705 |
| Scope 2 | 6,043 |
| Scope 3 | 5,494 |
| Total gross emissions | 15,242 |
| Exported renewable electricity reduction | 0 |
| Offsets | 0 |
| Woodland Carbon Units | 9 |
| Total net emissions | 15,251 |

Table 4: Intensity Measurements for SBC 2013/2014 CO₂ emisisions

| Intensity Measurement | Tonnes of CO ₂ e |
|---|-----------------------------|
| Intensity measurement - tonnes of CO ₂ e per 000 people served | 69 |
| Intensity measurement - tonnes of CO ₂ e per £m revenue | 26 |
| Intensity measurement - tonnes of CO ₂ e per FTE | 7 |
| Total Annual Emissions 08/09 baseline | 30,303 |
| % reduction from 08/09 baseline | 49% |

5. Glossary of terms

| Term | Definition |
|------------------------|---|
| CMP | Carbon Management Plan |
| IPCC | International Panel on Climate Change |
| Greenhouse Effect | Most mainstream scientists believe a human-driven increase in “greenhouse gases” is increasing the effect artificially. These gases include carbon dioxide, emitted by fossil fuel burning and deforestation, and methane, released from rice paddies and landfill sites. |
| Greenhouse gases (GHG) | The four most important greenhouse gases-carbon dioxide, methane, nitrous oxide, and fluorinated gases-and options for reducing emissions. |
| SBC | Slough Borough Council |
| Fossil Fuels | Coal oil and gas are known as fossil fuels |
| MTFS | Medium Term Financial Strategy |
| RSG | Revenue Support Grant |
| EPC | Energy Performance Certificate |
| DEC | Display Energy Certificate |
| CRC | Carbon Reduction Commitment |
| UNFCCC | UN Framework Convention on Climate Change |
| DECC | Department of Energy and Climate Change |
| LGA | Local Government Association |
| DCLG | Department of Communities and Local Government |
| MoU | Memorandum of Understanding |
| SALIX finance Ltd | Salix Finance Ltd. delivers 100% interest-free capital to the public sector to improve their energy efficiency and reduce their carbon emissions. |
| Scope 1 Emissions | Direct emissions from combustion of fuels |
| Scope 2 Emissions | Indirect emissions from using energy e.g. electricity |
| Scope 3 Emissions | Other indirect emissions e.g. business mileage |
| KPI | Key Performance Indicator |
| BREEAM | Building Research Establishment Environmental Assessment Method |

6. Appendix 1

6.1 SBC Energy Revenue Spend in carbon emissions April 2013-March 2014

| SCOPE 1 and 2 Breakdown of electricity costs | Total Consumption (KWh) | Total Cost (£) |
|--|-------------------------|---------------------|
| Half hourly Unmetered Supply Streetlighting | | |
| 2013-14 | 4959537 | 481,817.00 |
| Half Hourly Meter - Electricity Spend | | |
| 2013-14 | 1950827 | 200,118.00 |
| Non Half Hourly Meters | | |
| 2013-14 | 4969294 | 532,921.00 |
| All Electricity suppliers | 11879658 | 1,214,856.00 |
| Total Gas Energy spend 2013-14 | 4969294 | 310,817.00 |
| Total SCOPE 1 and 2 spend (gas and electric energy spend 2013-2014) | | 1,525,673.00 |

| SCOPE 3 Spend 2013 -2014 | Total Cost (£) |
|---|---------------------|
| (Grey Fleet) Business Mileage (not including 1000 mile bonus) | 541,674.69 |
| Water spend | 94,029.43 |
| Paper consumption | 29,429.85 |
| Waste SBC corporate buildings spend | 29,661.23 |
| Total SCOPE 3 Spend | 694,795.20 |
| Total SBC utility spend SCOPE 1 2 and 3 | 2,220,468.20 |

7. Appendix 2

7.1 List of Assets included in the 2013-2014 CO2 Baseline

Please note the asset list included in the plan will be reappraised every financial year

