

**Environment  
Scrutiny and Performance Panel**

**Agenda  
Item No.**

**DATE: 4<sup>th</sup> January 2010**

**7**

**Carbon Management Plan**

**Ward(s)** All

**Portfolios:** Cllr M Flower - Environment  
Cllr C Towe – Finance & Personnel

**Summary of report:**

In June 2009, Walsall Council enrolled on the Carbon Management Programme, under the guidance of The Carbon Trust. The aim of the programme is to reduce carbon emissions under the direct control of the Council, whether caused by energy use in buildings, street lighting, landfill waste or from vehicles.

The Carbon Management Programme Board established to lead the Programme set a target to reduce carbon emissions by 30% by 2014 and 40% by 2019 based on 2008/09 levels. This target will be achieved by a series of projects listed in a Carbon Management Plan currently being produced, and due to be submitted to cabinet for approval in February 2010.

This report provides background information to the Environment Scrutiny and Performance Panel on the production of the Carbon Management Plan in order for any suggestions for improvement or further exploration to be included in the final version sent to cabinet.

**Background papers:**

*Introducing Local Authority Carbon Management (The Carbon Trust).*

**Reason for scrutiny:**

The Programme Board (senior officers and Cllr Flower, cabinet member for Environment) agreed that the plan would benefit from scrutiny prior to submission for approval by cabinet in February. This would allow for the inclusion of any recommendations or suggestions in the draft cabinet report.

**Resource and legal considerations:**

No capital costs are incurred to participate in the programme, and revenue costs have been limited to travel to attend workshops run by The Carbon Trust. Many training events are by web-based teleconference to reduce the need for participants to travel.

In the longer term it is likely that substantial savings will ensue from energy efficiency and other measures currently being quantified by the Programme Board and Carbon Management Team. It is currently expected that these additional savings will be offset against inflation and price increases expected for fuel and energy expenditure and are not expected to be cash releasing savings, but will avoid the need for an increase in budgets for energy inflation. This said, the detail is not yet available and will be detailed in a future report when data and information is available.

As part of the budget setting framework for 2010/11+, managers have been requested to state whether their savings and efficiency targets will have an impact on their service's carbon footprint. This will allow data collection and identification of additional measures to be included in the programme.

Another driver for participating in this programme is the Carbon Reduction Commitment (CRC) which commences in April 2010 and will require the council to make a financial initial outlay of £450,000 per annum for 2010/2011 and the same amount again for 2011/2012 towards our carbon allowances. This has already been accounted for in the council's medium term financial plan and will form part of the draft budget proposals for Council in February 2010. Savings identified as part of the Carbon Management Programme will in turn have an impact on the Council's financial outlay towards the CRC. Detailed financial reports will be available throughout the programme to gain the advice of, and request scrutiny opinion on, the utilisation of such savings, which will be ultimately approved by Cabinet.

**Citizen impact:**

Tackling climate change by reducing carbon dioxide emissions from within the Council's operations will marginally improve air quality and potentially reduce light and noise pollution for the citizens of the borough, and help local communities by reducing the effects of global warming. This will assist in mitigating any future adverse weather conditions that affect the most vulnerable. It will demonstrate commitment and leadership by the Local Authority should future legislation begin to impact more stringently upon current lifestyles and behaviour

Measures to reduce the number of Council employees that commute to work by private car, and to remove the need for car travel on business will potentially reduce the number of road traffic accidents in the borough.

**Environmental impact:**

Achieving the target of reducing the volume of waste created, and energy and fuel

used in Council-owned properties, fleet and staff travel will reduce carbon dioxide emissions which are responsible for increasing incidences of freak weather incidents across the region, including the Borough.

Reducing the need to travel and encouraging modal shift from private cars to public transport will cut congestion, noise pollution and improve air quality.

**Performance management:**

Achieving the target of reducing energy and fuel consumption in Council-owned properties, fleet and staff travel will reduce carbon dioxide emissions and minimise fuel and energy costs. This will improve the Council's Use of Resources score in the CAA.

The programme will directly assist in reducing emissions under National Indicator 185 reduction in local authority carbon emissions, and NI194 Air Quality.

**Equality Implications:**

No Equality Impact Assessment been carried out. It is assumed that as energy use is universal, and the programme only affects the Council's direct energy consumption rather than residents and businesses, the impacts of the Carbon Management Programme will be spread equally across all people.

**Consultation:**

Both the Carbon Management Programme Board and Carbon Management Team have been consulted on this report.

The departments and organisations represented are:

Regeneration - Development & Delivery

Regeneration - Transportation

Communications

Procurement

Finance

Property Services

Business Change

Serco

Leisure Services

Streetpride – Waste Services

Streetpride – Fleet Services

Greenspace Services

Human Resources


ICT

Streetlighting

New Deal for Communities

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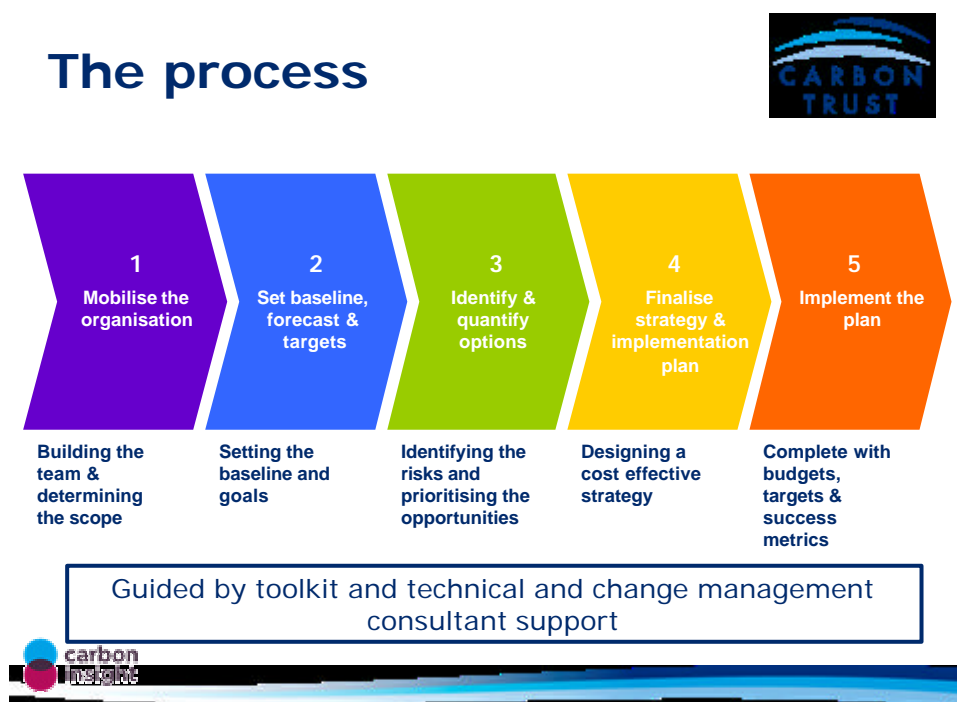
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## 1. Introduction

- 1.1 Walsall Council was invited to enrol on the Local Authority Carbon Management Programme, under the guidance of The Carbon Trust. The aim of the programme is to reduce carbon emissions under the direct control of the Council.
- 1.2 There have been six previous phases of the Local Authority Carbon Management Programme; Walsall is one of 160 public sector organisations involved in Phase 7. Wolverhampton City Council and Solihull Metropolitan Borough Council were involved in Phase 6.
- 1.3 There are many benefits of reducing carbon emissions, not only environmentally but socially and financially. Fuel and energy prices are currently very volatile, and the recent trend is for a rapid rise.

## 2. The Carbon Management Programme

- 2.1 The programme is broadly a five-step process as outlined in the following diagram:



- 2.2 The mobilisation phase involved inviting key individuals to a launch event and the creation of a programme board to take executive decisions, and a management team to research and deliver proposals. Membership of the programme board and management team is detailed in section 7 of Appendix A.
- 2.3 Subsequent briefings ensured each member understood the broad issues and the timetable of the programme, and was committed to the process. The scope of the programme was agreed to include energy use of buildings and streetlights, waste, fuel use of fleet and staff business travel as well as fuel use from staff travel to and from work.

- 2.4 Step two involved setting the baseline figure to compare performance against, forecast and targets. The programme board set a provisional target to reduce carbon emissions by 30% by 2014 and 40% by 2019. Both are below the average targets of current participants in the programme.
- 2.5 57,600 tonnes of CO<sub>2</sub> were emitted as a result of Walsall Council's operations in the baseline year of 2007/08. It is difficult to compare other local authorities of a similar size and geography because the scope of what is included in the baseline differs by each participant in the programme.
- 2.6 Different energy-saving options were identified at a workshop and following a trawl of existing and planned projects. Outline costs and energy savings were estimated in step three.
- 2.7 The programme is currently at step four, where the savings and costs of projects are being quantified in greater detail, and the strategy and implementation plan is finalised.
- 2.8 Following approval, step five will see each project delivered, and energy savings and costs monitored each year.

### **3. The Carbon Management Plan**

- 3.1 The principal document in the programme is called the Carbon Management Plan. This is attached as appendix A.
- 3.2 It outlines the background behind the programme, details the baseline figures and scope as well as projections for costs and emissions.
- 3.3 It then lists in section four each of the projects grouped into existing projects, projects that are planned or already funded, near-term projects, and medium-term projects.
- 3.4 Section five details how the programme will be funded.
- 3.5 Finally, sections six and seven show how the programme will be embedded into the Council to ensure that the benefits are fully realised and extended.

### **4. Impacts**

- 4.1 The council's current bill for energy, fuel and waste collection and disposal is around £11.7m per annum (£8m of which is for energy to heat and light our buildings, including schools). This is predicted to rise to approximately £19m by 2013.
- 4.2 The council currently produces 57,600 tonnes of carbon dioxide per annum. This is predicted to rise to 59,600 by 2013 based on a "business as usual model".
- 4.3 Through implementing all of the carbon-saving projects contained within the Carbon Management Programme, the Council could reduce carbon emissions by 17,300 tonnes per annum by 2013. There will also be considerable financial

savings to be made through the projects, which are expected to fund most of the increase in energy and fuel inflation costs stated in paragraph 4.1 above.

- 4.4 National Indicators 185 “Percentage CO<sub>2</sub> reduction from Local Authority operations” and 194 “per cent reduction in NO<sub>x</sub> and primary PM<sub>10</sub> emissions through the local authority’s estate and operations” will both be directly affected by the programme to the benefit of the authority.
- 4.5 Implementation of the Carbon Management Programme will help the Council demonstrate that it is making effective use of natural resources, part of the Comprehensive Area Assessment under Key Lines of Enquiry 3.1.
- 4.6 Walsall Council has adopted a Climate Change Strategy and Action Plan which considers the actions it needs to take in response to the challenge of climate change. The actions in the strategy focus on key areas that the Council can directly influence such as increasing the energy efficiency of its assets. The Carbon Management Plan is entirely compliant with the Strategy.
- 4.7 Walsall’s Local Climate Impact Profile has been prepared to better understand the Council’s vulnerability to severe climate and weather and in particular how these events affect the local community, as well as the authority’s assets and capacity to deliver services. Implementation of the Carbon Management Plan will help mitigate against the risks detailed in the profile.
- 4.8 As quick-win opportunities are completed in the Plan, further carbon reductions will become increasingly difficult to achieve unless technology becomes more viable or acceptable.

## **5. Implementation**

- 5.1 The projects listed in the “existing projects” section of the Carbon Management Plan have been or are in the process of being implemented.
- 5.2 The projects in the “planned/funded” section have either received funding or cabinet approval.
- 5.3 The programme board is currently exploring the potential of using funding that has been invested in these projects to draw down additional funding from a variety of sources such as Advantage West Midlands and the Low Carbon Buildings Programme.
- 5.4 Another potential source of funding is from Salix Finance. Salix Finance is a not-for-profit company funded by the government. Its remit is to facilitate the take-up of carbon saving technology through the administration of conditional grants. It may be possible for the Council to receive a grant equivalent to the sum it has already invested and proposes to invest in the planned and near-term projects in the plan, and to recycle the subsequent energy savings back into further carbon-saving projects.



# Walsall Council Carbon Management Programme

## Carbon Management Plan (CMP)

**Date:** 16 December 2009

**Version number:** 0.9

**Owner:** Kevin Kendall

**Approval route:** Cabinet

**Approval status:** Draft





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## Appendix A: Definition of Projects

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## Foreword from Paul Sheehan and Councillor Mike Flower

The Council's vision is by 2021 Walsall will be well on the way to achieving its goal to become a leading council in the field of environmental sustainability. By developing a coherent approach to reducing carbon emissions through the Carbon Management Programme, the council will benefit not just in terms of saving energy, and money, but also from an improvement in overall environmental performance, enhancing the living conditions of local residents and protecting local people from threats posed by our changing climate and benefit from any potential opportunities.

Walsall Council will lead by example to reduce its carbon footprint by reducing energy consumption across its buildings and services. The importance and scale of climate change means that all sectors of the council and council activities within the borough need to be involved in achieving this goal.



