

APPENDIX 1

REDDITCH BOROUGH COUNCIL

**ENERGY STRATEGY AND ACTION
PLAN 2010 - 13**

1. Introduction
2. Energy Strategy
 - 2.1 Context and drivers
 - 2.2 Vision
 - 2.3 Aim
 - 2.4 Objectives and targets
3. Emissions baseline and projections
 - 3.1 Scope & Baseline
 - 3.2 Projections
4. Energy Action Plan
5. Action Plan Financing
6. Summary of Predicted Costs and Savings (energy and CO₂)
7. Stakeholder management and communications
 - 7.1 Stakeholder Analysis/Communications Plan
 - 7.2 Climate Change Champions Scheme
8. Governance, ownership and management
 - 8.1 Main roles and responsibilities
 - 8.2 Risks and issues management
 - 8.3 Reporting and evaluation

Appendix 1 : Action Plan

Appendix 2 : Detailed Capital Projects

1. Introduction

This Energy Strategy and Action Plan set out a systematic approach to reducing the Council's energy consumption and reliance on fossil fuels. It takes account of and links into the Council's Climate Change Strategy and seeks to support the reduction of the Council's overall carbon footprint. It also takes into account the Energy Saving Trust recommendations contained in Redditch Borough Council's Local area carbon emission reduction report of June 2009.

The document details the sources of the Council's greenhouse gas emissions from its energy use (from energy and water consumption in buildings and fleet/business travel) and establishes a baseline against which progress can be measured. It sets out the Council's approach towards energy reduction and identifies key actions for the Council to take to meet its reduced carbon emissions target by 2013 and beyond. Some of these measures have already been put in place or are in the process of being undertaken, whereas others require more detailed consideration before proceeding.

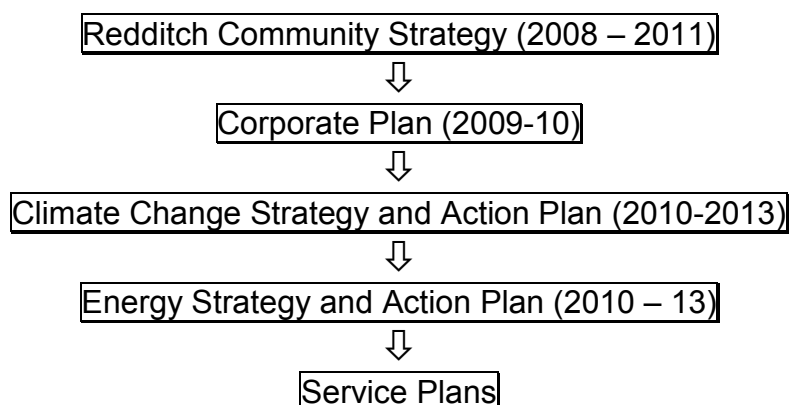
2. Energy Strategy

2.1 Context and drivers

The Energy Strategy has been developed to address a number of key drivers, as summarised below:

- To fulfil our commitment to tackling climate change made by signing the Nottingham Declaration on Climate Change in 2006 and the Worcestershire Climate change Pledge in 2007
- To fulfil our corporate ambition to achieve a 2% year on year reduction in our own corporate carbon emissions (measured via NI185)
- To respond to the Worcestershire Local Area Agreement which includes a 3% reduction target year on year for NI 186 and to adapt to future climate change (NI188) – including an assessment of how the Council would continue to run its services and operations if there were disruptions to the energy supply network, for example.
- To support and progress the objectives of the Council's Climate Change Strategy
- To manage energy demand in light of rising energy costs.
- To explore options and implement actions that will produce cost savings (Gershon efficiencies)
- To prepare to meet the requirements of recent legislation on climate change including the Climate Change Act 2008, such as the Low Carbon Transition Plan (2009) , and future international agreements in relation to climate change

The following diagram represents the hierarchy of the Council's strategies and plans in relation to carbon management issues and how the Energy Strategy and Action Plan sit within this:



2.2 Vision

The Council's Vision is for Redditch to be an enterprising community which is safe, clean and green.

