Bath & North East Somerset Council

CARBON TRUST

Bath & North East Somerset Council

Carbon Management Plan 2009-2014

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Taking positive steps to tackle the causes and effects of **climate change**

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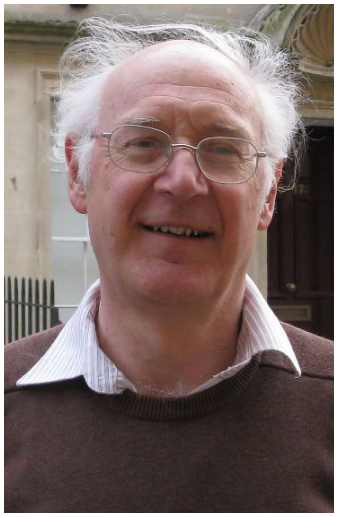


Cllr Charles Gerrish
Cabinet Member for Customer Services

John Everitt
Chief Executive of Bath & North East Somerset Council

Climate change is now one of the biggest challenges we face, with the welfare and survival of future generations dependent on the decisions that we make now.

The scientific evidence demonstrates overwhelmingly that our climate is changing due to carbon pollution of the atmosphere from the burning of fossil fuels. If we don't act fast to reduce carbon emissions, through energy efficiency and a switch to alternative fuels, the consequences will be unthinkable. The response to this challenge requires a wholesale change to the way we all live, work and travel.

At Bath & North East Somerset Council, we recognise that we have a unique role to play, working with our partners, to lead the district to a sustainable, low carbon future. We must start by cutting the carbon emissions from our own operations and then, working with the wider community, find the local, sustainable solutions that will make low carbon living a reality for all in Bath and North East Somerset.

The Council signed the Nottingham Declaration in December 2005 and in May 2007 the new administration made a public pledge to cut Council carbon emissions by 2% a year for the next ten years. In February 2008, tackling the causes and effects of climate change became a Corporate Improvement Priority.

So, we are very pleased to have been working with the Carbon Trust over the last year on the development of this first Carbon Management Plan, which will enable us to meet these commitments and go further, aiming to reduce our carbon emissions by 30% by 2014. For us, this plan is our first important step towards fulfilling our ambition to lead our community to a low carbon future.

Cllr Charles Gerrish
Cabinet Member for Customer Services

John Everitt
Chief Executive of Bath & North East Somerset Council

Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for local authorities - it's all about getting your own house in order and leading by example. The UK government has identified the local authority sector as key to delivering carbon reduction across the UK 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.

Bath & North East Somerset Council was selected in 2008, amidst strong competition, to take part in this ambitious programme. Bath & North East Somerset 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 reduce CO2 by 30% by 2014 and underpins potential financial savings to the council within a range from £5.7 to £8.3 million.

There are those that can and those that do. Local authorities can contribute significantly to reducing CO_2 emissions. The Carbon Trust is very proud to support Bath & North East Somerset Council in their ongoing implementation of carbon management.

Richard Rugg
Head of Public Sector, Carbon Trust

CARBON TRUST

Management Summary

This section summarises the Carbon Management Plan, following the format of the Plan and drawing out the key points from each section.

Vision

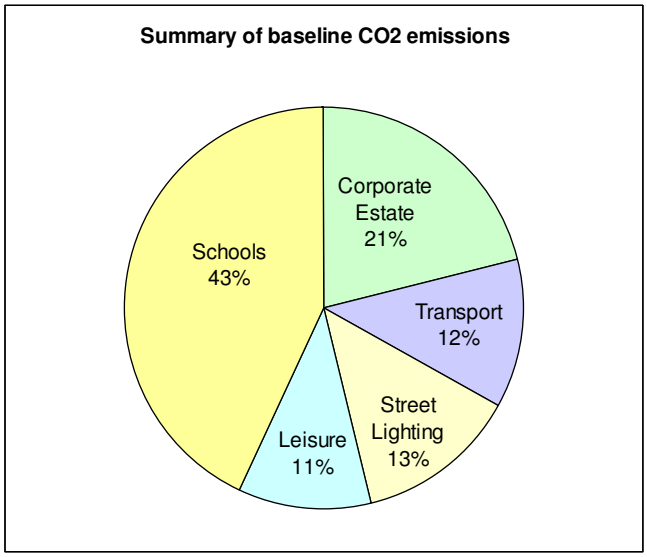
Bath & North East Somerset Council has made tackling the causes and effects of climate change a key priority of its Corporate Plan. The Council recognises its responsibility to provide leadership on tackling climate change across the district. Its vision is that, through the development of carbon management, it can lead by example and encourage carbon reduction action across the Local Strategic Partnership, with public sector organisations, local businesses, organisations and residents.

By working with the Carbon Trust on the Local Authority Carbon Management Programme, the Council has embarked on an active carbon management and accounting plan. The actions within this plan will also mitigate the effects of rising energy costs that, in the current energy market, are a growing concern for the authority. The Council recognises that action to reduce energy consumption is an essential part of it's strategy to maintain services in the face of the effects of the credit crunch.

Ssee section 2.2 for more detail

Carbon Footprint & Carbon Reduction aims

Bath & North East Somerset Council's carbon emissions in the 2007/08 baseline year were 26,000 tonnes. The following chart shows the carbon emission sources across the Council's operations.



Bath & North East Somerset Council aims to reduce CO2 emissions from Council operations by 30% by April 2014 from 2007/08 levels.

This is an ambitious aim and we do not expect to see an even path to reach this goal over the five years, as we know that there are capacity and skill gaps in some key areas such as energy management and travel planning, as well as a recognition that time will be needed during the first year to engage schools properly.

However, we are confident that we can meet these challenges, as well as develop the ideas and plans for deeper cuts in the future, for example through our property rationalisation strategy, new school buildings and refurbishment and through the development of a district-wide sustainable energy strategy. It is possible that the timing of some of these decisions may mean that we can achieve the reduction more quickly or even increase the level of reduction we can achieve.

See sections 2.3 and 3.2 for more detail.

The Business Case

In 2007/08 we spent £4.8m on energy. If we don't do anything to reduce energy consumption, we will see this rise to between £6.9m to £11.6m per annum by 2014, depending on the scale of future energy price rises. We have based this on potential price rises of 5%, 8.4% or 15% per annum. The middle figure of 8.4% is the assumption the Carbon Trust is using, but they acknowledge that the energy market is volatile and that it is wise to look at a range. One thing that everyone agrees is that the trend in energy prices is upwards.

If we achieve a 30% cut in carbon emissions by 2014, through reducing energy consumption, we would see energy costs in the range of £4.6m to £7.8m per annum by 2014. Achieving the 30% cut would lead to cumulative savings over the five year period of between £5.7m and £8.3m against the business as usual (BAU) scenario.

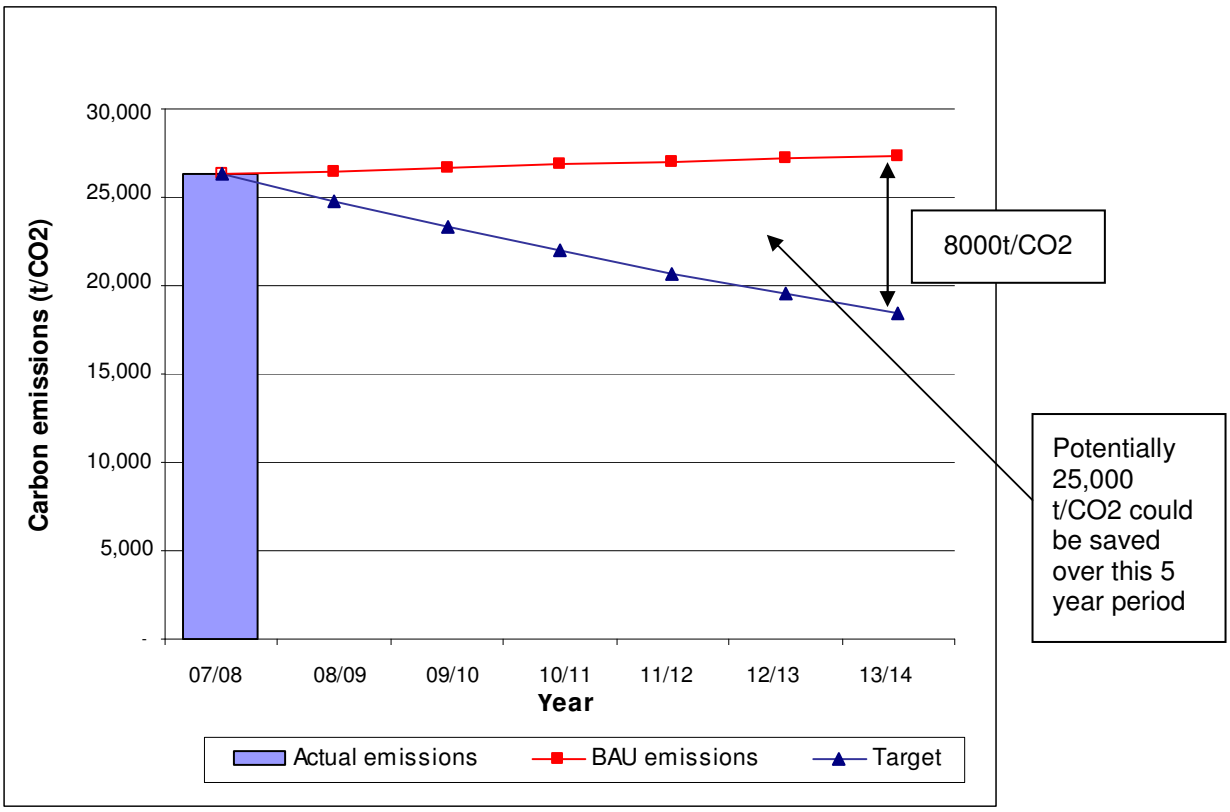
Figure 3.4 – Three energy cost forecasts projected on our baseline year energy spend.

Possible annual % energy cost increase	Baseline year 2007/08 energy spend	2013/14 energy cost – business as usual	2013/14 energy cost – 30% cut met	Cumulative savings over 5yrs if 30% cut met
_	£4.8m	_	_	_
5%	_	£6.9m	£4.6m	£5.7m
8.4%	_	£8.1m	£5.4m	£6.4m
15%	_	£11.6m	£7.8m	£8.3m

The volatility of the energy market means that it is not easy to predict the extent of cashable savings although it is likely some will be made during the five-years for those projects with the shortest payback periods.