**Paul Sheehan**  
Chief Executive, Walsall Council



**Cllr Mike Flower**  
Cabinet Member for Environment, Walsall Council





## Foreword from the Carbon Trust

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

Walsall Council was selected in 2009, amidst strong competition, to take part in this ambitious programme. Walsall 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 CO<sub>2</sub> by 30% by 2014 and 40% by 2019 and underpins potential cumulative financial savings to the council of around £17.5 million between 2009 and 2014.

There are those that can and those that do. Local authorities can contribute significantly to reducing CO<sub>2</sub> emissions. The Carbon Trust is very proud to support Walsall Council in their ongoing implementation of carbon management.

A handwritten signature in black ink, appearing to read "Richard Rugg".

**Richard Rugg**  
**Head of Public Sector, Carbon Trust**

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## Management Summary

The Climate Change Act 2008 set the UK's target to reduce carbon emissions by 80% by 2050. Action by local government is crucial in achieving this target.

Walsall Council has already acted to address climate change through various measures:

- Signing the Nottingham Declaration on Climate Change
- Producing a Climate Change Strategy and Action Plan
- Producing a State of the Environment Report with the Walsall Partnership

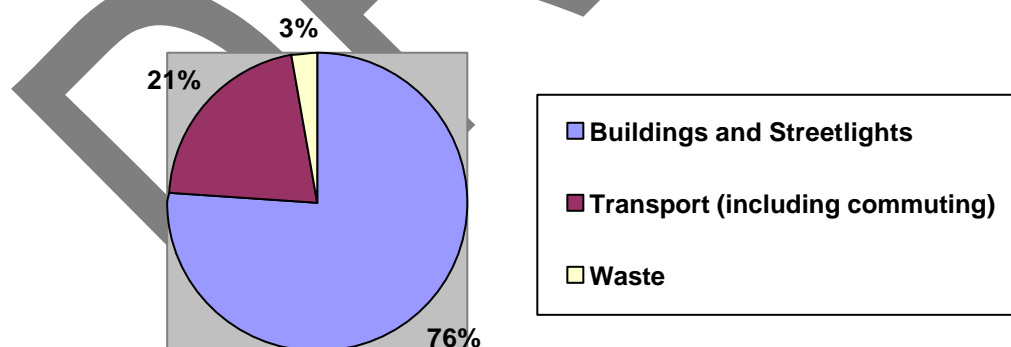
In keeping with the momentum created by these measures, Walsall Council entered into Phase 7 of the Local Authority Carbon Management Programme.

The Carbon Management Programme requires the production of this Carbon Management Plan. The aim of the plan is to manage the reduction of carbon emissions over its five-year period and achieve the targets within it. The plan draws together data on the baseline year emissions, projects for reducing emissions and management actions to ensure that a low-carbon future is embedded into the decision-making processes and activities of the Council.

At the launch event in June 2009, a target was agreed of a 30% reduction in carbon emissions by 2014 and 40% reduction by 2019 based on 2007/08 baseline. This is below the average of other organisations taking part in Phase 7.

### Emissions Baseline

Walsall Council's estimated total carbon emissions for 2007/08 were 57,753 tonnes. The following chart shows a breakdown of where those emissions come from:

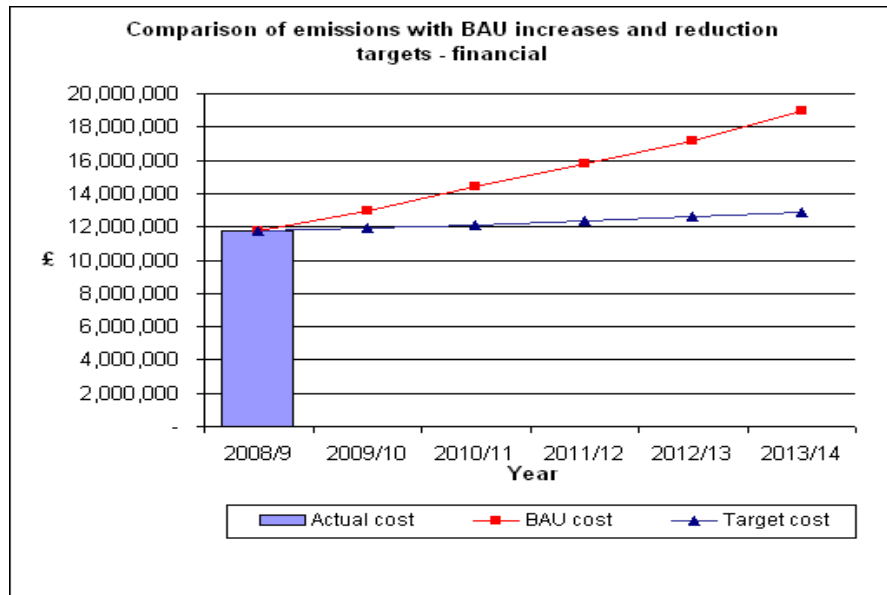


### Financial Risk

There is a financial risk in failing to reduce carbon emissions. Due to the ever increasing cost of and uncertainty of its supply, energy expenditure could rise over the period of the management plan by as much as 50%.



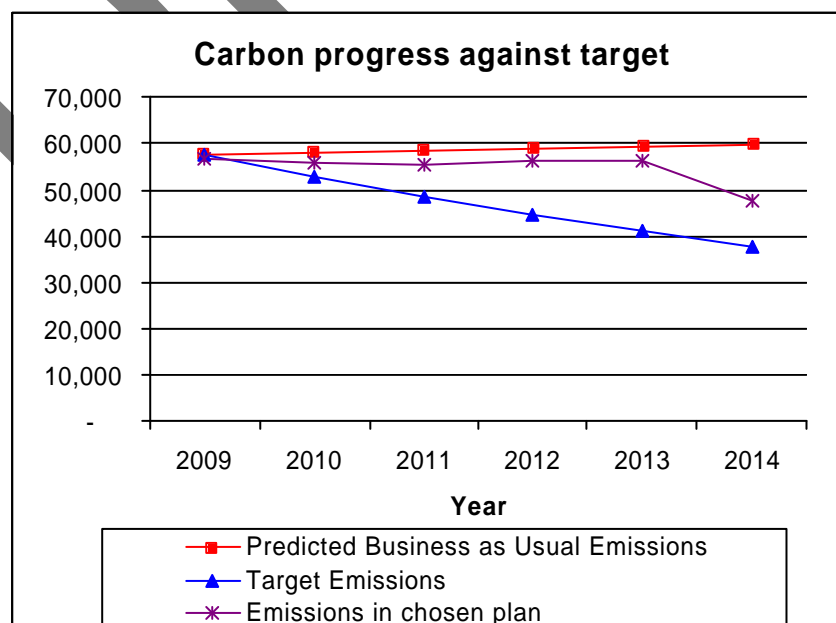
The following diagram shows the potential costs faced by the Council on energy costs between following a “business as usual” approach, and implementing projects to achieve the 30% carbon savings by 2014. **The Council could save approximately £17.5m over five years on fuel and energy costs if it successfully cuts carbon emissions by 30%. This assumes that the Council continues to fund ongoing increases in energy prices.**



### Meeting the Target

The plan includes a project register made up of a range of projects which have been assessed in terms of cost, feasibility and their contribution to reducing Walsall's carbon footprint. The project register also includes current projects and work programmes.

This plan sets out how the target will be met. It is estimated that existing activity will save approximately 18% of the target by 2013, as shown on the graph below by the middle line. The remaining savings will come from future projects such as the adaptive working programme, Building Schools for the Future, Resource Recovery and more effective use of ICT that are yet to be finalised.





## 1. Introduction

This Carbon Management Plan provides a breakdown of Walsall Council's direct carbon emissions. It presents actions which will lead to reductions in its carbon emissions. The emissions baseline is for the financial year 2007/08 and the plan covers the financial years 2008/9 to 2013/14 in detail and up to 2018/19 in broader terms.

This document is a result of Walsall Council's participation in phase 7 of the Carbon Trust's Local Authority Carbon Management Programme. This has involved the Council working closely with consultants to develop a baseline for carbon emissions under the control of the Council, and to develop opportunities to reduce its carbon emissions over the next five years and beyond.

Since starting the programme, the Council has:

- ▶ Hosted a launch event involving key officers to introduce the programme and its objectives
- ▶ Agreed a target of reducing carbon emissions by 30% by 2014 and 40% by 2019
- ▶ Produced a Project Plan to assist in the production of this Carbon Management Plan and set out actions for the first five months
- ▶ Established a Carbon Management Programme Board and Carbon Management Team to support and deliver the programme
- ▶ Established a baseline figure for carbon emissions for the financial year 2007/08
- ▶ Identified initial opportunities for reducing carbon
- ▶ Co-ordinated an "opportunities workshop" to identify further opportunities
- ▶ Quantified those opportunities to enable prioritisation of the most effective opportunities.

Steps have already been taken by the Council that will reduce carbon emissions through a number of programmes and projects such as building refurbishments and estate rationalisation. However, by participation in the Carbon Management Programme, the Council will:

- ▶ Complete the quantification of the carbon savings arising from the projects included in the Project Register
- ▶ Develop a Financial Plan and business cases for the actions in the Project Register
- ▶ Make cost and carbon savings through the implementation of this Plan
- ▶ Create a low carbon culture across the Council by embedding the principles of carbon savings within policies, projects and procedures



## 2. Carbon Management Strategy

### 2.1 Context and drivers for Carbon Management

The UK Government has placed an emphasis on local authorities setting a leading example on Climate Change. Action by local authorities will be critical to the achievement of the Government's climate change objectives, such as the long term goal to reduce CO<sub>2</sub> emissions by 80% by 2050 in the Climate Change Act.

The Act has created a number of legislative drivers for LAs:

- **Display Energy Certificates:** As of 1 October 2008 there is a legal requirement for all public sector buildings with a total useful floor area of over 1,000m<sup>2</sup>, to show a Display Energy Certificate (DEC) in a prominent place, clearly visible to the public.<sup>1</sup> The following table shows the number of DEC's for each rating (A being the best, and G the worst) across the authority:

Rating	Number of DEC's
A	0
B	6
C	21
D	43
E	38
F	17
G	11

- **Carbon Reduction Commitment:** The Carbon Reduction Commitment is a mandatory "cap & trade" emissions trading scheme for organisations whose total electricity consumption is greater than 6,000MWh or approximately £500k. If an organisation falls within the CRC scheme **all** electricity and fuel emissions are covered. The reporting year will be 2010-2011 (commencing April). Local Authorities will be penalised, depending on their position in the CRC league table<sup>2</sup>. The scheme will formally commence from April 2011, when Councils will have to pay penalties dependant on the position in the league table for that year.

The government has created two National Indicators specific to CO<sub>2</sub> reduction:

- **NI185 – percentage CO<sub>2</sub> reduction from LA operations:** the public sector is in a key position to lead on efforts to reduce CO<sub>2</sub> emissions by setting a behavioural and strategic example to the private sector and the communities they serve. Measurement against this indicator requires each local authority to calculate its CO<sub>2</sub> emissions from analysis of the energy and fuel use in their relevant buildings and transport, including where these services have been outsourced.<sup>3</sup>
- **NI186 – per capita CO<sub>2</sub> emissions in the LA area:** Local authorities are uniquely placed to provide vision and leadership to local communities by raising awareness and to influence behaviour change. The percentage reduction in CO<sub>2</sub> per capita in each LA will be reported annually. This will be produced by Central Government based on CO<sub>2</sub> emissions in the Local Area from business and Public Sector, domestic housing, and road transport.

<sup>1</sup> more information on DEC can be found at

[www.communities.gov.uk/planningandbuilding/theenvironment/energyperformance/certificates/displayenergyvcertificates](http://www.communities.gov.uk/planningandbuilding/theenvironment/energyperformance/certificates/displayenergyvcertificates)

<sup>2</sup> more info on the CRC can be found at: <http://www.defra.gov.uk/Environment/climatechange/uk/business/crc/index.htm>

<sup>3</sup> more information on NI185 and NI186 can be found at: [www.defra.gov.uk/environment/localgovindicators/indicators.htm](http://www.defra.gov.uk/environment/localgovindicators/indicators.htm)





The Comprehensive Area Assessment Key Line of Enquiry 3.1 “Is the organisation making effective use of natural resources?” is placing an increasing emphasis on local government’s ability to:

- ▶ understand and quantify its use of natural resources
- ▶ manage performance to reduce impact on the environment
- ▶ manage the environmental risk it faces, working effectively with its partners

The Carbon Management Programme will help Walsall Council demonstrate that it is effectively managing its natural resources in relation to the use of energy and waste, and through the reduction of carbon emissions, the Council will demonstrate that it is reducing its environmental impact.

Walsall Council first demonstrated its commitment to tackle climate change when it signed the Nottingham Declaration in November 2006. Walsall Council has also adopted a Climate Change Strategy which considers the actions it needs to take in response to the challenge of climate change. The actions in the strategy focus on key areas that the Council can directly influence such as increasing the energy efficiency of its assets.

Finally, and by no means the least, measures to increase energy efficiency will reduce energy costs, which is particularly important for the future given the predicted increases in energy prices. Energy and fuel costs have seen a dramatic rise in recent years, with energy prices increasing by well over 50% since 2004. This trend is not expected to change and we must accept that the price we pay for our energy will continue to increase in the coming years.

