

Reigate & Banstead Borough Council Carbon Management Programme

Carbon Management Plan (CMP)



Priory Park pavilion in Reigate, constructed 2007, incorporates a ground source heat pump that saves 13.5 tonnes of carbon dioxide a year, providing heating, cooling, and hot water.

Date: *07 April 2010*

Version number: *v1*

Owner: *Jo Hills*

Approval route: *Executive 25th March 2010*

Approval status: *Draft*

Contents

Foreword from Julian Ellacott, Executive Member for Environment and Nigel Clifford, Chief Executive	3
Foreword from the Carbon Trust	3
Management Summary	4
Introduction	5
Carbon Management Strategy.....	6
• Context and drivers for Carbon Management	6
• Our low carbon vision	6
• Strategic themes	7
• There are five themes within the Council’s Sustainable Energy Strategy: -	7
• Targets and objectives	7
Emissions Baseline and Projections.....	8
• Scope	8
• Baseline	8
• Carbon reduction commitment	13
Carbon Management Projects.....	14
• 10:10 Challenge	15
Carbon Management Plan Financing	16
• Assumptions	16
• Unquantified benefits:	17
• Staff resources	17
• Financial costs and sources of funding	18
Actions to Embed Carbon Management in Your Organisation	19
Programme Management of the Carbon Management Plan	21
• The Carbon Management Team – delivering the projects	21
• Succession planning for key roles	21
• Ongoing stakeholder management	22
• Annual progress review	23
Appendix A: Carbon Management Matrix – Embedding	24
Appendix B: Definition of Projects	25

Foreword from Julian Ellacott, Executive Member for Environment and Nigel Clifford, Chief Executive

We are delighted, on behalf of Reigate & Banstead Borough Council, to present the Council's Carbon Management Plan. The Council is determined to lead our Borough to a sustainable and low-carbon future and this plan represents the Council's firm commitment to tackling its own contribution to Climate Change at a local level. It sets out our ambitions to reduce our own carbon emissions by changing policy, practices and behaviour.

Climate Change is now regarded as one of the greatest challenges facing our communities. The Council cemented its willingness to act in its Sustainable Energy Strategy of July 2009 and by endorsing the approach of Surrey Climate Change Partnership's Climate Change Strategy in November 2009. We are proud of our past many successes in delivering environmental sustainability but we are clearly focussed on the future. The Council has a vital and leading role in addressing the challenges posed by climate change.

In the Carbon Management Plan the Council has set itself ambitious and challenging targets to reduce its own carbon footprint and an action plan to achieve them. Local Government has a vital and leading role in addressing the challenges posed by climate change and the Council aims to become a low carbon example to our residents and businesses. This challenge is one of the biggest we have ever faced but we are confident that we will achieve this ambitious plan, setting an example to inspire others.

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 inline with its Kyoto commitments and the Local Authority Carbon Management programme is designed in response to this. It assists councils in saving money on energy and putting it to good use in other areas, whilst making a positive contribution to the environment by lowering their carbon emissions.

Reigate & Banstead Borough Council was selected in 2009, amidst strong competition, to take part in this ambitious programme. Reigate & Banstead Borough Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Plan commits the Council to a target of reducing CO₂ by 30% by 2014.

There are those that can and those that do. Local authorities can contribute significantly to reducing CO₂ emissions. The Carbon Trust is very proud to support Reigate & Banstead Borough Council in their ongoing implementation of carbon management.



Richard Rugg
Head of Public Sector, Carbon Trust



Management Summary

Background and policy framework

The Council's Carbon Management Plan provides a clear prioritised action plan for measures to reduce CO₂ emissions from its own estate and services. It builds on the direction set by the Council's Sustainable Energy Strategy which set out its response to sustainable energy, climate change, and resource issues. Relevant local government performance indicators are: -

- NI185 – percentage CO₂ reduction from local authority operations
- NI186 – per capita CO₂ emissions in the local authority area (adopted as a Surrey Strategic Partnership Local Area Agreement target)

The Council has also joined the national 10:10 campaign to reduce CO₂ emissions by 10% in the 12 month period from April 2010.

The Council has worked closely with the Carbon Trust, taking part in the seventh year of their 'Local Authority Carbon Management Programme' to produce this plan.

Target and baseline

Target - to reduce CO₂ emissions from the Council's estate and services by 30% over the period 2009-2014 (5 years).

Baseline - CO₂ emissions in the year 2008-09 were 5,336t CO₂ at a cost of £1,093,404 per year.

In order to meet the target of 30% reduction the Council needs to achieve a saving of 1,601t CO₂ across its estate and services by 2014.

Key projects to achieve the reduction:

Donyngs leisure centre refurbishment – including lighting, variable speed drives, pool covers, zoning, controls, boilers/CHP, voltage optimisation (2010-11)

Harlequin theatre refurbishment – including building management system, boilers and controls, air handling system, voltage optimisation (2010-11)

Horley leisure centre replacement (2011-12)

Town hall, Earlswood and Park Farm depots - draught proofing, building management system, boiler optimum start controls, voltage optimisation and air handling improvements as appropriate (2011-13)

Green teams – 2009-14

Lighting projects at various sites to incorporate low energy replacements and controls – 2009-14

Embedding an organisational culture where every person takes responsibility for the carbon reduction targets and more sustainable ways of working, and aligning policies and service delivery to this aim.

Financial and resource implications

Projects to achieve the target reduction will cost us just under £650,000 of total capital investment to implement, saving approximately £400,000 on in potential revenue-based expenditure by 2014. That same figure will then continue to be saved on an annual basis, giving over £2.5m saving or cost avoidance by March 2020. Some revenue funding will also be required to design and manage the project implementation and to enable Green Teams projects led by staff.

Funding of £199,000 was approved to support the adopted Sustainable Energy Strategy within the Corporate plan period 2009-2012 and £50,000 was won through external Salix funding. Hence the additional funding required is £400,000.

In the year 2010-11, targets can be met almost exclusively from commitments that are already in the Corporate Plan programme, including refurbishment works to Donyngs Leisure Centre and the existing planned Sustainable Energy Strategy projects. Beyond that time there is a need to ensure that sufficient resources are maintained to enable the planned investment programme to take place.

Introduction

The Council has produced this Carbon Management Plan with the assistance of the Carbon Trust to act as the delivery plan towards its response over the period 2009-2014 to the challenges of: -

- ensuring sustainable energy provision in the coming years,
- addressing climate change issues,
- saving resources and money within the Council, and
- responding to national, regional and local level policies and targets on carbon dioxide emissions reduction. Relevant local government performance national indicators (NI's) are: -
 - **NI185 – percentage CO₂ reduction from LA operations**
 - **NI186 – per capita CO₂ emissions in the LA area**

Reigate & Banstead Borough Council has held a commitment to sustainable energy and reduction of carbon dioxide emissions (CO₂) for several years now. Sustainable Energy has been a priority in the Council's Corporate Plan since 2006 and a detailed Sustainable Energy Strategy was adopted in July 2009, setting out how the Council plans to meet ambitious CO₂ reduction targets.

The Council has worked with the Carbon Trust since May 2009 to develop this plan going through 5 steps: -

- Establishing a Carbon Management Team and establishing the project management systems
- Establishing the baseline data and setting targets
- Assessing potential projects at very high level
- Brainstorming and prioritisation of projects in workshops with key staff
- Detailed quantification and prioritisation of projects
- Production of plan

Carbon Management Strategy

This is as set out in the Council's adopted Sustainable Energy Strategy, July 2009. The key points of this strategy are summarised below.

- **Context and drivers for Carbon Management**

Reigate & Banstead Borough has a growing population and careful management of resources is particularly important in the Borough as it develops, regenerates and grows. Sustainable energy is a vital piece of the jigsaw that makes up a thriving community and the Council is keen to demonstrate leadership in this area.

The key drivers as set out in the Council's Sustainable Energy Strategy are: -

- Ensuring sustainable energy provision in the coming years,
- Responding to fuel poverty,
- Addressing climate change issues,
- Responding to national, regional and local level policies and targets on carbon dioxide emissions reduction.