The Council's 'clean and green' priority states as follows:

“The Council will develop attractive open spaces, taking enforcement action against littering, fly tipping and other behaviour detrimental to the environment, where appropriate, and supporting measures to tackle climate change”.

The Council therefore recognises the need to tackle climate change at a local level. We will reduce the impact on climate change in all we do through achieving a continual reduction in energy consumption from our operations and buildings. We will mitigate against future climate change by seeking sustainable energy sources and identify how best to adapt for the future risks and opportunities that future energy sources will bring.

This Energy Strategy will contribute to the Council's Vision and strategic objectives, by:

- Delivering a cleaner, greener Borough and improving the quality of green spaces;
- Improving the Council's performance with regard to mitigation and adaptation to the Climate Change Agenda;
- Improving energy efficiency;
- Managing the Council's assets effectively;
- Securing energy from renewable and greener sources;
- Contributing to the Council being a well-managed organisation.

2.3 Aim

The aim of the strategy is to reduce the Council's energy consumption in its estate mitigate against future rising energy costs and identify how to best adapt the Council's estate for the risks and opportunities that future energy challenges will bring.

2.4 Objectives and targets

The Council has set an objective of reducing the Council's carbon footprint by 2% year on year, although the Council is also considering signing up to the 10:10 Climate Change Campaign. The objectives of this Energy Strategy relate to the contributions towards this target that can be made by the Council's own estate (buildings, operations and services). These objectives are:

- To improve the energy efficiency of our estate ;
- To reduce energy consumption from our estate
- To reduce fossil fuel reliance by moving to renewable sources of energy (EST) and to ensure that any savings made from investing in energy efficiency are reinvested in sustainable energy (Spend to Save)

In order to reduce our carbon emissions by 2% year on year, we need to reduce our energy consumption (electricity, gas, petrol and diesel) by 2% year on year to meet the following targets:

Table 1 – Baseline and target CO₂ emissions

Year	Buildings [^] (TCO ₂ e)	Fleet [^] (TCO ₂ e)	Staff Mileage (TCO ₂ e)	Total (TCO ₂ e)
2008/9 (Baseline)	2799	744 ¹	94 ²	3637
2009/10	2743	729	92	3564
2010/11*	2688	714	90	3492

Key to Table 1

¹ Equates to 1,412,766 miles

² Equates to 471,234 miles

[^]This includes contractor data where the contractor is undertaking a function on behalf of the Council

*New targets will need to be set at this point for the coming years.

(Unlikely to be split equally each year – biggest efficiency saving likely to be with building emissions)

In order to achieve our objectives and targets we will focus on the following areas:

- Raising staff awareness of energy usage and ways of reducing energy consumption across the Council, including education and training, to bring about behavioural change (e.g. Switch it off campaigns),
- Reducing energy consumption in buildings by reducing unnecessary usage
- Strengthening our approach to data monitoring and targeting.

- Reducing energy consumption by our vehicle fleet by procuring fuel-efficient and low emission vehicles, driver training and monitoring of the fleet.
- Encouraging staff to reduce carbon emissions through delivery of our green travel plan, including a review of business mileage reimbursement
- Improving the energy efficiency of our buildings by a continuing programme installing energy efficient lighting, light sensors and heating systems
- Increasing the use of renewable energy by integrating renewables capacity in buildings and exploring the use of cleaner or alternative fuels for our vehicle fleet
- Ensuring that energy is procured from sustainable sources

3. Emissions baseline and projections

3.1 Scope & Baseline

The scope of emissions sources considered in measuring the emissions baseline is outlined below. Only those areas where the Council has responsibility for carbon emissions have been included in the baseline calculations. The scope will be reviewed annually in the light of any changes in responsibility and or the construction/acquisition of new buildings:

- Energy use in buildings where the Council has control over energy consumption
- Fleet vehicles (fuel consumption)
- Staff business travel

This Energy Strategy excludes from its scope Council housing, except for buildings with communal heating systems. A separate strategy will need to be developed for our housing to ensure that this complies with our strategic climate change objectives.