To achieve a 30% cut we need to reduce our annual CO2 emissions by 8000 tonnes. By implementing carbon reduction projects over the 5 years of the plan this could mean up to 25,000 tonnes of CO2 saved. This is the carbon value at stake.

Figure 3.6 – Comparison of actual baseline emissions with business as usual emissions and 30% cut in CO2 emissions



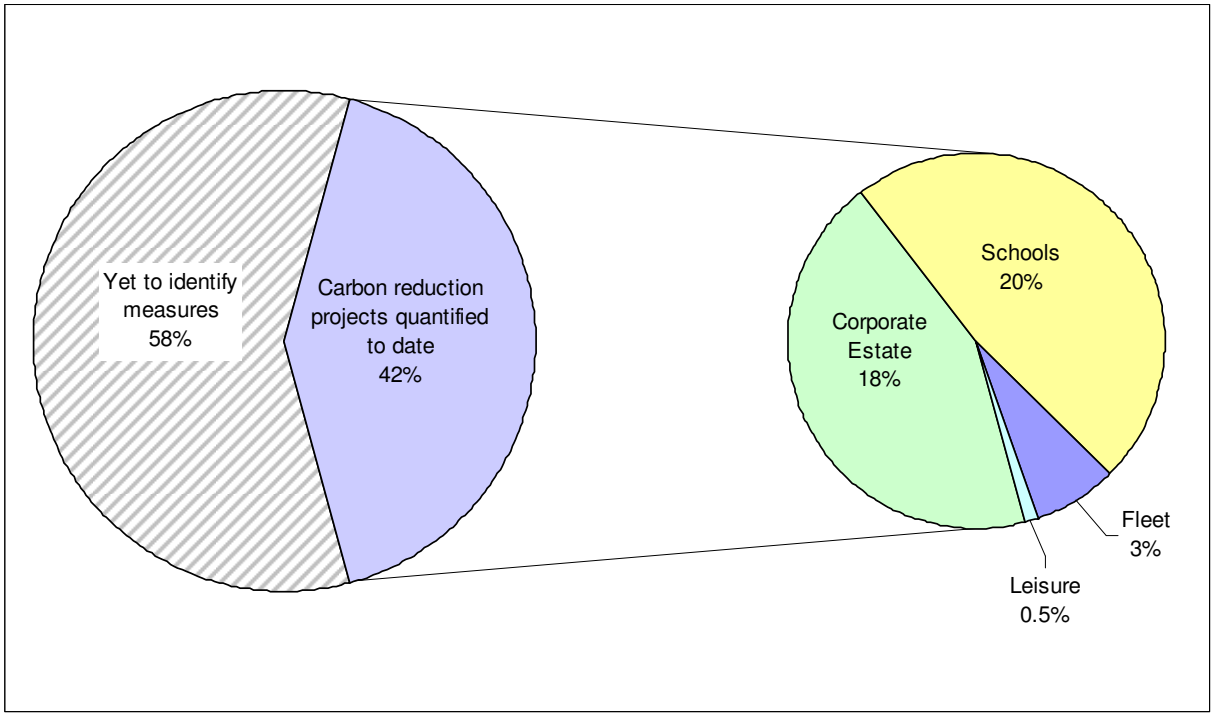
See section 3.3 for more detail.

Projects

Twenty-seven different carbon reduction projects have been identified and quantified. The majority of these relate to energy use in buildings in Council offices and schools, with one aimed at cutting carbon emissions from our vehicle fleet and one project in the leisure centres.

This first batch of projects, if fully implemented, would amount to maximum carbon savings of 3300 tonnes. Figure 4.6 shows how far these projects take us towards the 30%, or 8000 tonnes cut in annual emissions.

Figure 4.6 – Identified CO2 savings of quantified projects to date, against CO2 reduction aim of 30%, or 8000 tonnes cut in annual emissions. Also showing breakdown of CO2 savings by category



This is a rather simplistic way of calculating progress our 30% aim and does not take account of factors such as 'carbon degradation' or 'carbon discount factor'. This factor means that for some projects reduction of carbon may not be delivered as currently forecast, if further actions are not taken. For example, awareness campaigns need to be regularly repeated to maintain the reduction in carbon forecast. For some measures, the carbon reduction is limited by the life of technical components or by failure to undertake adequate maintenance measures.

So, whilst these figures indicate that we are on track to meet the 30% cut, we have to ensure that we maintain this momentum and bring in new projects or extend projects to deliver real carbon savings.

See section 4 for full details of past action, existing projects and the detailed list of quantified projects proposed.

Financing

On the basis of current best estimates, the total investment anticipated to deliver the Carbon Management Plan and to reduce carbon emissions by 30% by 2014 is £5m, of which c. £3.3m would need to be invested by the Council and c. £1.7m by schools. This proposed investment programme is laid out in Figure 5.1.

Figure 5.1 – Projected level of investment needed to deliver the five-year Plan

	2009/10	2010/11	2011/12	2012/13	2013/14	Total over five years
Total Council Investment	£482,000	£756,000	£756,000	£665,000	£665,000	**£3,325,000**
School Investment	*£168,000*	*£419,000*	*£419,000*	*£335,000*	*£335,000*	***£1,675,000***
Combined investment	**£650,000**	**£1,175,000**	**£1,175,000**	**£1,000,000**	**£1,000,000**	**£5,000,000**

The first year's financing of £482,000 is included in the budget was approved by Council on 17 February 2009.

See section 5 for full details.

Embedding Carbon Management

Taking the Carbon Management Matrix at Appendix B as a guide, our judgment is that we are making good progress in terms of embedding carbon management into high level 'Corporate Strategy' and developing 'Programme Management' and 'Financing' mechanisms. However, we are currently much weaker in terms of embedding 'Responsibility' across the services and through the management layers and in terms of 'Data Management', 'Communications & Training' and 'Policy Alignment'.

Critical weaknesses exist in terms of skills and capacity in key areas such as energy management and travel planning and further action needs to be taken to ensure delivery of the Carbon Management Plan.

We have made positive progress since joining LACM 6 and are confident that we have built a good foundation that will lead to broader and deeper embedding of carbon management as we implement, not only this Carbon Management Plan, but also other strands of our Climate Change Work Programme over the next five years. This includes our work with partners and in the community through the Bath and North East Somerset Local Strategic Partnership

See section 6 for further details.

Programme Management

We recognise the importance of good governance to ensure delivery of our ambitious cut in carbon over the next five years. We have achieved senior strategic ownership of the Carbon Management Plan, through our sponsors:

Member Sponsor: Charles Gerrish, Cabinet Member for Customer Services

Officer Sponsor: Andrew Pate, Strategic Director, Resources & Support Services
Deputy Officer Sponsor: David Trethewey, Divisional Director, Policy & Partnerships.

Our sponsors are all members of the Climate Change Advisory Group (CCAG). This cross-party group provides the top-level oversight of the development and implementation of all our work in the Climate Change Work Programme and advises the Cabinet Member.

The Carbon Management Group (CMG) is the cross-departmental officer grouping responsible for delivery of the Carbon Management Plan and consists of the officers responsible for the specific projects and others with support or advisory roles, such as finance.

The CCAG will receive quarterly reports from the CMG on progress against the Plan and progress against the 30% cut. Staff on the CMG will work with the Carbon Management Plan Coordinators to conduct an annual review in November, which will be reported to the CCAG.

See Section 7 for further details.

1 Introduction

This Carbon Management Plan (CMP) is the result of the work undertaken with the Carbon Trust during Phase 6 of the Local Authority Carbon Management Programme. The CMP details a clear breakdown of Bath & North East Somerset Council's CO2 emissions and lists practical projects that will reduce CO2 emissions.

The CMP covers the next 5 years to April 2014 and should be seen as the starting point of ongoing carbon management within the council. To be successful in achieving continued carbon savings, momentum must be maintained to ensure that project identification, implementation and monitoring continue in parallel throughout the period and beyond.

The plan will be monitored through quarterly reporting to the Climate Change Advisory Group, with a full review and evaluation annually, prior to submission of the more detailed plan for the following year.

This document explains the organisational drivers for improved energy and carbon management, as well as the value-at-stake, business case and financing mechanisms for engaging in the programme.

This document sets out the implementation schedule for the first phase of projects. Due to the ongoing nature of developing the carbon management function in the council, more projects than are detailed here will need to be found as we progress through the plan.

Carbon Management Strategy

1.1 Context and drivers for Carbon Management

The Local Government Assocation's Climate Change Commission, in its hard-hitting report of climate change in December 2007, is unequivical: "Climate change is already happening, and managing its future impact requires a radical de-carbonisation of the economy and a move away from fossil fuels." It also states that "Local government …. should establish the reduction of carbon emissions, and resilience to climate change as priorities …… not replacing existing priorities, but built into all."

The UK Government has placed an emphasis on local authorities setting a leading example on Climate Change. Action by local authorities will be critical to the achievement of the Government's climate change objectives.

National drivers

- **Climate Change Act 2008** – The UK has passed legislation which introduces the world's first long term legally binding framework to tackle climate change. The Climate Change Bill was introduced into Parliament on 14 November 2007 and became law on 26th November 2008. It sets a statutory national target to reduce carbon emissions by 80% by 2050 and brings into force a number of mechanisms to do this, including the Carbon Reduction Commitment – a carbon cap and trade scheme that will capture most local authorities.
- **Carbon Reduction Commitment** – The Carbon Reduction Commitment is a mandatory "cap & trade" emissions trading scheme for organisations whose total electricity consumption is greater than 6,000MWh or approximately £500k. If an organisation falls within the CRC scheme **all** electricity and fuel emissions are covered. From 2010 poorly performing Local Authorities will be penalised depending on their position in a CRC league table.
- **Display Energy Certificates** – From 1 October 2008 there is a legal requirement for all public sector buildings with a total useful floor area of over 1,000m^2, to show a Display Energy Certificate (DEC) in a prominent place, clearly visible to the public. This will enable the public to see how energy efficient public sector buildings are, using a rating scheme similar to that used for appliances.
- **National Indicators and Local Area Agreements** – Last year the new set of National Indicators included, for the first time, three indicators on climate change. These are: NI185, which will monitor annual percentage CO2 reduction from local authority operations (which includes schools and out-sourced services) from the 07/08 baseline; NI 186**,** which will monitor what action local authorities are taking to facilitate the reduction of per capita CO2 emissions in the local authority area (measured by Defra for all local authority areas) and NI 188, which monitors local authority action to plan for climate change resilience. Local Strategic Partnerships are currently expected to select at least one of these three indicators for the priority set in Local Area Agreements.

