

## APPENDIX B

# Peterborough City Council Carbon Management Action Plan

**Date:** 27 January 2010

**Version number:** 3.0

**Owner:** Charlotte Palmer

**Approval route:** Full Council, April 2010

**Approval status:** Not yet approved

## Foreword from Gillian Beasley and Cllr Matthew Lee

Peterborough City Council are committed to taking proactive action to make Peterborough more sustainable now and in the future, whilst adapting to the challenges climate change will bring. We acknowledge that:

- There is scientific consensus and evidence that climate change is happening
- Climate change will have significant and far reaching effects upon our residents, businesses and biodiversity
- The future cost of inaction on climate change will be far higher than the cost of taking action to tackle climate change now
- We are responsible for limiting our carbon emissions and preparing to adapt to the unavoidable effects of climate change
- Addressing climate change is critical to the success of achieving our four strategic priorities

We acknowledge the impact of the carbon emissions we generate through provision of our services, and commit to reducing them by 35 per cent of 2008/09 levels by 2014. Our Carbon Management Action Plan sets out how we will achieve this by improving our resource efficiency and by embracing new technologies. Through implementing this plan we commit to working at a local level to contribute to delivery of the government's Climate Change Act. In getting our house in order we will demonstrate leadership to the business and residential community.

Gillian Beasley  
Chief Executive of Peterborough City Council

Cllr Matthew Lee  
Cabinet Member for Environment Capital and Culture  
Peterborough City Council

## Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for local authorities - it's all about getting your own house in order and leading by example. The UK government has identified the local authority sector as key to delivering carbon reduction across the UK in line with its Kyoto commitments and the Local Authority Carbon Management programme is designed in response to this. It assists councils 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.

Peterborough City Council was selected in 2009, amidst strong competition, to take part in this ambitious programme. Peterborough City Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Action Plan commits the council to a target of reducing CO<sub>2</sub> by 35% of 2008/09 levels by 2014 and underpins potential financial savings to the council of around £10 million.

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



Richard Rugg  
Head of Public Sector, Carbon Trust



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## 1. Introduction

Peterborough City Council is a unitary authority serving a growing population of more than 160,000 residents. We have a long-standing commitment to environmental leadership. In 1992 Peterborough became one of four UK environment cities and our reputation is now growing as the UK's Environment Capital.

The city council is a signatory to the Nottingham Declaration, which acknowledges our contribution to climate change. We have already taken steps to reduce our emissions and this carbon management action plan will bring together such projects and allow their savings to be counted and recognised.

As one of the most visible organisations and largest employers in Peterborough the city council is in a key position to lead on tackling climate change. We will work alongside our strategic partners to undertake both mitigation efforts to reduce our carbon emissions and adaptation efforts to future proof the city from extreme weather events, demonstrating our commitment to transitioning to a low carbon future.

This Carbon Management Action Plan (CMAP) details how the city council will reduce carbon dioxide emission from its operations. It is the product of an intensive ten-month partnership with the Carbon Trust on the Local Authority Carbon Management Programme, which began in May 2009. The programme involves setting a target for emission reduction and developing projects to realise it. We have followed the five steps in the programme to develop our CMAP:



**Figure 1:** The 5 step carbon management process for local authorities

The document discusses the context of carbon management, the city council's baseline carbon dioxide emissions, and a model for projects to reduce our emissions. In 2014, at the end of the initial target reduction period, we will review progress against the target, and set further targets to continue contributing to the Environment Capital.

## 2. Drivers for carbon management

The city council's drivers for carbon management are both local and international;

### 2.1 International

#### Climate change

The climate is changing due to increased atmospheric greenhouse gases which prevent the sun's radiation escaping. The scientific community widely acknowledges that human activity is increasing the concentration of greenhouse gases, the impacts of which will be felt globally regardless of political boundaries. The international response is co-ordinated by the United Nations Framework Convention on Climate Change (UNFCCC), whose Kyoto Protocol adopted by 37 countries in 1997 required signatories to reduce greenhouse gas emissions collectively by 5 per cent of 1990 baseline by 2012. Under the Protocol the UK committed to reduce emissions by 12.5 per cent.

In December 2009 the annual Conference of the Parties (CoP 15) of the UNFCCC convened in Copenhagen to discuss the Kyoto Protocol and the need to revise reduction targets. Although the full potential of the CoP wasn't realised and an agreement on new legally binding targets was not achieved, some countries committed to individual targets for the first time. This CoP marks the beginning of a new chapter in international climate change discussions.

