

Herefordshire Council Carbon Management Plan (2010 – 2015)

A contribution to
Herefordshire Public Services'
Corporate Plan 2011-14 commitment
to a low carbon county

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Contents

Contents	i
Foreword	iii
Foreword from the Carbon Trust	iv
Management Summary	v
Abbreviations and Definitions.....	ix
1 Introduction	1
2 Carbon Management Strategy	4
2.1 Objectives and Targets	4
2.2 Context and Drivers for Carbon Management	4
2.3 Strategic Themes	5
2.3. 1 Energy monitoring and management.....	5
2.3. 2 Corporate Strategy	6
2.3. 3 Procurement and Commissioning	6
2.3. 4 Resources	6
2.3. 5 Integrated Transportation.....	7
2.3. 6 Asset Management and Rationalisation	7
2.3. 7 Renewable Energy Resources.....	7
2.3. 8 Communication and Awareness	7
2.3. 9 Partnership and Engagement	8
2.3. 10 Working with Schools.....	8
3 Emissions Baseline and Projections	9
3.1 Scope	9
3.2 Baseline and Emission Profile	10
3.3 Herefordshire Council’s 2009/10 CO ₂ Emissions	10
3.4 Building Emission Intensity	11
3.5 Display Energy Certificates and Site Energy Use.....	12
3.6 Herefordshire Value at Stake	13
3.6. 1 VAS Scenario 1: 0.7% BAU	13
3.6. 2 VAS Scenario 2: (0.7% and -2% BAU)	14
4 Carbon Management Projects	16
4.1 Project Selection Criteria	16
4.2 Existing Carbon Reduction Projects 2008 to 2010	17
4.3 Planned projects 2011 to 2015	26
4.4 Medium to Long term Programme	36
4.5 Projected achievement towards target.....	36

5	Carbon Management Plan Financing	38
5.1	Assumptions made in financial calculations	38
5.2	Benefits / savings – quantified and un-quantified	39
5.3	Financial costs and sources of funding	39
5.4	Additional resources.....	41
6	Embedding Carbon Management	44
6.1	Corporate Strategy – embedding CO ₂ saving across your Local Authority	44
6.2	Programme Management – bringing it all together effectively	45
6.3	Responsibility – carrying everyone along	46
6.4	Data Management – measuring the difference, measuring the benefit.....	47
6.5	Communication and Training – ensuring everyone is aware.....	48
6.6	Finance and Investment – the money to match the commitment	50
6.7	Policy Alignment – saving CO ₂ across our operations	51
6.8	Engagement of Schools.....	52
7	Programme Management of the CM Programme	53
7.1	The Carbon Board – strategic ownership and oversight.....	53
7.2	The Carbon Management Team – delivering the projects.....	55
7.3	Succession planning for key roles	57
7.4	Annual progress review.....	58
8	Appendix A: Extract from JMT Minutes (1st March 2011)	59
9	Appendix B: Herefordshire Council’s CO₂ Emission by Category	61
10	Appendix C: Carbon Reduction Allocation across Emission Scope	62
11	Appendix D: Definition of Projects	69
11.1	Appendix D-1: Multi-Agency Locality Offices	69
11.2	Appendix D-2: School Energy Challenge and Engaging Schools	70
11.3	Appendix D-3: Street Lighting Carbon Reduction Projects.....	71
11.4	Appendix D-4: Efficient Use of Council Offices.....	72
11.5	Appendix D-5: Photovoltaic Panels on Leisure Centres	73
11.6	Appendix D-6: Retro-fitting of Leisure Centres	74
11.7	Appendix D-7: Asset Rationalisation.....	75
12	Appendix E: Carbon Management Matrix – Embedding	76
13	Appendix F: Herefordshire Council’s CRC Declaration 2010	77

Foreword

Herefordshire Council and the Herefordshire Primary Care Trust (PCT) form a deep partnership known as Herefordshire Public Service (HPS). One of the key objectives of the HPS Corporate Plan 2011-14 is creating a resilient county, including reducing carbon emissions. To achieve this commitment a unified joint Carbon Board has been constituted with responsibility for coordinating the implementation of this 5 year carbon management plan (CMP).

This CMP has been developed as a major outcome of the Council's participation in the Carbon Trust's 2010 Local Authority Carbon Management Programme (LACM-8). In parallel, Herefordshire PCT and the Wye Valley NHS Trust are playing their part in achieving the NHS target of a 10% absolute carbon reduction by 2015 against its 2008 carbon emissions. The Council and the Wye Valley NHS Trust are making concerted efforts to reduce their respective carbon footprints because reducing carbon emissions makes great financial sense, as well as helping to mitigate the impacts of adverse climate change.

Herefordshire Council currently spends over £5 Million on energy and fuel bills annually. The twin challenges of rising energy and fuel prices and reduction in government funding over the next five years makes it imperative for the HPS to implement an effective CMP. In response the Council have adopted a 30% carbon reduction target over 6 years, which should give rise to a cost saving or cost avoidance in the region of £8 million. This CMP will to serve as the framework for delivering the HPS commitment to reduce carbon emissions. Achieving the target by March 2015 will help us streamline the business by reducing energy wastage and keep overheads low, thus helping protect spend on front-line services.

We are pleased to have been selected by the Carbon Trust to participate in LACM-8 and intend to use this plan to consolidate our current carbon reduction and energy efficiency initiatives. This CMP is meant as the framework on which we deliver our commitment to become a "Low Carbon County".

Geoff Hughes (Chairman HPS Carbon Board)



Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for all public sector organisations. Carbon management is about realising efficiency savings, transparency, accountability and leading by example. The UK government has identified the public sector as key to delivering carbon reduction across the UK in line with its Climate Change Act commitments and the Local Authority Carbon Management Programme is designed in response to this. It helps organisations to save money on wasted energy and put it to better use in other areas, while making a positive contribution to the environment by lowering carbon emissions.

Herefordshire Council partnered with the Carbon Trust on this programme in 2010 to realise the substantial carbon and cost savings. This Carbon Management Plan commits Herefordshire Council to a target of reducing CO₂ by 30% by 2015 and underpins potential financial savings and cost avoidance to Herefordshire Council of around £8 million by 2015.

Public sector organisations can contribute significantly to reducing CO₂ emissions and improving efficiency. The Carbon Trust is therefore very proud to support Herefordshire Council in their on-going implementation of carbon management.



Richard Rugg

Head of Public Sector, Carbon Trust



Management Summary

Herefordshire Council is one of the signatories of the Nottingham Declaration on Climate Change and has historically been committed to reducing carbon (CO₂) emissions from its operations, as well as mitigate and adapt to the impacts of adverse climate change. The Council was selected in 2010 by the Carbon Trust to participate in the Phase 8 of the Local Authority Carbon Management Programme (LACM-8) and used this opportunity to develop its carbon management plan (CMP). This CMP has been developed for the purpose of consolidating existing carbon reduction and energy efficiency projects across the Council and serve as the framework on which future carbon reduction initiatives will be developed and delivered. Creating a resilient county is one of the long term corporate objectives of Herefordshire Council and the main drivers for developing this CMP in line with its corporate objectives are:

- **Achieve cost savings** through asset rationalisation, good procurement and commissioning and promotion of sustainable travel options;
- **Increase resilience** to rising energy prices and energy security risks by implementing energy efficiency measures and exploring local renewable energy generation sources;
- **Show community leadership** by actively reducing its carbon footprint, and encourage its partners and contractors to embed a “Low Carbon” approach in their operations;

Herefordshire Council is committed to reducing CO₂ emissions across the County and the Council one of the major players in the Herefordshire Partnership. The Council have continue to support the 2008 local area agreement (LAA) target of achieving a 13.1% per capita CO₂ reduction by 2011 against the County's 2005 emissions. The Council is currently supporting the Herefordshire Environmental Partnership (HEP) to deliver the above target and establishing Herefordshire New Leaf¹ is one of the Council's initiatives to supporting county level CO₂ reductions.

Herefordshire Council in 2010 set a six year 30% CO₂ reduction target against its 2008/09 emissions of 25,136 tonnesCO₂²; the cost of the fuel and energy that gave rise to these emissions is approximately £5 Million. The Council appointed a Project and Deputy project Lead from the Sustainability Unit³, constituted a top level Carbon Board and inaugurated a Carbon Management Team (CMT) for the purpose of supporting the delivery of the Council's 30% CO₂ reduction target. The Carbon Board is currently responsible for providing leadership and supports the embedding of carbon management and energy efficiency across Herefordshire Public Services (HPS) operations; while the CMT is responsible for developing and managing energy efficiency initiatives; exploring the potentials of local renewable

¹ A local not for profit organisation

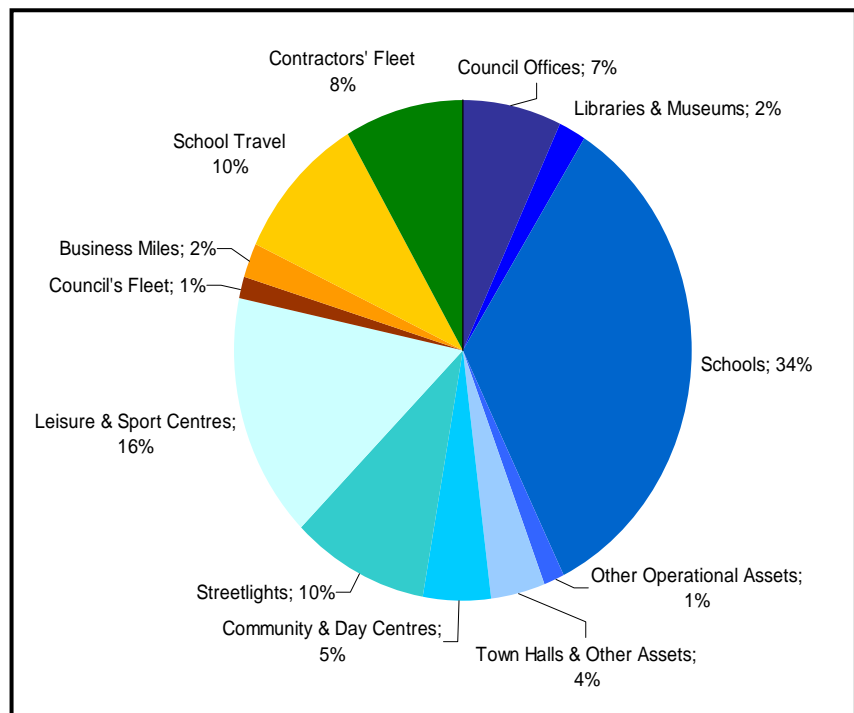
² From Street Lighting, the Council (buildings and operations), Schools and Contractors.

³ Now Waste and Sustainability Unit

energy generation; and supporting carbon reduction projects across the Council’s operations. The carbon management programme’s Project and Deputy Project Leads are responsible for coordinating the delivery of the Council’s carbon reduction target and for regularly providing programme updates to the Carbon Board.

Figure 1: Herefordshire Council’s Carbon Emissions (2008/09)

Figure 1 shows the scope and distribution of Herefordshire Council’s CO₂ emissions from all areas of the Council’s direct and indirect operations. Approximately 32%⁴ of the 2008/09 emissions are from its direct operations. The above shows that a significant proportion of the Council’s CO₂ emissions are outside its immediate control. Thus, it is imperative that as an organisation, the Council explore opportunities to collaborate with schools and



its major contractors to achieving its 30% CO₂ reduction target by 2015.

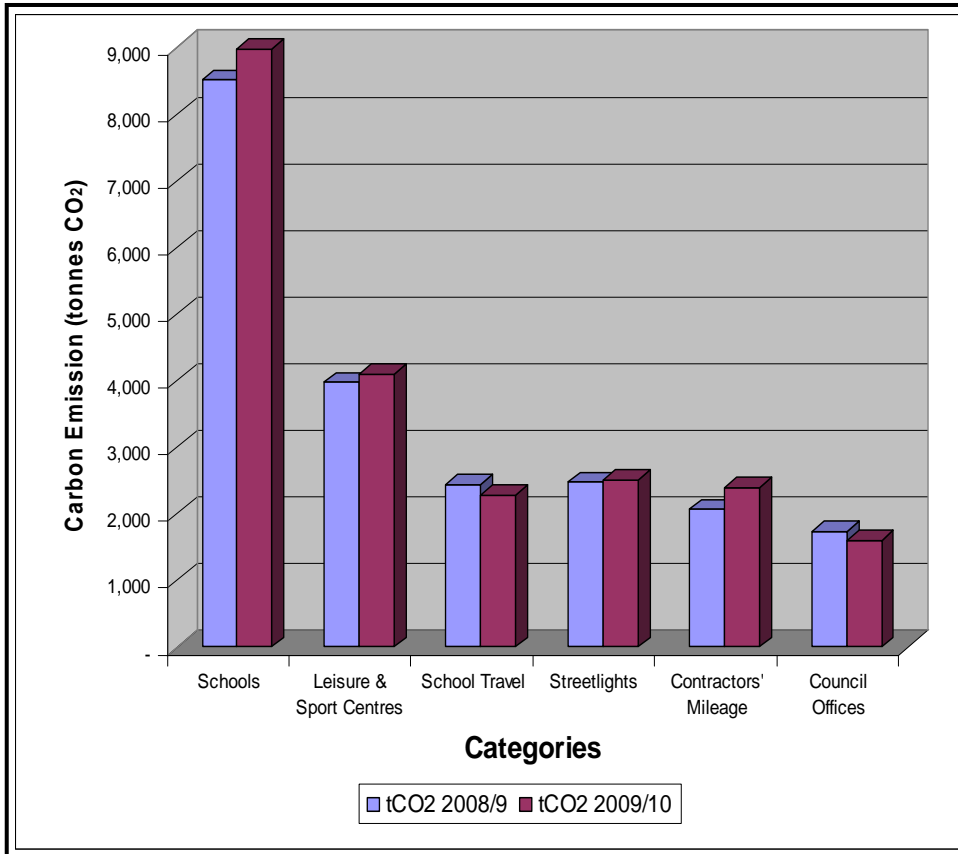
The proportion of the Council’s CO₂ emissions outside its direct control will progressively increase as commissioning becomes an integral part of the way HPS and the Council delivers goods and services to the people in Herefordshire. The imminent establishment of the Integrated Care Organisation (ICO) and Joint Venture Company (JVCo) to take over some of the Council’s functions are examples of the current trend towards commissioning. Therefore, partnership working, good procurement and contract management will become key aspects during the implementation of the Council’s CMP.

Herefordshire Council’s CO₂ emissions and energy spend in 2009/10 was 1.5% and 3% respectively higher than its baseline year (2008/09). The above increase was recorded despite carbon reduction and efficiency projects that were implemented between 2008/09 and 2009/10 financial years. Such a trend and the fact that energy and fuel prices have been rising well above inflation rate justifies the need for implementing an effective carbon management programme. Figure 2 contains the Council’s top six

⁴ Council Offices, Community and Day Centres, Town Halls and Other Assets, Libraries and Museums, School Travel, Fleet and Business Mileage

carbon emitters by category (2008/09 and 2009/10). These categories are: Schools’ energy use; Leisure and Sport Centres; School Travel; Street Lighting; Contractors’ Fleet; and Council Offices. Generally, these top six emitters contribute about 85% of Herefordshire Council’s baseline.

Figure 2: Herefordshire Council’s Top Six Carbon Emitters



The Council’s 2008/09 CO₂ emissions and energy spend has been used as the basis for calculating the Council’s financial and carbon value at stake (VAS) for developing this CMP. The VAS is the difference between the ‘do nothing’ or ‘business as usual’ (BAU) scenario and the benefits that could accrue to the Council if it achieves its 30% carbon reduction target. The VAS is underpinned by the assumption that energy and fuel demands will continue to rise in line with national trends at 0.7% annually⁵. Figures 3 and 4 outline the carbon and financial savings or cost avoidance that could be attained if the Council achieves its 30% carbon reduction target.

The VAS for achieving Herefordshire Council’s 30% carbon reduction target is estimated to be cumulatively 31,436 tonnesCO₂ with an associated potential financial savings or cost avoidance of £7.92 Million over six years.

⁵ Source: Department of Trade and Industry (DTI) now Department for Business Enterprise and Regulatory Reform (DBERR).

Figure 3 Herefordshire Council Carbon VAS

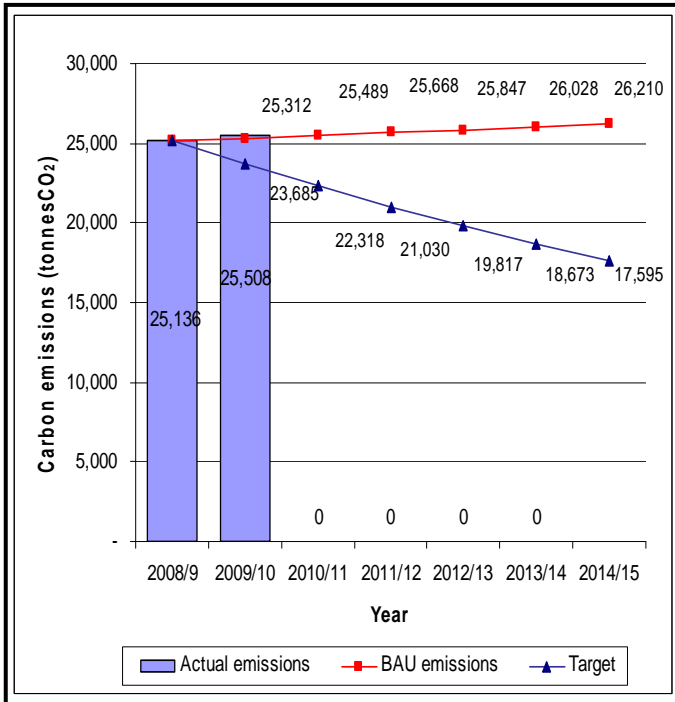
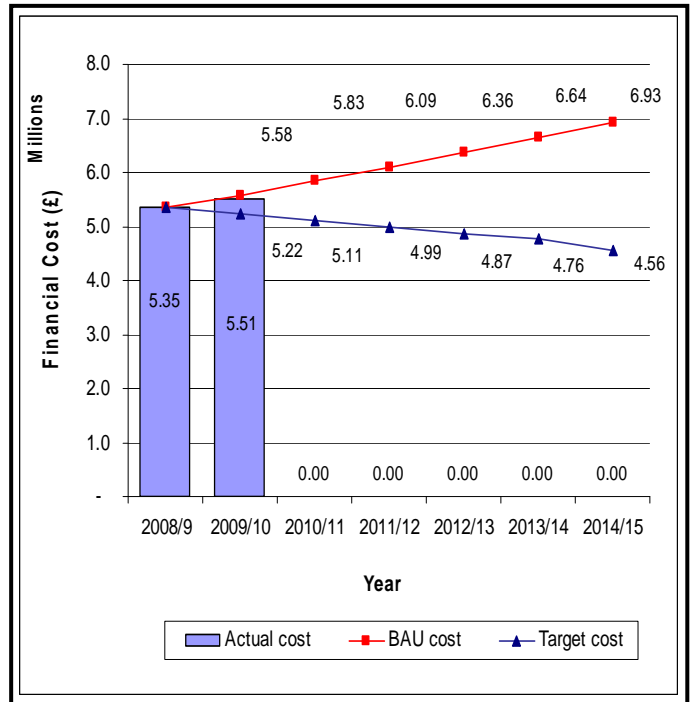


Figure 4 Herefordshire Council Financial VAS



Herefordshire Council have identified and quantified 81% and 24% of its target carbon reduction and baseline respectively as part identified of the its corporate commitment to achieving a “Low Carbon County” status. The carbon reduction projects that have been implemented contributes 1,187 tonnesCO₂ (15.7%) towards its target and 68.2% of the projects planned for 2011 have already been funded. The total projected investment required to achieve the Council’s 30% target over six years is £9.6 Million⁶ and £5.3 Million of this amount have already been invested or approved. The process of identifying, quantifying, exploring funding opportunities, implementing and monitoring carbon reduction projects will continue to ensure that the benefits of achieving the Council’s 30% carbon reduction by 2015 is optimised. Table 1 summarises Herefordshire Council’s progress towards achieving its 30% carbon reduction target.

Table 1: Carbon Reduction Progress against Target

<i>Target: 30% (7, 541 tCO₂)</i>		
<i>81%</i>		<i>19%</i>
<i>Existing Projects: 15.7% (1, 187 tCO₂)</i>	<i>Quantified Projects: 65.3% (4, 921 tCO₂)</i>	<i>Gap/Risk Carbon: 19% (1, 433 tCO₂)</i>

⁶ This is the estimated cost that does not take into consideration other non-carbon savings benefits that will or have accrued from the investment.

Abbreviations and Definitions

Business as Usual	BAU
Carbon Management Plan	CMP
Carbon Management Projects Register	CMPR
Carbon Reduction Commitment and Energy Efficiency Scheme	CRC
Deputy Project Lead	DPL
Display Energy Certificate	DEC
Department for Energy and Climate Change	DECC
Good Environmental Management	GEM
Herefordshire Public Services	HPS
Joint Management Team	JMT
Joint Venture Company	JVCo
Integrated Care Organisation	ICO
Local Authority Carbon Management Programme	LACM
Officer in Charge of Building	OiC
Project Lead	PL
Rapid Assessment of Potential	RAP
Reduced Emission Scenario	RES
Return on Investment	ROI
Value at Stake	VAS
West Mercia Supplies	WMS

RES: Reduced Emission Scenario (RES) is the expected CO₂ emission path if we meet our reduction target of 30%. Herefordshire Council's RES is 5.8% CO₂ emission reduction per annum over six years. 'Reduced Emissions' encompasses the benefits gained from all activities that will meet the Council's reduction targets.

Stationary sources: Buildings, street lighting, traffic signal bollards

VAS: The total value of the cost savings realised by pursuing the 'Reduced Emissions' scenario instead of the 'Business as Usual' scenario. It is made up of cost avoidance and actual financial savings. VAS excludes the capital and operational cost of carbon saving projects that would need to be invested over this period to achieve our target.

1 Introduction

Herefordshire Council is one of 42 public sector organisations that participated in the 2010/11 Local Authority Carbon Management Programme (LACM-8) funded and coordinated by the Carbon Trust. The 2010/11 LACM is the 8th of such ten month programmes initiated by the Carbon Trust for the purpose of supporting local authorities to develop technically feasible and economically viable carbon management plans (CMP). This CMP will contribute to the Herefordshire Public Services' (HPS) corporate plan (2011 to 2014) commitment to achieving a "Low Carbon County" status.