Local drivers and action

- The Council signed **Nottingham Declaration on Climate Change** in 2005 and, in the **Corporate Plan 2008-12,** made tackling the causes and effects of climate change a corporate improvement priority with an initial target of reducing carbon emissions from our own operations by 2% a year from 2007 to 2017.
- This has lead to the development of **Bath & North East Somerset Council Climate Change work programme**, coordinated corporately and overseen by the Climate Change Advisory Group. The first major plank of this work programme is the development of the Carbon Management Plan, which will address the requirements of NI 185 and incorporate our existing energy efficiency project – Our Big Energy Challenge. Other strands include a 'change management' project; a district-wide sustainable energy study, which will inform the development of new planning policies and targets and the development of a sustainable energy strategy for the district, over time. It also includes the beginning of our outreach work to facilitate carbon reduction in the wider community, with a growing Eco-schools project.
- **Local Area Agreement 2008-11** – Tackling climate change is a key cross-cutting theme of our Local Area Agreement, with NI 185 one of our priority indicators. It has also been agreed with the other public sector partners in the Local Strategic Partnership who have all been working on Our Big Energy Challenge (an energy efficiency project that completes in April 09 and is expected to deliver a 10% saving in energy use and carbon emissions from public sector buildings across the district), that we will build on this work and continue to work together on developing carbon reduction plans. It is anticipated that future development of the climate change theme will lead to the other two national indicators (NI 186 and NI 188) being adopted as priority indicators.
- **Local Development Framework, Core Strategy 2010-2026** – Climate change is a headline issue in the development of the Core Strategy. The Council has commissioned an important piece of research in 2008 to assess the potential for renewable energy within the district, which will form the evidence base for robust low carbon planning policies in the new Local Development Framework and inform development of a sustainable energy strategy for the area.

Energy Prices and Carbon Costs

The energy market is volatile. Energy and fuel costs have seen a dramatic rise in recent years, with energy prices increasing by well over 50% since 2004. This trend is not expected to change and we must accept that the price we pay for our energy will continue to increase in the coming years in parallel with increasing financial penalties for failing to reduce carbon emissions sufficiently fast, through the Carbon Reduction Commitment. These pressures create an undeniable business case for action, with effective carbon management avoiding escalating costs and easing future budget pressures.

1.2 Our low carbon vision

Bath & North East Somerset Council's vision, as set out in the Local Area Agreement, is to achieve the shift to a low carbon and climate resilient economy, whilst narrowing the equality gap, reducing air pollution and fuel poverty and respecting our special built and natural heritage.

To do this, we need to achieve the following objectives:

- Develop a better understanding of the relationships between climate change, environmental sustainability, regeneration, sustainable communities, health and well-being;
- Develop a climate change action plan across the LSP, building on the basic energy efficiency work currently underway to reduce carbon emissions and increase resilience to unavoidable climate change;
- Embed action to tackle the causes and effects of climate change across all LAA blocks and ensure all future plans and strategies take this priority cross-cutting issue fully into account.

Action to achieve the vision and objectives falls into the following strategic themes:

- Leadership: getting our own house in order; leading by example; change management and embedding into governance and management systems, challenging barriers and inertia; policy, strategy and plan alignment across the Council and the LSP;
- Financing and resourcing: shifting resources to meet priorities; developing capacity and skills across Council departments and partnerships to enable prioritisation and implementation of carbon management and other climate change strategies;
- Promotion and engagement: from induction and the competencies framework through to the full range of communication channels to reach all services, staff and partners and engender improved understanding and motivation to incorporate action on climate change.

1.3 Carbon Reduction aims

Bath & North East Somerset Council aims to reduce CO2 emissions from Council operations by 30% by April 2014 from 2007/08 levels.

This is an ambitious aim and we do not expect to see an even path to reach this goal over the five years, as we know that there are capacity and skill gaps in some key

areas such as energy management and travel planning, as well as a recognition that time will be needed during the first year to engage schools properly.

However, we are confident that we can meet these challenges, as well as develop the ideas and plans for deeper cuts in the future, for example through our property rationalisation strategy, new school buildings and refurbishment and through the development of a district-wide sustainable energy strategy. It is possible that the timing of some of these decisions may mean that we can achieve the reduction more quickly or even increase the level of reduction we can achieve.

2 Emissions Baseline and Projections

2.1 Scope

The Carbon Management Programme focuses on the emissions that are under the direct control of the council, or fall within the council's responsibility for government reporting mechanisms under National Indicator (NI) 185.

The scope of NI 185 is described as follows:

> "NI 185 is to include all CO2 emissions from the delivery of local authority functions……. It covers all an authority's own operations and outsourced services. Even if the services are being provided by an external body (e.g. a private company) they remain the function of the authority. …….. schools and business travel are included within the definition. However, social housing provided by the authority or a third party is not included within the scope of the indicator." Defra*, July 2008*

The Council has followed the scope for NI 185 when completing the baseline. These sources of carbon emissions fall into two categories, stationary sources and transport:

1. **Stationary Sources/Buildings**
   I. Council offices, libraries, Heritage estate, schools, elderly people homes, youth centres, car parks, WC's, and depots;
   II. Buildings used for outsourced council functions, including schools, Aquaterra leisure centres, Mouchel business services;
   III. Street lighting energy consumption.

2. **Transport**
   I. Council owned fleet fuel use;
   II. Fleet fuel use for outsourced council functions;
   III. Home to school transport;
   IV. Business travel including mileage, public transport and air travel.

There are a number of additional optional scope areas which the Council has not included in the baseline due to no reliable or accurate data being available. These are:

- Council employees commuting;
- Waste produced by council buildings and operations;
- Water used in council buildings and operations.

The Council hopes to include data on employee commuting in future years with the development of a Travel Plan and, as such, we expect the emissions output from transport fuel to be higher than it is in the baseline year.

Energy Management intends to get water billing centralised which will mean data on water use in buildings will be available. In addition, the Council owns a large commercial estate in Bath which is not within the scope of the programme but which the Council is keen to influence.

A new corporate recycling scheme is coming into force in March 09, which will create a consistent and comprehensive approach to office recycling. The scheme covers the 12 main office sites and 8 libraries. Detailed data relating to volume and quantity of materials recycled and residual waste will be available and will be included when calculating emissions in subsequent years. This data will reflect only a small percentage of the overall waste produced by the council and its operations, as it does not include schools, social services or leisure due to the inconsistent waste collection across these areas. Waste reduction and recycling is being tackled in schools through the Eco-Schools programme.

2.2 Baseline

The baseline data was collected for financial year 2007-08, and as a key part of this Carbon Management Plan, will be collected annually for the duration of the plan, until 2013-14. The Council is also required to report to Government annually, based on the financial year, for National Indicator 185 (NI 185). The carbon emission data collected as part of the carbon management programme will also form the reporting dataset for NI 185.

Baseline Data Sources

Data collection for the baseline involved a number of service areas across the council. Whilst some of the data is considered accurate, the level of accuracy varies. In particular, the level of accuracy for business travel on public transport is considered poor due to the inconsistency of staff claims against correct expense codes, and inconsistency, for these purposes, of the processing of expenses. The issue of accuracy for this data set is being addressed in response to requirements of the Carbon Management programme and NI 185.

Figure 3.1 – Data sources and indication of level of accuracy of data source

Category	Source	Owner	Accuracy of data
Council buildings	Stark & billing data	Energy Manager, Property Services	Good
Heritage Buildings	Billing data	Iain Johnston - Facilities Manager, Heritage Services	Good
Schools	Stark & billing data	Energy Manager, Property Services	Uncertain
Street lights	Database compiled via Mayrise & Western Power Distribution	Keith Showering – Team Leader, Highway Electrical and Intelligent Systems	Excellent
Fleet	Fuel Issuing System	Jon Evans - Transport Manager, Environmental Services	Excellent
Business mileage	Payroll	Paul Hopkins - Senior Team Leader, Payroll	Uncertain
Business travel, public transport and air	Agresso codes – KD1 KE3	Steve Skinner, Finance Support Officer	Poor

Baseline Emissions

Total annual carbon emissions for council operations have been calculated for each building category, street lighting and transport category using the Carbon Trust's baseline tool.

Example calculation:

Street lighting consumption x emission factor for electricity = CO2 emission

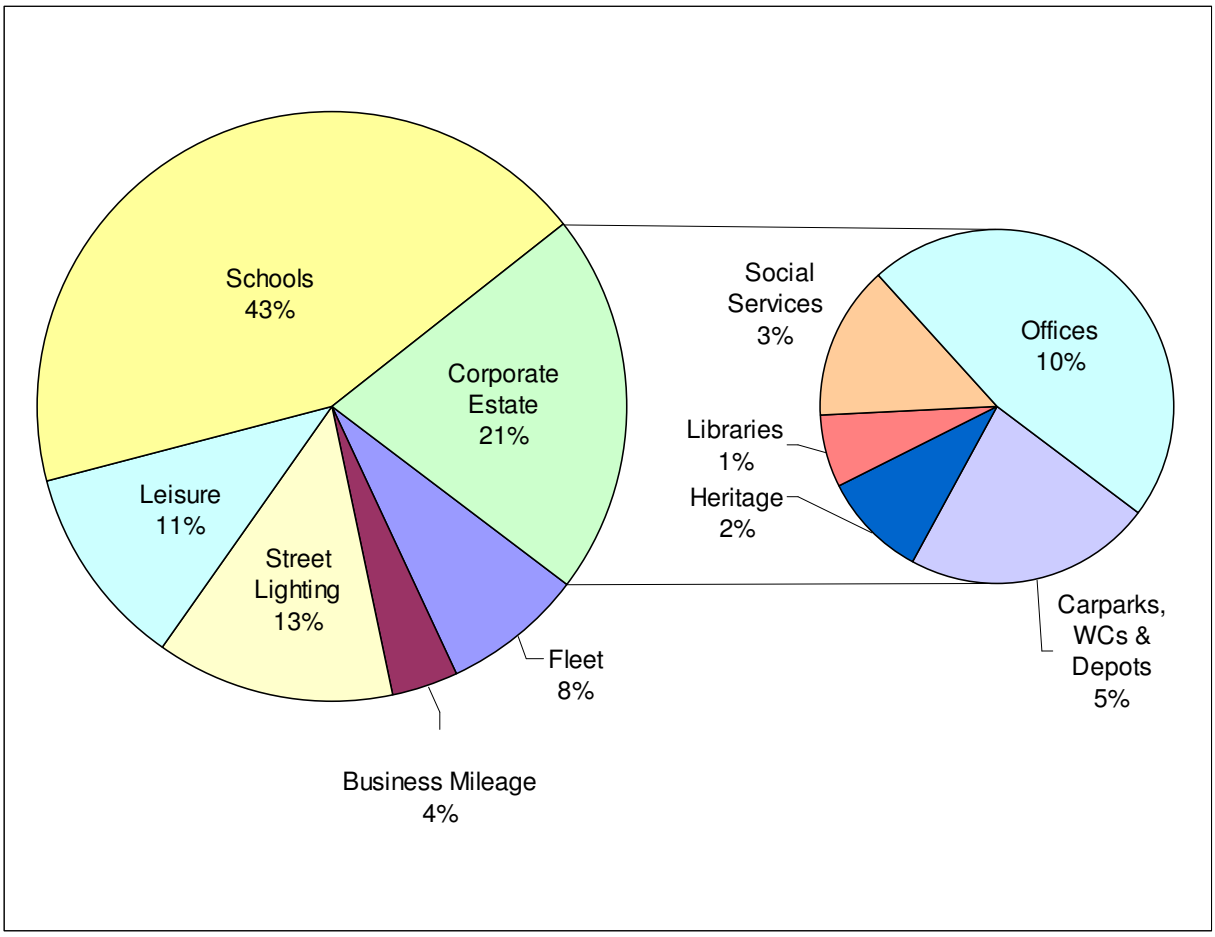
6,440,847(kWh) x 0.000537 = 3459t/CO2

Refer to **Appendix A** for carbon factors and references.

