



# Carbon Management Strategy & Implementation Plan

## Local Authority Carbon Management Programme

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## Foreword

The report of the Intergovernmental Panel on Climate Change (IPCC) in February 2007 confirmed that there is now global scientific consensus that climate change is happening and more importantly it is directly related to human activity. The Stern Report took this further and pointed out the economic costs of doing nothing, a situation that we cannot allow to happen. Local Authorities have a key role to play in addressing Climate Change issues, both by examining their own operations and also in their role as community leader by assisting and encouraging residents, businesses and organisations to collaboratively examine their own carbon emissions.

Over the last 10 months, Colchester Borough Council has been working in collaboration with the Carbon Trust to establish a Carbon Management Programme. This work has involved quantifying the Council's carbon dioxide emissions and then developing a vision and strategic objectives and opportunities to reduce those emissions in a planned and practical way.

This Strategic Implementation Plan (SIP) brings together the results of the work so far, and discusses the potential routes for taking this work forward in a rolling programme over the next five years. This document is the start, not the end of the process, the SIP is a flexible organic document that will grow as new initiatives are identified. Carbon Management must be embedded within the core values of the Council at all levels. Only by fully embracing the SIP can we ensure that our impact on climate change is reduced and the Council can lead the wider community into a sustainable and low carbon future.

**Councillor Nigel Chapman**

Portfolio Holder for Customer Services and Sustainability.



## 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.

Colchester Borough Council was selected in 2007, amidst strong competition, to take part in this ambitious programme. Colchester Borough Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Strategy and Reduction Plan commits the council to a target of reducing CO<sub>2</sub> by 25% by 2012 and underpins potential financial savings to the council of around £2.2 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 Colchester Borough Council in their ongoing implementation of carbon management.

**Richard Rugg**

Head of Public Sector, Carbon Trust



## 1.0 Executive Summary

- We have set ourselves a target of reducing our carbon dioxide emissions by 25% by 2012 based upon the baseline financial year of 06/07.
- This document sets out 18 projects split between 2 initial phases to be undertaken over the next 4 years.
- We anticipate a total investment requirement of £ 2.661 million to deliver these projects (£ 1.706 million for Phase 1 and £ 955 for Phase 2) that are expected to save 2,333 tonnes of carbon dioxide and achieve savings of up to £ 443k per annum.
- Whilst a large portion of funding is already in place for Phase 1 projects, matched funding from the Carbon Trust and third party grants will be required to supplement existing monies. At least £ 247k of direct capital investment will be required from the Colchester Borough Council capital programme to deliver the first phase of projects.
- Firm figures and funding strategies for Phase 2 projects will be determined once the feasibility studies for these projects are complete.
- This programme of work will be led by Cllr Nigel Chapman and Head of Housing and Environmental Policy Matthew Young supported by Strategic Waste and Sustainability Manager Chris Dowsing, Climate Change Officer Samantha Preston, LACM Programme Communications Officer Cathryn Cansdale, LACM Programme Finance Champion Simon Lee and Building Services Manager Lee Spalding.
- This carbon management plan will become embedded within our Strategic and Service Plans. Progress towards our stated objectives will be reviewed six weekly by Senior Management Team and monthly by the LACM Core Group.
- We believe that this programme of activities will not only deliver carbon reductions in line with our Climate Change Strategy and significant cost savings for the Council, but will also position ourselves for impending new regulatory requirements such as the EPBD, The National Framework of Performance Indicators and the Colchester 2020 Carbon Challenge.
- This programme will also demonstrate that the Council has its own house in order before tackling carbon reduction in the wider community as part of our commitment to the Nottingham Declaration.



## 2.0 Carbon Management Strategy

### 2.1 Context and Drivers

The SIP and the Carbon Management Programme (CMP) that it delivers include ambitions for more energy efficient buildings, the use of renewable energy, and more sustainable methods of travelling. The CMP builds on and reinforces the Energy Management work that has been previously undertaken by the Council's Estates department culminating in the appointment of an Energy Bureau Service in September 2006 to monitor and manage all of the Council's energy usage and energy procurement contracts.

There are a number of drivers for the Council's Carbon Management Programme:

- **UK Government Legislation**

The Stern review published October 2006, sets the economic scene against which we must measure our Climate Change actions, the report was quite clear that ***“the cost of inaction will be far higher than tackling climate change now”*** The Draft Climate change bill has 4 key elements:

- i. Setting the Government's Long term Goal to reduce CO<sub>2</sub> emissions by 60% by 2050 into statute.
- ii. Establishment of a Carbon Committee, an independent body who will work with Government to reduce emissions over time and the whole economy.
- iii. Creation of enabling powers to put in place new emissions reductions measures needed to achieve these goals.
- iv. Improve arrangements for monitoring and reporting, including how the Government reports to parliament.

- **Gershon Efficiency/Cost Savings**

Measures to increase energy efficiency will reduce energy costs, which is particularly important for the future given the predicted increases in energy prices.

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.

Unless we take action to reduce energy and fuel consumption dramatically, the Council's combined energy and fuel bill could be in the region of £2.2 million by 2012. This is based upon a conservative price increase of 3.5% per annum and an increase of 0.7% in energy consumption and 1.8% in fuel consumption.





Section 3.3 shows the projected energy costs for the “business as usual” model against the “reduced emissions” scenario, this demonstrates that the cumulative Value at Stake amounts to some £2.2 million by 2012.

- **National Framework of Performance Indicators for Local Authorities**

The New National Framework of Performance Indicators for Local Authorities and Local Authority Partnerships were developed as a result of the Local Government White paper “Strong & Prosperous Communities”, which committed to introducing a set of streamlined indicators to reflect national priorities.

A single set of 198 national indicators was announced as part of the Comprehensive Spending Review 2007. They will replace all previous indicators and will be reported on from April 2008.

Targets against the set of National Indicators will be negotiated through the new Local Area Agreements. There are a number of indicators associated with climate change including:

- i. NI 185: Carbon dioxide emissions reduction from local authority operations (exactly what the LACM Programme is focussed upon).
- ii. NI 186: “Per capita reduction in carbon dioxide emissions in the local authority area”.
- iii. NI 188: “Adapting to climate change” (also relevant to the LACM Programme).

- **Community Leadership**

The early focus of the programme is the reduction/management of carbon emissions from the Council’s building portfolio and vehicle fleet. By reducing our own emissions we can provide an example to others, enabling us to act as leaders in the wider community.

Our signing of the Nottingham Declaration demonstrates our acceptance of the community leadership role by showing commitment to working with businesses, residents and indeed visitors within the Borough to achieve an ongoing reduction of our carbon emissions in coming years. A separate Nottingham Declaration Strategy and Action Plan (ND-SAP) is currently at the draft stage, the SIP document will continue to inform and help develop the ND-SAP.

- **Climate Change Response**

The issue of Climate Change is growing in importance and is a focus for action in national and regional strategies. There is an increasing expectation for Councils to take action on this issue and the SIP and CMP form the first part of the Council’s response to Climate Change.



- **EU Energy Performance of Buildings Directive**

From October 2008 public buildings over 1000m<sup>2</sup> gross internal floor area must carry a Display Energy Certificate and all newly built and leased buildings will require an Energy Performance Certificate to be issued at time of sale or change of tenancy. As such the energy performance of our buildings will become very visible to all building users and visitors.

- **Healthy and Comfortable Working Environment**

Carbon Management initiatives often include the uplifting of building fabric and services including more efficient insulation, heating, natural ventilation and lighting. These and other energy efficiency measures can create a better working environment and create more comfortable conditions for Council Staff leading to increased productivity.

## **2.2 Our Vision**

***“To lead by example in securing a low carbon future for the residents and businesses of the Borough and ensuring that the impacts of climate change within our control are minimised.”***

Through this vision, Colchester Borough Council provides an example to others in our community of the way we can work, and live, more sustainably.

The strategic objectives put forward as part of the Council's Carbon Management Programme working towards this vision are as follows:

- Reduce carbon emissions from our buildings through both the use of technology and behaviour change.
- Identify opportunities for making carbon savings in future contracts and procedures.
- Reduce carbon emissions from commuting and business travel, by promoting walking, cycling, public transport and car sharing; by investigating ways of reducing the need to travel; and taking account of carbon emissions in future vehicle fleet contracts.
- Continuously improve the Council's Carbon Management Programme by further developing monitoring systems to capture robust and accurate emissions data, and widening the scope to cover indirect emissions such as those arising through contracts.
- Learn from other organisations' experience of carbon management and from our own experiences as we progress through the programme.
- Inspire staff and member participation and integrate the Council's Carbon Management Programme into mainstream council activities, council policy and the performance management system.





- Lead the community to understand and act to protect the environment by raising awareness of the Council's Carbon Management Programme and our successes and demonstrate to them the benefits that can be realised, both now and for the future, through a more sustainable way of living.

## 2.3 Objectives and Targets

**The aim for this programme is an ambitious target of a 25% reduction in CO<sub>2</sub> emissions by 2012 based on the baseline of financial year (FY) 2006/7.**

**This equates to 2,333 tonnes of CO<sub>2</sub>**

## 2.4 Strategy

- **Projects and Emission Reduction Opportunities**

The Opportunities Workshop held as part of the CMP in September generated a list of actions and projects aimed at reducing the Council's CO<sub>2</sub> emissions. The feasibility of implementing these projects will be explored and those projects or opportunities demonstrating significant CO<sub>2</sub> emissions reduction have been presented to the Senior Management Team and Cabinet for adoption into the SIP (see also section 4). Funding for these projects will be sourced from existing Council budgets, supplemented by matched funding from the Carbon Trust.