It should be noted that the Council is not currently eligible for costs under the government's new Carbon Reduction Commitment (CRC) system due to the size of our energy use. The CRC applies to organisations with over 6,000 MWh/yr passing through half hourly meters. In 2008-09 the Council had only 1,707 Mwh/yr passing through its half-hourly meters. The CRC does however remain a background factor for consideration due to awareness that criteria may change at a later date.

- **Our low carbon vision**

From the Council's Sustainable Energy Strategy, the overall long-term vision is: -

"Reigate and Banstead Borough Council will empower its local communities to achieve an 80% reduction in CO₂ emissions between 1990 and 2050.
The Council will be a focus for excellence in sustainability, ensuring that the energy needs of the growing community remain secure and affordable."

On our own estate, for the current Carbon Management Plan, the target is: -

"Reducing CO₂ emissions from the Council's estate and services by 30% from March 2009 to March 2014 (5 years)."

• Strategic themes

There are five themes within the Council's Sustainable Energy Strategy: -

1. Providing community leadership
2. Improving energy efficiencies and CO₂ reduction in Council buildings, fleet and services (to report against National Indicator 185)
3. Sustainable energy in homes, businesses and social sector
4. Sustainable energy in new development
5. Creating a fund for local energy projects

This Carbon Management Plan addresses theme 2, Improving energy efficiencies in Council buildings, fleet and services (to report against National Indicator 185). This has been broken into the following sub-themes:-

Theme 2 of the Sustainable Energy Strategy	
Improving energy efficiencies and CO ₂ reduction in Council buildings, fleet and services (to report against National Indicator 185)	
Summary of sub-themes within theme 2	
1	People – 'Green Teams' projects to raise awareness or change behaviours to reduce CO ₂ emissions
2	Procurement, policy and contractual – changes to the way in which the Council and its suppliers or contractors work, relate to each other, manage people and assets, and deliver services in order to reduce CO ₂ emissions
3	Capital invest-to-save projects to reduce carbon from electricity and gas use on Council estate
4	Transport and fleet
5	Water and waste (not included in NI 185 reporting)

• Targets and objectives

The Council has set targets for:-

- Reducing CO₂ emissions from the Council's estate and services by 30% over the period March 2009 – March 2014.
- Reducing CO₂ emissions from the Council's estate and services by 80% over the period March 2007 - 2050

The two different periods are due to the analysis of the overall policy taking place against a baseline of 2007 data, whereas the shorter-term focused implementation plan for the Carbon Trust was developed in a different financial year. To have clear outcomes for that specific group of projects and 5 year timeline the baseline had to be specific to that time period. The 30% target by 2014 is a building block on the way to delivering the larger headline target.

Delivery against these targets will be by means of physical projects within the themes, policy changes and campaigning, and new mechanisms to suit the activity. Examples will be: -

- strategic partnerships,
- changes of policy,
- use of existing budgets or seeking external funding as necessary and available,

- implementation by 'Green Teams' staff, by individuals, by the service teams responsible for an area, or by Facilities or Sustainability staff,
- communication through Carbon Management Team and Green Team meetings, through the Knowledge, posters, leaflets, etc.

Emissions Baseline and Projections

- **Scope**

Key themes included in the scope are as set out on the previous page. The Council is including within the scope of this plan: -

- Priority - All 'NI185' emissions listed below. Quantified emissions are included in the baseline figures.
- Secondary area for improvement - Additional projects will be implemented to reduce water use and waste to landfill resulting from Council estate and services. These have associated CO₂ emissions, with reductions thus helping fulfil Council obligations under NI 186 – reducing CO₂ emissions across the local authority area. There is a direct financial benefit to the Council from such projects as reduced use will lead to lower bills.

NI 185 includes "all CO₂ emissions from the delivery of local authority functions", including emissions from outsourced functions and services. NI 185 scope relevant to the Council:

- Buildings energy use (including leisure centres and community centres managed by others on behalf of the Council)
- Vehicle fleet fuel use
- Business travel

Social housing (even if provided by the authority) is not included within the scope of the indicator. A travel plan to assist with business travel does fall within the scope, including elements such as pool cars and incentives towards reduced fossil fuel use but employee commuting is not included in the current plan.

- **Baseline**

The baseline gives a starting point from which to measure the success of the Plan. The year selected as baseline was the financial year 2008-09. This is also the baseline year for the emissions reporting that is required under National Indicator NI185 and the figures used for this plan have been taken from the Council's reported NI 185 data.

To convert energy use into CO₂ emissions, the June 2007 factors from DEFRA have been used as recommended by DEFRA for NI185 reporting. The table below is ranked by CO₂ emissions.

Baseline figures

	Baseline CO ₂ emissions (tonnes)	Baseline Cost
Fleet	1,323	£ 429,206
Leisure centres	2,167	£ 247,488
Town hall offices	622	£ 142,940
Harlequin Theatre	317	£ 69,697
Community centres	260	£ 57,950
Earlswood/Park Farm Depots	210	£ 46,079
Car parks	196	£ 41,120
Pavilions, cemeteries, toilets	127	£ 27,240
Business transport	63	£ 21,014
Help shops	51	£ 10,669
Total	5,336	£ 1,093,404

Table 3.1 – Summary table of emissions and costs for baseline year 2008-09

NOTES:

1. These figures are calculated values based on current known Council energy cost rates. The only exception to this is the 'Fleet' cost, which was taken from known bills as reported by the fleet manager,
2. There is a rebate at year-end under the energy supply contract that may make some of these figures more favourable.
3. Some discrepancies may exist between these figures and the bills actually paid within each financial year due to occurrences of inaccurate bill estimation by the energy supplier and the timing of the bills.

Energy bills are paid by management companies for leisure centres and the three community centres. The costs of fuel for the fleet is also from a separate budget.

	Baseline CO ₂ emissions (tonnes)	Baseline Cost
Council – Fleet	1,323	£ 429,206
Council – Other energy bills	1,586	£ 358,760
Leisure Centre Management organisation	2,167	£ 247,488
Community Management Committees	260	£ 57,950
Total	5,336	£ 1,093,404

Table 3.2 – Summary table of costs and emissions by budget holder for baseline year 2008-09

Display Energy Certificate Data

Display Energy Certificate results Note: A score of 100 would be average	2007-08	2008-09
Town Hall south annex	C 63	C74
Harlequin Theatre	C 75	C62
Town hall middle block	E 113	F126
Earlswood Depot	G 174	G165
Town Hall main building	F 136	F148

Notes:

- At Earlswood and the Harlequin, active energy management led to improved ratings despite the colder weather
- All three town hall buildings have a worse DEC rating in 2008-09 than in 2007-08. Reasons: -
 - Unusually cold winter in 2008-09, 1.7 degrees colder than 2007-08;
 - Town hall readings were based on high estimates so should show improvements in 2009-10.