Figure 3.2 – Summary of emissions for baseline year 2007-08

	Total	Buildings	Street Lighting	Transport
Baseline CO_2 emissions (tonnes)	**26,284**	19,847	3,459	2978
Baseline Cost (£)	**£ 4,785,967**	£ 3,025,951	£ 515,268	£ 1,244,749
% breakdown of emissions	**100%**	76%	13%	11%

Figure 3.3 – Breakdown by category of baseline CO2 emissions, with a detailed breakdown of the Corporate Estate emissions sources



2.3 Projections

The council spent approx £4.8million on energy during the baseline year 2007/08. Figure 3.4 illustrates what we could be paying in energy bills by 2014, assuming future energy price rises ranging from 5% to 15% a year, if we don't do anything to cut energy consumption and carbon emissions. This is the business as usual (BAU) column. The next column in the table illustrates how achievement of the 30% cut in carbon emissions by 2014, will reduce those future annual energy costs.

The final column illustrates the cumulative savings over the five years if we achieve the 30% cut. This shows a range of between £5.7m and £8.3m in cumulative savings depending on future energy prices.

The energy market is volatile and nobody knows for sure what future energy prices will be, except that they are on an upward trend.

These projections provide a powerful illustration of the cost of doing nothing.

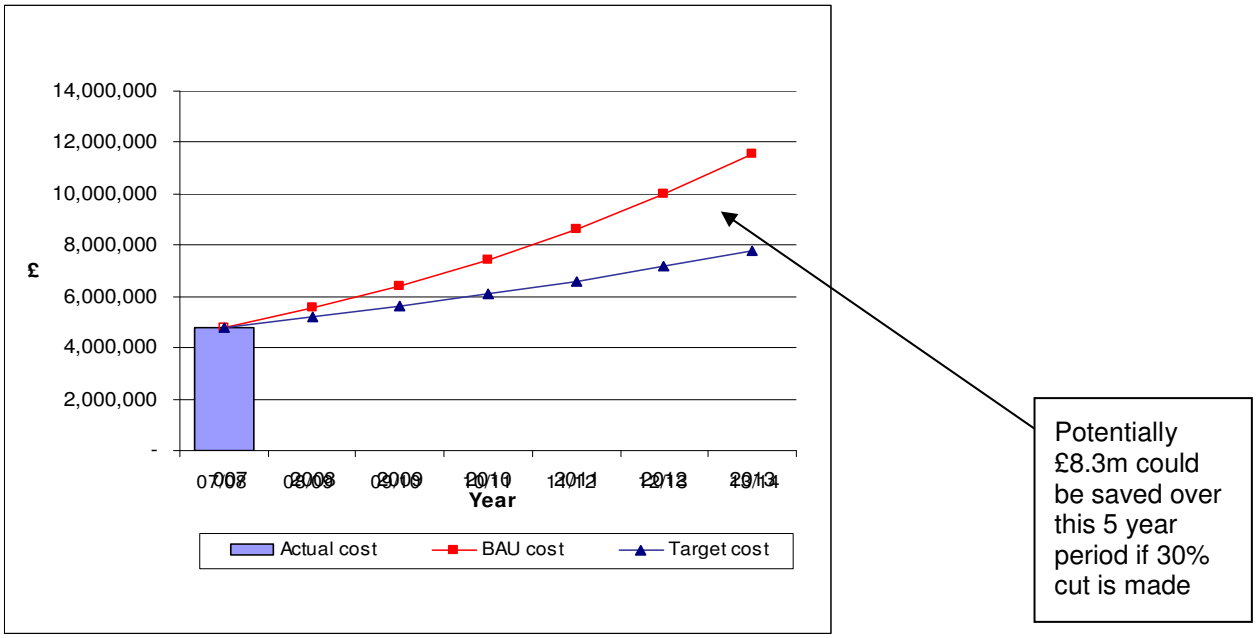
Figure 3.4 – Three energy cost forecasts projected on our baseline year energy spend. Forecasting model supplied by the Carbon Trust.

Possible annual % energy cost increase	Baseline year 2007/08 energy spend	2013/14 energy cost – business as usual	2013/14 energy cost – 30% cut met	Cumulative savings over 5yrs if 30% cut met
_	£4.8m	_	_	_
5%	_	£6.9m	£4.6m	£5.7m
8.4%	_	£8.1m	£5.4m	£6.4m
15%	_	£11.6m	£7.8m	£8.3m

NB. The Carbon Trust model used to produce the business as usual figures assumes an annual 0.7% business growth increase in energy consumption

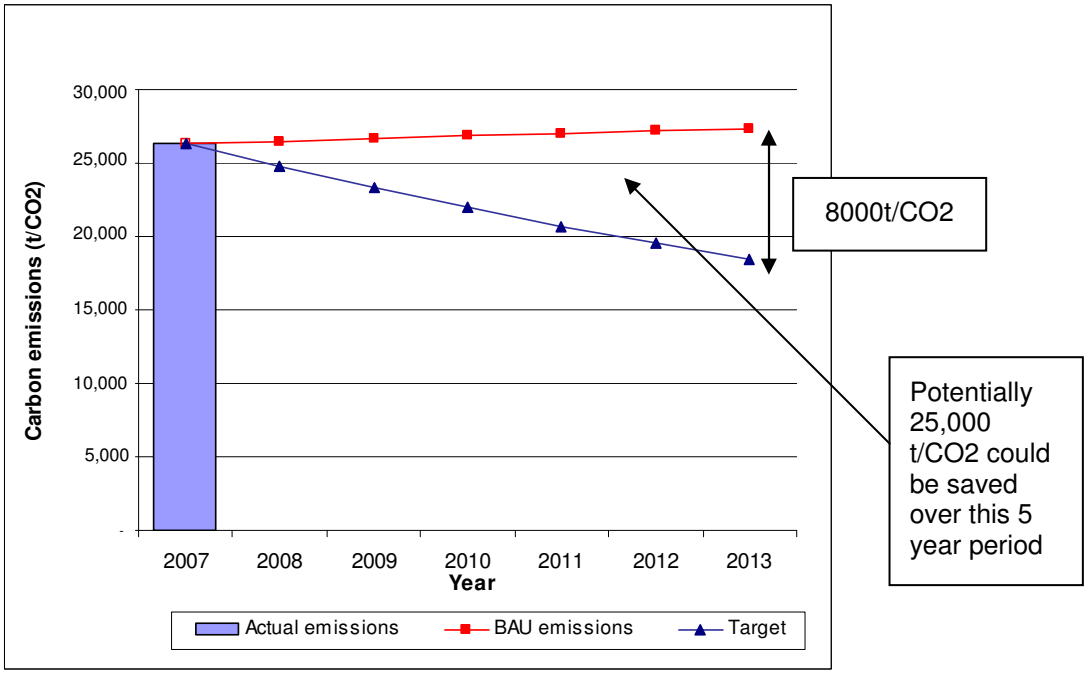
To illustrate this point further, using a 15% annual energy cost increase as the example, Figure 3.5 shows the likely impact of such a rise, projected up until the end of the Plan.

Figure 3.5 – Graph illustrating the potential impact of a 15% energy cost increase on the council's energy spend. Showing the potential energy bill business as usual and 30% cut in CO2 emissions



To achieve a 30% cut we need to reduce annual CO2 emissions by 8000 tonnes. Implementation of carbon reduction projects over the course of 5 year Plan could mean up to 25,000 tonnes of CO2 saved compared to BAU case.

Figure 3.6 – Comparison of actual baseline emissions with business as usual emissions and 30% cut in CO2 emissions



3 Carbon Management Projects

3.1 Past Actions

The council has already taken steps towards reducing it carbon emissions. Actions to date include:

Our Big Energy Challenge – energy efficiency project that started in 2006, completes in April 09, and is expected to deliver a 10% saving in energy use and carbon emissions from public sector buildings across the Local Strategic Partnership. It will deliver savings through technical measures and behavioural change. As a result, we have established a network of Energy Champions across the organisation.

Heritage Services – initiated a programme of works, driven by energy efficiency, to the main heritage buildings managed by B&NES. These works included draught proofing windows; replacement of old lighting installations with more efficient systems including in public display areas eg. The Great Bath; installation of PIRs in staff areas; public toilet facilities upgraded with the installation of Veltia energy efficient hand dryers, water efficient taps and sensor activated urinals.

Street lighting – Extensive upgrades to over 3000 lamps, columns, bollards, wig wags and zebra crossing installations have been undertaken including: replacement of tungsten lamps with lower wattage lamps; installation of LEDs and lux cells; and removal of all 400w lamps.

Fleet – has been operating with a 5% bio diesel mix for several years and pure plant oil (from a sustainable source) is being trialled in two dial-a-ride vehicles. A fuel additive is used in all fleet vehicles which reduces fuel consumption by 3-5%. A great deal of work has been carried out on route reviews for home-to-school transport making the routes efficient, there is an annual review as requirements change. The majority of the fleet vehicles are leased, this ensures that the vehicles are relatively new and therefore conform to Euro Standards.

