



Cumbria County Council Carbon Reduction Programme

Carbon Reduction Plan (CRP) – Version 1 (March 2009)

Cumbria County Council Carbon Reduction Programme
Carbon Reduction Plan



working with



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Foreword from the Chief Executive and Cabinet Member for the Environment

Text

Including a foreword signed, ideally, by both your Chief Exec and Political Sponsor will make your CMP stand out and carry more weight within the Authority. This need only be a paragraph or two setting the Programme against the strategic priorities of the Authority.

It should ideally include their photo and a picture of their signature, possibly even a photo of them signing off the document.

Guidance notes – please delete from final document

Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for local authorities - it's all about getting your own house in order and leading by example. The UK government has identified the local authority sector as key to delivering carbon reduction across the UK in line with its Kyoto commitments and the Local Authority Carbon Management programme is designed in response to this. It assists councils in saving money on energy and putting it to good use in other areas, whilst making a positive contribution to the environment by lowering their carbon emissions.

Cumbria County Council was selected in 2008, amidst strong competition, to take part in this ambitious programme. Cumbria County Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Reduction Plan commits the Council to a target of reducing CO₂ by 25% by 2012 (from a 2007 baseline) and underpins potential financial savings to the council of around £3.5 million up to 2012.

There are those that can and those that do. Local authorities can contribute significantly to reducing CO₂ emissions. The Carbon Trust is very proud to support Cumbria County Council in their ongoing implementation of carbon reduction.



Richard Rugg

Head of Public Sector, Carbon Trust

Summary

This Summary outlines the key messages of the Carbon Reduction Plan (CRP) where the County Council is now in terms of managing its carbon emissions and where it wants to be in the future. The summary also includes some brief background to current emissions, potential carbon savings projects and the likely resource implications.

Purpose of the Carbon Reduction Plan (CRP)

This Carbon Reduction Plan (CRP) sets out the key activities identified by Cumbria County Council (CCC) to reduce its direct carbon emissions. It has been developed under the Carbon Trust's Local Authority Carbon Management Programme which CCC joined in April 2008.

The CRP does not exist in isolation. It is being developed in the context of and alongside a number of other strategies both within and outside the authority. These include the Cumbria Climate Strategy, the Community Strategy, the Local Area Agreement, the Council Plan and the Council's Green Action at Work programme.

This is the first version of the plan and it will continue to evolve as new projects are brought on stream. The CO₂ and financial savings are best estimates and systems are being put in place to record savings to measure our progress and allow us to develop the plan to ensure our target is met.

Where do our emissions come from?

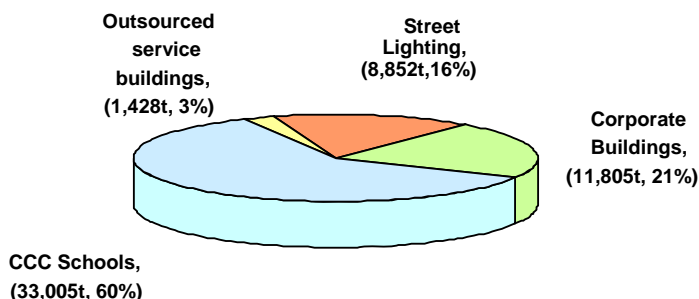
The County Council is directly responsible for emitting carbon through its use of buildings, transport, street lighting, the goods and services it procures and the way it manages municipal waste.

The County Council's carbon emissions baseline includes emissions from buildings and street lighting for the baseline year 2007 (calendar). It also includes activity undertaken by contractors operating outsourced services including highways and ICT on the County Council's behalf.

The County Council's baseline carbon emissions for 2007 stood at 55,090 tonnes. Nearly 60% of emissions were from schools (33,005), 21% of emissions were from corporate buildings (11,805 tonnes), 16% from street lighting (8,852 tonnes) and 3% from our outsourced services (1,428 tonnes).

Fig 1 shows CCC's current estimated Carbon Profile and Baseline for 2007 [excluding transport and waste]

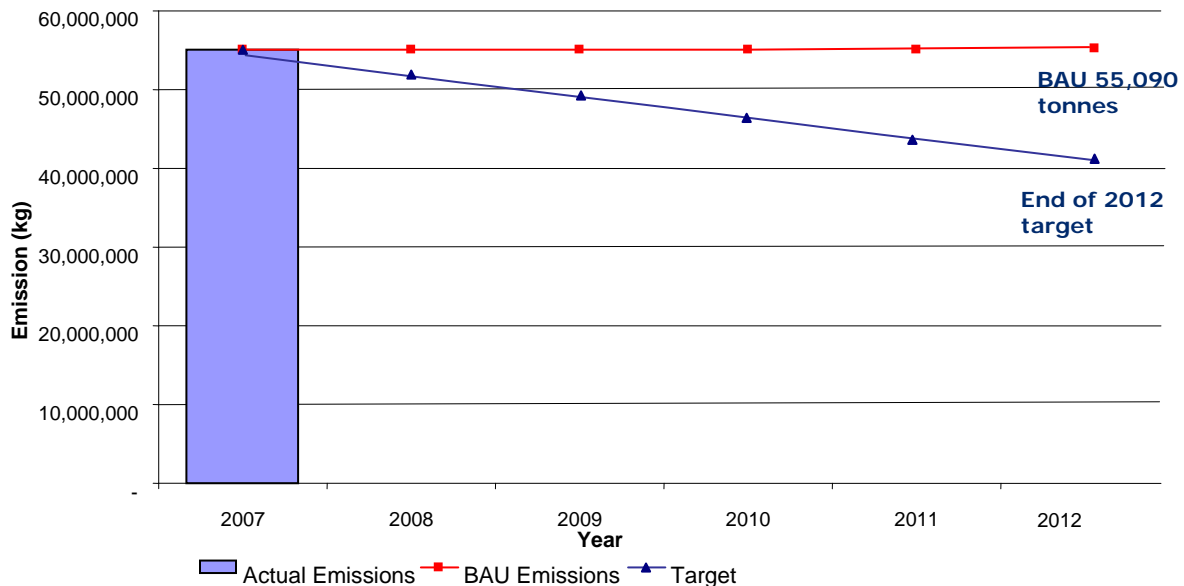
Fig 1 Carbon Emissions Baseline (2007) 55,090 tonnes pa



There are two other large sources of carbon emissions not currently included in this baseline figure, transport and waste. Transport emissions are currently estimated at between 2,500 tonnes and 3,000 tonnes annually with the vast majority (around 80%) attributable to business mileage in staff owned vehicles. Emissions from waste and waste management activity is estimated at around 13,000 tonnes annually. Emissions from these sources are discussed in more detail in **section 3** of this report.

The graph below shows the projected carbon savings under the Carbon Reduction Plan against the predicted Business as Usual (BAU) emissions.

Comparison of emissions - BAU and CRP target



More information on the emissions profile and projected carbon savings is in **sections 3, 4 and 5** of this plan.

The County Council’s Carbon Reduction Target

As part of signing up to the Carbon Trust’s Carbon Reduction Plan a clear carbon reduction target has been identified and put in place to guide projects and financial resources to achieving reductions over a specified timescale. CCC has set the following target:

Cumbria County Council will reduce CO₂ emissions from Council operations by 25% by 2012 from 2007 levels.

Through the Carbon Reduction Programme, CCC will need to make savings of around 4,500 tonnes of CO₂ annually, depending on the level of savings made during 2008. Reductions of around 14,000 tonnes of CO₂ will need to be saved by 2012 to achieve the 25% target.

In addition, 25% savings will need to be achieved against the transport and waste emissions baseline which is expected to be around 4000 tonnes a year.

How are we going to achieve our target?

Significant investment will be required to achieve our target. There are a number of funding mechanisms that will finance projects and drive progress forward. Capital and revenue budgets have been identified for energy efficiency measures and other initiatives such as expanding existing video conferencing facilities. Invest to save projects targeting energy efficiency in schools will be funded through the Salix Finance programme and match funded to provide a ring fenced carbon reduction fund.

Carbon Reduction Plan

Capital funding has been allocated (Feb 2009 Council Budget) for the current year programme. These are the main areas for priority investment up to 2012:

- to increase the current energy efficiency budget from £150k to £250k for 2010/11 and the following two years to invest in corporate buildings and schools
- £125k pa match funding for Salix funding for 2010/11 and 2011/12 to provide £500k to predominantly use on energy efficiency improvements in schools. 60% of savings to be reinvested to give a continuing programme
- £100k for extension of videoconferencing.

As well as identified and costed projects a number of other projects being developed. Projects associated with reducing emissions from transport are currently being investigated as the accurate baseline work nears completion. Carbon emissions from the corporate buildings rationalisation programme are being calculated and this is expected to make a significant contribution. Rationalising the Council's servers and printers is an ongoing programme in partnership with corporate procurement and the ICT provider.

Based on current estimations and forecasts it is expected that all identified and costed projects (excluding transport and waste projects) will deliver around 93% of the 2012 target.

Further investment will be committed through corporate initiatives which will also deliver CO₂ savings. The adequacy of investment will be kept under review. An assessment of what can be achieved for differing levels of investment around street lighting is being progressed and should be determined by April 2009.

Resource implications both financial and time are discussed in more detail in **section 5** of this plan.

Value at Stake

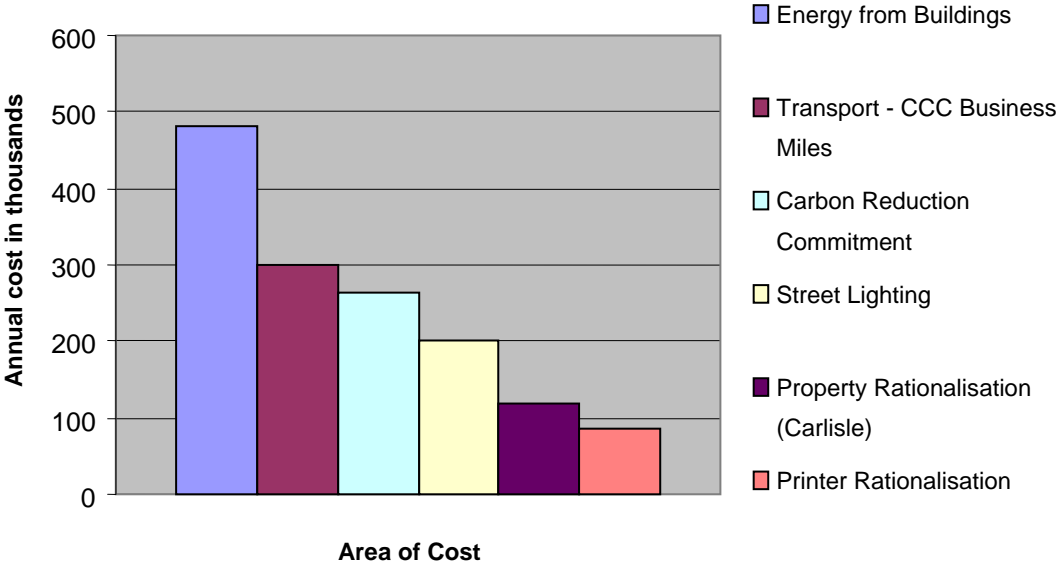
Value at Stake (VAS) is the level of anticipated financial cost implications to the Council as a result of taking no action to limit carbon emissions. The VAS is, in effect the cost of not following the recommendations set out in this Carbon Reduction Plan for Cumbria County Council.