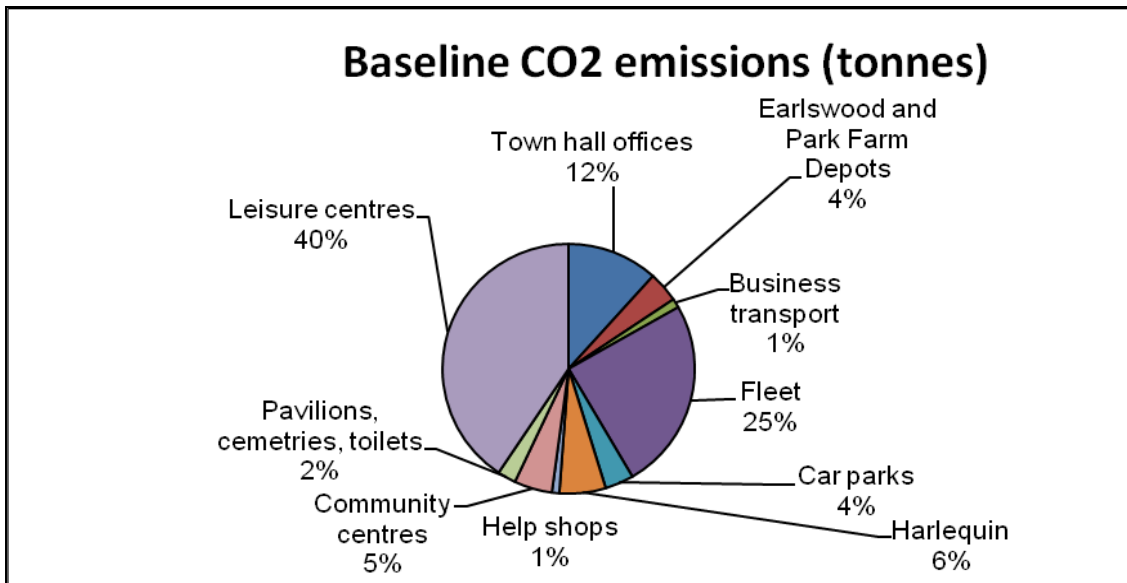


Figure 3.1 Summary of emissions for baseline year 2008-09

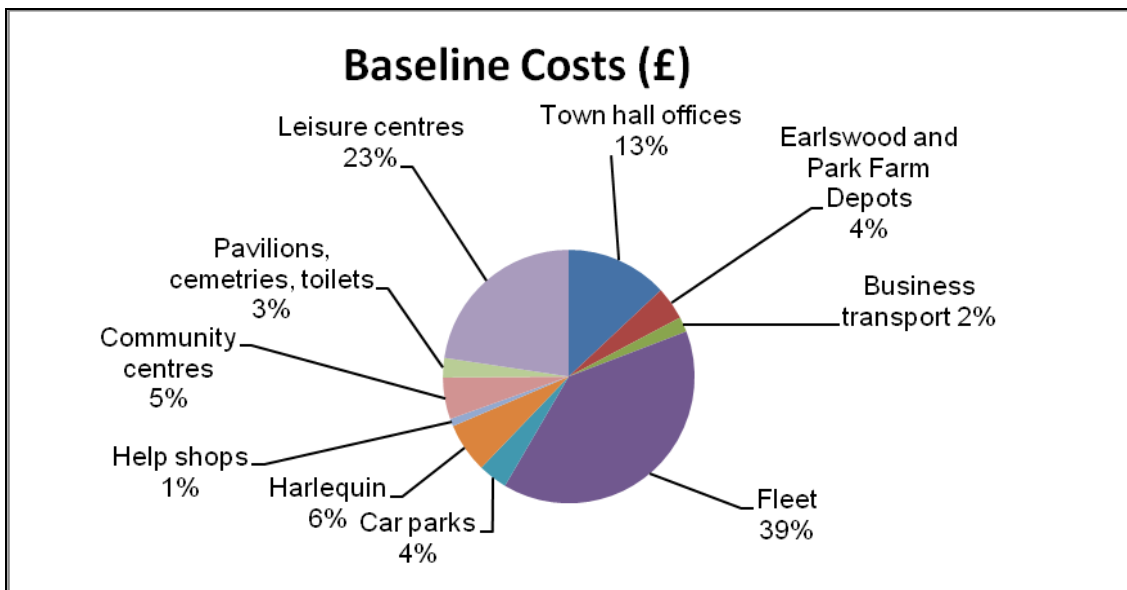


Figure 3.2 Summary of cost splits for baseline year 2008-09

Financial Projections

Assumptions:

- **Service improvements:** Based on analysis by the Department for Business Innovation and Skills (DBIS), energy consumption is expected to lead to rises in CO₂ emissions of 0.7% / year unless it is actively managed downwards^[1].

An example of this kind of increase to the Council is the new Horley Leisure Centre which, while significantly more efficient in terms of CO₂ emissions per square metre, is much larger than the existing Horley Anderson Centre, thus creating an increase in emissions of 26% or 88 tonnes CO₂/year from 2011/12. The same will happen at Donyngs leisure centre if more air conditioning is installed during the refurbishment works.

- **Increases to fuel prices:** The price of fuel is also expected to rise. The Department for Energy and Climate Change has calculated an annual price rise projection of 5.3% for gas and electricity based on Scenario 3 from their *Communication on DECC Fossil Fuel Price Assumptions* report published in Spring 2009 <http://www.berr.gov.uk/files/file51365.pdf>. **However for this report an assumption was made of ZERO PRICE INCREASE to ensure that calculations are safely prudent.**
- **Impacts of carbon management projects:** Increases due to service improvements will be off-set by the work of the Carbon Management Team to reduce emissions across the council, thus leading to an overall stabilisation. Therefore the stated target of **“Reducing CO₂ emissions from the Council’s estate and services by 30% over the period 2009-2014 (5 years)”** results in a cost reduction against these increases rather than a straightforward reduction against 2008-09 costs. Therefore the financial value at stake is a matter of ‘cost avoidance’ as well as ‘cost saving’.

When a 30% CO₂ emission reduction is achieved, this would lead in financial terms to a combination of savings and avoidance of costs of approximately **£400,000** per year once payback is calculated from all projects.

- **Carbon versus cost saving impacts:** Note that a straight calculation of 30% of current annual expenditure is £328,021 saving per year. The actual financial saving from a 30% CO₂ cut, quoted above, is predicted to be higher as electricity produces more CO₂ per kWh of energy and costs more. This is why the strategy of targeting the highest CO₂ saving projects also results in saving more money.

^[1] DBERR, 2000, *Energy Paper 68: energy projections for the UK*

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-onwards, annual savings
Investment figure	£ 54,269	£ 183,357	£ 278,000	£ 115,274	£ 18,331	n/a
New financial savings accrued each year	n/a (see note 1)	£ 26,020	£ 181,452	£ 120,139	£ 42,874	n/a
Cumulative financial savings	n/a (see note 1)	£ 207,472	£ 327,611	£ 370,484	£ 388,434	£ 390,000 ongoing annual saving
New CO₂ savings initiated each year, tonnes	n/a (see note 1)	123	728	553	180	n/a
Cumulative CO₂ savings, tonnes	n/a (see note 1)	123	839	1343	1,601 +	1,601 t ongoing annual saving

Table 4.1 Summary of financial and carbon savings by year assuming no increase in energy costs

Notes:

1. 2009-10 is prior to the start of this Carbon Management Plan. Investments are being made and projects implemented but payback will only begin to be visible in the following year's figures.
2. In order to meet the target of 30% reduction the Council needs to achieve a minimum saving of 1,601 t CO₂ across its estate and services.

The table shows that at the end of that period the Council will have been able to make savings and avoid costs to a cumulative total of approximately £400,000 by 2013-14. That same figure will then continue to be avoided on an annual basis, giving £2.5m cost avoidance by March 2020.

Investment of nearly £1.5m is required over the 5 years of this plan in order to achieve this, but table 4.1 shows the positive results of that investment in financial terms.

The Council's 'Value at Stake' figure (ie combination of savings and costs avoidance possible to achieve if CO₂ reduction targets are met) is approximately £400,000 by 2013-14 and £2.5m to 2019-20.