Herefordshire Council is one of the lowest per capita carbon emitting unitary authorities in England⁷, and the Council's commitments to environmental protection and energy efficiency are key components of its corporate strategy. The above commitments and the Council's progress towards becoming a "Low Carbon County" have been demonstrated through the:

- Herefordshire Wood Fuel Strategy 2010;
- Herefordshire Renewable Energy Study 2010;
- Joint Environmental Policy commitments to resource and energy efficiency and carbon reduction;
- Herefordshire Council's Staff Travel Plan aimed at encouraging sustainable travel among staff;
- Affordable Warmth Strategy 2007⁸ focused on reducing fuel poverty in the County (Private Sector Housing);
- Collaborative working with the Herefordshire New Leaf, established to support Herefordshire Environment Partnership's commitment to reducing County carbon emissions per head by 13.1% against 2008 emissions;
- Herefordshire Council's Asset Management Strategy driven by the aim of optimising use of the Council's assets;
- Herefordshire Council's property maintenance plan aimed at improving energy efficiency and effective use of its building stock; and
- Signatory of the Nottingham Declaration on Climate Change and the Herefordshire Climate Change Strategy 2006.

Herefordshire Council's CMP has been developed to consolidate and co-ordinate existing carbon reduction, energy efficiency and renewable energy initiatives as well as serve as the framework on which all future carbon reduction initiatives will be developed. The Carbon Board provides top level leadership and support the embedding of carbon management and energy efficiency across the organisation's operations. Furthermore, the Council's established a Carbon Management Team (CMT)

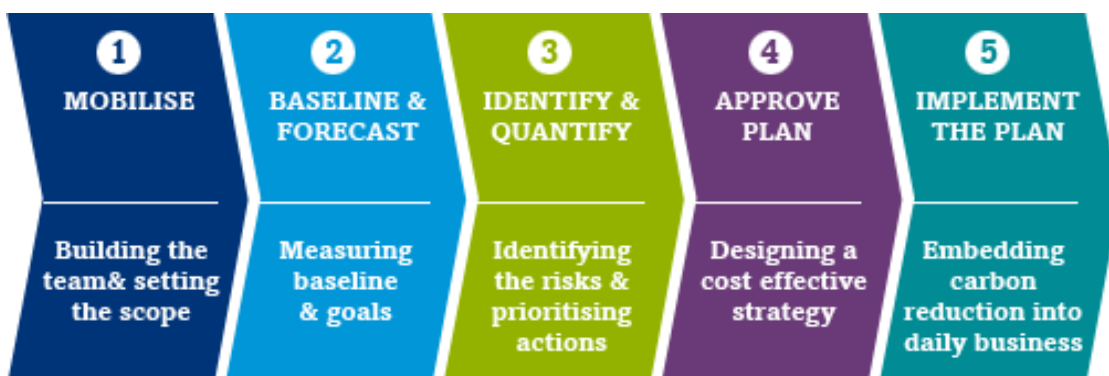
⁷ According to the figures published by the Department of Energy and Climate Change (DECC). ENDS Report November 2010, Issue 420 (pp 80).

⁸ Previously linked to NI 187

that is responsible for: developing and managing energy efficiency; exploring the potentials for renewable energy generation; and carbon reduction projects across operations. The CMP is currently coordinated by the Council's Sustainability Unit⁹ that provides the programme's Project and Deputy Project Leads Generally, this CMP is meant to feed into HPS's current corporate objective of streamlining services, improving efficiency and protecting frontline services.

Various teams and services areas across the Council's business area were actively involved in developing this CMP; key among these are the: Asset Management and Property Services; Children and Young People's Directorate; Adult and Social Care; Resources; Integrated Transport Team; Information Communication Technology (ICT) Team; Waste Management Services; Schools; our Major Contractors. However, the major challenge to the effective implementation of this CMP is that HPS is currently being re-designed and many of the above teams will eventually become part of the Integrated Care Organisation (ICO) or the Joint Venture Company (JVCo). The HPS's Joint Management Team (JMT) adopted this CMP on 1st March 2011 based on the premise that this CMP will serve as the framework to deliver the HPS's "Low Carbon County" mission. See Appendix A for the extract of the minute of the JMT meeting.

Herefordshire Council followed the Carbon Trust's five steps process for developing a fit for purpose CMP to optimise the benefits of participating in the LACM-8. These steps have been tried, tested and found to effectively support organisations in their drive to embedding carbon management and energy efficiency.



Herefordshire Council's CMP builds on and consolidates existing Herefordshire Council's energy efficiency and carbon reduction initiatives and serves as a road map to embed carbon management into the way we deliver goods and services to the people in Herefordshire. In the course of the LACM-8, the Carbon Trust provided a wide range of support through: monthly telephone conferences and advice;

⁹ Now Waste and Sustainability Unit

workshops, conferences and webinars; onsite technical support; and carbon management tools. Table 1. 1 contains a list of tools that have been used at various stages in developing this CMP.

Table 1. 1 Carbon Management Tools and Description

Tool	Description
Baseline	<ul style="list-style-type: none"> ▪ Inventory of energy and fuel use; ▪ Graphical representation of carbon emissions; ▪ Used to determine VAS; ▪ Overview of the energy performance and a summary of display energy certificate (DEC); ▪ Provided reduced emission scenario (RES) for the duration of the carbon management programme.
Rapid Assessment of Potential (RAP)	<ul style="list-style-type: none"> ▪ Capture and prioritise carbon reduction projects (based on carbon reduction, financial savings and payback); ▪ Demonstrates pre-emptive carbon reduction progress against carbon reduction target and across emission scope; ▪ Used as a preliminary project quantification tool.
Carbon Management Project Register (CMPR)	<ul style="list-style-type: none"> ▪ Detailed quantification of identified and existing projects; ▪ Used to show progress against target; ▪ Used to calculate simple pay back for all projects; ▪ Used to calculate the marginal abatement cost of carbon (MACC); ▪ Provided a summary of estimated capital and operational costs required to achieve our carbon reduction target.
Carbon Management Plan (CMP) template.	<ul style="list-style-type: none"> ▪ Provides a framework for carbon management road map encompassing all facet of carbon reduction; ▪ Provides an overview of carbon management progression plan; ▪ Used for the initial assessment of carbon management maturity matrix.

2 Carbon Management Strategy

This CMP has been developed in line with HPS's Environmental Policy and Corporate Plan. The organisation's drivers for participating in the LAMP-8 are to: achieve financial savings through energy efficiency; show community leadership; enhance resilience to challenges of energy security and adverse climate change; and to continually improve its environmental performance. The Council's 2008/09 CO₂ emission has been used as the baseline against which to deliver its six year 30% carbon reduction target. The choice of a retrospective baseline is based on the premise that the understanding of previous energy performance will be useful to determining the most appropriate route to reducing our carbon footprint. Specifically, this CMP is meant to serve as the basis for delivery of our commitment of creating a resilient and "Low Carbon" County".

2.1 Objectives and Targets

The HPS Carbon Board provides leadership regarding carbon management and energy efficiency. The Carbon Board on 12th July 2010 set an aspirational six-year 30% carbon reduction target, which was adopted by the HPS's Joint Management Team (JMT) on 28th September 2010. The above demonstrates the Council's commitment to reducing its carbon footprint, which is in line with one of our Corporate objectives of *"Doing all we can to combat climate change locally and deal with its impact"*.

Herefordshire Council is committed to a 30% CO₂ emission reduction by March 2015 against its 2008/09 baseline

2.2 Context and Drivers for Carbon Management

The costs of energy and fuel have progressively risen in recent years, with energy prices increasing by well over 50% since 2004, making budgeting difficult. Hence, if we do not act now our energy and fuel spends will continue to rise, which will eventually result to increased environmental and financial cost¹⁰. Based on the above premise, Herefordshire Council's drivers for participation in the LACM-8 are:

- **Achieve cost savings** through asset rationalisation and by exploring sustainable travel options;
- **Increase resilience** to increasing energy prices and impending energy security through exploring energy efficiency and local renewable energy generation;

¹⁰ Increased emission of Green House Gases (GHGs), and cost of procuring energy and fuel.

- **Show community leadership** by actively reducing our carbon footprint and encouraging our partners to embed the “Low Carbon” ideology;
- Optimise the benefits from funding sources, such as the feed in tariffs (FITs) for renewable electricity generation and the proposed renewable heating incentives (RHIs); and
- Develop a comprehensive carbon reduction plan in line with the government’s Climate Change Act 2008 and Carbon Plan 2011.

2.3 Strategic Themes

The strategic themes of this CMP are aimed at the delivery of the HPS corporate “Low Carbon County” objective through a well coordinated and structured approach. The key strategic areas that form the basis of attaining a “Low Carbon County” status are:

- Energy Monitoring and Management;
- Corporate Strategy;
- Procurement and Commissioning;
- Resources;
- Integrated Transportation;
- Asset Management and Rationalisation;
- Renewable Resources Strategy.
- Communication and Awareness;
- Partnership and Engagement; and
- Working with Schools.

2.3.1 Energy monitoring and management

Documenting and proper inventory of energy and fuel usage across an organisation is a key pre-requisite to effectively managing carbon emission. Herefordshire Council is currently using the Carbon Trust’s baseline tool, which builds on the NI 185 tool. The NI 185 tool was previously used to capture energy and fuel usage from building, streetlights and transportation sources and for reporting Council carbon emissions to Central Government. A revised local authority greenhouse gas (GHG) emissions reporting guideline is currently out for consultation and all local authorities in England will be expected to publish their annual carbon footprint. The carbon footprint reports are expected to be based on the Department for Environment, Food and Rural Affairs (Defra) and Department for Energy and Climate Change (DEEC) GHG conversion factors and guidance.

Energy monitoring and management would become an integral part of the implementation of our CMP. Further benefits of implementing an active energy monitoring and management system have are:

- Monitoring the Council's performance against its carbon reduction target;

- Identifying areas and opportunities for energy efficiency improvement; and
- Monitoring projects' performance against anticipated cost and carbon savings.

2.3. 2 Corporate Strategy

Herefordshire Council is committed to embedding carbon management into the way it does business and deliver services to the people in Herefordshire. One of the ways of achieving the above objective is the integration of carbon management and energy efficiency into our corporate strategic plan as well as:

- Integrating carbon management and energy efficiency into its Medium Term Financial Plan.
- Taking energy efficiency, whole life costing and future resilience into account whenever business continuity decisions are made;
- Incorporating energy and fuel usage monitoring alongside carbon emission reduction and energy efficiency targets as fundamental criteria for all major contracts and commissioning; and
- Property rationalisation focused on optimal utilisation of our property portfolio, thereby reducing total energy use and associated CO₂ emissions from building stocks.

2.3. 3 Procurement and Commissioning

Increased procurement and commissioning will increasingly feature in the way HPS delivers services to the people in Herefordshire. Currently, Amey, Halo, Focsa and Severn Waste are the Council's major contractors, but with effect from 1st April 2011, the JVCo and ICO will also take over some of the Council's responsibilities. Therefore, there is the need to reflect our "Low Carbon County" commitment and our six year 30% carbon reduction target in all contractual agreements.

2.3. 4 Resources

Maintaining and sustaining the current carbon management governance structure and funding carbon reduction projects and programmes with good return on investment will be one of the key priorities of this CMP. The responsibilities of developing and implementing the CMP are currently shared between the Carbon Board and Carbon Management Team (CMT). This work is complemented by the Employee Action on CO₂; this is a group of volunteer staff currently facilitating energy efficiency awareness among staff with the support of the CMT.

The Council's Waste and Sustainability (W&S) team will continue to coordinate the implementation of the Council's CMP and responsible for reporting the Council's annual carbon footprint. In addition, adequate provision of financial and non-financial resources will be put in place to ensure that the Council's achieves its 30% carbon reduction target, which feeds into the HPS's "Low Carbon County" vision.

2.3. 5 Integrated Transportation

Carbon emissions from transport sources represent 22% of the Herefordshire Council's baseline. The promotion of sustainable transport options is one of the key facets of this CMP. Herefordshire Council's commitment to encouraging sustainable travel options has been demonstrated by its Staff Travel Plan and procuring low carbon emission vehicles as part of its fleet. Currently low carbon and cost effective communication options are being encouraged among staff; some of these options are: video and telephone conferences; cycling, car sharing and flexible working practices. Optimising sustainable travel opportunities increases efficiency (reduction of travel times), as well as delivering financial, health and environmental benefits.

2.3. 6 Asset Management and Rationalisation

HPS current property rationalisation strategy is focused on the disposal of least energy efficient buildings, optimising use of desk spaces in existing offices and building a highly energy efficient extension to its Plough Lane Offices. This strategy will be supported by the continual retrofitting of current building stock to improve energy efficiency. Stringent energy efficiency specifications would be set for major refurbishments, new build, building acquisition and buildings used by contractors for delivering services on behalf of the Council and HPS. The proposed extension of Plough Lane Offices, establishing nine multi-agency locality offices across the County, together with the introduction of flexible, agile and home working for staff, are anticipated to significantly reduce carbon emission from business and fleet mileage.

2.3. 7 Renewable Energy Resources

Renewable energy generation is becoming economically viable with good return on investment (ROI) guaranteed following the introduction of various governments' incentives such as the feed in tariffs (FITs) and the renewable heat incentives (RHIs). Therefore, the wood fuel strategy and renewable energy study will serve as the basis on which the Council promotes and implement renewable energy generation on its assets. Exploring renewable energy resources will reduce carbon emissions and improve resilience against rising energy prices.

2.3. 8 Communication and Awareness

Energy awareness campaigns, training and the communication will be used to raise the profile and benefits of becoming a "Low Carbon County". Currently, the Employee Action on CO₂ group, with support from the Carbon Board are developing and sharing tips on good energy efficiency that could reduce HPS's carbon emissions. It is expected that these tips on energy efficiency and carbon reduction messages will feed into Team Briefings and Staff Communication newsletters. In addition, opportunities will be explored to share good energy efficiency tips and practices with the Council's

major contractors, Schools, JVCo and ICO; because approximately 68% of the Council's current CO₂ emissions are not under its direct control¹¹.

2.3. 9 Partnership and Engagement

Collaboration with the Wye Valley NHS Trust, Herefordshire New Leaf and our major contractors in order to harmonise resources and ensure effective management of energy and fuel usage will be strengthened as joint working and commissioning increases. Such cooperation will be extended to the JVCo and ICO by putting in place a framework to ensure that the "Low Carbon County" vision remains a shared commitment. Partnership and collaboration is vital to achieving our 30% carbon reduction target.

2.3. 10 Working with Schools

Herefordshire School contributes 34% of the Council's baseline and active engagement with schools through Eco-Schools programme and the Council's Energy Challenge will continue to be explored on a "win-win" basis¹². Promoting energy efficiency in schools has the additional benefits of embedding energy efficiency and carbon management tenets in young people that will become tomorrow's adults. Herefordshire Council currently have a dedicated part time Sustainability Officer who promotes good environmental practices and the Eco-School programme in Herefordshire Schools. The Council will continue to work with voluntary aided schools and Academies because of its commitment to community leadership in Herefordshire.

¹¹ This proportion will increase from April 2011, when the JVCo and ICO take over some of the Council's current responsibilities.

¹² Schools improving their Eco-School status while supporting the wider corporate objective of becoming a "Low Carbon" County.

3 Emissions Baseline and Projections

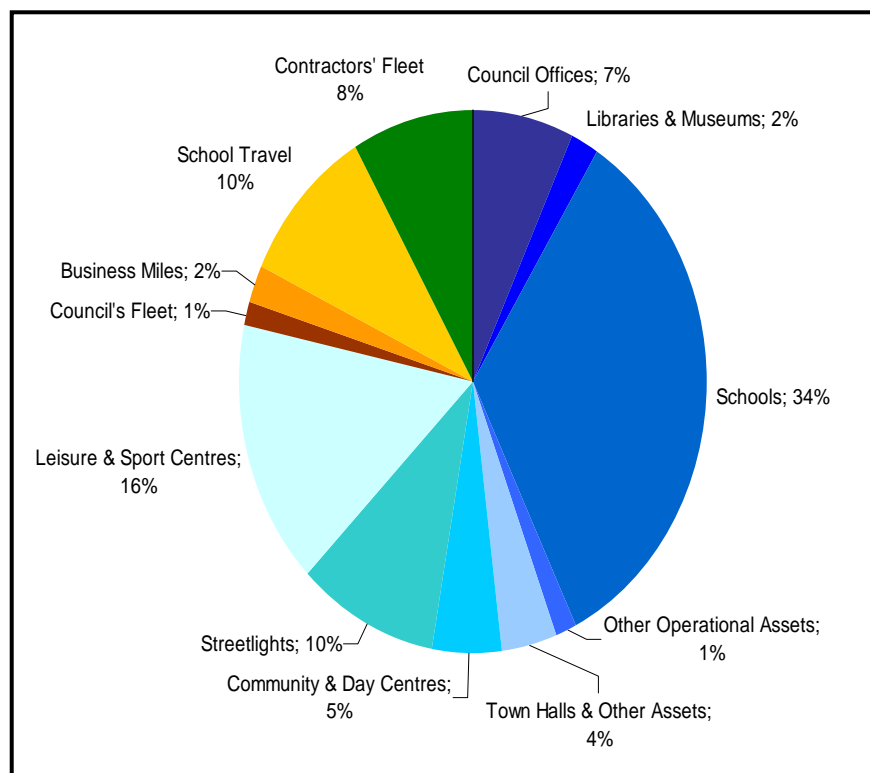
Herefordshire Council used the carbon emission baseline tool developed by the Carbon Trust to collate its energy and fuel usage. This builds on the NI 185 carbon emission baseline tool previously used for collating and monitoring the carbon emissions from the operations of local authorities in England. The 2008/09 CO₂ emissions have been used as the baseline for this CMP, allowing the Council to assess its most recent energy performance and build on lessons learnt. This approach will help us in the effective monitoring of our carbon reduction progress against previous performance and current reduction target.

In 2008/09 Herefordshire Council emitted 25,136 tonnes of CO₂e which cost approximately £5.4 million.

3.1 Scope

Figure 3. 1: Herefordshire Council CO₂ Emissions Baseline

The scope of Herefordshire Council's carbon emissions covers fuel and energy use from owned and rented buildings, business and fleet mileage, schools, street lighting and the Council's major contractors. Figure 3.1 shows Herefordshire Council's 2008/09 carbon emissions across its major energy use categories. Schools, Leisure Centres, Street Lights, School Travel and Contractors' Fleet are the top five CO₂ emitters. These top five categories



represent approximately 80% of the Council's total emissions and 60% of these are outside the Council's direct control. The proportion of emissions outside the Council' direct control will considerably

increase when the JVCo and ICO takes on major service delivery responsibilities of the Council¹³ in April 2011.

3.2 Baseline and Emission Profile

Herefordshire Council's carbon baseline of 25,136 tonnesCO₂ is related to energy use at buildings / sites / depots and transport. The cost of the energy use associated with these emissions is estimated at over £5.35 million in 2008/2009. Table 3. 1 shows that buildings and streetlights represents 78% of our CO₂ emissions while the remaining 22% are from transportation sources. CO₂ emissions from Council's business miles (grey fleet), Council's fleet; contractors' fleet and school travel (School Bus Services) constitute the Transportation scope of our emissions.

Table 3. 1: Summary of Herefordshire Council Baseline

	CO ₂ (tonnes)	%	Cost (£)
Buildings and street lights	19,699	78%	£ 3,202,795
Transport	5,437	22%	£ 2,144,265
	25,136	100%	£5,347,060

3.3 Herefordshire Council's 2009/10 CO₂ Emissions

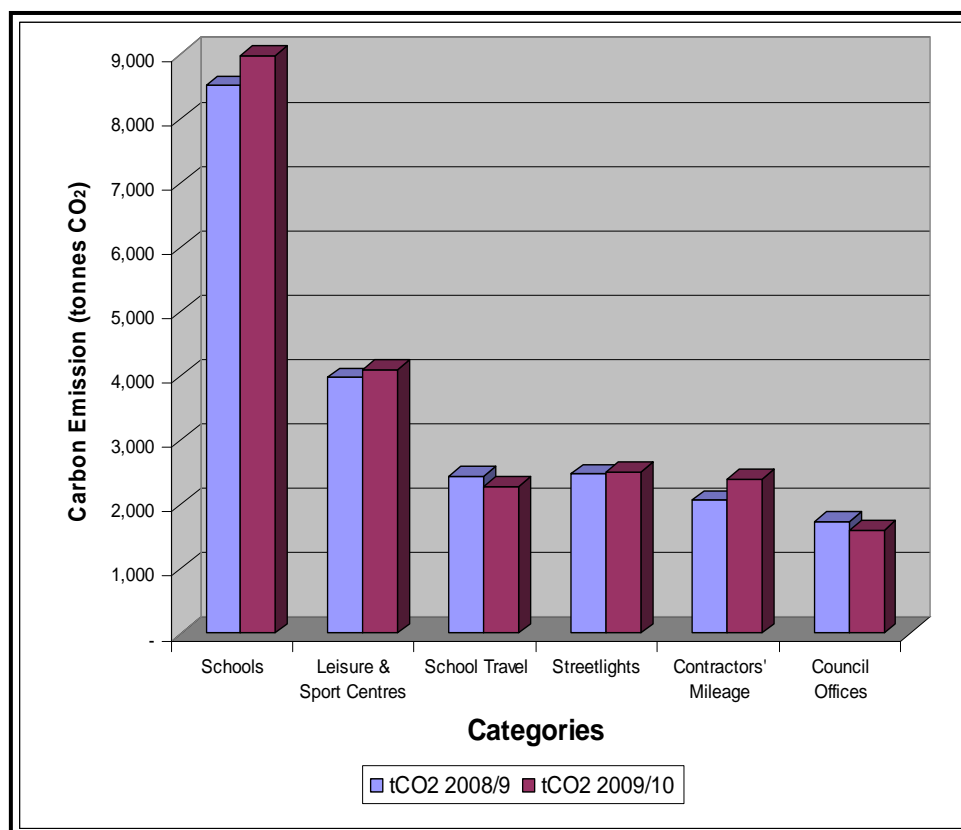
In 2009/10 Herefordshire Council emitted 25,508 tonnesCO₂, which represents 1.5% or 372 tonnesCO₂ above its 2008/09 emissions.