## 2.2 Our low carbon vision

**By 2021 Walsall will be a leading Council in the field of environmental sustainability.**

*(Climate Change Strategy and Action Plan, 2008 – 2012)*

## 2.3 Strategic themes

Walsall Council will use the Carbon Management Programme to significantly reduce its carbon emissions from all its service areas.

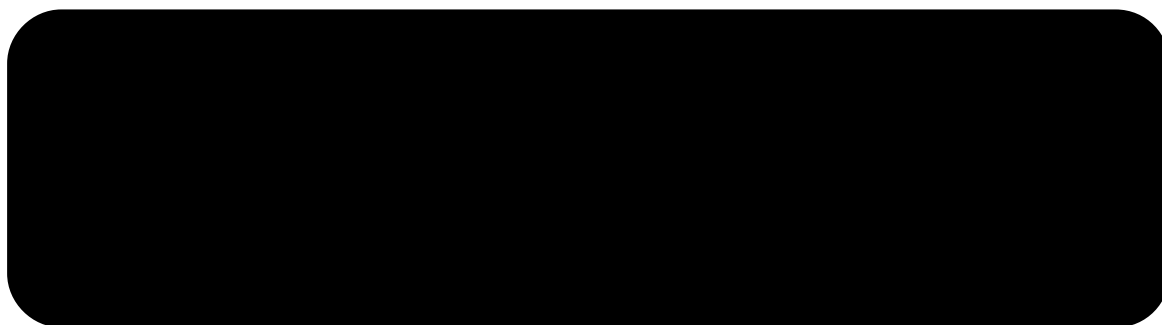
The Carbon Management Programme pulls together existing strategies and programme of work across a range of service areas which undertake activities that lead to carbon reduction. These include:

- ▶ Estate:
  - Asset Management Programme
- ▶ Corporate:
  - Adaptive Working Programme
- ▶ Schools:
  - Building Schools for the Future
  - Academies
  - Primary Capital Improvement Grant
- ▶ Waste:
  - W2R (Energy from Waste)
- ▶ Fleet Services



- Green Fleet Review

## 2.4 Targets and objectives



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### 3. Emissions Baseline and Projections

#### 3.1 Scope

Walsall Council has considered the following emission sources in the preparation of its baseline for the year 2007/08.

- Council owned buildings energy use (including schools)
- Building energy use for outsourced council functions (including schools)
- Street lighting energy consumption (including traffic lights, and illuminated bollards and signs)
- Council-owned fleet fuel use
- Fleet fuel use for outsourced council functions
- Business travel for council activities
- Business travel for outsourced council functions
- Council employees' commuting
- Waste produced by council buildings and operations (including schools)

#### 3.2 Baseline

The baseline year chosen for the Carbon Management Programme is the financial year 2007/08.

The first reporting year for NI185 was the financial year 2008/09.

The following table and diagram summarise the sources of the total emissions of carbon dioxide and costs:

	Total	Buildings and street lights	Transport	Waste
Baseline CO <sub>2</sub> emissions (tonnes)	57,753	43,858	12,305	1,589
Baseline Cost (£)	11,744,097	8,460,945	2,739,531	543,621

Table 3.1 – Summary table of emissions for baseline year 2008

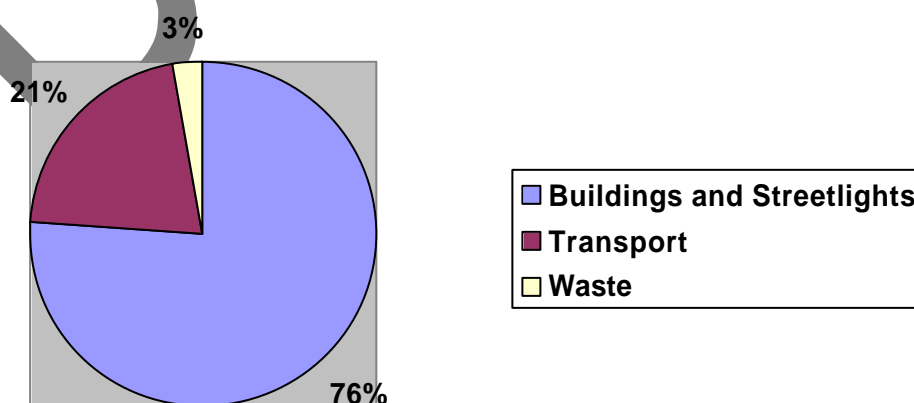


Figure 3.1 Summary of emissions for baseline year 2008



When producing the costs figures in the baseline, the following prices for fuel types were used. Electricity and gas prices and projections were provided by the current supplier, and represent a “medium risk” scenario.

### Annual energy cost predictions

Base case increase

11.7%

Estimated increase in cost per annum, to include effects of inflation and price changes.

	2008/9 p/kWh	2009/10 p/kWh	2010/11 p/kWh	2011/12 p/kWh	2012/13 p/kWh	2013/14 p/kWh
Electricity (grid)	10.66	11.86	13.65	15.37	16.91	18.89
Electricity - CHP	9.00	10.05	11.23	12.54	14.01	15.65
Electricity (onsite renewables)	0.00	0.00	0.00	0.00	0.00	0.00
Natural gas	3.27	3.82	4.27	4.36	4.76	5.32
Gas oil	4.00	4.47	4.08	4.56	5.09	5.69
Burning oil	4.00	4.47	4.99	5.57	6.23	6.96
LPG	4.00	4.47	4.99	5.57	6.23	6.96

Table 3.2 – Annual energy cost predictions

The following table explains the source of the baseline data and an assessment of its quality.

Site	Data	Source	Quality
Council Buildings and Schools	Electricity	Energy officer – Property Services	Accurate – meter readings and billing
Council Buildings and Schools	Gas Oil	Energy officer – Property Services	Accurate – based on delivery data
Council Buildings and Schools	Gas	Energy officer – Property Services	Accurate – meter readings and billing
Council Buildings and Schools	Waste	Waste Services – Streetpride	Accurate – readings from Refuse Collection Vehicles (RCVs)
Streetlights (Public lighting)	Electricity	Amey	Streetlight figure based on contractual agreement. Actual readings will be available in future years.
Traffic lights	Electricity	Highways	Meter certificates
Illuminated signs and bollards	Electricity	Highways	Meter certificates
Transport – Fleet	Fuel use	Fleet Services	Accurate – pump readings
Transport – Business Travel	Mileage	Mileage claims  Public Transport scratch cards	Good – although only records claims submitted  Number of journeys and start and end points are based on scratch card claim



		Rail Travel Warrant claims	forms and therefore accurate. Fuel consumption based on DfT calculations.  Good - emissions based on DfT carbon footprint calculator using start and destinations on each claim form.
Transport – Commuting	Mileage	Employees' registered postcode data and DfT statistics for West Midlands	Estimate – no guarantee that employees travel from their registered address with HRD, no guarantee that WMBC staff travel modes are related to the DfT regional average and based on average of 190 working days a year (average annual leave/ flexi/ sickness).  In following years, Method of Travel to Work statistics for Walsall's daytime population (UV37 available from the ONS) will be used, rather than regional averages from DfT.
Outsourced services buildings	Electricity and gas	Contacts at each service provider	Good – meter readings
Outsourced services business travel	Mileage	Contacts at each service provider	Good – mileage reports.
Outsourced services commuting	None		Amey will provide their commuting data in subsequent years for comparison

### 3.3 Projections and Value at Stake

The prediction is that levels of CO<sub>2</sub> emissions are due to increase moderately over five years if a business as usual approach is taken to the council's activities. Figure 3.2 demonstrates that such an approach will see carbon emissions increase from 57,753 tonnes in 2008/9 to 59,802 tonnes in 2013/14. Conversely, if the 30% target is achieved within five years, carbon emissions will decrease to 40,426 tonnes in 2013/14.

Figure 3.3 illustrates the difference in total energy and fuel costs over five years between the two models. It is very difficult to predict energy costs over the long-term. Fixed-price contracts offer a degree of certainty to part of the predictions, and previous trends have been extrapolated to inform the predictions based on a 5.3% annual rise in energy prices and 8.4% rise in petrol and diesel prices.

The result is a cumulative saving of approximately **£17.5m** over five years should the 30% target be achieved and these predicted fuel and energy prices be correct. This assumes that the Council will continue to fund any increases in energy prices.

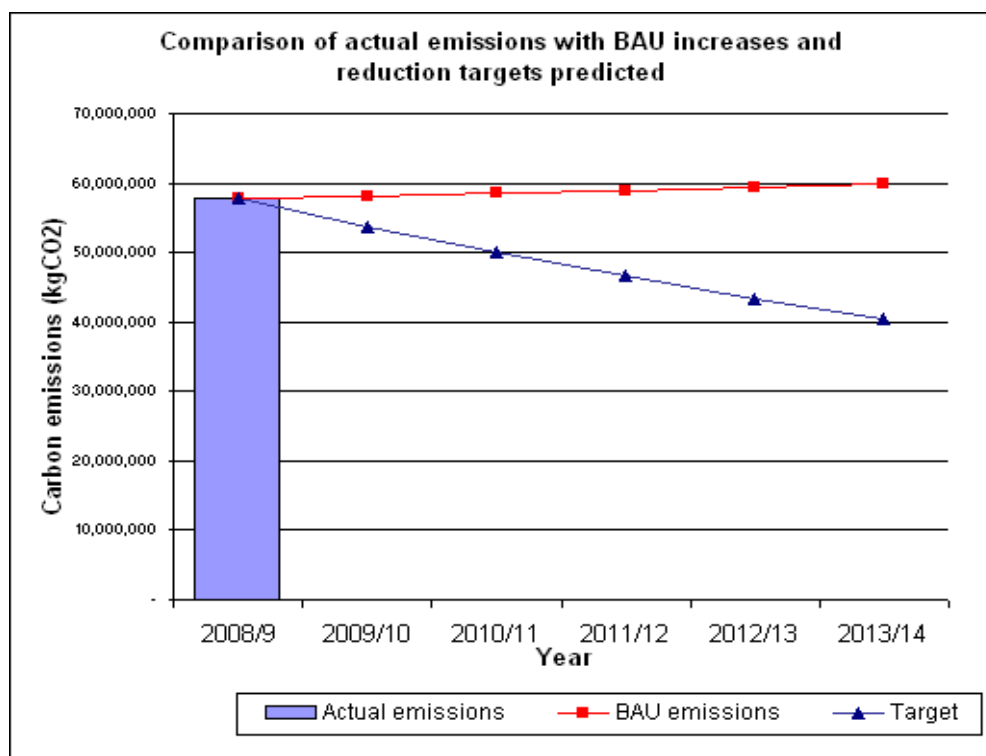


Figure 3.2 – 30% carbon reduction over five years compared to business as usual

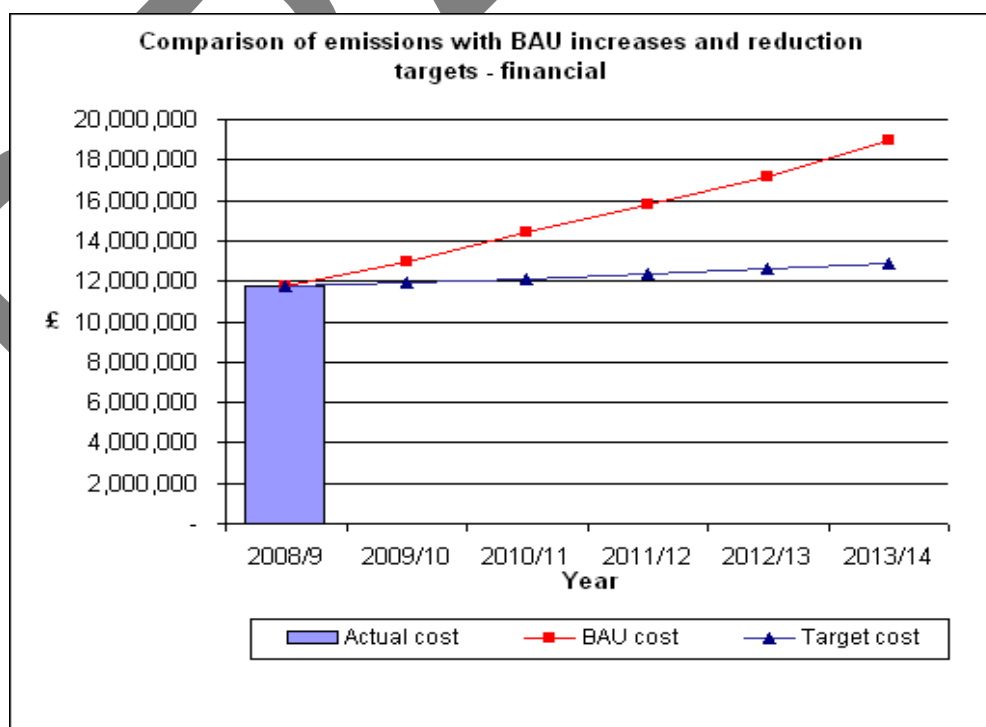


Figure 3.3 Energy costs of reduced emissions model (blue line) and business as usual model (red line)