Table 6

| No. | Type | Site | Fuel |
|-----|-------------------|---|-----------------------|
| 1. | Other | Slough Crematorium | Natural gas |
| 2. | Community Centre | Langley Pavilion | Natural gas |
| 3. | Community Centre | Cippenham Community Centre | Natural gas |
| 4. | Community Centre | Manor Park Hall | Natural gas |
| 5. | Community Centre | Upton Lea Community Centre | Natural gas |
| 6. | Community Centre | Manor Park Young People's Centre | Natural gas |
| 7. | Community Centre | Slough Young Peoples Centre | Natural gas |
| 8. | Leisure | Park Changing Rooms | Natural gas |
| 9. | Adult Care | Mental Health Resource Centre | Natural gas |
| 10. | Leisure | The Community Theatre | Natural gas |
| 11. | Adult Care | Elliman Resource Unit | Natural gas |
| 12. | Childrens Centre | Childrens Resource Centre | Natural gas |
| 13. | Corporate Office | St Martins Place | Natural gas |
| 14. | Community Centre | Orchard Youth & Community Centre | Natural gas |
| 15. | Community Centre | Weeks Drive Community Centre | Natural gas |
| 16. | Childrens Centre | Orchard Ave Children's Centre | Natural gas |
| 17. | Childrens Centre | Vicarage Way Childrens Centre | Natural gas |
| 18. | Childrens Centre | Childrens Centre | Natural gas |
| 19. | Community Centre | Chalvey Community Centre | Natural gas |
| 20. | Community Centre | Slough Council Community | Natural gas |
| 21. | Adult Education | Thomas Gray Centre (closes Jan 2016) | Natural gas |
| 22. | Drug & Alcohol | Maple House | Natural gas |
| 23. | Other | 95 109 1 | Natural gas |
| 24. | Community Centre | Chalvey Community | Natural gas |
| 25. | Care Home | Bcs Gurney House Guh | Natural gas |
| 26. | Community Centre | Britwell Community Hub | Natural gas |
| 27. | Herschel Car Park | Car Park | Purchased electricity |
| 28. | Operational | 51 Bath Road | Purchased electricity |
| 29. | Council Building | St Martins Place | Purchased electricity |
| 30. | Council Building | St Martins Place | Purchased electricity |
| 31. | Schools | Iqra Islamic School | Purchased electricity |
| 32. | Community Centre | The Britwell Centre | Purchased electricity |
| 33. | Library | Slough Central Library(Closes Jan 2016) | Purchased electricity |
| 34. | Community Centre | Haymill Centre | Purchased electricity |
| 35. | Car Park | Hatfield Road - Multi Storey Car Park | Purchased electricity |
| 36. | Council Building | St Martins Place | Purchased electricity |
| 37. | Other | Tenants Supp Blk A | Purchased electricity |
| 38. | Trading Estate | Units 844-850 Plymouth Road | Purchased electricity |
| 39. | Trading Estate | Units 851-860 Plymouth Road | Purchased electricity |
| 40. | Trading Estate | Units 861-870 Plymouth Road | Purchased electricity |
| 41. | Leisure | West Wing Arts Centre | Purchased electricity |
| 42. | Community Centre | Thames Valley Comm Centre | Purchased electricity |
| 43. | Bus Station | Slough Bus Station | Purchased electricity |
| 44. | Leisure | Upton Court Road - Changing Rooms | Purchased electricity |
| 45. | Leisure | Upton Court Road Lascelles Playing Fields | Purchased electricity |
| 46. | Street lighting | Ives Road - Foot Path Ltg | Purchased electricity |
| 47. | Community Centre | Shop 73 Wentworth Avenue | Purchased electricity |