### 2.2 National drivers

#### The Climate Change Act

In 2008, the UK passed legislation which introduced the world's first long-term legally binding framework to tackle climate change. The Act commits the UK to a 34 per cent reduction in greenhouse gas emissions against a 1990 baseline by 2020 and an 80 per cent reduction by 2050. These targets include emissions from aviation and shipping, and will be achieved through a system of carbon budgets capping emissions.

#### The Carbon Reduction Commitment Energy Efficiency Scheme

This mandatory government scheme aims to encourage large, non energy intensive organisations to reduce their CO<sub>2</sub> reductions. It is a mandatory cap and trade scheme that requires organisations, over 5000 from both the private and public sector, to buy allowances to cover their total fossil fuel use. The scheme starts in 2011 and aims to achieve savings in the region of 1.2 million tonnes of CO<sub>2</sub> by 2020.

#### Energy prices

The Office of Gas and Electricity Markets (Ofgem) predicts that the UK's energy supply will be particularly vulnerable in the future due to its reliance on the volatile global gas market and because of its ageing power stations. This will be compounded by increased demand for energy from the increase in technology and IT.

#### Energy Performance of Buildings Directive (EPC) and Display Energy Certificates (DEC)

All buildings which are sold, rented or constructed must have an EPC, benchmarking the resource consumption per m<sup>2</sup>. Additionally since October 2008 all public buildings over 1000m<sup>2</sup> are required to display a DEC, showing the energy consumption and recommendations to improve energy efficiency.

### 2.3 Local Drivers

#### National Indicator 185: CO<sub>2</sub> reductions from local authority operations

Local authorities are required to report carbon dioxide emissions created in the delivery of services.

## National Indicator 186: per capita CO<sub>2</sub> reduction in Peterborough

Peterborough's carbon footprint including commercial, industrial, domestic, and transport emissions.

### Sustainable Community Strategy

Peterborough's Sustainable Community Strategy, "Growing the right way for a bigger and better Peterborough" sets out ambitious plans for Peterborough up to 2021, and identifies four priority areas for delivery by the partners of the Greater Peterborough Partnership. These areas mirror the city council's strategic priorities.

### Local Area Agreement

The Local Area Agreement (LAA) outlines short and medium-term action plans to achieve the long term vision of the Sustainable Community Strategy. It is negotiated on a rolling three-year basis between key organisations in Peterborough, regional and national government. The LAA is a partnership document, recognising that no individual partner can meet the targets and deliver against the ambitious agenda alone.

### Nottingham Declaration

The city council signed the [Nottingham Declaration](#) on Climate Change in 2004, acknowledging that current and future council activities will have a detrimental effect on the future environmental and socio-economic prosperity of the UK and Peterborough. By signing this agreement we commit to considering the impact of climate change on all council services and develop a framework for future action.

## 2.4 Peterborough City Council's low carbon vision

Reducing carbon, improving efficiency - creating the UK's Environment Capital

The city council will deliver this vision by completing actions encompassed by the following strategic themes:

- One: Improved energy management
- Two: Increased energy efficiency
- Three: Engaging schools in carbon management
- Four: Developing a climate change culture in the city council
- Five: Aligning policies to consider environmental impacts
- Six: Environmentally aware procurement

## 2.5 Targets and objectives

Peterborough City Council will reduce CO<sub>2</sub> emissions from its operations by 35 per cent of 2008/9 levels by April 2014. This target is one of the most ambitious so far on the Carbon Trust Local Authority Carbon Management Programme and will enable the city council to meet the UK's reduction target of 34 per cent before 2020. The target will be met through a combination of solutions as demonstrated in Figure 2.1 below. The future inspirational target for the city council is to achieve an 80 per cent reduction in carbon dioxide emissions by 2050, inline with the Government's national target.