Herefordshire Council estimated carbon emission and energy spend in 2009/10 are approximately 370 tonnesCO₂ and £160,000 (3%) respectively higher than its baseline year. Our 2009/09 CO₂ emission is 0.8% above the national BAU growth rate (0.7%) and a further 6% higher than the reduced emission scenario (RES) of 23,685 tonnesCO₂ against our 30% carbon reduction target. This re-emphasises the need to develop and implement an effective CMP to avoid the trend of rising CO₂ emission and energy spend. The recorded 3% increase in our energy spend between in 2008/09 and 2009/10 could easily become higher in future if energy and fuel prices rise above the conservative rate of 1.7% pa that underpins this estimation. Figure 3.3 shows the comparative emission from our top six carbon emitters.

¹³ With effect from 1st April 2011.

With the exception of Council Offices and School Travel¹⁴, all the other categories recorded increased emission in 2009/10 compared to 2008/09 (see Appendix B for detail comparison of these changes in carbon emissions). This increased CO₂ emission between 2008/09 and 2009/10 justifies the need for us to actively collaborate and engage with our major contractors, the JVCo and ICO to ensure that we achieve our corporate objective of being a “Low Carbon County”.

Figure 3. 2: Top Six Carbon Emitters (2008/09 and 2009/10)



3.4 Building Emission Intensity

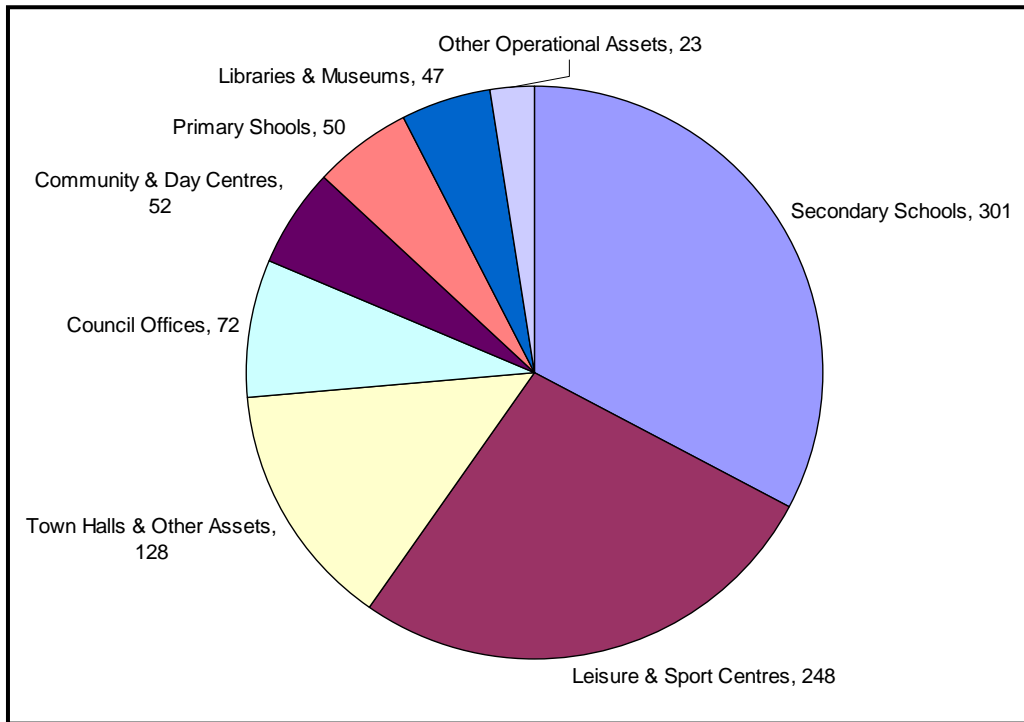
Emissions from buildings, sites and depots represent 69% (17,219 tonnesCO₂) of the Council’s baseline emission¹⁵. The comparison of carbon emission per site from each of the eight building categories shows that the top five categories that emits more carbon per buildings are: Secondary Schools (301 tCO₂); Leisure and Sport Centres (248 tCO₂); Town Halls and Other Assets (128 tCO₂); Council Offices (72 tCO₂) and Community and Day Centres (52 tCO₂). Figure 3.4 shows the carbon emission intensity of our buildings / sites. Therefore, using emission per unit site as a project

¹⁴ These are directly controlled by the Council

¹⁵ The remaining emissions are from transport (21%) and street lighting (10%).

identification and prioritisation criteria will help Herefordshire Council effectively manage its assets to ensure that all buildings are efficiently used.

Figure 3. 3 Carbon Emission per Site (tCO₂)



3.5 Display Energy Certificates and Site Energy Use

All public buildings in England and Wales with total floor area of over 1,000 m² since 1st October 2008 are required by law under the Energy Performance of Buildings (Certificates and Inspections) Regulations 2007 to have and publicly display an up to date display of energy certificate (DEC). Table 3.2 compares Herefordshire Council's DEC's for 2008/09 and 2009/10. The result shows that in 2008/09 about 50% of the Council's buildings were rated poor, implying very high potential for improving energy efficiency of these buildings. It should however, be noted that in many instances a 'G' rating was awarded to some buildings because of inadequate data rather than based on energy usage. Non-synchronisation of meters (gas) was another major constraint to the effective assessment of the DEC scores of some Council's buildings¹⁶.

A comparison of the DEC scores in 2008/09 to those recorded in 2009/10 shows that there was an encouraging 21% improvement in Herefordshire Council's average DEC Scores. This improvement is

¹⁶ For example, some Council buildings uses liquefied petroleum gas (LPG) and heating that are not synchronised with standard gas meters

could be the result of improved data quality, along with energy efficiency and carbon reduction projects that were implemented between 2008/09 and 2009/10 financial years.

Table 3. 2 DEC Profile of Herefordshire Buildings

DEC Rating	No. of Sites 2008/09	No. of Sites 2009/10	Performance
A	0	0	Same
B	10	5	Decline
C	15	25	Improving
D	12	18	Improving
E	4	1	Improving
F	2	4	Decline
G	25	9	Improved
Average Score	119.2	94.2	Improved
Total Sites	68	62	Reason not known

3.6 Herefordshire Value at Stake

Herefordshire Council's carbon emission baseline has been used as the basis for calculating the financial and carbon value at stake (VAS) against its six year 30% carbon reduction target. Herefordshire Council explored the potential of 0.7% and -2%¹⁷ growth rates for its VAS scenarios. The 0.7% (BAU) is the normal rate at which energy demand have been rising over the last few years nationally¹⁸ and the -2% growth rate represents the potential impact of the reduction of government funding on the Council's energy demand over the remainder period of its CMP.

However, it is vital to understand that budget reductions will not necessarily lead to corresponding reductions in energy and fuel use without active management. If buildings are under occupied heating and lighting costs will remain relatively unchanged, so emissions are likely to go down by much less than the current government's spending reductions being implemented at approximately -5%¹⁹ annually in the next five years.

3.6. 1 VAS Scenario 1: 0.7% BAU

Achieving a 30% carbon emission reduction against a 0.7% annual projected growth rate with reference to the Council's baseline of 25,136 tonnesCO₂ is estimated to give rise to cumulatively 31,354 tonnesCO₂ emission reductions over six years. The financial savings or cost avoidance for 31,436

¹⁷ The -2% (Used between 2010/11 to 2014/15) is effectively -1.3% because of the usual 0.7% annual demand rise.

¹⁸ Source: Department of Trade and Industry (DTI) now Department for Business Enterprise and Regulatory Reform (DBERR).

¹⁹ Herefordshire Council's projected growth rate, but we assume a -2% reduction in energy and fuel use.

tonnesCO₂ reduction is approximately £7.9 Million. See Figures 3.5 and 3.6 for the graphical representations of Herefordshire Council's carbon and financial VAS at 0.7% BAU scenario.

Under scenario 1 (BAU of +0.7%): Herefordshire Council is estimated to cumulatively emit 31,436 tCO₂, with an associated cost savings or cost avoidance of approximately £7.9 Million by 2014/15.

Figure 3. 4: Scenario 1: Carbon VAS

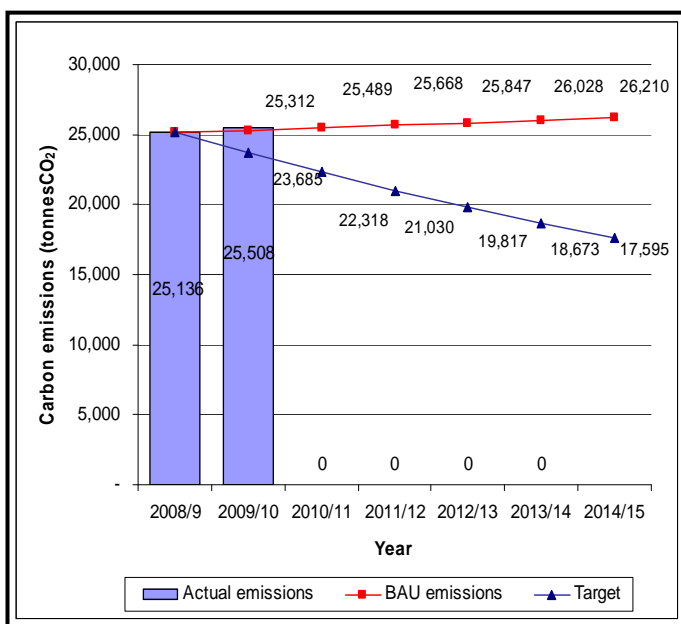
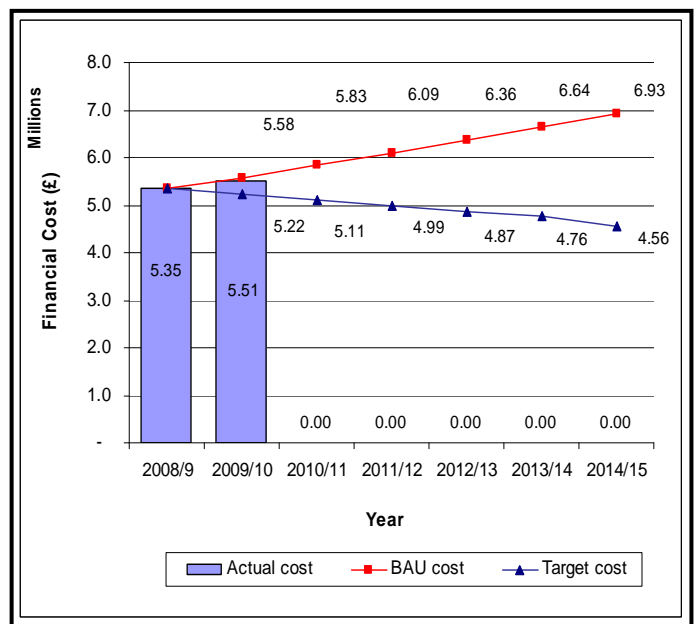


Figure 3. 5: Scenario 1: Financial VAS



3.6. 2 VAS Scenario 2: (0.7% and -2% BAU)

Achieving 30% carbon emission reduction against a -2% growth rate (between 2011/12 to 2014/15) with reference to the Council's baseline of 25,136 tonnesCO₂ is estimated to give rise to cumulatively 26,368 tonnesCO₂ reduction over six years. The financial savings or cost avoidance for 26,368 tonnesCO₂ emission reduction is approximately £6.8 Million. Figures 3.7 and 3.8 contain the graphical representations of Herefordshire Council's carbon and financial VAS for scenario 2.

Under scenario 2 (BAU of -2%): Herefordshire Council is estimated to cumulatively emit 26,368 tCO₂, with an associated cost savings or cost avoidance of approximately £6.8 Million by 2014/15.

Figure 3. 6: Scenario 2: Carbon VAS

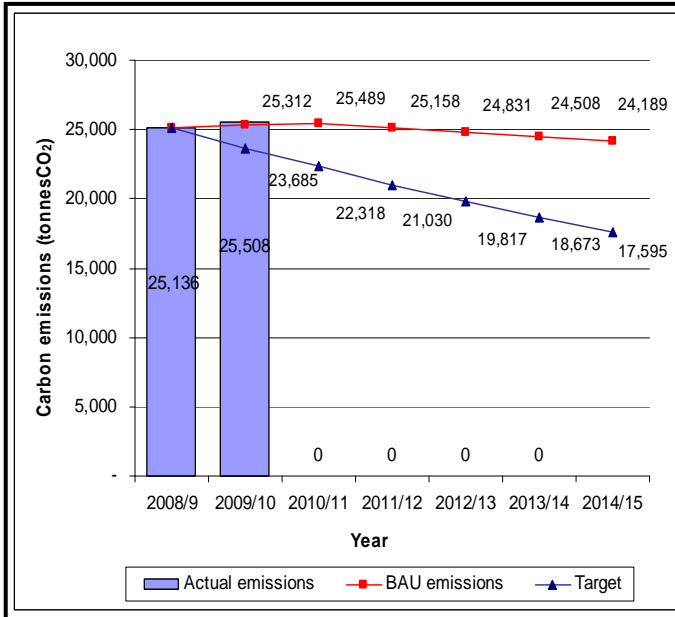
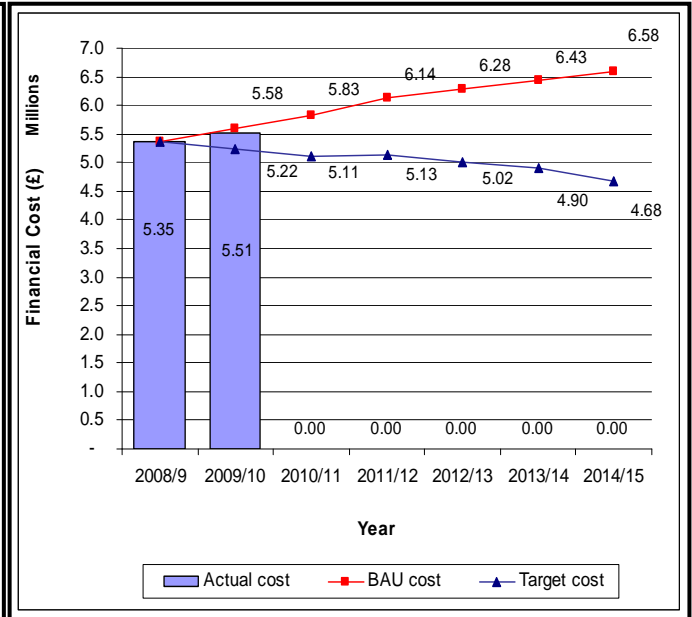


Figure 3. 7: Scenario 2: Financial VAS



Therefore, irrespective of the BAU scenario used in determining our VAS; we would be able to achieve significant financial savings or cost avoidance of between £6.8 and £7.9 Million over six years if we achieve our 30% carbon reduction target by March 2015. However, the above financial benefits could only be achieved if we invest adequate resources into the implementation of our CMP.

Herefordshire Council adopted the 0.7% BAU scenario, because this scenario closely reflects the projected energy demand over the duration of our carbon management programme.

4 Carbon Management Projects

This section contains carbon reduction projects that have been implemented, approved for implementation, proposed for implementation and quantified as part of the Council's commitment to becoming a "Low Carbon County". The projects have been drawn from:

- Current projects completed within the last two years;
- Existing carbon reduction projects (funded);
- Projects identified in response to the "Age of the Stupid" workshop in 2009 and the Carbon Management Team Launch and Opportunities Workshop held on 21st July 2010;
- Projects initiated by Herefordshire Council's major contractors (Halo, Focsa and Amey); and
- Projects identified and quantified during the LACM-8 across Herefordshire Council's business areas.

The Carbon Trust's baseline tool, rapid assessment of potential (RAP) tool and carbon management project register (CMPR) have been used for characterising our CO₂ emission scopes, carbon reduction project prioritisation and quantification. These tools have been tried, tested and found to be robust in supporting the delivery of cost effective carbon management initiatives across public sector organisations.

4.1 Project Selection Criteria

Figure 4.1 shows that the carbon reduction projects quantified cut across all our key business areas. During the LACM-8, the carbon reduction projects we quantified from Schools, Amey, Asset Rationalisation, Halo²⁰ and Offices represents the top five contributors to the 6,108 tonnesCO₂ reductions currently identified. These five emitters contribute 88.5% of the total quantified carbon reduction projects, which it is relatively consistent with the breakdown of our CO₂ emission profile in Figure 3. 1. Appendix C contains allocated carbon reduction target assigned across Herefordshire Council's major business areas and Appendix D²¹ show detail description of some of the major quantified carbon reduction projects.

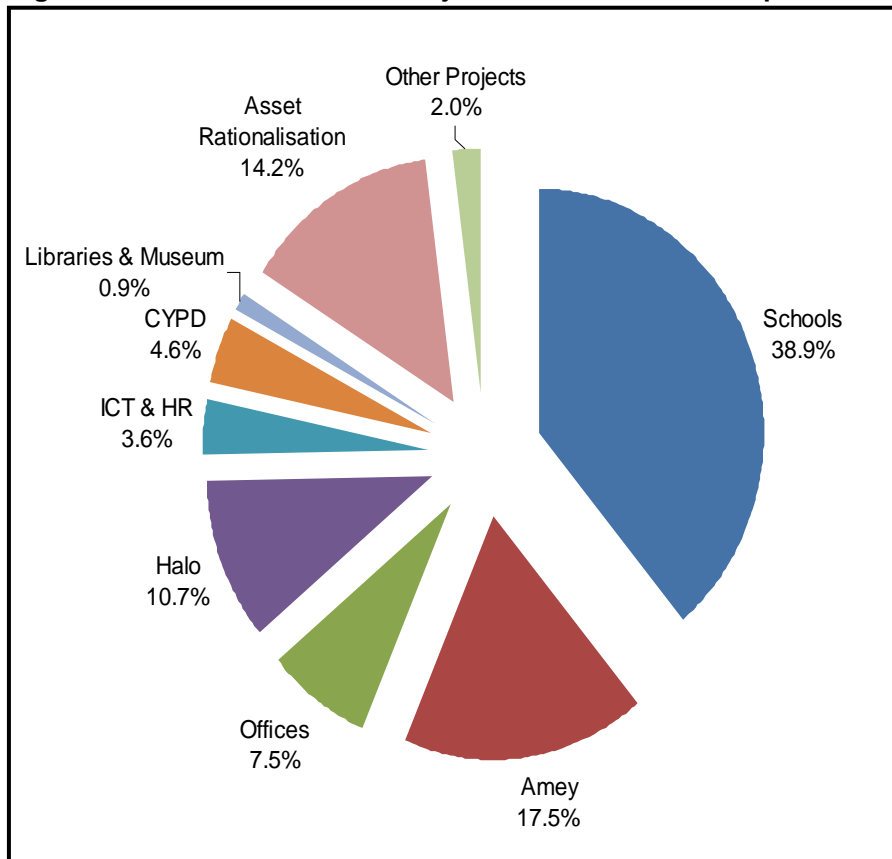
To ensure consistency in selecting projects for implementation as part of our carbon management programme, we used the criteria below:

²⁰ Project Lead: Andrew Talbot

²¹ The template in Appendix D will be used for projects that seeking funding and or contributes at least 1% of our carbon reduction target. For smaller projects we will use the CMPR tool.

Figure 4. 1: Carbon Reduction Project across Emission Scope

- Business continuity with good cost savings compared to BAU options;
- Potential for significant carbon saving with low financial risk;
- Better return on investment (ROI) and good financial pay back;
- Projects with history of good life-time carbon and financial savings and low risk of failure;
- Technical feasibility and ease of project implementation;
- Projects that give rise to significant reduction of electricity usage because of the carbon emission potential from electricity;
- The energy use per site of Council's asset (See Figure 3. 3); and
- Projects, programmes and policies that supports the strategic objectives of HPS.



4.2 Existing Carbon Reduction Projects 2008 to 2010

Table 4. 1 summarises existing carbon management and energy efficiency initiatives that have been implemented between 2008 and 2010. Most of these 66 projects were funded by Herefordshire Council, demonstrating the Council's commitment to becoming a "Low Carbon" organisation. Further information of these projects are summarised in Table 4. 2.

These existing projects are estimated to give rise to approximately 1,187 tonnesCO₂ or 15.7% of our carbon reduction target and are projected to give rise to an annual saving of £270,000. However, the carbon reduction efficacy and corresponding financial savings of some of these projects will depreciate with time. Generally, the existing projects cost approximately £1.3 Million with a 6.8 years average payback. Some of the implemented projects, such as renewable projects in schools were funded from

national grant schemes and have educational benefits that could not be easily quantified. See Table 4.2 for a summary of the existing carbon reduction projects.