The VAS has been calculated for the following areas:

- Energy from buildings including schools – annual spend £7M – VAS £156k corporate buildings, £325k from schools – total projected annual savings (£481k)
- Transport - CCC business miles - £3m annual spend – assume 10% annual saving (£300k)
- Street Lighting - £2m annual spend – assume 10% saving (£200k)
- Carbon Reduction Commitment (CRC) – carbon baseline 55,000 tonnes @ £12 tonne = £660k x 2yrs = £1.32m. Assume only 80% return = annual cost of (£264k)
- Property Rationalisation – Carlisle area only = (£118k) annually
- Printer Rationalisation – (£87k) annually
- **Total = £1.45M annually**

More details on the VAS can be found in **sections 3, 4 and 5** of this plan. **Fig 3** below shows the breakdown of VAS figures:

Fig 3 Value at Stake



1 Introduction

1.1 The Global Perspective and Climate Change

Overwhelming scientific evidence shows that climate change is influenced by human activity. Greenhouse gases released into the atmosphere from burning fossil fuels, such as oil, gas and coal act like a blanket around the planet and prevent heat from escaping. The extent to which the climate changes in the future will be influenced by the quantities of greenhouse gases (GHG) that are released. Data collection and modelling shows clearly that the recent increase in emissions have already committed us to experience some degree of warming (between 1-2°C).

Average central England temperatures have already increased by about 1°C since 1980, whilst sea temperatures around the UK coast have risen by 0.7°C over the same period. Insignificant as this rise may seem, evidence shows that such a change will inevitably result in significant climatic instability, greater likelihood of extreme weather events and longer term shifts in weather patterns.

Carbon dioxide concentrations have risen by just over one third from 280 parts per million (ppm) in 1750, to 379ppm in 2005. Including other major greenhouse gases, the total warming effect is equivalent to around 430ppm carbon dioxide. The Intergovernmental Panel on Climate Change (IPCC) report states that without intervention greenhouse gas levels will continue to rise with a warming of between around 1.7 and 7.0°C above pre-industrial levels (or 1.1 to 6.4°C above 1990 levels) by the end of the century, and further warming in the following century.

1.2 Structure of the Carbon Reduction Plan

This Carbon Reduction Plan is comprised of the following sections:

- **Section 1** (this section) provides background and context to the CRP
- **Section 2** sets out the Carbon Reduction Strategy and covers the key drivers for taking action to reduce carbon emissions, CCC's low carbon vision and targets and objectives
- **Section 3** provides details on the carbon emissions baseline along with future projections
- **Section 4** gives more detail on the projects that will be delivering reduction in emissions and the expected progress towards the target
- **Section 5** covers financing and wider resource implications
- **Section 6** looks at embedding a low carbon culture within the organisation
- **Section 7** covers ongoing programme management and stakeholder involvement in the programme

1.3 Purpose of the Carbon Reduction Plan

The Carbon Reduction Plan (CRP) sets out the key activities identified by Cumbria County Council (CCC) to reduce its direct carbon emissions. It has been developed under the Carbon Trust's Local Authority Carbon Reduction Programme which CCC joined in April 2008. This Plan aims to reduce carbon emissions which will also help the County Council to meet its expectations in respect of the Carbon Reduction Commitment and against National Indicators related to carbon reduction and climate change mitigation and adaptation.

The Climate Change impacts from the County Council's estate and operations relate to two main areas:

- **direct impacts** through the use of buildings, transport, street lighting, the goods and services it procures and the generation of waste;
- **indirect/policy impacts**– its influence on the actions of the community, for example through:
 - land use planning

Carbon Reduction Plan

- o the waste strategy and management of municipal waste
- o wider activities such as education and awareness raising around environmental issues.

The Carbon Reduction Plan is not being delivered in isolation. It relates closely to the following strategies and programmes:

- **The Cumbria Climate Change Strategy** – this strategy was adopted by the Cumbria Strategic Partnership in March 2009 and sets the framework for climate change mitigation and adaptation in the County. Members of the partnership have signed the Cumbria Climate Change Commitment that contains clear targets and actions to bring about change and drive forward progress.
- **The County Council’s Sustainability Strategy** – sets the framework for integrating sustainability into Council policy and decision making.
- **The County Council’s Energy Policy and Strategy** – sets clear targets relating to energy efficiency in County Council buildings.
- **The County Council’s Sustainable Procurement Strategy** – this strategy is in the process of being reviewed and developed. It will contain policies on the procurement of low carbon goods and services.
- **The County Council’s Green Action at Work (GAAW) internal environmental management programme** – this programme will support the CRP and have a particular role to play in embedding the objectives of the CRP by communicating and marketing carbon reduction.
- **The County Council’s Sustainable Design and Construction Policy** – provides guidance to developers and architects on sustainable and low carbon building for County Council procured projects.
- **The County Council’s Climate Change Strategy** – this strategy will be developed throughout 2009/10 and will deliver the relevant actions and targets contained within the County level Climate Change Strategy
- **The Cumbria Local Area Agreement (LAA)** – the LAA contains a number of indicators relevant to the CRP - the most relevant being an indicator relating to carbon emissions in the local authority area (NI186). Through the successful delivery of the CRP, CCC will demonstrate best practice and community leadership in cutting carbon emissions and support targets contained in the LAA.
- **The Cumbria Community Strategy** – the Community Strategy for Cumbria sets out broad themes relating to the environment, communities and the economy. It contains aspirations for Cumbria to be a leading County in tackling climate change and looks for a response from both organisations and communities.

The Carbon Reduction Plan (CRP) assesses the direct impact the Authority has as an organisation and how it will reduce its emissions. For the County Council these emissions and impacts come mainly from the following activities:

County Council Activity	Main Greenhouse Gas Emissions
Energy use in buildings (space heating and the use of electricity)	Carbon dioxide
Street Lighting	Carbon dioxide
Transport (fleet vehicles, staff business mileage and commuting)	Carbon dioxide, Nitrous oxides
Waste from Council operations	Carbon dioxide, Methane
Procurement of goods and services	Carbon dioxide, Nitrous oxides, Methane

Carbon Reduction Plan

The Carbon Reduction Programme is an ongoing project that develops over time. Establishing baseline carbon emissions, identifying and developing carbon saving projects and embedding a low carbon culture within the organisation is a challenging and substantial process.

The County Council has a large estate and delivers and procures a diverse range of services. The County Council employs 17,000 people and outsources a number of services to other organisations and agencies. The carbon footprint is therefore large and complex. Carbon saving projects require careful consideration in their development and must be supported both financially and by experienced personnel to ensure successful delivery.

This report provides the most accurate and up to date assessment of the status of the Carbon Reduction Programme. It is not complete and there are a number of gaps remaining relating to quantifying baseline data and financial implications. These gaps are being addressed and the CRP is developing constantly into a robust plan of action to reduce carbon emissions across the CCC estate and operations.

The CRP will be subject to a systematic programme of reviews and updates as the project evolves and will be revised and developed on at least at annual basis.

1.4 Background to the Carbon Reduction Plan

The Carbon Reduction Programme is run by the Carbon Trust – an independent company set up by Government to help the public and private sectors reduce CO₂ emissions and accelerate progress towards a low carbon economy by funding for research and development and by providing start up funds for new companies making low carbon products.

In the public sector, the Carbon Trust runs 3 separate programmes for Local Authorities, higher education establishments and health authorities. Cumbria CC has joined the sixth carbon management programme along with 63 other councils. 151 other Councils have taken part in the programme to date and each is reported to have saved on average 7,000 tonnes of CO₂ and £700,000 per annum.

Cumbria CC has joined in partnership with the Lake District National Park Authority, Carlisle City Council and South Lakeland DC. The Cumbria Constabulary are also considering joining the programme in 2009 and it is hoped arrangement can be put in place to allow the 4 remaining district authorities in Cumbria to join next year, along with the University and the PCT, thereby creating a low carbon public sector in Cumbria.

The CRP aims to reduce CO₂ emissions from local government activity – anything that falls under the direct control of a council e.g. energy use in buildings, street lighting, vehicle fleets and emissions arising from business travel and landfilling of waste. Also included are outsourced operations provided by contractors.

The Cumbria Climate Change Strategy

The County Council has been leading the development of the Cumbria Climate Change Strategy and action plan through the Cumbria Strategic Partnership. A partnership task group was set up in early 2007 and has produced a strategy and action plan that will help implement both national policy and regional climate change objectives. This was adopted by the Cumbria Strategic Partnership (CSP) on 16th March 2009.

The action plan will require all partners to produce their own strategy for tackling climate change and reducing their organisation's carbon footprint. CCC has already begun to do this through the Carbon Reduction Programme but this will be further supported and delivered through its own climate change strategy which will be drafted during 2009/10.

1.5 The Key Steps of the Carbon Reduction Programme

The Carbon Reduction Programme follows 5 key steps. The following section summarises those steps and how CCC has progressed against each of them:

Carbon Reduction Plan

Step 1 – setting up the Carbon Reduction Team and Board: The Carbon Reduction Team (CRT) is established, well attended and generally working effectively. There is cross-authority representation on the CRT.

The Carbon Reduction Board oversees the development and delivery of the programme and will be expanded to ensure senior representation from all the Directorates to oversee development and delivery of the CRP.

