EXE 050411
Item 7

CARBON MANAGEMENT PLAN 2011-2015

EXECUTIVE MEMBER: Councillor Allan Holliday, Portfolio Holder
LEAD OFFICER: Julie Betteridge, Head of Development Strategy
REPORT AUTHOR: Rachel Osborn, Sustainability Officer

WHAT BENEFITS WILL THESE PROPOSALS BRING TO COPELAND RESIDENTS

Managing our carbon emissions is a practical step towards delivering on our corporate objective of building a low carbon economy supporting our Britain's Energy Coast aspirations. As well as the wider benefits, managing our carbon emissions demonstrates efficient use of resources. A key message of the plan is that reducing our carbon emissions will help to mitigate the rising prices of energy and fuel that the Council depends upon to run its day to day operations.

WHY HAS THIS REPORT COME TO THE EXECUTIVE? (eg Key Decision, Policy recommendation for Full Council, at request of Council,etc.)

The Carbon Management Plan is a key project in the 2011/12 Corporate Implementation Plan and in the Copeland Climate Change Action Plan.

RECOMMENDATION:

The Executive are requested to:
1) Approve the adoption of the Plan and the 25% reduction carbon reduction target by April 2015 and receive annual reports on carbon and costs avoided, progress against the target and potential future projects with financial implications.

1. INTRODUCTION

1.1 In March 2009 the Council signed up to the Cumbria Climate Change Commitment and in June 2010 adopted a Copeland Climate Change Action Plan, both of which laid out the necessity of developing a Carbon Management Plan to tackle the carbon emissions associated with our own estate and operations.

1.2 This five year plan is the outcome of work by the Council's Carbon Management Team and Board, with support from the Carbon Trust's Local Authority Carbon Management Programme. It builds on the work that the Council and its partners has already done to reduce carbon emissions

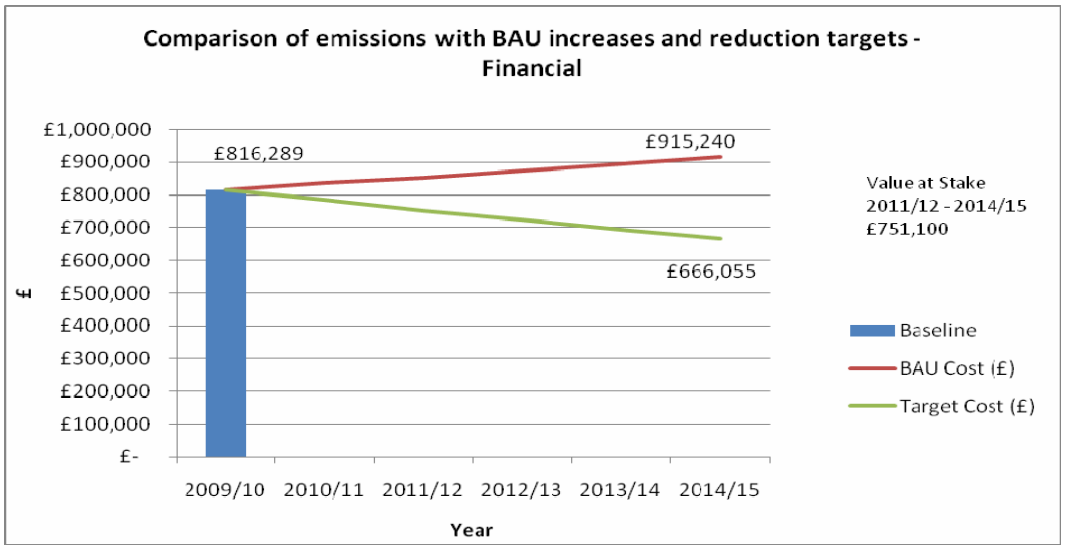
ranging from measures to improve the energy rating of our buildings to reviewing fleet transport practices, which have helped us achieve over a third of our 25% reduction target.

1.3 The Plan is identified as a key project in the Council's 3 year Plan against the goal of delivering excellent and value for money services and making efficient use of resources. The Plan also underpins other Council plans and policies ranging from our Sustainable Procurement Action Plan to our Strategic Asset Management Plan.

1.4 The Carbon Management Programme has involved a number of steps. A key piece of work was to put together a carbon baseline which is essentially the Council's carbon emissions associated with energy and fuel consumption over a financial year, in this case 2009/10. The scope for the Council's carbon baseline includes energy and fuel consumption associated with the Council's operations. The carbon baseline is 3,457 tonnes of carbon.

1.5 Having a baseline enabled us to calculate the 'value at stake', or in simpler terms the carbon and financial implications of doing nothing to address the challenge. If we take a business as usual approach and do nothing to reduce our carbon emissions, we can expect our carbon emissions to rise to 3,556 tonnes by 2015, and the associated costs to rise by over £100,000 compared to 2009/10.

1.6 The graph below illustrates the financial value at stake i.e. the costs that can be avoided by implementing carbon reduction measures. It outlines both a business as usual (BAU) projection of the energy and fuel financial implications over the next five years and the costs that can be avoided if a 25% reduction strategy is adopted.



1.7 By establishing a baseline and assessing the value at stake, we were able to set a target for reducing our carbon emissions. On signing the Cumbria Climate Change Commitment back in March 2009 we had already committed to a 25% reduction in our carbon emissions by, so in effect already had a target to aim for. If we achieve our 25% target, we will avoid 2,966 tonnes of carbon.

1.8 Identifying projects that will enable us to achieve this target was a major part of the programme with the Carbon Trust. Given the Council and our key partners' commitment to making efficient use of resources and reducing carbon emissions, since 2009/10 we have already completed projects that will deliver a large proportion of our target. In order to meet our shortfall we have identified further projects that require a combination of policy and behaviour change and capital investment. The projects have been identified against a number of criteria including their payback and ease of implementation.

1.9 When calculating the benefits and savings of the carbon reduction projects identified, a number of assumptions had to be made as part of the calculations. These include an average price of fuel and energy, the measures deliver the savings estimated and on time, and that feasibility studies will need to be carried out on some projects.

1.10 To achieve our target, the plan has been developed around three strategic implementation themes and associated activity these are:

- Establishing a sustainable approach to financing carbon reduction
- Embedding carbon management within the Council
- And ensuring the delivery of the Plan and carbon reduction projects.

1.11 Capital and revenue resources required to implement carbon reduction projects are detailed in the plan as is a financial strategy. Given rising energy and fuel prices, the cost savings identified in the plan will be considered as cost avoidance.

2. PROPOSALS

2.1 It is proposed that the Executive adopt the Carbon Management Plan and receive annual reports on carbon and costs avoided, progress against the target and potential future projects with financial implications.

3. ALTERNATIVE OPTIONS TO BE CONSIDERED

3.1 That the Executive do not adopt the Carbon Management Plan.

4. CONCLUSIONS

4.1 This report is asking the Executive to consider adopting the Carbon Management Plan which will enable us to deliver on our commitments to reducing carbon emissions and leading by example. The Plan will also enable the Council to mitigate the rising prices of energy and fuel.

5. STATUTORY OFFICER COMMENTS

5.1 The Monitoring Officer comments are:

No comments on the principle of the Plan although legal services may need to become involved in the formulation of the contract documents for some of the projects.

5.2 The Section 151 Officer comments are:

The approved capital programme for 2011/12 to 2013/14 includes £56,500 for energy efficiency measures in 2011/12. There is also an additional £52,800 included for 2012/13 and 2013/14. Projects covered by the 2011/12 programme have been approved in principle, but all projects, for any year will still require approval by the Executive before they can be taken forward. Any further funding which may be required to fund this strategy will need to be considered as part of the Capital Programme and assessed along with the Council's other priorities.

5.3 EIA if Applicable: An EIA has been completed.

5.4 Other consultee comments, if any: None.

6. HOW WILL THE PROPOSALS BE PROJECT MANAGED AND HOW ARE THE RISKS GOING TO BE MANAGED?

6.1 Individual projects in the Carbon Management Plan were assessed on the pay back principle, ease of implementation and risk.

6.2 The Carbon Management Programme will continue to be supported by the Carbon Management Team and Carbon Management Board. Board Members are the Portfolio Holder for Environment and Sustainability, Corporate Director of People and Places, Head of Development Strategy, Finance Representative and the Sustainability Officer. Human resource is required for data collection, assessing and implementing projects. Capital projects will be managed in house and require the services of contractors.

6.3 The Carbon Management Team will implement and review the Carbon Management Plan with support from the Board. Specific roles are:

- Ensuring sufficient projects are identified, quantified and prioritised to meet targets.
- Implementing projects.
- Monitoring project progress to report through the performance management system.
- Assessing, monitoring and resolving the risks associated with the carbon management programme.
- Championing the programme and co-ordinating internal communication.
- Reviewing the role and membership of the Carbon Management Team over the period of the 5 year Carbon Management Plan.

6.4 A Programme Board will remain in place to review progress and deal with any blockages. The Board will meet at least three times a year after the Carbon Management Team meeting.

- Championing and providing leadership on carbon management within the Council.
- Set and review the strategic direction of the carbon management programme.
- Monitoring progress against the carbon reduction target.
- Ensuring the objectives of the carbon management programme is in line with other Council programmes and priorities.
- Removing obstacles to the successful completion of the carbon management projects.
- Reviewing spend on carbon reduction projects within allocated budgets.

7. WHAT MEASURABLE OUTCOMES OR OUTPUTS WILL ARISE FROM THIS REPORT

7.1 The main outcome of this report is a five year plan and programme to enable the Council to deliver on its carbon reduction commitments and mitigate the rising prices of energy and fuel.

7.2 The Carbon Management Plan is identified as a key project in the 2011/12 Corporate Implementation Plan under the theme of 'Performance' and objective making efficient use of resources.