Table 4. 1: Summary of existing carbon reduction projects 2008 to 2010

Year	Cost (£)		Annual Savings		Average Payback (years)	% of target
	Capital	Operational	Cost (£)	CO ₂ (tonnes)		
2008	137,520	100	21,892	120	6.6	1.59%
2009	136,777	300	103,039	399	4.7	5.29%
2010	1,037,446	8,750	144,370	668	9.1	8.86%
Summary	1,311,743	9,150	269,301	1,187	6.8	15.7%

Table 4. 2: Existing carbon reduction projects 2008 to 2010

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
12	10.1 kWp Photovoltaic Cells at Cradley Primary School.	Cradley Primary Sch.	40,400	100	790	4.30	10.1	0.06%	2008
61	Boiler Replacement at Ross swimming pool (Condensing Boiler).	Andrew Talbot	12,000	0	2,700	16.56	4.4	0.22%	2008
62	Plate Heat Exchanger at Ross swimming pool	Andrew Talbot	2,400	0	300	1.84	8.0	0.02%	2008
63	Install energy efficient lighting with lux level control to Pool Hall at Ross swimming pool.	Andrew Talbot	5,000	0	1,500	8.16	3.3	0.11%	2008
64	Variable Speed Drive at Ross Pool.	Andrew Talbot	1,170	0	1,550	8.43	0.8	0.11%	2008
91	Voltage Optimisation (Power Perfector) installed at John Masefield High School.	Colin Birks	30,800	0	6,071	33.04	5.1	0.44%	2008
92	Voltage Optimisation (Power Perfector) installed at John Kyrle High School.	Colin Birks	20,900	0	4,060	22.09	5.1	0.29%	2008
93	Voltage Optimisation (Power Perfector) installed at Maylord Orchard Car Park.	Colin Birks	7,150	0	2,150	11.70	3.3	0.16%	2008
94	Voltage Optimisation (Power Perfector) installed at Garrick House Car Park.	Colin Birks	7,700	0	2,320	12.62	3.3	0.17%	2008

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
102	Video Conferencing (Amey).	Clive Hall	10,000	0	450	1.04	Does not payback	0.01%	2008
1	School route rationalisation (Golden Valley).	Robert Reid	0	0	47,364	109.57	0.0	1.45%	2009
10	1.72kWp Solar PV at Garway Primary School.	Garway Primary Sch.	6,800	100	137	0.75	11.1	0.01%	2009
15	6 kW Wind Turbine at Garway Primary School.	Garway Primary Sch.	20,000	100	394	2.14	12.9	0.03%	2009
29	Boiler Replacement at Much Birch Primary School (Condensing Boiler).	Colin Birks	25,000	300	876	5.37	Does not payback	0.07%	2009
31	Curtain walling at Broadlands Primary School.	Colin Birks	25,000	0	1,127	6.91	22.2	0.09%	2009
32	Condensing Boiler installed at Shirehall.	Colin Birks	10,000	100	743	4.56	Does not payback	0.06%	2009
34	Variable Speed Drive at Bridge Street Sport Centre.	Andrew Talbot	8,190	0	12,960	70.53	0.6	0.94%	2009
35	Anti-glare Film at Bridge Street Sport Centre.	Andrew Talbot	1,780	0	2,011	10.94	0.9	0.15%	2009

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
36	PIR Sensors at Bridge Street Sport Centre.	Andrew Talbot	789	0	2,011	10.94	0.4	0.15%	2009
37	Retrofit Lighting at Bridge Street Sport Centre.	Andrew Talbot	8,000	0	1,006	5.47	8.0	0.07%	2009
41	Reznor Heaters installed at Bromyard Leisure Centre.	Andrew Talbot	5,000	0	1,010	6.20	4.9	0.08%	2009
48	Install timed power circuits to vending machines at Bromyard Leisure Centre.	Andrew Talbot	150	0	1,500	8.16	0.1	0.11%	2009
57	Variable Speed Drive at Ledbury Leisure Centre.	Andrew Talbot	3,500	0	692	3.76	5.1	0.05%	2009
60	Advertise With Pleasure (AWP) Lights at Ledbury Leisure Centre.	Andrew Talbot	1,200	0	1,500	8.16	0.8	0.11%	2009
65	BMS Trend System at Ross swimming pool.	Andrew Talbot	8,000	0	697	4.27	11.5	0.06%	2009
66	Heating Control System at the Ross swimming pool	Andrew Talbot	100	0	17	0.10	5.8	0.00%	2009
67	Pool pumps at Ross swimming pool.	Andrew Talbot	2,115	0	261	1.60	8.1	0.02%	2009
74	Variable Speed Drivers at the Ledbury Swimming Pool.	Andrew Talbot	2,625	0	3,285	17.88	0.8	0.24%	2009

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
90	Server Virtualisation / Thin Computers.	Alicia Bolger	0	0	20,021	108.95	0.0	1.44%	2009
96	Purchase of Modec Electric Vehicles (Amey).	Clive Hall	8,528	0	357	0.83	Does not payback	0.01%	2009
98	Update of new fleet to Euro 5 standards (Amey).	Clive Hall	0	0	139	0.32	0.0	0.00%	2009
99	Removal of higher emitting vehicles from Fleet (8 vehicles) - Amey.	Clive Hall	0	0	1,385	3.20	0.0	0.04%	2009
104	Regular maintenance of Pool Cars (Amey).	Clive Hall	0	0	326	0.75	0.0	0.01%	2009
114	Low carbon replacement vehicles (Focsa).	Richard Wood	0	0	2,683	6.21	0.0	0.08%	2009
115	Driver training & maintenance (Focsa).	Richard Wood	0	0	537	1.24	0.0	0.02%	2009
2	Flexible Working (Cryptocard).	Alicia Bolger	45,000	0	10,872	59.31	4.1	0.79%	2010
3	BMS upgrade to Trend at Bishop Bluecoat High School.	Colin Birks	15,000	0	1,267	7.77	11.8	0.10%	2010
4	Relighting at Bromyard Queen Elizabeth High School.	Colin Birks	25,000	0	2,719	14.80	9.2	0.20%	2010
5	Sutton St. Nicholas Primary School. Heating Control (Zoning).	Colin Birks	13,750	0	326	2.00	Does not payback	0.03%	2010

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
6	Purchase of two new vehicles.	Tracey Armstrong	25,067	0	1,936	4.48	Does not payback	0.06%	2010
7	400 kW Gas Fired Boiler at Bishop Bluecoat High School.	Colin Birks	98,000	0	4,560	27.96	Does not payback	0.37%	2010
11	3.76 kWp Photovoltaic cells at Kingstone High School.	Kingstone High Sch.	13,500	100	252	1.37	11.2	0.02%	2010
13	6.3 kWp Photovoltaic Cells at Canon Pyon Primary School.	Canon Pyon Primary Sch.	25,200	100	425	2.31	11.9	0.03%	2010
14	6kW Wind Turbine at Canon Pyon Primary School.	Canon Pyon Primary Sch.	20,000	100	136	0.74	Does not payback	0.01%	2010
16	6 kW Wind Turbine at Stoke Prior Primary School.	Stoke Prior Primary Sch.	20,000	100	367	2.00	13.9	0.03%	2010
17	Biomass Boiler at Staunton and Wye primary School.	Colin Birks	65,000	600	3,162	19.39	Does not payback	0.26%	2010
30	Voltage Optimisation (Power Perfector) at 4 High Schools: Aylestone, Bishop Bluecoat, Wigmore and Whitecross.	Colin Birks	80,000	0	14,152	77.01	5.7	1.02%	2010
33	Condensing Boiler installed at Riverside Primary School.	Colin Birks	150,000	300	5,076	31.12	Does not payback	0.41%	2010

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
38	Boiler Replacement at Bridge Street Sport Centre (Condensing Boiler).	Andrew Talbot	15,000	0	1,842	11.29	8.1	0.15%	2010
44	Boiler Replacement at Bromyard Leisure Centre.	Andrew Talbot	6,000	0	475	2.92	12.6	0.04%	2010
45	Plate Heat Exchanger at Bromyard Leisure Centre.	Andrew Talbot	2,500	0	460	2.82	5.4	0.04%	2010
49	Boiler Replacement at Leominster Leisure Centre.	Andrew Talbot	12,000	0	804	4.93	14.9	0.07%	2010
50	Plate Heat Exchanger at Leominster Leisure Centre.	Andrew Talbot	2,500	0	289	1.77	8.6	0.02%	2010
51	Lighting - Installing of PIR Sensors at Leominster Leisure Centre.	Andrew Talbot	376	0	900	4.90	0.4	0.06%	2010
52	Lighting Change configuration of the Pool Hall at Leominster Leisure Centre.	Andrew Talbot	1,800	0	588	3.20	3.1	0.04%	2010
53	Install timed power circuits to vending machines at Leominster Leisure Centre.	Andrew Talbot	100	0	1,000	5.44	0.1	0.07%	2010
54	Ventilation System at Leominster Leisure Centre.	Andrew Talbot	2,500	0	1,500	8.16	1.7	0.11%	2010
56	Variable Speed Drive at Leominster Leisure	Andrew Talbot	2,625	0	3,285	17.88	0.8	0.24%	2010

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
	Centre.								
68	Pool tank insulation the Ross swimming pool.	Andrew Talbot	33,000	0	4,800	29.43	6.9	0.39%	2010
95	ICT Operations restructure – new remote team created for ICT support, will reduce travel.	Alicia Bolger	0	3,500	3,281	7.59	Does not payback	0.10%	2010
97	Purchase of Modec Electric Vehicles (Amey).	Clive Hall	8,528	450	357	0.83	Does not payback.	0.01%	2010
100	Miles better (Introduction of congestion restriction zone) - Amey.	Clive Hall	0	0	27,297	63.15	0.0	0.84%	2010
101	Speeding Analysis and Check (Amey).	Clive Hall	0	0	1,038	2.40	0.0	0.03%	2010
105	Masternaught (Whole Vehicle tracking and transmission system) - Amey.	Clive Hall	55,000	0	9,179	21.24	6.0	0.28%	2010
111	Property rationalisation - St. David Pupil Referral Centre, Hereford.	Tony Featherstone & Colin Birks	0	0	6,026	34.32	0.0	0.46%	2010
120	Low energy photocell control with over 8 year warranties.	Clive Hall	300,000	3,500	36,000	195.90	9.2	2.60%	2010

4.3 Planned projects 2011 to 2015

The projects in Table 4. 3 contain a summary of the planned projects between 2011 and 2015, and show that carbon reduction projects planned / proposed for 2011 is estimated to cost £4.5 Million, with an average payback of 4.3 years. The projects proposed for 2012 to 2015 has been estimated to cost £2.3 Million with an average payback of 6.8 years²². Table 4.4 and 4.5 contain all quantified carbon reduction projects across the Council's emission scope. Funds for most of the projects with start dates within the next twelve months (2011) have been approved and these projects cumulatively constitute 33.9% of the Council's carbon reduction target. Furthermore, Table 4. 4 and 4.5 contain carbon reduction projects that have been quantified and will be implemented as funds become. The row labelled "Funded" in Table 4. 4 have been used to show the funding and implementation stages of projects planned for 2011. Rows highlighted in green implies that funds have been approved for these projects, while rows highlighted brown represents projects that could be considered for implementation within the next twelve months.

Table 4. 3: Proposed and Planned projects 2011 and 2012 to 2015

Project Summary	2011	2012 to 2015
Total Capital Cost (£)	4,451,460	2, 292, 816
Operational Cost (£)	29,700	10, 160
Financial Savings (£)	507,458	429,648
Carbon Savings (tonnesCO ₂)	2,554	2,357
Average Pay Back (Years)	4.9	6.4
Percentage of target	33.9%	31.0%

²² This payback appears high but, it assumed that as more details about these projects become available, the payback would most likely be lowly than currently estimated.

Table 4. 4: Proposed projects (2011)

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Funded
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
8	Closure of Dilwyn Primary School.	Colin Birks	0	0	2,809	16.18	0.0	0.21%	Yes
9	Multi-Agency locality Office (9 Locations).	Rob Reid	2,500,000 ²³	0	40,125	125.75	0.0	1.67%	Yes
18	Biomass Boiler at Madley Primary School.	Colin Birks	90,000	600	2,530	15.51	Does not payback	0.21%	2011
19	Biomass Boiler at Leominster Primary School (Leominster Infant and Leominster Junior).	Colin Birks	250,000	1,200	10,540	64.63	Does not payback	0.86%	2011
20	Biomass Boiler at Plough Lane Offices.	Colin Birks	300,000	5,000	21,081	129.27	18.7	1.71%	2011
21	Anaerobic Digester at Peterchurch Fairfield High School.	Colin Birks	200,000	3,000	21,951	134.60	10.6	1.78%	2011
22	Biomass Boiler at Hereford Academy.	Colin Birks	200,000	1,200	10,540	64.63	Does not payback	0.86%	2011
23	Biomass Boiler at a Primary School (yet to be identified).	Colin Birks	90,000	600	2,530	15.51	Does not payback	0.21%	2011

²³ There are other benefits that accrues from this projects, hence a zero direct carbon cost have been assigned.

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Funded
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
24	Voltage Optimisation (Power Perfector) at two High Schools (to be identified).	Colin Birks	40,000	0	7,301	39.73	5.5	0.53%	2011
25	Insulation of 4 Primary Schools (yet to be identified).	Colin Birks	50,000	0	13,166	80.74	3.8	1.07%	2011
26	Electronic Document and Records Management (EDRM)	Alicia Bolger	0	0	6,508	15.06	0.0	0.20%	Yes
27	Property rationalisation Hillrise, Hereford.	Tony Featherstone	0	0	32,729	179.96	0.0	2.39%	Yes
43	PIR Sensors at Bromyard Leisure Centre.	Andrew Talbot	3,000	0	2,990	16.27	1.0	0.22%	Yes
70	Plate Heat Exchangers at the Ledbury Swimming Pool.	Andrew Talbot	3,000	0	360	2.21	8.3	0.03%	Yes
71	BSM upgrade at the Ledbury Swimming Pool	Andrew Talbot	15,000	0	876	5.37	Does not payback	0.07%	Yes
72	Ventilation System at the Ledbury Swimming Pool.	Andrew Talbot	50,000	0	3,373	18.35	Does not payback	0.24%	Yes
73	Sauna at the Ledbury swimming pool.	Andrew Talbot	4,660	0	2,160	11.75	2.2	0.16%	Yes

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Funded
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
75	Variable Speed Drivers at the Hereford Leisure Pool.	Andrew Talbot	10,000	0	9,811	53.39	1.0	0.71%	Yes
76	Control Vales at the Hereford Leisure Pool.	Andrew Talbot	6,000	0	1,650	10.12	3.6	0.13%	Yes
77	Plate Heat Exchangers at the Hereford Leisure Pool.	Andrew Talbot	7,000	0	1,575	9.66	4.4	0.13%	Yes
78	Boiler Replacement at the Hereford Leisure Pool (Condensing Boiler).	Andrew Talbot	45,000	0	6,415	39.34	7.0	0.52%	Yes
79	Install new high efficiency lighting in all pool halls at Hereford Leisure Pool.	Andrew Talbot	15,000	0	3,278	17.84	4.6	0.24%	Yes
80	Pool Temperature Control at the Hereford Leisure Pool.	Andrew Talbot	5,000	0	3,000	18.40	1.7	0.24%	Yes
81	BMS upgrade at the Hereford Leisure Pool.	Andrew Talbot	15,000	0	4,200	25.75	3.6	0.34%	Yes
82	Install timed power circuits to vending machines at the Hereford Leisure Pool.	Andrew Talbot	150	0	719	3.92	0.2	0.05%	Yes

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Funded
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
83	Install timed power circuits to vending machines at the Hereford Leisure Centre.	Andrew Talbot	150	0	569	3.09	0.3	0.04%	Yes
84	Install Air Handling Units (AHU) at the Hereford Leisure Centre.	Andrew Talbot	50,000	0	8,750	50.20	5.7	0.67%	Yes
87	Install new high efficiency lighting at the Hereford Leisure Centre.	Andrew Talbot	35,000	0	1,813	9.86	Does not payback	0.13%	Yes
89	Herefordshire School Energy Challenge and Engaging Schools.	Mary Burton & Philip Tamuno	12,500	0	57,380	349.53	0.2	4.64%	Yes
110	Closure of 1 Corn Square Offices, Leominster.	Tony Featherstone	0	0	2,912	15.85	0.0	0.21%	Yes
112	Property rationalisation - Castle Green Training Centre, Hereford.	Tony Featherstone	0	0	2,475	14.76	0.0	0.20%	Yes
116	Half Hourly Metering (HHM), using the central management system (CMS).	Clive Hall	200,000	0	22,686	123.45	8.8	1.64%	No
117	Street Lights dimming at factory set times based on 1,000 units	Clive Hall	125,000	15,000	43,103	234.56	4.4	3.11%	No

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Funded
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
118	Street Lights switch off at set times.	Clive Hall	10,000	2,000	13,838	75.30	0.8	1.00%	No
119	Solar Powered lighting of Street Lights.	Clive Hall	80,000	1,000	61,111	332.55	1.3	4.41%	No
121	Collection of projects aimed at 10% reduction in Business Mileage	CMT	0	0	29,758	65.15	0.0	0.86%	Yes
122	Closure of Hereford, 1 King Street Offices (Tourist Information Centre).	Tony Featherstone	0	0	2,293	12.48	0.0	0.17%	Yes
125	Reduction of Photocopiers.	Lucy Marder	0	0	488	2.65	0.0	0.04%	Yes
126	Organisation re-alignment.	Human Resources	0	0	35,947	104.00	0.0	1.38%	Yes
129	10 kWp photovoltaic panels installed at Peterchurch Primary School.	Peterchurch Primary Sch.	40,000	100	750	4	10.5	0.05%	Yes
133	Closure of Plough Lane during the Christmas bank Holidays and Office temperature fine tuning.	CMT	0	0	4,477	27.1	0	0.36%	Yes
135	Tele-Care – Adult and Social Care	Ian Gardner	0	0	6,892	15.9	0	0.21%	Yes

Table 4. 5: Near Term Projects: 2012 to 15

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
39	BMS control at Bridge Street Sport Centre.	Andrew Talbot	15,000	0	921	5.65	16.3	0.07%	2012
40	Photovoltaic panels installed on 5 Leisure Centres across Herefordshire (213 kWp).	Andrew Talbot	852,000	500	15,975	86.93	10.5	1.15%	2012
42	Insulation at Bromyard Leisure Centre.	Andrew Talbot	50,000	0	1,189	7.29	Does not payback	0.10%	2012
46	Cavity Wall Insulation at Bromyard Leisure Centre.	Andrew Talbot	50,000	0	1,197	7.34	Does not payback	0.10%	2012
47	BMS upgrade to Trend at Bromyard Leisure Centre.	Andrew Talbot	15,000	0	446	2.73	Does not payback	0.04%	2012
58	Lighting Retrofit at Ledbury Leisure Centre.	Andrew Talbot	600	0	369	2.01	1.6	0.03%	2012
106	Driver Training (Amey)	Clive Hall	0	9,360	1,796	4.15	Does Not Pay Back	0.06%	2012
107	Speed Limitation (Speed limits on all Amey Fleet).	Clive Hall	15,000	0	1,018	2.36	Does not payback	0.03%	2012

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
108	Spray down flap implementation (Amey)	Clive Hall	14,250	0	1,019	2.36	Does not payback	0.03%	2012
109	Green road technology (Gives Driver real time evaluation of the economy of their driving) – Amey	Clive Hall	55,000	0	2,254	5.22	Does not payback	0.07%	2012
123	Photovoltaic panels installed on Plough Lane Offices roof (60 kWp).	CMT	240,000	100	4,500	24.49	10.5	0.32%	2012
124	Boiler replacement (Condensing) at Hereford, Broad Street Library.	Colin Birks	8,000	0	634	3.9	12.6	0.05%	2012
127	Curtain walling and building maintenance works proposed (Offices).	Colin Birks	50,000	0	1,177	7	Does not payback	0.10%	2012
128	Energy efficiency and carbon reduction across Schools and Council Offices	Colin Birks	0	0	223,274	1,315	0	17.44%	2012
130	PowerPerfector at Hereford Town Hall.	Colin Birks	12,000	0	2,123	11.6	5.7	0.15%	2012
131	Boiler replacement (Condensing) at Hereford, Broad Street Library.	Colin Birks	8,000	0	634	3.9	12.6	0.05%	2012

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
132	Rationalisation of Tourist Information Centres	John Chedzoy	0	0	4,001	23.3	0.0	0.31%	2012
134	School route rationalisation (Proposed)	Robert Reid	0	0	20,216	46.8	0	0.62%	2012
136	Staff Car Park Charge	Resources	0	0	325	0.8	0	0.01%	2012
138	Rationalisation of Mobile Library Services	Mick Ligema	0	0	8,361	19.3	0	0.26%	2012
139	Flange and Value Insulation at Weobley High and Primary Schools.	Colin Birks	4,966	0	2,909	17.84	1.7	0.24%	2012
28	Plough Lane Improvement	Tony Featherstone			4,411	26.13	0	0.35%	2013
59	Plate Heat Exchanger at the Ledbury Leisure Centre	Andrew Talbot	2,500		727	4.46	3.4	0.06%	2013
103	Restriction on Engine size of vehicles used for business mileage (grey fleet). - Amey	Clive Hall	0	0	75	0.17	0.0	0.00%	2013
113	Asset Rationalisation Including Plough Lane Extension	Tony Featherstone			107,361	597.17	0	7.92%	2013

Ref.	Description of Project	Project Owner	Cost (£)		Annual Savings		Payback (years)	% of target	Start year
			Capital	Operational	Cost (£)	CO ₂ (tonnes)			
124	Library Rationalisation	CMT	0	0	3,807	21.7	0.0	0.29%	2013
137	100 kWp Photovoltaic panels at Dinmore, Queenswood Country Park / Centre.	CMT	400,000	100	7,450	40.5	does not payback	0.54%	2013
55	Insulation at Leominster Leisure Centre	Andrew Talbot	30,000		804	4.93	37.3	0.07%	2014
69	Boiler Replacement at the Ledbury Swimming Pool.	Andrew Talbot	15,000		2,190	13.43	6.8	0.18%	2014
85	Boilers Replacement at the Hereford Leisure Centre.	Andrew Talbot	10,000		2,145	13.15	4.7	0.17%	2014
86	Replace existing hot water storage vessels with plate heat exchangers at the Hereford Leisure Centre.	Andrew Talbot	3,500		429	2.63	8.2	0.03%	2014
88	Internal Insulation to main Sports Hall roof and provide insulation to inside walls and clad at the Hereford Leisure Centre	Andrew Talbot	50,000		2,852	17.49	17.5	0.23%	2014

4.4 Medium to Long term Programme

HPS’s corporate objective of becoming a “Low Carbon County” will be supported by the:

- Implementation of agile working and tele-health;
- Establishment of multi-agency locality offices across the County;
- Design of services to achieve efficiency; and
- Plough Lane Offices extension.

It is anticipated that the extension of the current Plough Lane Office will provide office accommodation for majority of the employees of the Council, Wye Valley NHS Trust, JVCo and ICO. Plough Lane Offices extension and the current redesigning of the HPS will significantly reduce the need to travel between buildings and reduce the demand for grey fleet. The specification for the extension to the current Plough Lane Offices is that it meets BREEAM Very Good standard, with an aspiration to achieve Excellent²⁴.

4.5 Projected achievement towards target

We have identified and quantified carbon reduction and energy efficiency projects estimated to save 6,108 tonnesCO₂, representing 81% of our target reduction and 24.3% of our baseline. This leaves a gap or risk carbon of 1,433 tonnesCO₂, representing 19% of our carbon reduction target. The illustration below shows Herefordshire Council’s carbon reduction progress against its 30% target.