**Projects and emission reduction opportunities identified within the CMP will deliver an ~18% reduction in CO<sub>2</sub> emissions equating to 1,642 tonnes of CO<sub>2</sub>**

- **Renewable Energy for Council Buildings**

We will investigate the potential for the installation of renewable energy sources to power Council buildings; this will include a review of current buildings as well as ensuring that all new buildings incorporate renewable energy elements to provide a minimum of 15% of the anticipated energy demand where practicable.

A Supplemental Planning Document for Sustainable Construction was published in late 2007.

- **Corporate Buildings Energy Policy**

Initial work within the LACM Programme has demonstrated the need for a Corporate standard for energy use and management within our buildings.



The Council renewed its contract with an Energy Bureau Service (Smith Bellerby Ltd) to manage all energy contracts and monitor energy usage in September 2007. The Council renewed its subscription to the Office of Government Commerce for the procurement of all its energy in April 2007.

- **Accommodation Review**

A comprehensive Accommodation Review looking at how the Council's office buildings can be used more efficiently is to be undertaken in 2008. This review has the potential to shed one of the Council's existing office buildings thereby saving energy and management costs.

**The forthcoming Accommodation Review has the potential to deliver a ~5% reduction in CO<sub>2</sub> emissions equating to 483 tonnes of CO<sub>2</sub>**

- **Staff Travel Plans**

Further development of the Staff Travel Plan will be undertaken in 2008. Measures likely to be included are:

- An ongoing programme of staff travel events and information on the Council's Intranet (the "Hub")
- Further improvements to facilities for cyclists and walkers in corporate buildings
- Development of the car share website
- Tax free public transport tickets
- Bus travel discounts

- **Business Travel Review**

A review, or programme of reviews, to look at business travel as part of the overall development of the Staff Travel Plan, elements to be looked at include:

- Reduction in total number of car parking spaces
- Car parking spaces provided for a limited number of days per week
- Car parking spaces provided only for registered car sharers
- Taxi contracts and bus use for staff travel within the borough
- Team bus passes
- Pool cars
- Flexible and home working strategy (linked with ICT strategy)

The review has the potential to decrease staff business travel by car and identify financial savings that could in part be utilised for the promotion of more sustainable modes of transport, particularly if this is undertaken with awareness raising workshops and staff training in areas such as safe cycling to overcome some of the worries and fears such modal shifts may present.



- **Fleet Management**

There are a number of areas within the fleet management arena that could be addressed these include but are not limited to the following:

- i. Review of pool car policy
- ii. Use of more electric/hybrid vehicles where possible
- iii. Driver training in more efficient/eco driving (will also reduce accident costs)
- iv. Fuel additives such as chemecol
- v. Increase in level of biofuel from sustainable sources

The renewal of the existing vehicle fleet is ongoing.

**A review of business travel alone as outlined within the CMP has the potential to deliver a ~1% reduction in CO<sub>2</sub> emissions equating to 45 tonnes of CO<sub>2</sub>. Further development of the Staff Travel Plan and fleet management strategy could increase this figure ten fold**

- **Procurement**

A review of procurement policy and strategy to ensure that whole life costing is taken into account when ensuring low carbon goods and services are obtained.

There is also an element of corporate social responsibility to take into account which is commensurate with our power of well being, and that is to ensure that our goods and services are purchased from suppliers who themselves take the same elements of care in their procurement strategies as does the Council through embedded supply chain management strategies that meet and where possible exceed current legislation and welfare standards.

The review of procurement policy and strategy is ongoing and is championed by the Procurement Group who meets quarterly.

- **ICT**

There is significant potential to address carbon emissions via the use of ICT and the way it is managed and the policies implemented these include:-

- i. Dissemination of software policies to permit auto shutdown of PC's after being inactive for a specified period
- ii. E-virtualisation utilising 'Blade' technology to reduce server room footprint and energy requirements
- iii. More use of teleconferencing
- iv. More online transactions
- v. Flexible working



**The relatively simple adoption of PC shutdown software as outlined within the CMP will deliver a ~1% reduction in CO<sub>2</sub> emissions equating to 39 tonnes of CO<sub>2</sub>**

- **Waste Minimisation Plan**

An IDeA peer review of the Council's waste services undertaken in January 2008 recommended that the draft Nottingham Declaration Strategy should contain links to a corporate waste minimisation plan to help support the overall priorities that the Council wants to achieve for carbon reduction.

This will be taken forward recognising that there also needs to be recognition in wider corporate plans and strategies including procurement of potential carbon savings in order to maximise the benefits of this work.

## 3.0 Emissions Baseline and Projections

### 3.1 Scope

Energy usage and CO<sub>2</sub> emissions data has been collected for the following:

- Operational Buildings – Council Offices, Town Hall, Museums
- Car Parks
- Public conveniences
- Leisure centres
- Street Lighting
- Fleet vehicles – vans for the parking attendants, dog wardens, street wardens, courier service, refuse collection vehicles, and parks & recreation vehicles
- Staff Business Mileage

These areas from within the Council were chosen for inclusion within the CMP as data is readily available and continuously monitored and updated for them all. The data collected has been used to calculate the baseline for the CMP.

Baseline figures and the Value at Stake were reported to the Council's Senior Management Team (SMT) at the Place Shaping Meeting held on Tuesday 19<sup>th</sup> February 2008 and presented to Cabinet on Wednesday 12<sup>th</sup> March 2008.

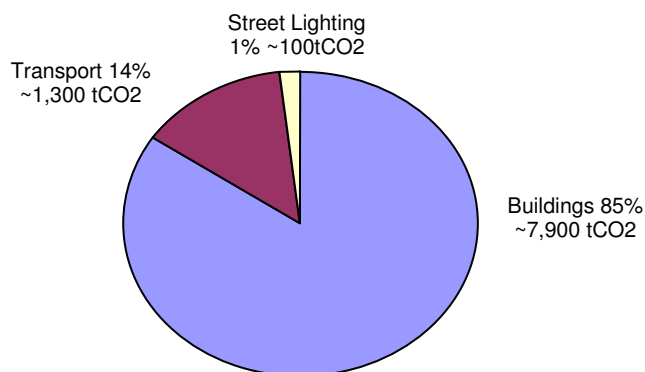
### 3.2 Baseline

We have selected 3 main areas of which we have direct control to be addressed via the CMP, these are Buildings, Transport and Street Lighting.

**The total carbon of emissions from CBC Buildings, Transport and Street Lighting based on energy usage data for FY 2006/7 is estimated to be 9,300 tonnes.**

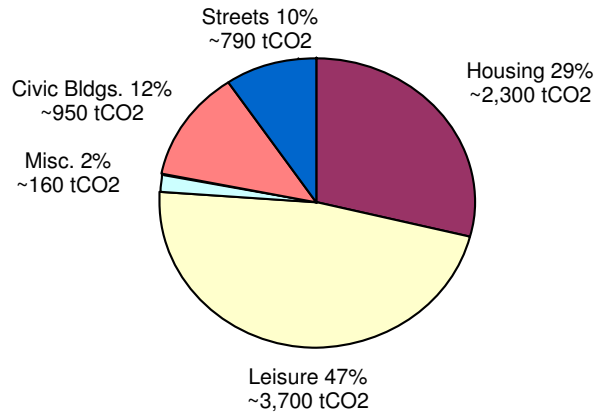
The relative contributions to our carbon footprint by each of these areas are shown by fig 1 below:

Fig 1 - Summary CBC CO<sub>2</sub> Emissions Breakdown



By far the largest contributor (Buildings) has been further broken down between building operators and Service Areas as detailed in fig 2 below:

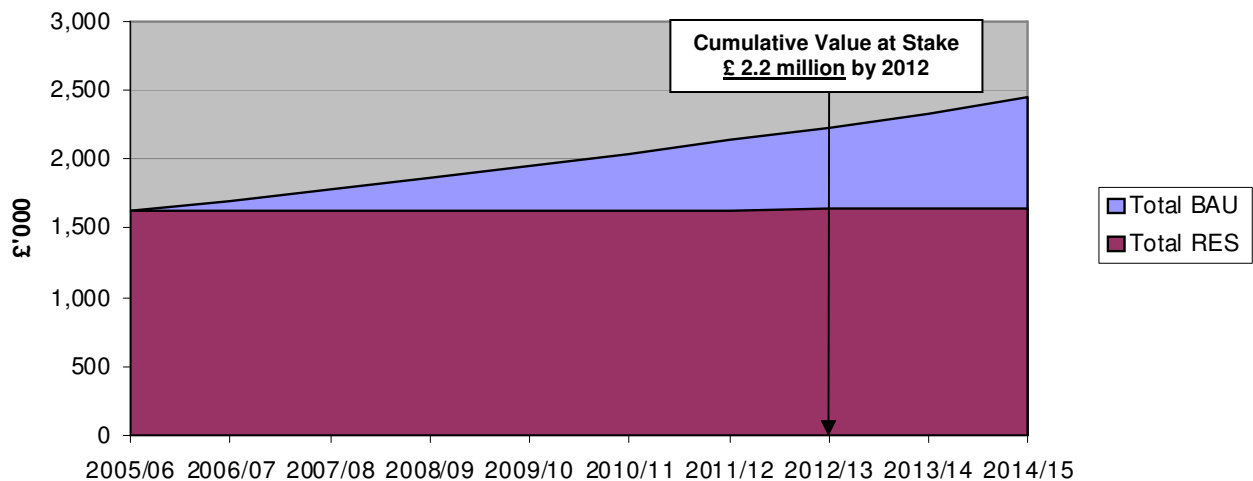
**Fig 2 - Buildings CO2 Emissions Breakdown by Service Area**



### 3.3 Projections

The difference between projected energy costs under the “business as usual scenario” (BAU) (i.e. the “do nothing” scenario) and the “reduced emissions scenario” (RES) is termed the “Value at Stake” (VAS) as detailed in fig 3 below:

**Fig 3 - Value at Stake**



The VAS calculation is based on figures provided by the DTI which assume over the next 5 years an increase in gas and electricity prices of 3.5% pa, an increase in CCL of 2% pa, an increase in fuel costs of 3.6% pa, an increase in energy consumption of 0.7% pa and an increase in transportation usage of 1.8%. This is compared against an assumed reduction in energy and fuel consumption of 3.3% under the RES.