| | | | |
|-----|----------------------|---|-----------------------|
| 48. | Leisure | Granville Recreation Ground | Purchased electricity |
| 49. | Care Home | Lavender Court | Purchased electricity |
| 50. | Leisure | Station Road Tennis Courts | Purchased electricity |
| 51. | Other | Stoke Road - Crematorium | Purchased electricity |
| 52. | Library | Britwell Library | Purchased electricity |
| 53. | Community Centre | Langley Pavilion | Purchased electricity |
| 54. | Childrens Centre | Chalvey Early Years Centre | Purchased electricity |
| 55. | Library | Cippenham Library | Purchased electricity |
| 56. | Other | Damson Grove - Pumping Station | Purchased electricity |
| 57. | Childrens Centre | Britwell Play Centre | Purchased electricity |
| 58. | Community Centre | Upton Lea Community Centre | Purchased electricity |
| 59. | Childrens Centre | Children's Resource Centre | Purchased electricity |
| 60. | Community Centre | Manor Park Community Hall | Purchased electricity |
| 61. | Childrens Centre | Villiers Road Play Centre | Purchased electricity |
| 62. | Community Centre | Milan Community Centre part of Thomas Gray. Closes Jan 2016 | Purchased electricity |
| 63. | Community Centre | Weekes Drive - Community Centre | Purchased electricity |
| 64. | Car Park | The Grove - Public Conveniences | Purchased electricity |
| 65. | Leisure | Harvey Park Changing Rooms | Purchased electricity |
| 66. | Other | The Kiosk (Herschel Park) | Purchased electricity |
| 67. | Other | Public Toilet at Allotment | Purchased electricity |
| 68. | Other | The Old Vicarage | Purchased electricity |
| 69. | Other | Starter Unit, Trelawney Industrial Estate | Purchased electricity |
| 70. | Community Centre | Orchard Centre | Purchased electricity |
| 71. | Community Centre | Britwell Scout & Guide Hut | Purchased electricity |
| 72. | Leisure | Sports Pavillion | Purchased electricity |
| 73. | Community Centre | Westfield Hall | Purchased electricity |
| 74. | Other | Feeder Pillar (opp 43A Upton Park) | Purchased electricity |
| 75. | Leisure | The Myrke Store Shed | Purchased electricity |
| 76. | Other | Allotments Hut | Purchased electricity |
| 77. | Care Services Office | Corner House | Natural gas |
| 78. | Care Services Office | Corner House | Purchased electricity |
| 79. | Community Centre | Cippenham Community Centre | Purchased electricity |
| 80. | Care Home | St Lawrence Way Home | Natural gas |
| 81. | Leisure | New Sports Pavillion | Purchased electricity |
| 82. | Community Centre | Thames Valley Community Centre | Purchased electricity |
| 83. | Other | Air Monitoring Station | Purchased electricity |
| 84. | Other | Air Monitoring Station | Purchased electricity |
| 85. | Adult Care | Elliman Resource Unit | Purchased electricity |
| 86. | Office | Airways House | Purchased electricity |
| 87. | Library | Slough Central Library | Natural gas |
| 88. | Library | Cippenham Library | Natural gas |
| 89. | Library | Britwell Library (part of the hub) | Natural gas |
| 90. | Library | Langley Library | Purchased electricity |
| 91. | Adult Care | Langley Resource Centre | Purchased electricity |
| 92. | Adult Care | Langley Resource Centre | Natural gas |
| 93. | Slough Bus Station | Bus Station | Natural gas |

Table 7: Street Assets and Streetlighting

| Type of Asset | No. |
|---|--------|
| Traffic signal junctions | 68 |
| Pedestrian junctions | 40 |
| Wig Wag at Langley Fire Station | 1 |
| Highways lights | 11,700 |
| Illuminated signs and bollards | 1,809 |
| Parks lights | 375 |
| Housing lights | 143 |
| Electric Vehicle Charging Points (include in car parks) | 10 |

8. Appendix 3

8.1 BREEAM Criteria and Scores

BREEAM rating benchmarks

The BREEAM rating benchmarks for new construction projects assessed using the 2011 version of BREEAM are as follows:

Table 8

| BREEAM rating benchmarks BREEAM Rating | % score |
|---|---------|
| Outstanding | ≥ 85 |
| Excellent | ≥ 70 |
| Very good | ≥ 55 |
| Good | ≥ 45 |
| Pass | ≥ 30 |
| Unclassified | < 30 |