Mouchel (IT provider) – printer rationalisation meant that 100 standalone (desktop) printers and 20 multifunctional devices (combined printer and photocopier) were removed. Multifunctional devices were installed in most sites. Server virtualisation has reduced the number of physical servers by 50 units. There is a rolling programme in place (3 years to go) to reduce the number of physical servers further.

Flexible Working Programme – The overall aim is to reduce the amount of office space the council needs by using space more effectively and efficiently. In 2005 a survey was carried out and highlighted that office space was occupied for less than 80% of the time. The first implimentation phase of the project begun in 2008 with 140 staff applying to participate, predominantly from Environmental Services and Children's Services Learning & Inclusion. The programme has set out 5 different working styles ranging from a home worker, mobile worker, to a dedicated place worker. It is expected that further phases will be rolled out shortly.

3.2 Existing projects

During the initiation year of the Plan the following projects have been running.

Figure 4.1 – Projects underway during initiation year

Ref	Project	Lead	Initial cost	Annual operating cost	Annual Saving £ net	Annual saving tCO2	Pay back years	% of 8000 tCO2 cut	Year
00	Our Big Energy Challenge	Jane Wildblood	Funding external to CMP	---	£14,500	97	---	1.2%	started 2007
009	Water bottle removal/installation of water filters	Alison Hayes	£6,000 (already funded)	£310	£2,000	16	2.93	0.2%	2008
002	Bath Central library - voltage optimisation	Tim Campbell	£11,170 (already funded)	---	£4,850	33	2.68	0.4%	08/09
039	Avon Street Car Park	Tim Campbell	£12,500 (already funded)	---	£6,000	31	2.7	0.4%	2008

3.3 First year projects

The projects listed in Figures 4.2 and 4.3 for council projects and schools projects are likely to be implemented in the first year of the Plan.

Figure 4.2 – Projects likely to be implemented in the first year of the Plan

Probable first year projects - Council									
Ref	Project	Lead	Initial cost	Annual operating cost	Annual Saving £ net	Annual saving tCO2	Pay back years	% of 8000 tCO2 cut	Year
007	Energy Champion Scheme	Jane Wildblood	Already set up	£5,000	£14,500	97	0.3	1.2%	Already set up
001	Efficient Driver training	Jon Evans	£60,000	£30,000	£40,000	236	0.82	3.0%	2009/10
017	Voltage optimisation – Guildhall	Tim Campbell	£15,300	---	£5,100	34	3	0.4%	2009/10
020	Boiler sequence control, fine tuning heating controls, - 25 sites	Tim Campbell	£68,800	---	£21,500	146	3.2	1.8%	2009/10

Figure 4.3 – Projects likely to be implemented in the first year of the Plan.

Probable first year projects – Schools									
Ref	Project	Lead	Initial cost	Annual operating cost	Annual Saving £ net	Annual saving tCO2	Pay back years	% of 8000 tCO2 cut	Year
022	Schools – insulate pitched roofs where present	Tim Campbell	£40,600	---	£31,120	212	1.3	2.7%	2009/10
026	Schools – sequence control of boilers, heating controls, fine tuning of BMS	Tim Campbell	£240,900	---	£59,500	404	4	5.1%	2009/10

It has also been identified that, for the Plan to be successful, there is a need for a project about infrastructure and capacity building to increase skills within key departments. This project is un-quantified, but will be an activity undertaken in the first year of the Plan.

This Plan is a work in progress; therefore, there is a certain degree of flexibility meaning some of the projects in section 4.4 may be brought forward if appropriate.

3.4 Near term projects

Figure 4.4 – Near term quantified projects for council operations arranged in order of payback years.

Council Projects									
Ref	Project	Lead	Initial cost	Annual operating cost	Annual Saving £ net	Annual saving tCO2	Pay back years	% of 8000 tCO2 cut	Year
003	RVP Biomass	Tim Campbell	£150,000 (already funded)	£2,000	£20,000	136	---	1.7%	2009/10
008	Green Travel Plan*	Adrian Clarke	---	---	---	---	---	0.0%	2009/10
014	Smart Metering linked to BMS for 21	Tim Campbell	£23,300	---	£19,000	129	1.2	1.6%	2009/10

	sites								
019	Radiator foils – 10 corporate properties	Tim Campbell	£38,900	---	£15,300	104	2.5	1.3%	2009/10
016	Voltage optimisation – additional 7 corporate estate sites	Tim Campbell	£117,600	---	£34,700	233	3.4	2.9%	2009/10
011	Update zoning of heating systems across 10 sites	Tim Campbell	£275,000	---	£59,300	403	4.6	5.0%	2009/10
037	Lighting upgrades to Lewis Ho & The Hollies	Tim Campbell	£41,600	---	£8,100	54	5.1	0.7%	2009/10
033	Aquaterra – refurbishment of motorised pool covers	Jamie Brown	£15,000	£3,500	£2,400	40	6.24	0.5%	2009/10
015	Biomass at Southside Youth Centre	Tim Campbell	£48,800	Marginal cost not factoring in any grant	£4,400	30	11	0.4%	2009/10
010	PV on flat roof of Percy Community Centre and air source heat pump from PV	Tim Campbell	£26,600	Possible grant funding factored in	£1,200	8.2	22	0.1%	2009/10

*Green Travel Plan is currently un-quantified. Discussion is underway about how this key aspect of the Carbon Management Plan will be managed and resourced.

There is work in progress on, what are considered to be, more 'radical' projects on street lighting, ranging from dimming and part-night lighting to switch-off. These projects have not yet been fully quantified but initial estimates indicate that annual savings could be in the region of between 900 and 1400 tonnes of CO2.

Schools

A schools carbon reduction package is in development. We have set up a Schools Carbon Management Group to develop work with schools.

At the time of writing, we are still in the early phases of developing a plan to work effectively with schools. Some generic schools projects have been quantified but due

to the varied nature of the schools estate, further feasibility studies need to be carried out before more detailed, school-specific plans can be developed. Work also needs to be done to factor in the opportunities and impacts of both the Building Schools for the Future programme and Primary Capital Programme.

Figure 4.5 – Near term quantified projects for schools arranged in order of payback years

Schools projects									
Ref	Project	Lead	Initial cost	Annual operating cost	Annual Saving net	Annual saving tCO2	Pay back years	% of 8000 tCO2 cut	Year
024	Schools – Smart metering	Tim Campbell	£53,300	---	£35,700	242	1.5	3.0%	2009/10
021	Schools – radiator foils	Tim Campbell	£50,000	---	£17,100	116	3.9	1.5%	2009/10
025	Schools – Biomass at one site	Tim Campbell	£39,400 (assuming grant funding)	---	£9,120	42	4.3	0.5%	2009/10
038	Lighting upgrades to 3 schools	Tim Campbell	£56,600	---	£9,500	64	6	0.8%	2009/10
031	Large Scale renewables at a school site	Tim Campbell	£350,000	---	£38,700	262	9	3.3%	2009/10
023	Cavity wall insulation – example of part of a site	Tim Campbell	£8,300	---	£900	6	9.3	0.1%	2009/10
030	Schools – large scale renewables feasibility study	Tim Campbell	£15,000	---	---	---	---	0.0%	2009/10
032	Schools – point of use water heating feasibility study	Tim Campbell	£16,850	---	---	---	---	0.0%	2009/10
034	Schools – Biomass extrapolated across 5 potential sites	Tim Campbell	£197,000	---	£54,700	250	---	3.1%	2009/10

3.5 Medium to long term projects

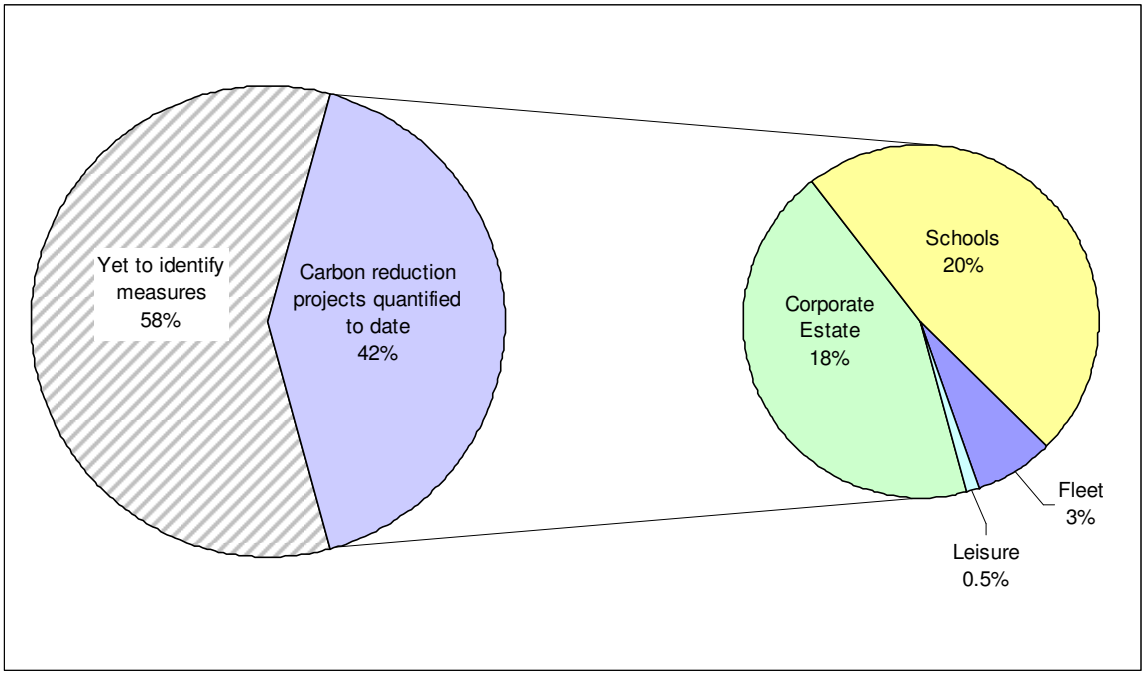
This is part of the on-going development of the plan.

3.6 Projected achievement towards carbon reduction aims

Projects quantified so far from the list above, if fully implemented, would yield a maximum annual carbon saving of 3300 tonnes. To reduce our 26,000 tonnes baseline by 30% we need to reduce annual emissions by 8000 tonnes.

Figure 4.6 is rather simplistic and doesn't take into account complicated factors such as 'carbon degradation' or carbon discount factor. What this means is that whilst it is very positive to have quantified projects at this stage that have the potential to reduce emissions by 3300 tonnes, we must not be complacent. A lot will need to happen to ensure those emissions reductions are realised, including ensuring that new projects are constantly being sought not only to supply a further 5000 tonnes of saving but to maintain the savings achieved from early projects that might not be sustained without fresh action or additional projects.