• **Carbon reduction commitment (CRC)**

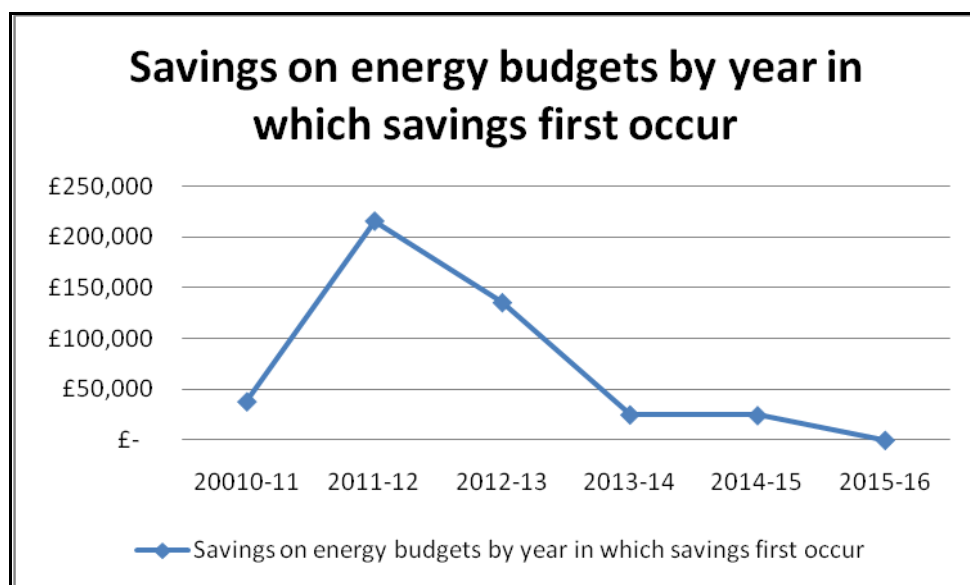
RBBC does not currently fall under this scheme which starts in 2010 and charges larger organisations for the amount of carbon they emit under an emissions trading scheme. There have been rumours in the technical press that the government may extend the scheme to smaller organisations in the medium-term future. Whilst the detail of how the scheme will operate are still not certain, allowances under this emissions trading scheme will initially be sold at £12/t CO₂. From 2013, all allowances will be allocated through auctions at a market price and over time, the number of available credits will diminish which is likely to drive up the price.

At current emission levels our costs would be approximately 3,950t/year (carbon emissions excluding transport) @ £12/t = £47,400. We could receive rebates on this sum depending on carbon reduction performance.

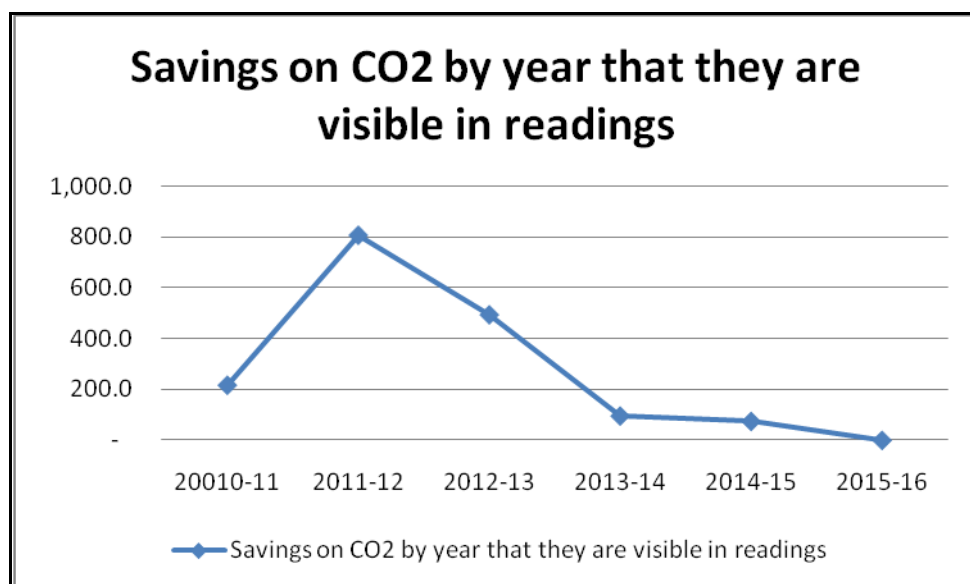
5. Carbon Management Projects

The projects that the council has selected for implementation have been prioritised according to the balance between the carbon savings they can deliver, the return on investment and the ease of implementation of the project. The assessment of how easy it is to implement a project includes criteria related to technical delivery, staff and financial resources required and other organisational factors such as integration with other ongoing projects to optimise use of resources.

- Projects are set out in Appendix 2.
- Projected achievement towards target is set out in Appendix 3, with summary graphs below.



Note: Baseline energy costs £1,093,404/yr. Calculations assume 0% inflation on energy costs



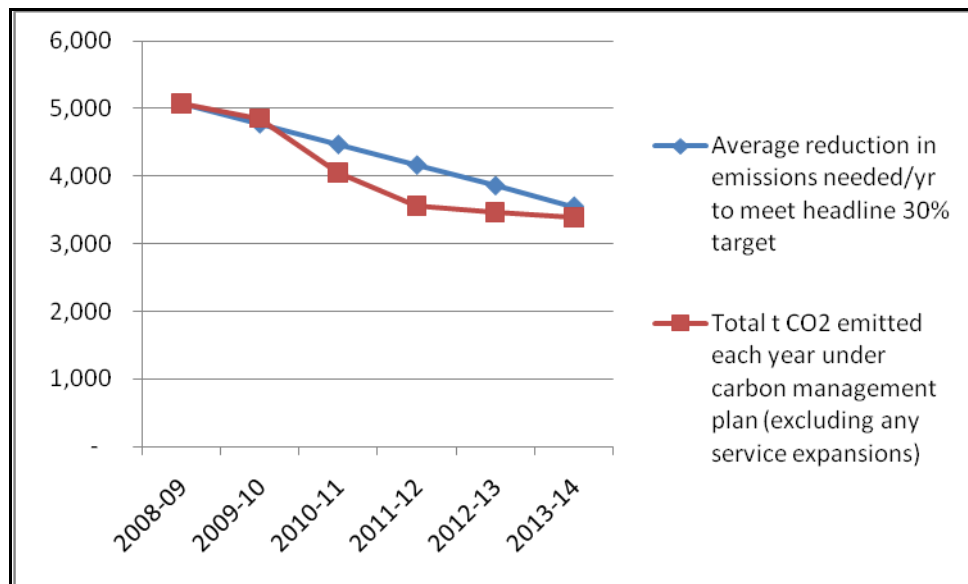
Note:

Baseline CO₂ emissions = 5,336 t CO₂/yr

Savings need to meet 10:10 target (10%) = 534 t CO₂ by Mar 1011.

Total savings needed to meet Carbon Management Plan target (30%) = 1,601 t CO₂/yr by Mar 2014

Reduction in emissions per year under the chosen Carbon Management Plan, tonnes CO₂



- **10:10 Challenge**

Savings need to meet 10:10 target (10%) = 534 t CO₂ by Mar 1011. Savings from projects implemented during the year 2010-11 total 794 t CO₂ saved. However, as projects will be implemented throughout the course of the year, much of these savings will not show until the following year. For this reason the 10:10 challenge states 3% reduction in CO₂ emissions by the end of the year (March 2011) as fulfilling the 10:10 Challenge criteria. This should be achievable with the projects planned for that period.

5. Carbon Management Plan Financing

The Council's target of reducing CO₂ emissions from the Council's estate and services by 30% over the period 2009-10 to 2013-14 (5 years) will cost £1.5 million to implement, saving approximately £400,000 on energy costs avoided by 2014.

That same figure will then continue to be saved on an annual basis, giving a £2.5m saving or cost avoidance by March 2020.

Quantified benefits and costs:

The costs, annual savings and payback periods for each project, together with the CO₂ saving that they contribute towards the headline target of 30% reduction, are all set out in Appendix 2.