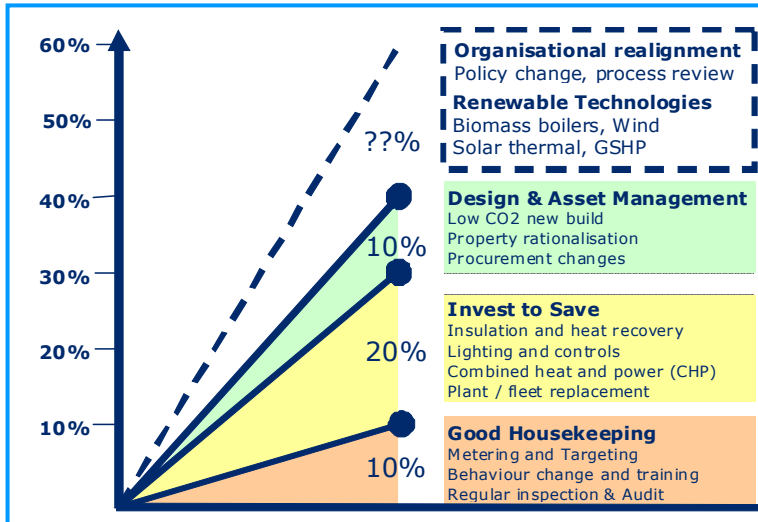


Figure 2.1: Possible percentage energy

### 3. Emissions Baseline and Projection

The starting point for carbon management is to accurately establish the baseline carbon emissions. This is necessary to set a reduction target against, for measurement of future emissions and to monitor progress. The baseline includes carbon dioxide emissions from the delivery of the city council's function, including emissions from both stationary and vehicle sources:

#### Stationary emission sources

- Council offices (Town Hall, Bayard Place, Bridge House and Manor Drive)
- 72 Schools
- Street lighting including road signs and bollards
- Car park lighting and ticket machines
- Peterborough Museum and Art Gallery
- Leisure facilities (Regional Pool, the Lido, Jack Hunt Swimming Pool, Werrington Sports Centre and Bushfields Sports Centre)
- Libraries
- The Crematorium
- The Household Recycling Centre and Materials Recycling Centre
- Various depots and storage facilities
- Day social care facilities
- Other council offices e.g. the Registry Office

#### Transport emission sources

- Fleet vehicles including refuse trucks, road sweepers and council owned cars
- Business mileage claimed by staff for the purposes of carrying out their role
- Outsourced school buses for children living over 2 miles from school
- Outsourced taxi journeys provided for children with special educational needs
- Community Link bus services

#### Excluded emission sources

- commuting,
- retail units,
- social housing,
- community centres,
- private nurseries
- rented offices where there was no apportioned data was available.

CO<sub>2</sub> emissions are produced primarily from the consumption of energy, namely fossil fuels (oil, gas, diesel, petrol and burning oil) and electricity. Other sources of emissions such as water consumption, waste production, use of refrigerant gases, employee commuting were not included in the baseline due to lack of data. However, if in future this data is collected then the baseline could be adjusted to include these emission sources.

#### Data Collection

The energy data used to calculate the baseline was acquired from across the city council directorates and schools. The data was collected manually with meter readings, estimates from paper and electronic invoices and latterly directly from the energy supplier. In future, automatic data collection facilitated by a centralised energy management database will improve data collection and quality.

#### Baseline

The baseline year was chosen as the financial year April 2008 to March 2009. The baseline CO<sub>2</sub> emissions were calculated from the energy consumption data using Defra conversion factors published in 2009.

The resultant baseline for 2008/9 was 33,995 tonnes of CO<sub>2</sub> (Table 3.1).

This means that the city council will need to reduce its emissions by 12,000 tonnes CO<sub>2</sub> to meet its reduction target, not considering any growth.

		Baseline emissions (tonnes CO <sub>2</sub> )
Buildings	Primary operational offices	2,212
	Primary schools	7,045
	Secondary schools	10,764
	Leisure centres	1,517
	Cultural services	1,302
	Other buildings	727
Street lights	Street lights	4,444
Transport	Fleet	3,203
	Business mileage	649
Miscellaneous		2,131
Total		33,995