### Business as Usual scenario (BAU)

The figures below are in £ for the year shown

BAU Cost  
increase  
pa

		Baseline 2007/8	2009/10	2010/11	2011/12	2012/13	2013/14
<b>Stationary sources</b>							
12.1%	Grid electricity	£5,560,722	£6,232,399	£7,223,859	£8,191,057	£9,073,234	£10,205,746
9.7%	Liquid fuels	£228,980	£257,561	£263,362	£296,235	£333,210	£374,801
11.1%	Gaseous fuels	£2,671,244	£3,068,985	£3,452,052	£3,729,444	£4,153,659	£4,672,115
<b>Transport</b>							
2.0%	Fleet	£891,790	£915,993	£940,853	£966,388	£992,615	£1,019,555
2.0%	Business	£1,833,761	£1,883,529	£1,934,648	£1,987,154	£2,041,086	£2,096,481
<b>LACM other emissions sources</b>							
2.0%	Waste	£543,621	£558,375	£573,529	£589,094	£605,082	£621,504
<b>BAU scenario total</b>		<b>£11,730,116</b>	<b>£12,916,841</b>	<b>£14,388,303</b>	<b>£15,759,373</b>	<b>£17,198,888</b>	<b>£18,990,203</b>

- BAU Increase in Demand for all stationary sources, 0.7%, source DTI/DBERR EP68
- BAU increase in demand for Fleet, 0.7%, source DTI/DBERR EP68

### Reduced Emissions scenario (RES)

		Baseline 2007/8	2009/10	2010/11	2011/12	2012/13	2013/14
<b>Stationary sources</b>							
	Grid electricity	£ 5,560,722	£5,806,490	£6,063,120	£6,331,093	£6,610,910	£6,903,093
	Liquid fuels	£228,980	£233,829	£238,780	£243,837	£249,001	£254,273
	Gaseous fuels	£2,671,244	£2,762,806	£2,857,507	£2,955,454	£3,056,758	£3,161,535
	Biomass	£ -	£ -	£ -	£ -	£ -	£ -
<b>Transport</b>							
	Fleet	£891,790	£846,998	£804,455	£764,050	£725,674	£689,225
	Business	£1,833,761	£1,741,656	£1,654,178	£1,571,093	£1,492,182	£1,417,234
<b>LACM other emissions sources</b>							
	Waste	£543,621	£516,316	£490,383	£465,753	£442,359	£420,141
<b>RES total</b>		<b>£ 11,730,116</b>	<b>£11,908,095</b>	<b>£12,108,424</b>	<b>£12,331,280</b>	<b>£12,576,883</b>	<b>£12,845,502</b>

Several of the projects involve generated heat and power through gas-fired or biomass CHP (combined heat and power). This will involve a shift away from grid electricity and gaseous fuel to different prices. This shift has not been accounted for in the above table and graph; however, as gas-fired CHP and biomass is cheaper than grid supplies, the reduced emissions scenario total is likely to be lower.



## 4. Carbon Management Projects

The 30% reduction in carbon emissions will be achieved through implementation of the projects listed in this section.

The projects were developed by the Carbon Management Team following collation of existing projects and programmes, and identification of further opportunities. The list was revised at monthly meetings of the Carbon Management Team where projects which were considered not cost-effective were discarded.

### 4.1 Existing projects

The following projects have been implemented since the baseline year (2007/08). Projects that do not repay the capital outlay over the life expectancy of the projects are marked "DNP" in the payback column. The Year column relates to financial year beginning in the stated year – e.g. "2009" relates to financial year 2009/10.

Ref	Project	Lead	Cost £			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Oper'	£	CO <sub>2</sub>			
3	(Real time monitoring) Smart Metering - Non half hourly electricity supplies	Prop	16256	0	0	42183	503.4t	0.4	2.91	2009
10	Abbey Primary School - Energy efficient lighting and controls	Prop	30000	0	0	193	2.3t	DNP	0.01	2009
11	Harden Primary School - Energy efficient lighting and controls	Prop	35000	0	0	910	10.9t	DNP	0.06	2009
12	Pheasey Park Primary School (Front Wings) - Energy efficient lighting and controls (to include wiring)	Prop	30000	0	0	144	1.7t	DNP	0.01	2009
6	Estate Rationalisation	Prop	0	0	0	56,013	838.8t	0.0	4.86	2009-14
26	Lindens Primary School - Energy efficient lighting and controls	Prop	70000	0	0	586	7t	DNP	0.04	2009
70	New Mobile Library Vehicles with PV	Lib	276K	0	0	381	1	DNP	0.0	2009
49	Auto shut down software	ICT	0	0	0	45	0.5	0	0.0	2009
50	Temporary closure and review of Walsall Illuminations	Leis/Culture	0	0	0	3,453	41.2t	0.0	0.24	2009
61	Reduced opening hours at libraries	Lib	0	0	0	4,581	61.5t	0.0	0.36	2009
73	Dale Street Family Centre - Replace electric storage heaters with gas fired condensing boilers	Prop	45000	0	0	2190	26.1	DNP	0.15	2009
81	Local History Centre - Install New Air Conditioning System	Prop	70,000	0	0	845	10.1t	DNP	0.06	2009
90	Watling Street Primary School - New heating system	Prop	140K	0	0	394	7.3t	DNP	0.04	2009
92	Oakwood Primary School - New swimming pool boiler	Prop	8,000	0	0	181	3.3t	DNP	0.02	2009





## 4.2 Planned / funded projects

The following projects are considered priority projects as approval and funding is either already in place, or are about to be approved.

Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev	Res'ce	Fin	CO <sub>2</sub>			
1	Collingwood Centre - Install programmable timers to 3No. hot water boilers	Prop	600	0	0	113	1.3t	5.3	0.01	2010
8	Gala Swimming Baths - Install swimming pool cover for brine pool	Leis	5,000	0	0	875	16.2t	DNP	0.09	2010
13	Forest Arts Centre - Insulate cavity wall	Prop	9,000	0	0	881	16.3t	DNP	0.09	2010
14	Temporary removal / review of water coolers	Proc	0	0	310	31226	376.3t	0	2.18	2009
15	Willenhall School Sports College - New hot water cylinder	Prop	18000	0	0	180	3.3t	DNP	0.02	2010
17	Willenhall town centre lighting	Regen	17990	0	0	45	0.5t	DNP	0.00	2010
19	Streetlight dimming on Goscote Estate (Goscote Lodge Crescent and Hildicks Crescent)	Hways	20,000	0	0	367	4.4t	DNP	0.03	2010
21	Collingwood Centre - convert oil fired boiler to gas fired	Prop	20,000	0	0					2010
29	Gala Swimming Baths - Energy Efficient Lighting	Prop	250K	0	0	1,048	12. t	DNP	0.07	2010
30	Shared PECU array	Hways	0	1K	0	15000	238.7	0	1.38	2010
33	Civic Centre - Voltage Optimisation	Prop	86,000	0	0	19,616	234.1t	4.4	1.36	2010
41	Oak Park Leisure Centre - Swimming Pool Cover (Main Pool)	Prop	5,000	0	0	1,094	20.2t	4.6	0.12	2010
43	Willenhall Library - Replace heating system	Prop	80,000	0	0	413	7.6t	DNP	0.04	2010
60	Dimming on traffic routes (trial)	Hways	0	0	0	137.5	1.6	0	0.01	2010
67	Pelsall EDC - Insulate pipe work, valves and flanges in boiler plant room	Prop	500	0	0	202	5.5t	DNP	0.03	2010
74	Dale Street Family Centre - Install energy efficient lighting and controls	Prop	24,000	0	0	438	5.2t	DNP	0.03	2011
80	Allens Centre - Replace hot water cylinder	Prop	25,000	0	0	226	4.2t	DNP	0.02	2010
83	Airport Top Hangar log-fired boiler	Green space	35,000	300	0	5,700	105.1t	6.1	0.61	2010



Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev	Res'ce	Fin	CO <sub>2</sub>			
84	Stroud Avenue Family Centre -Replace 44No. Tungsten lamps with low energy lamps and adjust space heating system controls	Prop	500	0	0	81	1t	6.2	0.01	2014
85	Leighswood Primary School - New heating distribution pipe work system	Prop	100K	0	0	569	10.5t	DNP	0.06	2010
93	Civic Centre - Installation of Variable Speed Drives (VSDs) for Plant Room Air Handling Units (AHUs)	Prop	36,000	0	0	17,669	210.9 t	2.0	1.22	2014
95	Streety Crematorium - Replace 80W lamp with equivalent low energy reflectors	Prop	500	0	0	98	1.2 t	5.1	0.01	2014

### 4.3 Near-term projects

Below are projects that are yet to be funded:

Ref	Project	Lead	Cost £			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce	£	CO <sub>2</sub>			
5	Review of mileage claims and motor vehicle allowance policies vs pool cars	HRD	0	0	0	12,051	27t	0.0	0.16	2012
7	Renewable Energy Strategy	Prop	30000	0	0	0	0	0	0	2013
18	Collingwood Centre - Zoning of heating system and new distribution pipe work system	Prop	200K	0	0	3,780	67.9 t	DNP	0.39	2011
20	Replace CRT monitors	ICT	800	0	0	80	1t	10.0	0.01	2013
24	Dartmouth House - Insulate DHWS cylinder, pipe work and valves	Prop	1000	0	0	79	1.5t	DNP	0.01	2012
34	Council House / Town Hall - Voltage Optimisation	Prop	21,000	0	0	1,998	23.8t	DNP	0.14	2013
46	Local History Centre - Insulate valves and flanges in boiler room and Thermostat Radiator Valves (TVRs) to radiators	Prop	500	0	0	103	1.9t	4.8	0.01	2012
47	Central Library & Museum- Install timer control for electric under floor heating	Prop	3,000	0	0	1,620	19.3t	1.9	0.11	2012
52	Parkinson's Building - Replace electric heating and install energy efficient lighting	Prop	10,000	0	0	75	0.9t	DNP	0.01	2012
53	Brownhills Activity Centre (Grd Flr) - Install energy efficient lighting	Prop	30,000	0	0					2012



Ref	Project	Lead	Cost £			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce					
54	Streetly Library - Install energy efficient lighting	Prop	10,000	0	0	128	1.5t	DNP	0.01	2012
59	Rushall Library - Install energy efficient lighting	Prop	6,000	0	0	80	1t	DNP	0.01	2012
64	Central Library & Museum- Replace 80W PAR38 lamps with low energy lamps	Prop	700	0	0	316	3.8t	2.2	0.02	2012
71	Central Library & Museum- Adjust timer controls for space heating system	Prop	300	0	0	100	1.8t	3.0	0.01	2012
72	Central Library & Museum- Replace spot lights with energy efficient lamps	Prop	500	0	0	744	8.9t	0.7	0.05	2012
75	Reedswood Sons of Rest - Install energy efficient lighting	Prop	15,000	0	0	26	0.3t	DNP	0.00	2012
86	Broadway North Resource Centre - Install TRVs to radiators	Prop	5,000	0	0	215	4t	DNP	0.02	2012
88	Changing Rooms at Doe Bank Playing Fields- Install solar thermal hot water system	Prop	27,000	0	0	26	0.5t	DNP	0.00	2012
91	Local History Centre - New Air Conditioning System	Prop	70,000	0	0	451	5.4 t	DNP	0.03	2012
94	Streetly Crematorium - Optimise space heating switching times	Prop	0	0	0	100	1.8 t	0.0	0.01	2012
96	Streetly Crematorium - Install timer controls for electric heaters in Book of Remembrance room	Prop	400	0	0	45	0.5 t	DNP	0.00	2012
97	Aldridge Library - Install timer control for space heating system	Prop	1,100	0	0	377	7t	2.9	0.04	2012
98	Bentley Leisure Centre - Install Thermostatic Radiator Valves (TRVs) to radiators	Prop	600	0	0	95	1.8t	6.3	0.01	2012
99	Bentley Leisure Centre - Install lighting controls	Prop	1,000	0	0	122	1.4t	8.2	0.01	2012
100	Stroud Avenue Family Centre - Install and adjust space heating system controls	Prop	0	0	0	216	4 t	0.0	0.02	2012



#### 4.4 Medium to long term projects

These projects are yet to take place and are not yet planned in detail. The detail on these may be subject to feasibility studies or further work and therefore the quantification of costs and savings are less accurate.

Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce	Fin	CO <sub>2</sub>			
2	Building Schools for the Future	Prop	100m	0	0	235K	3366t	0.0	19.49	2015
4	Walsall Combined Heat and Power (CHP)	Prop	3,000K	5,000	0	280.5K	3757t	10.7	21.75	2014
9	Merging departments with other Local Authorities	Bus Chnge	0	0	0	31,996	71.8t	0.0	0.42	2014
22	Review of Waste Collections	Waste	0	0	0	688K	1573t	0.0	9.11	2013
44	Biomass powered generators at Fryers Road	Prop	250K	20,700	0	24,100	639.6t	10.4	3.70	2013
55	Remote Working for Black Country LA staff	HRD	0	0	0	31,996	71.8t	0.0	0.42	2014
56	Increased discount on public transport (bus and train) passes	HRD	0	7,000	0	24,996	71.8t	0.0	0.42	2014
62	Dimming on traffic routes (dependent on success of trial - see project ref 60)	Hways	0	0	0	1,377	16.4t	0.0	0.10	2014
63	Replace all halogen aspect traffic lights with LEDs	UTC	608.2K	-7085	0	34833	331.1t	17.5	1.92	2010-3
76	Server Efficiency Improvements	IT	750K	0	0	80000	954.7t	9.4	5.53	2014
79	Extend Model Office across all civic space	HRD	2098K	0	0	27093	323.3	DNP	1.87	2014
16	Cabinet Reports to include carbon audit at the beginning of each report	Bus Chnge	0	0	0	0	0	0	0	2010



#### 4.5 Projected achievement towards target

The graph below illustrates how the above projects contribute (the purple line) to reaching the 30% target (the blue line) over five years. The red line represents carbon emissions that would arise if none of the projects were implemented.