Figure 4.6 – Identified CO2 savings of quantified projects to date, against CO2 reduction cut of 30%, or a cut in baseline emissions of 8000 tonnes. Also showing breakdown of CO2 savings by category

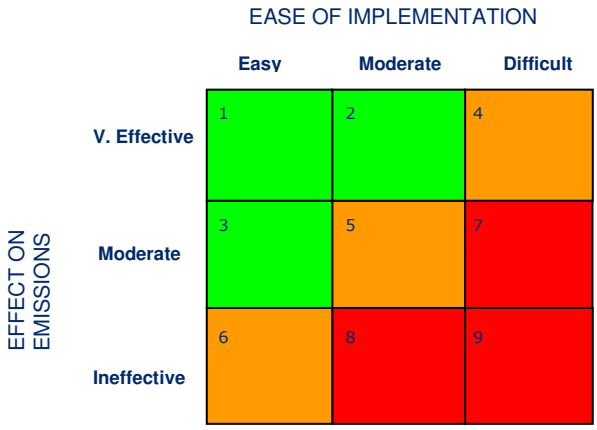


3.7 Identifying new projects

The systematic identification of the most appropriate carbon reduction projects was initiated through a series of Carbon Trust facilitated brainstorming sessions at council offices. Those present were representatives from the relevant service areas within the Council. The result was a long list of ideas ranging from small-scale projects to visionary ideas, only some of which were realistic projects. The list was whittled down to potential projects and was then prioritised by ranking them by ease and

effectiveness using the matrix below. The projects that fell into categories 1,2 & 3 were quantified.

Figure 4.7 – The Ease and Effect Matrix used for prioritising carbon reduction projects



As illustrated in Figure 4.6 more projects than are listed in this section will need to be found throughout the course of the plan. This will be tackled by:

- Using the results of the surveys, feasibility and pilot projects from the first phase to inform development of new projects;
- Work through the Schools Carbon Management Group and other schools' fora to get projects off the ground; stimulate further projects by more schools; identify and tackle barriers to project development and implementation;
- Continue systematic engagement of service management teams throughout the Council to help those teams create opportunities and ideas for carbon reduction;
- Ongoing project identification, development and implementation will be the key task of the Carbon Management Group, overseen by the Climate Change Advisory Group.

4 Carbon Management Plan Financing

The business case and funding requirements of the Carbon Management Plan have been included in the corporate Medium Term Service and Resource Plan process, which focuses on planning for the next three years, within the intended direction for the next ten years.

On the basis of current best estimates, the total investment anticipated to deliver a Carbon Management Plan that will reduce the Council's carbon emissions by 30% by April 2014 is £5million, of which c. £3.3 million would need to be invested by the Council and c. £1.7 by schools. This total investment would avoid a potential cumulative increase in Council energy costs over the period of between £5.7 million and £8.3 million, with ongoing savings thereafter from many of the measures implemented. The range is due to the varying forecasts of future energy prices.

The first year's budget of £482K has been included in the Council's detailed budget for 2009/10. Specific funding for subsequent years will be determined year on year, taking into account changes in external factors, such as energy prices, and progress on developing and implementing carbon reduction projects.

As it is not yet clear what proportion of the projects in the Plan would fit the criteria for the Council's Invest to Save budget or Salix financing criteria, it is has been decided not to create a rotating fund at this stage, but to ensure that some funding is allocated on an 'invest to avoid future increased costs' basis where necessary. As many projects as possible will be funded through the Council's 'invest to save' scheme.

Investment by schools will be crucial to the success of the Plan. Mechanisms to facilitate this and to help schools to access Salix loans, for example, and/or potential grant funding are under consideration.

Figure 5.1 – Projected level of investment needed to deliver the five-year Plan

	2009/10	2010/11	2011/12	2012/13	2013/14	Total over five years
Total Council Investment	£482,000	£756,000	£756,000	£665,000	£665,000	**£3,325,000**
School Investment	*£168,000*	*£419,000*	*£419,000*	*£335,000*	*£335,000*	***£1,675,000***
Combined investment	**£650,000**	**£1,175,000**	**£1,175,000**	**£1,000,000**	**£1,000,000**	**£5,000,000**

4.1 Assumptions

We have made the following assumptions:

- That we are developing the plan within the context of a highly volatile energy market and have therefore used a range of future price scenarios;

- That a Carbon Management Plan for an organisation as large and complex as a local authority is complicated and that assumptions may change as projects are developed and our knowledge base and skills develop;
- That we cannot assume that all savings made will be cashable because the energy price trend is upwards and have therefore developed a funding approach that includes both an 'invest to save' mechanism and an 'invest to avoid future cost increases' mechanism;
- That we do not yet know what the financial implications of the Carbon Reduction Commitment will be, or what the future price of carbon will mean in terms of pay-back on investment, but that the development of the carbon market will strengthen the investment case in terms of the scale of future savings.

4.2 Additional resources

Development of the Carbon Management Plan has been hampered by skills and capacity gaps in key areas relating to our carbon footprint. These gaps are known and action is either being taken or options considered to resolve these problems, so that the implementation of projects already scoped can proceed in a timely fashion and so that continuous efforts to find and develop new carbon saving projects are made throughout the lifetime of the Plan. The key gaps are:

- The **Energy Management** function in Property Services needs to be fully developed and resourced in order to run the building related projects and to provide energy management support across the Council's services, including schools and outsourced services;
- The **Travel Planning** function in the Planning and Transport Development Division needs to be developed and resourced in order to oversee the development and implementation of a comprehensive corporate travel plan;
- **Children's Services** may need to find additional resources to support the Plan and ensure sufficient support to schools to deliver carbon reduction across the school estate.

5 Actions to Embed Carbon Management in the Organisation

Taking the Carbon Management Matrix at Appendix B as a guide, our judgment is that we are making good progress in terms of embedding carbon management into high level 'Corporate Strategy' and developing 'Programme Management' and 'Financing' mechanisms. However, we are currently much weaker in terms of embedding 'Responsibility' across the services and through the management layers and in terms of 'Data Management', 'Communications & Training' and 'Policy Alignment'.

We have made positive progress since joining LACM 6 and are confident that we have built a good foundation that will lead to broader and deeper embedding of carbon management as we implement, not only this Carbon Management Plan, but also other strands of our Climate Change Work Programme over the next five years. This includes our work with partners and in the community through the Bath and North East Somerset Local Strategic Partnership.

The following sections map out in detail where we are currently under each of the Carbon Management Matrix headings and state where we want to be in five years' time, when this first five-year Carbon Management Plan has been implemented.

5.1 Corporate Strategy – embedding CO2 saving across the organisation

Our analysis is that we are somewhere between Levels 3 and 4 at present, with our carbon reduction vision and aim clearly stated in our Corporate Plan, as part of meeting the ambition of our Corporate Improvement Priority: 'Tackling the causes and effects of climate change'.

Approval of the Carbon Management Plan and the commitment of funding for the first year are going through the political approval process now and the Plan will be published with full publicity during March 08.

Our aim is to achieve Level 5 over the next year to 18 months, with full engagement of services and embedding of carbon management within departmental and divisional service plans. What this will mean and how it will be monitored will depend on the nature of the service, since some services have a much more significant role to play than others in delivering carbon reduction.

5.2 Programme Management – bringing it all together effectively

The factor of embedding Carbon Management is covered in detail in Section 7 of the Plan. In summary, we believe we are at Level 4 at present and aim to achieve Level 5 during the first year of the implementation of the Plan.

5.3 Responsibility – being clear that saving CO2 is everyone's job

This one is more difficult to score against the matrix at **Appendix B**, because responsibilities are evolving, with corporate staff currently covering some significant gaps in other departments, particularly energy management.

Strictly speaking, we are at level 3, with full management of the Carbon Management Programme being delivered by the Corporate Sustainability Team.

In the long term, the Programme will continue to be coordinated by the Corporate Sustainability Team, because it is a corporate plan affecting all aspects of the Council's operations, including corporate strategy, financing and policy alignment. However the detailed aspects of data management, carbon reduction project management (in relation to buildings) and other aspects of energy management, support and advice should be delivered by the Energy Management function in Property Services, with dedicated resource allocated to supporting the Carbon Management Plan specifically.

The Energy Management function is being developed in Property Services, but the current prognosis is that this will be limited to managing procurement and improving energy monitoring and management systems for some time yet. Engineers in a different section of Property Services have worked very hard over recent months to develop specific projects and will continue to support the Plan through implementation of those projects that are funded through the Plan, but the systems and capacity to monitor the impact of these, and other projects across the Council's functions, is not yet properly set up. These weaknesses will undermine our ability to deliver the Plan until they are resolved. They also make it more difficult to continue to identify and develop future carbon reduction projects.

In terms of embedding responsibility more widely, officers on the Carbon Management Group who have submitted projects to the Plan understand that they are accountable for the delivery of those projects. Work will be done over the coming months to ensure that this is properly understood, where necessary, by the senior managers in those departments. For us, this process of engaging with senior managers and ensuring they realise their responsibilities and start to play a stronger leadership role is the right approach.

As part of this process, we have embedded the Council's commitment to action on climate change, including carbon management, into the new on-line staff induction course and into all levels of the Competencies Framework. The Competencies Framework lays out what is expected of all staff working for the Council, with the management levels detailing specific leadership, strategic and management responsibilities.

We have a network of Energy Champions already in place who are managed by the Corporate Sustainability team, and work across the Council raising awareness of energy efficiency and recycling best practice amongst colleagues. They are supported by their managers and will continue to play an important role in raising awareness of the Carbon Management Plan.

It is our intention to resolve the problems in this area and to be achieving Level 4 with the next two years and Level 5 in five years time.

5.4 Data Management – measuring the difference, measuring the benefit

We are between Levels 2 and 3 of the Matrix on data management, for the reasons outlined in the previous section. We expect the work now being undertaken to improve energy management data collection and analysis will enable us to reach Level 4 by the end of 2009 and Level 5 by the end of 2010.

The carbon baseline was developed through a combination of data from energy billing and from energy consumption meters in our main offices for 2007/08. Checking of the footprint for 08/09 will be done through the same process. As data collection and analysis is improved, we expect to see this reflected in greater accuracy and more detailed information.

The problem at the moment is that whilst we will be able to understand the overview, our data management problems – i.e. lack of comprehensive smart metering and lack of capacity to input data on the energy management system and analyse it – will hamper our ability to understand the impact of some of the measures proposed in the Plan, and the development or roll-out of further measures.

We will be expecting project managers to monitor the impact of their own projects, but they will need support with energy and carbon data analysis.