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Appendix 1 – 2011-2015 Carbon Management Plan

List of Background Documents:

Copeland Climate Change Action Plan.
Cumbria Climate Change Action Plan.
Carbon Management Plan EIA.

working with

Copeland Borough Council
Carbon Management Programme

Carbon Management Plan (CMP)
2011-2015

Date: March 2011

Version number: 1

Owner: Rachel Osborn

Approval route: Executive Committee – 5th April

Approval status: Final

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Foreword from Cllr Allan Holliday, Portfolio Holder for Environment and Sustainability & Paul Walker, Chief Executive

Copeland's economic history has been shaped by its energy industries, now Copeland is positioning itself as Britain's Energy Coast, a national centre for low carbon and renewable energy generation to help deliver on the UK's challenges of tackling climate change and energy security.

As a community leader, Copeland Borough Council is in a key position to lead on this agenda and has produced this Carbon Management Plan that sets out how we are going to go about tackling climate change and rising energy prices, by reducing our own carbon emissions.

Work has already been done to reduce our carbon emissions ranging from investment in energy efficient equipment, to reviewing our fleet practices to reduce fuel consumption. This Carbon Management Plan builds on this work and will help us prepare for the future.

Foreword from the Carbon Trust

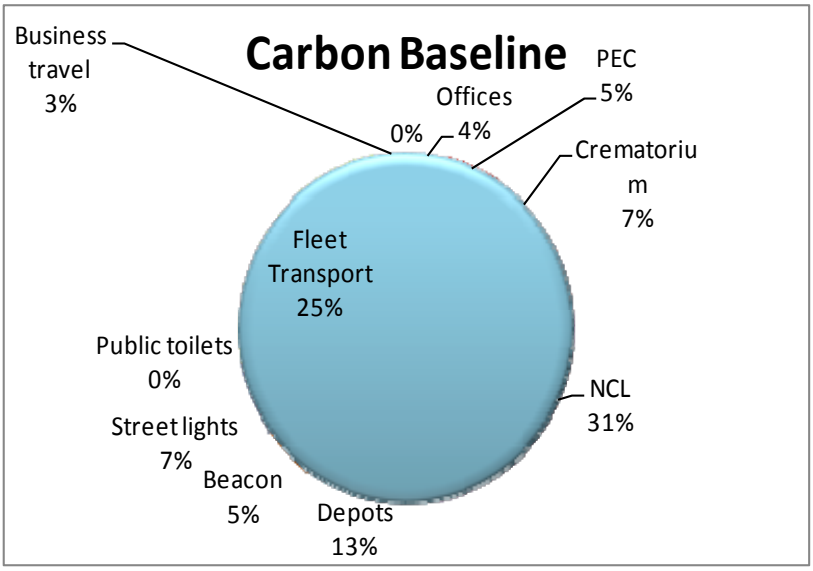
To be provided

Management Summary

The primary purpose of this Carbon Management Plan is to put the Council on a course to reduce our fuel and energy consumption, our carbon emissions, and the associated costs.

There are many reasons why we should manage our carbon emissions, but the main reason is that it is a positive action the Council can take to tackle climate change, a huge challenge with global social, economic and environmental implications. Managing our carbon emissions is a practical step towards delivering on our corporate objective of building a low carbon economy, supporting our Britain's Energy Coast aspirations. As well as the wider benefits, managing our carbon emissions has financial benefits for the Council. A key message of the plan is that reducing our carbon emissions will help to mitigate the rising prices of energy and fuel that the Council depends upon to run its day to day operations.

In March 2009 the Council signed up to the Cumbria Climate Change Commitment and in June 2010 adopted a Copeland Climate Change Action Plan, both of which laid out the necessity of developing a Carbon Management Plan to tackle our own emissions. This five year plan is the outcome of work by the Council's Carbon Management Team and Board, with support from the Carbon Trust's Local Authority Carbon Management Programme. It builds on the work that the Council has already done to reduce carbon emissions ranging from measures to improve the energy rating of its buildings to reviewing fleet transport practices. This Plan is identified as a key project in the Council's 3-year 2011/12 Plan against the goal of delivering excellent and value for money services, underpinning other Council plans and policies ranging from our Sustainable Procurement Plan to our Strategic Asset Management Plan.



The Carbon Management Programme has involved a number of steps, the first one being to get to grips with the scale of the task ahead. A key piece of work was to put together a carbon baseline which is essentially the Council's carbon emissions associated with energy and fuel consumption over a financial year, in this case 2009/10.

Our carbon baseline is 3,457 tonnes.

Having a baseline enabled us to calculate the 'value at stake', or in simpler terms the carbon and financial implications of doing nothing to address the challenge. If we and our partners take a business as usual approach and do nothing to reduce our carbon emissions, we can expect our carbon emissions to rise to 3,556 tonnes by 2015, and the associated costs to rise by over £98,900[1] by 2014/15.

[1] Department of Energy and Climate Change – energy cost modelling projections (June 2010) 1.7% increase per annum

By establishing a baseline and assessing the value at stake, we were able to set a target for reducing our carbon emissions. On signing the Cumbria Climate Change Commitment back in March 2009 we had already committed to a 25% reduction in our carbon emissions by, so in effect already had a target to aim for.

Copeland Borough Council will reduce its carbon emissions by 25% against a 2009/10 baseline of 3,457 tonnes, to be achieved by March 2015.

The 'value at stake' scenario shows that if we achieve the 25% target, the Council and its partners will avoid 2,966 tonnes of carbon and collectively avoid cumulative year on year costs in the region of £751,000 over the lifetime of the five year plan.

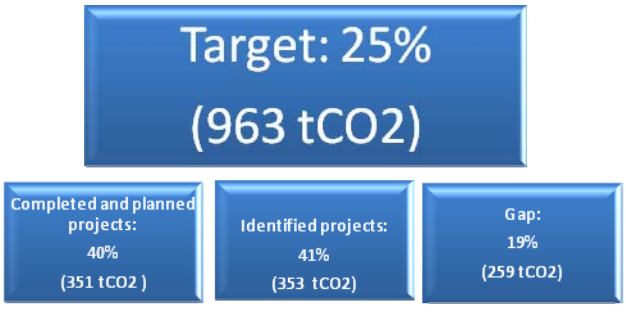
To achieve our target, the plan has been developed around three strategic implementation themes and associated activity, these are:

- Establishing a sustainable approach to financing carbon reduction
- Embedding carbon management within the Council
- And ensuring the delivery of the Plan and carbon reduction projects.

Identifying projects that will enable us to achieve this target was a major part of the programme with the Carbon Trust. Given the Council and our key partners' commitment to making efficient use of resources and reducing carbon emissions, since 2009/10 we have already completed projects and planned projects that deliver 40% of our target. In order to meet our shortfall we have identified further projects that require a combination of policy and behaviour change and capital investment. The projects have been identified against a number of criteria including their payback and ease of implementation. This current plan identifies projects that will make up 81% of our 25% target. Therefore in order to meet our 19% shortfall, we will have to review the plan on an annual basis identifying further projects.

Carbon Management Project Summary

	Completed projects	Planned projects	Identified Projects	Gap
Annual cost saving	**£73,496**	**£6,063**	**£71,819**	**-**
Annual CO_2 saving (tCO2)	**333**	**18**	**353**	**259**
Average payback (years)	**-**	**5**	**5.3**	**-**
% of target achieved	**38%**	**2%**	**41%**	**19%**



Finally the production of this plan is not the end of the process, carbon reduction is an ongoing task as circumstances change and technologies become more advanced. The Carbon Management Team and Board will ensure that the plan is implemented, monitored and reviewed against targets on an annual basis reporting progress to the Corporate Leadership Team and Executive. However the final message of this Carbon Management Plan is that reducing carbon emissions is everyone's responsibility whether it is simply switching equipment off at the end of the day, or setting the strategic direction of the Council, everyone has a role.

1.0 Introduction

The purpose of this document is to set out how the Council will reach its 25% carbon reduction target over the next five years. Copeland Borough Council is one of 42 organisations that have participated in the Carbon Trust's 2010/11 Carbon Management Programme. This Carbon Management Plan is the main output of the five step programme that commenced in May 2010. The five steps are set out in the diagram below:

What the process has involved:

- Setting up a Carbon Management Team and Project Board to oversee the programme;
- Gathering data to understand our carbon emissions or carbon baseline;
- Calculating the value at stake, the implications of doing nothing to reduce our carbon emissions which takes into account the financial implications of rising energy costs;
- Identifying opportunities for reducing carbon emissions in the near and longer term;
- Developing these opportunities into a programme of projects.

The Carbon Management Programme is a live programme that will change as existing projects are completed and new projects are developed.

What we have achieved so far:

The Carbon Management Programme builds on the work that the Council and its partners have recently undertaken to reduce energy and fuel consumption and consequently carbon emissions including:

- Allocating a four year energy efficiency budget.
- Improving the energy rating of two buildings each year.
- Installing an Air Source Heat Pump for office heating at our Moresby site and energy efficiency improvements at the Phoenix Enterprise Centre.
- Introducing video conferencing and carrying out computer server virtualisation.
- Insulating corridors at Moresby and pipes at the Copeland Centre.
- Introducing low energy lighting and PIR's at Moresby, the Beacon and St. Bees public toilets.
- Reducing our street cleaning team's fuel consumption by and carrying out Safe and Efficient Driver Training.
- North Country Leisure have installed variable speed drives at the Copeland Swimming Pool, voltage optimisation at Whitehaven Sports Centre, new heating boilers in the Civic Hall, new lighting at the Copeland Bowls Centre and adopted good housekeeping practices to reduce energy.

These actions have enabled the Council to achieve 38% of our reduction target.

Benefits of the Carbon Management Programme:

- Mitigating the rising costs of energy and fuel

- Demonstrating leadership in carbon reduction
- Delivering on our legislative and voluntary commitments to reduce carbon emissions.

2.0 Carbon Management Strategy

2.1 Context and drivers for Carbon Management

This section aims to set out why and how carbon management has come about.

The UK Government has placed an emphasis on local authorities to lead by example on tackling climate change. Action by local authorities will be critical to the achievement of the Government's climate change commitments, which includes a long term goal to reduce carbon emissions by 80% by 2050. Over the past few years, Councils have been required to report their progress on reducing their carbon emissions associated with their own estate and operations. This performance measure is under review but is likely to continue.