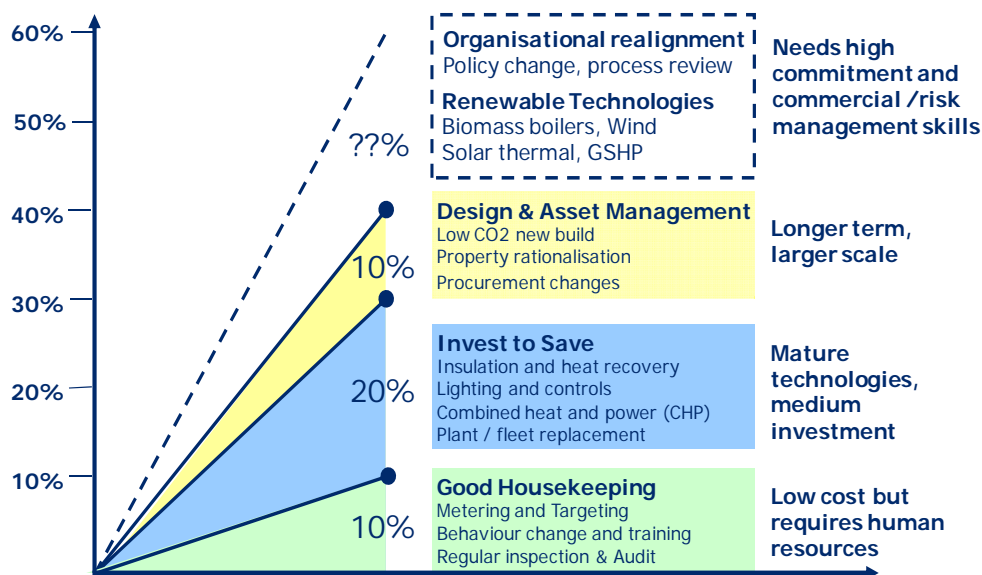
Step 2 – Calculating the organisation’s carbon emissions baseline: This has been calculated for buildings and street lighting for the baseline year 2007 (calendar). It also includes activity undertaken by Amey and Capita in providing services on our behalf. Further work is ongoing to refine the baseline. The baseline is discussed in more detail in **section 3**.

Step 3 – Identifying opportunities for emissions reduction, appraising options in terms of investment costs, payback and carbon savings: The Carbon Trust has worked with over 200 local authorities since 2001. The predominant carbon reduction target set by authorities over the last six years of the programme is 25% over a 4 to 5 year period. Savings per authority from adopting a programme has averaged £700k per annum. For an authority of this size savings should be greater.

The Authority has adopted a target of a 25% CO₂ reduction by the end of 2012 against the 2007 baseline. The 2007 baseline emissions stand at 55,090 tonnes. To reach the target 13,772 tonnes of CO₂ will need to be saved by 2012. From the experience of other authorities, this should be achievable through low cost measures/good housekeeping and invest to save projects. Initially there will be a focus on current corporate initiatives to secure substantial savings in CO₂ whilst securing the desired outcomes from these programmes.

The following pattern of carbon saving has been consistently observed across authorities that have taken part in the Carbon Reduction programme:

Fig 4 – Breakdown of carbon saving routes



Carbon saving projects are discussed in more detail in **section 4**.

Step 4 - Pulling together a practical action plan: This stage involves the drafting of the Carbon Reduction Plan (this report). The CRP is not intended to be a one off strategy for saving carbon. It will continually be updated and modified as new projects and initiatives emerge and baseline data is clarified and updated.

Step 5 – Implementation: This stage is an iterative process of implementing projects, monitoring and review and introducing more action in the same and additional areas. This CRP sets out how the authority intends to take the programmes forward into the next phase of implementation and embedding a low carbon culture within the authority – **sections 6 and 7** cover this in more detail.

The following section sets out how the County Council intends to take forward a programme of projects and measures to reduce the carbon footprint of the organisation by 25% by 2012 against the 2007 baseline.

2 Carbon Reduction Strategy

This section of the CRP sets the plan within the context of national and local drivers and other relevant strategic initiatives. It sets out CCCs vision for a low carbon future and an organisation committed to driving down carbon emissions by embedding good practice in organisational culture.

2.1 Context and drivers for Carbon Reduction

There are a number of key drivers behind the CRP, ranging from global scale actions, targets and legislation to national, regional and local drivers focussed on delivering change at an organisational level:

Climate Change Act 2008 – Legally binding targets: Green house gas emission reductions through action in the UK and abroad of at least 80% by 2050, and reductions in CO₂ emissions of at least 26% by 2020, against the 1990 baseline. **Carbon budgeting system:** this will cap emissions over five year periods, with three budgets set at a time in order to meet the 2050 target.

The Secretary of State will be expected to make regular reports and updates on the risks to the UK of the current and predicted impacts of climate change. Flowing from this will be the need to provide reports on what measures will be needed to adapt to these risks. Under the new provisions, the Secretary of State will be able to require local authorities to prepare a report that assesses climate risks in relation to their functions.

Specifically, The Climate Change Act has created a number of legislative drivers for Local Authorities:

- **Display Energy Certificates:** Since 1st October 2008 there has been in place a legal requirement for all public sector buildings with a total useful floor area of over 1,000m², to show a Display Energy Certificate (DEC) in a prominent place, clearly visible to the public.¹
- **Carbon Reduction Commitment:** The Carbon Reduction Commitment (CRC) will affect organisations whose total electricity consumption is greater than 6,000MWh or approximately £500k pa. If an organisation falls within the CRC scheme, **all** electricity and fuel emissions are covered (other than transport). More details follow on the CRC below.

Defra have also created two National Indicators specific to CO₂ reduction:

- **NI185 – percentage CO₂ reduction from LA operations:** the public sector is in a key position to lead on efforts to reduce CO₂ emissions by setting a behavioural and strategic example to the private sector and the communities they serve. Measurement against this indicator requires each local authority to calculate its CO₂ emissions from analysis of the energy and fuel use in their relevant buildings and transport, including where these services have been outsourced.² This includes schools, street lighting, procurement and waste management.

¹ more information on DEC can be found at www.communities.gov.uk/planningandbuilding/theenvironment/energyperformance/certificates/displayenergycertificates

² more information on NI185 and NI186 can be found at: www.defra.gov.uk/environment/localgovindicators/indicators.htm

- **NI186 – per capita CO₂ emissions in the LA area:** Local authorities are uniquely placed to provide vision and leadership to local communities by raising awareness and to influence behavioural change. The percentage reduction in CO₂ per capita in each LA will be reported annually. This will be produced by Central Government based on CO₂ emissions in the Local Area from the business and Public Sector, domestic housing, and road transport. NI186 has been included in the Local Area Agreement (LAA) and the County Council is working with other partners to implement an action plan to reduce carbon emissions across Cumbria (through the Cumbria Climate Change Strategy).
- Similar drivers relate to our responsibilities to manage adaptation to climate change (**NI188**) and reduce NO_x and PM10 emissions (**NI194**).

Carbon Reduction Commitment: The Carbon Reduction Commitment (CRC) begins in 2010/11, which is a mandatory 'cap and trade' emissions trading scheme. CCC falls within the scheme and will have to purchase a carbon allocation based on its carbon footprint, from April 2011 onwards. A £12 per tonne charge for CO₂ will operate for the first three years of the scheme and would equate to a cost to CCC of £660k based on the current 2007 footprint. At April 2011 CCC will have to buy its allocation for two years (2010/11 and 2011/12). Trading of credits will commence in 2013/14.

This will be a revenue neutral scheme nationally. A league table for authorities will operate, financially rewarding and penalising based on league position. The best performers should get back more than their allocation cost, for the worst they may not recover any of their allocation cost. The league table will be based on the last five years' performance (although initially it may be based only on performance from 2008 on) which prompts the need to invest in carbon reduction measures as a matter of urgency.

CCC is preparing for the Carbon Reduction Commitment now by building on experience with waste management and the Landfill Allowance Tax Scheme (LATS).

Draft Government guidance and User Guide on the CRC was issued for consultation on the 12th March 2009.

Comprehensive Area Assessment (CAA): CAA looks at how well local services are working together to improve the quality of life for local people. It is about demonstrating effective community leadership and leading by example across a range of key indicators.

The CAA assessment of Council performance is carried out by the Audit Commission and centres around certain Key Lines of Enquiry (KLOE). There are KLOEs linked to environmental performance and most crucially carbon emissions. In order to achieve a 'performing well' rating a local authority must demonstrate that they have made measurable progress in cutting carbon emissions and embedding a low carbon culture within the organisation's operations.

Local Area Agreement (LAA): LAAs set out the priorities for a local area agreed between central Government and the Local Authority, Local Strategic Partnership and other key partners at the local level. The Cumbria LAA highlights the issues that are most pressing for the County and that require support, funding and effective partnership working to bring about change and improvement.

The success of delivery is measured against a set of pre-agreed indicators. In the case of the Cumbria LAA these include a number of environmental indicators that link with the CRP. The LAA has a public and community focus so does not include targets relating to NI185. It does include targets relating to NI186 and NI187, [CO₂ reductions in the local authority area and reducing fuel poverty]. The CRP will not have direct influence over these indicators but it will demonstrate community leadership and galvanising action from partners and communities.

Northwest Climate Change Charter: The Charter was launched in 2006 with the backing of the Government Office North West, The North West Regional Assembly, The North West Development Agency, the Environment Agency and a number of north west local authorities.

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Cumbria County Council signed the Charter which commits the authority to take action to mitigate and adapt to climate change by cutting carbon emissions and putting climate change at the heart of its internal decision-making process

Value for Money: Measures to increase energy efficiency will reduce energy costs. Energy and fuel costs have seen a dramatic rise in recent years, with prices increasing by well over 50% since 2004.

2.2 Cumbria County Council's low carbon vision

The following statement sets out Cumbria County Council's low carbon vision for the future.

By 2012:

- ***Cumbria County Council will have reduced its carbon emissions by 25% from 2007 levels.***
- ***Carbon reduction will be embedded in the culture and operations of the Council and delivered at directorate level with a robust system of monitoring and auditing.***
- ***Cumbria County Council will be performing at the highest level against National Indicator 185 and demonstrating strong community leadership and best practice in tackling climate change.***

2.3 Strategic themes

1. Carbon Saving and CCC: The County Council will seek to embed carbon reduction into all its functions and activities. There are a range of work initiatives across the Council both ongoing and programmed which can also deliver significant carbon savings. Broadly, the CRP will seek carbon and financial savings in the following areas:

- **Energy in buildings:** Both corporate buildings and schools. Improving energy efficiency in corporate buildings and schools is essential if the 25% carbon reduction target is to be realised by 2012. Together, corporate buildings and schools account for around 80% of CCC's carbon emissions (excluding transport and waste emissions).
- **Street Lighting:** This accounts for around 16% of carbon emissions. Some initiatives and measures are already in place to reduce emissions from street lighting through improved lighting technologies and efficiency savings. The CRP will look to develop new projects to achieve greater savings.
- **Transport:** The detailed carbon footprint for transport is currently being assessed. An accurate baseline will be in place for April 2009. Transport emissions have been estimated at between 2500 and 3000 tonnes of CO₂ per annum, around 5% of the overall baseline. Of this the vast majority of emissions come from staff owned vehicles (the grey fleet) business mileage (approx 80% of overall transport emissions). As more detail is gathered on our transport emissions, projects will be targeted accordingly. There are links with initiatives on video conferencing and liftshare schemes.

Carbon emissions associated with commuting are not included in the reporting structure for National Indicator 185. The CRP will aim to reduce the commuting through various initiatives including travel planning, home working, video conferencing and locality working.