5.5 Ongoing stakeholder management and communication – ensuring everyone is aware

Stakeholder management and communications are intrinsically linked and have therefore been joined together in the approach to this project. Stakeholders and communication methods are tabulated in **Appendix C**. Embedding Carbon Management into the Council's management systems, policies, strategies and day to day business will require a strong communications strategy, engaging all stakeholders. The stakeholders range from, major decision makers and senior management such as, Cabinet Members and Strategic Directors to, individual project leaders, Council staff, the public and partner organisations. As well as this, the Programme provides the opportunity to raise public awareness of the benefits to reducing carbon emissions and being a part of a sustainable community.

In terms of communications, at present, we are at Level 3, with work in development that should bring us to Level 4 in the next few months.

The Corporate Sustainability Team and Communications Department meet on a quarterly basis to work on a Forward Media Plan. This plan takes into consideration the Council's methods of communication and how these can be best utilised to maximise the level of understanding across the range of stakeholders and groups.

In terms of training, we have trained a network of Energy Champions and given energy efficiency awareness training to building officers. The new online induction programme includes the Climate Change improvement priority and provides all staff with a 'Green Housekeeping' checklist that outlines behaviour required. So we are developing some aspects of Level 4 now.

Our aim is to achieve Level 5 in terms of both communications and training within the first two years of the Plan.

5.6 Finance and Investment – the money to match the commitment

Embedding Carbon Management through financing and investment is covered in detail section 5 of the Plan.

We judge we are currently at Level 4 and aim to be at Level 5, especially in terms of external funding for schools projects over the next 2-3 years.

5.7 Policy Alignment – saving CO2 across your operations

We judge we are at Level 2 at this stage. High level strategies that include action on climate change as a priority are:

- the Corporate Plan
- the draft Core Strategy of the Local Development Framework
- the Local Area Agreement
- the refresh of the Sustainable Community Strategy

In addition, the Council's Transformation programme, including lean reviews, efficiency improvements in IT and flexible working methods, is actively engaged in the Carbon Management Plan and will make significant contributions to reducing energy consumption.

At the next level down, much more needs to be done to ensure carbon management is properly embedded and implementation is taking place through a systematic review of policies and plans, such as:

- Office rationalisation plan
- Capital projects, PID process, whole life costing
- Refresh of Sustainable Procurement code and implementaton eg whole life costing
- Corporate travel planning
- Schools capital programmes.

Then, drillling down into service planning across the range.

We would expect to achieve Level 3 during the first year of the Plan, with Level 4 the following year and Level 5 by the third year.

6 Programme Management of the CM Programme

We recognise the importance of good governance to ensure the delivery of our ambitious carbon reduction aim over the next five years. We have achieved senior strategic ownership of the Carbon Management Plan through our sponsors:

Member Sponsor: Charles Gerrish, Cabinet Member for Customer Services
Officer Sponsor: Andrew Pate, Strategic Director, Resources & Support Services
Deputy Officer Sponsor: David Trethewey, Divisional Director, Policy & Partnerships.

Our sponsors are all members of the Climate Change Advisory Group – see Fig. 7.1 below. This cross-party group provides the top level oversight of the development and implementation of all our work in the Climate Change Work Programme and advises the Cabinet Member.

The Carbon Management Group – also see Fig. 7.2 below – is the cross-departmental officer grouping responsible for delivery of the Carbon Management Plan and consists of the officers responsible for the specific projects and others with support or advisory roles, such as finance.

The CCAG will receive quarterly reports from the CMG on progress against the Plan and progress against the carbon reduction cut. Staff on the CMG will work with the Carbon Management Plan Coordinators to conduct an annual review in November, which will be reported to the CCAG.

6.1 Strategic ownership and oversight

The Climate Change Advisory Group (CCAG)

During the launch year the CCAG meet bi-monthly. Once the Plan is in the implementation phase, the CCAG will meet quarterly.

Figure 7.1 – Membership of the Climate Change Advisory Group

Climate Change Advisory Group	
Members	**Cllr Charles Gerrish** Cabinet Member for Customer Services Conservative
	Cllr Ian Gilchrist Liberal Democrat
	Cllr John Bull Labour
Officers	**Andrew Pate** Strategic Director of Resources & Support Services
	David Trethewey Divisional Director of Policy and Partnerships
	Jane Wildblood Corporate Sustainability Manager

6.2 The Carbon Management Team – delivering the projects

The Carbon Management Group (CMG)

During the launch year of the programme, the CMG meet monthly. Once the Plan is in the implementation phase the CMG will continue to meet monthly to monitor progress. In the future the group membership may vary and a core group will be formed. The CMG reports to the CCAG quarterly.

Figure 7.2 – Membership of the Carbon Management Group

Carbon Management Group		
Role	**Service Area**	**Officer and position**
CMP Leader and Chair	Corporate Sustainability	**Jane Wildblood** Corporate Sustainability Manager
Deputy CMP Leader	Corporate Sustainability	**Micaela Basford** Sustainability Officer
Project Support	Corporate Sustainability	**Felicity Nuttall** Sustainability Officer
Carbon Management Group members and	Property Services	**Jeff Tatum** Energy Manager

individual project leaders	Property Services	**Tim Campbell** Electrical Engineer
	Fleet Services	**Jon Evans** Transport Manager
	Finance	**Barbara Summerfield** Management Accountant
	Neighbourhood Services	**John Crowther** Service Manager
	Planning and Transport Development	**Adrian Clarke** Transport Planning Manager
	Children's Service	**Chris Kavanagh** Schools Capital Programme Manager
	Highways	**Keith Showering** Street Lighting Manager
	Heritage Services	**Iain Johnston** Facilities Manager
	Aquaterra (Leisure Service Provider)	**David Batchelor** Premises Facility Manager
	Transformation Programme	**Angela Parratt** Head of Transformation
	Waste Services	**Carol Tunnard** Waste Services Manager

Schools Carbon Management Group (SCMG)

Once the extent of the baseline emissions produced by the school's estate became clear, a sub-group of the CMG was set up called the Schools Carbon Management Group. The SCMG will support the development and implementation of action across our schools' estate. It includes the Eco Schools Education team and schools representatives. The SCMG will meet bi-monthly during the early phase of the Carbon Management Plan and will feed into the CMG and CCAG as appropriate.

Figure 7.3 – Membership of the Schools Carbon Management Group

Schools Carbon Management Group		
Attendees	**Service Area**	**Officer and position**
B&NES Officers	Corporate Sustainability	**Jane Wildblood (Joint Chair)** Corporate Sustainability Manager
	Children's Service	**Chris Kavanagh (Joint Chair)** Children's Service Programme Manager
	Children's Service	**Richard Morgan** Finance and Resources Manager
	Catering Services	**Louise Bizley** Catering Services Manager
	Property Services	**Peter Trigger**

		Schools Team Property Manager
	Corporate Sustainability	**Micaela Basford** Sustainability Officer
	Corporate Sustainability	**Felicity Nuttall** Sustainability Officer
Attendees	Resource Futures	**Jane Talbot** Eco Schools Coordinator, Education Team Manager
	Resource Futures	**Sue Cameron** Eco Schools, Education Officer
	Ralph Allen Secondary School	**Jo Marsh** Business Manager
	Somerdale Secondary School	**Jeremy Hunt** Bursar
	Batheaston Primary School	**Claire Wall** Bursar
	Bathwick St Mary Primary School	**Keith Moss** Governor
	St Saviours	**Paul Gibbs** Parent
	Chew Valley Secondary School	TBC

6.3 Succession planning for key roles

There are two key aspects to succession planning for us, or rather ensuring continuity of commitment and support. The first is to maintain cross-party support for the Plan. All three main political parties are represented on the Climate Change Advisory Group and are committed to delivery on the climate change issue.

The second is ensuring continuity at the management level. To this end, we have an Officer Sponsor and Deputy Officer Sponsor. The advantage is that the workload is shared and we are sure of having one of our Officer Sponsors available when needed. Similarly, we have a CMP leader and Deputy CMP Leader.

NB We have changed the title Project Leader and Deputy Project Leader titles to CMP Leader and Deputy CMP Leader, to distinguish these overarching roles from the project leaders of all the individual projects in the CMP.

Appendix A: Carbon Factors and References

The factors used to calculate carbon emissions are national factors supplied by the Carbon Trust and are referenced below.

Carbon factors for stationary emission sources in baseline year

Energy type	Factor (kg CO_2/kWh gross)	Reference
Electricity (grid)	0.537	Greenhouse Gas Conversion Factors (Defra 2008)
Natural gas	0.185	Greenhouse Gas Conversion Factors (Defra 2008)
Gas oil	0.252	Greenhouse Gas Conversion Factors (Defra 2008)

Carbon factors for stationary emission sources in baseline year

Fuel or vehicle type	Units	CO_2 factor (kg/unit specified)	Reference
Petrol	litres	2.32	Greenhouse Gas Conversion Factors (Defra 2008)
Diesel	litres	2.63	Greenhouse Gas Conversion Factors (Defra 2008)
Average car (unknown fuel)	km	0.20	Greenhouse Gas Conversion Factors (Defra 2008)

Average B&NES energy unit costs for baseline year

Energy type	Estimated typical Cost (pence / kWh)
Electricity (grid)	8.00
Natural gas	2.72
Gas oil	5.50

Appendix B: Carbon Management Matrix – Embedding

	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *

BEST
5
	• Top level target allocated across organisation
	• CO_2 reduction targets in Directorate Business Plans
		• Cabinet / SMT review progress against targets on quarterly basis
		• Quarterly diagnostic reports provided to Directorates
		• Progress against target published externally
			• CM integrated in responsibilities of senior managers
			• CM part of all job descriptions
			• Central CO_2 reduction advice available
			• Green Champions leading local action groups
				• Quarterly collation of CO_2 emissions for all sources
				• Data externally verified
				• M&T in place for:
				  ○ buildings
				  ○ street lighting
				  ○ waste
					• All staff given formalised CO_2 reduction:
					  ○ induction and training
					  ○ communications
					• Joint CM communications with key partners
					• Staff awareness tested through surveys
						• Finance committed for 2+yrs of Programme
						• External funding being routinely obtained
						• Ring-fenced fund for carbon reduction initiatives
							• CO_2 friendly operating procedure in place
							• Central team provide advice and review, when requested
							• Barriers to CO_2 reduction routinely considered and removed