On a local level, there are a several factors driving us to manage our carbon emissions. Reducing our carbon emissions is a key priority in the Copeland Climate Change Action Plan, adopted in June 2010. This priority supports the Cumbria Climate Change Commitment which the Council signed up to in March 2009, our role in delivering the Britain's Energy Coast Master Plan and the Cumbria Local Area Agreement which includes targets for reducing carbon emissions on a Cumbria wide basis.

The main legislative driver for the Council in terms of reducing carbon emissions is the requirement to produce Display Energy Certificates for our public buildings. More detail about DECs is in section 3.3.

As well as environmental benefits, managing our carbon emissions has financial benefits for the Council. Reducing our carbon emissions will help to mitigate the rising prices of energy and fuel that the Council depends upon to run its day to day operations.

This Carbon Management Plan enables the Council to take a strategic approach to managing carbon emissions and in terms of performance management, helps the Council to deliver on the drivers and commitments outlined above.

There are a number of Council strategies, policies and action plans that influence, and are in turn will be influenced by this Carbon Management Plan. Of particular importance are:

- 2011/12 Council Plan
- Copeland Climate Change Action Plan
- Sustainable Procurement Action Plan
- Environmental Policy Statement
- Asset Management Plan
- Medium Term Financial Strategy
- Service Plans
- Pay and Workforce Strategy
- Corporate Risk Register

2.2 Our carbon management target

On signing the Cumbria Climate Change Commitment back in March 2009, the Council committed to a 25% reduction in our carbon emissions. This Plan sets out how we will go about achieving this target.

Copeland Borough Council will reduce its carbon emissions by 25% against a 2009/10 baseline of 3,457 tonnes, to be achieved by March 2015.

2.3 Strategic implementation

To help the Council achieve its carbon reduction target, the plan has been developed around three strategic implementation themes and associated activity:

Establishing a sustainable approach to financing carbon reduction.

- Incorporating carbon reduction into the Council's budgetary and financial planning through 'cost avoidance', 'invest to save' and 'pay back' principles.
- Seeking external funding where possible to help us implement carbon management initiatives.

Embedding carbon management within the Council

- Corporate Strategy – embedding carbon reduction across the Council.
- Programme management – keeping the carbon management programme on track.
- Responsibility – being clear that saving carbon is everyone's job.
- Data management – measuring the difference, measuring the benefit.
- Communication and training – ensuring everyone is aware.
- Finance and investment – the money to match the commitment
- Policy alignment – saving carbon across our operations.

Delivering the Carbon Management Plan and Projects

- Identifying, prioritising, implementing and reviewing projects to help us reach our target - applying the principles and procedures of project management.
- The role of the Carbon Management Team and Board in maintaining the carbon management programme and reviewing the plan.

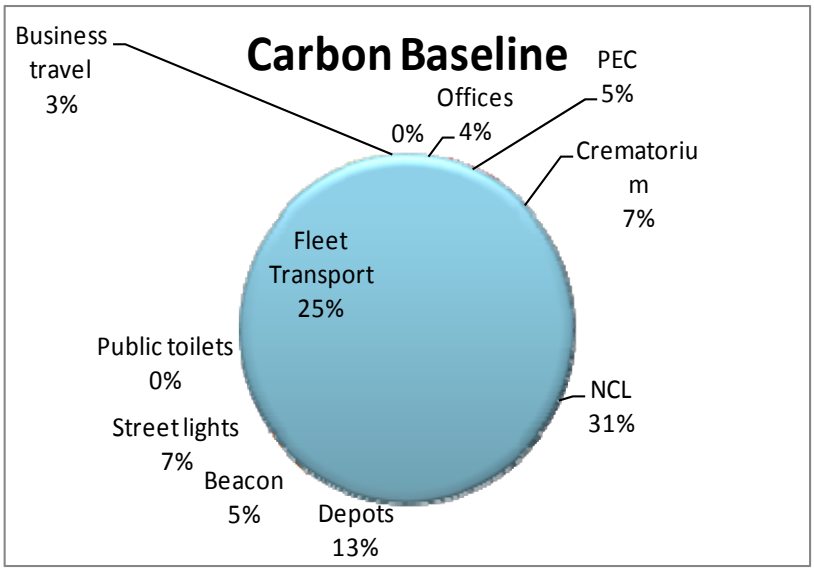
3.0 Emissions Baseline and Projections

In 2009/10 Copeland Borough Council and our partners were responsible for the emission of 3,457 tonnes of CO_2 costing in the region of £816,000.

In order to set targets for reducing carbon emissions, it is necessary to establish a baseline. This is essentially a breakdown of those operations that are responsible for creating carbon emissions.

3.1 Scope

The scope for Copeland Borough Council's 2009/10 carbon baseline includes:



Energy consumption (electricity and gas) of Council owned buildings including those operated by North Country Leisure and the Phoenix Enterprise Centre.

Street lighting energy consumption.

Council owned fleet fuel use.

Council business travel

Contractor fleet fuel usage.

These areas are consistent with areas set by the national indicator NI185 on reducing carbon emissions which was in place prior to the programme. There are some areas that can be included within the scope of NI185 but are optional including employee commuting, refrigerant gas losses, waste produced by council operations and water used. For the purpose of establishing a carbon baseline with robust data, these areas have been omitted. However waste and water are areas that are being focused on as part of the Council's participation in the Cumbria Business Environment Network Award scheme.

The Council owns land and buildings that are occupied by businesses or community organisations on a leasehold agreement that have a full repair and maintain contract. Some of these buildings have not been included because of lack of data or because the Council has little control over the sites' activities that affect energy consumption. These areas will be reviewed over the lifetime of the plan.

3.2 Baseline

In order to measure the progress against our carbon reduction target, it is important that we set a baseline. The baseline for the Council's carbon emissions is set over the financial year 2009/10. Data

has been collated from energy bills and readings, petrol and diesel data, and business travel mileage claims and entered into the baseline tool[2]. Costs are based on assumptions of per unit of energy and fuel though these differ from building to building and depends on the cost of fuel at the time.

Table 1 – Summary tables of emissions for baseline year 2009/10

Category		tCO2	%	Cost (£)
Buildings and Street Lights	Offices	144	4%	CBC operations £222,402 Our partners £225,650 Total £448,052
	Phoenix Enterprise Centres	154	5%	
	Crematorium	255	7%	
	NCL Leisure	1,078	31%	
	Depots	458	13%	
	Beacon	162	5%	
	Streetlights	241	7%	
	Public toilets	14	0%	
Transport	Fleet	855	25%	CBC operations - £314,840 Our partners - £53,397 Total £368,237
	Business	95	3%	

3.3 Section on Display Energy Certificates

The main legislative driver for the Council in terms of managing carbon emissions is the requirement to produce Energy Performance Certificates for all public buildings with a total useful floor area of 1,000 m2. These are presented in the form of Display Energy Certificates that have to be displayed in a place clearly visible to the public. As well as giving an energy rating (A-G) for each building, they also make recommendations for energy efficiency measures. These recommendations have helped to inform the projects identified in the plan.

Since 2009/10 the Council has included an action in the annual Corporate Implementation Plan to improve the energy rating of at least two of our buildings.

Table 2 – Display Energy Certificate results for buildings targeted for improvement

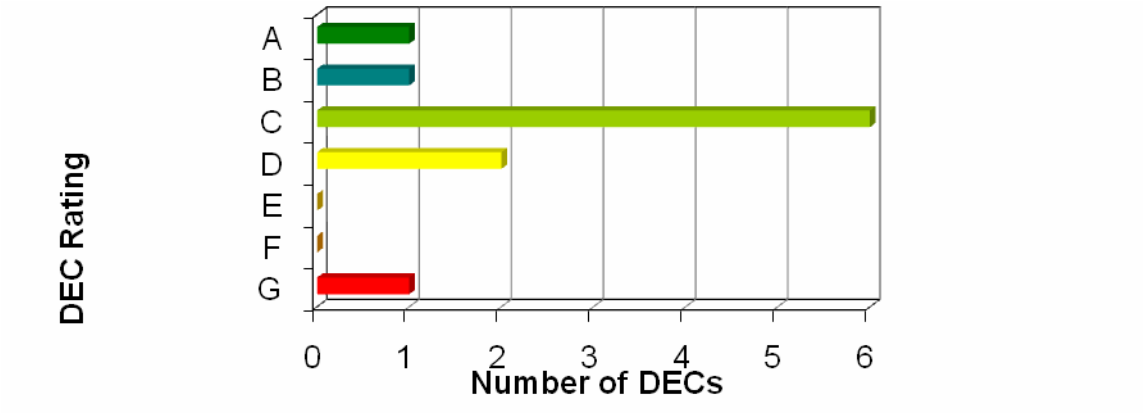
Building	2008 DEC rating	2010 DEC rating
Moresby	F	C
Distington Crematorium	G	G
Beacon	E	C
Phoenix Court Phase 2	D	C

A - Best
G - Worst

Display Energy Certificates were produced for the following buildings in December 2010; The Beacon, Cleator Moor Council Centre, Civic Hall, Copeland Centre, Copeland Bowls Centre, Copeland Pool, Distington Crematorium, Moresby Parks, Phoenix House, Whitehaven Market Hall TIC, Whitehaven Sports Centre.

Figure 1 – Display Energy Certificate results 2010

[2] The baseline tool is an inventory of energy and fuel consumption to calculate carbon emissions. It is used to estimate the 'value at stake' and produce a reduced emissions scenario for the duration of the carbon management programme.



3.4 Projections and Value at Stake

In 2009/10 Copeland Borough Council and our partners were responsible for the emission of 3,457 tonnes of CO_2 costing £816,200.

Not taking action could cost a cumulative £751,000 by 2014/15.