Table 3.1: Summary table of emissions for baseline year 2008/9

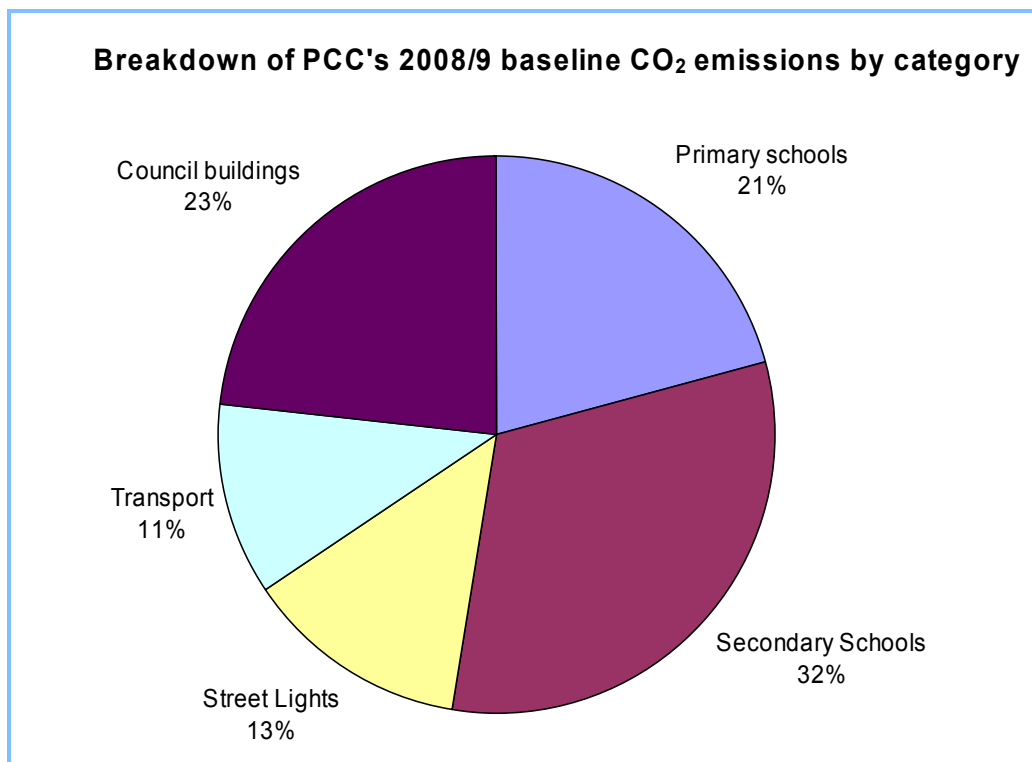


Figure 3.1: Summary of emissions baseline for financial year 2008/9

### Future Emissions Scenario

There are two alternative energy scenarios for the city council in five years:

- the **'business as usual'** scenario where energy consumption increases unchecked;
- the **reduced** consumption scenario towards the city council's 35 per cent emissions reduction target by 2014.



The business as usual scenario was calculated using a 0.7 per cent annual increase in energy consumption as recommended by the Department for Business, Innovation and Skills. The city council's actual growth may differ from this with plans for large scale growth in Peterborough and changes within the council itself.

Therefore the business as usual scenario only gives an indication of the city council's future energy consumption to demonstrate the magnitude of future emissions the contrast with the reduced emissions scenario.

Under the reduced emissions scenario, annual emissions will reduce to 22,097 tonnes CO<sub>2</sub>

The cost of not completing the carbon management programme is 41,341 tonnes CO<sub>2</sub> over 5 years.

Under the business as usual scenario the total emissions in 2014 will have increased 3 per cent to **35,201** tonnes CO<sub>2</sub>. However if the city council followed the reduced emissions scenario, implementing effective carbon management to meet the 35 per cent reduction target by 2014, it will have reduced its annual emissions to **22,097** tonnes CO<sub>2</sub>.

The difference between the emissions under these two possible scenarios for the city council's future is called the 'Value at Stake'. The Value at Stake demonstrates the total carbon emissions avoided by following the reduced emissions scenario over five years (Figure 3.2). By 2014 the city council will have emitted **41,341** tonnes CO<sub>2</sub> more under the business as usual scenario compared to the reduced emissions scenario.