In 2008/09, we were required by Government to make a detailed calculation of emissions arising as a result of running our business and services. The main areas of focus include looking at our buildings, our fleet transport and business mileage undertaken by staff. Our corporate baseline CO₂ footprint was 3637 tonnes CO₂ (based on 997 employees).

Whilst the baseline should be considered to be a relatively accurate representation of the Council's carbon emissions from its estate, the following should be noted:

- Most of the data for electricity and gas is based on actual meter readings but some of the readings are estimated
- Oil and transport fuel data is obtained from records on fuel usage for each piece of equipment or vehicle based on hours used or miles per gallon
- Business travel has been derived from mileage claims and an estimation of fuel consumption has been made based on engine size, vehicle age and fuel type.

Table 2 - Emissions baseline and costs for financial year 2008-09

Source	Consumed	CO ₂ Tonnes	% CO ₂	Cost £	% Cost
Energy Use in buildings	2,630,105 kWh Electric 7,688,777 kWh Gas	2799	77	146,233 153,145 (299,378)*	39.5
Fleet Transport	Petrol/diesel	744	20	282,368	37.2
Business Miles	292,892 @ 60p per mile	94	3	175,735	23.3
Total Baseline		3637	100	757,841	100

* (This excludes energy used in sheltered housing complexes)

The price of energy has risen this year from 5.56p per kWh to 8.6p per kWh for electricity and from 1.99p per kWh to 2.63p per kWh. Assuming our consumption remains the same for this year, the change in cost would be as follows:

Table 3 – Increase in fuel costs for 2009/10 based on baseline consumption

Source	Consumed	CO ₂ Tonnes	% CO ₂	Cost £	% Cost
Energy Use in buildings	2,630,105 kWh Electric 7,688,777 kWh Gas	2799	77	226,189 202,215 (428,404)	39.5
Fleet Transport	Petrol/diesel	744	20	282,368	37.2
Business Miles	292,892 @ 60p per mile	94	3	175,735	23.3
Total Baseline		3637	100	886,507	100

From the Table 1, it can be seen that energy use from buildings accounts for 77% of the Council's carbon emissions from its estate and fleet transport 20%, whereas business mileage only has a small effect on the overall footprint. In terms of costs, energy use in buildings (nearly 40%) and fuel for the transport fleet (37%) are the greatest costs, whereas the costs of business mileage are relatively small in comparison.

The emissions from buildings can be broken down further as follows:

Table 4 - Carbon Emissions from Buildings (2008/09)

<u>Site</u>	<u>Amount used (kWh) Combined</u>	<u>CO2 emission (kg, weather corrected)</u>	<u>% CO2</u>	<u>Cost (£)</u>	<u>% cost</u>
Town Hall	1,736,210	635,882	21	66,736	23
Crematorium	1,684,847	387,935	13	39,675	13
Other public leisure	945,504	294,567	10	30,680	10
Leisure Centre (wet)	1,166,177	298,034	10	30,694	10
Business centres	1,107,434	382,165	13	27,357	9
Community Centres	1,016,517	255,725	9	26,310	9
Depot	867,789	244,249	8	25,300	9
Leisure Centre (dry)	676,273	199,867	7	20,759	7
Warehouses	646,755	154,717	5	15,865	5
OSS and ASB	291,212	84,543	3	8,773	3
Changing rooms	89,644	31,131	1	3,260	1
Total	10,228,362	2,968,814	100	295,409	100