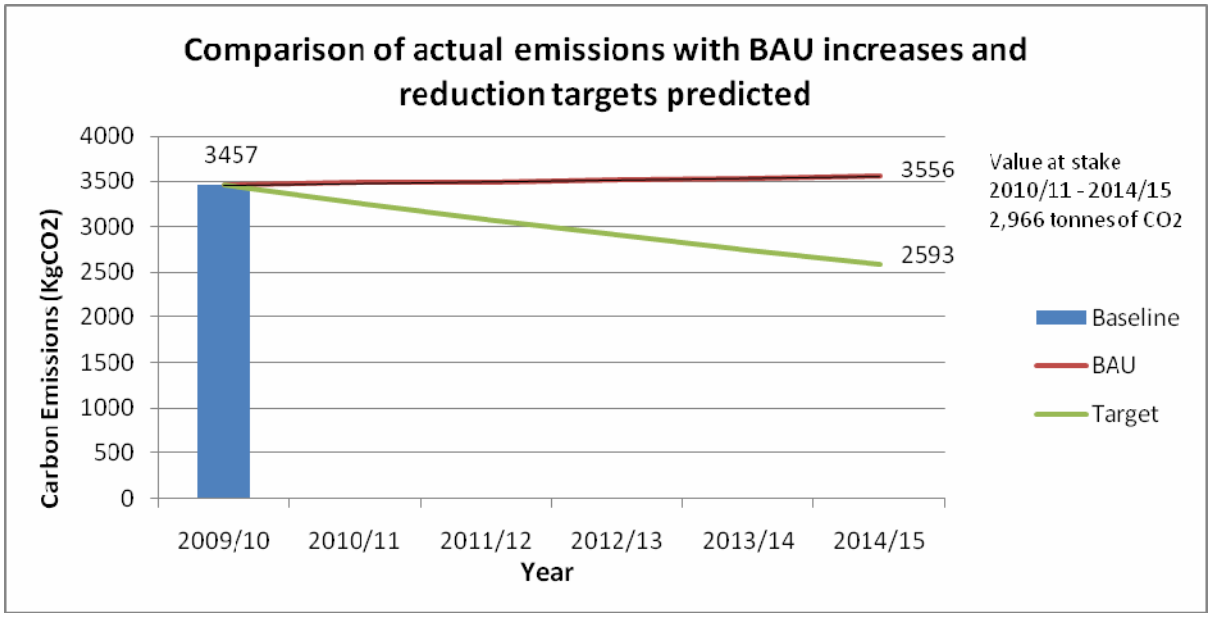
The purpose of this section is to highlight the cost of not taking any action to manage our carbon emissions. It gives an overview of what would happen if we and our partners took a business-as-usual (BAU) scenario (i.e. not doing anything to improve fuel and energy efficiency) versus the implementation of carbon reduction projects to achieve a 25% reduction. The BAU calculation estimates a 'natural' 0.7% annual increase in demand for electricity and gas and 0.7% in transport fuel use[3] over the next five years[4]. The impact of property rationalisation will cause a step change in emissions and has been calculated as part of the BAU calculation.

Figure 2 outlines both a (BAU) projection of carbon emissions over the next five years and the carbon emissions that can be saved if a 25% reduction strategy is adopted. The triangle segment between the red line (BAU) and green line (target) highlights the carbon emissions that could be saved through reduction measures – this is the 'value at stake'.

Figure 2 – Carbon Value at Stake

[3] This 'natural' increase is estimated by the Department of Trade and Industry/Department for Business, Enterprise & Regulatory Reform.

[4] Data was entered into the Baseline and Value at Stake spreadsheet, developed from the NI185 DEFRA reporting spreadsheet by the Carbon Trust for the local authority Carbon Management Programme. This contains costs and average emissions factors.

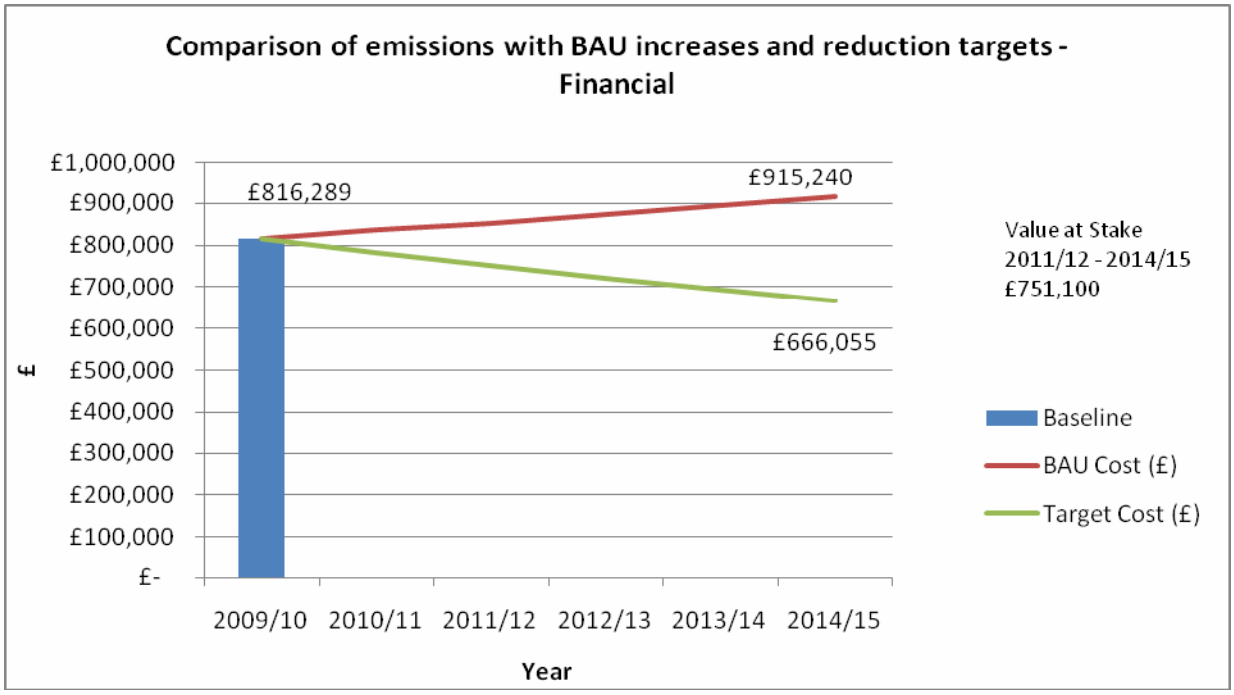


Years	2010/11	2011/12	2012/13	2013/14	2014/15
Annual value at stake (tonnes of CO2	217	401	598	785	963
Cumulative value at stake (tonnes of CO2)	217	619	1,217	2,002	2,966

The annual value at stake is the difference between the estimated annual BAU carbon figure and the annual reduction carbon figure. The cumulative value at stake is the year on year accumulation. Figure 2 illustrates that if we do not implement any measures then our carbon emissions will continue to increase to 3,556 tonnes in the year 2014/15. If we implement a 25% reduction in carbon emissions by April 2015 against our 2009/10 baseline figure, we will make a cumulative saving of 2,966 tonnes and our emissions in 2014/15 will fall to 2,593 tonnes. So in real terms this means that we need to make a 27% reduction.

Figure 3 assesses the financial value at stake i.e. how much money could avoid being spent by implementing carbon reduction measures. It outlines both a business as usual (BAU) projection of the energy and fuel financial implications over the next five years and the costs that can be avoided if a 25% reduction strategy is adopted. The BAU calculation estimates a modest annual 1.7% inflation in gas and electricity over the next five years. Owing to the projected energy price increases, saving energy and fuel will reduce the impact of price increases.

Figure 3 – Financial Value at Stake



Years	2010/11	2011/12	2012/13	2013/14	2014/15
CBC operations	£34,374	£66,196	£99,480	£132,304	£164,706
Our partners operations	£17,854	£33,385	£50,650	£67,675	£84,479
Annual total value at stake	**£52,228**	**£99,581**	**£150,130**	**£199,979**	**£249,185**
CBC operations	£34,374	£100,570	£200,050	£332,354	£497,060
Our partners operations	£17,854	£51,239	£101,889	£169,564	£254,043
Cumulative value at stake	**£52,228**	**£151,809**	**£301,939**	**£501,918**	**£751,103**

The annual value at stake is the difference between the estimated annual BAU cost figure and the annual reduction cost figure. The cumulative value at stake is the year on year accumulation of costs.

Figure 3 illustrates that if we and our partners do not implement any measures, then the financial cost will rise from approximately £816,289 in the baseline year to £915,240 in 2014/15, a rise of £98,951. The triangle segment between the red line (BAU) and green line (target) highlights that if we achieve a 25% carbon reduction between 2009/10 and 2014/15 we will avoid spending £751,103 over that period. Our spend in 2014/15 will be in the region of £666,055, avoiding an extra cost of £249,185 had we not done anything to reduce our carbon emissions.

It should be noted that the cumulative value at stake is an estimate based upon the assumptions specified in the business as usual and reduced emissions scenario. It shows the potential savings, or cost avoidance, that could accrue by meeting the Council's reduction target.

4.0 Carbon Management Projects

To date we have implemented initiatives providing savings of 333 tonnes CO_2 and avoided costs of £73,496. We have also identified further potential savings amounting to 371 tonnes of CO_2.

Identifying and implementing projects to reduce our carbon emissions is a major part of the carbon management programme. This section outlines projects completed, underway, planned and proposed that will make a contribution towards achieving our 25% reduction target.

Project details were gathered by the Carbon Management Team, guidance from the Carbon Trust and Cumbria Business Environment Network, recommendations of Display Energy Certificate reports and North Country Leisure's Sustainable Energy Investment Opportunities report (Sept 2010).

Projects were assessed by the Team on the pay back principle, ease of implementation and risk. Wider benefits such as improving services or assets are also key considerations. The calculations for the projects are held in the Carbon Management Projects Register[5]. As the Carbon Management Programme progresses, other projects will be identified taking advantage of further advances in technology and innovation.

4.1 Existing/completed projects

The following projects have been funded and are either completed or underway and likely to deliver carbon savings since the baseline year of 2009/10. These projects deliver 38.52% of our target.