Whilst this does not equate to a direct monetary saving for the Council, it does however represent “cost avoidance” over the 5 years of running the CMP.

**The total aggregated VAS as shown in fig 3 above is valued at £2.2 million from the beginning of the CMP to the target delivery year of 2012.**

**Unchecked the VAS will increase to £3.7 million by 2015 (equal to the total area of the upper triangle as shown on the graph).**

According to the prediction, **a total sum of £ 590k is at stake in the target delivery year alone.** This is the additional amount that the Council’s energy is expected to cost on top of today’s prices should we not achieve our targeted saving of 25% by 2012.

### **3.4 Past Actions and Achievements**

Carbon management has not been a specific focus for work before now, although a Council Member Task and Finish Group concluded that energy management should become a priority area for the Council which lead to the formation of the cross-services Sustainability Action Group and the Council’s inclusion within the Carbon Trust’s LACM Programme.

A number of ad hoc initiatives have also resulted in positive benefits although to date these have not been quantified. These include the active promotion of public transport for travel to work including special discounts for staff and season ticket loans, Staff car parking charges to discourage driving to work, the expansion of park and ride facilities and energy efficiency advice to domestic households via the Warm Homes scheme.

Energy efficiency within the office has also been specifically targeted via an ongoing Staff awareness campaign.

## 4.0 Carbon Management Strategy Implementation Plan

### 4.1 Phase 1 Short-listed Projects and Emission Reduction Opportunities.

The Opportunities Workshop held as part of the CMP in September generated a list of actions and projects aimed at reducing the Council's CO<sub>2</sub> emissions. These were prioritised according to the ease and cost of implementation and the effectiveness of CO<sub>2</sub> emissions reduction.

Initial projects to be undertaken as part of the CMP are as detailed within the table below. Projects are listed along with details of their expected delivery cost, annual CO<sub>2</sub> saving and annual energy cost saving (refer to **Appendix A for detailed project breakdown and officer responsibilities**):

Project Description	Estimated Completion Date	Project Delivery Cost	Potential Annual Energy Savings Achieved	Potential Annual CO <sub>2</sub> Emissions Saved (tonnes)
Refurbishment of Fitness Pool building, Colchester Leisure World	February 2009	£372k	£60k	412
Replacement of existing cremators, Colchester Crematorium	TBC	£750k	£23k	167
Replacement of heating system and insulation of roof at Colchester Castle	February 2009	£326k	£3k	18
Replacement of lighting at Rowan House offices	February 2009	£150k	£5k	36
Installation of "LANDesk Beyondlogic Shutdown" software onto Council PCs	July 2008	£3k	£5k	39
Time control for vending machines and hot water boilers	May 2008	£90	£7k	56
Installation of "PowerPerfector" voltage optimisation equipment at top ten electricity usage sites	August 2008	£94k	£41k	313
Installation of "Eco Flow" fuel conditioning equipment at Colchester Town Hall	July 2008	£1k	£1k	6
Draught sealing of Colchester Town Hall windows	August 2008	£10k	£3k	23
Staff awareness campaign	Ongoing	LACM Core Team officer time only. No additional funding required to implement	£7k	57
<b>Totals</b>	-	<b>£1706.09k</b>	<b>£155k</b>	<b>1127</b>



The first three projects within the above table have been developed in consultation with the building operators from existing capital projects.

These were chosen for inclusion within the CMP as in the first instance they already had at least some funding allocated to them and they were due to be undertaken before the CO<sub>2</sub> reduction target date of 2012. All projects showed potential to be enhanced with the view of making them more sustainable and in doing so contributing to the Council's carbon reduction programme. By enhancing the projects as such, they also qualify at least in part for matched funding to assist with the capital cost of their delivery.

To date each project has been developed to the feasibility stage resulting in the detailed costs and CO<sub>2</sub> savings listed within the table above.

#### 4.2 Phase 2 Potential Projects.

Other potential projects could further reduce CO<sub>2</sub> emissions, but are not yet part of the planned work. They need further feasibility work to determine accurate implementation costs and energy and CO<sub>2</sub> savings.

These are as detailed within the table below. Projects are listed along with details of their **estimated** delivery cost, annual CO<sub>2</sub> saving and annual energy cost saving (**refer to Appendix A for detailed project breakdown and officer responsibilities**):

Project Description	Estimated Completion Date	Project Delivery Cost	Potential Annual Energy Savings Achieved	Potential Annual CO <sub>2</sub> Emissions Saved (tonnes)
Upgrading of heating/hot water systems and controls at Sheltered Housing Schemes	March 2010	£50k	£15k	111
Installation of "PowerPerfector" voltage optimisation equipment within Sheltered Housing Schemes	August 2009	£30k	£16k	100
Replacement of lighting within multi-storey car parks	September 2009	£500k	£21k	137
Accommodation Review	TBC	N/A*	£93k**	483
Upgrading Moot Hall roof insulation and lighting within Colchester Town Hall	June 2009	£5k	£1k	9
Upgrading of Building Energy Management Systems	March 2010	£180k	£26k	189
Bio-mass heating system for Highwoods Resource Centre	February 2009	£30k	£1k	8

Table continued....

Project Description	Estimated Completion Date	Project Delivery Cost	Potential Annual Energy Savings Achieved	Potential Annual CO2 Emissions Saved (tonnes)
Replacement of business mileage with electric pool cars	TBC	£160k	£115k***	45
<b>Totals</b>	<b>-</b>	<b>£955k</b>	<b>£288k</b>	<b>1082</b>

\* Project does not require any additional funding to deliver over that already in place

\*\* Saving already accounted for within Accommodation Review Strategy

\*\*\* Saving is average annual business mileage cost less electric car running costs rather than value of energy saved

Project delivery costs, potential annual energy savings and CO<sub>2</sub> emissions reduction data for Phase 2 projects have been estimated using BCIS data and both baseline and historic energy usage data. Firm figures for Phase 2 projects will become available as we undertake the relevant feasibility studies for the same.

#### 4.3 Summary of Milestones for Embedding and Delivery of CMP

Milestone	Responsibility	Target Date
Quantification of top projects and opportunities	Lee Spalding	End Jan 2008
Mature draft of SIP for review	Lee Spalding and Project Team	End Jan 2008
SIP presented to SMT	Matthew Young, Chris Dowsing, Lee Spalding and Project Team	19 <sup>th</sup> February 2008
SIP signed off by Cabinet and EMT	Matthew Young, Chris Dowsing and Lee Spalding	12 <sup>th</sup> March 2008
Define and approve programme governance	Matthew Young, Chris Dowsing and Lee Spalding	End March 2008
SIP funding strategy signed off by Leadership Team and CPMG	Matthew Young, Chris Dowsing and Lee Spalding	7 <sup>th</sup> April 2008
SIP funding strategy signed off by Cabinet	Matthew Young, Chris Dowsing and Lee Spalding	May 2008
Begin commissioning of Phase 1 projects and opportunities	Lee Spalding	June 2008 to December 2008
Begin feasibility studies for Phase 2 projects and opportunities	Lee Spalding, Chris Dowsing and Colchester Borough Homes	April 2008
Commission Phase 2 projects and opportunities	Lee Spalding, Chris Dowsing and Colchester Borough Homes	April 2009 to December 2009
Review progress of projects and deliver carbon savings	Lee Spalding, Chris Dowsing, Samantha Preston, Cathryn Ann Cansdale and all stakeholders	Ongoing



## **5.0 Financing the Implementation of Carbon Management.**

### **5.1 Funding**

An estimated “Value at Stake” of £2.2 million has been made which illustrates the potential increase in energy costs if the Council does not achieve the carbon savings targets proposed (3.25% reduction per annum) and energy prices increase at only 3.5% per annum. The proposed programme of projects assessed in this paper has been designed to address that value at stake, concentrating efforts on reducing carbon emissions.

The proposed carbon savings will be delivered in 2 main phases. Phase 1 measures deliver 1127 tonnes of carbon emissions savings per year, reducing CBC revenue costs by £155k per year and cost c£1.706 million to implement. Phase 2 measures deliver 1082 tonnes of carbon saving per year, reducing CBC revenue costs by a further c£288k per year and cost more than £955k to implement (estimates are not available for all project costs).

Funding can be delivered from four main sources:

- CBC Revenue spend – where projects cost less than £20k
- CBC Capital Programme – where formal approval from Council is required
- External Grants – where we may be able to bid for specific funding for individual projects (this can include Section 106 or special Grants)
- Borrowing – either Prudential Borrowing or via Carbon Trust partner Salix Finance Ltd

The decision on which funding source is suitable will be applied on a project by project basis. Broadly speaking the programme has been split into two phases:

### **5.2 Phase 1**

If Phase 1 projects are implemented, they will deliver a 12% reduction in the Council’s CO<sub>2</sub> emissions and an annual saving of c£155,000 at today’s energy prices.

The funding required for Phase 1 projects is c£1,706,000. A minimum of c£247,000 will need to be funded via the Council’s Capital Programme from its own resources. Additionally, the Council will utilise £100,000 from the Repairs and Renewals Reserve and a further £100,000 from the newly established 5yr Building Maintenance Programme.