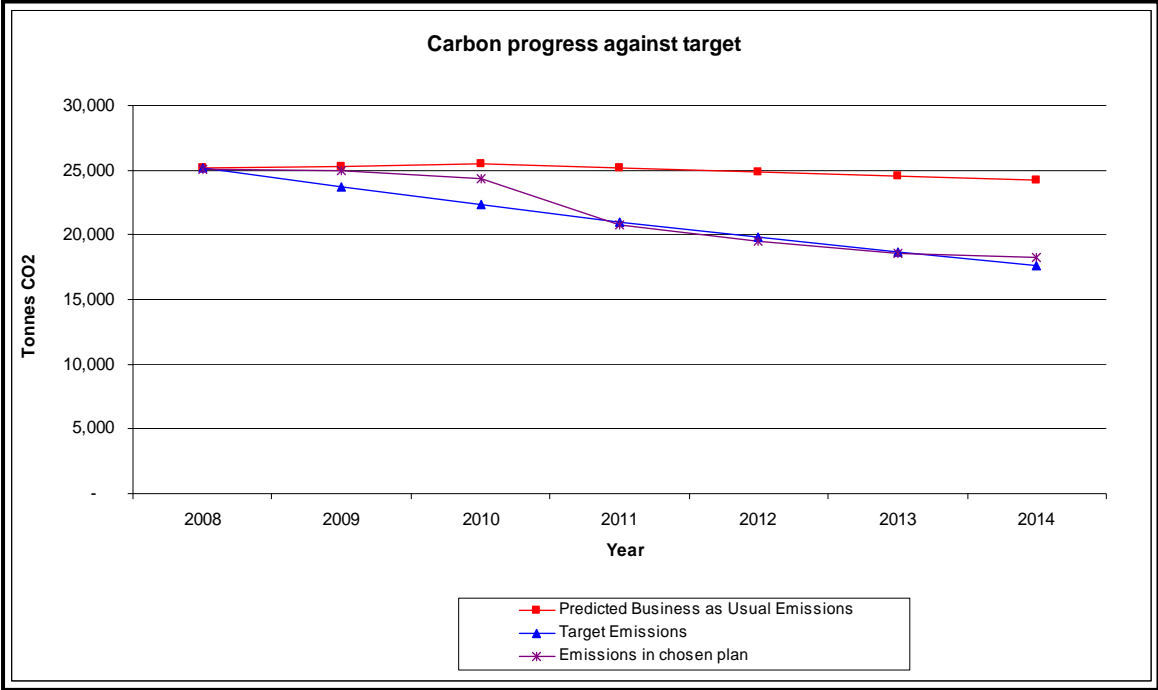
<i>Target: 30% (7, 541 tCO₂)</i>		
<i>81%</i>		<i>19%</i>
<i>Existing Projects: 15.7% (1, 187 tCO₂)</i>	<i>Quantified Projects: 65.3% (4, 921 tCO₂)</i>	<i>Gap/Risk Carbon: 19.2% (1, 433 tCO₂)</i>
<i>Herefordshire Council have identified and quantified projects that will deliver 24.3% reduction in its baseline emissions. Further projects that will be implemented over the next 5 years are now being sought to ensure that the Council’s 30% target is achieved.</i>		

Taking into consideration that in 2009/10, Herefordshire Council emitted 372 tonnesCO₂ more than its baseline year; it implies that as an organisation, we are 22.8% or 1,805 tonnesCO₂ away from our 30% absolute carbon reduction target. Therefore, the process of identifying, prioritising, and quantifying appropriate carbon reduction projects to meet our 30% six year carbon reduction target will continue as

²⁴ BREEAM ratings are : Pass, Good, Very Good, Excellent and Outstanding

part of our commitment to becoming a “Low Carbon County”. Figure 4. 2 compare the impact of the carbon reduction projects that we have quantified against our 30% target.

Figure 4. 2 Carbon Reduction Progress against 30% Carbon Reduction Target



5 Carbon Management Plan Financing

This CMP provides a framework on which Herefordshire Council develops and implement initiatives aimed at reducing its energy use, energy spend and its environmental impacts via carbon emission reduction. Between 2008 and 2010, Herefordshire Council implemented projects representing 15.7% of its six year carbon reduction target. Additional resources will be required to ensure the full financial and non-financial benefits of achieving its 30% carbon reduction target by March 2015. Achieving this target will contribute to realising the HPS's corporate plan commitment to creating a resilient and "Low Carbon County".

Integrating carbon management into the Council's Medium Term Financial Strategy and embedding energy efficiency into the way Herefordshire Council does business, monitors performance and delivers services will contribute to increasing resilience to reductions in government funding. Estimated savings and/or cost avoidance of £7.9 Million could accrue to Herefordshire Council if its 30% carbon reduction target is achieved by 2015. The VAS over 6 years across the Council's major business areas are shown below:

- Herefordshire Council (Direct Operations) - £1.9 Million²⁵
- Schools (Primary and Secondary) - £2.1 Million
- School Travel (Managed by the Council) - £1.6 Million
- Amey (Street lighting and Highway Maintenance) – £1.2 Million²⁶
- Halo (Leisure Centre) - £0.9 Million
- Severn Waste and Focsa (Waste Management) - £0.3 Million

5.1 Assumptions made in financial calculations

- Financial discount rate of 3.5%²⁷ used in the projection of the ROI and project pay back;
- Inflation rate of 10% over five years used in working the estimated project payback;
- Cost of energy and fuel will continue to increase at an annual rate of 3.7%²⁸; and
- BAU growth forecast of 4.3% over the programme period; and
- The carbon reduction target of 30% will be achieved over six years against 2008/2009 baseline emission.

²⁵ This may change with effect from 1st April 2011 as a result of the on-going organisation design and commissioning

²⁶ The split of savings made between the council and Amey has not yet been determined

²⁷ UK Treasury Green Book 2008

²⁸ This is the rate used by DECC. However it is conservative- many bodies expect energy prices to rise more steeply

5.2 Benefits / savings – quantified and un-quantified

The Carbon Trust's CMPR tool has been used to quantify and estimate the carbon and financial benefits of implementing various projects and programmes across the Council's emission scope. Table 5. 1 contains a summary of the estimated financial savings that can be achieved by implementing the current projects quantified in Section 4.

Table 5. 1: Estimated Cost of Quantified CO₂ Savings

	2008	2009	2010	2011	2012	2014
Annual cost saving (£)	21,102	75,140	260,458	668,493	1,061,620	1,173,849
Annual CO ₂ saving (tonnes)	115	396	1,139	3,080	5,289	5,922
% of target achieved	2%	5%	15%	41%	70%	79%

The cumulative financial savings of the projects in Section 4 will be greater than that shown in Table 5. 1, because majority of these projects will continue to yield financial and carbon savings post March 2015. In addition to cost savings, Herefordshire Council will also achieve the un-quantified benefits listed below:

- Community leadership: commitment to the implementation of this CMP will demonstrate to our: public sector partners; contractors; and all key stakeholders that we are taking responsibility to reducing our environmental impacts;
- County Wide Carbon Reduction: this CMP will contribute to county wide carbon emission reduction and our commitment to become a “Low Carbon” County;
- Reducing financial penalties associated with the government’s carbon reduction commitment energy efficiency scheme (CRC) in case the threshold for trading under the CRC is reduced from current 6,000 Mega Watts thus triggering Council inclusion in the scheme;
- Becoming less dependent on fossil fuel by reducing use and exploring local renewable energy generation sources for our energy demand;
- Becoming more resilient to volatile energy prices and the current reduction of government’s funding through implementing energy efficiency schemes; and
- Support the government’s Climate Change Act 2008 that sets a UK’s carbon reduction target of 80% by 2050 against 1990 baseline.

5.3 Financial costs and sources of funding

Herefordshire Council has been the major financier of its carbon reduction projects to date, supplemented by some Herefordshire Schools accessing national funding schemes that part or wholly

funded renewable energy generation within schools' premises. Furthermore, the Council's major contractors have implemented energy efficiency and carbon management schemes because of the financial benefits of optimising fuel and energy use.

With the current reduction in government funding of public sector, there is the need to explore other funding sources for capital projects. The HPS's Invest to Save funds have a payback requirement of 5 years and this funding stream will be considered for all projects that meet this specification. Furthermore, government funding opportunities for renewable energy generation such as FITs and RHI also provide an opportunity to attain the HPS's strategic plan of becoming a "Low Carbon County".

Funding for schools beyond 2011/12 is unclear, but it is expected that funds allocated to schools from the **Devolved Formula Capital (DFC)** allocations in the coming years will be significantly reduced. On the bright side the Council's Capital Maintenance and Basic Need Capital budget is expected to significantly increase for 2011/12 to approximately £2 Million and the DFC will be managed by CYPD. CYPD is currently considering options to ensure that the Council allocation of the DFC is focused on asset management priorities across schools. A range of options and criteria for prioritising capital schemes will be developed with the CYPD Capital Strategy Consultative Group, which includes representation from Herefordshire schools. Furthermore, another investment option is for the Council's Asset Management and Property Services to access the Invest to Save loan scheme to support schools in improving the energy efficiency of their buildings. Currently, schools are the Council's single biggest emitter category, representing 34% of the Council's baseline, and all efforts that improve schools' energy efficiency will significant contribute to achieving the Council's carbon reduction target and its objective to achieve a "Low Carbon County" status.

The inclusion of carbon monitoring and reporting requirements / specifications into new contracts and commissioning may not have a direct financial cost on the Council, but could play a significant role in contributing to meeting its carbon reduction target. The above will be relevant as we move from being a service delivery organisation to a commissioning local authority. Therefore, it is expedient that as an authority we continue to:

- Work with our current contractors to encourage them to embed carbon management and energy efficiency into the way they deliver goods and services; and
- Include requirement for carbon monitoring returns and carbon reduction targets in all commissioning and procurement arrangements.

Table 5. 2 contain a summary of the cost of the quantified carbon reduction projects in Chapter 4. Comparing the cost of implementing the quantified projects against the projected cost savings or avoidance of £7.9 Million shows the 139 projects currently quantified are economically viable. 68% of the total funding required for the projects proposed for 2011 has been committed and further funds will

be approved as detail business cases are developed for each of the quantified projects. The total projected investment required to achieve the 30% target over six years is £9.6 Million, of which £5.3 Million has already been invested and or approved. The above investment is projected to save £3.5 Million over six years, with an average payback of 6.1 years. Many of these projects will continue to generate financial and carbon savings after 2015 with associated non-financial benefits.

Table 5. 2: Financial Cost of CO₂ Reduction

Discounted Costs	2008	2009	2010	2011	2012	2014	Total
Capital cost (£)	137,520	136,777	1,037,446	4,451,460	1,381,816	108,500	7,253,519
Operational cost (£)	0	100	8,600	57,900	72,760	72,860	212,320
Total costs (£)	137,520	136,877	1,046,046	4,509,360	1,454,576	156,160	7,465,839
Committed Funds for 2011							
Leisure Centre (Herefordshire Council)				£263,9630			
Locality Working (Central Government Grant)				£2,500,000			
School Budget (Peterchurch Primary School)				£40,000			
Schools' Energy Challenge and Energy Workshops for Schools (Herefordshire Council)				£12,500			
Herefordshire Council Invest to Save Fund (Street lighting projects) ²⁹				£750,000			
Herefordshire Council's Invest to Save Fund ³⁰				£917,600			

5.4 Additional resources

HPS recognise that becoming and remaining a “Low Carbon County” implies that carbon reduction and energy efficiency are effectively embedded in the way it does business and delivers goods and services to the people in Herefordshire. Therefore, collaboration will become more important when the JVCo and ICO become operational from 1st April 2011.

The following teams³¹: HR, ICT, Property Services, Communication Units, Waste Services Department; Client Managers; Resources Directorate and many others were actively involved in developing this

²⁹ Dependent on submission of a business case.

³⁰ All projects or suit of projects that meets a five year payback. See Table 4. 3.

³¹ With effect from 1st April 2011, most of these services will no longer be under the Council's direct control.

CMP. In addition, the Employee Action on CO₂ meets periodically to promote energy efficiency, recycling and carbon emission reductions; the activities of this group supports our “Low Carbon County” corporate objective. Table 5. 3 contain responsibilities assigned across Council’s teams to support the achievement of its 30% carbon reduction target by March 2015.

Table 5. 3: Other Resources

Resources	2010 to 2015
Director: Sustainable Communities	<ul style="list-style-type: none"> ▪ Lead Director for low carbon economy, supported particularly by the Assistant Director for Planning, Environment and Waste and the Waste and Sustainability Manager.
Cabinet Member: Environment and Strategic Housing	<ul style="list-style-type: none"> ▪ Cabinet Lead for “Low Carbon County”.
Carbon Board	<ul style="list-style-type: none"> ▪ Provide leadership and momentum.
Sustainability Unit (now Waste and Sustainability)	<ul style="list-style-type: none"> ▪ Provide Project Lead and Deputy Project Lead ▪ Provide secretariat for Carbon Board ▪ Staff time in: <ul style="list-style-type: none"> ○ coordinating the Council’s carbon management programme; ○ baseline emission calculation each year; ○ project prioritisation and quantification; ○ contribute to engagement with schools with ongoing programme of training and support.
Waste Services Department	<ul style="list-style-type: none"> ▪ Staff time in project identification and monitoring emissions from waste collection and disposal contractors (Focsa and Severn Waste).
Performance management	<ul style="list-style-type: none"> ▪ Support inclusion of key projects in P⁺ to mainstream performance monitoring.
Asset Management and Property Services	<ul style="list-style-type: none"> ▪ Staff time in: project identification and implementation; making business cases for property based projects; leading asset maintenance and rationalisation; ▪ Energy use inventory and checking in conjunction with West Mercia Supply (WMS); and reporting consumption as required for the national carbon reduction commitment (CRC) scheme; ▪ Manages Building Management System (the Trend System) on major buildings; ▪ Set specification for new build; ▪ Coordinate building maintenance; and ▪ Renewing DEC certificates annually.

Resources	2010 to 2015
Information Community Technology (ICT)	<ul style="list-style-type: none"> ▪ Staff time in project identification and leading ICT based projects to reduce need for travel and energy demand.
Human Resources	<ul style="list-style-type: none"> ▪ Staff time in leading organisational realignment; and ▪ Setting policy on remote working and travel allowances.
Corporate Commission	<ul style="list-style-type: none"> ▪ Staff time in integrating carbon management and energy efficiency into the HPS's procurement framework; ▪ Support client staff integrating carbon management and energy efficiency into in all major contracts and support ongoing contract performance monitoring.
Financial Services	<ul style="list-style-type: none"> ▪ Staff time in providing advice on funding sources, project financing and financial resourcing of project.
Client Management Teams	<ul style="list-style-type: none"> ▪ Staff time in engaging major contractors to ensure that energy efficiency and carbon management are given priority in all major contracts and that monitoring is effective.
CYPD	<ul style="list-style-type: none"> ▪ Lead on School Travel and ▪ Collaborate with the Sustainability Unit, Resources Directorate and Property Services in supporting energy efficiency in Herefordshire Schools.
Employee Action on CO ₂	<ul style="list-style-type: none"> ▪ A staff volunteer group that promotes energy efficiency awareness across HPS.

6 Embedding Carbon Management

To ensure that Herefordshire Council achieves its 30% carbon reduction target by March 2015, it has and is putting in place processes and mechanisms to embed carbon management across its operations. The Carbon Management Maturity Matrix in Appendix E shows the Council's position at the beginning of this programme in summer 2010 (red line) as well the level Herefordshire Council intends to attain by Spring 2011 (green line). The carbon management maturity matrix will be reviewed by the joint Carbon Board in March 2011 and then biannually to ascertain if we are progressing in line with our carbon reduction target and effectively embedding carbon management and energy efficiency in the way we do business and deliver goods and services to the people in Herefordshire.

6.1 Corporate Strategy – embedding CO₂ saving across your Local Authority

Score Summer 2010: 3

Target Score for March 2011: 5

At the beginning of the LACM-8 Herefordshire Council had a carbon reduction target of 1.25% annually and a Climate Change Strategy³², both of which were due to be updated. In September 2010 Herefordshire Public Services JMT approved the 30% carbon reduction target proposed by the Carbon Board and endorsed joint working on the carbon management agenda with the Wye Valley NHS Trust. We are currently carrying out the rationalisation of our assets with a focus of optimising office spaces and disposal of least efficient building stocks; these approach is part of our commitment to promoting efficiency in the way we do business.

Furthermore, one of the key strategic objectives of the organisation is becoming a “Low Carbon County”. The above objective has been supported by the integration of carbon management and energy efficiency into the Council's medium term financial strategy. The Council is also changing the way it does business by vigorously promoting flexible and locality working in the delivery of reliable and quality services to the people in Herefordshire. To buttress the above strategies, Directors and Managers have been challenged to demonstrate their commitment to reduce their direct and indirect carbon emissions. Appendix C shows allocated carbon reduction targets across the Council's major business areas. The performance of each service area will be monitored against these targets via P⁺ (the Council's performance management system). The above corporate strategic initiatives will ensure that we attain and maintain a carbon maturity matrix score of 5 as we work towards improving our environmental performance.

³² The Climate Change Strategy was agreed by Herefordshire Partnership Board, including the Council, in 2006 and publicised among staff.

Action	Responsibility	Due Dates
All major projects included in P ⁺	Project Owners	March 2011
Confirm carbon target	JMT	March 2011
Approve Carbon Management Plan (CMT).	JMT	1 st march 2011

6.2 Programme Management – bringing it all together effectively

Score Summer 2010: 2

Target Score for March 2011: 4

At the start of the LACM-8, Herefordshire Council reviewed its carbon management progress annually without any definite carbon management structure. As part of our participation in the LACM-8, we constituted a Carbon Board and a Carbon Management Team. This governance structure was set up to ensure that carbon reduction is embedded into the way we do business. HPS's Joint Carbon Board is currently made up of: the Council's cabinet member for Environment and Strategic Housing; a Non-Executive Director; Director Sustainable Communities; Director Resources; Director Children and Young People Directorate (CYPD); Assistant Director Planning, Waste and Environment; and Senior Managers who meet bi-monthly for the purpose of reviewing against our corporate objective to achieving a "Low Carbon County" status.

The membership of the Council's carbon management (CMT) team have been drawn from all key service areas of the Council, for the purpose of optimising resources towards promoting continual environmental improvement. The CMT will continue to play a vital role in consolidating carbon management and energy efficiency initiatives across the Council. The above management structure is anticipated to improve our carbon management maturity matrix score from 2 to 5 by March 2011.

Action	Responsibility	Due Dates
Review existing projects performance	CMT	Bi-monthly
Review programme and new opportunities	CMT	Bi-annually
Report programme and project progress to senior management.	CMT / Carbon Board	Bi-annually
Annual report on programme published externally.	Project Lead	July 2011
Programme diagnostic report internally by emission	Project Lead	July 2011

Action	Responsibility	Due Dates
categories.		
Directors produce document to show their contribution to the overall carbon management programme.	Carbon Board	September 2011

6.3 Responsibility – carrying everyone along

Score Summer 2010: 2

Target Score for March 2011: 4

Herefordshire Council's maturity score of 2 at the beginning of the LACM-8 in the aspect of carbon management responsibility implies that the Council do not have defined roles and responsibilities for managing the Council's carbon emissions. In response to this short-coming the Council have since made significant progress towards defining and assigning carbon management and energy efficiency responsibilities to key managers in the Council. For instance, in September 2010, JMT agreed that with effect from March 2011:

“Directors would be accountable for identifying carbon reductions from their direct areas of work as well as indirectly from contractors and schools that are under their directorates.”

This is a significant shift in the way carbon management responsibilities is currently viewed. To buttress the above, there is an ongoing Directors' Carbon Challenge coordinated by the Carbon Board aimed at challenging Directors to demonstrate how they will manage, monitor and reduce their own direct emissions and support the reduction of their indirect carbon emissions through contracts and commissioning. Furthermore, in September 2010, the Council's JMT agreed that carbon management be integrated into major procurement and commissioning arrangements. This commitment was expressly stated as follows:

“Directors should be provided with adequate information to ensure that major procurement and commissioning exercises include contractual requirements to reduce and monitor carbon emissions.”

Herefordshire Council's appreciates the fact that employees have significant role to play in ensuring that its 30% carbon reduction target is achieved by March 2015. In support of the above, the Carbon Board have given their explicit support to the Employee Action on CO₂ group to coordinate carbon reduction and energy efficiency awareness campaign across HPS. The group are currently engaging and motivating employees in the work place on the financial, environmental and social benefits of reducing our carbon emission.

Action	Responsibility	Due Dates
Responsibilities will be reviewed to reflect the changes resulting from the formation of the Joint Venture Company (JVCo).	Carbon Board	October 2011
The Employee Action on CO ₂ meets at least four times annually to engage wider staff.	Tina Kilner and Mary Burton	Ongoing

6.4 Data Management – measuring the difference, measuring the benefit

Score Summer 2010: 4

Target Score for March 2011: 5

Prior to Herefordshire Council participation in the LACM-8, it used the NI 185³³ tool developed by Defra for monitoring its energy and fuel usage performances. The Council is currently using the baseline tool developed by the Carbon Trust in reporting its carbon emission performance and in determining the VAS of achieving its six year 30% carbon reduction target. The Council have energy and fuel use data sets going back to 2003 for many of its premises, which have been used to cross-check and validate the last two years energy and fuel usage data.

The Council is preparing to respond to the new carbon reporting requirements set by central government that will replace NI 185. As an organisation committed to achieving a “Low Carbon County” status, we are aware of the difficulties of collecting energy use data across all Council’s assets (including schools). Reports from WMS show that on average meter reading compliance from the Council’s buildings have dropped within the last twelve months compared to the corresponding period in 2009. Compliance with monthly meter reading dropped from 77% and 75% to 66% and 53% for electricity and gas meter read respectively. To address this issue we are currently working with WMS³⁴ to ensure that monthly meter reads are sent to WMS. This is for the purpose of raising energy consumption awareness across our business areas, improve the validity of energy data used in monitoring the Council’s carbon emission performance and thus improve the accuracy of our carbon emission figures for 2010/11, due to be reported in July 2011. Engaging with Officers in Charge of Council’s Buildings (OiC) and school staff are central to improving our current performance in energy use monitoring.

Herefordshire Council currently have 13 premises that have half hourly meters (HHM) as seen in Appendix F. These HHMs enable premises to take advantage of real time energy recording to manage

³³ National Indicator: The National Indicator relating to Council’s CO₂ emissions.

³⁴ The supplier of gas and electricity to most of Herefordshire Council’s building.

their energy usage by reducing energy wastages. Herefordshire Council is currently exploring the opportunity of changing the current estimated metering system for its streetlight stock to a more accurate metering system. Going forward our Contract Team working with Amey will take into consideration the CRC impacts and benefits of each of the proposed options.

An option that may be explored is the installation of automatic meter reading (AMR) in properties that do not have HHMs. AMR is currently on offer from WMS for a modest service fee £100 per year, which can give real time energy use and can help the effective monitoring our energy use. Effective energy monitoring has been reported to be a cost-effective carbon reduction.

HHMs, AMR and regular reading of gas and electricity meters would effectively support our commitment to monitoring our carbon emission performance. In summary, Herefordshire Council's energy use data management has improved since its admission into the LACM-8, which have been confirmed by the Council's ISO 14001 external auditors³⁵ and during the Carbon Trust's review of our carbon emission baseline.