- **Outsourced services:** Around 3% of the carbon baseline comes from activities associated with outsourced services – highways, ICT and other services. The Carbon Reduction Team includes representatives from our external contractors and carbon saving targets are to be worked into new contracts.
- **Procurement:** Some progress has already been made in this area through the procurement of a low carbon hire car fleet. During 2009 a sustainable/low carbon procurement strategy is to be drawn up. There will a focus on low carbon procurement of goods and services.

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- **Waste:** The County Council has recently appointed a new waste contractor to deliver new ways of managing municipal waste in Cumbria. This includes establishing two new Mechanical and Biological Treatment plants. These plants are expected to be operational by April 2012 and will deliver significant carbon savings through the diversion and removal of waste from landfill. Carbon savings are also being realised through increased waste minimisation, increased recycling and further diversion of waste from landfill.

2. Funding the CRP: Properly resourcing carbon reduction work is essential. Provision is made within the CCC budget to fund carbon reduction projects. Capital allocations have been agreed for 2009/10. The current energy efficiency budget will increase from £150k to £250k for 2010/11 to invest in corporate buildings and schools.

Other funding has been agreed - £125k pa match funding for Salix Finance (see **section 5** for more details) for 2009/10 and 2010/11 to provide £500k overall to predominantly fund energy efficiency improvements in schools. 60% of savings will be reinvested so it gives a continuing programme of 'ring-fenced' funding. There is also a proposal for the next budget round for investment in voltage optimisation in 7 corporate buildings, £54k in 2010/11 with a possible extension to other buildings if further funding is available.

3. Communicating the need for change and branding the CRP:

The CRP targets, aims and objectives must be effectively communicated throughout the organisation.

A low carbon communications strategy and plan will be drafted during 2009/10 that puts in place a coordinated programme for marketing and communicating the work of the Carbon Reduction Team.

There is great scope to further develop the links between the Carbon Reduction Programme and the County Council's environmental management project known as the Green Action at Work programme (GAAW). GAAW has a dedicated full time officer resource helping to drive the work forward. A cross-departmental group meets regularly – the focus is on communicating the environmental message within the organisation. GAAW will be fully utilised to help deliver the low carbon message to all employees.

Carbon reduction will be introduced via staff inductions and awareness raising campaigns.

2.4 Carbon Reduction Target

Cumbria County Council has set the following carbon reduction target:

Cumbria County Council will reduce CO₂ emissions from Council operations by 25% by 2012 from 2007 levels.

The County Council's carbon footprint was 55,090 tonnes in 2007.

In order to achieve the 25% cut in the 2007 baseline 13,772 tonnes of CO₂ will need to be saved by December 2012 or a saving of 4,591 tonnes of CO₂ annually (this may be slightly less depending on the amount of CO₂ saved in 2008).

In addition, 25% savings will need to be achieved against the transport and waste emissions baseline which is expected to be around 4000 tonnes a year.

The scope of the target covers all the activities of the organisation that generate carbon emissions although the current baseline is derived from emissions associated with energy use in schools and buildings and street lighting only. The detailed emissions baseline from transport and other activities are in the process of being calculated. Emissions from transport and waste will not count towards the

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baseline for the purpose of assessing the level of carbon allowances that will need to be purchased under the forthcoming Carbon Reduction Commitment (CRC).

The baseline and targets are discussed in more detail in the following section.

3 Emissions Baseline and Projections

3.1 Scope

There are two main areas driving the scope of baseline data collection. The first is National Indicator 185: percentage CO₂ reduction from local authority operations.

NI185 covers all emissions from the County Council Estate and operations except waste emissions from landfill and transport emissions relating to commuting (business miles and other emissions from fleet vehicles are included).

Carbon Reduction Commitment – Emissions under the CRC relate only to static emissions as a result of energy/fuel use – emissions from gas, electricity and oil use will count. Transport emissions and waste emissions are not part of the CRC.

Carbon Reduction Plan – Best practice suggests that all emissions are covered by the CRP. All emissions are covered, although waste and transport are dealt with separately (as the figures require verification) except commuting which will be covered in a later version of this plan.

3.2 Baseline

The initial baseline year for the Carbon Reduction Programme is 2007.

In order for CCC to meet its identified carbon reduction target of 25% by 2012 (against the 2007 baseline) there will need to be a 13,772 tonne cut in CO₂ emissions by 2012 (25% of 55,090 tonnes). Carbon emissions from transport and waste activities will also need to be reduced by 25%.

There are two other large sources of carbon emissions that are not accounted for in the baseline figure at present, transport and waste. Emissions from these two areas are being quantified but estimates suggest that annual carbon emissions from CCC transport are between 2,500 and 3,000 tonnes and emissions from waste and waste Reduction activities are around 13,000 pa.

Robustness of data: The corporate buildings data was taken from meter readings and therefore very accurate. The schools data was sourced from bills which included estimates but nonetheless was considered to be reasonably accurate. Street lighting data was based on an estimated nominal rating of units.

At present CCC data is for the calendar year. Reporting on NI185 is based on the financial year. Defra are looking at this issue as there will be a requirement to align carbon management reporting under the CRP with reporting around NI185.

Table 1 – CCC Carbon Emissions Baseline (excluding transport and waste)

Emissions Source	Category	Tonnes CO ₂	Sub Total (tonnes CO ₂)	% of overall emissions
CCC Corporate Buildings	The Courts	580	11,805	21%
	Other Offices	2,017		
	Carlisle Central Library	1,281		
	Other libraries	232		
	Residential care homes	4,678		
	Day Centres	843		
	Fire Stations	1,206		
	Archives	185		
	Registry Offices	234		
	Pools	183		
	Education Centres	229		
	Other	138		
CCC Schools	All Schools	33,005	33,005	60%
Outsourced services buildings	Amey (Highways)	819	1,428	3%
	Agilisys (ICT)	107		
	Capita (Wide range of services delivered in partnership with CCC)	502		
Street Lighting	Car park counters	15	8,852	16%
	Feeder pillars	9		
	Illuminated bollards	23		
	Illuminated signs	513		
	Illuminate school signage	80		
	Street lighting	7,650		
	Traffic signals	493		
	VMS signs	49		
Zebra crossings	20			
TOTAL	Overall Carbon Emissions		55,090	

3.3 Projections and Value at Stake

Value at Stake (VAS) is the anticipated financial cost implications to the Council as a result of taking no action to limit carbon emissions. The VAS is, in effect the cost of not following the recommendations set out in this Carbon Reduction Plan for Cumbria County Council.

- **Energy from corporate buildings** – Investment at £250k pa until 2012 gives 5% saving in energy pa, total 15% by 2012. Financial saving by 2012 = 0.15x £2.6M = £390k pa

Carbon Reduction Plan

07/08 energy costs for corporate buildings = £2M (Assume continuation of 08/09 investment of £150k pa - 3% saving in energy, total 9% by 2012. Financial saving by 2012 = 0.09 x £2.6M = £234k pa.

VAS for corporate buildings £390k + £234k = £156k

- **Energy from schools** - £250k investment in 2008/9 (first year of Salix) 1% saving on energy. £500k investment pa for following 2 years to 2012, 2% saving on energy. Total 5% saving on energy. Financial saving 5% of £6.5M by 2012 = £325,000 pa. Energy costs 07/08 = £5M - 30% increase, cost in 07/08 = £6.5M.

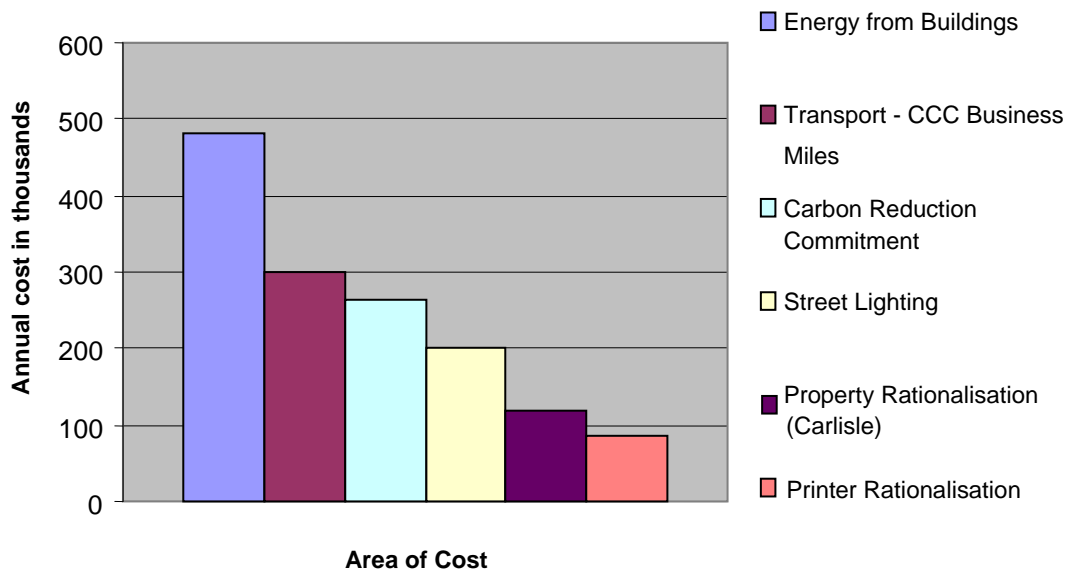
VAS for school buildings £390k - £234k = £156k for corporate buildings.

