



Leicestershire County Council Carbon Management Programme

Carbon Management Plan (CMP) 2009 - 2020

Document control

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V0.2	25/02/09	D Worship	Incorporate CT Advisor comments
V 0.3	13/03/09	D Worship	Incorporate Board comments
V 0.4	18/03/09	D Worship	Include Foreword, finance information and lighting programme
V 0.5	19/03/09	D Worship	Include AM comments
V 0.6	27/03/09	D Worship	Amend approval status and Appendix A
V 0.7	30.03.09	P Williams	Confirm programme years
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Contents

Foreword from Leicestershire County Council	3
Foreword from the Carbon Trust	3
Management Summary	4

Foreword from Leicestershire County Council

Climate change is a global challenge and requires a global response. Leicestershire County Council has shown its commitment to address the causes of climate change by signing the Nottingham Declaration on Climate Change. This plan outlines how we will reduce our carbon emissions and make carbon management an important part of everything we do. There is no denying that it will not be a simple task and that we will need all our staff and partners to support us in becoming a low carbon authority. We hope that our leadership in this area will inspire others and that our experience may help others to take similar action.



John Sinnott
Chief Executive



Councillor Peter Osborne
Cabinet Lead Member for Climate Action

Foreword from the Carbon Trust

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

Leicestershire County Council was selected in 2008, amidst strong competition, to take part in this ambitious programme. Leicestershire County Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Plan commits the council to a target of reducing CO₂ by 34% by March 2021 and underpins potential financial savings and cost avoidance to the council of around £7 million per year when the target is reached.

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



Richard Rugg
Head of Public Sector, Carbon Trust



Key Points from the Carbon Management Plan

- In 2008/09 Leicestershire County Council emitted 82,100 tonnes of carbon
- In 2010/11 the Council emitted 80,217 tonnes of carbon, a reduction of 1.2% against the 2008/09 baseline
- Leicestershire County Council's target is to reduce the Council's carbon emissions by 34% from the 2008-09 baseline by the end of March 2021
- By the end of the plan period the target emissions would equate to an annual reduction of over 27,000 tonnes of carbon against a projected 'Business as Usual' scenario.
- The target emissions scenario underpins potential financial savings and cost avoidance to the council and schools of around £7 million per year
- Actions to reduce our carbon emissions are outlined in eight strategic themes; policy, resources, communications, working with partners, procurement, buildings energy use (including schools), street lighting and transport
- Projects have been identified which offer the 34% carbon reduction against the Council's 2008/09 baseline, however, around 40% of the savings identified are considered 'at risk' due to uncertainty about the deliverability within available resources
- Through the energy efficiency measures and renewable energy development identified in the Plan the Council could reduce the carbon emissions from its corporate estate by 42%
- The carbon reduction projects identified in the Plan represent £29.6m of investment; £18.3m has already been committed through existing programmes such as new school buildings, boiler replacements and office accommodation strategy. Of the remaining unidentified £11.3m, £7.7m would be needed to develop renewable energy capacity, £1.6m for energy efficiency in the corporate estate and £2m for energy efficiency in school buildings.
- Carbon emissions from school buildings accounted for 55% of the Council's emissions in 2008/09
- Carbon management projects will be financed through the Council's Salix Fund and Invest-to-Save allocations and will be prioritised according to the financial returns and carbon saved
- Embedding carbon management into other work streams in the Council will ensure responsibility for carbon reduction is spread throughout the Council's services
- Governance of Carbon Management at Leicestershire County Council will be a work stream of the Environmental Strategy Board and progress will continue to be monitored by the Corporate Management Team and Cabinet

Management Summary

Introduction

This Carbon Management Plan sets out Leicestershire County Council’s approach to mitigating climate change through carbon reduction for its own operations. The document covers the authority’s experience of the Carbon Trust’s Carbon Management Programme and how the Council plans to take this issue forward over a 5 year detailed programme and longer term potential projects. Each of the sections within the Plan are summarised as follows:

This revision of the original Plan, adopted in 2009, intends to demonstrate how the Council can reach its 34% target. Over 100 opportunities across the Council’s estate and operations have been assessed in terms of costs and carbon savings. (Section 1)

Carbon Management Strategy

Climate change is the greatest challenge facing the world today. It is a global issue that demands a global response. The UK plays a leading role at the international level. At a more local level, the Sustainable Community Strategy for Leicestershire provides the overarching document for the priorities for the County. Included within these priority outcomes is an improved response to climate change. (Section 2)

Baseline and Targets

In 2008/09 Leicestershire County Council was responsible for emitting 81,200 tonnes of carbon costing the organisation over £16m. The Council’s target is to reduce carbon emissions by 34% from the 2008-09 baseline by the end of March 2021.