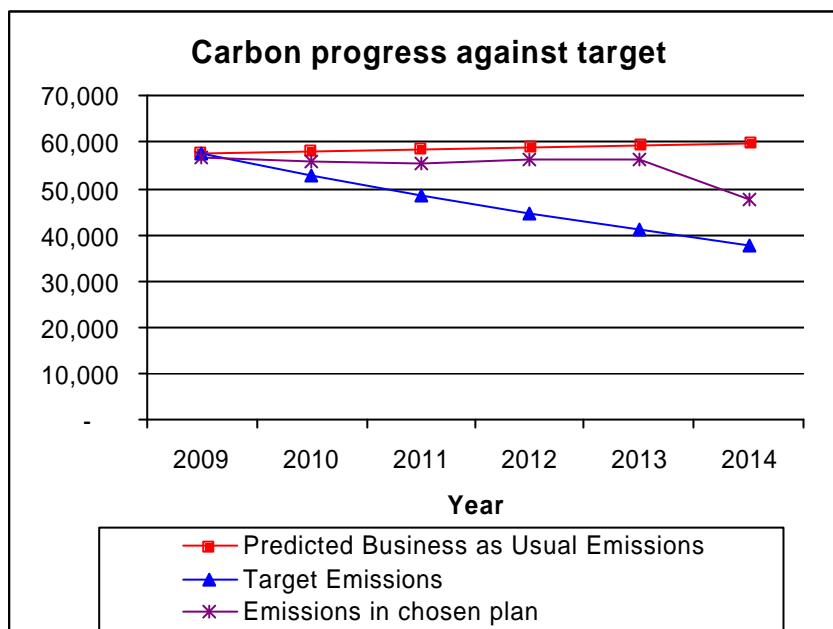


Figure 4.1 Projection of impact of projects on meeting carbon target

Clearly, the carbon savings as a result of the projects listed in the project register will not meet the 30% target by 2014. However, there are a number of projects that will have significant carbon reduction savings such as Adaptive Working and W2R (waste incineration contract) that have not been quantified.



## 5. Carbon Management Plan Financing

### 5.1 Introduction

Walsall MBC is committed to the delivery of its Carbon Management Programme, with the aim to achieve a long term reduction in the Council's energy emissions through proactive energy management. The Council will use this as a basis of generating ongoing revenue savings in a challenging financial environment, and to assist in avoiding penalties through the Carbon Reduction Commitment Energy Efficient Scheme due to be fully implemented from 2011/12.

The Council's Energy Conservation team are responsible for managing all aspects of energy related matters for all Council buildings. This includes schools, leisure centres, libraries, museums / galleries, park lodges, social care homes / day care centres, public conveniences, cemetery / crematoria buildings, depots, industrial units and office buildings. The remit of the team will include assessment of energy consumption, energy efficiency measures, repair and maintenance, and the negotiation with energy providers to ensure best value on price and service provided.

To achieve the above, a full schedule of energy efficiency schemes have been identified for completion over the next five years (as referred to in section 4), subject to funding approval.

Funding options will consist of internal council resources (capital / revenue), prudential borrowing, and external funding available to the Council (Salix Fund, Energy Saving Trust, specific service grants etc).

### 5.2 Capital

All requests for use of capital resources are submitted as part of a formal bidding process. These bids are assessed and prioritised by Senior Management and Members, and form the basis of the Council's Capital Programme. The 2010/11 Capital Programme is currently in draft form, and will be formally approved by Cabinet and Council in February 2010. Due to a predicted reduced level of capital receipts, Council capital resources are limited for 2010/11 onwards, with only a small number of schemes earmarked for funding. The emphasis is therefore on external funding, or match funding opportunities to fund a number of the projects identified for 2010/11 and beyond. The use of Salix finance is currently being explored for some of these projects, together with the potential to tap into the Building Schools for the Future programme from 2013/14.

### 5.3 Revenue

The 2010/11 revenue budget is currently in draft form, and out to consultation on proposals for savings and investment to meet Council priorities, and will be formally approved by Cabinet and Council in February 2010.

Council budgets are set within the medium term financial strategy (MTFS). The main objectives of the MTFS relate to maintaining good underlying financial health, adoption of a longer term perspective and a desire to deliver good quality, value for money services which are modern, efficient, effective, and fit for purpose. The settlement for 2010/11 is challenging given the current economic climate. Funding for the development and start of new services will need to be met from the redirection of existing resources.

The Council is therefore looking for the Carbon Management Programme not only to deliver an effective programme of CO2 emission reduction against its overall sustainable development commitments, but also to deliver financial savings which can both be recycled to fund other initiatives which require investment to deliver CO2 savings, and general ongoing revenue savings for the Council.

Regardless of whether Carbon Management receives any 'pump-prime' money (from either internal or external funding sources), projects that have a good business case to reduce carbon emissions and have



a good pay back period are highly likely to be supported by senior Council officers and members, subject to formal approval.

#### 5.4 Benefits / savings from proposed projects

From the list of projects referred to in Section 4, the following summarises the quantified benefits, both financial and CO<sub>2</sub> savings, over the next five years, and the comparison to the Council's commitment to reduce carbon emissions by 30% over the five-year period. It also summarises the additional resources required in order to achieve this objective.

In the calculation of these forecasts, certain assumptions have been made :-

##### Assumptions

- Cost of gas/electricity etc – based on medium-risk price predictions provided by the current energy supplier October 2009.
- Estimated pay back period by project as identified by Council officers. This will need to be closely monitored by the Energy Conservation Team to ensure each project generates the savings that are required to pay back the initial investment over the initial pay back period identified. Any delay / extension to the pay back period will potentially mean financial pressures in future years, depending on the initial funding sources of the investment.
- Inflation at 3.5% per annum.

##### Benefits / savings

	2009/10	2010/11	2011/12	2012/13	2013/14
Annual cost saving	£195,934	£229,854	£226,459	£243,696	£1,323,386
Annual CO <sub>2</sub> saving	2520.80	3007.20	2889.01	3149.72	12058.95
% of target achieved	15%	17%	17%	18%	70%

##### Resources required (subject to formal approval)

	2009/10	2010/11	2011/12	2012/13	2013/14
Natural Assets	35,000	0	0	0	0
Salix Finance (50% contn anticipated)	0	62,669	0	3,548	12,049
AWM (25% contn anticipated)	0	31,335	0	1,774	6,024
Low Carbon Buildings Programme Phase 2	0	0	0	0	0
Council / alternate resources required	685,256	1,232,959	239,954	196,576	340,293
Total	720,256	1,326,963	239,954	201,898	358,366



**Financial costs and sources of funding**

	<u>2009/10</u>	<u>2010/11</u>	<u>2011/12</u>	<u>2012/13</u>	<u>2013/14</u>
Annual capital cost	720,256	1,325,618	239,954	201,898	334,612
Annual revenue cost	0	1,346	0	0	23,754
<b>Total</b>	<b>720,256</b>	<b>1,326,963</b>	<b>239,954</b>	<b>201,898</b>	<b>358,366</b>
<b>committed funding</b>					
Annual capital cost	720,256	696,131	25,709	0	0
Annual revenue cost	0	1,346	0	0	0
<b>Total</b>	<b>720,256</b>	<b>697,476</b>	<b>25,709</b>	<b>0</b>	<b>0</b>
<b>unallocated funding</b>					
Annual capital cost	0	629,487	214,245	201,898	334,612
Annual revenue cost	0	0	0	0	23,754
<b>Total</b>	<b>0</b>	<b>629,487</b>	<b>214,245</b>	<b>201,898</b>	<b>358,366</b>





## 6. Actions to Embed Carbon Management in Walsall Council

The black line in following table represents an assessment of carbon management throughout Walsall MBC at the CMP launch in 2009 across various fields. The red line represents the ambitions of the Carbon Management Programme when the actions in this plan are completed.

	CORPORATE STRATEGY	PROG MNGEMENT	RESPONSIBILI TY	DATA MNGEMENT	COMMS & TRAINING	FINANCE & INVESTMENT	POLICY ALNMNT*	ENGAGEMNT SCHOOLS
<b>BEST</b>  <b>5</b>	<ul style="list-style-type: none"> <li>Top level target allocated across organisation</li> <li>CO<sub>2</sub> reduction targets in Directorate Business Plans</li> <li>Action plans in place to embed strategy. Progress routinely reviewed</li> </ul>	<ul style="list-style-type: none"> <li>Cabinet / SMT review progress against targets on quarterly basis</li> <li>Regular diagnostic reports provided to Directorates</li> <li>Progress against target published externally</li> </ul>	<ul style="list-style-type: none"> <li>CM integrated in responsibilities of senior managers</li> <li>CM part of all contracts / T's&amp;C's</li> <li>Central CO<sub>2</sub> reduction advice available</li> <li>Green Champions leading local action groups</li> </ul>	<ul style="list-style-type: none"> <li>Regular collation of CO<sub>2</sub> emissions for all sources</li> <li>Data externally verified</li> <li>Monitoring &amp; Targeting in place for: <ul style="list-style-type: none"> <li>buildings</li> <li>street lighting</li> <li>transport/travel</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>All staff given formalised CO<sub>2</sub>: <ul style="list-style-type: none"> <li>induction and training</li> <li>communications</li> </ul> </li> <li>Joint CM communications with key partners</li> <li>Staff awareness tested through surveys</li> </ul>	<ul style="list-style-type: none"> <li>Finance committed for 2+ yrs of Programme</li> <li>External funding being routinely obtained</li> <li>Ring-fenced fund for carbon reduction initiatives</li> </ul>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> friendly operating procedure in place</li> <li>Central team provide advice and review, when requested</li> <li>Barriers to CO<sub>2</sub> reduction routinely considered and removed</li> </ul>	<ul style="list-style-type: none"> <li>A 'whole school approach' including curriculum</li> <li>Mature programme of engagement in place</li> <li>CO<sub>2</sub> saving in schools having a wider community impact</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> reduction commitment in Corporate Strategy</li> <li>Top level targets set for CO<sub>2</sub> reduction</li> <li>Climate Change Strategy reviewed annually</li> </ul>	<ul style="list-style-type: none"> <li>Sponsor reviews progress and removes blockages through regular Programme Boards</li> <li>Progress against targets routinely reported to Senior Mgt Team</li> </ul>	<ul style="list-style-type: none"> <li>CM integrated in to responsibilities of department heads</li> <li>Cabinet / SMT regularly updated</li> <li>Staff engaged through Green Champion network</li> </ul>	<ul style="list-style-type: none"> <li>Annual collation of CO<sub>2</sub> emissions for: <ul style="list-style-type: none"> <li>buildings</li> <li>street lighting</li> <li>transport/travel</li> </ul> </li> <li>Data internally reviewed</li> </ul>	<ul style="list-style-type: none"> <li>All staff given CO<sub>2</sub> reduction: <ul style="list-style-type: none"> <li>induction</li> <li>communications</li> <li>CM matters communicated to external community</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Coordinated financing for CO<sub>2</sub> reduction projects via Programme Board</li> <li>Funding principles and processes agreed</li> <li>Finances committed 1yr ahead</li> <li>Some external financing</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive review of policies complete</li> <li>Lower level policies reviewed locally</li> <li>Unpopular changes being considered</li> </ul>	<ul style="list-style-type: none"> <li>A clear emphasis on energy / CO<sub>2</sub> reduction in schools</li> <li>Council activities fully coordinated</li> <li>Broad set of education stakeholders engaged</li> <li>Funding in place</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> reduction vision clearly stated and published</li> <li>Climate Change Strategy endorsed by Cabinet and publicised with staff</li> </ul>	<ul style="list-style-type: none"> <li>Core team regularly review CM progress: <ul style="list-style-type: none"> <li>actions</li> <li>profile &amp; targets</li> <li>new opportunities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>An individual provides full time focus for CO<sub>2</sub> reduction</li> <li>Key individuals have accountability for carbon reduction</li> <li>Senior Sponsor actively engaged</li> </ul>	<ul style="list-style-type: none"> <li>Collation of CO<sub>2</sub> emissions for limited scope i.e. buildings only</li> </ul>	<ul style="list-style-type: none"> <li>Environmental / energy group(s) given ad hoc: <ul style="list-style-type: none"> <li>training</li> <li>communications</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>A view of the cost of CO<sub>2</sub> reduction is developing but finance remains ad hoc</li> <li>Some centralised resource allocated</li> <li>Finance representation on CM Team</li> </ul>	<ul style="list-style-type: none"> <li>All high level and some mid level policies reviewed, irregularly</li> <li>Substantial changes made, showing CO<sub>2</sub> savings</li> </ul>	<ul style="list-style-type: none"> <li>A person has responsibility for Schools CO<sub>2</sub> reduction</li> <li>Schools CO<sub>2</sub> reduction projects coordinated</li> <li>Ad-hoc funding</li> </ul>
	<ul style="list-style-type: none"> <li>Draft Climate Change Policy</li> <li>Climate Change references in other strategies</li> </ul>	<ul style="list-style-type: none"> <li>Ad hoc reviews of CM actions progress</li> </ul>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> reduction a part-time responsibility of a few department champions</li> </ul>	<ul style="list-style-type: none"> <li>No CO<sub>2</sub> emissions data compiled</li> <li>Energy data compiled on a regular basis</li> </ul>	<ul style="list-style-type: none"> <li>Regular awareness campaigns</li> <li>Staff given CM information on ad-hoc basis</li> </ul>	<ul style="list-style-type: none"> <li>Ad hoc financing for CO<sub>2</sub> reduction projects</li> </ul>	<ul style="list-style-type: none"> <li>Partial review of key, high level policies</li> <li>Some financial quick wins made</li> </ul>	<ul style="list-style-type: none"> <li>Ad-hoc schools projects to specifically reduce energy / CO<sub>2</sub></li> </ul>
<b>1</b> <b>Worst</b>	<ul style="list-style-type: none"> <li>No policy</li> <li>No Climate Change reference</li> </ul>	<ul style="list-style-type: none"> <li>No CM monitoring</li> </ul>	<ul style="list-style-type: none"> <li>No recognised CO<sub>2</sub> reduction responsibility</li> </ul>	<ul style="list-style-type: none"> <li>No CO<sub>2</sub> emissions data compiled</li> <li>Estimated billing</li> </ul>	<ul style="list-style-type: none"> <li>No communication or training</li> </ul>	<ul style="list-style-type: none"> <li>No specific funding for CO<sub>2</sub> reduction projects</li> </ul>	<ul style="list-style-type: none"> <li>No alignment of policies for CO<sub>2</sub> reduction</li> </ul>	<ul style="list-style-type: none"> <li>No CO<sub>2</sub> / energy reduction policy for schools</li> </ul>