The £326,000 for the Castle heating upgrade is assumed to be fully funded from a Heritage Lottery fund bid and £750,000 for the Cremators will be funded from the Environmental Surcharge added to all adult cremations the sum of which is ring-fenced and held separately within Council accounts.

The proposed breakdown of funding for each of the projects is detailed below:

Phase 1 Project	Start Date	Completion Date	CBC Capital Resources	R&R/ Bldg. Maint. Prog. Reserve	3 <sup>rd</sup> Party Capital Resources	Potential Revenue Budget	Potential Salix Match Funding	TOTAL
Fitness Pool Refurbishment	09/2008	02/2009	£42k	£200k			£130k	£372k
Replacement Heating Castle	12/2008	02/2009			£326k			£326k
Rowan House Lighting	11/2008	02/2009	£150k					£150k
PC Shutdown Software	06/2008	07/2008	£3k					£3k
Vending Machine 7 Day Timers	05/2008	05/2008				£0.09k		£0.09k
Voltage Optimisation	06/2008	08/2008	£47k				£47k	£94k
Town Hall Fuel Conditioning	07/2008	07/2008				£1k		£1k
Draught Sealing Town Hall Windows	07/2008	08/2008	£5k				£5k	£10k
Replacement of Cremators	10/2009	TBC			£750k			£750k
Awareness Campaign	09/2007	Ongoing						£0
<b>TOTAL</b>	<b>-</b>	<b>-</b>	<b>£247k</b>	<b>£200k</b>	<b>£1075K</b>	<b>£1.09k</b>	<b>£182k</b>	<b>£1706k</b>

### 5.3 Capital Programme Funding

With a little prioritisation, some of the projects above could be funded via the Capital Programme and will require commitment from Leadership and Council to do so. The workings above highlight a requirement to source an assumed minimum of c£247,000 from the Capital Programme in order to commence the Phase 1 projects within the Carbon Management Programme.

Phase 2 projects are being analysed in more detail and it is likely that a further allocation will be required in order to support them. The current estimates suggest a further £955,000 could be required to implement Phase 2.





## **5.4 Salix Finance Ltd Funding**

In Conjunction with Salix Finance, the funding arm of the Carbon Trust, the Council can establish a ring-fenced fund on the basis of “invest to save” principles. For this programme it would consist of an initial allocation from the Council of c£182k with a matched grant from Salix of c£182k. This fund can then be used to finance any projects and opportunities that clear the assessment criteria required. The assessment includes payback, cost per tonne of CO<sub>2</sub> saved, net present value and other criteria, all of which are available in a standard spreadsheet model.

Salix Finance Ltd is a subsidiary of the Carbon Trust. They provide funds to Authorities for carbon savings initiatives, in the form of a loan. This loan needs to be match funded and may be repayable under certain circumstances (if less than 25% of the balance is being used for further projects). The purpose is to encourage an “invest to save” approach and a self-sustaining fund.

The loan is provided in tranches once certain milestones agreed in advance have been met and particular criteria in terms of value for money and carbon savings are assumed to accrue. A separate fund needs to be set up, managed by the Council. Projects can then make bids to this fund for support. The money drawn from this fund is repaid by applying the estimated savings from the project and making a provision via the revenue budgets. The fund has to be managed by Financial Services and needs to have a designated Officer responsible for it. There is also a requirement to submit regular financial returns to Salix Finance.

The funding borrowed must be repaid to the fund from the efficiencies and savings estimated. In this way the fund is completely replenished and is therefore an ongoing resource for carbon reduction projects. Repayments will be made at a minimum rate of 75% of the savings realised.

By using Salix funding, the Council will record a cost saving equivalent to 25% of the estimated annual revenue savings in each year. 75% is then used to repay the “loan” and acts as a provision for further carbon saving initiatives. Once the loan is repaid in full for a project, the Council will benefit from the full annual efficiency saving.

## **5.5 Other Funding**

In the workings above, c£100k has been identified within the renewals and repairs reserve and a further £100k from the newly established Building Maintenance Programme has been allocated to support the Leisure World Fitness Pool works. It is assumed the vending machine timers and Town Hall fuel conditioning can be funded from revenue given the relatively small figures involved.

## 5.6 Financial Impact (Phase 1)

Should all of the Phase 1 projects be implemented as planned, with funding as illustrated above, the estimated impact on the Councils financial position is highlighted in the following table:

Table Showing Summary of Total Spending and Accrued Savings based on Delivery of Phase 1 Projects					
Initial Estimated Capital Expenditure	£1,706,000 (incl £182,000 potential Salix loan)				
Initial Estimated Revenue Expenditure	£1,090				
	08/09	09/10	10/11	11/12	12/13
Annual Estimated Savings (£)	£51,133	£134,642	£145,010	£155,378	£155,378
<b>Annual Estimated Savings – Revenue Account</b>	<b>£28,818</b>	<b>£57,944</b>	<b>£68,312</b>	<b>£78,680</b>	<b>£103,787</b>
Cumulative estimated Savings	£51,133	£185,774	£330,784	£486,163	£641,541
Cumulative Savings – Revenue Account	£28,818	£86,761	£155,073	£233,753	£337,541
Carbon Savings Fund - to support future projects	£22,315	£99,013	£175,711	£252,409	£304,000

By 2012/13, the cumulative savings will reach c£641,541, of which, c£337,541 will have been reflected in lower revenue costs. The remaining savings of £304,000 will be accrued within a self-sustaining fund to support future carbon savings projects. From the financial year 2013/14 onwards, the sustainability fund will have been fully replenished for these projects and the above therefore would produce an annual saving within the revenue account of £155,378.

## 5.7 Phase 2

The projects under consideration for phase 2 have not been subjected to the same detailed level of assessment. In so far as estimates are available, the phase 2 projects have been assessed and the potential financial impacts are presented below:

Phase 2 Project	Start Date	Completion Date	CBC Capital Resources	R&R/ Bldg. Maint. Prog. Reserve	3 <sup>rd</sup> Party Capital Resources	Potential Revenue Budget	Potential Salix Match Funding	TOTAL
Sheltered Housing Heating Overhaul	05/2009	03/2010						£50k
Sheltered Housing Voltage Optimisation	04/2009	08/2009						£30k
Multi-storey Car Park Lighting	06/2009	09/2009						£500k
Accommodation Review	TBC	TBC						N/A

Table continued....

Phase 2 Project	Start Date	Completion Date	CBC Capital Resources	R&R/ Bldg. Maint. Prog. Reserve	3 <sup>rd</sup> Party Capital Resources	Potential Revenue Budget	Potential Salix Match Funding	TOTAL
Upgrading Moot Hall roof insulation and lighting	04/2009	06/2009						£5k
Upgrading BEMS within Operational Bldgs	04/2009	03/2010						£180k
Bio-mass hgt system for Highwoods RC	09/2008	02/2009						£30k
Replace bus. mileage with electric pool cars	TBC	TBC						£160k
<b>TOTAL</b>	-	-						<b>£955k</b>

If Phase 2 projects are undertaken then they will deliver c12% reduction in the Council's CO<sub>2</sub> emissions with an estimated annual saving of c£288,000. This combined with Phase 1 suggests the total programme will deliver a reduction in carbon of 24% against the target of 25%.

It must be borne in mind that the anticipated savings estimates are based upon current energy prices. Volatility in the energy markets continues to present a real risk to the operating costs of UK based organisations. Recent increases suggest the above estimated savings could be far greater – for example, prices increased as much as 15% for domestic customers this year.

## 5.8 Programme Summary

Given the estimates of CO<sub>2</sub> savings for Phase 2 projects are fairly conservative it is feasible that the Council's target will be met in full by Phase 1 and 2 projects. Additional savings can be delivered by the Council's Staff Travel Plan and vehicle fleet review.

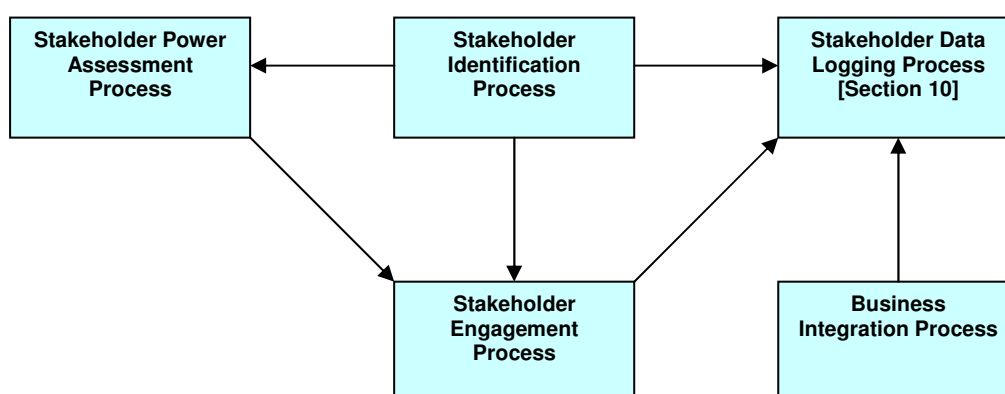
Phase 1 projects go some way to achieving the value at stake by delivering £641,541 in five years to 2012/13 or 29% of the value at stake estimate. If Phase 2 projects are undertaken concurrently then up to a further c£576k could be saved in the period. This could give a combined 5 year saving of c£1,217,541 and therefore deliver up to 55% of the estimated value at stake in the next five years.

## 6.0 Stakeholder Management and Communications

Effective communications and the management of key stakeholders is fundamental not only to securing approval and endorsement for the CMP and sustaining interest in this long term programme, but also to ensure that carbon management becomes embedded within the Council's culture and Strategic Plan.