Table 4 – Existing / completed projects

Ref	Project	Lead	Annual Savings (yr 1)		% of Target
			Financial (Gross)	tCO_2	
A	Moresby ASHP, corridor insulation, lighting upgrade	C&P	£11,837	71.8	8.31%
B	Beacon PIRs, lighting audit, heating controls, LED lighting phase 1	C&P/TS	£6,809	43.6	5.04%
C	Waste and Street cleaning fuel efficiency	WS	£26,901	66.7	7.72%
D	NCL 5% reduction target	NCL	£9,887	53.8	6.22%
E	Copeland Centre valves insulation	C&P/Kier	£1,208	5.8	0.67%
F	Phoenix Enterprise Centre energy improvements	C&P	£2,950	14.1	1.63%
G	Cleator Moor heating efficiency device	C&P	£265	1.3	0.15%
H	Christmas lighting LED replacement	OS	£2,285	14.6	1.69%
I	Printer rationalisation, server virtualisation	ICT	£836	5.4	0.62%
J	Cremator replacement and space heating management	C&P	£7,015	33.4	3.87%
K	Ongoing replacement of high wattage street lighting	OP	£3,503	22.4	2.60%
			£73,496	332.9 tCO2	38.52%

4.2 Planned and funded projects

These projects are planned and funded to take place in 2011/12. Project definitions with more details about these projects are in Appendix B.

Table 5 – Planned and funded projects

Ref	Project	Lead	Cost		Annual Savings (yr 1)		Pay back (yrs)	% of Target
			Capital	Operational	Financial (Gross)	tCO_2		
1	5% carbon reduction in recycling bring site contract	WS	£0	£0	£1,619	4	0.0	0.46%
2	10% business mileage reduction	Service Managers	£0	-£1,000	£3,594	8.3	0.0	0.97%

[5] The Carbon Management Projects Register (CMPR) is a tool for quantifying existing and identified projects. It is used to show progress against our targets, payback for each project and estimated cost savings.

3	Beacon ASHP and hot water[6]	C&P/TS	£36,000	£150	£850	5.4	Plus 15	0.63%
			£36,000	-£850	£6,063	17.7 tCO2	Av. 5 yrs	2.06%

4.3 Identified projects

The following projects have been quantified to a reasonable level of confidence though require funding. The implementation of projects will be reviewed as the programme progresses. Project definitions with more details about these projects are in Appendix B.

Table 6 – Identified projects

Ref	Project	Lead	Cost		Annual Savings (yr 1)		Pay back (yrs)	% of Target
			Capital	Operational	Financial (Gross)	tCO_2		
4	AMRs and awareness raising	C&P/Carbon MT	£8,800	£200	£10,404	60.3	0.9	6.98%
5	Voltage optimisation at Moresby	C&P	£18,000	£0	£3,771	24.1	4.8	2.79%
6	Cleator Moor window seals	C&P	£3,000	£0	£238	1.1	12.6	0.13%
7	Beacon LED display lighting	C&P/TS	£20,000	£0	£2,199	14.1	9.1	1.63%
8	Computer powerdown equipment	ICT	£5,172	£0	£1,571	10.1	3.3	1.16%
9	Refuse services optimisation	WS	£0	£0	£21,521	53.4	0	6.18%
10	Leisure services projects	NCL/C&P	£68,500	£300	£25,102	145.5	2.8	16.83%
11	NCL Solar PV	NCL/C&P	£370,000	- £23,677*	£7,013	44.9	9.2	5.19%
			£493,472	- £32,825	£71,819	353.5 tCO2	Av. 5.3 yrs	40.89%

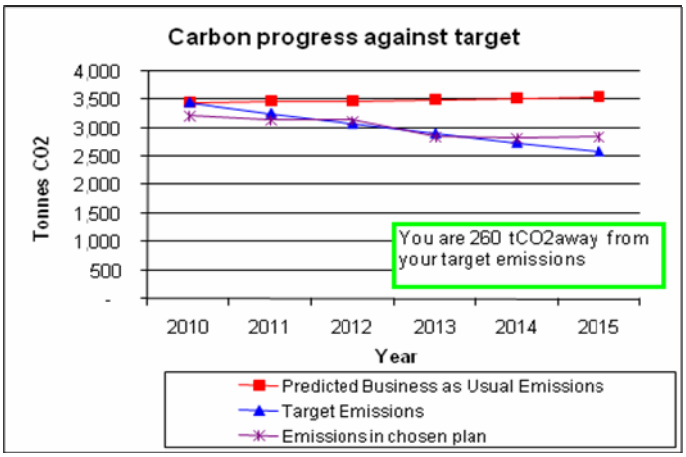
*This negative operating cost is based on the Feed-In-Tariff that would be paid for generating renewable energy, essentially an income for the organisation.

4.4 Projected achievement towards target

The projects identified so far in the Carbon Management Programme account for 81.47% of the 25% reduction target as illustrated in Figure 5. The implementation of all the projects would deliver a reduction of 704 tonnes of carbon. Figure 4 demonstrates that as our emissions continue to rise (red line) it is important that we keep investing in and implementing projects (purple line) to achieve our target (blue line).

Figure 4 – Carbon progress against our reduction target

[6] Will also reduce water consumption though those cost savings are not included in this Plan.



5.0 Implementation

We now have a picture of why we need to manage our carbon emissions, what our carbon baseline is, what the implications of not taking action are and what projects are required to achieve our target.

This next section covers the main elements required to move from planning to implementation, focusing on how carbon reduction is financed, how we embed carbon management into the everyday workings of the Council and how we deliver on the plan and projects.

5.1 Financing

As explained in the 'Projections and Value at Stake' section, measures to reduce our carbon emissions will consequently mitigate rising fuel and energy costs, a trend that is likely to continue. Therefore our financial strategy is to avoid these expected costs through investment in carbon reduction measures. The Council already has a good record of taking measures to reduce carbon and committing resources

to the task, recognising the benefits of the 'invest to save' principle. In 2008/09, the Council allocated a 4-year capital budget of £200,000 to energy efficiency measures which has been used for measures ranging from the installation of an Air Source Heat Pump to energy efficient lighting. Projects are assessed in terms of their ease of implementation, risk, wider benefits and payback period (how long it takes to recover the cost of the initial investment through cost savings).

When calculating the benefits and savings of the carbon reduction projects identified, it is important to note that a number of assumptions have to be made as part of the calculations:

- The average price per kwh across the estate is 8.9 p/kwh for electricity and 3.8 kwh for gas based on average 2010 contract prices.
- An average price of 1.19p /litre of diesel and 1.17p /litre of petrol in November 2010.
- The measures deliver the savings estimated and on time.
- Feasibility studies will need to be carried out on some projects.

5.1.1 Benefits / savings – quantified and un-quantified

A summary of the predicted financial savings of the carbon reduction projects quantified so far are shown below.

Table 7 – Quantified savings from completed, planned and identified projects

		2011/12	2012/13 - 2014/15
	Completed projects	Planned projects	Identified Projects
Annual cost saving	**£73,496**	**£6,063**	**£71,819**
Annual CO_2 saving	**332.9**	**17.7**	**353.5**
% of target achieved	**38.52%**	**2.06%**	**40.89%**

Unquantified benefits:

- Meeting regulatory compliance e.g. Display Energy Certificates
- Improved reputation with staff, partners and the public, particularly as a key partner in Britain's Energy Coast and signatory to the Cumbria Climate Change Commitment.

5.1.2 Financial costs and sources of funding

A key part of the carbon management programme is the evaluation of the capital expenditure required to realise the carbon savings needed. This is a breakdown of the capital and revenue costs of completed, planned and identified projects.

Table 8 – Quantified costs of planned and identified projects

Figures in £1000's	2011/12 Planned projects	2012/13 - 2014/15 Identified projects
Annual costs:		
Total annual capital cost	**£36,000**	**£493,472***
Total annual revenue overall cost	**£-850**	**£-23,177**
Total costs	**£35,150**	**£470,295**
Funding agreed:		

Funded annual capital	**£36,000**	
Funded annual revenue	**-£850**	
Total funded	**£35,150**	
Unallocated funding		
Unallocated annual capital		**£493,472**
Unallocated annual revenue		**£-23,177**
Total unfunded		**£470,295**

*This includes identified NCL capital project costs.

The Carbon Management Programme will be funded through the following sources:

- Capital energy efficiency budget, £52,800 has been approved/committed annually until 2012/13.
- Public building condition survey backlog. Condition Surveys may include measures that improve the energy efficiency of buildings e.g. window and lighting replacements. This also includes buildings that are managed or operated by our partners e.g NCL and Phoenix.
- Annual capital bid programme that begins in October each year. Capital funding planning is based on a 3 year rolling programme.
- Investment by our partners e.g. North Country Leisure.
- External grants. The Beacon secured £5,000 from the Greener Museums Leadership programme in 2010 towards energy efficient lighting. The Council may also apply for grants on behalf of our partners.
- The government's Salix Energy Efficiency Loans Scheme which offers interest free loans for energy efficiency projects to be repaid over a four year period.

The decision on which expenditure is suitable will be applied on a project by project basis and aligned with the Council's budgetary processes. Financing of carbon reduction activity across the Council will be co-ordinated by the Project Board and subject to approval by the Executive.

5.2 Governance for Implementation

5.2.1 Embedding Carbon Management

It is important that carbon reduction becomes part of the everyday language and business of the Council. Whether it is financial planning, procurement, performance management, assessing training needs, communication, developing service plans, our environmental management system, managing risk, delivering front line services, or working in partnership, carbon reduction impacts on every part of the Council's practice.

The following table summarises the current status of carbon reduction within the Council and where we would like to be in 2015. It is based on the levels shown in the matrix in Appendix A.

Table 9 – Embedding carbon management status and target levels

Carbon Management Area	Current level March 2011	Target level March 2015
Corporate Strategy	3	5
Programme Management	3	4
Responsibility	2	4

Level 1 - Low
Level 5 - High

Data Management	3	4
Communication & Training	2	4
Finance and Investment	3	4
Policy Alignment	2	5

The following sections explains what has been achieved to date on each of these carbon management areas and what actions are required to reach the target level by March 2015.