\* Major operational policies and procedures, e.g. Capital Projects, Through Life Costing, Procurement, HR, Business Travel



## 6.1 Corporate Strategy – embedding CO<sub>2</sub> saving across your organisation

### Current score – 3/5

This Carbon Management Plan will be endorsed by Cabinet in 2010. It will be a public document and a declaration of the intention of the Council to reduce its carbon emissions by the targets contained within it.

The current Corporate Plan 2009/10 makes it a priority to focus on climate change by reducing carbon dependence and by using environment technologies; improve energy efficiency; reduce our adverse impact and adapt to climate change

It contains a pledge to reduce the Council's energy use and town centre office accommodation footprint.

The plan states Walsall “will lead the way to move from a traditional high-carbon economy to a new, sustainable, low-carbon economy. Our reputation will be built as a place where business is mitigating the effects of climate change and adapting to the impact of a changed climate”.

It is intended to incorporate the targets contained within this document into the Corporate Plan 2010/11 and subsequent years.

Current metering arrangements make it impossible to set separate targets for different service areas. However, it is intended to include targets to reduce carbon emissions from business travel and commuting into Service Plans from 2011 and for the Programme Board to establish an action plan to embed the strategy across the authority and monitor progress.

The Climate Change Strategy and Action Plan was adopted in 2009 and will be reviewed annually.

## 6.2 Responsibility – being clear that saving CO<sub>2</sub> is everyone's job

### Current score – 3/5

As part of the individual performance management process, we have included in our revised Performance Review & Development Plan, the following two prompts which line managers will use to assess employee commitment:

What measures from the 'Environmental Code of Conduct for employees' have **you** adopted to reduce your service's carbon footprint?

What other initiatives can you adopt to reduce your personal carbon footprint?

We are also working closely with the Facilities Manager to develop initiatives to reduce office waste

## 6.3 Data Management – measuring the difference, measuring the benefit

### Current score – 4/5

Data collation and monitoring against the Council's carbon reduction target is vital to the success of the Carbon Management Programme and ensuring compliance with National Indicator 185. It would allow the Council to determine the impact of projects being undertaken, and accurately communicate this information to staff across the organisation.



- **Buildings & Street lighting**

The STARK Essentials Monitoring and Targeting System is used to monitor energy and water consumption across the Council's estate using data taken from utility bills and billing schedules provided by the energy suppliers. Consumption data for the footprint baseline year 2007/08 is thought to be accurate; however, there are considerable amounts of estimated readings relating to non-half hourly electricity and gas supplies.

A key embedding aspect of data management is the roll out of SMART Metering (Automatic Meter Reading) by 2010/11 for all our non-half hourly electricity and gas supplies to provide accurate information on energy consumption data, monitor usage and act to save energy wastage. This will lead to improvements in quality and robustness of consumption data for the Council's property portfolio.

Electricity consumption data for street lighting is unmetered, our annual estimated consumption is measured via the EAC and inventory by the District Network Operator.

- **Transport**

For the footprint baseline and subsequent years during which the projects will run, accurate mileage data is required to calculate energy, carbon emissions and financial savings:

- **Vehicle fleet mileage** – the Council vehicle fleet mileage includes data collected from council owned vehicles and outsourced contracted services. The mileage from Council in-house vehicles was collected from individual vehicles. Mileage data from outsourced contract services with Meals on Wheels, Amey, and Bulk Freight etc excluding school contracts were provided by the respective companies. The mileage data for all vehicles includes for fuel type, engine size and date of vehicle registration.

Procedures shall be put in place ensuring that mileage data for all vehicles will in future be recorded for the financial year and reported quarterly.

- **Business Travel by Car** – mileage associated with business travel by staff was obtained from car mileage claim forms which includes for engine size.

Human Resources Department (HRD) shall put procedures in place ensuring that mileage data from business travel will in future be recorded measuring fuel type on car mileage claim registration forms for the financial year and reported quarterly.

- **Public Transport** – data relating to public transport journeys undertaken by staff were taken from scratchcard requisition forms.

Scratch cards are available to staff for business travel using public transport. A form needs to be completed stating start location and destination. These were collated from requisition forms and the Department for Transport (DfT) journey planner used to calculate the carbon emissions associated with each trip.

Also, rail travel data was collected from travel warrant requests, and the DfT journey planner was used to calculate the carbon emissions associated with each journey.

HRD shall be requested to look into the journey origins and destinations, mode of transport and if the journey was a single or return trip taken by a member of staff within each Service area.



Passenger mileage for business travel using public transport will continue to be calculated using the DfT journey planner tool.

- **Work Place Commuting** – data for employees travelling to and from work is taken from postcodes provided by HRD. Distances travelled have been calculated based on the DfT journey planner tool, multiplied by 2 trips per day, five days a week and 48 weeks per year (assuming 20 days average leave) excluding an average of 12 days sick leave per employee (baseline year).

Following calculation and submission, it has been noted that 20 days average leave does not reflect statutory leave. The following years' submissions will be calculated with 25 days average leave.

The total figure is based on all employees (full time, part time and casual). This means that the actual carbon emissions from commuting are likely to be far less than reported. Following years' figures will be adapted so that annual commuting distances of part time employees and casuals are adapted accordingly. Measures will be put in place to allow comparison with the baseline.

Commuting data could be vastly improved by undertaking a staff survey or travel diary of a representative sample of work place journeys to work i.e. car sharing, public transport, cycling, walking etc. However, in the absence of a staff survey, Neighbourhood Statistics will be used for travel to work mode for the daytime population of Walsall at

<http://www.neighbourhood.statistics.gov.uk/dissemination/LeadTableView.do?a=3&b=276805&c=Walsall&d=13&e=9&g=377637&i=1001x1003x1004&m=0&r=1&s=1259145309886&enc=1&dsFamilyId=123>

- **Waste**

Data is taken from records from Refuse Collection Vehicles (RCVs) maintained by Waste Services - Street Pride.

#### 6.4 Communication and Training – ensuring everyone is aware

##### Current score – 5/5

- The Climate Change communications strategy will incorporate a communications plan for a rolling awareness campaign for staff. There will also be energy awareness video which staff will access online.
- The adoption of an Environmental Code of Conduct for employees, with a signed environmental policy statement by the Chief Executive. The ECoC for employees will cover:
  - Energy (heating, cooling, lighting and electrical equipment) of which accounts for 74% of the council's energy consumption and carbon emissions)
  - Waste (reducing, recycling, hazardous waste)
  - Water (water supplies, drinking water, hot drinks)
  - Travel (getting to work without a car, annual travel card scheme, business travel without a car (promotion of day travel scratch cards), cycle mileage allowance, efficient driving tips)
  - Environmental legislation
  - Sustainable Procurement

The ECoC will be included in induction packs for new employees and will be on the home page of the council's intranet site. Prior to it going live, details of the Code will be circulated through News & Views, weekly news bulletin and in Team Spirit, the council's staff e-magazine.



- We will monitor staff attitudes to carbon saving via our monthly News & Views communication to staff which enables them to feed back on a directorate basis.
- We will communicate the Authorities successes to local residents in Walsall Pride, which is delivered to every household in the borough.

## 6.5 Policy Alignment – saving CO<sub>2</sub> across your operations

### Current score – 1/5

The following table shows existing Council policies that have an impact on carbon emissions.

Working with the Business Change department, the policies will be updated during its next review to incorporate the aspirations of the Carbon Management Plan.

Policy	Owner	Last Reviewed	Next Review
Environmental Code of Conduct for employees	HRD	2009	
Sustainable Community Strategy	Walsall Partnership	2009	
Greenspaces Strategy	Greenspace Services	2007	2012
Local Transport Plan	CENTRO	2006	2010
Corporate Plan	WMBC	2009	2010
Joint Core Strategy	Strategic Regeneration	In preparation	N/A
Air Quality Management Plan	Pollution Control	2009	2010
Climate Change Strategy and AP	Development & Delivery	2009	2010
Allotments Strategy	Leisure	Unknown	Unknown
Library Modernisation Plan	Library Services	Unknown	N/A
Nature Conservation SPD	Development & Delivery	2008	N/A
Conservation Area Appraisals and Management Plans	Development & Delivery	2009	Ongoing
Black Country North SUD package plan	Strategic Regeneration	2008	Unknown
Think Walsall	Strategic Regeneration	Unknown	N/A
Corporate Asset Management Plan	Property Services	2009	2010
Capital strategy	Corporate Finance	2009	2010
Medium term financial strategy	Corporate Finance	2008	2010
Annual travel card discount scheme	HRD	Unknown	Unknown
Corporate e-induction - managers guidance notes	HRD	Unknown	Unknown
Guide to expense and mileage claims	HRD	2007	Unknown
Homeworking policy	HRD	2003	Unknown
Motor vehicle allowance scheme	HRD	2006	Unknown
Travelling and subsistence allowance	HRD	Unknown	Unknown
Procurement Strategy	Procurement	2008	N/A



## 6.6 Engagement of Schools – influencing Schools to reduce their carbon footprint

### Current score – 4/5

Energy Conservation is now recognised as one of the easiest and most cost effective ways of limiting or reducing carbon dioxide emissions.

Our objective is to build long-term trusting working relationships with our schools by assisting with sustainability issues such as reducing energy and water consumption and advising on its environmental impact.

On a practical level we give advice and guidance to enable all schools make the most effective use of energy and water resources consumed and from a business perspective, we purchase the utilities used to heat and light our schools in order to minimise the impact of rising utility costs.

#### What do we do?

##### Energy Efficiency Action Plan

We assist schools in developing an energy efficiency action plan by identifying the key actions that they can undertake to save energy. These actions are divided up into different areas such as heating, lighting, water etc.

##### Energy Monitoring

We analyse electricity, gas, oil and water consumption and cost data using a specialist computerised monitoring and targeting software and benchmark consumption to identify the performance of our school buildings.

The information in the system is used to:

- *Identify the worst (and best) performing school buildings*
- *Produce quarterly and annual energy reports*
- *Investigate increase in consumption which can be caused by :*
  - *Water leaks*
  - *Boiler plant left running continuously*
  - *Electrical equipment left switched on during periods of unoccupancy*
- *Analyse information on utility invoices*

The benefits to the schools of having their energy and water consumption and costs monitored are as follows:

- *Increase in consumption are investigated*
- *Quarterly/Annual energy reports are provided*

##### Building Energy Management Systems & Controls

Building Energy Management Systems (BEMS) and associated controls allows schools building heating and hot water systems to be remotely controlled, including the setting of ON/OFF times and room temperatures in order to optimise comfort conditions for its occupants and users and at the same time minimise energy costs. It is a vital tool in the Authority's drive to improve energy efficiency and reduce carbon emissions.