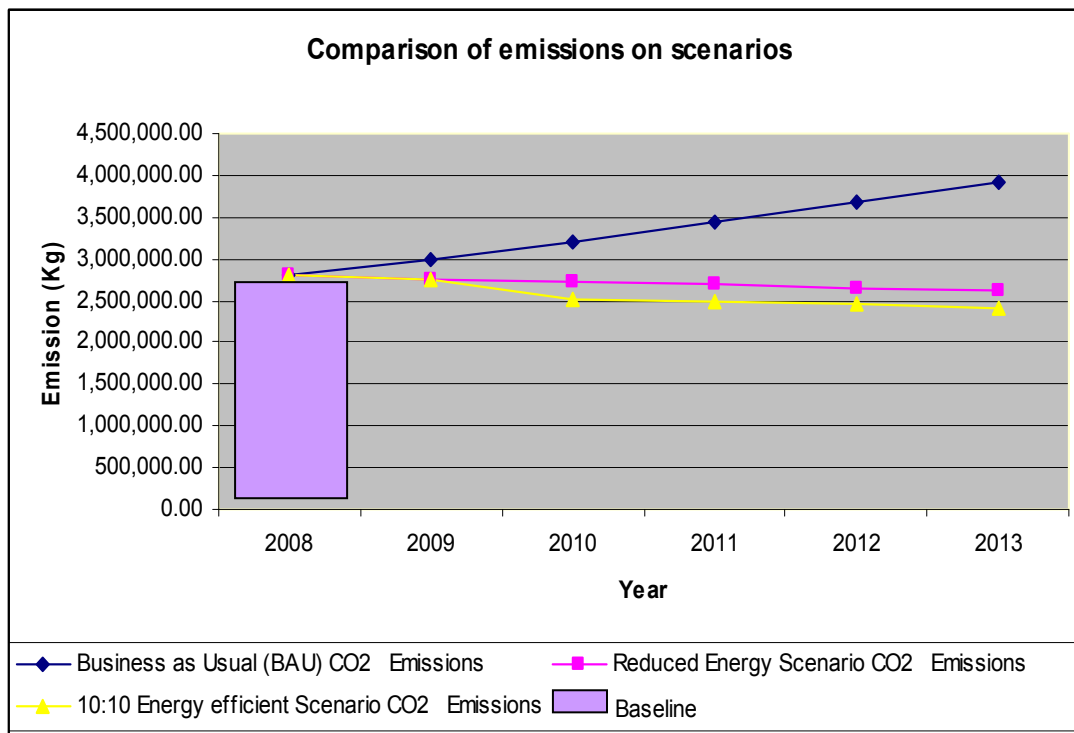
3.2 Projections

The Council's carbon footprint and associated costs will rise over time if no action is taken to control emissions. A projection of the future carbon emissions based on a national prediction that energy consumption will rise by 3% year on year.

High emissions - Business as Usual (BAU) Scenario

The business as usual scenario is the projection of the future carbon emissions (3% year on year) if no action is taken to control energy consumption. This has been calculated in line with the Department of Energy and Climate Change forecasts for energy consumption.

The chart below shows the predicted effect on carbon emissions (from buildings and transport) if no action is taken to control energy consumption.



Reduced Energy Scenario

The chart above also shows the effect upon carbon emissions if an energy reduction programme is implemented, in line with the target of 2% reduction in carbon emissions year on year and savings are continued to be made at this rate until 2013.

In the Business as Usual scenario, energy related costs could rise by 40% from their current levels by 2013. In the Reduced Energy scenario, energy related costs could fall from their current levels by 10%.

Energy Efficient/Green Scenario – to meet 10:10 targets

If an energy reduction programme is implemented, in line with the 10:10 target of achieving a 10% reduction in carbon emissions in 2010 and 2% year on year thereafter, energy related costs could fall from their current levels by 14%.

To achieve this target, significant capital investment is required to reduce energy consumption and increase energy efficiency within the Council's buildings. An application has been made to Salix for a loan for the installation of energy efficiency measures. Details of the projects to be carried out, subject to loan approval, are set out in Appendix 2. If the projects identified in Appendix 2 are implemented they could lead to:

- savings of £48,920 per annum (equating to 1,986,900 kWh). In the first instance, these savings would be required to repay the loan but thereafter any savings would be retained by the Council.
- a reduction in CO₂ emissions of 327 tonnes per annum, which would equate to almost 9% of the Council's baseline CO₂ emissions for 2008/09.