• Assumptions

1. No allowance was made for inflation or other changes to energy prices in the calculations for project payback. This was done to ensure that payback calculations were sensibly prudent.
2. Energy prices used were as follows: -
 - Electricity, council estate, daytime £/kWh including Climate Change Levy (CCL) = 12.12p/kWh
 - Electricity, council estate, night-time, including Climate Change Levy (CCL) = 8.4p/kWh
 - "Daytime" for electricity prices = 7am to midnight. There are not many electricity loads that are on all night, so an average cost of 11p/kWh was applied to calculate payback. This was cross-referenced against real meter readings and invoices and found to be realistic
 - Gas, council estate, day and night, including CCL = 4.4p/kWh
 - Carbon conversion factors used to calculate the impact on carbon emissions from projects were Defra's 2009 figures.
3. The Council will only be able to acquire benefits from improvements to estate and services managed by agents who also pay the energy bills, if contracts or contributions are negotiated with those managing agents to reflect the reduced energy costs. Examples of this situation are the leisure and community centres. For leisure centre refurbishment at Donyngs and construction at Horley, the contracts have already been negotiated.
4. CO₂ and kWh savings and hence project payback was based on several sources:
 - Some projects already have full quotes from contractors and detailed specification of technologies available. Estimates for these therefore have a high level of confidence attached to them. Examples are the lighting projects for car parks in 2010.
 - Estimates for some projects were based on known similar projects carried out elsewhere by the Council. This also gives a high level of confidence in the figures. Examples are the lighting projects for middle block, where a similar project was carried out already,
 - Some are based on similar projects carried out by other organisations from case study information, giving a lower level of confidence in the figures,
 - Benefits of some projects were estimated from data from the Carbon Trust on potential costs and savings (pro-rata to suit the scale of the relevant site), also giving a lower level of confidence in the figures,
 - Where a lower level of confidence applied, conservative estimates were assumed to ensure achievable targets.
5. It is assumed that, at detailed design stage, projects will indeed be shown to be technically and financially viable as estimated. However, as is always the case with technical projects there is a high possibility that some projects, will be shown to be less technically or financially viable in a particular site. If this transpires then a range of projects known as 'Plan B' exists which will be substituted to ensure that targets are still achievable. These projects achieve, in many cases,

slightly lower payback or CO₂/£, which is why they were not selected for 'Plan A', the main Carbon Management Plan. If this transpires for many projects there is a risk that the cost of the whole programme will rise slightly. The board receives regular reports and a significant deviation of this type will be flagged up at an early stage.

6. That Harlequin and Donyngs refurbishment go ahead as planned in the year 2010-11.
7. That match-funding for projects within the Carbon Management Plan but funded from elsewhere, remain fully funded and go ahead as planned. Examples include virtualisation of servers and thin or zero client technology.
8. That there are sufficient staff in place throughout the Carbon Management Plan period in :
 - o the environment team,
 - o project management for leisure centre improvement and
 - o facilities team.

This is particularly critical in years 2010- March 2013, when the majority of the projects will be implemented.

• **Unquantified benefits:**

1. Deliver against the Council's Sustainable Energy Strategy targets,
2. Meet the 10:10 Challenge,
3. Meeting regulatory compliance,
4. Performance against the National Indicator set,
5. Improved reputation with staff, stakeholders & the public,
6. Improved reputation amongst other local authorities and improved ratings in the Comprehensive Area Assessment,
7. Minimise exposure to the potential financial risk posed if the Carbon Reduction Commitment were extended to organisations such as the Council (estimated as £68,000 per year from current rules, but with potential for rebates dependent on carbon performance).

• **Staff resources**

Staff required to deliver against this plan. Existing staff in post are in brackets.

	2010/11	2011/12	2012/13	2013/14	Role
Environment team	1.5 (1.5)	1.5 (1.5)	1.5 (1.5)	1.5 (1.5)	Project manage delivery against CMP. Technical research, planning and implementation of projects Running staff training and campaign
Leisure centre project management	1(1)	1 (1)			Project manage delivery of leisure centre refurbishment and replacement
Facilities team	1(1)	1(1)	1(1)	1(1)	Technical research, planning and implementation of projects

- **Financial costs and sources of funding**

	2009/10	2010/11	2011/12	2012/13	2013/14	Total (rounded)
Annual costs:						
Total annual capital cost	£54,269	£ 192,357	£ 278,000	£106,274	£ 18,331	£650,000
Committed funding:	Sustainable Energy budget approved Exec 2 July 2009					
Committed annual capital	£99,000	£99,000	0	0	0	£198,000
Committed Salix capital	£45,247	£5,000	0	0	0	£50,247
Unallocated funding						
Unallocated annual capital	-£89,978	£88,357	£278,000	£106,274	£18,331	£400,000

Note: revenue funding has been excluded from this table. Revenue funding for this project comes from the Corporate Plan Delivery Fund and as such allocations have already been made for the current Corporate Plan period 2009-12. Further bids can be submitted for longer term revenue funding if necessary, and as and when need arises to support particular projects.

Project funding by the Council that benefits other organisations

Breakdown of the total £650,000 investment by organisations that benefit from energy bill savings or cost avoidance: -

Organisation responsible for paying bills	Cost of proposed energy saving measures	Savings resulting from those measures/year	Average payback period
Council – general utilities and business milage	£ 421,527	£ 122,876	3.11
Council fleet	£ 0	£ 0	n/a
Community Centre management committees	£ 37,500	£ 6,549	5.73
Leisure centre management company	£ 190,204	£ 68,530	2.12
TOTAL	£ 650,000	£ 197,955	3.3

Note:

1. The savings above accrued from investment from the sustainable energy budget alone do not tally to the total quoted in Appendix B as some of the projects contained in that appendix are funded from other sources.

2. Even looking only at the savings or cost avoidance accruing directly to the council (£122,876) set against the entire energy investment (£650,000), the resulting payback period is approximately 5 years, which is the minimum average payback that the council was seeking for this investment.

If the Council is to invest in projects on sites where it does not pay the bills then a contract will be sought with the organisations that do benefit from these savings to enable the council to realise the benefit of its capital investment. The organisation would pay a sum to the council equal to the agreed annual saving for the duration of the payback period. Subsequently, the organisation would benefit from the savings ongoing into the future and will also have the benefit of being able to report reduced CO₂ emissions against their own organisation's monitoring.

Actions to Embed Carbon Management in the Organisation

The Carbon Trust's Carbon Management Embedding matrix is included as Appendix A. The table above it shows where the organisation is now and where it aims to be by end March 2014.

The table shows steps needed to embed carbon management throughout the organisation. The importance of this is to ensure that progress made under the Carbon Management Plan is effective and made as easy as possible to achieve, but, equally importantly, to ensure that the progress made by investing in this plan is properly maintained into the future. If carbon management is not embedded into future decision-making processes then in the long-term, the benefits of this project could be eroded.

In order to achieve the target position by March 2014, the Council needs to take the following steps: -

Matrix item	Detail	Responsibility	When by
1 Corporate strategy (move from level 3 to 5) - embedding CO₂ saving across your organisation			
<ul style="list-style-type: none"> Top level target allocated across organisation with CO₂ reduction targets in Service and Function Plans as relevant Action plans in place to embed strategy. Progress routinely reviewed 	Agreement achieved for the longer term on dispersal of responsibilities	Environment programme manager	March 2014
	Carbon management integrated into long-term job roles, project management and service/function planning systems	Environment programme manager	March 2014
<ul style="list-style-type: none"> CO₂ reduction commitment in Corporate Plan 2013-16 Ongoing top level targets set for CO₂ reduction Sustainable Energy Strategy reviewed annually 	At Corporate Plan review	Corporate Plan coordinator	March 2012
	To feed into Corporate Plan	Environment programme manager	March 2012
	Report to Quality of Life board (QoL)	Environment programme manager	Annually
2 Programme management (move from level 3 to 5) - bringing it all together effectively			
<ul style="list-style-type: none"> Executive/ CMT review progress against targets on quarterly basis Regular diagnostic reports provided to Directorates Progress against target published externally 	Regular reports on targets to QoL. Project reporting timetable to be agreed for each project individually. Progress reported on website annually	Environment programme manager	Ongoing
		Environment programme manager	
<ul style="list-style-type: none"> Sponsor reviews progress and removes blockages through regular Programme Boards Progress against targets routinely reported to Senior Mgt Team 	Regular reports to QoL flag up project risks and issues for action	Environment programme manager and sponsor	Ongoing
	Regular reports to QoL	Environment programme manager	Ongoing
3 Responsibility (move from level 3 to 5) - being clear that saving CO₂ is everyone's job			
<ul style="list-style-type: none"> Carbon Management (CM) integrated in responsibilities of senior managers CM part of all relevant contracts / T's&C's Central CO₂ reduction advice available Green Champions leading local action groups 	In job descriptions, KPI's and service plans as appropriate	CMT & Service Managers	All in place by March 2014
	Need a sustainable procurement policy that sets out how this can be achieved	Environment programme manager working with legal and procurement managers	
	Long-term commitment and coordination needed for these two activities	Environment programme manager	
<ul style="list-style-type: none"> CM integrated in to responsibilities of department heads Cabinet / SMT regularly updated Staff engaged through Green Champion network 	As above	As above	March 2014