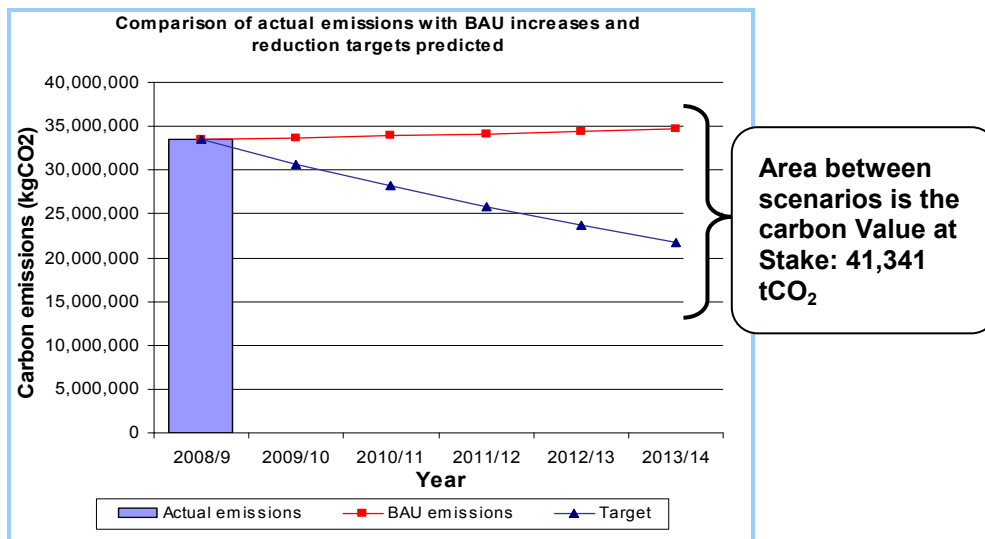


Figure 3.2: Carbon Value at Stake from Inaction

## 4. Carbon Management Model

Carbon reductions within Peterborough City Council will be achieved through implementing energy saving projects. The model for projects included within the carbon management programme is described below.

### Past Achievements

The city council has completed several projects in recent years that contribute carbon savings including:

- Night-watchman software switches off council office computer hard drives at 6pm
- Server virtualisation
- Replaced individual printers, scanners and copiers with multifunction devices (MDFs)
- Good result in SOCTIM survey of Green IT
- School asset management programme
- Electric Grounds Maintenance van
- Recycling rate of 46.6% in 2007/8
- Orton Wistow primary school extension: green roof and ground sourced heat pump
- New boiler in the Town Hall
- LED trail lamp on Bridge Street

### Existing planned projects

There are a number of existing projects taking place within the first two years of the Carbon Management Programme.

Project	Annual savings (tonnes CO <sub>2</sub> )
Jack Hunt Secondary School – swimming pool refurbishment	156.6
John Clare Primary School –boiler replacement (biomass)	22.2
St Bolttophs Primary School – boiler replacement	12.6
Sacred Heart RC Primary School – boiler and heating system replacement	5.1
St Bolttophs Primary School – partial rewire	6.2
Heltwate Primary School - partial rewire	2.0
Leighton Primary School - partial lighting refit	2.0
Norwood Primary School - partial lighting refit	2.0
Mercury abatement technology at the Crematorium	283
Museum boiler replacement	tbc
<b>Total</b>	<b>491</b>

**Table 4.1:** Carbon savings from existing projects

Combined these projects will save 208 tonnes CO<sub>2</sub> from the 2008/9 baseline which equates to 1.4 per cent of the baseline.

**Potential future projects:**

Project	Potential contribution to reduction *		
	Tonnes CO <sub>2</sub>	% of target	% of baseline
Existing completed projects	208	1.7%	0.6%
Crematorium Upgrade	283	2.3%	0.8%
Museum Refurbishment	Awaiting details	?	?
Automated Meter Readers and Energy Efficiency Officer	964	8%	3%
Behavioural change including awareness raising campaign and Green Champions in main PCC offices	344	3%	1%
Primary school programme plus awareness campaign	3116	26%	9%
Secondary School Programme plus awareness campaign	1441	12%	4.2%
PCC Travel Plan	124	1%	0.3%
Energy Efficiency programme in main PCC offices	661	5.5%	2%
Green Fleet	544	4.5%	1.6%
Building Schools for the Future	2272	19%	6.7%
Street lights and traffic lights	480	4%	1.4%
Leisure (wet and dry)	421	3.5%	1.2%
Other (awareness in libraries, solar panels on schools)	820	6.8%	2.4%
Building Rationalisation	?	?	?
Energy from waste	?	?	?
<b>Totals</b>	<b>10989</b>	<b>92%</b>	<b>32%</b>

**Table 4.2:** Model for Carbon Saving Projects across the city council

\* The reduction figures are only estimates to indicate the potential savings and should not be taken for definite until more accurate quantification of the projects can be undertaken.

## 5. Financing Carbon Management

This CMAP details the necessity for all projects implemented as part of this scheme to undergo full approval through the city councils approval process, meeting project management controls and receiving expenditure approval in accordance with the city council’s budget setting process. It must be noted that these corporate controls are required regardless of eventual funding streams as the city council needs to ensure Value for Money is achieved.