## Energy Efficiency Improvements

The following energy conservation measures are being implemented in schools

- Improving buildings thermal insulation
- Low Energy Lighting
- High Efficiency Boilers
- Automatic Lighting Controls
- Water Conservation

### 6.7 Engagement of your Suppliers – working with suppliers to reduce your carbon footprint

The Council already has a Procurement Strategy in place, which is currently under review. This strategy will outline ways of working with suppliers to reduce the environmental impact of the goods, services and works they are supplying to the Council as well as reducing the CO2 footprint. Wherever possible the Council builds in sustainability criteria into the evaluation of tenders and considers Best Value when awarding contracts. The Think Walsall programme will be encouraging local suppliers to do business with the Council where appropriate with beneficial economic, social and environmental outcomes

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## 7. Management of the CM Programme

Strong programme governance will be crucial to the success of this programme. The Walsall Project Approach is a corporate project management administration system that brings together projects and programmes under the control of a Project Administration team. The Carbon Management Programme has been fully compliant with the Walsall Project Approach, and regular updates on progress have been made to the Corporate programme management board.

This ensures accountability, as well as the ability to co-ordinate with other relevant project and programme owners. It offers an opportunity for the Project Lead to identify delays or issues and flag, or for the Corporate programme management board to flag risks or remove blockages etc.

### 7.1 The Programme Board – strategic ownership and oversight

The Carbon Management Programme Board is chaired by Kevin Kendall, head of Property Services.

There are two political sponsors:

Councillor Mike Flower, cabinet member for Environment




Councillor Chris Towe, cabinet member for Finance and Personnel

Stuart Wootton, Financial Planning Manager, is the Finance Champion.





They are joined by the following officers:

-  Simon Tranter, Head of Development & Delivery
-  Clair Johnson, Procurement Officer, Think Walsall
-  Richard Bolton, Communications, Press Office
-  Bryan Kelly, Head of Business Change

The project team also sit on the Programme Board. They are:

-  Kwame Alex-Eyitene, Energy Manager – Project Lead
-  Carol Edmondson, Climate Change Officer – Deputy Project Lead
-  Daniel Carins, Regeneration Officer – Deputy Project Lead

The Programme Board meet every calendar month. Standing items on the agenda are:

-  Progress of the Programme
-  Finance
-  Change Management
-  High level risks and issues

The Programme Board will report every three months to Corporate Management Team.

The Programme Board will report every 12 months to cabinet in December and to Environment Scrutiny and Corporate Scrutiny twice a year (June and October) to demonstrate performance against target and projects.

The Board's terms of reference are to:





- Champion and provide leadership on carbon management
- Set and review strategic direction and targets
- Own the scope of the Carbon Management Programme and prioritise carbon reduction projects
- Monitor progress towards objectives and targets
- Remove obstacles to successful completion of carbon management projects
- Review and champion plans for financial provision of carbon management projects
- Ensure there is a framework to co-ordinate projects in the Carbon Management Programme

## 7.2 The Carbon Management Team – delivering the projects

The Carbon Management Team supports the Programme Board to deliver the projects in the programme.

The project lead and deputy project lead also sits on the Carbon Management Team, and Kwame Alex-Eyitene chairs the group.

Officers on the Team are:

- David Brisbourne, Leisure Services
- Terry Markham, Waste Services
- Den Edwards, Fleet Services
- Jeff McBride, Greenspace Services
- Nigel Curnow, Greenspace Services
- Susan Lupton, Serco
- Chris Dawson, Human Resources
- Lorenzo Visentin, Safety, Health and Well Being
- Malcolm Metcalfe, ICT Services
- Karen Griffin, Finance
- Elizabeth Thomas, Street lighting manager
- Anne Plimmer, Pool Hayes School
- Steve Law, Estates
- Steven Edwards, Transportation Policy
- Andrew Bradley, New Horizons

The team meets each month, after the Programme Board has met. Include dates of future meetings.

The terms of reference of the team are to:

- support the project leader
- ensure carbon management is integrated across the Council
- provide baseline data
- identify projects, write project definitions and quantification
- implement projects

## 7.3 Succession planning for key roles

Having looked at our representation on both the Carbon Management Programme Board and CMP Team we have identified deputies for the following key services within the groups. Hence representatives given below will deputise for standing members in their absence. With regard to political sponsors, this will be dependent upon political incumbant of these portfolios current at the time.



Project Sponsor – Michael Tichford

Project Lead – Jim Ball

Deputy Project Lead – Simon Tranter

Political champion – cabinet member for Finance and Personnel and cabinet member for Environment

Finance champion – Doug Thorpe, Group Accountant

Procurement – Clair Johnson, Procurement Officer

Fleet Services – Geoff Lainchbury

Communications – Emma Tate

Waste – Heather Growcott

HRD – Dean Sweet

ICT – Nigel Anderson / Mike Powell

#### 7.4 Ongoing stakeholder management

Individual or Group	Influence	Impact	Their interest or issues	Means of Communication – How often and by whom
Corporate Management Team (CMT)	H	L	Cost / budgets Council reputation Performance Management	Corporate Management Team
Cabinet	H	H	Cost / budgets Council reputation Performance Management	Cabinet/Council meetings Scrutiny and Performance panels Individual member briefings
Scrutiny Panel	M	M	Cost / budget Performance Management	Scrutiny and Performance panels Individual member briefings
Walsall Council Staff	L	M	Travel to work Health & Safety Working environment and conditions	News and Views Intranet Walsall Pride Consultation
Trade Unions	L	L	Health & Safety Working Environment and conditions	News and Views Intranet Walsall Pride Consultation
Walsall Partnership	L	L	Performance Management	LAA monitoring, Climate Change Executive Group Consultation
Schools	L	H	Costs/ Budgets Quality of service and facilities	Vicky Bloor - Streetpride Serco, Pool Hayes School
Contracted-out services	M	M	Contract issues Savings Branding	Clare Parsons Consultation
Suppliers	L	L	Savings Ability to win contracts with WMBC Branding	Local press WMBC website
Walsall New	L	L	Savings	Involved in Management Team



Deal for Communities		Performance Management	
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### 7.5 Annual progress review

Progress against the plan and target will be formally reviewed every January by The Carbon Trust.

The Carbon Trust will help measure the scale of Walsall's carbon reduction at the end of each financial year.

The review will:

- cover the cost and all benefits from the Programme:
  - financial savings, either cashable or returned to the Council's 'rotating fund'
  - CO2 savings against the target
  - less quantifiable benefits, such as influencing the local community (supporting NI186)
- align with NI185 reporting
- report to Corporate Management Team and Cabinet, via the Programme Board

The Programme Board will monitor electricity, natural gas and gas oil consumption every three months for our buildings and will explore real time reporting on the council's website.



## Appendix A: Existing Implemented Projects

<b>Project:</b>	<b>Installation of Smart Meters (AMR) for sub-100kW electricity supplies</b>
<b>Reference:</b>	<b>LA7-WC-003</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	<p>Smart meters are the next generation of electricity meters.</p> <p>Their installation will bring about the end of estimated bills and meter readings, and provide customers and energy suppliers with accurate information on the amount of electricity used, identify peak demands, compare sites and correlate usage.</p> <p>Smart meters will empower sites to make choices on how much energy they use, by displaying accurate real-time information and back to the energy supplier.</p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £42,183</li> <li>Payback period: 0.4 years</li> <li>CO<sub>2</sub> Emissions reduction: 503.4 tonnes of CO<sub>2</sub></li> <li>2.91% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project cost: £14,790</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project is being delivered within the current resources in the Energy Conservation Unit</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>The Mechanical &amp; Electrical Clerk of Works are assisting in supporting the meter installations</li> <li>Individual sites have been informed of the roll out of smart metering technology across the Council's non-half hourly supplies</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Utility bills based on actual electricity meter readings</li> <li>Monthly billing data will enable improved forecasting and budgeting</li> <li>Sites will be able to use the Smart Meter's consumption data to monitor energy efficiency initiatives and identify ways of reducing the amount of energy used.</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>The roll out of the smart metering project is due to be completed by the end of the year</li> <li>Success of the project is currently being monitored on a regular basis</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Existing Implemented Projects

<b>Project:</b>	<b>Energy Efficient Lighting and Controls</b>
<b>References:</b>	<b>LA7-WC-010, LA7-WC-011, LA7-WC-012 and LA7-WC-026</b>
<b>Owner (person)</b>	Simeon Kay, Electrical Design Engineer
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	<p>Replaced existing T8 or T12 fluorescent lamps with modern slim line T5 high frequency fluorescent lamps within these schools to minimise the energy consumption and costs attributed to lighting.</p> <p>Also, installed lighting controls equipment incorporating occupancy sensors, movement detectors, time lag switches etc to ensure that lighting is switched off in rooms during periods of unoccupancy.</p> <p>Analysis of annual consumption data and known performance of the installed products allows for an estimated reduction of 30% savings associated with the lighting upgrades and controls.</p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £1,833</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 21.9 tonnes of CO<sub>2</sub></li> <li>0.12% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £165,000 (4No. Schools)</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project has been delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> <li>Also, success will depend on co-operation at each school with respect to implementing good housekeeping measures for lighting</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li><i>Milestones / key dates e.g.</i> <ul style="list-style-type: none"> <li><i>Projects have already been implemented</i></li> <li><i>Success of the project is currently being monitored quarterly</i></li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Existing Implemented Projects

<b>Project:</b>	<b>Installation of Gas Fired Condensing Boilers</b>
<b>References:</b>	<b>LA7-WC-073, LA7-WC-090 and LA7-WC-092</b>
<b>Owner (person)</b>	Balbinder Meetca, Mechanical Design Engineer
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Heating accounts for about 60% of the total energy bill in buildings. A large proportion of the energy consumed by the existing heating boilers are likely to be wasted due to their inefficiency or lack of appropriate heating controls.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £2,765</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 36.7 tonnes of CO<sub>2</sub></li> <li>0.21% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £193,000 (3No. Buildings)</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project has been delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> <li>Also, success will depend on co-operation at each school with respect to implementing good housekeeping measures for lighting</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Reduced energy and maintenance costs</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Projects have already been implemented</li> <li>Success of the project is currently being monitored quarterly</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Existing Projects

<b>Project:</b>	<b>Install New Air Conditioning System – Local History Centre</b>
<b>References:</b>	<b>LA7-WC-091</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Install new close control air conditioning system for the archive repository.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £451</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 5.4 tonnes of CO<sub>2</sub></li> <li>0.03% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £70,000</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project is being delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality and selection of products to be installed</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions will be monitored with a view to identifying reduction</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Planned & Funded Projects

<b>Project:</b>	<b>Installing New Heating Distribution Pipework</b>
<b>References:</b>	<b>LA7-WC-018 &amp; LA7-WC-085</b>
<b>Owner (person)</b>	Bal Meetca, Mechanical Design Engineer
<b>Department</b>	Property Services
<b>Description</b>	Heating accounts for about 60% of the total energy bill, however, a large proportion of the energy consumed is likely to be wasted, due to lack of appropriate heating controls and old inefficient heating distribution pipework.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £4,349</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 78.4 tonnes of CO<sub>2</sub></li> <li>0.45% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £300,000</li> <li>Source of funding: Internal resources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project shall be delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Success will be determined in terms of reduced energy consumption and CO<sub>2</sub> emissions as well as maintenance costs</li> <li>Co-operation between the design engineer and building occupants will ensure the project in implemented effectively</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>The implementation of these projects will be phased over the 5 year CMP programme</li> <li>Success of the project will be evaluated quarterly</li> </ul> </li> </ul>
<b>Notes</b>	





## Appendix A: Planned & Funded Projects

<b>Project: References:</b>	<b>Temporary Removal of Electric Plug-In Water Coolers from all Council buildings</b> <b>LA7-WC-014</b>
<b>Owner (person)</b>	
<b>Department</b>	Finance
<b>Description</b>	The Council has 160 electric water coolers which use 20 litres of bottled water that operate 24/7. Water coolers when cooling uses about 0.75 kW. All staff have been requested to switch off the water coolers when empty in order to save energy.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £31,226</li> <li>Payback period: Nil</li> <li>CO<sub>2</sub> Emissions reduction: 376.3 tonnes of CO<sub>2</sub></li> <li>2.18% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: Nil</li> <li>Source of funding: No cost implications associated with this project</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>Individual service managers will be responsible for deciding whether to continue the supply of bottled water to their respective areas or not.</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Corporate Procurement will be overseeing the project.</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Success will be determined based on the number of water coolers no longer in service</li> <li>Financial savings and reduced energy consumption</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>To be reviewed at the end of March/April 2010</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Planned / Funded Projects

<b>Project:</b>	<b>Installation of Direct Gas Fired Hot Water Cylinders</b>
<b>References:</b>	<b>LA7-WC-015 and LA7-WC-080</b>
<b>Owner (person)</b>	Balbinder Meetca, Mechanical Design Engineer
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Replacement of existing hot water calorifiers with direct gas fired hot water heaters.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £406</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 7.5 tonnes of CO<sub>2</sub></li> <li>0.04% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £43,000 (2No. Buildings)</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project has been delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> <li>Also, success will depend on co-operation at each school with respect to implementing good housekeeping measures for lighting</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Reduced energy costs</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Projects have already been implemented</li> <li>Success of the project is currently being monitored quarterly</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Planned / Funded Projects