4	• CO_2 reduction commitment in Corporate Strategy
	• Top level targets set for CO_2 reduction
	• Climate Change Strategy reviewed annually
		• Sponsor reviews progress and removes blockages through regular Programme Boards
		• Progress against targets routinely reported to Senior Mgt Team
			• CM integrated in to responsibilities of department heads
			• Cabinet / SMT regularly updated
			• Staff engaged though Green Champion network
				• Annual collation of CO_2 emissions for:
				  ○ buildings
				  ○ street lighting
				  ○ transport
				  ○ waste
				• Data internally reviewed
					• All staff given CO_2 reduction:
					  ○ induction
					  ○ communications
					  ○ CM matters communicated to external community
						• Coordinated financing for CO_2 reduction projects via Programme Board
						• Finances committed 1yr ahead
						• Some external financing
							• Comprehensive review of policies complete
							• Lower level policies reviewed locally
							• Unpopular changes being considered

3	• CO_2 reduction vision clearly stated and published
	• Climate Change Strategy endorsed by Cabinet and publicised with staff
		• Core team regularly review CM progress:
		  ○ actions
		  ○ profile & targets
		  ○ new opportunities
			• An individual provides full time focus for CO_2 reduction and coordination across the organisation
			• Senior Sponsor actively engaged
				• Collation of CO_2 emissions for limited scope i.e. buildings only	• Environmental / energy group(s) given ad hoc:
					  ○ training
					  ○ communications
						• A view of the cost of CO_2 reduction is developing, but finance remains ad-hoc
						• Some centralised resource allocated
						• Finance representation on CM Team
							• All high level and some mid level policies reviewed, irregularly
							• Substantial changes made, showing CO_2 savings

2	• Draft Climate Change Policy • Climate Change references in other strategies	• Ad hoc reviews of CM actions progress	• CO_2 reduction a part-time responsibility of a few department champions	• No CO_2 emissions data compiled • Energy data compiled on a regular basis	• Regular awareness campaigns • Staff given CM information on ad-hoc basis	• Ad hoc financing for CO_2 reduction projects	• Partial review of key, high level policies • Some financial quick wins made
1 **Worst**	• No policy • No Climate Change reference	• No CM monitoring	• No recognised CO_2 reduction responsibility	• No CO_2 emissions data compiled • Estimated billing	• No communication or training	• No specific funding for CO_2 reduction projects	• No alignment of policies for CO_2 reduction

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

Appendix C: Stakeholders and Communication methods

Group	Key Messages, interests and issues	Communications Method	Frequency
Cabinet	§ Delivery of political commitments, the climate improvement priority and carbon reduction targets. § Comprehensive Area assessment (CAA). § Decision Making.	§ Primarily Councillor Charles Gerrish, Cabinet Member for Customer Services and Chair of CCAG.	23rd Feb 09 – Draft CMP goes to Cabinet
Climate Change Advisory Group (CCAG)	§ Oversees strategic development and programme of work on the Council's work on climate change. § Cross Party .	§ Meetings	Bi-monthly meeting
Corporate Performance & Resources Overview & Scrutiny Panel	§ Delivery of recommendations from 06/07 review of climate change work. § Performance and resource implications.	§ Briefing given in Sep 08 § Update given 12th Jan 09	As and when requested
All Councillors	§ Delivery of political commitments and aspirations.	§ All Councillors Briefing 23rd Oct 08	As necessary
Chief Executive	§ Tackling climate change is one of the Council's main corporate priorities. § Value-at-stake if the Council continues business as usual.	§ Jane Wildblood, Project Lead, one-to-one briefing sessions.	Quarterly
Strategic Directors Group (SDG)	§ Delivery of political commitments and corporate improvement priority on climate change. § Implications across services and for future decision making.	§ Andrew Pate, Project Sponsor, to provide brief.	As necessary
Divisional Directors Group (DDG)	§ Delivery of corporate priorities, day to day operation of the Council and delivery of divisional services. § Assist implementation of Our Big Energy Challenge and support CMP.	§ Briefed on CMP April 08 § David Trethewey, Deputy Project Sponsor, will update regularly at Divisional Directors Group Meetings	Weekly
Carbon Management Group (CMG)	§ Delivery of own service targets and response to corporate improvement priorities. § Perception of capacity and resource constraints. § Manage and commit resources	§ Monthly meetings § Emails and phone calls	Monthly & as necessary

	and time to implementation of projects relevant to service area.		
Schools Carbon Management Group (SCMG)	§ Link to schools. § Exploration of possible ways forward in schools. § Take possible ways forward to Schools Forum. § Eco-Schools Programme.	§ Presentation to Schools Forum 18th Nov 08 § Bi-monthly meetings § Email and phone calls	Bi-monthly & as necessary
All Services	§ Depends on the service. Some directly engaged as big energy users, others more peripheral. Tackling Climate Change is a Corporate Priority so all services affected.	§ Project Lead to hold briefing sessions with key service management teams (many represented on CMG). § Core Brief and Managers Bulletin § Internal and external Council magazines. § Corporate Sustainability Web Pages	When appropriate Monthly Weekly As necessary
Energy Champion Scheme (See appendix D, *LA6-BNES–007*)	§ Rolling awareness campaign. § Internal ground work in offices, building awareness of energy efficiency and embedding importance of Carbon Management. § Knowledgeable advocates equipped with training to deliver initiatives to staff.	§ Emails § Initiatives § Informative materials and reminders § Training	As necessary Trained during Our Big Energy Challenge Campaign
Cleaner Supervisors and cleaners	§ Large workforce with the means to carry out a high impact energy efficiency drive.	§ Training	Training session 10th Feb 09
All Staff	§ Energy efficient working and embedding importance of Carbon Management.	§ Energy Champion initiatives and emails § Internal magazine § Internal Web pages § All staff and Building emails § Green Week/Energy Week § Energy efficiency in the workplace Online Presentation	As necessary Weekly As necessary As necessary Yearly Always accessible to staff
Local Strategic (LSP)	§ Climate change is cross-cutting theme of the Local Area Agreement (LAA). § LSP engaged in Our Big Energy Challenge. § Can learn from our LACM experience. §	§ Board Meetings § Emails	Quarterly As necessary

B&NES members of the public	§ Raise awareness of climate change, carbon management and the benefits energy efficiency has on individual homes and the community. § To be lead in the community. Update on Council's Carbon Management progress. § Consultation – when carbon reduction projects may effect public directly e.g. street lighting changes.	§ Forward Media Plan § Public WebPages § Local Press § Public consultation and surveys	Reviewed quarterly As necessary As necessary As necessary

Appendix D: Glossary of Terms

Aquaterra
The Leisure Service provider for Bath & North East Somerset Council. Aquaterra manage seven sites, including four leisure centres.

B&NES
Bath & North East Somerset Council

Baseline emissions
The carbon emissions emitted by the Council over one year, calculated by looking at how much energy was used. Measured in t/CO2.

Baseline year
2007-2008 – the year the baseline data was collected to calculate the carbon emission baseline or 'footprint'.

Business as Usual (BAU)
This term is used in forecasting models to illustrate the implications of carrying on 'business as usual' i.e. in this case presuming that there is little or no action towards reducing carbon emissions.

Carbon emissions/CO2
The associated emissions caused by the burning of fossil fuels for the generation of energy. Measured in tonnes = t/CO2. Carbon dioxide is one of the 'greenhouse' gases.

Carbon Factor
Is a conversion factor used to calculate the carbon dioxide emissions caused by the use of energy. In order to convert energy consumed to kg of carbon dioxide, the energy use is multiplied by the carbon factor.

Carbon reduction target
Carbon reduction target in baseline emissions by the end of the 5 year Carbon Management Plan 2009-2014. The percentage target was developed and set by the Climate Change Advisory Group through the course of the Launch Year.

Carbon Trust
The Carbon Trust was set up by Government in 2001 as an independent company. Its mission is to accelerate the move to a low carbon economy by working with

organisations to reduce carbon emissions and develop commercial low carbon technologies.

CCAG
Climate Change Advisory Group

Climate change
Climate change, or global warming, is caused by increased levels of carbon dioxide and other polluting gases (greenhouse gases) in our atmosphere. Greenhouse gases are released by burning fossil fuels - coal, oil and gas - and by cutting down forests. Globally this causes an increase in average tempertaures and extreme weather events are predicted to become more frequent.

CMG
Carbon Management Group

CMP/ Carbon Management Plan
The 5 year plan 2009-2014, to deliver the target carbon reduction

Energy
Electricity, gas, oil, vehicle fuel

Implementation
Project Owner/Lead is responsible for securing necessary funding of project through the relevant finance mechanisms, funds and grants. The project owner is responsible for delivering the project and monitoring data.

Invest-to-Avoid
Investment made in an efficiency measure to avoid future costs incurred by cost increases. Where there is not likely to be cashable savings after the payback period due to the increasing prices.

Invest-to-Save
Investment made in an efficiency measure that will deliver cashable savings after a relatively payback period. In the case of B&NES the payback period is 5 years or 20% per annum.

kWh
Kilowatt Hour is a unit of energy used by an appliance over one hour. KWh is the standard unit used for converting energy to carbon emissions using a ‘carbon factor’

Launch year

2008-2009 – the year the Council were accepted onto the Carbon Management Programme, and when development of the Carbon Management Plan was started. Also the year that the Carbon Management Plan is signed off by the members of the Council.

LACM/ Local Authority Carbon Management programme

Is the Carbon Trust's assisted 9 month programme for Local Authorities. Authorities have to apply to be accepted on the scheme and once accepted are taken through a step-by-step programme to develop a Carbon Management Plan.

LSP

Local Strategic Partnership.

Mouchel

In partnership with Bath & North East Somerset Council to deliver IT, HR Admin, Payroll and Business Improvement Services.

Payback period

Simple calculation based on cost of measure divided by the annual cost savings. This will increase and decrease in relation to the changing cost of energy.

Quantification

Desk-based scoping and costing of a proposed carbon reduction project in order to assess effectiveness. Cost of installing the measure, amount of carbon saved and payback periods are factored into the quantification.

Salix

Salix Finance is an independent, publicly funded company, set up in 2004, to accelerate public sector investment in energy efficiency technologies through invest to save schemes. Salix has public funding from the Carbon Trust and is working across the public sector with Local Authorities, NHS Foundation Trusts, Higher and Further Education institutions and Central Government.

SCMG

Schools Carbon Management sub-group. A sub-group of the Carbon Management Group.

Value-at-stake (VAS)

This a forecasting model used to show the financial implications between two scenarios. In this case the difference between the council's energy spend if there is no energy efficiency projects implemented, and where the council has cut its energy spend through reducing its energy consumption. The difference between these two figures is called the value-at-stake.

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