Table 9: Example of BREEAM assessment

| Example BREEAM score and rating calculation BREEAM Section | Credits Achieved | Credits Available | % of Credits Achieved | Section/Weighting | Section score |
|---|------------------|-------------------|-----------------------|-------------------|---------------|
| Management | 10 | 22 | 45% | 0.12 | 5.45% |
| Health & Wellbeing | 8 | 10 | 80.00% | 0.15 | 12.00% |
| Energy | 16 | 30 | 53.33% | 0.19 | 10.13% |
| Transport | 5 | 9 | 55.56% | 0.08 | 4.44% |
| Water | 5 | 9 | 55.56 | 0.06 | 3.33% |
| Materials | 6 | 12 | 50.00% | 0.125 | 6.25% |
| Waste | 3 | 7 | 42.86% | 0.075 | 3.21% |
| Land Use & Ecology | 5 | 10 | 50.00% | 0.10 | 5.00% |
| Pollution | 5 | 13 | 38.50% | 0.10 | 3.85% |
| Innovation | 2 | 10 | 20% | 0.10 | 2% |
| Final BREEAM score | | | 55.66% | | |
| BREEAM Rating | | | Very good | | |

9. Appendix 4

9.1 Carbon Management Plan Slough Schools List September 2014

Table 10

| | School Name | School Type | Address | Phone Number | Fax Number | Headteacher | Zenergi School |
|----|--|-------------|---|--------------|--------------|---|-----------------------------|
| 1 | Baylis Court Nursery School (DFE: 1021) | Community | Oatlands Drive, Slough, SL1 3HS | 01753 521917 | 01753 523709 | Philip Gregory | Yes |
| 2 | Chalvey Early Years Centre (DFE: 1025) | Community | Ladbroke Road, Slough, SL1 2SR | 01753 536293 | 01753 694611 | Diane Lister | Yes (on corporate bills) |
| 3 | Cippenham Nursery School (DFE: 1022) | Community | St Andrews Way, Slough, SL1 5NL | 01628 661506 | 01628 559839 | Ruth Clark | Yes |
| 4 | Lea Nursery School (DFE: 1023) | Community | Wexham Road, Slough, SL2 5JW | 01753 536492 | 01753 821798 | Kusum Trikha | Yes |
| 5 | Slough Centre Nursery School (DFE: 1020) | Community | Buckingham Avenue East, Slough, SL1 3EA | 01753 521975 | 01753 554609 | Diane Lister | Yes |
| 6a | Claycots School (DFE: 2256) | Community | Claycots (Monksfield Way) Monksfield Way, Slough, SL2 1QX | 01753 521215 | 01753 512974 | Executive Head: Gareth Morris Head of School: To Be Appointed | No |
| 6b | Claycots School (DFE: 2256) | Community | Claycots (Bath Road) Bath Road, Slough, SL1 3UQ | 01753 531415 | 01753 512974 | Executive Head: Gareth Morris Head of School: Rebecca Whitlock | Yes |
| 13 | Penn Wood Primary and Nursery School (DFE: 2255) | Community | Penn Road, Slough, SL2 1PH | 01753 521811 | 01753 536052 | Jane Girle | No (PFI School) |
| 14 | Pippins School (DFE: 5207) | Foundation | Raymond Close, Colnbrook, Slough, SL3 0PR | 01753 682937 | 01753 685549 | Tracy Ball | Yes |
| 19 | Wexham Court Primary School (DFE: 2252) | Community | Church Lane, Wexham, Slough, SL3 6LU | 01753 524989 | None | Navroop Mehat | Yes |
| 20 | Beechwood School (DFE: 4085) | Community | Long Readings Lane, Slough, SL2 1QE | 01753 520473 | 01753 759618 | Kathleen Higgins | No (PFI School) |
| 23 | Wexham School (DFE: 4089) | Community | Norway Drive, Slough, SL2 5QP | 01753 526797 | 01753 573916 | Mary Sparrow | Yes |
| 24 | Arbour Vale School (DFE: 7035) | Community | Farnham Road, Slough, SL2 3AE | 01753 515560 | 01753 515561 | Debbie Richards | No (PFI School) |

Carbon management plan, April 2015 – March 2020