Matrix item	Detail	Responsibility	When by
4 Data management (move from level 4 to 5) - measuring the difference, measuring the benefit			
<ul style="list-style-type: none"> Regular collation of CO₂ emissions for all sources Monitoring & Targeting in place for: <ul style="list-style-type: none"> Buildings Transport/travel 	NI 185 reporting obligation covers this, but improvement needed in meter strategy and reporting	Environment programme manager	Ongoing annually, reported by 31 July each year
5 Communications & training (move from level 3 to 5) - ensuring everyone is aware			
<ul style="list-style-type: none"> All staff given formalised CO₂: <ul style="list-style-type: none"> induction and training communications Staff awareness tested through surveys Joint CM communications with key partners 	Built into induction training Communications via Green Teams Via the LJF, LSP and the Surrey Climate Change Partnership	Head of Personnel and Support Services Head of Personnel and Environment Programme Manager	Induction changes by end 2012, staff survey by end 2010 and Green Teams ongoing Ongoing
<ul style="list-style-type: none"> All staff given CO₂ reduction: <ul style="list-style-type: none"> induction communications CM matters communicated to external community 	As above	As above	As above
6 Finance and investment (move from level 4/5 to 5) - the money to match the commitment			
<ul style="list-style-type: none"> Finance committed for 2+ yrs of Programme External funding being routinely obtained 	Through Capital programme and Executive approval of Carbon Management Plan, plus ad hoc bids for specific projects	Project manager – Sustainable Energy	March 2010 and ongoing for external funding bids
<ul style="list-style-type: none"> Coordinated financing for CO₂ reduction projects via Programme Board Funding principles and processes agreed Finances committed 1yr ahead 	As above	As above	As above
7. Policy alignment (move from level 2 to 5) - saving CO₂ across operations			
<ul style="list-style-type: none"> CO₂ friendly operating procedure in place Central team provide advice and review, when requested Barriers to CO₂ reduction routinely considered and removed 	Review efficiency of transport routes Built into committee processes	Waste and fleet managers Environment Programme Manager	March 2010 March 2011
<ul style="list-style-type: none"> Comprehensive review of policies complete Lower level policies reviewed locally Unpopular changes being considered 	Long-term review of all current and new policies required to ensure that carbon management is taken into account in decision-making	Environment Programme Manager	March 2014
<ul style="list-style-type: none"> All high level and some mid level policies reviewed, irregularly Substantial changes made, showing CO₂ savings 	Key policies should include: - Sustainable procurement Engagement of your Suppliers – working with suppliers to reduce carbon footprint Capital projects – energy / carbon whole life costing HR – business travel	As above	As above
8. Engagement of schools –not applicable as the Council does not manage schools. Under National Indicator 186, CO₂ reduction in the community, the Council will continue to support schools as appropriate			

Programme Management of the Carbon Management Plan

Strong ongoing project governance is needed through the Carbon Management Plan period, e.g.

- senior, strategic ownership of the carbon reduction target and NI185
- bringing together, in one place, the diverse set of projects across the organisation
- oversight of the Programme to encourage delivery by the identification and removal of blockages
- project owners coming together to ensure coherence and coordination of carbon reduction activity

This will be managed by the Project and Performance Management Office under the Council's usual Project Management systems, and overseen by the Quality of Life programme board. The CMP falls under the Environment Programme so will be overseen by the Environment Programme Manager.

Reports will be brought to the Quality of Life board on an exception basis only, with an annual progress and status report.

• The Carbon Management Team – delivering the projects

The Carbon Management Team is chaired by the Project Manager-Sustainable Energy. It meets quarterly and acts to inform people across the organisation of carbon management issues and progress, and to coordinate projects, finance, resources etc towards implementation. Membership is as follows: -

<i>Project Manager (Sustainable Energy)</i>
<i>Environmental Initiatives Officer</i>
<i>Facilities Manager</i>
<i>Procurement officer</i>
<i>Head of Neighbourhood Services</i>
<i>Fleet Manager</i>
<i>Head of Housing & Leisure</i>
<i>Technical Development Manager (includes ICT)</i>
<i>Head of Personnel & Support Services</i>
<i>Project Manager (Leisure Centres)</i>
<i>Manager- Harlequin</i>
<i>Communications Manager</i>

• Succession planning for key roles

The project is currently led by a project manager. This post will need to be maintained during delivery of the programme and responsibilities will need to be transferred into other roles and responsibilities in the long-term.

• **Ongoing stakeholder management**

Individual or Group	Influence	Impact	Their interest or issues	Means of Communication
<i>Facilities Team</i>	H	H	Delivery of projects on all Council's own property and estate	Detailed monthly meetings and ad hoc conversations as necessary
<i>Waste team</i>	M	M	Waste management on our estate and the 'Waste Blueprint' improvement project which will lead to CO ₂ savings in service delivery	A representative attending CM team meetings. Ad hoc conversations as necessary
<i>Technical Development Manager</i>	H	H	Delivery of ICT and Neighbourhood Services review	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Fleet Manager</i>	H	M	Fleet	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Head of Personnel & Support Services</i>	M	M	Involvement in staff transport and any staff issues arising from the project	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Head of Housing & Leisure</i>	H	H	Any work on Harlequin, leisure and day centres	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Project Manager (Leisure Centres)</i>	H	H	Leisure centres projects – refurbishment of Donyngs and new building at Horley.	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Manager - Harlequin</i>	H	H	Harlequin improvement projects	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Communications Manager</i>	M	M	Internal and external comms around the project	Meetings and ad hoc conversations frequently to ensure good communications throughout
<i>Procurement Team</i>	H	H	Sustainable procurement policy. Management of electricity bill payment, meter reading etc.	Attending CM team meetings. Full involvement in production of sustainable procurement policy
<i>Accountants</i>	M	M	Financial management	Regular meetings and ad hoc conversations frequently to ensure good communications throughout

- **Annual progress review**

The annual review will:

- Cover the cost and all benefits from the project:
- Report financial savings, either cashable or returned to the Salix 'revolving fund'
- Measure CO₂ savings against target
- Examine less quantifiable benefits, such as influencing the local community (supporting NI186)
- Align with NI185 reporting
- Report to Quality of Life programme board and to CMT / Executive

- **Communications plan**

The communications plan for this Carbon Management Plan is a sub-set of a wider communications plan for the Council's role in carbon reduction across the whole Borough which forms part of the Council's adopted Sustainable Energy Strategy.