### 6.1 Stakeholder Management

Core group stakeholders were identified during a brainstorming session between project leads and sponsors, early in the LACM process. Whilst working up proposals it became clear that all members of staff were in fact stakeholders in this process although obviously with varying degrees of influence and power.



The definition of a stakeholder is:

***“Any group or individual who can affect or is affected by the current system, and/or who could affect or could be affected by a proposed change to the system.”***

A series of briefing sessions were put in place for core group stakeholders, and in addition they were invited to the Opportunities Workshop held in September 2007 where they had the opportunity to interact with their contemporaries from our partner Authorities.

### 6.2 Communications Plan

Following is a summary of the intended communications actions, their timing and details of who is responsible for the same. Engagement with external partners and the community will occur later in the LACM Programme, but are listed here for information.

Stakeholder Name/Group	Issues	Key Messages	Means of Communication	Timetable	Responsibility
<b>Cabinet and Ward Councillors</b>	Need to build awareness of cause and local effects; more likely to sell on potential cost savings /avoidance.	Capital investment required, but with strong business case; energy prices rising; Council has a 'duty of care' to act; potential to publicly 'lead the way' and link in with the Nottingham Declaration sign up.	Face to face meetings and/or written briefings.  Member Information Bulletin (MIB).  Engagement in the 'Staff/member Awareness Campaign' (Section 6.3)	PH involved from start. All Cllrs to be involved before sign off/adoption	Project Sponsor(s) and Communications Manager
<b>Executive Management Team and Service Heads</b>	Need to secure support and encourage them to 'drip feed' important messages down to staff.	LACM needs to become a strong corporate priority; energy prices rising; possible savings, Council has a 'duty of care,' lots of small actions can make a big collective difference.  Climate change standards need to be embedded throughout the organisation.	Face to face meetings with SMT and GMT meetings.  Engagement in the 'Staff Awareness Campaign' (Section 6.3)	1 <sup>st</sup> phase of communication starting in September 2007. To be kept informed via briefings at 6 wkly "Place Shaping" meetings	Project Sponsor(s) and Communications Manager
<b>Sustainability Action Group/LACM Programme Board</b>	Build awareness of the programme's key messages; secure support and awareness of need to cascade information to service areas.	Becoming a strong corporate priority; Council has a 'duty of care,' need for staff representatives to raise staff awareness; lots of small actions can make a big collective difference.  Emphasis on service areas to get involved and suggest projects.	Face to face meetings phase.  Engagement in the 'Staff Awareness Campaign' (Section 6.3) and communication for comments and contributors	Programme Board meeting on 13 <sup>th</sup> August 2007 and monthly meetings throughout all phases.  'Opportunities Workshop' held on 17 <sup>th</sup> September 2007.	Project Sponsor(s), Communications Manager and Project Lead.
<b>All Staff</b>	Success of some actions will depend on wide take up of the programme at all staff levels. Need to make information attractive, easy, fun and relevant; need to demystify concepts and challenge myths around energy usage etc.	Overall success depends on their commitment; provide money saving opportunities that can be used at home.  Invitation to all staff to become 'Carbon Reduction Champions' within their services.	See Section 6.3 for details on the 'Staff Awareness Campaign.'	Staff will be involved with from September 2007.  To be involved and encouraged at all stages of the programme.	Project Sponsor(s), Project Lead and Communications Manager.
<b>Colchester 2020 (Local Strategic Partnership)</b>	Need to identify key partners to develop opportunities for joint working or sharing good practice; non-duplication of effort. Join up with 'Colchester Carbon Challenge'	Importance of working together to combat climate change; Council is leading the way but keen to work together and share experiences. Ties in with Nottingham Declaration.	Email. CBC website. Presentations and exhibitions	Communication to take place when CMP finalised	Project Sponsor(s), Project Lead and Communications Manager.

Table continued....

Stakeholder Name/Group	Issues	Key Messages	Means of Communication	Timetable	Responsibility
<b>Town &amp; Parish Councils</b>	Need to build awareness of cause and local effects; more likely to sell on potential cost savings.	Importance of working together to combat climate change; Council is leading the way but keen to work together and share experiences. Ties in with Nottingham Declaration.	'Common Ground' magazine. CBC website. Face to face meetings and/or presentations.	Communication to take place when CMP finalised.	Project Sponsor(s), Project Lead and Communications Manager.
<b>Business Community</b>	Need to identify key partners to develop opportunities for joint working or sharing good practice; non-duplication of effort.	Importance of working together to combat climate change; Council is leading the way but keen to work together and share experiences. Ties in with Nottingham Declaration. Businesses can contribute regardless of their size.	Email. CBC website. Business Forums (presentations /meetings).	Communication to take place when CMP finalised.	Project Sponsor(s), Project Lead and Communications Manager.  Neil Hopkins from Enterprise and Communities (part of Nigel Myers team).
<b>Public/wider community</b>	Huge scope to change behaviours; need to make information attractive, relevant and exciting.	Opportunities to help to improve our environment and save money; small easy actions. Explain what CBC are going to reduce our Carbon Footprint and offer suggestions to help them reduce theirs. Demonstrate how this links in with the Nottingham Declaration and Colchester 2020.  Promotion of Phase 1 and 2 Projects.	Courier. CBC website. Press releases, exhibitions, posters and adverts. (Join up with the Nottingham Declaration Promotion).	Communication to take place when CMP finalised.	Project Sponsor(s), Project Lead and Communications Manager.

## 6.3 Awareness Campaign

It is recognised that raising staff awareness across an organisation can aid in the reduction of CO<sub>2</sub> as individuals learn to take responsibility for their own Carbon Footprint.

### • Phase 1

At Colchester Borough Council we started to raise awareness in September 2007. The "Colchester Big Clean-Up" started with shock tactics as we distributed teaser posters that had innuendo style questions such as "How big is yours?" and "You turn me on?" The aim was to get people talking about their meaning. At this time we also sent these slogans round by email.

### • Phase 2

The second phase of the campaign occurred two weeks later in October 2007. The previous teaser posters were then replaced with posters that explained the slogans further and included pictures e.g. "How big is yours – how big is your Carbon Footprint?" and "You turn me on – and leave me on all night" (with a picture of a light bulb). These posters also contained facts about energy saving and advertised the 'Colchester Big Clean-Up' area of the Hub (our intranet). A few complaints were received when the teaser posters went up, but at this stage the complaints stopped as people became aware of the messages we were trying to get across.





As the posters were distributed, “Switch Off!” stickers were placed over every monitor button that was left on that evening. There was a positive response from this and it was agreed that this should be done on a regular basis.

October 2007 saw the launch of our dedicated “Big Clean-Up” area of the intranet (the Hub) where we posted a large amount of information and links on the programme as well as Climate Change and fun links. The Hub was also used to invite people to become Carbon Cops (this name has since changed to Carbon Reduction Champions to encourage a more positive approach within the organisation).

- **Phase 3**

Phase 3 of the Colchester Big Clean-Up started the first week in December 2007. As part of this phase, two different types of posters were distributed around the Council Offices – one of which supplied 10 energy saving tips for the Christmas period.

At this time the Clean-Up team also distributed the “Switch Off!” stickers to those monitors that had been left on after hours, and “Well Done” Christmas stickers to those who had switched them off. It was found that Rowan House had a higher percentage of monitors turned off than Angel Court, but both were an improvement on the previous phase. For those members of staff with ‘Well Done’ stickers, there was also a Fair Trade chocolate and complements card waiting for them on their desks in the morning (which has been received very well).

Prior to this event a full page article had been printed in the “Way We Work” magazine inviting staff to volunteer as Carbon Cops/Carbon Reduction Champions. At this time the introduction on the Hub was also updated and included progress on the LACM projects and an explanation of the winter heating system in Rowan House.

- **Phase 4**

Phase 4 of this campaign is currently underway at the time of writing this SIP (February 2008). As part of this phase we conducted another office walk round in January, firstly to remove any Christmas posters, but also to count up the numbers of computer monitors left on overnight. The figures from this exercise have helped us produce a league table between the different services, which we will continue throughout the year. It is hoped that introducing some healthy competition between services will further help to drive down the number of monitors left on overnight.

We have also updated the Big Clean-Up area of the Hub and we are currently designing an all staff survey which is due to go out in March 2008. This survey will help us gauge opinions on Climate Change within the organisation and have been created in cooperation with the Waste Policy team and the Travel Plan Club in order to maximise the results. The survey contains a pledge section where staff can identify CO<sub>2</sub> reducing actions that they already do or pledge to do.



To encourage completion of the survey we are running a competition to suggest something the Council can do to further reduce its Carbon Footprint. The suggestion that saves the most CO<sub>2</sub> will win a prize.

This phase is the largest phase so far in the campaign as it also includes meetings with Carbon Reduction Champions, posters, another league table and further promotion of the key LACM projects.

- **Ongoing work**

It is understood that raising awareness is an ongoing process and one that will include further phases on promotion. We aim to always keep these fresh and fun, whilst communicating important information. It is hoped that in the coming months we will have taken steps to embed Climate Change actions within the Authority with the help of Human Resources; for example, via Colchester Borough Council induction seminars for new staff, staff's SMART objectives and through the production of an "Environmental Code of Conduct."

These ideas are still at discussion stage and will require further commitment from management.

To view the posters for all phases please see **Appendix B**.

## 7.0 SIP Governance, Ownership and Management

The Carbon Trust based on experience from previous phases of the CMP recommend that a formal structure be established that will remain in place throughout the life of the Programme and beyond to ensure that projects are implemented and their results monitored and quantified effectively when compared against the individual project goals.