Action	Responsibility	Due Dates
Complete inventory of street lighting stock for effective energy management.	Amey / Client Team	April 2011
Annual carbon return to central Government on Council's emission.	Project Lead	June 2011
Annual report on carbon emission to JMT and then published externally.	Project Lead	July 2011
Improve rate of regular web-based meter reporting to WMS.	All Schools and OIC.	Monthly
Bi-annual meter report compliance from WMS.	WMS	Bi-annually.

6.5 Communication and Training – ensuring everyone is aware

Score Summer 2010: 2

Target Score for March 2011: 4

As at the time the Council was admitted into the LACM-8 carbon awareness and energy efficiency communication and training was considered to be low. However, the Council have significantly

³⁵ External Auditors visit in December 2010

improved the profile of carbon management within the Council. For example, Team Talk (1st Dec 2010) and First Press were used to re-emphasise the benefits of responsible energy use. In addition, the Employee Action on CO₂ group is currently developing a series of “Top Tips” to encourage HPS’s employees to reduce carbon emissions and energy consumption in the workplace. The Employee Action on CO₂ “Top Tips” will complement campaigns being run by the Council’s Waste Management, Integrated Transport and Housing Teams. Appropriate energy awareness materials will be developed in the course of this awareness campaign and materials from MY Energy programme that ran in many offices in 2007/8 will also be explored.

In support of involving all players in carbon management, a Carbon Seminar was organised for Councillors on 11th October 2010 to raise awareness among this key stakeholder group on the benefits of carbon emission reduction and energy efficiency. A follow up session for members after local government election in May 2011 is currently being considered. The above awareness campaign, seminars and the HPS’s new staff induction programme that allocate a session to HPS’s environmental commitments have supported the embedding of good environmental practices in the work place and will improve the communication and training matrix of the Council from 2 to 4 by March 2011.

Action	Responsibility	Due Dates
Continue First Press Series “Saving It” on energy efficiency.	Alison Grange and Project Lead	Monthly
Sustainable travel options publicised.	Tina Kilner	Roll-out April 2011 and bi-monthly thereafter.
Develop interactive staff induction material for new starters and existing staff and available on intranet.	Project Lead	August 2011
Management Summary of the CMP available on the intranet.	Project Lead	April 2011
Full CMP published externally.	Carbon Board	April 2011
Request for question on carbon management in staff opinion survey.	Project Lead	

6.6 Finance and Investment – the money to match the commitment

Score Summer 2010: 2

Target Score for March 2011: 4

Our existing carbon reduction projects represents 15.7% of Herefordshire Council's carbon reduction target, and funding have been allocated to execute 63% of the carbon reduction projects quantified for 2011 (see Table 5. 2). Furthermore, to match the Council's carbon reduction commitment, its current corporate Medium Term Financial Plan commits to incorporating carbon management into resources management. Herefordshire Council will also consider using its Invest to Save funds for funding the carbon reduction projects that meet a 5 year payback.

Schools will be encouraged to bid for Capital allocations with effect from April 2011 to fund schemes from the central pot held by the Council's CYPD. When details about this funding stream become clearer, the Council will encourage schools to bid for projects that will reduce their energy costs and carbon emission. Currently, contractors are responsible for financing their projects, but the Council have in the past financially supported carbon reduction projects executed by contractors. For example, the Council approved a £1.5 Million grant to Halo Leisure Services to improve the energy efficiency of leisure centres across Herefordshire.

The above financial initiatives could help the implementation of projects listed in Chapter 4. Therefore, we are optimistic that it can attain a carbon management financial and investment matrix score of 4 by March 2011.

Action	Responsibility	Due Dates
Develop business cases for quantified projects to access Invest to Save funding for first twelve months.	Project Owners	April 2011
Develop business case for street lighting projects	Clive Hall and Project Lead	April 2011
Explore opportunities to host renewable energy generation on Council's assets with third party investors.	Colin Birks and Project Lead	June 2011
Review the performance of the medium term financial strategy in terms of reducing carbon and whole life costing.	Finance	September 2011

6.7 Policy Alignment – saving CO₂ across our operations

Score Summer 2010: 2

Target Score for March 2011: 4

At the beginning of the LACM-8, Herefordshire Council's carbon management maturity matrix score on policy alignment was 2, because of lack of integrated policy framework for carbon management. However, there are currently clear policy commitments from our JMT to include carbon management in commissioning, and a Sustainable Procurement Guidance has been developed to support this commitment. However, practical arrangements for including carbon monitoring and reduction in commissioning exercises need to be developed in order to deliver the above commitment.

As part of our policy alignment, we have established closer working relationship with our major contractors and the Wye Valley NHS Trust. There is an explicit carbon reduction target and performance indicator in the Amey contract. Our JMT have mandated a joint Carbon / Sustainability Board for Herefordshire Council and Wye Valley NHS Trust for the purpose of pulling resources together and avoid duplication of responsibilities. It is important that carbon monitoring and reduction targets are included in all major commissioning arrangements, such as the incoming Integrated Care Organisation (ICO) and Joint Venture Company³⁶, which will become major players in Herefordshire from April 2011.

The planned HPS's multi-agency locality offices across the county, along with ICT and HR flexible working initiatives, are aimed at optimising building occupancy and energy efficiency. The Council's sustainable procurement guidance and property maintenance have overarching energy efficiency and carbon management priorities.

Action	Responsibility	Due Dates
Developing a framework to ensure sustainable procurement (including carbon) in the work programme for the JVCo for 2011/12.	JVCo Client and Carbon Board	April 2011
Review carbon impact of asset rationalisation.	Tony Featherstone	July 2011
Inclusion of carbon reduction in streamlining the Business	David Powell (Director Resources).	

³⁶ The ICO will provide services relating to social care for Herefordshire Council and Wye Valley NHS Trust.

6.8 Engagement of Schools

Score Summer 2010: 2

Target Score for March 2011: 4

Herefordshire schools represent about 35% of the Council's baseline emission, and are responsible for their energy bills. A considerable number of secondary schools are expected to become academies shortly, sharply reducing their ties with the local authority. However CRC guidance appears to show that academies would be included in council emissions scope, which means that there is the need to effectively engage with these schools to encouraging them to reduce their carbon emission. Herefordshire schools currently look to the Council for support in relation to carbon management and energy efficiency. This is based on longstanding relationships with the Local Education Authority (LEA) and the Council's Property Services.

The Council's Property Services Team are responsible for the fabric of school building, while schools are responsible for day to day operation of the buildings. Schools do not generally have in-house expertise to actively address the issue of carbon management; which means that organising training for schools in this area will be quite beneficial. Currently, the Council support schools in areas, such as: energy efficiency; Eco-Schools; school travel plans; and waste reduction/recycling. Through effective collaboration, schools could benefit from reducing their energy use and bills, improve their Eco-schools status and the Council achieves its community leadership objective and furthers its strategic plan of achieving a "Low Carbon County" status. Currently, the Council's Sustainability Unit³⁷ is actively working with ten volunteer schools across the County on reducing their electricity usage.

Action	Responsibility	Due Dates
Assess options to support energy efficiency through devolved capital allowances	Rob Reid	May 2011
Organise Carbon Detective training for Schools	Mary Burton	March 2011
Participate in the Carbon Trust Collaborative Low Carbon Schools Service.	Project Lead	May 2011
Publicise good practices from "School Energy Challenge"	Mary Burton	December 2011

³⁷ Now Waste and Sustainability Unit

7 Programme Management of the CM Programme

To ensure that this CMP is effectively implemented the current Carbon Management Team will continue meeting on a bi-monthly basis, and will over time link more closely to the Good Environmental Management (GEM) team. The GEM team is drawn up from all Directorates and is responsible for overseeing and co-ordinating all environmental issues within the Council scope. In addition, the current Carbon Board will meet on a quarterly basis and the membership will be reviewed to reflect the emerging demand of the HPS. The Board will continue to provide top level carbon and environmental performance monitoring against HPS's strategic environmental commitments.

Specifically, key carbon management projects will be embedded in Directorates Service Plans and the HPS's performance management system called P⁺ to ensure that HPS's achieves its "Low Carbon County" mission. This CMP will also be linked to the HPS's current transformation programme tagged "Rising to the Challenge", as it contributes to streamlining the business work-stream. Generally, the objective of the carbon management programme is to provide a framework on which the HPS's carbon reduction commitment can be achieved.

7.1 The Carbon Board – strategic ownership and oversight

The Carbon Board will continue to provide leadership and support the embedding of carbon management and energy efficiency across the organisation. The Director of Sustainable Communities is the current Chair of the Carbon Board and will continue to serve as the Programme Sponsor with support from the Assistant Director Environment, Planning and Waste. Carbon management updates will be provided to the JMT and Environment Scrutiny on a regular basis to ensure all key stakeholders are carried along in our drive to achieving "Low Carbon County" status.

The Carbon Board is accountable for:

- Leading the organisation's top level commitment to a "Low Carbon County";
- Ensuring that all staff and contractors' understand their responsibilities in supporting the HPS's carbon reduction and environmental sustainability commitments;
- Allocate resources and responsibility to delivering the organisation's carbon reduction and sustainability targets;
- Ensuring that those responsible for fulfilling reporting requirements to Central Government or other bodies have the resources and support to do so; and
- Accountable for ensuring fair allocation of resources between the Council and the Wye Valley NHS Trust to further the carbon management and sustainability work of both organisations.

The Terms of Reference of the Carbon Board are:

- Maintain a strategic overview of Council's and the Wye Valley NHS Trust performance in the aspect of climate change, sustainability and carbon management;
- Ensure both organisations have proper mechanisms for measuring and recording their CO₂ emissions and other key environmental data accurately;
- Send reports to JMT and Cabinet on progress towards achieving the HPS's "Low carbon County" mission;
- Ensure that proper processes are in place to drive forward the work needed to maintain progress against HPS's CO₂ emissions reductions and environmental sustainability targets;
- Minimise the financial, reputational and environmental risks to HPS;
- Optimise resilience and adaptation to climate change for all HPS's assets, services, schools and contractors for the purpose of minimising the risk of service disruption;
- Lead on managing the organisation's carbon reduction commitment;
- Ensure that effective work takes place to engage members, directors, officers and contractors on environmental sustainability and carbon management;
- Identify resources and personnel to achieve all the above; and
- Promote and vigorously pursue business cases for investment on carbon management and resource efficiency measures.

The membership of the Carbon Board is as follows:

- Chair: Geoff Hughes, Director of Sustainable Communities;
- Cllr John Jarvis, Cabinet Member for Environment and Strategic Housing;
- Alan Curless, Non-executive PCT Director and Chair of PCT sustainable development board;
- David Powell, Director of Resources;
- Director of CYPD, represented by Rob Reid, Head of Access and Capital Commissioning;
- Andrew Ashcroft, Assistant Director of Environment, Planning and Waste;
- PCT Director of Resources represented by Bill Marsden, Interim Associate Director of Estates;
and
- Director of Adult Social Care: Currently vacant.

The Board will be supported by the Project Lead and Deputy Project Lead for the carbon reduction programme. Furthermore, the corporate GEM group and the CMT will be supporting the Board to ensure that the Council's 30% carbon reduction target is achieved.

7.2 The Carbon Management Team – delivering the projects

The CMT will continue to meet on a bimonthly basis from April 2011 onwards. The CMT is currently chaired by the Sustainability Manager and Project Lead: this responsibility will be transferred to the Waste and Sustainability Manager from April 2011. The CMT will be responsible for:

- Gathering and reporting data on energy use, costs and benefits of carbon management or energy efficiency proposals;
- Producing high quality and accurate reports and investment appraisals and business cases;
- Monitoring and supporting the performance of their directorates and service areas in delivering the Council's carbon reduction target;
- Maintaining dialogue with colleagues to embedding energy efficiency and carbon management across the organisation; and
- Continue to identify carbon reduction projects across the Council's emission scope.

Role	Name and position in the LA	Issues and focus	Contact
Project Leader	Trish Marsh Sustainability Manager	Programme Delivery	01432 261930
Deputy Project Leader	Dr Philip Tamuno Sustainability Officer	Programme Delivery	01432 260132
Carbon Management Team members	Adult Social Care Tracey Armstrong	Social Care Transport	01432 261599
	CYPD David Sanders to nominate	School Buildings and Liaison	01432 26 0039
	CYPD Andrew Blackman	Schools Transport	01432 260927
	Deputy Chief Executive Alison Grange	Communications and encouraging input from wider staff group	01432 260658
	Deputy Chief Executive Lucy Marder	HR Representative: employee policies, such as remote working and car allowances	01432 38 3198
	Deputy Chief Executive Alicia Bolger	ICT Representative – opportunities in areas such as remote working / teleconferencing	01432 383883

Role	Name and position in the LA	Issues and focus	Contact
	Deputy Chief Executive Hazel Philpotts	Corporate Programmes	01432 260640
	Resources Colin Eldridge representing Tony Featherstone and Colin Birks	Energy Management and use in buildings (also water) currently and strategically	01432 261530 01432 383368 01432 261980
	Resources Vacant	Corporate Procurement: carbon reductions through procurement process	01432 26 0043
	Resources Jonathan Lloyd	Finance, budget arrangements and invest to save options to support reduction opportunities identified.	01432 261728
	Sustainable Communities Tina Kilner	Travel plan for staff both at work and to work	01432 260968
	Sustainable Communities Jan Perridge	HALO Contract Service Manager	01432 260329
	Sustainable Communities Clive Hall	Amey Street Lighting and Highway Contract Service Manager	01432 260786
	Sustainable Communities Matthew Locking	Performance Monitoring	01432 261763
	Sustainable Communities Waste & Sustainability Manager Richard Wood	Severn Waste and Focsa waste contracts	01432 383009
	Sustainable Communities Robert Ewing / Karen Stanton	Fleet Management	01432 383660 01432 260463
Liaison with PCT	Bill Marsden (nominated by Charmaine Hawker)	Liaison with PCT carbon reduction programme	
Observer	New Leaf Co-ordinator	Link to the programme to reduce carbon emissions across the county	

The CMT will also be responsible for the direct implementation and monitoring of the projects and programmes in the Council's CMP. The CMT composition will be reviewed periodically to ensure that the team reflects the Council's energy and fuel usage and remains relevant to the carbon reduction

priorities of Herefordshire Council and HPS. Incidentally, the CMT is expected to expand to include colleagues from the Wye Valley NHS Trust, representatives from JVCo, ICO and other emerging organisations from April 2011.

7.3 Succession planning for key roles

The main roles within the CMP are:

The Project Leader (PL): The Project Leader is a key element to the success of the Programme, and responsible for: co-ordinating the communication strategy; identifying and managing 'blockages'; 'change issues'; and ensuring effective team working within the CMT.

Resources required: minimum of 1 day per week. Currently Sustainability Manager, Trish Marsh³⁸

The Deputy Project Leader (DPL): The Deputy Project Leader will be responsible for monitoring progress towards embedding carbon management within Herefordshire Council and support the Project Leader in delivering the Council's carbon management objectives.

Resource needed: minimum of 2 days per week. Currently Sustainability Officer, Philip Tamuno

Project Sponsors: The key role of the programme sponsor is to support the embedding of carbon management into the way the organisation delivers products and services, both directly and through commissioning, to the people in Herefordshire and to liaise with other Directors to achieve the 30% carbon reduction target. The Project Sponsor will continue to over-see the Council's carbon management maturity matrix against its target and the progress of project implementation inline with the Council's reduced emission scenario.

Currently Director of Sustainable Communities, Geoff Hughes

Political sponsor: The political sponsor provides the essential link with the Executive and is a voice of the Carbon Board within the Cabinet.

Currently filled by the Cabinet Member responsible for Environment and Strategic Housing, Cllr John Jarvis (elections take place in May 2011).

Carbon / Sustainability Board: HPS's Carbon / Sustainability Board will continue to provide leadership to ensure the CMP is delivered as planned and ensure that appropriate succession plan is in place throughout the duration of the programme.

There are a number of succession challenges with regard to carrying the programme through:

³⁸ Will be replaced by Waste and Sustainability Manager (Richard Wood) from 1st April 2011.

- The current Project Lead will be replaced by the Waste and Sustainability Manager from in April 2011;
- The Associate Director who leads for the PCT is an interim finishing in March 2011;
- Elections are due in May 2011 so there may be changes in Cabinet posts;
- The proposed outsourcing of Property Services;
- The proposed changes in the way we do business by moving from being a service organisation to becoming commissioning public sector organisation; and
- HR and ICT will be moving to the Joint Venture Company from 1st April 2011.

Vigorous succession planning is thus essential to ensure the programme stays on track, particularly in the first year as processes are put in place. Suitable committed replacements will need to be organised in advance and handover arrangements put in place. The current Project Lead will work on this with the Waste and Sustainability Manager and the Associate Director Planning, Environment and Waste. An appropriate handover will include:

- Detailed briefing by the outgoing post holder
- Meeting with the Sponsor to clarify objectives and expectations;
- Assurance and handover of all relevant documentation and contact details of CMT members;
- E-mail to all team members and key stakeholders informing of the change; and
- Introduction to key CMT members, if necessary.

7.4 Annual progress review

At least once a year a progress report will be drawn up by the Waste and Sustainability Unit and submitted to the Carbon Board, then on to JMT. This will include:

- Annual emission figures in terms of both carbon and cost across the CMP scope comparable to the 2008/09 baseline;
- Progress on carbon reduction projects, including activities that may have positively or negatively impacted on our carbon emissions;
- An assessment of overall progress against the carbon reduction target for 2015 and identification of reasons for any slippage or underperformance; and
- Proposals for reducing emissions for the remainder of the programme, including a revised list of projects including any non-technical carbon reduction initiatives.

The Council's annual carbon emission report will be available on the Council's website and intranet, alongside the Carbon Management Plan, so they can be accessed by officers and members of the public. Furthermore, we will continue to work collaboratively with all our partners, contractors, schools and third sector organisations as part of our commitment to attaining a "Low Carbon County" status.

8 Appendix A: Extract from JMT Minutes (1st March 2011).

Attendance: Sarah Aitken, Chris Bull, Jo Davidson, Sue Doheny, Geoff Hughes, Dean Taylor, Mike Toney (o.b.o. David Powell).

3.	Carbon Trust Reduction Programme	
3.1	<p>Andrew Ashcroft and Trish Marsh presented a report outlining the management plan through which the council and NHH³⁹ would seek to achieve their respective targets of 30% and 10% reduction in carbon emissions by 2015. JMT welcomed the draft plan and made the following observations:</p> <ul style="list-style-type: none"> • It would be helpful to provide some practical examples of actions that can be taken to encourage activity • Staff contributing to the development of the plan could be encouraged to play a ‘champion’ role within their own directorates • Use of DSG to support activity will encourage schools to focus on the reductions needed • Given the financial as well as environmental benefits of the activity it would be helpful to take the plan through the RTTC benefits process to ensure these are captured • Given current capacity of the commercial team need to explore alternative ways of resourcing the development of carbon reduction requirements within the partnership’s contracting process • Need to develop an associated investment plan as a business case linked to realisation of future benefits 	
	<p>Actions:</p> <p>Progress agreed recommendations.</p> <p>Liaise with DT to agree mechanism for linking to RTTC programme/benefits realisation.</p> <p>Develop associated investment plan.</p>	<p>GH</p> <p>GH</p> <p>GH</p>

Proposed Recommendations:

1. JMT adopt the target set by the Carbon Board’s work to reduce carbon emissions from the council, its contractors and schools by 30% over 5 years to March 2015 from its 2008/09 baseline, and the target to reduce NHH emissions by 10% by 2015, in order to realise cost savings and show leadership on climate change.
2. JMT endorse the Carbon Management Plan drawn up to meet this target, continue to seek ways to minimise the carbon emissions of their own service areas and liaise with the Carbon Board to achieve these objectives.
3. JMT members ensure that major strategies consider carbon impacts and that significant procurement and commissioning exercises include contractual requirements to reduce and monitor

³⁹ Now known as the Wye Valley NHS Trust

carbon emissions and include support for this work in the brief of the corporate procurement team in 2011/12.

4. JMT support the contributions of their officers and contractors to the overall carbon management process, which supports streamlining the business and reduction of overheads.
5. The Council and NHS Herefordshire (and its successor organisations) continue to work together on this agenda through the joint Carbon Board.

9 Appendix B: Herefordshire Council's CO₂ Emission by Category

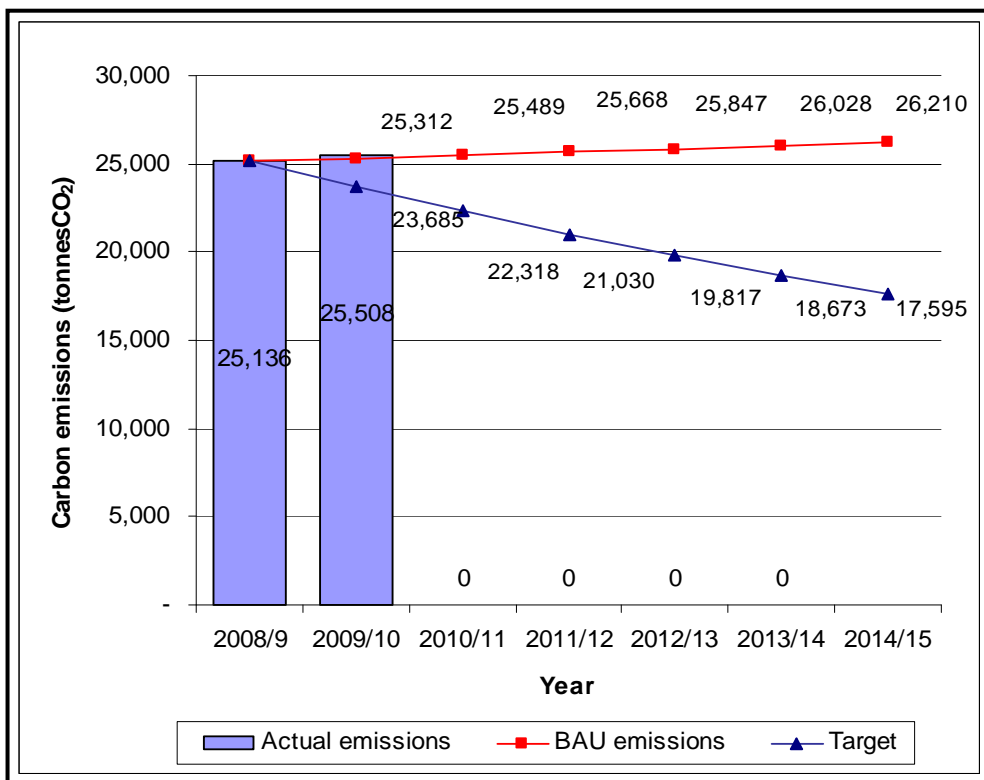
Category		tCO ₂ 2008/9	tCO ₂ 2009/10
Buildings and Street Lights	Schools	8,671	9,045
	Leisure & Sport Centres	3,979	4,109
	Streetlights	2,480	2,513
	Council Offices	1,883	1,642
	Town Halls & Other Assets	1,022	935
	Community & Day Centres	1,137	978
	Other Operations Assets	363	357
	Libraries & Museums	471	471
Transport	Council's Fleet	352	229
	Business Miles	574	652
	School Travel	2,442	2,288
	Contractors' Fleet	2,069	2,396
Total Emissions		25,136	25,508

10 Appendix C: Carbon Reduction Allocation across Emission Scope

Total CO₂ Emissions (Stationary Sources and Transport)

Herefordshire Council's Emission 2008/09	-	25,136 tonnesCO ₂
Target Reduction by March 2015	-	7,541 tonnesCO ₂ + ⁴⁰ 372 tonnesCO ₂
Value at Stake (VAS)	-	31,436 tonnesCO ₂ and £7.9 Million

Herefordshire Council's 2009/2010 CO₂ emission is 1.5% greater than 2008/09 emission; 0.8% greater than Business as Usual (BaU) emission; and 7.7% greater than targeted emission (30% reduction in six years).