4. Energy Action Plan

The Action Plan for reduction of the Council's energy consumption, improvement of the Council's energy efficiency, reduction of the Council's reliance on fossil fuels and investment in sustainable energy is set out in Appendix 1.

5. Action Plan Financing

The financial savings implications for the Council of the successful implementation of the Energy Strategy are significant. Energy prices have been steadily increasing for the past few years and all indications are that this trend will continue and intensify as fossil fuel production rates decline. To address this, the Energy Strategy aims to:

- Reduce energy consumption by introducing efficiency measures, thereby reducing costs
- Reduce fossil fuel reliance by moving to more sustainable and renewable energy sources, such as solar
- Any other measures to mitigate future climate change issues in respect of energy
- Maximise the use of external funding to install energy efficiency measures as quickly as possible. The Council has applied for an interest free loan from Salix to enable capital works to be carried out for the installation of energy efficient systems and facilities.

Moving to a more sustainable energy source does not necessarily provide a financial saving, but does contribute significantly to reducing the Council's carbon footprint. Measures to replace ageing systems [e.g. gas-fired boilers with wood pellet types and the introduction of bio-diesel or 'blends'] have therefore been included in the action plan.

There is currently no allocated budget for energy efficiency measures. All energy efficient installations have been carried out within current repairs and maintenance budgets. The Council has, however, secured capital funding via an interest free loan from Salix for a range of Energy efficiency measures as detailed in Appendix 2.

6. Summary of Predicted Costs and Savings (energy and CO₂)

A summary of the predicted costs and financial savings from the capital projects undertaken in the first year of the Action Plan (plus current projects for 2009/10 is provided below. It is estimated that the savings from these measures will provide a return over the capital expenditure by 2013. Any acceleration of energy price rises will further increase the financial benefits of the programme to the Council.

Table 5 – Summary of Predicted Costs and savings

Scheme	Cost (£)	Payback period (years)	kWh saving per annum	Emissions reduction (Tonnes CO ₂ per annum)
2009/10				
Palace Theatre roof insulation	50,000	-	4169	0.7
Bordesley Visitors Centre – change to LED display lighting	5,000	-	12,556	5.4
Windmill Community Centre Boiler and control upgrade	5,000	-	1,314	0.6
Town Hall – replacement air conditioning	15,000	-	20,835	1.19
Totals	75,000	-	38,874	7.89
2010/11				
Arrow Valley Countryside Centre Voltage Optimisation	4,468	3.6	14,503	7.79
Auxerre House replacement Storage Heaters	14,000	4.3	38,297	20.57
Bredon House Corridor Lighting	15,000	5.5	31,501	16.92
Crossgates Depot Voltage Optimisation	6,433	2.8	26,584	14.28
Palace Theatre Lights	1,800	4.8	4,359	2.34
Palace Theatre Voltage Optimisation	7,905	3.6	20,263	10.88
Redditch Council Building Management System	100,000	4.4	873,191	161.36
Town Hall Valve and pipe lagging in plant rooms	5,814	1.9	119,771	22.5
Town Hall Voltage Optimisation	28,878	2.9	116,990	62.82
Town Hall Zoning Valves	5,000	4.5	42,441	7.85
Totals	189,298	-	1,287,900	327.31

7. Stakeholder management and communications

It is recognised that effective communication with our key stakeholders is fundamental to gaining approval and endorsement for the Energy Strategy, but also to ensure that energy management becomes part of the organisation’s culture and day-to-day business.

The key stakeholders for the Energy Strategy have been identified as:

- Executive Members & Scrutiny Members, including the Council Leader and Portfolio Holder for Housing, Local Environment and Health
- Council Members
- Chief Executive and Directors
- Heads of Service/Managers
- All staff
- Council contractors
- Redditch Local Strategic Partnership

The objectives of our communication activities are to:

- To raise awareness of the energy management activities being undertaken within the Council
- To encourage Members and staff to make their own contribution to reducing emissions e.g. from energy or transport, both at work and at home
- To embed energy management throughout the organisation

The following table lists the key stakeholders that have been identified, and summarises our approach for raising awareness about energy management and gaining their support and contribution to the programme. Communications work will be overseen by the Energy/Climate Change Group, which meets on a monthly basis to plan and coordinate activities.