Strategic links are important to ensure continuity of the decision making process and integration into the Council's long term goals and those of its close working partners such as Colchester 2020. The links are also vital to ensure that high level support is retained for the programme.

Following is a summary of the processes that will be used at a high level by those governing the Council's CMP to predict / identify risks and issues at a programme level, identify the means of managing and resolving these, ensure that actions are taken and regularly review their status.

### 7.1 Carbon Management Implementation Plan: Responsibility Table.

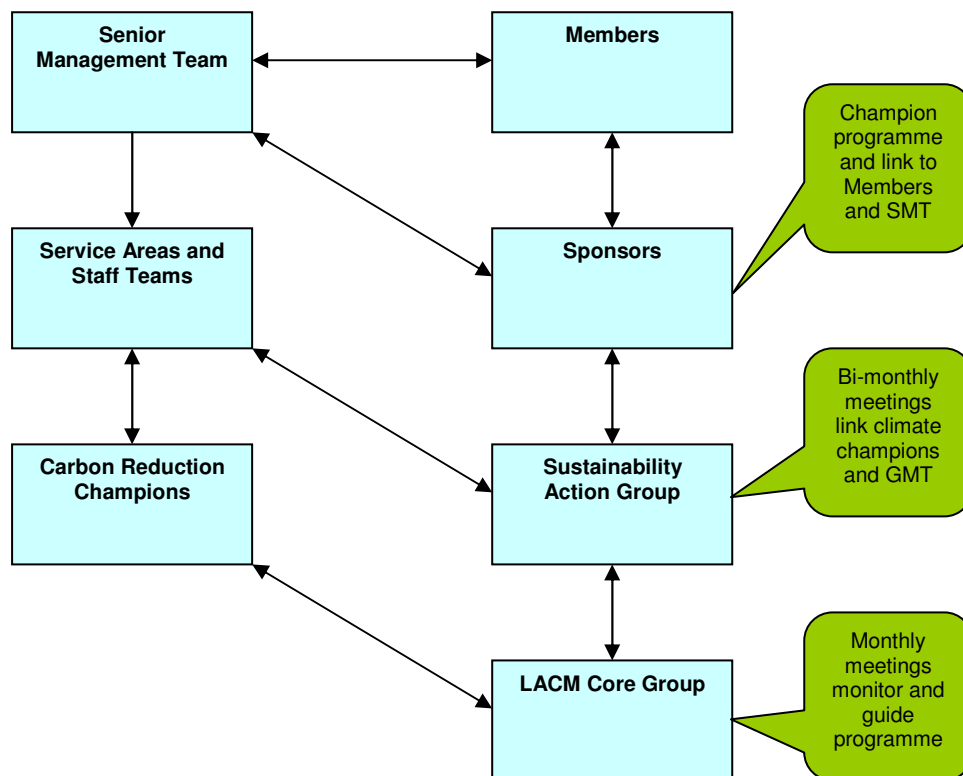
Activity	Responsible Person		
	Sponsor/ Member Representation	LACM Programme Core Group	Others
Carbon Management Implementation Plan:	Cllr Robert Davidson Cllr Nigel Chapman, Adrian Pritchard	-	-
• Set objectives	Matthew Young	Chris Dowsing, Samantha Preston, Lee Spalding	Sustainability Action Group
• Manage implementation plan	Matthew Young	Chris Dowsing, Samantha Preston, Lee Spalding, Simon Lee	-
• Monitor and review progress	Matthew Young	Chris Dowsing, Samantha Preston, Lee Spalding	Sustainability Action Group, Carbon Reduction Champions
• Manage risks and issues	Matthew Young	Chris Dowsing, Samantha Preston , Simon Lee, Lee Spalding	-
• Manage stakeholders and communication	Matthew Young	Chris Dowsing, Samantha Preston, Cathryn Ann Cansdale	Sustainability Action Group
• Report	Matthew Young	Chris Dowsing, Samantha Preston, Cathryn Ann Cansdale, Lee Spalding, Simon Lee	-
Financing of Carbon Management Activities:	Cllr Robert Davidson Cllr Nigel Chapman, Adrian Pritchard	-	-
• Carbon Management in Buildings	Matthew Young	Lee Spalding	Building Operators
• Carbon Management in Transport	Matthew Young	Chris Dowsing, Samantha Preston, Dave McManus, Emily Harrup	-
• CHP, Renewables	Matthew Young	Chris Dowsing, Samantha Preston, Lee Spalding,	-
• Purchasing	Matthew Young	Chris Dowsing, Samantha Preston, Simon Lee	Essex Procurement Hub
• Communications and community relations	Matthew Young	Chris Dowsing, Samantha Preston, Cathryn Ann Cansdale	-

## 7.2 Risks, Issues and Benefits Management

- All projects and key opportunities will be administered via LACM Programme Core Group
- Building related projects will be delivered by Building Services Manager (Lee Spalding) in conjunction with CBC Framework Consultants
- Risks and Issues will be highlighted and explored by LACM Programme Core Group at regular monthly meetings and reported back to Sponsor/Member representative
- Energy saving benefits delivered by projects and key opportunities will be measured by CBC Energy Bureau Service (currently Smith Bellerby Ltd) and reported to LACM Programme Core Group and Sponsor/Member Representative via Building Services Manager who will compare benefits against predicted targets
- LACM Programme Core Group and Sponsor/Member Representative will report to SMT and Cabinet via SMT “Place Shaping” meetings and Informal Cabinet Meetings
- LACM Programme Core Group will report to wider Council via cross service Sustainability Action Group and CMP website on CBC Intranet
- LACM Programme Sponsor and Core Group members to have CMP listed within their “SMART” staff appraisal and performance objectives

## 7.3 Reporting and Evaluation

Reporting and evaluation of CMP implementation will be undertaken in accordance with the Communications Plan and the following flow chart:



## Appendix A

PHASE 1	REFURBISHMENT OF FITNESS POOL BUILDING, COLCHESTER LEISURE WORLD
Description and notes	Refurbishment of Fitness Pool Building including replacement of existing warm air heating system, upgrading building fabric to current Part L Building Regulation Standard
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 234k</li> <li>Emissions reduction: 412 tonnes CO<sub>2</sub> per annum</li> <li>Financial savings: £ 60k per annum</li> <li>Payback period: 4 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: £ 150k internal from R&amp;R, ring fenced sustainable fund</li> <li>Other Resources:               <ul style="list-style-type: none"> <li>Sports &amp; Leisure Manager</li> <li>Building Services Manager</li> <li>CLW Technical Manager</li> <li>Framework Consultant</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Grady (Sports &amp; Leisure Manager), Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Arthur Cairns (Technical Manager)</li> <li>CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings</li> <li>Principal risks: Existing funding insufficient, commitment of Budget Holder to Project</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Sub-metering of Fitness Pool heating plant and electrical systems before and after Project and monitoring of building performance via BEMS.</li> <li>Monitoring and recording of CLW energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to develop Project to Tender: April 2008</li> <li>Tender: September 2008</li> <li>Start on site: December 2008</li> <li>Project completion: February 2009</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations

PHASE 1	REPLACEMENT OF CREMATORS AT COLCHESTER CREMATORIUM
Description and notes	Replacement of existing cremator plant with more energy efficient and cleaner plant
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: No additional funding required for carbon reduction aspects of project, cremators are being replaced as existing have reached end of useful life and to comply with mercury pollution regulations. Funding to be sourced from environmental levy grant</li> <li>Emissions reduction: 167 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 23k per annum (estimate)</li> <li>Payback period: N/A</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Capital programme</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Crematorium and Cemetery Manager</li> <li>Building Services Manager</li> <li>Procurement Hub</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Penny Stynes (Crematorium and Cemetery Manager)</li> <li>Client Project Manager: Procurement Hub, Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Penny Stynes (Crematorium and Cemetery Manager)</li> <li>CA: Procurement Hub</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Compliance with mercury pollution regulations, delivery of CO<sub>2</sub> and energy savings,</li> <li>Principal risks: Insufficient funding</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of cremator plant energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: December 2008</li> <li>Tender: January 2009</li> <li>Start on site: TBC</li> <li>Project completion: TBC</li> </ul>
Sources of information and guidance	



PHASE 1	REPLACEMENT OF CASTLE HEATING SYSTEM AND INSULATION OF CASTLE ROOF
Description and notes	Replacement of existing heating system with underfloor heating system fed via air to water heat pump and insulation of Castle roof to Part L Building Regulations Standards
Quantified costs and benefits	<ul style="list-style-type: none"> <li>• Financial investment, operational costs: £ 326k</li> <li>• Emissions reduction: 18 tonnes CO<sub>2</sub> per annum</li> <li>• Financial savings: £ 3k per annum</li> <li>• Payback period: 119 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>• Funding: Lottery grant, ring fenced sustainable fund</li> <li>• Other Resources: <ul style="list-style-type: none"> <li>- Museum and Heritage Manager</li> <li>- Building Services Manager</li> <li>- Gallery Services Manager</li> <li>- Framework Consultant</li> <li>- Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>• Budget Holder: Peter Berridge (Museum and Heritage Manager), Simon Lee (LACM Programme Finance Champion)</li> <li>• Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>• On Site Client Representative: Ken Drew (Gallery Services Manager)</li> <li>• CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>• Known key success factors: Delivery of CO<sub>2</sub> and energy savings, provision of improved environment for staff and artefacts</li> <li>• Principal risks: Existing funding insufficient, commitment of Budget Holder to Project</li> <li>• Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>• Monitoring of building performance via BEMS</li> <li>• Monitoring and recording of Castle energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>• Agreement to develop Project to Tender: April 2008</li> <li>• Tender: September 2008</li> <li>• Start on site: December 2008</li> <li>• Project completion: February 2009</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations

PHASE 1	REPLACEMENT OF LIGHTING, ROWAN HOUSE OFFICES
Description and notes	Replacement of existing office lighting with “smart” fittings and controls
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 147k</li> <li>Emissions reduction: 36 tonnes CO<sub>2</sub> per annum</li> <li>Financial savings: £ 5k per annum</li> <li>Payback period: 30 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: TBC. Possible inclusion within accommodation review project</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Building Services Manager</li> <li>Business Development Manager</li> <li>Estates Manager (landlord liaison)</li> <li>Framework Consultant</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: TBC. Possible Ann Wain (Executive Director)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager)</li> <li>CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings, provision of improved working environment for staff</li> <li>Principal risks: Accommodation review project funding insufficient, building landlord withdraws consent for works</li> <li>Main means of risk mitigation: Early inclusion within accommodation review project, possible sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring of building performance via landlords energy usage data</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to develop Project to Tender: April 2008</li> <li>Tender: September 2008</li> <li>Start on site: November 2008</li> <li>Project completion: February 2009</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations, LG7 Guidance

PHASE 1	PC SHUTDOWN SOFTWARE
Description and notes	Automatic shutdown of idle PCs within Angel Court, Rowan House and Town Hall Offices and Colchester Leisure World via LanDESK Beyond Logic software
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 3k</li> <li>Emissions reduction: 39 tonnes CO<sub>2</sub> per annum</li> <li>Financial savings: £ 5k per annum</li> <li>Payback period: 6 months</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Building Services Manager</li> <li>Head of ICT</li> <li>Serco Client Manager</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Danny Dowling (Head of ICT)</li> <li>CA: Ian Thorne (Client Manager – Serco)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings, improved ICT security</li> <li>Principal risks: Insufficient funding within ring fenced sustainable fund</li> <li>Main means of risk mitigation: Possible sourcing of matched funding to supplement ring fenced fund</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of office energy usage before and after project via landlords energy usage data and Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: April 2008</li> <li>Start on site: June 2008</li> <li>Project completion: July 2008</li> </ul>
Sources of information and guidance	Serco options appraisal

PHASE 1	VENDING MACHINE TIMERS
Description and notes	Installation of 7 day timers to control electrical supplies feeding vending machines and hot water boilers
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 90</li> <li>Emissions reduction: 56 tonnes CO<sub>2</sub> per annum</li> <li>Financial savings: £ 7k per annum</li> <li>Payback period: N/A</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Building Services Manager</li> <li>Business Development Manager</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager)</li> <li>CA: N/A</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings</li> <li>Principal risks: Insufficient funding within ring fenced sustainable fund</li> <li>Main means of risk mitigation: Possible sourcing of matched funding to supplement ring fenced fund</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of office energy usage before and after project via landlords energy usage data and Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: April 2008</li> <li>Start on site: May 2008</li> <li>Project completion: May 2008</li> </ul>
Sources of information and guidance	None

PHASE 1	INSTALLATION OF POWERPERFECTOR VOLTAGE OPTIMISATION EQUIPMENT
Description and notes	Installation of powerPerfeCTOR voltage optimisation equipment on electrical supplies to Council's top 10 electricity usage sites
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 94k</li> <li>Emissions reduction: 313 tonnes CO<sub>2</sub> per annum</li> <li>Financial savings: £ 41k per annum</li> <li>Payback period: 2.3 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Building Services Manager</li> <li>Building Managers</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager), Arthur Cairns (Technical Manager – Colchester Leisure World), Richard Walker (Parking Services Manager), Ken Drew (Gallery Services Manager), Penny Stynes (Crematorium and Cemetery Manager), Steve Collis (Parks and Recreation Officer)</li> <li>CA: N/A</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings</li> <li>Principal risks: Insufficient funding within ring fenced sustainable fund</li> <li>Main means of risk mitigation: Possible sourcing of matched funding to supplement ring fenced fund</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of office energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: April 2008</li> <li>Start on site: June 2008</li> <li>Project completion: August 2008</li> </ul>
Sources of information and guidance	PowerPerfeCTOR data sheet

PHASE 1	INSTALLATION OF ECOFLOW FUEL CONDITIONING EQUIPMENT
Description and notes	Installation of Ecoflow fuel conditioning equipment, initially within gas supply to heating boilers at Colchester Town Hall as pilot scheme for evaluation of costs and savings
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 1k</li> <li>Emissions reduction: 6 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 1k per annum (estimate)</li> <li>Payback period: 1 year (estimate)</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Building Services Manager</li> <li>Business Development Manager</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager)</li> <li>CA: N/A</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings</li> <li>Principal risks: Insufficient funding within ring fenced sustainable fund</li> <li>Main means of risk mitigation: Possible sourcing of matched funding to supplement ring fenced fund</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of office energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: April 2008</li> <li>Start on site: July 2008</li> <li>Project completion: July 2008</li> </ul>
Sources of information and guidance	Ecoflow data sheets

PHASE 1	DRAUGHT SEALING WINDOWS WITHIN COLCHESTER TOWN HALL
Description and notes	Quattro Seal silicone draught proofing fitted to all fixed windows within Town Hall
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 9,645.00</li> <li>Emissions reduction: 23 tonnes CO<sub>2</sub> per annum</li> <li>Financial savings: £ 3k per annum</li> <li>Payback period: 3 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Business Development Manager</li> <li>Building Services Manager</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager)</li> <li>CA: N/A</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings, improved working environment for Town Hall staff</li> <li>Principal risks: Insufficient funding</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of Town Hall energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: April 2008</li> <li>Start on site: July 2008</li> <li>Project completion: August 2008</li> </ul>
Sources of information and guidance	Quattro Seal data sheet, CIBSE Guidance, Part L Building Regulations



PHASE 1	AWARENESS CAMPAIGN
Description and notes	Staff awareness campaign within main offices and operational buildings encouraging switching off electrical appliances and lighting and recruiting "Climate Champions" to be responsible for energy housekeeping within departments
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: Minimal funding required for ongoing campaign resources (printing of campaign posters etc). No additional staff funding required over existing officer costs</li> <li>Emissions reduction: 26.5 tonnes CO<sub>2</sub> to date, 57 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 7k per annum (estimate)</li> <li>Payback period: N/A</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Climate Change Officer</li> <li>LACM Programme Communications Officer</li> <li>Building Services Manager</li> <li>Business Development Manager</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Samantha Preston (Climate Change Officer), Cathryn Ann Cansdale (LACM Programme Communications Officer)</li> <li>On Site Client Representative: "Carbon Reduction Champions" (names TBC), Jo Hughes (Business Development Manager)</li> <li>CA: N/A</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings</li> <li>Principal risks: Insufficient buy-into campaign from staff and insufficient numbers of volunteers for "Carbon Trust"</li> <li>Main means of risk mitigation: Campaign buy-in at senior level and cascaded to staff via Sustainability Action Group, including appeal for "Climate Champion" volunteers</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of office energy usage before and during campaign via Energy Bureau Service and Rowan House offices landlord data</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: August 2007</li> <li>Start on site: September 2007</li> <li>Project completion: Ongoing</li> </ul>
Sources of information and guidance	

PHASE 2	OVERHAUL OF HEATING SYSTEMS WITHIN SHELTERED HOUSING SCHEMES
Description and notes	Essential maintenance to existing sheltered housing BEMS and re-programming control strategies. Overhaul of existing heating plant
Quantified costs and benefits	<ul style="list-style-type: none"> <li>• Financial investment, operational costs: £ 50k (estimate)</li> <li>• Emissions reduction: 111 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>• Financial savings: £ 15k per annum (estimate)</li> <li>• Payback period: 3 years (estimate)</li> </ul>
Resources	<ul style="list-style-type: none"> <li>• Funding: Housing revenue budget, ring fenced sustainable fund</li> <li>• Other Resources: <ul style="list-style-type: none"> <li>- Director of Services for Older People</li> <li>- Partnership and Performance Manager - CBH</li> <li>- Risk and Environmental Manager - CBH</li> <li>- Building Services Manager</li> <li>- Framework Consultant</li> <li>- Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>• Budget Holder: Steve McNally (Director of Services for Older People), Simon Lee (LACM Programme Finance Champion)</li> <li>• Client Project Manager: Lee Spalding (Building Services Manager), Mike Scarlett (Partnership and Performance Manager), Bob Barnes (Risk and Environmental Manager)</li> <li>• On Site Client Representative: Sheltered housing scheme managers</li> <li>• CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>• Known key success factors: Delivery of CO<sub>2</sub> and energy savings, provision of more controlled environment for tenants</li> <li>• Principal risks: Funding insufficient</li> <li>• Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>• Monitoring of building performance via BEMS</li> <li>• Monitoring and recording of sheltered housing energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>• Agreement to undertake Project Feasibility: April 2008</li> <li>• Tender: March 2009</li> <li>• Start on site: May 2009</li> <li>• Project completion: March 2010</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations

PHASE 2	INSTALLATION OF POWERPERFECTOR VOLTAGE OPTIMISATION EQUIPMENT WITHIN SHELTERED HOUSING
Description and notes	Installation of powerPerfector voltage optimisation equipment on electrical supplies to all sheltered housing schemes
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 30k (estimate)</li> <li>Emissions reduction: 100 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 16k per annum (estimate)</li> <li>Payback period: 2 years (estimate)</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Housing revenue budget, ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Director of Services for Older People</li> <li>Partnership and Performance Manager - CBH</li> <li>Risk and Environmental Manager - CBH</li> <li>Building Services Manager</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Steve McNally (Director of Services for Older People), Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager), Mike Scarlett (Partnership and Performance Manager), Bob Barnes (Risk and Environmental Manager)</li> <li>On Site Client Representative: Sheltered housing scheme managers</li> <li>CA: N/A</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings</li> <li>Principal risks: Insufficient funding</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of sheltered housing energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to undertake Project Feasibility: April 2008</li> <li>Start on site: April 2009</li> <li>Project completion: August 2009</li> </ul>
Sources of information and guidance	PowerPerfector data sheet