Since publication of the original Carbon Management Plan in 2009 the Council’s annual carbon emissions declined by 2.7% in 2009/10 but rose in 2010/11 by 1.5% giving an overall reduction of 1.2% on the baseline in 2010/11. In Figure 1 and Table 1 below the information shows the sources of emissions as a percentage of the total baseline in 2008/09 and how these have changed in 2009/2010 and 2010/11 (Section 3).

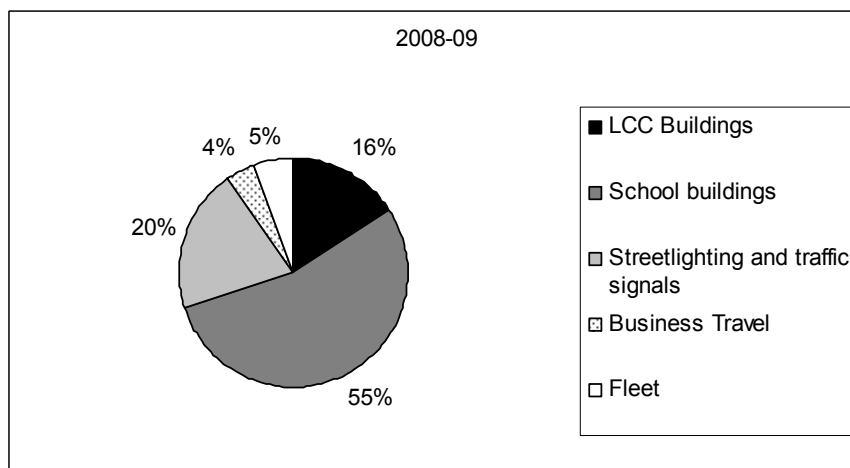


Figure 1: Emissions by source in baseline year (2008/09)

	2008/2009 (tCO ₂)	2009/2010 (tCO ₂)	% annual change	2010/11 (tCO ₂)	% annual change	% change against baseline	% of total in 2010/11
Business Mileage	3,390	3,348	-1.2%	3,094	-7.6%	-8.8%	3.9%
Fleet	4,437	4,645	4.7%	3,585	-22.8%	-19.2%	4.5%
Transport Sub Total	7,828	7,993	2.1%	6,679	-16.5%	-14.7%	8.4%
LCC Corporate Buildings	12,944	12,879	-0.5%	13,912	8.0%	7.4%	17.3%
Schools	44,000	41,334	-6.0%	41,951	1.5%	-4.7%	52.3%
Streetlighting	16,428	16,791	2.2%	17,675	5.3%	7.6%	22.0%
Stationary Sources Sub Total	73,372	71,004	-3.2%	73,538	3.6%	0.2%	91.6%
GRAND TOTAL	81,200	78,997	-2.7%	80,217	1.5%	-1.2%	100.00%
Corporate	37,200	3,7663	1.2%	38,266	1.6%	2.8%	47.7%
Schools	44,000	41,334	-6.1%	41,951	1.5%	-4.7%	52.3%

Table 1: Carbon emissions by source from 2008 - 2011

Carbon and cost projections

The financial 'Value at Stake' in Figure 2 illustrates the cost savings offered by reduced carbon emissions (Target cost) in the future (through lower energy and fuel bills) against a Business as Usual (BAU cost) scenario which assumes a 0.7% annual growth in demand for energy and fuel.

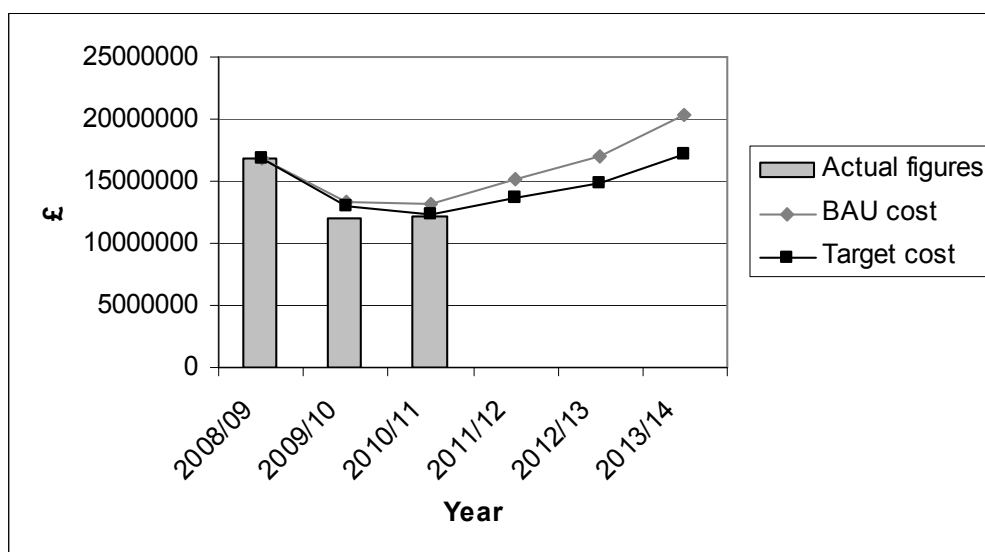


Figure 2: Financial savings offered by reduced emissions scenario (Target cost) against Business as Usual projected growth (BAU cost) to end of 2013/14