Total projected VAS for energy = £481k – corporate buildings and schools

- Transport - CCC business miles - £3m annual spend – assume 10% annual saving (£300k) – (10% saving to be achieved through a variety of measures including Travel Planning, Video Conferencing and Home Working).
- Street Lighting - £2m annual spend – assume 10% saving (£200k)
- Carbon Reduction Commitment (CRC) – carbon baseline 55,000 tonnes @ £12 tonne = £660k x 2yrs = £1.32m. Assume only 80% return in recycled credits = annual cost of (£264k)
- Property Rationalisation – Carlisle area only = (£118k) annually
- Printer Rationalisation – (£87k) annually
- **Total = £1.45M annually**

The value at stake is shown in the graph below:

Fig 5 Value at Stake

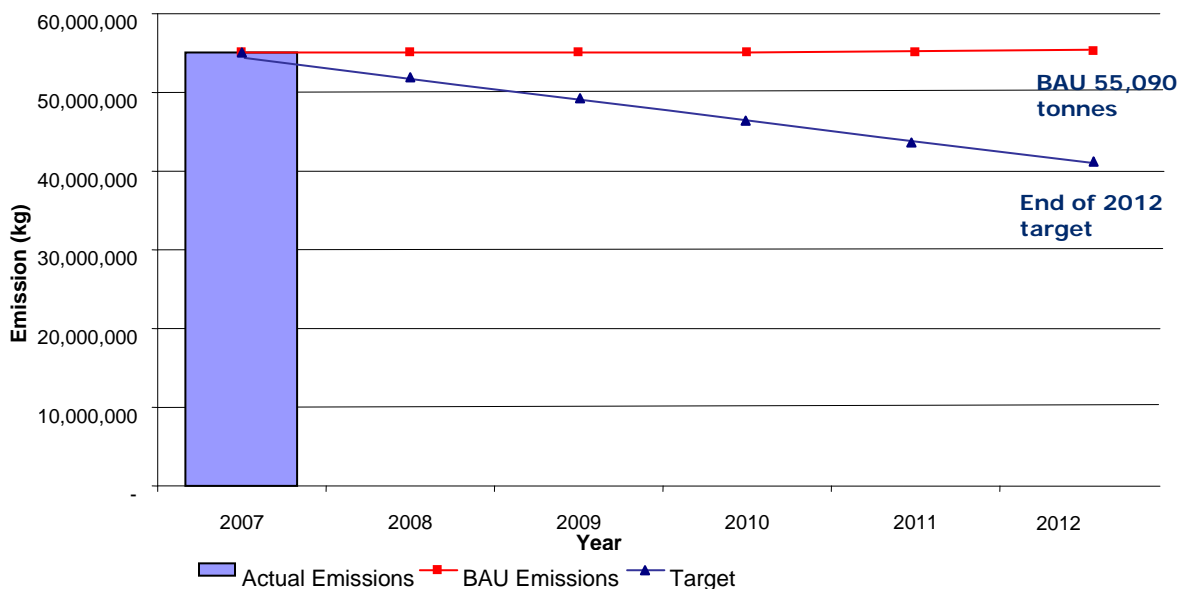


Value at Stake figures are also set out in detail in Table 3 in section 5.

Fig 6 - Business as Usual Scenario

Under a Business as Usual (BAU) scenario carbon emissions would be expected to remain relatively constant up to 2012. This has not been quantified in any detail but it can be assumed that the small savings in emissions realised through some existing projects would be countered by increasing emissions from business mileage for example. The graph below shows the projected carbon savings under the Carbon Reduction Plan against the predicted BAU emissions.

Comparison of emissions - BAU and CRP target



4 Carbon Reduction Projects

Within the framework of current corporate initiatives, there are some projects delivering CO₂ savings at present, some proposed projects that have been assessed and quantified as priority projects and also areas of activity that have considerable potential to realise CO₂ savings for which specific projects have still to be developed.

The wide range of current corporate initiatives will be designed and adapted where possible to maximise CO₂ savings. Some corporate initiatives can realise major reductions in emissions, for example property rationalisation and these opportunities will be maximised through close alignment with the CRP's aim and objectives

4.1 Background and Headlines

Table 2 below sets out the current list of projects identified through the Carbon Reduction Programme. Some projects are already up and running, others are relatively advanced with carbon savings and cost savings identified. There are also groups of projects that are planned to come on stream in the near future (within 2 years) and projects that are programmed to deliver savings in the medium to long term (3-4+ years).

What are the projected carbon savings against the target?

The carbon reduction target will require an annual carbon saving of 3,443 tonnes for the next 4 years, including 2009. There is likely to have been only a modest carbon saving in 2008 as most projects are yet to come on stream. In fact the 13,772 tonne requirement to 2012 should be achieved through savings over the next 3 years of around 4,500 tonnes pa. The following profile of carbon savings is expected:

- Calculations suggest existing projects will deliver carbon savings of **1,524 tonnes pa** and **4,572 tonnes by 2012**. This saving represent **33.2%** of the required **25%** target.
- Planning and costed projects are expected to deliver carbon savings with the next 12 months (up to April 2010) of **1,748 tonnes pa** and **5,244 tonnes by 2012**. These savings represent **34.2%** of the required **25%** target.
- Proposed projects (near term, within 2 years) are expected to deliver carbon savings of **1,173 tonnes pa** and **3,519 tonnes by 2012**. These savings represent **25.6%** of the required **25%** target.
- The carbon savings associated with proposed projects (medium to long term, 3-4+ years) are yet to be quantified in detail.

Overall – the projects identified above will deliver carbon savings of 3,946 tonnes pa and 11,838 tonnes by 2012. This represents 93% of the 2012 target.

Table 2 – Carbon Savings Projections and Costs

Carbon Saving Project	Tonnes of CO ₂ saved annually	Tonnes of CO ₂ saved by 2012	% of target 25% by 2012 target requirement (13,772 tonnes)	Pay back time (years)	Additional Carbon Reduction Investment Required	Lead dept
Existing projects						
Buildings Rationalisation Programme (Carlisle area only)	873	2619	19%	Variable for each location	£118k	Resources
Multi Function Devices, printer rationalisation	651	1953	14.2%	2-5	TBC	Resources/Env
Server rationalisation	TBC	TBC	TBC	TBC	TBC	ICT Client
Video Conferencing	TBC	TBC	TBC	TBC	TBC	ICT Client
TOTAL	1524	4572	33.2%		TBC	
Planned/costed/funded projects (with the next 12 months – up to April 2010)						
Energy efficiency in schools	660	1980	14.4%	2-10	£250k (Salix funding)	Resources
Energy efficiency in corporate buildings	800	2400	17.4%	2-10	£250k (energy efficiency budget)	Resources
Voltage Optimisation	110	330	2.4%	3-6	£54k	Resources
Low carbon Hire Car Contract	TBC	TBC	TBC	3	TBC	Resources
TOTAL	1570	4710	34.2%			
Proposed projects (near term, within 2 years) – some projects awaiting detailed quantification						
Street Lighting	885	2655	19.3%	up to 20	TBC	Environment
Transport Measures (business miles) – Travel Plans, Lift Share, VC improvement, biofuels.	211 (Not currently counted in potential savings)	633 (Not currently counted in potential savings)	4.6% (Not currently counted in potential savings)	2-5	TBC	Organisational Development/ Environment
Extending Video Conferencing	TBC	TBC	TBC	2-4	£100k	ICT Client
Extending Voltage Optimisation	288	864	6.3%	3-6	£142k	Resources
TOTAL	1173	3519	25.6%			
Proposed projects (medium to long term, 3-4+ years) – projects not costed/quantified						
Renewable Energy projects	TBC	TBC	TBC	TBC	TBC	Resources/Env
Sustainable/low carbon Procurement Strategy Review	TBC	TBC	TBC	TBC	TBC	Resources/Env
Locality working	TBC	TBC	TBC	TBC	TBC	Resources/Env
TOTAL	TBC	TBC	TBC	TBC	TBC	
Other Projects						
New waste Reduction contract (not including waste miles)	-5011	-15033	Not currently counted in potential savings	TBC	Approx £750m over 25yrs	Environment
OVERALL TOTAL	3946	11838	93%		£914k (known costs) – not including waste contract costs	

4.3 Existing projects

Existing projects are those that are already underway or nearing completion and that will deliver quantified carbon and cost savings against the baseline figure.

Property/Buildings Rationalisation

Property rationalisation is a key objective of the Council. It aims to improve accommodation, reduce the number of buildings and allow closer working. Two pilot schemes have been programmed for Carlisle and Whitehaven and other schemes are proposed. Potential for CO₂ savings could be substantial. For the Carlisle pilot, savings have been calculated at 873 tonnes pa, 2619 tonnes by 2012, 19% of the 2012 target. CO₂ savings that can be delivered in the short and medium term from other areas will be quantified as the programme develops.

(It should be noted that the WRATE analysis does not account for waste miles).

(Reducing landfill emissions will not count towards the CRC, NI185 or NI186).

Video Conferencing

There are operational video conferencing facilities at a number of key CCC sites including Carlisle, Kendal, Barrow, Workington, Penrith and Alston with other installations planned. The current system operates internally only and cannot make links with external or internet based VC systems. Extending the VC system and making the link externally to the internet will give a more flexible system that could potentially be accessed by every employee with an IT connection.

Carbon savings from the existing VC system are currently being quantified but usage of video conferencing has increased by **XX%** over the last year with a savings of **XX** miles and **XX** tonnes of carbon.

Multi Function Devices – Printer Rationalisation

The programme for the replacement of printers, copiers, scanners and fax machines by multi-functional devices is underway. The programme will replace around 1600 printers with 260 MFDs within 12 months. The estimated carbon saving is 651 tonnes pa.

Server Rationalisation

The aim is to rationalise the main server equipment and requirements into one, energy efficient data centre. An ongoing programme of server rationalisation and virtualisation is well underway. This programme is being delivered in partnership with CCC's ICT provider and will not require separate funding through the CRP. This will greatly reduce the energy required both for the server equipment and the associated air conditioning units. Carbon savings from this project are still to be quantified.

Waste Management

The County Council will, shortly enter into a £750m contract with Shanks Waste Solutions. A WRATE (Waste and Resources Assessment Tool for the Environment) assessment has been produced by Shanks to understand the impact on greenhouse gas emissions of the Shanks waste management proposals for municipal waste in Cumbria, compared against the base case of all residual waste disposed of to landfill. This indicates that a very substantial reduction in greenhouse gas emissions could be realised for the year of 2012/13 if this new residual waste reduction solution is fully implemented by that date.

The management solution includes the development of two Mechanical Biological Treatment (MBT) Plants in the north and south of the County, new waste transfer stations and further enhanced Household Waste Recycling network. The two MBT plants are proposed to be operational by April 2012.

The carbon saving figures shown in **Table 2** are displayed as negative due to the potential net saving in carbon emissions via the Shanks Mechanical and Biological Treatment (MBT) process – current annual emissions from landfill stand at approximately 13,000 tonnes – the MBT solution could save 18,000 tonnes annually and therefore realise a potentially large emissions reduction. Carbon savings will be delivered for nine months of 2012 and contribute to the CRP target if the programme runs to schedule.

4.4 Planned/Costed/Funded Projects

The planned and costed/funded projects identified in this CRP are those projects that have been investigated and developed, are intended to be implemented within the next 12-18 months and have a clear funding stream identified. The projects are well defined and the quantification of costs and savings believed to be robust and accurate.

The current planned and costed/funded projects are:

Energy Efficiency - Corporate Buildings

Investment in energy efficiency over the last 5 years has realised CO₂ savings of 3% per annum from corporate buildings. There is considerable potential for substantial CO₂ savings with greater investment in the capital programme and by increasing spending from £150k to £250k it will be possible to achieve a CO₂ reduction of 2400 tonnes by 2012 over 2007. It is estimated that there will be energy savings of around £60k per annum.

It is expected the new academies and fire stations programme will realise CO₂ savings, in accordance with the Council's Sustainable Construction Programme. This will apply to other CCC schemes. Information on projected savings to be quantified.