<b>Project:</b>	<b>Energy Efficient Lighting and Controls</b>
<b>References:</b>	<b>LA7-WC-029</b>
<b>Owner (person)</b>	Simeon Kay, Electrical Design Engineer
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	<p>Replaced existing T8 or T12 fluorescent lamps with modern slim line T5 high frequency fluorescent lamps within these schools to minimise the energy consumption and costs attributed to lighting.</p> <p>Also, installed lighting controls equipment incorporating occupancy sensors, movement detectors, time lag switches etc to ensure that lighting is switched off in rooms during periods of unoccupancy.</p> <p>Analysis of annual consumption data and known performance of the installed products allows for an estimated reduction of 30% savings associated with the lighting upgrades and controls.</p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £2,351</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 12.5 tonnes of CO<sub>2</sub></li> <li>0.1% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £50,000</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project has is being delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> <li>Also, success will depend on co-operation at each school with respect to implementing good housekeeping measures for lighting</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Projects have already been implemented</li> <li>Success of the project shall be monitored quarterly</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Planned & Funded Projects

<b>Project:</b>	<b>Installation of Gas Fired Condensing Boilers</b>
<b>References:</b>	<b>LA7-WC-043</b>
<b>Owner (person)</b>	Balbinder Meetca, Mechanical Design Engineer
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Heating accounts for about 60% of the total energy bill in buildings. A large proportion of the energy consumed by the existing heating boilers are likely to be wasted due to their inefficiency or lack of appropriate heating controls.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £413</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 7.6 tonnes of CO<sub>2</sub></li> <li>0.04% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £80,000</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project is being delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> <li>Also, success will depend on co-operation at each school with respect to implementing good housekeeping measures for lighting</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Reduced energy and maintenance costs</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project due to commence January 2010</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Planned & Funded Projects

<b>Project:</b>	<b>Insulate pipework, valves and flanges in Boiler Plant Room</b>
<b>References:</b>	<b>LA7-WC-067</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	The boiler plant room has un-insulated pipework, valves and flanges. Heat loss from un-insulated services equipment in plant rooms serve no useful purpose and shall be reduced by improving insulation
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £202</li> <li>Payback period: 2.48</li> <li>CO<sub>2</sub> Emissions reduction: 5.5 tonnes of CO<sub>2</sub></li> <li>0.03% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £500</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project will be co-ordinated within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Measures to be implemented shall be identified through a plant room energy survey</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Reduced ambient temperature in boiler plant room and monitoring gas consumption against degree days</li> <li>Reduced energy consumption</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Install programmable timers to 3No. hot water boilers</b>
<b>References:</b>	<b>LA7-WC-001</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Hot water boilers in the building operate 24/7. There is scope for the boilers to be turned off during periods of unoccupancy by installing programmable timers.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £113</li> <li>Payback period: 5.3</li> <li>CO<sub>2</sub> Emissions reduction: 1.3 tonnes of CO<sub>2</sub></li> <li>0.01% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £600</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project will be co-ordinated within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Support from management staff</li> <li>Timers need to be set correctly to accommodate the occupancy times</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Monitoring electricity meter and energy bills</li> <li>Reduced energy consumption</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Energy Awareness Campaign</b>
<b>References:</b>	<b>LA7-WC-001</b>
<b>Owner (person)</b>	Carol Edmondson, Regeneration and Richard Bolton, Communications
<b>Department</b>	Regeneration, Walsall Council
<b>Description</b>	<p>Improve energy awareness and encourage behavioural change amongst all staff throughout the Council through the delivery of an energy awareness programme on an ongoing basis.</p> <p>We propose to achieve maximum impact as follows:</p> <ul style="list-style-type: none"> <li>• Quantify total energy consumption and costs to shock and inspire</li> <li>• Develop intranet page to publicise actions and progress of Carbon Management Programme</li> <li>• Switch off campaign</li> <li>• Presentations and energy awareness training for all staff</li> <li>• Regular inputs and updates in Staff Weekly Bulletins, News &amp; Views, Team Spirit etc</li> <li>• Impact assessment to view progress against 40% Carbon Reduction target</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Financial savings: £128,000</li> <li>• Payback period: Immediate</li> <li>• CO<sub>2</sub> Emissions reduction: 1822 tonnes of CO<sub>2</sub></li> <li>• 10.55% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>• Project costs: £0.00</li> <li>• Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• This project will be co-ordinated within the current resources in Regeneration and Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>• The campaign would reinforce the progress within the Council</li> <li>• Careful planning of actions to ensure target audience is reached and the desired response is achieved</li> <li>• Wider involvement from all departments and support from senior management</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>• Financial savings due to reduced energy consumption</li> <li>• Reduced energy consumption</li> <li>• Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>• Milestones / key dates e.g. <ul style="list-style-type: none"> <li>○ Regular energy awareness campaigns and ongoing good housekeeping measures throughout the year and during the next five years</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-term Projects

<b>Project:</b>	<b>Install Pool Covers – Gala Swimming Baths &amp; Oak Park Leisure Centre</b>
<b>References:</b>	<b>LA7-WC-008 &amp; LA7-WC-041</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services
<b>Description</b>	Install swimming pool covers to provide better thermal insulation, help reduce heat loss and thus minimise fabric damage
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £1,969</li> <li>Payback period: 5.08 years</li> <li>CO<sub>2</sub> Emissions reduction: 36.4 tonnes of CO<sub>2</sub></li> <li>0.21% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £10,000</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>The project will be implemented within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality and selection of product to be installed.</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Reduced energy consumption</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>To be reviewed at the end of March/April 2010</li> </ul> </li> </ul>
<b>Notes</b>	





## Appendix A: Near-Term Projects

<b>Project: References:</b>	<b>Insulate Cavity Wall – Forest Arts Centre &amp; College of Continuing Education</b> <b>LA7-WC-013</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services
<b>Description</b>	Cavity wall insulation
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £881</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 16.3 tonnes of CO<sub>2</sub></li> <li>0.09% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £9,000</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>The project will be implemented within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Success will be realised through reduced savings in energy consumption and associated CO<sub>2</sub> emissions</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Reduced savings in energy consumption and costs</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>To be reviewed at the end of March/April 2010</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Insulate pipework, valves and flanges in Boiler Plant Rooms</b>
<b>References:</b>	<b>LA7-WC-024 &amp; LA-WC-046</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	The boiler plant room has un-insulated pipework, valves and flanges. Heat loss from un-insulated services equipment in plant rooms serve no useful purpose and shall be reduced by improving insulation
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £182</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 3.4 tonnes of CO<sub>2</sub></li> <li>0.02% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £1,500</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project will be co-ordinated within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Measures to be implemented shall be identified through a plant room energy survey</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Reduced ambient temperature in boiler plant room and monitoring gas consumption</li> <li>Reduced energy consumption</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Install timer control for electric underfloor heating</b>
<b>References:</b>	<b>LA7-WC-047</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	There is scope for the underfloor heating to be turned on/off by installing electronic timer control.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £1,620</li> <li>Payback period: 1.9</li> <li>CO<sub>2</sub> Emissions reduction: 19.3 tonnes of CO<sub>2</sub></li> <li>0.11% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £3,000</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project will be co-ordinated within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Support from management staff</li> <li>Timers need to be set correctly to accommodate the occupancy times</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Monitoring electricity meter and energy bills</li> <li>Reduced energy consumption</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Voltage Optimisation – Civic Centre &amp; Council House / Town Hall</b>
<b>References:</b>	<b>LA7-WC-033 &amp; LA-WC-034</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Voltage optimisation allows electrical equipment to work efficiently by reducing the voltage and unnecessary electrical losses
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £21,614</li> <li>Payback period: 4.95 years</li> <li>CO<sub>2</sub> Emissions reduction: 257.9 tonnes of CO<sub>2</sub></li> <li>15.0% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £107,000</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project will be co-ordinated within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Provide assurances on equipment performance and safety</li> <li>Work will be carried out by an approved equipment manufacturer</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Success will be measured by comparing energy consumption before and after installation of equipment</li> <li>Reduction in voltage</li> <li>Lighting performance</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Replace Electric Heating and Install Energy Efficient Lighting</b>
<b>References:</b>	<b>LA7-WC-052</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Install new electric heating with time and temperature controls and new energy efficient lighting
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £75</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 0.9 tonnes of CO<sub>2</sub></li> <li>0.01% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £10,000</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project will be co-ordinated within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Timers need to be set correctly to accommodate the occupancy times</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Monitoring electricity meter and energy bills</li> <li>Reduced energy consumption</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Energy Efficient Lighting and Controls</b>
<b>References:</b>	<b>LA7-WC-054, LA7-WC-059, LA7-WC-074, LA7-WC-075 &amp; LA7-WC-099</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	<p>Replaced existing T8 or T12 fluorescent lamps with modern slim line T5 high frequency fluorescent lamps within these premises to minimise the energy consumption and costs attributed to lighting.</p> <p>Also, installed lighting controls equipment incorporating occupancy sensors, movement detectors, time lag switches etc to ensure that lighting is switched off in rooms during periods of unoccupancy.</p> <p>Analysis of annual consumption data and known performance of the installed products allows for an estimated reduction of 30% savings associated with the lighting upgrades and controls.</p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £794</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 9.4 tonnes of CO<sub>2</sub></li> <li>0.06% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £56,000</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project is being delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality of design specification and selection of products to be installed</li> <li>Also, success will depend on co-operation at each school with respect to implementing good housekeeping measures for lighting</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Replace existing inefficient lamps with low energy lamps</b>
<b>References:</b>	<b>LA7-WC-064, LA7-WC-072, LA7-WC-084 &amp; LA7-WC-095</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Replaced existing 80W PAR38 lamps, tungsten lamps and spotlights with low energy lamps within these premises to minimise the energy consumption and costs attributed to lighting.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £1,239</li> <li>Payback period: 1.78 years</li> <li>CO<sub>2</sub> Emissions reduction: 14.9 tonnes of CO<sub>2</sub></li> <li>0.09% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £2,200</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project shall be delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality and selection of products to be installed</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions before and after installation will be monitored with a view to identifying reduction</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> <li>Project shall be completed over 5 year program</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Install Thermostatic Radiator Valves to radiators</b>
<b>References:</b>	<b>LA7-WC-086 &amp; LA7-WC-098</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Heating accounts for about 60% of the total energy bill due to lack of appropriate heating controls.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £310</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 5.8 tonnes of CO<sub>2</sub></li> <li>0.03% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £6,100</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project shall be delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Success will be realised through savings in terms of gas consumption and associated CO<sub>2</sub> emissions</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Success shall be measured after implementation through gas bills from energy supplier. Benefits will be realised immediately.</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> <li>The implementation of the project will be phased over 5 years</li> </ul> </li> </ul>
<b>Notes</b>	





## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Install Solar Thermal Hot Water System – Doe Bank Playing Fields</b>
<b>References:</b>	<b>LA7-WC-088</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Solar thermal hot water system installed to provide domestic hot water services.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £26</li> <li>Payback period: DNP</li> <li>CO<sub>2</sub> Emissions reduction: 0.5 tonnes of CO<sub>2</sub></li> <li>0.00% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £27,000</li> <li>Source of funding: Internal sources</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project shall be delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Success will be realised through savings in terms of gas consumption and associated CO<sub>2</sub> emissions</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Success shall be measured after implementation through gas bills from energy supplier. Benefits will be realised immediately.</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> <li>The implementation of the project will be phased over 5 years</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Install Variable Speed Drives for Plant Room AHUs – Civic Centre</b>
<b>References:</b>	<b>LA7-WC-088</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Install variable speed drives to control the flow of plant room air handling units fans.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £17,669</li> <li>Payback period: 2.04 years</li> <li>CO<sub>2</sub> Emissions reduction: 210.9 tonnes of CO<sub>2</sub></li> <li>1.22% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £36,000</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project shall be delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Success will be realised through savings in terms of electricity consumption, CO<sub>2</sub> emissions and smooth running of the fans.</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Success shall be measured after implementation through electricity bills from energy supplier. Benefits will be realised immediately.</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> <li>The implementation of the project will be phased over 5 years</li> </ul> </li> </ul>
<b>Notes</b>	



## Appendix A: Near-Term Projects

<b>Project:</b>	<b>Install and adjust space heating system controls</b>
<b>References:</b>	<b>LA7-WC-094, LA7-WC-096, LA7-WC-097 &amp; LA7-WC-100</b>
<b>Owner (person)</b>	Kwame C. Alex-Eyitene, Energy Manager
<b>Department</b>	Property Services, Walsall Council
<b>Description</b>	Install and adjust space heating controls within these premises to minimise the energy consumption and costs attributed to heating.
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Financial savings: £838</li> <li>Payback period: 2.38 years</li> <li>CO<sub>2</sub> Emissions reduction: 15.1 tonnes of CO<sub>2</sub></li> <li>0.08% of CO<sub>2</sub> target</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>Project costs: £2,000</li> <li>Source of funding: Internal sources or Salix Finance</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>This project shall be delivered within the current resources in Property Services</li> </ul>
<b>Ensuring Success</b>	<ul style="list-style-type: none"> <li>Quality and selection of products to be installed</li> </ul>
<b>Measuring Success</b>	<ul style="list-style-type: none"> <li>Energy consumption and CO<sub>2</sub> emissions will be monitored with a view to identifying reduction</li> <li>Evaluations will be measured quarterly</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>Milestones / key dates e.g. <ul style="list-style-type: none"> <li>Success of the project shall be monitored quarterly</li> </ul> </li> </ul>
<b>Notes</b>	