5.2.2 Corporate Strategy – embedding carbon reduction across the Council

In March 2009 the Council signed up to the Cumbria Climate Change Commitment and in June 2010 adopted a Copeland Climate Change Action Plan, both of which laid out the necessity of carbon reduction and developing a Carbon Management Plan. The Carbon Management Plan and reduction target has now been included as a key project in our 3-year 2011/12 Corporate Plan.

Action	Timescale	Owner	Reporting
Headline carbon reduction target included in annual Corporate Implementation Plan.	To be included in 2012/13 Plan.	Carbon Management Board	Updates on the programme through quarterly performance reports.
Review the status of the Carbon Management Plan in the Copeland Climate Change Plan.	Annually – June.	Sustainability Group	Annual review of the Climate Change Action Plan, CLT and Executive.
Incorporate carbon reduction into the service planning process.	Annual service planning cycle. Sign off February.	Service Managers	Through service plan reporting.

5.2.3 Programme Management and Implementation

As part of the Carbon Management Programme with the Carbon Trust we have established a Carbon Management Team and Board with responsibility for ensuring that the programme is making progress on projects, against our carbon reduction target and identifying new opportunities. More details are given in section 5.3.

Action	Timescale	Owner	Reporting
Carry out an annual review of the programme covering carbon and costs avoided, progress against targets, lessons learnt and potential projects.	Undertake review in May for June reporting	Carbon Management Team	June report to Corporate Leadership Team, Senior Leadership Team, Executive, and in the Portfolio Holder report.
Provide project progress reports through covalent.	Quarterly	Carbon Management Team	Report to Carbon Management Board and Corporate Leadership Team.
Conduct a review of DEC recommendations for implementation.	Annual (January)	Contracts & Property	Report to Carbon Management Team.

5.2.4 Responsibility – being clear that saving carbon is everyone's job

A key message of the plan is that saving carbon is everyone's responsibility however large or small. The Council's Sustainability Officer has the role of co-ordinating the carbon management programme with support from the Carbon Management Team, Board and Sponsors. This section is also relevant to communication and training (5.2.6).

Action	Timescale	Owner	Reporting
Oversee the carbon management programme.	Throughout the 5 year timescale of the plan.	Carbon Management Team and Board.	Team and Board meetings – minimum of 3 a year.
Align carbon reduction projects in service plans with staff appraisals.	February	Service Managers	Heads of Service
Work with our partners to achieve our carbon reduction target.	Scheduled meetings with key partners – Kier, NCL, Phoenix Enterprise Centre	Contracts and Properties	Report to Carbon Management Team and Board

5.2.5 Data Management – measuring the difference, measuring the benefit

The Council has collated annual carbon data for buildings, street lighting, transport and travel for the purpose of compiling a carbon baseline. There are a number of actions that will improve our data management to help monitor the impact of the carbon management programme.

Action	Timescale	Owner	Reporting
Maintain a central database for energy data and projects.	Ongoing – six month and final year report.	Contracts and Properties	Report results to Carbon Management Team
Maintain a central database for fleet and street lighting data.	Ongoing – six month and final year report.	Open Spaces and Waste Services	Report results to Carbon Management Team
Maintain a central database for business mileage data.	Ongoing – six month and final year report.	Payroll Services	Report results to Carbon Management Team
Data from contractors to be requested as part of contract provision.	As and when contracts are renewed.	Procurement	Report results to Carbon Management Team
Implement Automatic Meter Reading devices.	Identified as a project for 2012/13.	Contracts and Properties	Report results to Carbon Management Team

5.2.6 Communication and Training – ensuring everyone is aware

In order for the Carbon Management Programme to be successful, staff and Members need to be on board and engaged. We will have a regular programme of communication using all our existing internal

communication channels as well as creating some bespoke campaigns. We will also report on our successes.

Action	Timescale	Owner	Reporting
Co-ordinate an internal awareness programme in support of the plan and projects.	Throughout the year.	Carbon Management Team with support from Sustainability Group.	Carbon Management Board
Communicate successes and project milestones via press releases, newsletters and events.	Throughout the year.	Carbon Management Board	Staff, members, residents, partners and businesses.

Means of communication with stakeholders are shown in table 9 below.

Table 10 - Stakeholder Engagement

Individual or Group	Influence	Impact	Their interest or issues	Means of Communication
Corporate Leadership Team	H	L	Corporate overview, Council reputation, efficiency savings	Annual reports from Carbon Management Team. Director of People and Places on the Board.
Senior Leadership Team	H	M	Decision making on projects, finances, unblocking problems.	Project Sponsor to report and consult SLT on decisions. Half yearly report and full annual report.
Leader	H	L	Corporate overview, Council reputation, efficiency savings	Councillor Sponsor through Management Group.
Executive Committee	H	M	Strategic decision making, owning the CMP	Updates on projects through Portfolio Holder reports. Annual report in June.
Internal Overview and Scrutiny	M	L	Scrutiny of the Carbon Management Programme	Annual progress reports.
Managers, Team Leaders	H	M	Provide leadership and operational management	Team meetings and Team Talk.
Finance Team	H	M	Cost / budgets. Under pressure to reduce budget deficit	Members of Finance on Board and Team.
Kier Ltd	M	M	Kier is the facilities manager for the Copeland Centre, energy reduction	Monthly meetings with the Contracts and Projects Manager.
North Country Leisure	H	M	NCL deliver the Council's Leisure services and occupy Council owned buildings, contract negotiation, energy reduction	One to One contact with PL and six monthly energy performance updates to Property Surveyor
Waste Services and Open Spaces	H	H	Street lighting, fleet management and crematorium, fuel and energy use	One to One contact with PL and representation on CMT. Six monthly updates on fuel/energy

				performance.
Contractors and Interims	M	L	Impact on emissions, procurement of services	Procurement Officer and Policy Officers to act as liaisons
PEC, Home Group, County Council	M	L	Tenants. Impact on emissions, cost savings	Properties Officer to act as liaison.
Sustainability Group	M	M	Champions for the project and role in monitoring implementation	Updates at meetings as and when required. Some members on CMT.
Staff	H	H	Staff have a key role in implementation	Campaigns, Intranet updates, Team Talk, The Word, Noticeboards, training, presentations.
Residents, partners, businesses.	L	L	Value for money services. Council reputation.	Press releases, events, website, Dispatches, Copeland Matters.

5.2.7 Finance and Investment – the money to match the commitment

The finance and investment element of embedding carbon management is covered in more detail in section 5.1. The Council has made good progress in terms of matching money to the commitment of reducing carbon. In 2008/09, the Council allocated a 4-year capital budget of £200,000 to energy efficiency measures.

Action	Timescale	Owner	Reporting
Capital bids to request kwh/carbon savings, cost avoidance and payback period.	Oct/Nov	Relevant Project Manager	Via Project Management Framework. Decisions considered by Resource Planning Working Group.
Medium Term Financial Plan to reference implications of rising energy prices and cost avoidance.	3 yearly plan	Financial Services	Executive
Work up Salix Finance bid for energy efficiency projects over £100,000.	As and when Salix Finance is available and suitable projects arise.	Carbon Management Team.	Carbon Management Board. Decisions considered by Resource Planning Working Group

5.2.8 Policy Alignment – saving carbon across our operations

The Carbon Management Team has a role to review the Council's plans and policies to assess how they impact on the Council's carbon emissions. This role will be performed on an ongoing basis. Policies and plans that already align with the Carbon Management Plan include the Sustainable Procurement Plan, Strategic Asset Management Plan, and Environmental Policy.

Action	Timescale	Owner	Reporting
Consider impact of rising energy and fuel prices in risk registers.	Annual review of risk register	Policy & Performance	Corporate Leadership Team.

Review policies in the Pay & Workforce Strategy that may influence carbon emissions.	Within timescale of the Strategy	Carbon Management Team	Policy and Performance

5.3 Delivering the plan and projects

The Carbon Management Team is a cross service officer group responsible for developing, implementing and reviewing the Carbon Management Plan. Specific roles are:

- Ensuring sufficient projects are identified, quantified and prioritised to meet targets.
- Implementing projects.
- Monitoring project progress to report through the performance management system.
- Assessing, monitoring and resolving the risks associated with the carbon management programme.
- Championing the programme and co-ordinating internal communication.
- Reviewing the role and membership of the Carbon Management Team over the period of the 5 year Carbon Management Plan.

The Carbon Management Team will meet at least three times a year and have the following membership and roles.

Table 11 – Carbon Management Team

Position	Role in the Programme
Sustainability Officer (Project Leader)	Chair of the Carbon Management Team Responsible for co-ordinating the Carbon Management Programme
Contracts and Projects Manager (Deputy Project Leader)	Overview of contracts and projects that impact on the programme.
Properties Officer/Property Surveyor	Monitoring the impact of energy reduction projects and identifying further opportunities. Maintaining the energy consumption database.
Waste Services Manager	Monitoring the impact of fleet transport projects and identifying further opportunities. Maintaining the fleet fuel consumption database.
Beacon and Tourism Service Manager	Monitoring the impact of energy reduction projects at the Beacon and identifying further opportunities.
ICT Manager	Monitoring the impact of ICT related energy reduction projects and identifying further opportunities.
Project Accountant	Overview of the capital budget process.
Procurement Officer	Identifying opportunities for carbon reduction in Council contracts and services.
Policy and Performance Officer	Monitoring how the programme fits with the Council's priorities, policies and programmes.
Communications Officer	Assisting with co-ordinating the communications aspects of the programme.

A Programme Board will remain in place to review progress and deal with any blockages. The Board will meet at least three times a year after the Carbon Management Team meeting. Specific roles are:

- Championing and providing leadership on carbon management within the Council.
- Set and review the strategic direction of the carbon management programme.
- Monitoring progress against the carbon reduction target.
- Ensuring the objectives of the carbon management programme is in line with other Council programmes and priorities.
- Removing obstacles to the successful completion of the carbon management projects
- Reviewing spend on carbon reduction projects within allocated budgets.