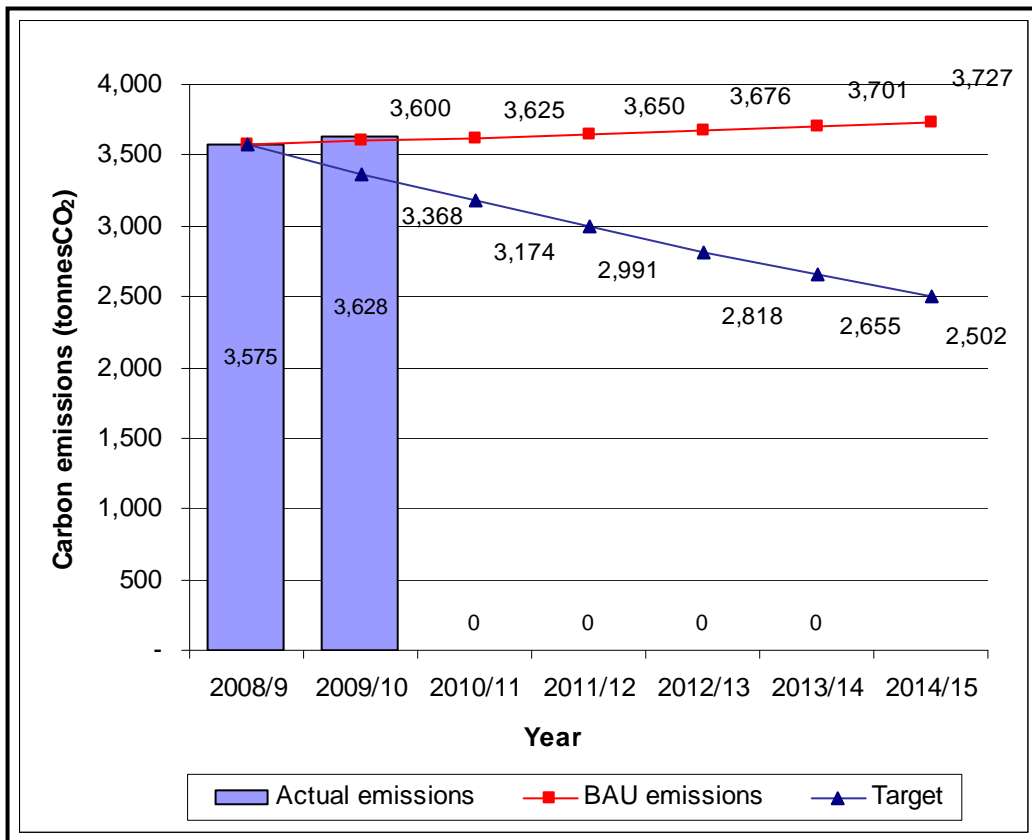
Year	Total CO ₂ Emission (tonnes)	Building and street lights	Transport
2008/9	25,384	19,947	5,437
2009/10	25,620	20,055	5,565
2010/11	-	-	-
2011/12	-	-	-
2012/13	-	-	-
2013/14	-	-	-
2014/15	-	-	-

⁴⁰ Increased CO₂ emission in 2009/10 against our baseline

Amey (Street Light and Highway Maintenance)

Amey's Emission 2008/09	-	3,575 tonnesCO ₂ (14.1% of baseline)
Target Reduction by March 2015	-	1,072 tonnesCO ₂ + 54 tonnesCO ₂
Value at Stake (VAS)	-	4,470 tonnesCO ₂ and £1.2 Million

Amey's 2009/2010 CO₂ emission is 1.5% greater than 2008/09 emission; 0.8% greater than Business as Usual (BaU) emission; and 7.7% greater than targeted emission (30% reduction in six years). Carbon emitted/turnover reduced during the period.

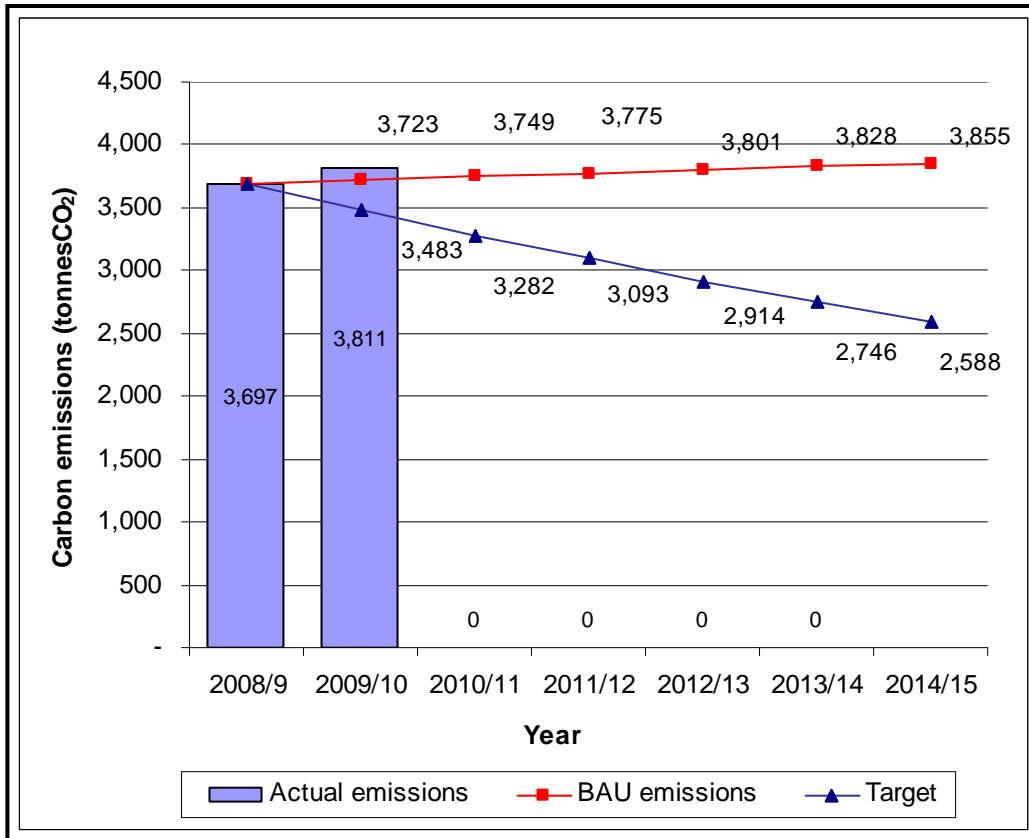


Year	Total CO ₂ Emission (tonnes)	Building and street lights	Transport
2008/9	3,575	2,732	843
2009/10	3,628	2,775	853
2010/11	-	-	-
2011/12	-	-	-
2012/13	-	-	-
2013/14	-	-	-
2014/15	-	-	-

Halo (Leisure Centre Management)

Halo's Emission 2008/09	-	3,697 tonnesCO ₂ (14.6% of baseline)
Target Reduction by March 2015	-	1,109 tonnesCO ₂ + 114 tonnesCO ₂
Value at Stake (VAS)	-	4,623 tonnesCO ₂ and £0.95

Halo's 2009/2010 CO₂ emission is 3.1% greater than 2008/09 emission; 2.3% greater than Business as Usual (BaU) emission; and 9.41% greater than targeted emission (30% reduction in six years).

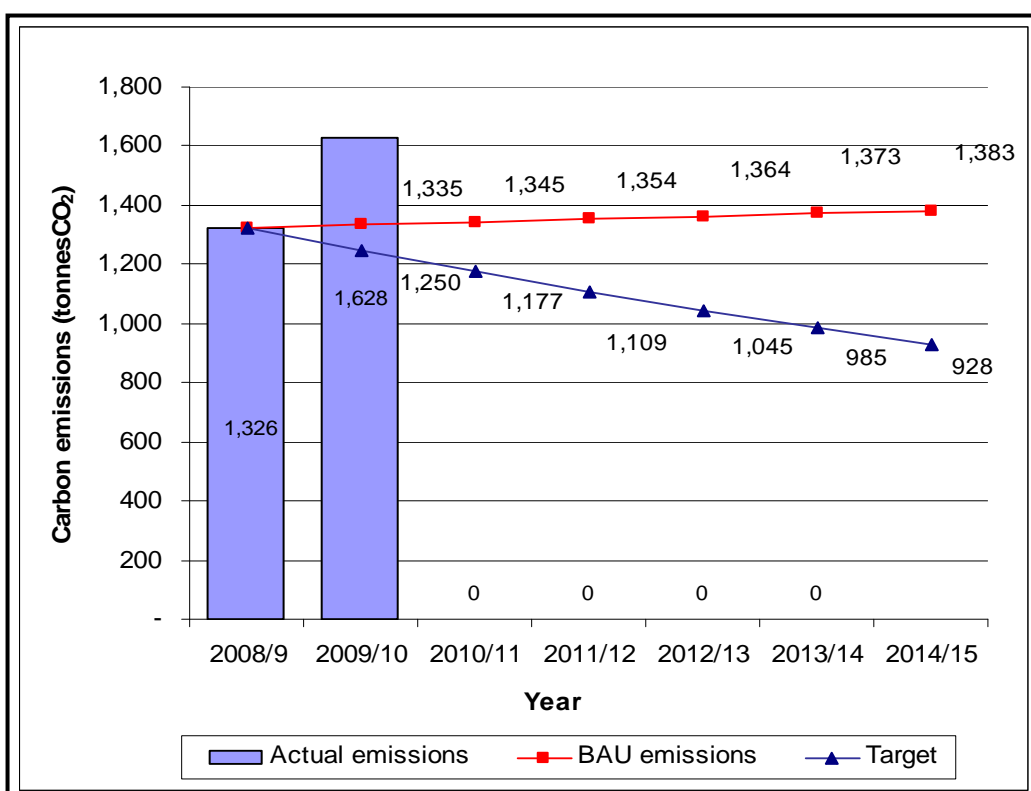


Year	Total CO ₂ Emission (tonnes)	Building	Transport
2008/9	3,697	3,685	12
2009/10	3,801	3,801	10
2010/11	-	-	-
2011/12	-	-	-
2012/13	-	-	-
2013/14	-	-	-
2014/15	-	-	-

Waste Management

- Emission from Waste 2008/09 - 1,326 tonnesCO₂ (5.2% of baseline)
- Target Reduction by March 2015 - 398 tonnesCO₂ + 302 tonnesCO₂
- Value at Stake (VAS) - 1,658 tonnesCO₂ and £0.3 Million

Severn Waste and FOCSA's 2009/2010 CO₂ emission were 22.7% greater than 2008/09 emission; 18.4% greater than Business as Usual (BaU) emission; and 30.3% greater than targeted emission (30% reduction in six years). Households covered by recycling collection rose from 73% to 98%. Recycling rates rose from 28% to 32% and residual waste sent to land fill dropped by nearly 5%⁴¹.



Year	Total CO ₂ Emission (tonnes)	Building	Transport
2008/9	1,326	112	1,214
2009/10	1,628	94	1,534
2010/11	-	-	-
2011/12	-	-	-
2012/13	-	-	-
2013/14	-	-	-
2014/15	-	-	-

⁴¹ Based on landfill and dry recycling tonnages collected April to August 2009 & 2010

Schools (Primary and Secondary)

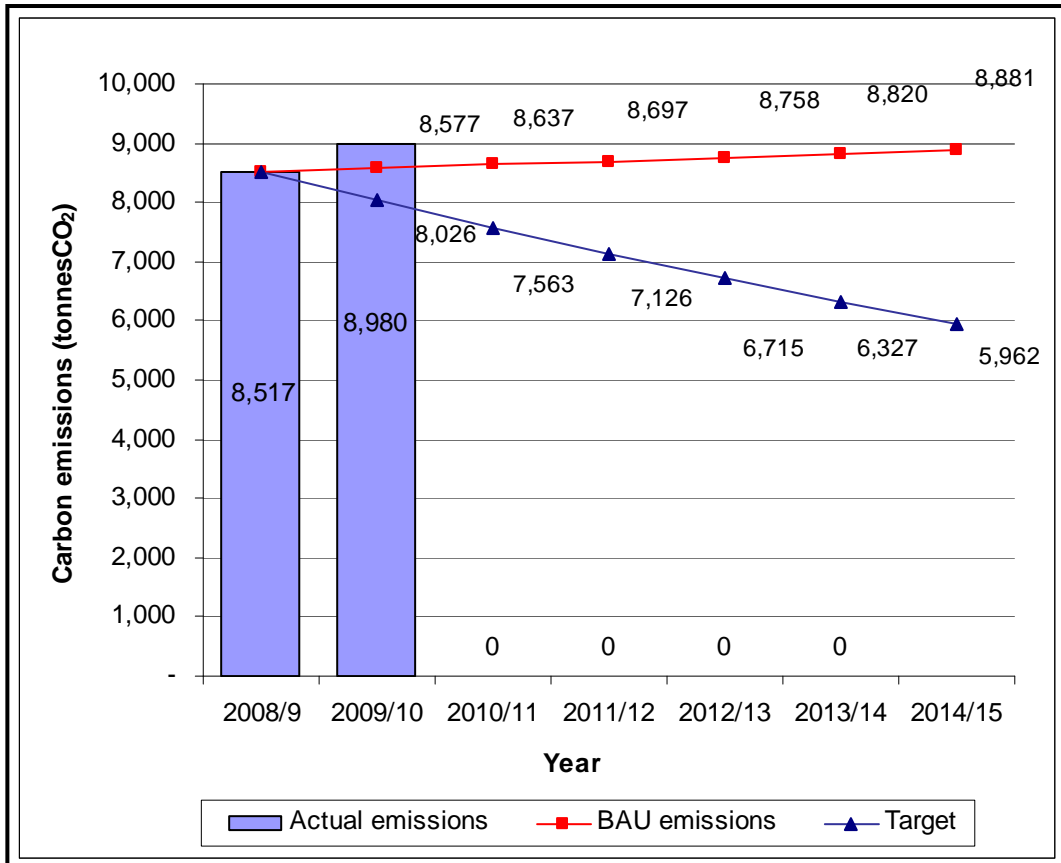
School Emissions 2008/09 - 8,517 tonnesCO₂ (34.2% of baseline)

Target Reduction by March 2015 - 2,555 tonnesCO₂ + 462 tonnesCO₂

Approximately 15 tonnesCO₂ per Primary School and 93 tonnesCO₂ per Secondary School

Value at Stake (VAS) - 10,652 tonnesCO₂ and £2.1 Million

School's 2009/2010 CO₂ emission is 4.8% greater than 2008/09 emission; 3.6% greater than Business as Usual (BaU) emission; and 11.9% greater than targeted emission (30% reduction in six years).

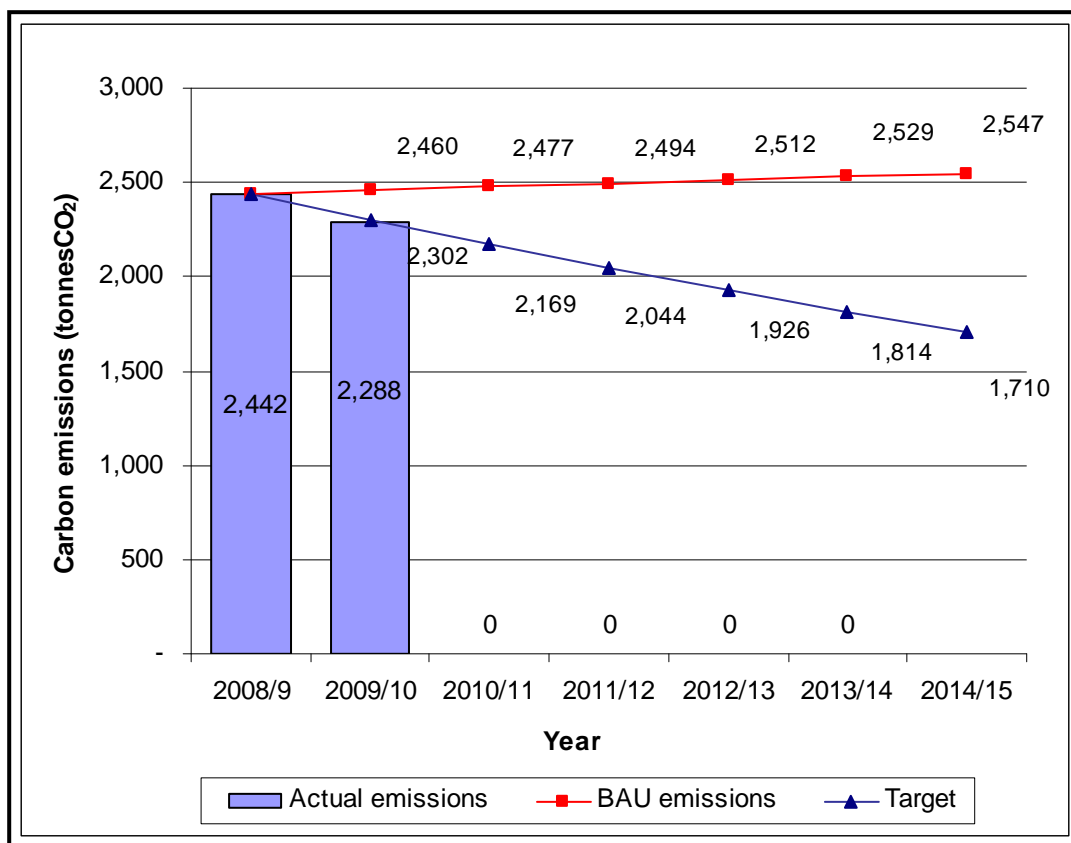


Year	Total CO ₂ Emission (tonnes)
2008/9	8,517
2009/10	8,980
2010/11	-
2011/12	-
2012/13	-
2013/14	-
2014/15	-

School Travel

School Travel Emissions 2008/09	-	2,442 tonnesCO ₂ (10% of baseline)
Target Reduction by March 2015	-	733 tonnesCO ₂
Value at Stake (VAS)	-	3,055 tonnesCO ₂ and £1.6 Million

School Travel's 2009/2010 CO₂ emission is 6.3% lower than 2008/09 emission; 7.5% lower than Business as Usual (BaU) emission; and 0.6% lower than targeted emission (30% reduction in six years).

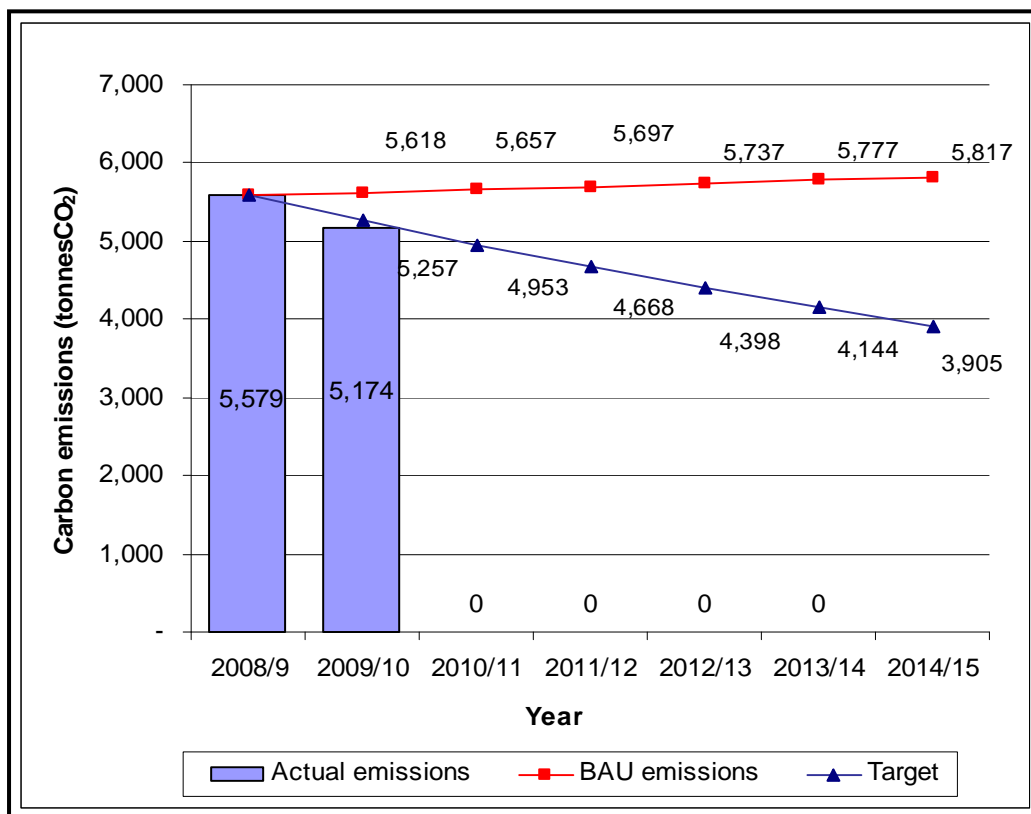


Year	Total CO ₂ Emission (tonnes)
2008/9	2,442
2009/10	2,288
2010/11	-
2011/12	-
2012/13	-
2013/14	-
2014/15	-

Herefordshire Council's Direct Emission (premises & transport)

2008/09 Emissions	-	5,579 tonnesCO ₂ (22% of baseline)
Target Reduction by March 2015	-	1,674 tonnesCO ₂
Value at Stake (VAS)	-	6,977 tonnesCO ₂ and £1.9 Million

Herefordshire Council's direct emission in 2009/2010 CO₂ emission is 7.3% lower than 2008/09 emission; 8.6% lower than Business as Usual (BaU) emission; and 1.6% lower than targeted emission (30% reduction in six years).