Energy Efficiency - School Buildings

Emissions from schools makes up a large proportion of the Council's carbon footprint. There is currently little direct CCC investment in energy efficiency in schools. The Salix Finance scheme offers a no cost loan to pump prime action into this area with obligatory CCC match funding. £125k match funding over the next 2 years would make available a pot of £500k. 60% of savings have to be reinvested in new (Salix approved) projects, so a mechanism for securing this reinvestment will be required. Estimated total reduction in carbon emissions by 2012 would be around 2000 tonnes. There would also be significant financial savings on energy costs. Salix Finance is discussed in more detail in **section 5**.

Voltage Optimisation

Voltage optimisation equipment installed on the incoming power supply to a building to maintain the voltage level required saves energy. Based on a typical energy saving of 13%, such systems could pay for themselves in 3-6 years. Initial assessment costs from installing systems in 7 potentially suitable buildings at £54k suggest voltage optimisation should be a priority scheme for 2011/12. The estimated energy cost saving is £12,500 pa and a CO₂ saving of 110 tonnes pa. Voltage Optimisation could be extended to Cumbria Care homes in a second phase at cost of £142k with an increased carbon saving of around 288 tonnes.

Low Carbon Hire Car Contract

A new contract for hire car provision to the County Council by suppliers will commence in April 2009. The contract requires that cars do not exceed 120g/CO₂ per km. Prospective suppliers have demonstrated that this specification can be provided. The new supplier will also be required to provide annual emissions audits for the hire fleet. Estimate of CO₂ and financial savings to be calculated against the previous hire fleet.

4.5 Proposed Projects – Near term, within 2 years

These projects are at varying stages of development and some, such as transport/travel have a significant number of sub projects beneath them that will contribute to their delivery. Some quantification figures in terms of carbon and cost savings have been calculated but estimates for some areas are not available currently. Funding for some measures has been identified whilst others are awaiting identification of funding.

Carbon Reduction Plan

Street Lighting

Action has been ongoing to reduce energy use from street lighting by the installation of more energy efficient lighting equipment. The 2007 baseline will reflect this but there will have been further small CO₂ savings in 2008/9. The potential for reducing the carbon contribution of street lighting will be examined further.

Highways have agreed to commission work to look at options to further reduce energy use in street lighting. That review will be completed in 2009.

Transport Measures

Dependence on the car for business in a large predominantly rural county like Cumbria is a constraint on reducing CO₂ in this area, particularly in terms of encouraging modal shift. Focus on reducing number of trips and sharing transport is therefore very important.

The County Council is committed to enhancing and extending video conferencing facilities. £100k is allocated in the capital programme for 2009/10 and will enable linkage infrastructure to be established allowing access to the internet and 10 or 11 new videoconferencing sites to be set up. This will provide a more flexible and enhanced network of VC facilities for staff and Members to use.

The use of videoconferencing is growing. The Green Action at Work programme is encouraging a shift in culture but needs further support from Senior Management to ensure successful outcomes in this area. Dedicated rooms for videoconferencing facilities are being provided where possible to enable easy/short notice access to video conferencing.

Business mileage will be a focus of attention both to reduce carbon emissions and costs. Adult Services and Children's Services have set targets within their departments to reduce business mileage. Across the board cut in business miles of 10% would yield the region of £300k per annum savings and 240 tonnes of carbon against baseline.

The County Council's Cycle to Work scheme has been implemented and needs to be maintained though it is acknowledged that there is likely to be only marginal CO₂ savings. 414 cycles have been supplied during the last 12 months as part of the scheme.

There remains scope to provide greater incentives for use of cycles on business use and for carrying passengers on car trips through adjustments to the expenses scheme.

Travel Plans have been developed for three large Council sites at The Courts, Carlisle, County Offices, Kendal and Dalston. Proposals are being put to Cabinet to facilitate better implementation of these plans through new resources and incentives as well as developing travel plans for other locations.

Biofuels – through the Green Action at Work programme pilot projects are being investigated to run a number of CCC vehicles on biofuels. This is currently focussing on Adult Social Care but could, if successful be extended to other departments/fleet vehicles.

Procurement

The County Council's Procurement Strategy will be reviewed shortly. There is significant carbon reduction potential through PAS 2050 methodology which assesses the carbon impact of goods and services. Application of this in the review of the procurement strategy is important to enable sustainable and low carbon procurement to become embedded in procurement decision making across the organisation. The CRT will work closely with resources to deliver carbon savings from procurement in a cost effective way.

4.6 Proposed projects – Medium to long term 3-4+ years)

These projects are at varying stages of development. They are largely less well planned and advanced than those already discussed and have not undergone any detailed cost or carbon saving quantification.

Carbon Reduction Plan

Renewable Energy projects

The County Council is assessing the possible contribution to the energy requirement of CCC from sources of renewable energy. This needs to be given greater priority in CCC schemes. The opportunities for microgeneration energy provision on existing County Council and school premises need to be taken further.

The Green Action at Work programme will continue to deliver CO₂ savings through its activities and education initiatives.

Locality working

Locality working links closely with the property rationalisation programme. This is in early stages of development but is likely to involve more office space sharing with other authorities in order to provide work stations closer to people’s homes and reduce commuting and business miles and reduce energy demand in buildings.

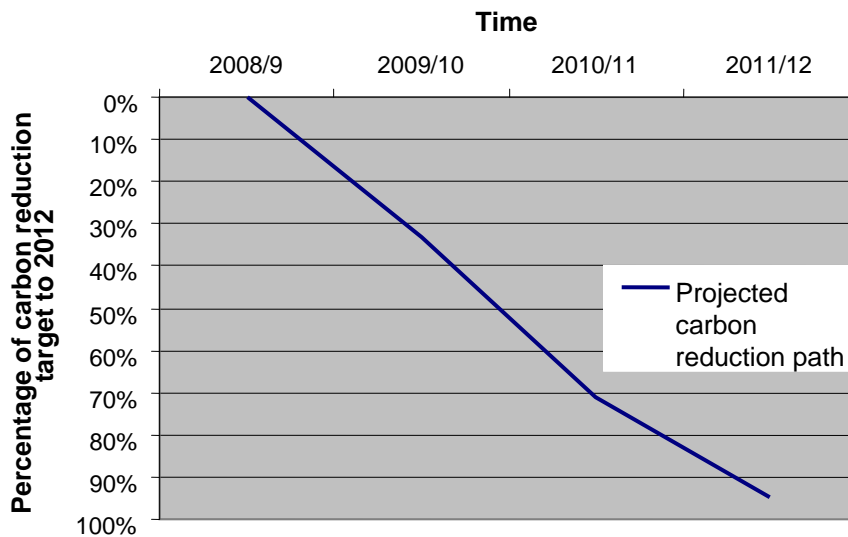
4.8 Projected achievement towards target

In total, identified projects will deliver carbon savings of 3,519 tonnes pa and 11,838 tonnes by 2012. This represents 93% of the 2012 target. This assumes that the projected carbon savings are relatively accurate, that funding will be secured and that projects will be delivered on time.

The graph below sets out a simple visual representation of the projected carbon savings. By the middle of 2010 around 50% of the target will have been achieved. By April 2012 over 93% of the target will have been achieved.

The breakdown of the percentage of carbon savings from each project is presented in more detail in **Table 2 in this section**.

Fig 7 Carbon Reduction Projection to 2012



5 Carbon Reduction Plan Financing

5.1 Overview

The CRP's projects will be financed by both direct Council funding and drawing on external funding, including the Salix Finance funding programme.

Carbon saving will also be integral to a number of corporate initiatives that are either already commissioned and underway or have central funding already identified. Examples are: Strategic Waste contract and the property/buildings rationalisation programme. Projects such as the printer and server rationalisation programme are being delivered in partnership between CCC's Procurement Team and ICT provider.

The County Council recognises the substantial financial savings that result from a carbon reduction plan which can be reinvested in further projects. It will also be cost effective to invest now to help the authority's performance against the Carbon Reduction Commitment to be introduced in 2010.

To make rapid and substantial savings in CO₂ emissions will require cross authority participation and commitment and dedicated staff resources and time in some areas. The project is being led from the Environment Directorate's Sustainability Team. The Energy Manager also contributes substantially to this work. The carbon reduction team has cross-authority representation and recommends projects and tasks to the Carbon Reduction Board. Corporate Finance are represented at all Carbon Reduction Team meetings as well as other key carbon reduction related events. The Finance Team are fully conversant with the financial implications of the CRP and the projects required to meet the associated targets.

Improving systems to monitor progress on CO₂ reduction are being closely looked at, particularly in respect of business mileage and other transport data. Financial expenditure for projects has not been committed to this area to date until the data is better established. The CRT is working with the Energy Savings Trust (EST) and Green Fleet Services (GFleet) to put this in place by the end of April 2009.

As part of embedding carbon reduction across the authority, each directorate will look proactively at all its functions and activities to assess what it can contribute and build this into service planning – this is covered in more detail in **section 6**.

5.2 Funding implications and Carbon Savings

Funding has been identified, or allocated, that will finance projects that deliver just over 70% of the 2012 carbon reduction target of a 25% saving against the 2007 baseline. Other projects are being quantified in terms of carbon savings, financial savings and value at stake and will be brought on stream as appropriate, subject to funding.

Capital bids

Capital funding has been allocated in the Council budget approved February 2009 as follows:

- to increase the current energy efficiency budget from £150k to £250k for 2010/11 and the following two years to invest in corporate buildings and schools.
- £125k pa match funding for Salix funding for 2010/11 and 2011/12 to provide £500k in total to predominantly use on energy efficiency improvements in schools. 60% of savings are to be reinvested to give a continuing programme
- £100k for extension of videoconferencing in the authority and external videoconferencing capability.

Carbon Reduction Plan

Salix Funding – Salix Finance is an independent, publicly funded company set up in 2004 to accelerate public sector investment in low carbon technology and invest to save schemes. Salix has public funding from the Carbon Trust and is working across the public sector with Local Authorities, NHS Foundation Trusts, Higher and Further Education Institutions and Central Government.

The Salix funding scheme provides a ring fenced fund to increase the capital investment in energy efficiency and low carbon technologies. Each year the efficiency savings are reinvested into the fund to provide a self sustaining fund for energy efficiency projects. An application will be lodged by 1 June 2009 to seek £250k funding.

Carbon Reduction Commitment – Implications for funding

The Carbon Reduction Commitment (CRC) begins in April 2011 with a requirement to buy 2 years' carbon allocation. CCC's carbon footprint of around 55,000 tonnes [at the current fixed price of £12 tonne] would cost £660,000 per annum or £1.32M for the first two years allowances. In 2013/14 carbon trading begins on the open market and the cost per tonne of carbon is expected to substantially increase.