The Programme Board will comprise:

- Chair and Project Sponsor – Head of Service
- Political Sponsor – Portfolio Holder for Environment and Sustainability
- Director of People and Places
- Finance Manager
- Project Leader

5.3.1 Succession planning for key roles

The Carbon Trust found from previous carbon management programmes that they can falter in the event of key individuals leaving their posts before the programme is established within the organisation. It is important that there is succession planning for these roles. The following plans would be in place for these roles:

Project Sponsor – this would be the responsibility of a senior member of staff that covers sustainability and climate change policy.

Project Leader – this would be the responsibility of a post that covers sustainability and climate change policy. A Deputy Project Leader from the Carbon Management Team would take on this role while the post is filled.

5.4 Implementation Plan / Review

The Carbon Management Team and Board will review the performance of the carbon management programme annually and evaluate the value of the measures taken since the last review. The outcome of the annual review will be reported to the Corporate Leadership Team, Senior Leadership Team and Executive.

The review will cover:

- The carbon savings achieved by the programme.
- The financial savings achieved by the programme.
- The costs of the programme (capital and revenue).
- Barriers to progress.
- Any significant changes to the Carbon Management Plan.
- Examples of good practice that could be replicated in other areas.

Table 12 - Important activities and dates for the Carbon Management Programme

Activity	Presented to	When
Annual review of programme covering carbon savings against targets and cost avoidance	Corporate Leadership Team and Senior Leadership Team Report to Executive	Review undertaken in May for report to be presented in June.

Brief half yearly progress report	Senior Leadership Team	October
Quarterly reporting against the projects through performance management system	Performance Management System	July, October, January, April
Budget planning	Resource Planning Working Group	September/October

Appendix A: Carbon Management Matrix – Embedding

(Engagement of Schools is for County Councils)

	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *	ENGAGEMENT OF SCHOOLS
Mature 5	· Top level target allocated across organisation · CO_2 reduction targets in Directorate Business Plans · Action plans in place to embed strategy. Progress routinely reviewed	· Cabinet / SMT review progress against targets on quarterly basis · Regular diagnostic reports provided to Directorates · Progress against target published externally	· CM integrated in responsibilities of senior managers · CM part of all contracts / Ts & Cs · Central CO_2 reduction advice available · Green Champions leading local action groups	· Regular collation of CO_2 emissions for all sources · Data externally verified · Monitoring & Targeting in place for: o buildings o street lighting o transport/travel	· All staff given formalised CO_2: o induction and training o communications · Joint CM communications with key partners · Staff awareness tested through surveys	· Finance committed for 2+yrs of Programme · External funding being routinely obtained · Ring-fenced fund for carbon reduction initiatives	· CO_2 friendly operating procedure in place · Central team provide advice and review, when requested · Barriers to CO_2 reduction routinely considered and removed	· A 'whole school approach' including curriculum · Mature programme of engagement in place · CO_2 saving in schools having a wider community impact
4	· CO_2 reduction commitment in Corporate Strategy · Top level targets set for CO_2 reduction · Climate Change Strategy reviewed annually	· Sponsor reviews progress and removes blockages through regular Programme Boards · Progress against targets routinely reported to Senior Mgt Team	· CM integrated in to responsibilities of department heads · Cabinet / SMT regularly updated · Staff engaged though Green Champion network	· Annual collation of CO_2 emissions for: o buildings o street lighting o transport/travel · Data internally reviewed	· All staff given CO_2 reduction: o induction o communications o CM matters ~ communicated to external community	· Co-ordinated financing for CO_2 reduction projects via Programme Board · Funding principles and processes agreed · Finances committed 1year ahead · Some external financing	· Comprehensive review of policies complete · Lower level policies reviewed locally · Unpopular changes being considered	· A clear emphasis on energy / CO_2 reduction in schools · Council activities fully co-ordinated · Broad set of education stakeholders engaged · Funding in place
3	· Vision for CO_2 reduction clearly stated and published · Climate Change Strategy endorsed by Cabinet and publicised with staff	· Core team regularly review CM progress: o actions o profile & targets o new opportunities	· An individual provides full time focus for CO_2 reduction · Key individuals have accountability for carbon reduction · Senior Sponsor actively engaged	· Collation of CO_2 emissions for limited scope i.e. buildings only	· Environmental / energy group(s) given ad hoc: o training o communications	· A view of the cost of CO_2 reduction is developing, but finance remains ad-hoc · Some centralised resource allocated · Finance representation on CM Team	· All high level and some mid level policies reviewed, irregularly · Substantial changes made, showing CO_2 savings	· A person has responsibility for Schools CO_2 reduction · Schools CO_2 reduction projects co-ordinated · Ad-hoc funding
2	· Draft Climate Change Policy · Climate Change references in other strategies	· Ad hoc reviews of CM actions progress	· CO_2 reduction a part-time responsibility of a few department champions	· No CO_2 emissions data compiled · Energy data compiled on a regular basis	· Regular awareness campaigns · Staff given CM information on ad-hoc basis	· Ad hoc financing for CO_2 reduction projects	· Partial review of key, high level policies · Some financial quick wins made	· Ad-hoc schools projects to specifically reduce energy / CO_2
1 Start	· No policy · No Climate Change reference	· No CM monitoring	· No recognised CO_2 reduction responsibility	· No CO_2 emissions data compiled · Estimated billing	· No communication or training	· No specific funding for CO_2 reduction projects	· No alignment of policies for CO_2 reduction	· No CO_2 / energy reduction policy for schools

Appendix B: Definition of Projects

Definition project sheets have been written for newly identified projects. Information on completed projects is available in the Carbon Management Programme project file.

Project:	***Recycling bring site contract***
Reference:	*CBC 1*
Owner (person)	*Waste Services Manager*
Department	*Waste Services*
Description	*The contract for emptying our recycling bring sites across the Borough has included a 5% carbon reduction target based on fuel consumption in 2009/10.*
Benefits	*Financial savings: £1,889* *Payback period: 0* *CO_2 Emissions reduction: 4 tonnes of CO2* *% of target – 0.46%*
Funding	*There are no funding requirements for this project.*
Resources	*Officer time for tendering the contract and monitoring the fuel consumption records.*
Ensuring Success	*Tenders specify the reduction target.*
Measuring Success	*The contractor will be requested to provide six monthly reports on their fuel consumption.*
Timing	*Milestones / key dates* o *Start date: 01/04/2011* o *Completion date: 31/03/2012* o *interim deliverable / decision points – quarterly progress reports*
Notes	*The figures are based on a 5% reduction based on the 2009/10 fuel consumption associated with that service.*

Project:	***Business mileage 10% reduction***
Reference:	*CBC 2*
Owner (person)	*Service Heads, Directors*
Department	*This is a corporate wide project*
Description	*This project applies to every service and Members that are responsible for business mileage and applies a reduction target of 10% against a 2009/10 baseline. The use of video conferencing facilities that were installed at the Copeland Centre in 2010 will be promoted as part of the project. Car sharing initiatives will also be promoted.*
Benefits	*Financial savings: £3,981* *Payback period: 0 year* *CO_2 Emissions reduction: 8.3 tonnes of CO2* *% of target – 0.97%*
Funding	*Videoconferencing facilities have already been installed (£200 from CBC and £5,000 from Cumbria Improvement and Efficiency Partnership).* *There are no operational costs other than staff costs.*

Resources	*This project will be delivered with current resources.* *I.T Services are responsible for the maintenance of the videoconferencing facilities. Policy and Performance are responsible for collating business mileage data. Service Heads are responsible for integrating the target into service planning and monitoring.*
Ensuring Success	*Service Heads and Managers will need to be on board. Reports will be given to the Senior Leadership Team.*
Measuring Success	*Business mileage figures will be collated quarterly and reported to Service Heads.*
Timing	*Milestones / key dates* o *Start date: 01/04/2011* o *Completion date: 31/03/2012* o *interim deliverable / decision points – quarterly progress reports*
Notes	*The quantification is based on a 10% reduction on 2009/10 figures for staff and members business mileage excluding rail travel, car hire and the Mayors car.*

Project: **Reference:**	***Beacon ASHP*** *CBC 3*
Owner (person)	*Beacon Manager & Properties Officer*
Department	*Development Operations – Beacon & Tourism*
Description	*The Activity Room is currently heated with 3 electric heaters, the project would involve the fitting of an Air Source Heat Pump to provide under floor heating in the room and heated water to the toilets and kitchen replacing 13 hot water heaters. This project will include the installation of automatic shut off taps at all basins and urinal sensors to reduce water consumption.*
Benefits	*Financial savings: £890* *Payback period: 15 years +* *CO_2 Emissions reduction: 5.4 tonnes of CO_2* *% of target – 0.63%* *Though this project has low financial savings in terms of energy the business case for the project is based on asset improvement, increased revenue from room bookings and water reduction.*
Funding	*Project cost £36,000* *Operational costs - £150* *Source of funding: Capital energy efficiency fund*
Resources	*The project would be managed by Contracts and Properties and installed by the Council's M&E contractor or specialist provider.*
Ensuring Success	*The thermal comfort of the building will be assessed with occupants.*
Measuring Success	*Energy savings will be measured in kwh* *Data will be obtained on a six monthly basis*
Timing	*Milestones / key dates* o *start date: Quarter 3 of 2011/12* o *completion date: 4 weeks*

Notes	*Quantification is based on a reduction of 10,000 kwh of electricity. Increased use of the room may increase kwh consumption in the first year.*