7.1 Stakeholder Analysis/Communications Plan

Individual or Group	Their interest or issues	Their information needs or messages	Means of Communication
Leader/ Portfolio Holder/ Scrutiny/ Executive/ Members/ Climate Change Advisory Panel	<ul style="list-style-type: none"> ▪ community leadership ▪ cost savings/ budgets ▪ reputation 	<ul style="list-style-type: none"> ▪ Understanding of the energy reduction programme ▪ Case for Action – costs and carbon emissions will continue to rise if we don’t take action ▪ Programme will be governed to ensure effective use of scarce resources ▪ Capital investment 	<ul style="list-style-type: none"> ▪ Regular articles for Members’ Newsletter ▪ Member briefings ▪ Annual progress report ▪ Panel and Committee updates and reports ▪ Performance Management of Performance Indicators

		<p>required, plus potential for external funding</p> <ul style="list-style-type: none"> ▪ Regular updates on progress made ▪ Potential to lead the community 	
Directors and Heads of Service	As above	As above	<ul style="list-style-type: none"> ▪ To be raised at appropriate CMT meetings ▪ Performance Management of Performance Indicators
Managers	<ul style="list-style-type: none"> ▪ Benefit for their service ▪ Improved operational efficiency ▪ Cost savings 	As above	<ul style="list-style-type: none"> ▪ Face to face meetings as necessary ▪ Link to Service Plan as one of corporate priorities
All staff	<ul style="list-style-type: none"> ▪ Desire to play their part in delivering corporate priority ▪ Requirements as corporate priority ▪ Pride in Council actions ▪ Cost savings 	<ul style="list-style-type: none"> ▪ General awareness of programme and how they can have an influence (need to get staff on board as success of some actions will depend on wide take up) ▪ Link to steps they can take at home/potential cost savings 	<ul style="list-style-type: none"> ▪ Regular articles in Core Team Brief ▪ New staff briefed at induction ▪ Information for Intranet ▪ Notice board ▪ Discussion at Team meetings ▪ Environmental champions

7.2 Climate Change Champions Scheme

The intention is to establish a Climate Change Champions team to form a central part of the communications plan and to assist in achieving the behavioural change that will be required to achieve some of the objectives of the Strategy. However, this may be a longer term actions as most of the significant reductions and energy efficiencies do not require behavioural change

8. Governance, ownership and management

8.1 Main roles and responsibilities

Ownership of the Energy Strategy Action Plan is key to its success. The key people and groups within the Council and their roles are set out below:

Role in Action Plan	Name	Position
Portfolio Holder (Programme Sponsor)	Cllr Brandon Clayton	Portfolio Holder for Housing, Local Environment and Health
Senior Management (Programme Sponsor)	Kevin Dicks	Chief Executive
Finance Champion	Teresa Kristunas	Head of Finance, Revenue and Benefits Services
Project Leaders	John Staniland	Acting Director of Environment and Planning
	Ceridwen John	Climate Change Manager
	Guy Revans	Head of Environment
	Sue Mullins	Head of Legal, Democratic & Property Services
Energy/Climate Change Group Members	John Staniland	
	Guy Revans	
	Sue Mullins	
	Ceridwen John	
	John Homer	
	Chris Hemming	
	Joanne Lowe	
	Rob Kindon	
	Paul Mills	
	Elaine Storer	
Tracy Beech		
Climate Change Advisory Panel	Cllrs B Clayton (Chair), MacMillan, Hopkins, Hicks and Taylor	Members
Energy Management in Buildings	Sue Mullins	Head of Legal, Democratic & Property Services
Energy Management in IT	Jane Smith	Head of Customer and IT Services
Energy Management in Transport	Terry Horne	Head of Operations
Energy Management in Procurement	Teresa Kristunas	Head of Finance, Revenue and Benefits Service
Communications	Elaine Storer	Head of Human Resources and Communications

Programme Sponsors – responsible for setting the strategic direction for the Energy Strategy and reviewing progress against the objectives outlined in the Plan.