The funding for projects will be either:

- Existing funding
- Invest to Save
- Grants and Loans
- Match-Funding
- Internal Resources

## 6. Programme Management

The key roles in the governance of this programme include:

- The Programme Board – providing strategic ownership and oversight
- The Carbon Management Team – delivering the projects and the data to monitor progress
- Project Sponsor – champions and raises the profile of the programme
- Political Sponsor –provides a link with Cabinet and a voice for the programme amongst members. The current political sponsor is the Cabinet Advisor for Environment Capital and Culture.

Key stakeholder for carbon management and the means of communication are:

Individual or group	Their interest or issue	Means of communication
Chief Executive	Corporate strategic direction and reputation	CMT
Directors	Corporate strategic direction and service delivery	CMT and Programme Board
Heads of Service	Service delivery	Carbon Management Team
Portfolio holder	Corporate strategic direction and reputation	Programme Board and 121
Members	Corporate strategic direction and reputation	Portfolio holder, Members Bulletin and Group representatives
Employees		Communications campaign
Unions	Issues relating specifically to employees	As and when required
Local Strategic Partnership - GPP	City wide delivery, CAA	Annual presentation to the board
Environment Capital Partnership	City wide delivery, CAA	Half yearly presentation to the board
Local businesses	Example of best practice	Chamber of Commerce
Local Community	Efficient public service	Your Peterborough, website and local media challenges
Schools	Budgets and reputation	Head teacher forums, Governor Forums, Bursar Forums, Parent Teacher association forums

**Table 6.1:** Communication with carbon management stakeholder

## 7. Carbon management culture

Truly embedding carbon management across the organisation is essential if our carbon reduction plans are to be successful. Our aim is to create a cultural change across the city council with environmental considerations applied to every decision we make.

We will ensure carbon management is embedded in the city council by undertaking activities in the following areas:

### 1. Corporate Strategy – embedding CO<sub>2</sub> savings across your organisation:

- Inclusion of the Carbon Management Action Plan and associated actions into the corporate plan
- refresh of the Climate Change Strategy for Peterborough which will contextualise climate change impacts on a local level. This document will be endorsed by Full Council and adopted city wide

### 2. Programme Management – bringing it all together effectively

- Strong governance of the programme with a director level board and head of service management team
- Entry of projects into the city council's project register

### 3. Responsibility – being clear that saving CO<sub>2</sub> is everyone's job

- Establishing a network of Green Champions across the city council to motivate individuals to reduce energy consumption

### 4. Data Management – measuring the difference, measuring the benefit

- Installation of AMR's across the city council's estate to provide accurate and timely data collection
- Work towards obtaining the Carbon Trust Standard in recognition of the city council's energy management

### 5. Communication and Training – ensuring everyone is aware

- Engaging the city council's employees with an awareness campaign comprising of posters suggesting how energy can be saved round the office
- Including environmental and energy awareness material in the corporate induction for new employees
- Training building managers to minimise their buildings environmental impact.
- Monitor and publish successful energy efficiency projects

### 6. Finance and Investment – the money to match the commitment

- Source external funding for carbon reduction projects, possibly to include Salix finance
- Develop a "ring fenced" fund for energy efficiency/carbon reduction initiatives
- Regular reviews of capacity and making bids accordingly to ensure adequate resource allocation

### 7. Policy Alignment – saving CO<sub>2</sub> across your operations

- Review all policy and procedure documents in order to ensure all decisions and actions taken across the organisation consider the environmental impact
- Inclusion of environmental impact criteria in the proforma for cabinet reports to the Corporate Management team, Scrutiny Panels and Cabinet

### 8. Engagement of Schools – influencing schools to reduce their carbon footprint

- Develop curriculum support, including: an online toolkit to help schools to deliver energy related education, a resource library including samples of renewable technologies
- Facilitating the collection of schools energy data, either through better training or the installation of Automated Meter Readers (AMRs)
- Benchmarking schools according to the carbon footprint per pupil, to allow comparisons despite changes in pupil numbers.

- Determining the energy efficiency measures that each school needs to bring the building up to the good standards of secondary glazing, loft insulation, cavity wall insulation.
  - Provide tailored help for schools with a carbon reduction officer. The officer will focus upon creating an individual Carbon Management Plan for each school
- 9. Engagement of your Suppliers – working with suppliers to reduce your carbon footprint**
- Insert clauses into the tendering process and contracts to ensure consideration of environmental impacts and to guarantee the provision detailed energy consumption data from suppliers.