Project:	***Automatic Meter Reading equipment and awareness raising***
Reference:	*CBC 4*
Owner (person)	*Contracts & Properties Surveyor & Carbon Management Team*
Department	*Contracts and Property*
Description	*Automated Meter Reading (AMR) uses advanced metering to measure, store and communicate readings to a remote server. Generally readings are taken every half hour and the stored data is collected by the server daily. The technology means it is possible to identify where and when energy is being used. It gets around the problem of incorrect estimated electricity bills. This will be combined with a programme of awareness raising.*
Benefits	*Financial savings: £10,744* *Payback period: 0.8 years* *CO_2 Emissions reduction: 60.3 tonnes of CO2* *% of target – 6.98%*
Funding	*Project cost: £8,800* *Operational costs: £200* *Source of funding: This project could be funded by the energy efficiency capital budget or be incorporated into an energy contract tender.*
Resources	*The project would be managed by Contracts and Properties and installed by the Council's M&E contractor or specialist provider.*
Ensuring Success	*The project is dependent on the data being monitored regularly and targeting opportunities which would require staff resource. When AMR is combined with automatic Monitoring and Targeting (aM&T) software, energy cost savings of up to 15% can be achieved.*
Measuring Success	*Energy savings will be measured in kwh.* *Data will be obtained on a six monthly basis.*
Timing	*Milestones / key dates* o *start date: 01/04/2012* o *completion date: 31/03/2013*
Notes	*Savings based on a reduction of 75,937 kwh (elec) and 103,250 kwh (gas) in buildings across the whole of the Council's estate.*

Project:	***Voltage Optimisation at Moresby***
Reference:	*CBC 5*
Owner (person)	*Properties Officer*
Department	*Contracts and Property*
Description	*In the UK electrical equipment is manufactured under the European standard and bears the CE mark. The UK grid voltage is tapped down to around 240V however on mainland Europe it is set around 220V which means that more energy is consumed than is required for normal operation in the UK. Voltage optimisation reduces the incoming voltage to the whole site after testing for a period of around 2 weeks. The effect is similar to tapping the voltage down at a transformer however if this is not possible*

	there are companies that can install optimisation equipment.
Benefits	*Financial savings: £4,936* *Payback period: 3.6 years* *CO_2 Emissions reduction: 30.2 tonnes of CO2* *% of target – 3.49%*
Funding	*Project cost: £18,000* *Operational costs: none* *Source of funding: This project can be funded by the energy efficiency capital budget.*
Resources	*The project will be managed by the Properties Officer and installed by Powerperfector or other installer.*
Ensuring Success	*Savings will only be confirmed after 2 weeks of testing.*
Measuring Success	*Energy savings will be measured in kwh.* *Data will be obtained on a six monthly basis.*
Timing	*Milestones / key dates e.g.* o *start date: 01/04/2012* o *Two weeks testing period.* o *completion date: 31/03/2013*
Notes	*Quantification is based on a 10% saving in electricity consumption.*

Project: **Reference:**	***Cleator Moor Council Centre - Quatro seals to the windows*** *CBC 6*
Owner (person)	*Properties Officer*
Department	*Contracts and Property*
Description	*Quattro Seal is a permanent draught proofing system that can be fitted to any style of window or door irrespective of fabric. The seal will be fitted to all windows.*
Benefits	*Financial savings: £552* *Payback period: 5.4 years* *CO_2 Emissions reduction: 2.6 tonnes of CO2* *% of target – 0.30%*
Funding	*Project cost: £3,000* *Operational costs: none* *Source of funding: This project can be funded by the energy efficiency capital budget.*
Resources	*The project will be managed by the Properties Officer and installed by Energy Savers or other installer.*
Ensuring Success	*The project will be subject to survey.*
Measuring Success	*Energy savings will be measured in kwh.* *Data will be obtained on a six monthly basis.* *The thermal comfort of the building will be assessed with occupants.*
Timing	*Milestones / key dates*

	o *start date: 01/04/2012* o *completion date: 31/03/2013*
Notes	*Savings dependent on survey.*

Project: **Reference:**	***Beacon – LED display lighting*** *CBC 7*
Owner (person)	*Beacon Manager*
Department	*Development Operations - Beacon and Tourism Services*
Description	*Changing existing lighting units to LED or cold phosphorus luminaires on the remaining gallery levels.*
Benefits	*Financial savings: £2,302* *Payback period: 11.1 years* *CO_2 Emissions reduction: 14.1 tonnes of CO2* *% of target – 1.63 %*
Funding	*Project cost: £20,000* *Operational costs: £500.* *Funding can be allocated from the Beacon sinking fund and the remaining funding will have to be sourced from elsewhere.*
Resources	*The project will be managed by the Beacon Manager and installed by an LED specialist or the Council's M& E contractor.*
Ensuring Success	*The success of the first phase of the LED lighting project will be assessed.* *External funding will be sought.*
Measuring Success	*Energy savings will be measured in kwh.* *Data will be obtained on a six monthly basis.* *Lighting levels will be assessed.*
Timing	*Milestones / key dates* o *Start date: 01/04/2012* o *Completion date: 31/03/2013* o *interim deliverable / decision points – quarterly progress reports*
Notes	*Savings based on a reduction of 25870 kwh.*

Project: **Reference:**	***Computer Powerdown*** *CBC 8*
Owner (person)	*ICT Manager*
Department	*ICT*
Description	*Computer software equipment is available to automatically power down computers when not in use. This software also allows maintenance to be carried out at convenient times.*
Benefits	• *Financial savings: £1,571* • *Payback period: 3.3 years* • *CO_2 Emissions reduction: 10 tonnes of CO2* • *% of target – 1.2%*

Funding	• *Project cost: £5,172* • *Operational costs: £0* • *Source of funding: This project would be subject to a capital funding bid.*
Resources	*The project will be managed by the ICT Manager and installed by systems provider.*
Ensuring Success	*This project would be subject to a free, 30-day trial to identify the exact kWh, CO_2 and financial.*
Measuring Success	*Energy savings will be measured in kwh.*
Timing	*Milestones / key dates* o *start date: 01/04/2012* o *completion date: 31/03/2013*
Notes	*Quantification is based on 150 desktop computers being left idle. Each PC operating at 40 watts over 14 hours per night.*

Project:	***Refuse services optimisation***
Reference:	*CBC 9*
Owner (person)	*Waste Services Manager*
Department	*Waste Services*
Description	*This project is based around a plan for revised refuse collection rounds and improved efficiency of the service.*
Benefits	*Financial savings: £37,661* *Payback period: 0 years.* *CO_2 Emissions reduction: 80.1 tonnes of CO2* *% of target – 9.26%*
Funding	*Project cost – capital cost is £0.* *Operational costs - £0 per annum.*
Resources	*Staff resource is required to implement and monitor.*
Ensuring Success	*Data collection systems will need to be robust.*
Measuring Success	*Fuel savings will be measured in litres.* *Data will be obtained on a six monthly basis.*
Timing	*Milestones / key dates* o *Plan in place: end of April 2011* o *start date: 01/04/2012* o *completion date 31/03/2015*
Notes	*Quantification based on fuel savings achieved to date.*

Project:	***Leisure Services Projects***

Reference:	*CBC 10*
Owner (person)	*North Country Leisure*
Department	*North Country Leisure is a charitable leisure organisation and is responsible for managing the Council's leisure sites – Copeland Pool, Copeland Bowls, Whitehaven Sports Centre and Civic Hall.*
Description	*This project encompasses a number of energy reduction measures that were identified in a report (September 2010) produced for NCL on Sustainable Energy Investment Opportunities at Copeland Sites. They include variable speed drives, replacement lighting, valve insulation and BMS optimisation.*
Benefits	*Financial savings: £25,046* *Payback period: All projects have a payback less than 5 years.* *CO_2 Emissions reduction: 129.3 tonnes of CO2* *% of target – 14.96%*
Funding	*Project cost – capital cost is £68,500.* *Operational costs - £300 per annum.* *Source of funding: NCL will be responsible for funding the measures. Sources of external funding have been identified in the report. As a charitable organisation, NCL will be able to attract funding that is not available to the Council. Decisions on funding will be made by the NCL Copeland Board.*
Resources	*NCL will be responsible for delivering the projects and will use their own staff, contractors and procurement guidelines.*
Ensuring Success	*NCL may choose to implement the projects on a rolling programme over the duration of the contract that they have with the Council.* *The major risk is that NCL will choose not to invest in the projects due to the term of their contract, unless it is renewed.*
Measuring Success	*Energy savings will be measured in kwh.* *Data will be obtained on a six monthly basis.*
Timing	*Milestones / key dates* o *start date: 01/04/2011* o *completion date 31/03/2015*
Notes	*The opportunities recommended in this report are based on walk round surveys, analysis of energy data and budget costs/estimates provided by suppliers to Redding Associates. Further detailed surveys and quotations will be required prior to implementation.*

Project: **Reference:**	***NCL Renewable Projects*** *CBC 11*
Owner (person)	*North Country Leisure*
Department	*North Country Leisure is a charitable leisure organisation and is responsible for managing the Council's leisure sites – Copeland Pool, Copeland Bowls, Whitehaven Sports Centre and Civic Hall.*
Description	*This project includes four solar PV schemes across leisure sites that were identified in a report (September 2010) produced for NCL on Sustainable Energy Investment Opportunities at Copeland Sites.*

Benefits	*Financial savings: £7,013. Income from the Feed-in-Tariff for generating renewable energy would be £23,677.* *Payback period: 9.2 years* *CO_2 Emissions reduction: 44.9 tonnes of CO2* *% of target – 5.19%*
Funding	*Project cost: £370,000* *Operational costs: £500* *Source of funding: NCL would be responsible for funding the measures. Sources of external funding have been identified in the report. As a charitable organisation, NCL will be able to attract funding that is not available to the Council. Decisions on funding will be made by the NCL Copeland Board.*
Resources	*NCL would be responsible for delivering the projects and will use their own staff, contractors and procurement guidelines.*
Ensuring Success	*NCL may choose to implement the projects on a rolling programme over the duration of the contract that they have with the Council.* *The major risk is that NCL will choose not to invest in the projects due to the term of their contract, unless it is renewed.*
Measuring Success	*Energy savings will be measured in kwh.* *Data will be obtained on a six monthly basis.*
Timing	*Milestones / key dates* *These projects would be implemented over the duration of the plan.*
Notes	*The opportunities recommended in this report are based on walk round surveys, analysis of energy data and budget costs/estimates provided by suppliers to Redding Associates. Further detailed surveys and quotations will be required prior to implementation. The Feed in Tariff is based on 28.7 p/kwh for installed systems over 20KW if installed before 31 March 2013.*