Project Leaders – responsible for evolving and implementing the Energy Strategy and for achieving the Carbon reduction targets.

Energy/Climate Change Group – A cross-directorate Officer group who support and challenge the whole carbon management team. The Steering Group has the following responsibilities:

- Reviewing and updating the Action Plan on an annual basis
- Monitoring and reporting progress against the plan
- Monitoring and reporting on emission performance
- Internal and external communication
- Engagement with environmental champions on awareness raising initiatives

Climate Change Advisory Panel – The Climate Change Advisory Panel meets on a quarterly basis to provide strategic oversight of the Programme and has the following responsibilities:

- championing and providing leadership on carbon management within the Council
- setting and reviewing the strategic direction and targets, ensuring the objectives of the Energy Strategy and Action Plan are in line with those of the Council
- owning the scope of the Energy Strategy Action Plan and prioritising the list of energy reduction projects which it comprises, ensuring sufficient projects are identified, quantified and prioritised to reach the targets
- monitoring progress towards meeting the objectives and targets, based on reports provided by the Project Leaders
- removing obstacles to the successful completion of energy management projects
- reviewing and championing plans for financial provision to support energy management projects
- ensuring that there is a framework in place to coordinate the management of projects within the energy management programme

8.2 Risks and issues management

Through regular meetings the Energy/Climate Change Group and the Climate Change Advisory Panel will predict and identify issues potentially affecting the success of the programme and will identify the means of managing and resolving these issues.

8.3 Reporting and evaluation

The Climate Change Advisory Panel will review the performance of the Energy Strategy annually and evaluate the measures taken since the last review. A plan of the scheme of work to be undertaken in the following two financial years, taking into account new technologies that may be available and lessons learnt etc. will also be prepared. The outcomes of the annual review will be reported to the Overview & Scrutiny Committee and to the Executive Committee on an annual basis. The Energy/Climate Change Group will also undertake a half yearly review of progress of the programme which will be reported to CMT. Progress towards meeting the energy target and the success of projects will be communicated to staff and to Members through the channels identified in the Communications Plan.

Appendix 1 : Action Plan

ACTION	WHEN/BY	OFFICER RESPONSIBLE	FUNDING	
To reduce energy consumption from our estate				
Own buildings	Assign energy costs to departments or buildings based on actual use. Targets should be set for reduction and staff trained to use less energy. Publicise results and use them to raise awareness further. Meter readings should be used to classify buildings and prioritise work	2010 -11	Head of Legal, Democratic & Property Services and Head of Financial, Revenues and Benefits Services	Within existing resources
	Use smart metering and feed back to energy users	[TBC]	Head of Legal, Democratic & Property Services	Subject to budget bid
	Ensure compliance with the EU Energy Performance of Buildings Directive to highlight energy performance within the Council's own buildings	[TBC]	Head of Legal, Democratic & Property Services	
Transport	Staff and visitor travel plan	2010 – 11	Head of Human Resources and Communications	Within existing resources
	Encourage staff to use more efficient vehicles for work and consider prohibiting high polluting vehicles (offering pool vehicles instead)	2011 – 12	Head of Human Resources and Communications	Within existing resources
	Set service plan targets for reduction of fuel use and mileage in services involving transport and in business mileage.	2010 – 11	Head of Operations	Within existing resources
	Review the size of the Council's vehicle fleet and optimise how the remaining fleet is used	2011 – 12	Head of Operations	Within existing resources