PHASE 2	REPLACEMENT OF MULTI-STOREY CAR PARK LIGHTING
Description and notes	Replacement of lighting within St Mary's and St John's Multi-storey car parks
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 500k (estimate)</li> <li>Emissions reduction: 137 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 21k per annum (estimate)</li> <li>Payback period: 24 years (estimate)</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Capital programme, car park revenue fund, ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Parking Services Manager</li> <li>Building Services Manager</li> <li>Framework Consultant</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Richard Walker (Parking Services Manager), Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Car park managers</li> <li>CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings, improved and safer environment within multi-storey car parks</li> <li>Principal risks: Insufficient funding</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of car park energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to undertake Project Feasibility: April 2008</li> <li>Tender: April 2009</li> <li>Start on site: June 2009</li> <li>Project completion: September 2009</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations, LG7 Guidance

PHASE 2	ACCOMMODATION REVIEW
Description and notes	More flexible working practices enabling accommodation review and possible disposal of surplus office space
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: N/A</li> <li>Emissions reduction: 483 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 93k per annum (estimate)</li> <li>Payback period: N/A</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Accommodation Review/ICT Strategy budget</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Executive Director</li> <li>Building Services Manager</li> <li>Estates Manager</li> <li>Framework Consultant</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Ann Wain (Executive Director)</li> <li>Client Project Manager: TBC</li> <li>On Site Client Representative: Lee Spalding (Building Services Manager), Gill Bellenie (Estates Services Manager)</li> <li>CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy and operational savings, improved working conditions for staff</li> <li>Principal risks: Accommodation Review/ICT Strategy not agreed</li> <li>Main means of risk mitigation: Demonstration of potential savings to Cabinet</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of building energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: TBC</li> <li>Project completion: TBC</li> </ul>
Sources of information and guidance	H&S space planning guidelines

PHASE 2	UPGRADING MOOT HALL ROOF INSULATION AND LIGHTING WITHIN COLCHESTER TOWN HALL
Description and notes	Improving of Moot Hall roof insulation and provision of low energy lighting as part of planned refurbishment
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 5k (estimate)</li> <li>Emissions reduction: 9 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 1,252.00 per annum (estimate)</li> <li>Payback period: 4 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Capital programme, ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Business Development Manager</li> <li>Building Services Manager</li> <li>Framework Consultant</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Jo Hughes (Business Development Manager), Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager)</li> <li>CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings,</li> <li>Principal risks: Insufficient funding</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of Moot Hall energy usage before and after project via sub-metering and Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to proceed with Project: November 2008</li> <li>Tender: January 2009</li> <li>Start on site: April 2009</li> <li>Project completion: June 2009</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations

PHASE 2	UPGRADING OF BEMS WITHIN OPERATIONAL BUILDINGS PORTFOLIO
Description and notes	Replace existing first generation BEMS controllers and supervisor with third generation equipment and re-programming control strategies
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 180k (estimate)</li> <li>Emissions reduction: 189 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 26k per annum (estimate)</li> <li>Payback period: 7 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Building Services Manager</li> <li>Operational Building Managers</li> <li>BEMS Specialist</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Jo Hughes (Business Development Manager), Arthur Cairns (Technical Manager – Colchester Leisure World), Ken Drew (Gallery Services Manager), Steve Collis (Parks and Recreation Officer), Sue Warrener (Business and Community Operations Manager)</li> <li>CA: Maplin Air conditioning (BEMS Specialist)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings, improved environmental conditions for staff</li> <li>Principal risks: Insufficient funding</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring and recording of building energy usage before and after project via BEMS and Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to undertake Project Feasibility: April 2008</li> <li>Tender: January 2009</li> <li>Start on site: April 2009</li> <li>Project completion: March 2010</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations



PHASE 2	BIO-MASS HEATING SYSTEM FOR RESOURCE CENTRE, HIGHWOODS COUNTRY PARK
Description and notes	Provision of bio-mass fuelled heating system in place of electric heating for existing Resource Centre and also proposed new Centre extension
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 30k (estimate)</li> <li>Emissions reduction: 8 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 1k per annum (estimate)</li> <li>Payback period: 30 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: £ 110k internal from Section 106 funding for proposed Centre extension, ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Parks and Recreation Manager</li> <li>Building Services Manager</li> <li>Countryside Sites Manager</li> <li>Framework Consultant</li> <li>Energy Bureau</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Bob Penny (Sports &amp; Leisure Manager), Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Lee Spalding (Building Services Manager)</li> <li>On Site Client Representative: Paul Vickers (Countryside Sites Manager)</li> <li>CA: NPS (Framework Consultant)</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and energy savings, provision of enhanced staff and teaching facilities</li> <li>Principal risks: Existing funding insufficient, commitment of Budget Holder to Project</li> <li>Main means of risk mitigation: Sourcing of matched funding</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring of building performance via BEMS</li> <li>Monitoring and recording of Visitor/Resource Centre energy usage before and after project via Energy Bureau Service</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to develop Project to Tender: May 2008</li> <li>Tender: July 2008</li> <li>Start on site: September 2008</li> <li>Project completion: February 2009</li> </ul>
Sources of information and guidance	CIBSE Guidance, Part L Building Regulations

PHASE 2	REPLACEMENT OF BUSINESS MILEAGE WITH ELECTRIC POOL CARS
Description and notes	Abolition of business mileage in favour of fleet of electric pool cars (assumed 10 cars in total)
Quantified costs and benefits	<ul style="list-style-type: none"> <li>Financial investment, operational costs: £ 160k capital purchase plus £ 20k annual running costs (estimate)</li> <li>Emissions reduction: 45 tonnes CO<sub>2</sub> per annum (estimate)</li> <li>Financial savings: £ 115k per annum (estimate based on cost of business mileage for baseline year less electric car running costs)</li> <li>Payback period: 1.3 years</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Funding: Capital programme and ring fenced sustainable fund</li> <li>Other Resources: <ul style="list-style-type: none"> <li>Senior Management Team</li> <li>Human Resources Service Centre Manager</li> <li>Street Care &amp; Recycling Manager</li> <li>Essex Procurement Hub</li> <li>Travel Plan Committee</li> </ul> </li> </ul>
Ownership and accountability	<ul style="list-style-type: none"> <li>Budget Holder: Simon Lee (LACM Programme Finance Champion)</li> <li>Client Project Manager: Dave McManus (Street Care and Recycling Manager), Essex Procurement Hub</li> <li>On Site Client Representative: Dave McManus (Street Care and Recycling Manager), Travel Plan Committee</li> <li>CA: Essex Procurement Hub</li> </ul>
Ensuring success	<ul style="list-style-type: none"> <li>Known key success factors: Delivery of CO<sub>2</sub> and financial savings</li> <li>Principal risks: Existing funding insufficient, commitment of SMT to project, resistance to scheme from Council Staff</li> <li>Main means of risk mitigation: Introducing scheme only after Staff consultation and options appraisal via Travel Plan Committee</li> </ul>
Performance / success measure	<ul style="list-style-type: none"> <li>Monitoring of electric vehicle energy usage by Energy Bureau Service</li> <li>Monitoring of electric vehicle running costs by Street Care &amp; Recycling Manager</li> <li>Monitoring of electric vehicle usage by Street Care &amp; Recycling Manager and Human Resources Service Centre Manager</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Agreement to undertake options appraisal: May 2008</li> <li>Tender: TBC</li> <li>Project completion: TBC</li> </ul>
Sources of information and guidance	

## Appendix B

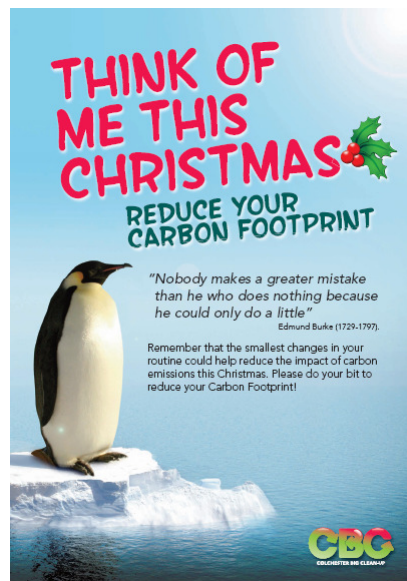
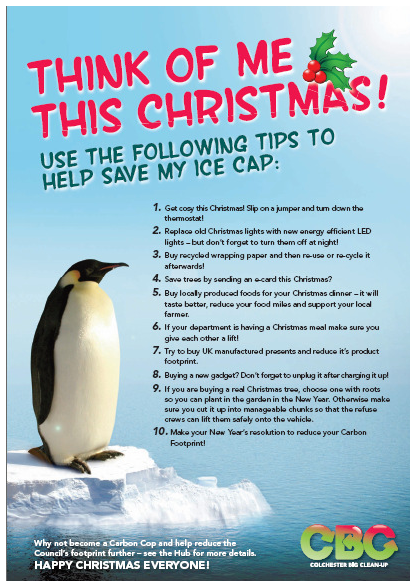
### Awareness Campaign Phase 1 posters



### Awareness Campaign Phase 2 posters



## Awareness Campaign Phase 3 posters



## Awareness Campaign Phase 4 posters