By March 2014 the low emissions scenario (15% reduction target) underpins potential cost avoidance to the council of £3.6 million per year. The difference between the Business as Usual projected growth cost and the actual cost for 2009/10 and 2010/11 shows that the Council has already begun its journey on the low emission path, however, progress in 2010/11 is not on target.

The 34% reduction target would equate to an annual reduction of over 27,000 tonnes of carbon against the Business as Usual projected growth scenario.

The increase in costs on both pathways from 2011/12 reflects the impact of the Carbon Reduction Commitment Energy Efficiency Scheme and predicted increases in energy and fuel prices locked into Council energy contracts (ESPO 2011). Cost projections have not been extended to the 2021 deadline due to the increased uncertainty of energy prices and the authority's estate and energy demand in the long term. However, based on energy price and growth projections to 2014, the target cost at 2021 (34% carbon reduction) should offer at least £7 million annual saving against the Business as Usual scenario.

Carbon Management Strategy

Actions to reduce our carbon emissions are outlined in eight strategic themes; policy, resources, communications, working with partners, procurement, buildings energy use (including schools), street lighting and transport. The opportunities for carbon reduction within the County Council include technological investments such as lighting upgrades and improvements to heating and ventilation along with revenue measures such as energy monitoring and targeting, through campaigning and promoting good housekeeping. In the long term, embedding carbon management in policies and processes, such as procurement will be essential to maintain a low carbon path and curtail growth in demand for energy and fuel. (Sections 4 and 6).

Carbon Reduction Projects

Projects have been identified to deliver the Council's 34% target, requiring £29.6m of capital investment. However, over 40%, almost 11, 000 tonnes of the carbon savings identified are considered at risk due to uncertainty over the quantification of the costs and benefits of longer term projects and the ability of the Council to deliver them within resource constraints. This highlights the need for close monitoring of the implementation and actual savings from projects to ensure the Council remains on track to meet its 34% target.

Through existing projects and those that are already planned/funded (see Table 3a and b) £18.3 m has already been committed through existing programmes such as new school buildings, boiler replacements and office accommodation strategy. These projects offer almost 15, 000 tonnes of the target carbon emissions reductions. The remaining projects require £11.3m to be identified (£9.3m for corporate energy efficiency and renewable energy investment and £2m for school's energy efficiency) (Section 4).

Project identification has also revealed that should the Council focus on the delivery of corporate projects to maximise return on its investment, it would be possible to deliver 42% carbon saving against the corporate only baseline through the energy efficiency projects in the corporate estate and operations and additional renewable energy development outlined in the plan.

Table 2 below outlines the total costs and benefits of the projects that have been identified as offering carbon savings.

	Cost		Annual Savings (yr 1)		% reduction on baseline
	Capital	Operational	Financial (Gross)	tCO ₂	
Corporate	£3,928,495	£484,150	£2,201,257	11124	13.5%
Schools	£17,926,457	£85,300	£1,654,262	9660	11.7%
Renewables	£7,748,234	£0	£866,899	4771	5.8%
TOTAL	£29,603,186	£569,450	£4,722,418	25555	31%

Table 2: Costs and benefits of all projects identified

Tables 3a and b below outline the projects which have been identified in the school and corporate estate separately and whether they are existing, planned/funded, short term or medium to long term projects. It has been assumed that the medium to long term projects and renewable energy development will largely be implemented after 2014 and therefore the majority of the investment requirement for the plan is outside the Council's current detailed Medium Term Financial Plan.

Project Type	Cost		Annual Savings (yr 1)		% of Target
	Capital	Operational	Financial (Gross)	tCO ₂	
Existing	£1,253,303	£210,150	£864,389	4329	16%
Planned/Funded	£1,140,617	£274,000	£697,169	3855	14%
Short term	£645,116	£0	£216,703	1231	4%
Medium to Long Term	£889,459	£0	£422,996	1709	6%
Renewables	£7,748,234	£0	£866,899	4771	17%
TOTAL	£11,676,729	£484,150	£3,068,156	15895	57%