5.3 Assumptions

There are a number of assumptions made around the financial calculations presented in **Table 3**. These assumptions relate to:

- The future estimated cost of energy
- Estimating the level of agreed and future investment
- The estimated level of achievable savings which depends on the success of the project
- When projects are likely to come on stream and deliver carbon savings

Energy in Corporate Buildings - the Business as Usual (BAU) scenario assumes a continuation of the 2008/9 level of capital investment in energy efficiency of £150k pa. From this level of investment a 3% pa energy saving should be achievable resulting in a 9% saving by 2012. This would result in a saving of £234k by 2012.

By increasing the current energy budget to £250k pa each year until 2012, 5% of energy could be saved annually or 15% by 2012. This would realise savings of £390k pa.

Corporate buildings' annual energy costs stand at around £2M. Gas prices are likely to rise by around 30% resulting in annual bills rising to £2.6M. Electricity prices are likely to rise by a similar amount but this has not been factored into the value at stake figures in **Table 3** as contracts are still being negotiated.

Energy in Schools – the Business as Usual (BAU) assumes that there will be no financial savings as there is currently no CCC direct investment in school energy efficiency projects/measures.

With an investment of £250k pa through the Salix funding process for 2008/9 and a further £250k pa (with £250k pa match funding) this would realise total energy savings of around 5% pa. This would result in savings of around £325k pa based on an annual energy bill of £6.5M (this assumes a 30% rise in the cost of gas).

Street Lighting – The annual cost of energy associated with street lighting is around £2M. The likely savings through a continuation of the BAU scenario is currently unknown but it is unlikely to be significant.

The potential to reduce carbon emissions from street lighting is currently being examined, a provisional estimate of saving 10% pa has been assumed – the cost implications of this target are being assessed and will be fed into the financial section of the CRP once they are known.

Transport – Work to finalise a very accurate carbon baseline for CCC transport emissions will shortly be completed. The cost of business miles to the authority is around £3M pa. Business miles account for around 80% of the County Council's transport carbon emissions. A 10% reduction in business miles would realise financial savings of around £300k pa.

Carbon Reduction Plan

Waste emissions – The investment in the new strategic waste contract is substantial, around £750M over the next 25 years. For clarification, whilst carbon savings will count towards the CRP's 2012 reduction target, the investment stream, whilst County Council funded, sits outside the CRP budget.

Property and buildings rationalisation programme – Figures regarding projected investment are not available except for the part of the project that involves the Carlisle area. Investment here is likely to be around £118k but again, this is not directly part of the CRP budgets and is centrally funded.

Table 3 Financial Assumptions/costs and potential savings

Emissions From:	Business as Usual – (BAU)	Potential annual CO ₂ saving with investment	Potential CO ₂ saving by 2012	Cost/Saving (VAS)
Energy:				
Corporate Buildings	<p>Assume continuation of 08/09 investment of £150k pa.</p> <p>3% saving in energy, total 9% by 2012.</p> <p>Financial saving by 2012 = 0.09x £2.6M = £234,000 pa</p> <p>11,805 tonnes pa – assume 3% pa annum reduction of BAU emission =</p> <p>11,450 tonnes pa – a reduction of 355 tonnes pa</p>	<p>800 tonnes</p> <p>Target:</p> <p>Investment at £250k pa until 2012</p> <p>5% saving in energy pa, total 15% by 2012</p> <p>Financial saving by 2012 = 0.15x £2.6M = £390,000 pa</p>	2400 tonnes	<p>07/08 energy costs for corporate buildings £2M</p> <p>Cost increase 0809 30%, total now £2.6M (assuming electricity cost increase similar to gas although this is unknown at the moment).</p> <p>VAS = £390k - £234k = £156k</p>
Schools	<p>No investment in schools</p> <p>BAU no intervention = 33,005 tonnes pa</p>	<p>660 tonnes</p> <p>Target:</p> <p>£250k investment in 2009/10 (first year of Salix) 1% saving on energy</p> <p>£500k investment pa for following 2 years to 2012, 2% saving on energy</p> <p>Total 5% saving on energy</p> <p>Financial saving 5% of £6.5M by 2012 = £325,000 pa</p>	1980 tonnes	<p>Energy costs 07/08 = £5M</p> <p>30% increase, cost in 07/08 = £6.5M</p> <p>VAS = £325k</p> <p>Overall VAS for energy = £481k</p>
Street Lighting				
Various projects	<p>Annual cost based on 07/08 figures = £2M</p> <p>BAU carbon reduction unknown but likely to be around 2%</p>	885 tonnes based on 10% per year from 2007 baseline (8,852 tonnes)	2655 tonnes	Unknown
Transport				
Business Miles	<p>£3M cost pa</p> <p>No projects currently defined</p>	<p>211 tonnes saving based on 2007 baseline (2,111 tonnes - approx)</p> <p>£3M cost pa - assume a 10% saving = £300k pa</p>	633 tonnes	Unknown investment requirement currently but links with video conferencing, locality working etc.

				VAS £300k pa
Hire Car Contract	TBC	TBC	TBC	Unknown
Waste				
Emissions from Landfill	13,327 tonnes pa assuming 60% of waste generated goes to landfill (40% recycled).	Potential through Shanks MBT waste solution to reduce this by 18,358 tonnes pa resulting in a carbon saving of 5,011 tonnes pa	15,033 tonnes	£750M over 25yrs – this cost is not directly associated with the CRP but comes from Council budget.
Waste miles emissions	TBC	TBC	TBC	Unknown
Other Projects				
Buildings Rationalisation Programme	TBC	873 tonnes	2,619 tonnes	£118k investment for Carlisle part of programme only.
Multifunction Devices	TBC	651 tonnes	1,953 tonnes	Unknown
Video Conferencing	TBC	TBC	TBC	Unknown
Server Rationalisation	TBC	TBC	TBC	Unknown

TBC = To be calculated

5.4 Benefits / savings – quantified and un-quantified

Table 3 in section 4 of this plan (carbon projects table) shows how the financial investment relates to carbon savings against each project over the period to 2012. Table 4 below sets out the level of investment required against each of the carbon saving projects identified in the CRP. The finance implications of developing some of the mid to long term projects are yet to be fully quantified. This work is ongoing and will be a key element of the CRT's work over the next year of the programme.

Table 4: Quantified and un-quantified benefits and savings

Carbon saving project	Required investment 2009/10	Required investment 2010/11	Required investment 2011/12	Estimated annual savings	Estimated savings by 2012
Energy Efficiency in schools (Salix Funding)	£125k 2009/10 + £125k 2010/11 £500k total fund (£250k match funded by the Salix grant) 60% reinvestment into ring fenced fund – additional annual 'top-up' funding unknown			£325	£975k
Energy efficiency in corporate buildings	£250k (energy efficiency measures)	£250k (energy efficiency measures)	£250k (energy efficiency measures)		
Voltage Optimisation		£54k	Further £142k depending on scope of project	Up to £32k on full project	£50k
Property/Buildings Rationalisation	TBC	TBC	TBC	£118k from Carlisle area only	£354k

Multi Function Devices, printer rationalisation corporate project - financing already in place	TBC	TBC	TBC	TBC	£87k
Extending Video Conferencing	£100k			TBC	TBC
Server Rationalisation – corporate project - financing already in place	TBC	TBC	TBC	TBC	TBC
Street Lighting	TBC	TBC	TBC	£200k	£600k
Transport Measures	TBC	TBC	TBC	£300k	£900k
Renewable Energy Projects	TBC	TBC	TBC	TBC	TBC
Sustainable Procurement	TBC	TBC	TBC	TBC	TBC
Locality Working	TBC	TBC	TBC	TBC	TBC
TOTAL	£475k	£429k	£392k	£975k	£2.97M
	£1.3M				

TBC = to be calculated

6. Actions to Embed Carbon Reduction in Your Organisation

Background

The Carbon Trust has supported and facilitated the initial year of CCC's Carbon Reduction Programme. The last 12 months have largely been dedicated to establishing the carbon footprint of the organisation and understanding the 'business as usual' future of carbon emissions. There has also been a substantial amount of work around identifying carbon saving projects and requirements for funding.

Taking the Carbon Reduction Programme forward and implementing the plan's targets will be the priority over the next 12 months. Embedding a low carbon culture within the organisation will be central to achieving this. Effective delivery of the identified projects, securing adequate funding and developing new projects will help to meet the 2012 target. Longer term projects will also need to be identified through the CRP to take the programme beyond 2012.

There are a number of key areas that will need to be addressed to embed best practice carbon Reduction practice throughout the organisation – they are set out below. The move towards implementation and the embedding of the CRP is also presented visually in **Appendix 1**. The table identifies three key lines representing progress at the beginning of the CRP (May 2008), progress to date (March 2009) and expected/predicted progress by December 2012. The table also highlights the areas most in need of change and development and provides a clear plan for implementing and embedding the CRP to 2012.

6.1 Council Plan – embedding carbon saving across your organisation

The CCC carbon reduction target is a priority for action in the Council Plan. This is aligned to the Local Area Agreement and helps deliver the County Council's obligations under the Cumbria Climate Change Strategy.

The contribution of each directorate to the Council's carbon target will be guided by the work of the Carbon Reduction Team and agreed by the Carbon Reduction Board. Departmental Service Plans will clearly set out how carbon reductions from their achievements will be delivered each year.

6.2 Programme Management – bringing it all together effectively

Robust project management processes will be applied to the carbon reduction programme. Additional senior management capacity will be invested in this area via the Head of Planning and Sustainability to supervise this.

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

Carbon Reduction should be included in the accountabilities of senior managers and the operation of their teams. Carbon Reduction should feature as part of all job descriptions. Advice should be available to all staff via carbon champions – the Green Action at Work Programme will help to facilitate this.

6.4 Data Reduction – measuring the difference, measuring the benefit

Quarterly reviews of all carbon data sets should be put in place and where possible the data should be capable of being externally verified. Internal data systems should be reviewed on a regular basis and adjusted/updated where required in order to provide a robust mechanism for managing carbon data.

Progress will be reported to the Carbon Reduction Team meetings and the Carbon Reduction Board on at least a two-month basis. Regular presentations of progress will be made to Environment Scrutiny Panel and Corporate Management Team on a three-month basis. A report will go to Cabinet annually at the minimum. Progress against the plan will also be published on the Council's website.

Data collection/monitoring procedures for energy use is well established through metering and is managed/administered by the Energy Manager.

Data collection/monitoring procedures for transport emissions are not yet established. The CRT is taking this area forward with external partners, the Energy Savings Trust and Green Fleet Services.

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There are also internal investigations ongoing around putting in place effective travel Reduction software that will allow individual staff vehicle carbon emissions to be calculated annually – a new HR IT system (Midland Trent) is in the process of being rolled out and should facilitate this.