Appendix A: Carbon Management Matrix – Embedding

The table below shows A. where the organisation is now . B. where the organisation should be by March 2014 (a score of 1-low to 5-high)

A	3	3	3	4	4	5	2	n/a
B	5	5	5	5	5	5	5	n/a
	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *	ENGAGEMENT OF SCHOOLS
BEST 5	<ul style="list-style-type: none"> Top level target allocated across organisation CO₂ reduction targets in Directorate Business Plans Action plans in place to embed strategy. Progress routinely reviewed 	<ul style="list-style-type: none"> Cabinet / SMT review progress against targets on quarterly basis Regular diagnostic reports provided to Directorates Progress against target published externally 	<ul style="list-style-type: none"> CM integrated in responsibilities of senior managers CM part of all contracts / T's&C's Central CO₂ reduction advice available Green Champions leading local action groups 	<ul style="list-style-type: none"> Regular collation of CO₂ emissions for all sources Data externally verified Monitoring & Targeting in place for: <ul style="list-style-type: none"> buildings street lighting transport/travel 	<ul style="list-style-type: none"> All staff given formalised CO₂: <ul style="list-style-type: none"> induction and training communications Joint CM communications with key partners Staff awareness tested through surveys 	<ul style="list-style-type: none"> Finance committed for 2+yrs of Programme External funding being routinely obtained Ring-fenced fund for carbon reduction initiatives 	<ul style="list-style-type: none"> CO₂ friendly operating procedure in place Central team provide advice and review, when requested Barriers to CO₂ reduction routinely considered and removed 	<ul style="list-style-type: none"> A 'whole school approach' including curriculum Mature programme of engagement in place CO₂ saving in schools having a wider community impact
4	<ul style="list-style-type: none"> CO₂ reduction commitment in Corporate Strategy Top level targets set for CO₂ reduction Climate Change Strategy reviewed annually 	<ul style="list-style-type: none"> Sponsor reviews progress and removes blockages through regular Programme Boards Progress against targets routinely reported to Senior Mgt Team 	<ul style="list-style-type: none"> CM integrated in to responsibilities of department heads Cabinet / SMT regularly updated Staff engaged through Green Champion network 	<ul style="list-style-type: none"> Annual collation of CO₂ emissions for: <ul style="list-style-type: none"> buildings street lighting transport/travel Data internally reviewed 	<ul style="list-style-type: none"> All staff given CO₂ reduction: <ul style="list-style-type: none"> induction communications CM matters communicated to external community 	<ul style="list-style-type: none"> Coordinated financing for CO₂ reduction projects via Programme Board Funding principles and processes agreed Finances committed 1yr ahead Some external financing 	<ul style="list-style-type: none"> Comprehensive review of policies complete Lower level policies reviewed locally Unpopular changes being considered 	<ul style="list-style-type: none"> A clear emphasis on energy / CO₂ reduction in schools Council activities fully coordinated Broad set of education stakeholders engaged Funding in place
3	<ul style="list-style-type: none"> CO₂ reduction vision clearly stated and published Climate Change Strategy endorsed by Cabinet and publicised with staff 	<ul style="list-style-type: none"> Core team regularly review CM progress: <ul style="list-style-type: none"> actions profile & targets new opportunities 	<ul style="list-style-type: none"> An individual provides full time focus for CO₂ reduction Key individuals have accountability for carbon reduction Senior Sponsor actively engaged 	<ul style="list-style-type: none"> Collation of CO₂ emissions for limited scope i.e. buildings only 	<ul style="list-style-type: none"> Environmental / energy group(s) given ad hoc: <ul style="list-style-type: none"> training communications 	<ul style="list-style-type: none"> A view of the cost of CO₂ reduction is developing, but finance remains ad-hoc Some centralised resource allocated Finance representation on CM Team 	<ul style="list-style-type: none"> All high level and some mid level policies reviewed, irregularly Substantial changes made, showing CO₂ savings 	<ul style="list-style-type: none"> A person has responsibility for Schools CO₂ reduction Schools CO₂ reduction projects coordinated Ad-hoc funding
2	<ul style="list-style-type: none"> Draft Climate Change Policy Climate Change references in other strategies 	<ul style="list-style-type: none"> Ad hoc reviews of CM actions progress 	<ul style="list-style-type: none"> CO₂ reduction a part-time responsibility of a few department champions 	<ul style="list-style-type: none"> No CO₂ emissions data compiled Energy data compiled on a regular basis 	<ul style="list-style-type: none"> Regular awareness campaigns Staff given CM information on ad-hoc basis 	<ul style="list-style-type: none"> Ad hoc financing for CO₂ reduction projects 	<ul style="list-style-type: none"> Partial review of key, high level policies Some financial quick wins made 	<ul style="list-style-type: none"> Ad-hoc schools projects to specifically reduce energy / CO₂
Worst 1	<ul style="list-style-type: none"> No policy No Climate Change reference 	<ul style="list-style-type: none"> No CM monitoring 	<ul style="list-style-type: none"> No recognised CO₂ reduction responsibility 	<ul style="list-style-type: none"> No CO₂ emissions data compiled Estimated billing 	<ul style="list-style-type: none"> No communication or training 	<ul style="list-style-type: none"> No specific funding for CO₂ reduction projects 	<ul style="list-style-type: none"> No alignment of policies for CO₂ reduction 	<ul style="list-style-type: none"> No CO₂ / energy reduction policy for schools

* Major operational policies and procedures, e.g. Capital Projects, Through Life Costing, Procurement, HR, Business Travel

Appendix B: Definition of Projects

BASELINE (2008-09):	CO ₂ 5,336 t/yr	Financial £1,093,404/yr							
TARGET SAVINGS:	CO ₂ 1,601 t CO ₂ /yr (30%)	Financial £328,021/yr							
Notes:									
<p>1. 'Costs' column = total for implementation of the item. 'Total' column = total budget required within this current plan, excluding other sources of funding</p> <p>2. 'Priority 1' projects = tied to delivery of other projects. 'Priority 2' = more flexible timescale.</p> <p>3. The whole of 'Plan A', priorities 1 and 2 carries through to financial totals</p> <p>4. ALL FIGURES QUOTED FOR COSTS AND ENERGY BILLS/CO₂ AVOIDED ARE CALCULATED ON APPROXIMATIONS, WHICH WILL BE REFINED AT DETAILED DESIGN AND QUOTATION STAGE. PAYBACKS WILL BE CONFIRMED AGAIN AT THAT POINT PRIOR TO IMPLEMENTATION.</p> <p>5. Key for 'Organisations responsible' : CF= Council fleet; CO=Council, other, LC= Leisure centre management, CC=Community centre management</p> <p>6. Design costs for the Harlequin, Donyngs and Horley projects are already allocated in capital programme elsewhere. Other design costs are incorporated below where applicable</p>									
	Location	Technology	Cost to energy budget, £	Total costs of projects, £	Energy bills avoided, £	Pay-back (yrs)	Annual CO ₂ savings	Year planned	Organisation responsible
	Misc and multi-site								
1	Bancroft Rd car park	T8 to T5, PIR and LED as applicable	25,910	25,910	20,062	1.3	93.7	2009-10	CO
2	Clarendon Rd car park	T8 to T5, PIR and LED as applicable	16,211	16,211	12,006	1.4	59.3	2010-11	CO
3	Earlswood depot weighbridge	Insulation in weighbridge, as Mark Ins quote.	1,244	1,244	246	5.1	1.1	2009-10	CO
4	Earlswood Depot	T8 to T5, PIR and LED as applicable	27,115	27,115	5,958	4.6	29.4	2009-10	CO
5	Multi-site	Virtualising servers. Note: Energy is just one element of payback, not the main basis of the business case, hence not set out here	-	-	12,886	-	66.8	2010-12	CO

	Location	Technology	Cost to energy budget, £	Total costs of projects, £	Energy bills avoided, £	Pay-back (yrs)	Annual CO ₂ savings	Year planned	Organisation responsible
	Harlequin theatre	NOTE Projects subject to design outcome							
6	Harlequin theatre	Condensing boilers	-	100,000	3,979	25.0	18.4	2011-14	CO
7	Harlequin theatre	Optimum start time control.	1,000	1,000	1,857	0.5	8.6	2011-12	CO
8	Harlequin theatre	Zoned heating	5,000	5,000	539	9.3	2.5	2012-13	CO
9	Harlequin theatre	Boiler sequencer, where several boilers serve one building	750	750	531	1.4	2.5	2012-13	CO
10	Harlequin theatre	T8 to T5, PIR and LED where applicable	30,000	30,000	9,516	3.2	42.6	2012-13	CO
11	Harlequin theatre	Cooling - controls, zoning, efficiency	-	25,000	5,181	4.8	21.0	2011-12	CO
12	Harlequin theatre	Voltage optimisation	18,331	18,331	5,456	3.4	26.6	2013-14	CO
13	Harlequin theatre	BMS	-	53,000	8,212	6.5	28.0	2013-14	CO
14	Harlequin theatre	Variable speed drives	9,000	9,000	1,261	7.1	6.2	2013-14	CO