Table 3a: Corporate Projects - Costs and Benefits by Type

	Cost		Annual Savings (yr 1)		% of Target
	Capital	Operational	Financial (Gross)	tCO ₂	
Existing	£10,285,521	£56,800	£683,184	4006	14%
Planned/Funded	£5,667,913	£28,500	£430,719	2492	9%
Short term	£726,330	£0	£208,365	1217	4%
Medium to Long Term	£1,246,693	£0	£331,994	1945	7%

TOTAL	£17,926,457	£85,300	£1,654,262	9660	34%
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Table 3b: Schools Projects - Costs and Benefits by Type

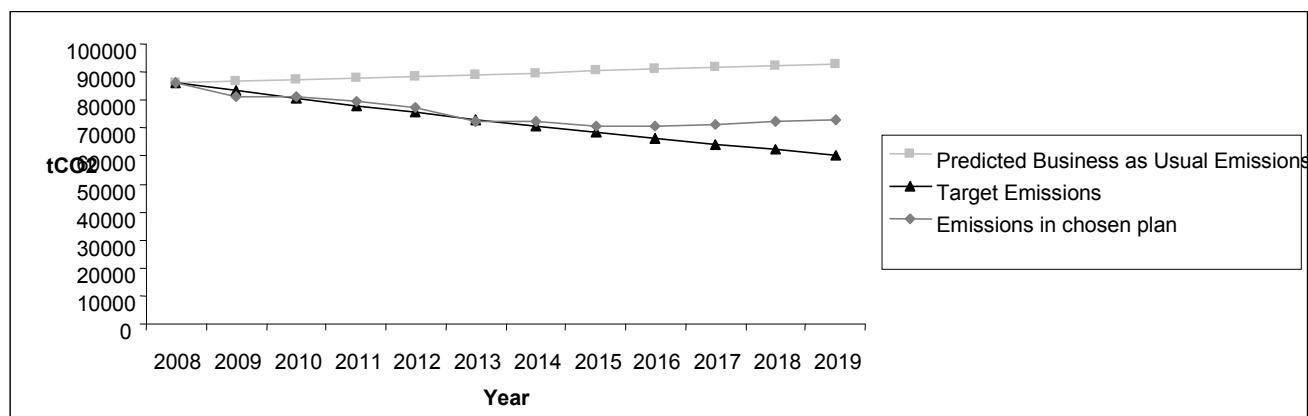


Figure 3: Carbon progress against the target from projects identified

Figure 3 illustrates the emissions reductions offered by the projects identified in the Carbon Management Plan (Section 4). The period up to 2014 focuses on energy efficiency projects in the school and corporate estate and operations. At 2015 renewable energy development begins to deliver reductions. The separation of the emissions in the chosen plan and target emissions at 2015 is due to diminishing returns from early projects and highlights the need to continue to assess new technologies and opportunities for carbon reduction to reach the 2021 target of 34% reduction. In particular, street lighting technologies such as LEDs are likely to be more viable by 2015 and offer significant savings.

Finance and Governance

The Salix Fund for the authority now stands at £720k which is fully committed to projects. All projects resourced from the Salix Fund must comply with the minimum criteria for payback period and investment per tonne of carbon.

Other projects which represent good value for money and appropriate pay backs (but not Salix compliant) can be supported from the County Council’s ‘Willow Fund’ for energy efficiency measures. At the time of writing this fund’s total value is £550k with approximately £100k committed to projects. Additional Invest-to-Save finance would be made available on depending on the business case presented for carbon saving projects and programmes. (Section 5)

Governance of Carbon Management at Leicestershire County Council will be a work stream of the Environmental Strategy Board and will continue to be regularly monitored and reviewed at the highest level within the authority. (Section 7)

Conclusion

The Carbon Management Plan demonstrates that it is possible for Leicestershire County Council to deliver a 34% reduction in carbon emissions from its estate and operations



compared to the 2008/09 baseline. However, this would require over one hundred projects and programmes to be delivered and £11.3m of further investment by 2020 (the final year of the programme would be required to demonstrate the 34% reduction). It is clear that there is no 'silver bullet' in carbon reduction and the target can only be met through numerous projects and policy changes.

Significant commitment is required in service areas that are responsible for carbon emissions such as Property Services, Street lighting and traffic signals, ICT and Fleet and a major shift is required across the organisation's culture to make the 34% target a reality. Energy and carbon can no longer be considered a fixed cost or an inevitable consequence of 'progress'.

Priority Next Steps

Action	Who	By When
Develop a proactive approach to committing finance to prioritised projects for a 3 year rolling programme	Project Lead Energy Services Team Finance Champion	March 2012
Monitoring and Targeting plan in place for buildings energy use	Energy Services Team/Climate Action Team	March 2012
Review of fuel management and procurement delivered as agreed with Fleet Board	Climate Action Team	March 2012
Bespoke carbon targets negotiated with Departments	Environment Strategy Board	September 2013