Outsourced services and the associated emissions are more difficult to quantify at present. Separate projects have been commissioned to establish the baseline emissions from outsourced vehicle fleets. There are plans to bring the requirement for carbon reporting within the overall contracts of partners delivering outsourced services so that it happens as a matter of routine. This should take place at times of contract reviews and the CRT will be responsible for taking this forward.

Longer term, once internal data systems are working effectively it may be possible to bring all the carbon data into one carbon Reduction database so that data can be efficiently interrogated and reports/audits generated to make the process more streamlined.

6.5 Communication and Training – ensuring everyone is aware

Both internal and external communications around carbon reduction will help to deliver the message and reinforce best practice. All staff should be given some level of formalised training and new starters should receive information through the staff induction programme.

There should be opportunities to develop joint training and communication programmes with partner organisations. Awareness should be tested through staff feedback – there will again be support provided on this through the Green Action at Work Programme.

6.6 Finance and Investment – the money to match the commitment

The aim will be to commit agreed finance for projects to deliver at least 2 years of the CRP. Funding should be in place to take forward enough carbon saving projects to ensure that advance targets more than 2 years ahead are being planned for, developed and implemented. Ideally a ring fenced fund will be created (such as that driven by the Salix Finance scheme) that routinely receives reinvested funds as a direct result of efficiency savings.

More detail on financing the CRP can be found in **section 5**.

6.7 Policy Alignment – saving carbon across Council operations

Effective strategic policy alignment is crucial to achieving carbon savings across the Council's operations. The CRP focuses largely on reactive measures rather than the proactive route to a low carbon organisation via 'carbon proofed' policy and strategy.

In the immediate future a review needs to take place that identifies the timetable for major policy reviews across the authority. Each of these documents should then be reviewed in the light of the CRP objectives and wider climate change objectives.

A procedure is required and will need to be developed to carbon proof County Council policy and programmes. Strategies and major policy should be checked against a list of carbon reduction and climate change objectives. The County Council already has a robust sustainability appraisal process in place - a climate change/carbon proofing framework could easily be adapted/modelled on this existing approach. Members of the CRT and Sustainability Team will take this work forward.

CCC will be responding to the Cumbria wide Climate Change Strategy by producing a Climate Change Strategy aimed at reducing the impact of County Council operations on climate change.

7. Programme Management of the CM Programme

Background

The success of the CRP will be reliant on the effective working of both the Carbon Reduction Team (CRT) and the Carbon Reduction Board (CRB). The Project Manager and these two groups will drive the project forward and make recommendations to Council on strategy, projects and delivery.

Effective management of the programme is needed as the CRP covers a wide range of projects that are delivered by different teams and budgets. It is a cross-cutting programme that will require buy in from all Directorates and at all levels within each department.

7.1 The Programme Board – strategic ownership and oversight

The role of the Carbon Reduction Board (CRB) is to provide a clear strategic direction for the CRP and oversee the project as a whole. The CRB should provide support to the CRT and be able to remove blockages and difficulties that might occur in trying to deliver projects. In effect the CRB should oil the wheels of the programme helping it to run smoothly and provide the link between the CRT and the senior officers, Members and Chief Executive.

The CRB will be expanded to ensure appropriate senior officer representation across the breadth of the authority. It is the responsibility of the CRT to report to the CRB and keep members updated on progress. Most important will be the effective reporting of sticking points highlighting particular pressing and acute risks associated with the delivery of the CRP. Reporting will be a two way process between the CRB and CRT, with appropriate wider dissemination of information.

7.2 The Carbon Reduction Team – delivering the projects

The role of the CRT is to manage the frontline delivery of the CRP by establishing and reviewing the baseline and identifying and delivering a rolling programme of projects to deliver carbon savings and make progress towards the target.

The CRT meets each month and is generally well attended with consistent representation across most Directorates. The CRT is chaired by the CRP Sponsor [Head of Environment] who also sits on the CRB.

The CRT has been effective in establishing the carbon baseline, identifying projects and sources of funding. Key roles within the CRT lie with the Sustainability Team and Energy Manager who have taken responsibility for managing the CRP and delivering and implementing the actions that result from the monthly CRT meetings.

7.3 Succession planning for key roles

Succession planning should identify areas of risk to the CRP associated with the potential for key members of staff leaving their post and role on the CRT or CRB. Two deputy project managers have been nominated who are heavily involved in this programme, to offset the risk from key departures.

As part of the move to embedding carbon reduction throughout the organisation, succession planning will identify roles that are likely to pose the greatest risk if those individuals leave post. These are likely to be the roles of the project Sponsor, the Project Lead and Deputy Project Lead as well as other key members of the CRT and CRB.

7.4 Ongoing stakeholder Reduction

There are a number of key people, groups and committees both within the organisation and externally with whom ongoing dialogue and communications will be central to the future success and delivery of the CRP – they include:

- Members of the Carbon Reduction Team – particularly the Finance Team
- Members of the Carbon Reduction Board including Council Members and Directorate Heads

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- Wider staff members within CCC
- Other authorities and organisations within the County Council signed up to the Carbon Reduction Programme
- Energy Savings Trust (EST) and Green Fleet Services
- The Carbon Trust and Carbon Insight consultants
- The public and communities

A programme of stakeholder engagement will be developed as part of the wider embedding and implementation plan. This will be led by the CRT and in house Communications and Media Team and will detail how each group will be engaged with the CRP and set out timescales.

7.5 Annual progress review

The Carbon Trust recommends that a formal review takes place to assess progress of the CRP on at least an annual basis. The authority proposes to report to Cabinet annually. The Carbon Trust will help by following progress and measuring the scale of carbon reduction at the end of each financial year.

It may be necessary and useful to monitor against the carbon reduction target on a more frequent basis, e.g. quarterly, for the CRB and to better allow for project adjustments and development throughout each year.

The full annual review of progress should cover:




- the costs and all benefits from the CRP:
 - financial savings, either cashable or returned to the 'ring fenced fund'
 - CO₂ savings against the target
 - less quantifiable benefits, such as influencing the local community (supporting NI186)

Reporting should align with National Indicator 185 reporting and where possible data sets should be shared and duplications avoided.

Appendix A: Carbon Reduction Matrix - Embedding

	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT
BEST 5	<ul style="list-style-type: none"> • Top level target allocated across organisation • CO₂ reduction targets in Directorate Business Plans 	<ul style="list-style-type: none"> • Cabinet / SMT review progress against targets on quarterly basis • Quarterly diagnostic reports provided to Directorates • Progress against target published externally 	<ul style="list-style-type: none"> • CR integrated in responsibilities of senior managers • CR part of all job descriptions • Central CO₂ reduction advice available • Green Champions leading local action groups 	<ul style="list-style-type: none"> • Quarterly collation of CO₂ emissions for all sources • Data externally verified • M&T in place for: <ul style="list-style-type: none"> ○ buildings ○ street lighting ○ waste 	<ul style="list-style-type: none"> • All staff given formalised CO₂ reduction: <ul style="list-style-type: none"> ○ induction and training ○ communications • Joint CR communications with key partners • Staff awareness tested through surveys 	<ul style="list-style-type: none"> • Finance committed for 2+ yrs of Programme • External funding being routinely obtained • Ring-fenced fund for carbon reduction initiatives 	<ul style="list-style-type: none"> • CO₂ friendly operating procedure in place • Central team provide advice and review, when requested • Barriers to CO₂ reduction routinely considered and removed
4	<ul style="list-style-type: none"> • CO₂ reduction commitment in Corporate Strategy • Top level targets set for CO₂ reduction • Climate Change Strategy reviewed annually 	<ul style="list-style-type: none"> • Sponsor reviews progress and removes blockages through regular Programme Boards • Progress against targets routinely reported to Senior Mgt Team 	<ul style="list-style-type: none"> • CR integrated in to responsibilities of department heads • Cabinet / SMT regularly updated • Staff engaged though Green Champion network 	<ul style="list-style-type: none"> • Annual collation of CO₂ emissions for: <ul style="list-style-type: none"> ○ buildings ○ street lighting ○ transport ○ waste • Data internally reviewed 	<ul style="list-style-type: none"> • All staff given CO₂ reduction: <ul style="list-style-type: none"> ○ induction ○ communications ○ CR matters communicated to external community 	<ul style="list-style-type: none"> • Coordinated financing for CO₂ reduction projects via Programme Board • Finance committed 1yr ahead • Some external financing 	<ul style="list-style-type: none"> • Comprehensive review of policies complete • Lower level policies reviewed locally • Unpopular changes being considered
3	<ul style="list-style-type: none"> • CO₂ reduction vision clearly stated and published • Climate Change Strategy endorsed by Cabinet and publicised with staff 	<ul style="list-style-type: none"> • Core team regularly review CR progress: <ul style="list-style-type: none"> ○ actions ○ profile & targets ○ new opportunities 	<ul style="list-style-type: none"> • An individual provides full time focus for CO₂ reduction and coordination across the organisation • Senior Sponsor actively engaged 	<ul style="list-style-type: none"> • Collation of CO₂ emissions for limited scope i.e. buildings only 	<ul style="list-style-type: none"> • Environmental / energy group(s) given ad hoc: <ul style="list-style-type: none"> ○ training ○ communications 	<ul style="list-style-type: none"> • A view of the cost of CO₂ reduction is developing, but finance remains ad-hoc • Some centralised resource allocated • Finance representation on CR Team 	<ul style="list-style-type: none"> • All high level and some mid level policies reviewed, irregularly • Substantial changes made, showing CO₂ savings
2	<ul style="list-style-type: none"> • Draft Climate Change Policy • Climate Change references in other strategies 	<ul style="list-style-type: none"> • Ad hoc reviews of CR actions progress 	<ul style="list-style-type: none"> • CO₂ reduction a part-time responsibility of a few department champions 	<ul style="list-style-type: none"> • No CO₂ emissions data compiled • Energy data compiled on a regular basis 	<ul style="list-style-type: none"> • Regular awareness campaigns • Staff given CR information on ad-hoc basis 	<ul style="list-style-type: none"> • Ad hoc financing for CO₂ reduction projects 	<ul style="list-style-type: none"> • Partial review of key, high level policies • Some financial quick wins made
WORST 1	<ul style="list-style-type: none"> • No policy • No Climate Change reference 	<ul style="list-style-type: none"> • No CR monitoring 	<ul style="list-style-type: none"> • No recognised CO₂ reduction responsibility 	<ul style="list-style-type: none"> • No CO₂ emissions data compiled • Estimated billing 	<ul style="list-style-type: none"> • No communication or training 	<ul style="list-style-type: none"> • No specific funding for CO₂ reduction projects 	<ul style="list-style-type: none"> • No alignment of policies for CO₂ reduction

KEY

-  Progress at beginning of CRP (May 2008).
-  Progress to date (Feb 2009).
-  Predicted progress by April 2012.

[Name of LA] Carbon Reduction Programme
Carbon Reduction Plan



working with