	Location	Technology	Cost to energy budget, £	Total costs of projects, £	Energy bills avoided, £	Pay-back (yrs)	Annual CO ₂ savings	Year planned	Organisation responsible
	Donyngs leisure centre projects	NOTE Projects are all subject to budget and re-design							
15	Donyngs LC	Automatic doors	-	1,000	2,745	0.4	12.7	2010-11	LC
16	Donyngs LC	Variable speed drives	-	9,000	3,153	2.9	15.6	2010-11	LC
17	Donyngs LC	Cooling	-	10,000	8,609	1.2	67.7	2010-11	LC
18	Donyngs LC	BMS	-	90,000	26,016	3.5	88.3	2010-11	LC
19	Donyngs LC	T8 to T5, PIR and LED where applicable	30,000	50,000	13,925	3.6	109.6	2010-11	LC
20	Donyngs LC	Heat recovery	-	100,000	9,091	11.0	65.0	2010-11	LC
21	Donyngs LC	Zone control valves	6,000	6,000	2,767	2.2	5.1	2010-11	LC
22	Donyngs LC	Boiler sequencer, where several boilers serve one building	750	750	1,677	0.4	7.8	2010-11	LC
23	Donyngs LC	Pool covers	14,000	14,000	4,200	3.3	21.7	2010-11	LC
24	Donyngs LC	Optimum start time control.	1,000	1,000	12,452	0.1	23.1	2010-11	LC
25	Donyngs LC	Condensing boilers/CHP	50,000	100,000	12,578	8.0	58.2	2010-11	LC
26	Donyngs LC	Voltage optimisation	44,454	44,454	13,724	3.2	67.7	2010-11	LC

	Location	Technology	Cost to energy budget, £	Total costs of projects, £	Financial savings, £	Pay-back (yrs)	Annual CO ₂ savings	Year planned	LC
	Horley leisure centre projects								
	NOTE Projects are all subject to budget and design								
27	Horley Leisure Centre	Pool cover	-	8,000	3,000	2.7	16.3	2011-12	LC
28	Horley Leisure Centre	Variable speed drives	-	9,000	1,978	4.6	15.6	2011-12	LC
29	Horley Leisure Centre	Lighting T5, PIR and LED where applicable	-	25,000	5,520	4.5	9.8	2011-12	LC
30	Horley Leisure Centre	Optimum start time control for heating system	-	1,000	232	4.3	2.8	2011-12	LC
31	Horley Leisure Centre	Zone control valves linked to local thermostats and/or time switches.	1,000	1,000	46	21.6	0.6	2011-12	LC
32	Horley Leisure Centre	Building Management System as part of newbuild	-	25,000	14,438	1.7	49.0	2011-12	LC
33	Horley Leisure Centre	Heat recovery	-	20,000	9,000	2.2	65.0	2011-12	LC
34	Horley leisure centre	Back-up combination condensing boiler (high efficiency)	-	100,000	8,910	11.2	41.0	2011-12	LC
35	Horley Leisure Centre	Voltage optimisation	13,000	13,000	2,760	4.7	21.7	2011-12	LC
36	Horley Leisure Centre	Biomass boiler	-	90,000	13,688	6.6	40.4	2011-12	LC
37	Horley Leisure Centre	Improvements to mechanical ventilation. Zoning, improved controls, upgraded system- Part of replacement project.	30,000	30,000	4,400	6.8	21.7	2011-12	LC

		Technology	Cost to energy budget, £	Total costs of projects, £	Financial savings	Payback (yrs)	Annual CO ₂ savings	Year planned	Organisation responsible
	Town hall site								
38	Town hall sites	Draught proofing	7,200	7,200	793	9.1	3.7	2010-11	CO
39	Town Hall - North Block	Building Management System	85,000	85,000	14,861	5.7	50.4	2011-12	CO
40	Town Hall - North Block and middle block	Voltage optimisation	29,024	29,024	11,834	2.5	57.8	2012-13	CO
41	Town Hall - North Block and middle block	Improvements to mechanical ventilation. Zoning, improved controls, upgraded systems	45,000	45,000	8,960	5.0	44.2	2011-12	CO
	Depots								
42	Earlswood depot	Draught proofing	1,000	1,000	1,607	4.4	1.6	2010-11	CO
43	Earlswood Depot	Cooling and air handling	10,000	10,000	2,054	4.9	16.6	2011-12	CO
44	Earlswood Depot	Building Management System	28,000	28,000	4,916	5.7	16.7	2011-12	CO
45	Park Farm	Insulation and draught proofing	1,400	3,500	1,017	3.4	5.0	2010-11	CO
	Multi-site								
46	Multi-site	Green teams and procurement policies	-	2,000	4,282	0.5	15.0	ongoing	CO
47	Multi site	Optimum start time control on boilers	13,000	9,000	13,637	0.7	25.3	2011-12	CO

	Location	Technology	Cost to energy budget, £	Total costs of projects, £	Financial savings	Payback (yrs)	CO ₂ savings t/yr	Year planned	Organisation responsible
Transport									
48	Multi-site	Replace remaining 50% of refuse & recycling vehicles to latest EURO spec	-	-	13,905	-	44.9	2010-2013	CO
49	Multi-site	More efficient route planning reducing number of vehicles	-	-	8,042	-	23.8	2009-10	CO
50	Multi-site	4 low emission pool cars to reduce the use of less efficient staff vehicles, plus stricter controls on use to reduce milage	-	28,000	9,321	3.0	6.0	2009-10	CO
Solar Photovoltaic panels									
51	Earlswood Depot	Solar Photovoltaic panels (no cost to the Council)	-	130,000	12,466	10.4	16.1	2010-11	CO
52	Woodhatch community centre	Solar Photovoltaic panels	-	18,000	1,316	13.7	1.7	2010-11	CC
Lighting									
53	Park Farm	T8 to T5, PIR and LED as applicable	11,342	11,342	2,440	4.6	12.0	2010-11	CO
54	Woodhatch community centre	T8 to T5, PIR and LED as applicable	11,500	11,500	1,796	6.4	8.0	2012-13	CC
55	Banstead community centre	T8 to T5, PIR and LED as applicable	13,000	13,000	2,408	5.4	10.8	2012-13	CC
56	Horley community centre	T8 to T5, PIR and LED as applicable	13,000	13,000	2,345	5.5	10.5	2012-13	CC
57	Main town hall site	T8 to T5, PIR and LED as applicable	15,000	15,000	3,031	4.9	13.6	2011-12	CO

	Location	Technology	Cost to energy budget, £	Total costs of projects, £	Financial savings	Payback (yrs)	CO ₂ savings t/yr	Year planned	Organisation responsible
58	Town hall South Annex	T8 to T5, PIR and LED as applicable	15,000	15,000	3,031	4.9	13.6	2011-12	CO
59	Town hall middle block floors 1&2	T8 to T5, PIR and LED as applicable	26,000	26,000	1,164	22.3	5.2	2011-12	CO
60	Multi-site lamp replacement	Lamps - replaced where possible with CFL lamps.	-	600	1,680	0.4	7.6	2010-12	CO
GRAND TOTALS (rounded)			650,000	1,562,000	390,000	4.1	>1,601		

Note:

- The above figures are budget estimates to enable the Council to achieve the minimum targeted CO₂ and financial savings and maximum average payback set out at the top of the table.
- The figures are based on a detailed costing exercise but retain their status as budget costs, with some projects inevitably evolving during detailed design when further information becomes available.
- For this reason a back-up list of projects is held by the project manager which can be substituted into this implementation list should some of the above projects prove unviable in technical, savings or payback terms.