Year	Total CO ₂ Emission (tonnes)	Building	Transport
2008/9	5,579	4,653	926
2009/10	5,174	4,293	881
2010/11	-	-	-
2011/12	-	-	-
2012/13	-	-	-
2013/14	-	-	-
2014/15	-	-	-

11 Appendix D: Definition of Projects⁴²

11.1 Appendix D-1: Multi-Agency Locality Offices

Project:	Multi-Agency Locality Offices
Reference:	HC:009
Owner	Robert Reid and Kathy O'Mahony
Department	Children and Young People Directorate (CYPD)
Description	<i>This project is aimed at reducing approximately 125,000 business miles due to the opening of 7 multi-agency locality offices across the Herefordshire County. The estimated carbon and financial benefits have been based on a survey of working pattern of 4 CYPD staff members.</i>
Benefits	<ul style="list-style-type: none"> ▪ £ 29,600 / Annum ▪ Payback: Does not payback but the project have other non-quantified benefits. ▪ CO₂ Emissions reduction: 69 tonnesCO₂ / Annum ▪ 0.91% of our target carbon reduction
Funding	<ul style="list-style-type: none"> ▪ Project cost: £ 2.5 Million ▪ Operational costs: Not Applicable because the maintenance of the locality Offices will be resourced from current budget ▪ Source of funding: Grant from Central Government.
Additional Resources	<ul style="list-style-type: none"> ▪ This project will be delivered within Herefordshire Council's current resources
Ensuring Success	<ul style="list-style-type: none"> ▪ Annual monitoring and reporting of business mileage against projected reduction ▪ Team Leaders, Managers and Directors will be expected to ensure that the locality offices are adequately used to deliver services to the people of Herefordshire ▪ Awareness campaign focused on enlightenment of staff on the benefits of using the locality offices as a means of improving efficiency, cost and carbon emission reduction. This is to be coordinated by the Communications Team.
Measuring Success	<ul style="list-style-type: none"> ▪ Business mileage across the Council department and directorates. ▪ Mileage monitoring and reporting to become an integral aspect of monthly team meetings and briefings.
Timing	<ul style="list-style-type: none"> ▪ Start date: April 2011
Notes	<i>The estimated carbon and associated financial savings were based on the survey of the working pattern of 4 CYPD staff selected at random.</i>

⁴² 15.7% of our carbon reduction target has been completed see Table 4. 1 and the performance of this projects / programmes will be reviewed by the CMT bi-monthly.

11.2 Appendix D-2: School Energy Challenge and Engaging Schools

Project:	School Energy Challenge and Engaging Schools
Reference:	HC:089
Owner (person)	Mary Burton and Philip Tamuno
Department	Waste and Sustainability
Description	<i>This programme was developed for the purpose of actively working with schools to reduce their energy use. The benefit of this programme to schools is that they can reduce their energy bills, improve their Eco-School status and participate in the inaugural Department for Environment and Climate Change (DECC) School Energy Award. Herefordshire Schools currently contribute 34% of the Council's carbon baseline and reduction in energy use in schools will significantly contribute to achieving our carbon reduction target.</i>
Benefits	<ul style="list-style-type: none"> ▪ £ 57,400 / Annum ▪ Payback: Immediate ▪ CO₂ Emissions reduction: 350 tonnesCO₂/ Annum ▪ 4.64% of our target carbon reduction
Funding	<ul style="list-style-type: none"> ▪ Project cost: Staff time ▪ Operational costs: Staff time and meeting venues ▪ Source of funding: Herefordshire Council
Additional Resources	<ul style="list-style-type: none"> ▪ Support from the Children and Young People Directorate (CYPD) ▪ The Communication Team ▪ Property Services ▪ Seminars and workshops venues
Ensuring Success	<ul style="list-style-type: none"> ▪ One-to-one visit and support to schools ▪ Seminars and workshops organised to raise awareness of the energy efficiency in schools
Measuring Success	<ul style="list-style-type: none"> ▪ Schools' energy usage. ▪ Number of schools that have improved on the Eco-School status within the County. ▪ Number of Schools that achieve the DECC School Energy Award.
Timing	<ul style="list-style-type: none"> ▪ Start date: September 2010
Notes	<i>The estimated carbon savings have been based on a minimum of 2% reduction of the energy use of the ten participating schools and the carbon savings in anticipation of behavioural changes as a result of energy efficiency workshops and seminars organised for Herefordshire schools' stakeholders.</i>

11.3 Appendix D-3: Street Lighting Carbon Reduction Projects

Project:	Street Lighting Carbon Reduction Projects
Reference:	HC:116 to HC:120
Owner (person)	Clive Hall
Department	Highways, Transport and Community Services
Description	This is made up of five carbon reduction project on street lighting. The projects are: half hourly metering (HHM) using central management system; street lights dimming at factory set times based on 1,000 units; streetlights switch-off at set times; and Low energy photocell control.
Benefits	<ul style="list-style-type: none"> ▪ £ 176,000 / Annum ▪ Average Payback: 4.9 Years ▪ CO₂ Emissions reduction: 962 tonnesCO₂ / Annum ▪ 12.75% of our target carbon reduction
Funding	<ul style="list-style-type: none"> ▪ Project cost: £ 715,000 ▪ Operational costs: £ 21,500 ▪ Source of funding: Herefordshire Council – Invest to Save
Additional Resources	<ul style="list-style-type: none"> ▪ Amey (Herefordshire Council's Street light and Highways contractor) staff time ▪ Herefordshire Council's Highways, Transport and Community Services Staff time ▪ Risk assessment of each project ▪ Consultation time with parishes and other stakeholders
Ensuring Success	<ul style="list-style-type: none"> ▪ Update inventory of street lighting stock. ▪ Awareness targeted at key stakeholders on the environmental and financial benefit of these projects, particularly in the light of current reduction of government funding. ▪ Develop a good business case on the payback and financial savings that can be realised over the life of the project. ▪ Street lighting contributes 10% of Herefordshire Council baseline and is one area that can not be ignored.
Measuring Success	<ul style="list-style-type: none"> ▪ Energy use of lighting stock. ▪ Number of Schools that are achieves the DECC School Energy Award.
Timing	<ul style="list-style-type: none"> ▪ Start date: Summer 2011
Notes	The estimated carbon and financial savings have been based on current street lighting stock and energy use. This savings have been compared to street lighting energy use in 2008/09.

11.4 Appendix D-4: Efficient Use of Council Offices

Project:	<i>Efficient Use of Council's Offices</i>
Reference:	<i>HC:133</i>
Owner	<i>Colin Birks</i>
Department	<i>Asset Management and Property Services</i>
Description	<i>This project is focused on exploring ways in which Council's asset could be used more efficiently. Current examples are: reducing the current temperature setting in Offices by 1^oC; closure of Plough Lane Offices between the Christmas and New Year Bank Holidays; and raising the level of energy efficiency awareness among staff.</i>
Benefits	<ul style="list-style-type: none"> ▪ <i>£ 8,400 / Annum</i> ▪ <i>Average Payback: Immediate</i> ▪ <i>CO₂ Emissions reduction: 48 tonnesCO₂ / Annum</i> ▪ <i>0.64% of our target carbon reduction</i>
Funding	<ul style="list-style-type: none"> ▪ <i>Project cost: Staff time</i> ▪ <i>Operational costs: Staff time</i> ▪ <i>Source of funding: Herefordshire Council</i>
Additional Resources	<ul style="list-style-type: none"> ▪ <i>Staff Action on CO₂ group staff time</i> ▪ <i>Asset Management and property Services Staff time</i> ▪ <i>Health and Safety assessment</i> ▪ <i>Human Resources and Business Demand</i>
Ensuring Success	<ul style="list-style-type: none"> ▪ <i>Monthly energy performance of Council's Offices.</i> ▪ <i>Energy awareness campaign coordinated by the Staff Action on CO₂ group.</i> ▪ <i>Align awareness campaign to areas of Council's significant energy use.</i> ▪ <i>Monthly gas and electricity meter reading by Officers in Charge of Building (OICs)</i>
Measuring Success	<ul style="list-style-type: none"> ▪ <i>Building Display of energy certificate (DEC) score.</i> ▪ <i>Number of energy efficiency suggestions from other staff members.</i>
Timing	<ul style="list-style-type: none"> ▪ <i>Start date: Summer 2011</i>
Notes	<i>The carbon and associated financial savings have been estimated based on the energy use of buildings that won't be disposed of. 1^oC reduction in Office heating temperature was estimated to give a 10% reduction in heating energy use. Plough Lane closure between Christmas and New Year Bank Holidays was calculated based on Plough Lane energy use.</i>

11.5 Appendix D-5: Photovoltaic Panels on Leisure Centres

Project:	<i>Photovoltaic Panels on Leisure Centres</i>
Reference:	<i>HC:040</i>
Owner	<i>Andrew Talbot</i>
Department	<i>Halo – Leisure Centre Management</i>
Description	<i>This is a 213 kWp renewable energy initiative that covers five leisure centres, these are: Hereford Leisure Centre 65 kWp; Leominster, Bridge Street Leisure Centre 65 kWp; Leominster Swimming Pool 40 kWp; Ross Leisure Centre 25 kWp; Bromyard Leisure Centre 18 kWp.</i>
Benefits	<p><i>£ 83,070 / Annum</i></p> <p><i>Average Payback: 10.3 Years</i></p> <p><i>CO₂ Emissions reduction: 86.9 tonnesCO₂ / Annum</i></p> <p><i>1.15% of our target carbon reduction</i></p>
Funding	<p><i>Project cost: £ 852,000</i></p> <p><i>Operational costs: £ 500</i></p> <p><i>Consultant Cost: To be agreed</i></p> <p><i>Source of funding: Community Based Energy Co-operative Society</i></p>
Additional Resources	<ul style="list-style-type: none"> ▪ <i>Halo Leisure staff time</i> ▪ <i>Herefordshire Council client management team time</i> ▪ <i>Members of the co-operative organisation time</i> ▪ <i>Shareenergy (the consultant) staff time.</i> ▪ <i>Photovoltaic panel installation by Southern Solar Ltd.</i>
Ensuring Success	<ul style="list-style-type: none"> ▪ <i>Validate the technical and financial feasibility and feasibility of each of the five projects.</i> ▪ <i>Regular cleaning of the photovoltaic panels.</i> ▪ <i>Establish appropriate operational mechanism (terms of agreement) for the Co-operative Society.</i> ▪ <i>Register the installations on www.sunnyportal.com so that real time energy generation will be available in public domain.</i>
Measuring Success	<ul style="list-style-type: none"> ▪ <i>Real time energy generation.</i> ▪ <i>Electricity sold to the national grid.</i>
Timing	<ul style="list-style-type: none"> ▪ <i>Start date: August 2011</i>
Notes	<ul style="list-style-type: none"> ▪ <i>Carbon savings estimated at 750kWh per kWp (Ditz Average) x 213 kWp installed.</i> ▪ <i>Revenue based on 42p (Feed in Tariff) and assume 100% used on site hence offsetting 10p/kWh.</i>

11.6 Appendix D-6: Retro-fitting of Leisure Centres

Project:	<i>Leisure Centre Retro-fitting</i>
Reference:	<i>HC:034 to 039 and 041 to 088</i>
Owner	<i>Andrew Talbot</i>
Department	<i>Halo – Leisure Centre Management</i>
Description	<i>This project covers all the Leisure Centres managed by Halo Leisure Services</i>
Benefits	<i>Savings: £ 46, 643 / Annum</i> <i>Average Payback: 5.9 Years</i> <i>CO₂ Emissions reduction: 652.4 tonnesCO₂ / Annum</i> <i>8.65% of our target carbon reduction</i>
Funding	<i>Project cost: £1.5 Million</i> <i>Source of funding: Herefordshire Council Loan to Halo Leisure Services</i>
Additional Resources	<ul style="list-style-type: none"> ▪ <i>Halo Leisure staff time</i> ▪ <i>Herefordshire Council client management team time</i>
Ensuring Success	<ul style="list-style-type: none"> ▪ <i>Most of these projects are currently ongoing.</i> ▪ <i>Halo Leisure Services already have an energy reporting system in place.</i> ▪ <i>Halo Leisure Services have a track record of efficiency.</i>
Measuring Success	<ul style="list-style-type: none"> ▪ <i>Meter reading.</i> ▪ <i>Annual energy and fuel use reporting.</i>
Timing	<ul style="list-style-type: none"> ▪ <i>Start date: Started in 2010</i>
Notes	<ul style="list-style-type: none"> ▪ <i>This loan was awarded by Herefordshire Council to Halo Leisure as part of the Council's commitment of becoming a "Low Carbon" County.</i>

11.7 Appendix D-7: Asset Rationalisation

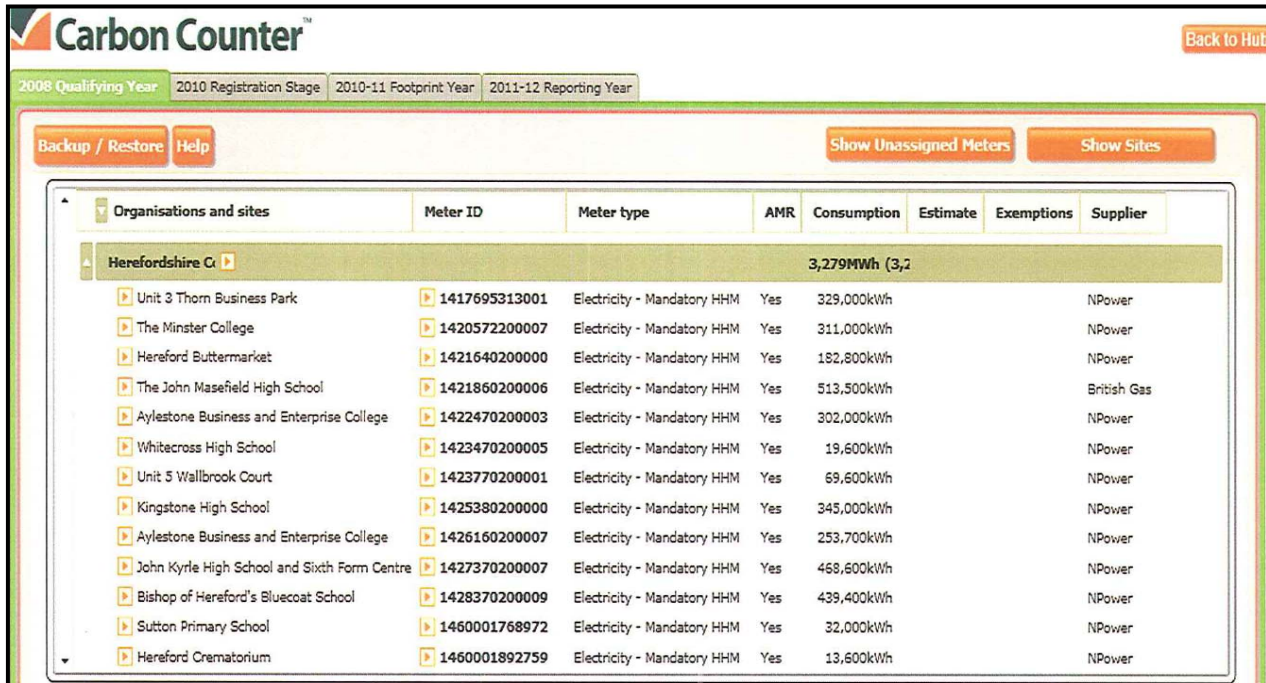
Project:	<i>Asset Rationalisation and Plough Lane Extension</i>
Reference:	<i>HC:113</i>
Owner	<i>Colin Birks and Tony Featherstone</i>
Department	<i>Asset Management and Property Services</i>
Description	<p><i>The disposal of the following asset has been approved: Franklin House; Moore House; Garrick House; Brockington; Blueschool House; Blackfriars Education Centre; Blackfriars Street Offices; and Bath Street Offices (County Offices Annex).</i></p> <p><i>Plough Lane extension is also planned to replace the disposal of the above Council's Offices:</i></p> <p><i>The Plough Lane extension is estimated to be 100% the size of the current Plough Lane Offices but 30% more efficient.</i></p>
Benefits	<p><i>Savings: £ 107, 361 / Annum</i></p> <p><i>CO₂ Emissions reduction: 579.2 tonnesCO₂ / Annum</i></p> <p><i>7.92% of our target carbon reduction</i></p>
Funding	<i>Source of funding: Herefordshire Council</i>
Additional Resources	<ul style="list-style-type: none"> ▪ <i>Asset Management and Property Services staff time</i> ▪ <i>HR and ICT staff time</i>
Ensuring Success	<ul style="list-style-type: none"> ▪ <i>The asset rationalisation is part of Herefordshire Council's organisation design.</i> ▪ <i>These projects have been approved for implementation.</i> ▪ <i>Multi-Agency locality working and agile working are programmes that supports this suit of project</i>
Measuring Success	<ul style="list-style-type: none"> ▪ <i>Time of disposal</i> ▪ <i>Annual energy use reporting on the "New Plough Lane"</i>
Timing	<ul style="list-style-type: none"> ▪ <i>Propose start date: Start in 2013</i>

12 Appendix E: Carbon Management Matrix – Embedding

	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *	ENGAGEMENT OF SCHOOLS
Mature 5	<ul style="list-style-type: none"> Top level target allocated across organisation CO₂ reduction targets in Directorate Business Plans Action plans in place to embed strategy. Progress routinely reviewed 	<ul style="list-style-type: none"> Cabinet / SMT review progress against targets on quarterly basis Regular diagnostic reports provided to Directorates Progress against target published externally 	<ul style="list-style-type: none"> CM integrated in responsibilities of senior managers CM part of all contracts / Ts & Cs Central CO₂ reduction advice available Green Champions leading local action groups 	<ul style="list-style-type: none"> Regular collation of CO₂ emissions for all sources Data externally verified Monitoring & Targeting in place for: <ul style="list-style-type: none"> buildings street lighting transport/travel 	<ul style="list-style-type: none"> All staff given formalised CO₂: <ul style="list-style-type: none"> induction and training communications Joint CM 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 	<ul style="list-style-type: none"> A 'whole school approach' including curriculum Mature programme of engagement in place CO₂ saving in schools having a wider community impact
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"> CM 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/travel Data internally reviewed 	<ul style="list-style-type: none"> All staff given CO₂ reduction: <ul style="list-style-type: none"> induction communications CM matters ~ communicated to external community 	<ul style="list-style-type: none"> Co-ordinated financing for CO₂ reduction projects via Programme Board Funding principles and processes agreed Finances committed 1 year ahead Some external financing 	<ul style="list-style-type: none"> Comprehensive review of policies complete Lower level policies reviewed locally Unpopular changes being considered 	<ul style="list-style-type: none"> A clear emphasis on energy / CO₂ reduction in schools Council activities fully co-ordinated Broad set of education stakeholders engaged Funding in place
3	<ul style="list-style-type: none"> Vision for CO₂ reduction clearly stated and published Climate Change Strategy endorsed by Cabinet and publicised with staff 	<ul style="list-style-type: none"> Core team regularly review CM 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 Key individuals have accountability for carbon reduction 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 CM Team 	<ul style="list-style-type: none"> All high level and some mid level policies reviewed, irregularly Substantial changes made, showing CO₂ savings 	<ul style="list-style-type: none"> A person has responsibility for Schools CO₂ reduction Schools CO₂ reduction projects co-ordinated Ad-hoc funding
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 CM 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 CM 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 	<ul style="list-style-type: none"> Ad-hoc schools projects to specifically reduce energy / CO₂
1 Start	<ul style="list-style-type: none"> No policy No Climate Change reference 	<ul style="list-style-type: none"> No CM 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 	<ul style="list-style-type: none"> No CO₂ / energy reduction policy for schools

Red line shows position at start of LACM-8: green line shows desired position by end of programme

13 Appendix F: Herefordshire Council's CRC Declaration 2010



The screenshot shows the Carbon Counter interface with a table of meter data. The table has columns for Organisations and sites, Meter ID, Meter type, AMR, Consumption, Estimate, Exemptions, and Supplier. A summary row for Herefordshire Council shows a total consumption of 3,279MWh (3,2).

Organisations and sites	Meter ID	Meter type	AMR	Consumption	Estimate	Exemptions	Supplier
Herefordshire C				3,279MWh (3,2)			
Unit 3 Thorn Business Park	1417695313001	Electricity - Mandatory HHM	Yes	329,000kWh			NPower
The Minster College	1420572200007	Electricity - Mandatory HHM	Yes	311,000kWh			NPower
Hereford Buttermarket	1421640200000	Electricity - Mandatory HHM	Yes	182,800kWh			NPower
The John Masefield High School	1421860200006	Electricity - Mandatory HHM	Yes	513,500kWh			British Gas
Aylestone Business and Enterprise College	1422470200003	Electricity - Mandatory HHM	Yes	302,000kWh			NPower
Whitcross High School	1423470200005	Electricity - Mandatory HHM	Yes	19,600kWh			NPower
Unit 5 Wallbrook Court	1423770200001	Electricity - Mandatory HHM	Yes	69,600kWh			NPower
Kingstone High School	1425380200000	Electricity - Mandatory HHM	Yes	345,000kWh			NPower
Aylestone Business and Enterprise College	1426160200007	Electricity - Mandatory HHM	Yes	253,700kWh			NPower
John Kyrle High School and Sixth Form Centre	1427370200007	Electricity - Mandatory HHM	Yes	468,600kWh			NPower
Bishop of Hereford's Bluecoat School	1428370200009	Electricity - Mandatory HHM	Yes	439,400kWh			NPower
Sutton Primary School	1460001768972	Electricity - Mandatory HHM	Yes	32,000kWh			NPower
Hereford Crematorium	1460001892759	Electricity - Mandatory HHM	Yes	13,600kWh			NPower



The Back page was designed by Sophie Griffiths-Rose a 9 year old from Marden Primary School, Hereford.