	Managers and supervisors to periodically interview drivers regarding fuel use and identify improvements that may be made	2010 - 11	Head of Operations	Within existing resources
Staff training and engagement	Ensure energy training is provided to staff in areas of Council operation deemed to have most significant impact on energy use	2010 - 11	Head of Environment	Within existing resources
	Introduce energy training on energy issues for all new staff as part of their induction	2010 - 11	Head of Human Resources and Communications	Within existing resources
	Embark upon staff awareness campaign	2010 – 11	Head of Environment & Head of Legal, Democratic & Property Services	Within existing resources
	Appoint energy champions in each department or building and ensure that they are responsible for keeping staff informed of energy saving tips and can keep an eye on simple things such as lights and monitors being left on	2010 – 11	All Heads of Service	Within existing resources
	Provide training to drivers in fuel efficient driving	Ongoing	Head of Operations	Corporate Training budget
Data	Ensure that a system is in place for gathering data relating to sustainable energy use in the Council's estate	2011 – 12	Head of Legal, Democratic & Property Services and Head of Financial, Revenues and Benefits Services	Within existing resources
	Investigate investment in	2012 - 13	Head of	Within

	a vehicle tracking system to monitor vehicle use		Operations	existing resources
Resources	Establish a cross-service energy Group	2010 - 11	Head of Environment and Head of Legal, Democratic & Property Services	Within existing resources

To improve the energy efficiency of our estate

Own Buildings	Consider energy efficiency during refurbishment and use forecast future prices when calculating payback periods	Ongoing	Head of Legal, Democratic & Property Services	Within existing repair & maintenance and capital budgets
	Use energy efficiency data when considering whether or not assets should be retained	Ongoing	Head of Legal, Democratic & Property Services	Within existing resources
	Prioritise energy efficiency investments in existing buildings and use forecast future prices when calculating payback periods	Ongoing	Head of Legal, Democratic & Property Services	Within existing repair & maintenance and capital budgets
	Introduce procurement policies that ensure sustainable energy is maximised, including introducing:			
	Basic energy efficiency standard in the procurement of electrical goods (e.g. energy saving recommended certified products)	2010 – 11	Head of Environment	Within existing resources
	A policy of procuring items manufactured with minimal energy usage and environmental impact, including transport	2010 – 11	Head of Environment	Within existing resources
	Consider introduction of a policy of purchasing green electricity	2012 - 13	Head of Environment and Head of Financial,	Within existing resources

To reduce fossil fuel reliance by moving to renewable sources of energy and to ensure that any savings made from investing in energy efficiency are reinvested in sustainable energy

Own Buildings	Consider producing own renewable energy	2012 - 13	Head of Environment	Within existing resources
Procurement	Reinvest all financial savings from energy efficiency in further energy work including renewable energy sources	Ongoing	Head of Financial, Revenues and Benefits Services	Within existing resources

Appendix 2 : Detailed Capital Projects

Project Name		Arrow Valley Countryside Voltage Optimisation
Project Description		
The voltage supplied to buildings is much to higher than is needed by the equipment due to allowance in drops in voltage across the network. Electric supply is 240Volts +/- 6%. Over supply to equipment is lost in heat and shorten equipment life span. Voltage optimisation works by reducing losses in electrical equipment, therefore saving energy and reducing CO2 emissions		
Qualified costs and benefits		
	Capital Investment	£4,468.00
	Revenue costs	£0.00
	Financial saving per year	£1,247.00
	Payback period	3.58 years
	Internal funding	none
	External funding	Salix
	kWh saved PA	14,503
	Emissions reduction(tonnes co2 PA)	7.79
	Cost per Tonne CO2 over the life of project	£30.61
Resources		
	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	8 weeks
	Lead time	8 week to manufacture
	Time scale to complete on site	3 weeks
	Impact on the Service	Require minimal shut down of electric to install
Benchmarking		
Based on kWh consumption April to March	Electric consumption 2008/9	111,560
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	97,057
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name		Auxerre House (Sheltered Accommodation) Replacement Storage Heaters in corridors
Project Description		Removal of existing storage heaters in the corridors and replacement with low energy radiators
Qualified costs and benefits	Capital Investment	£14,000.00
	Revenue costs	£0.00
	Financial saving per year	£3,294.00
	Payback period	4.25 years
	Internal funding	none
	External funding	Salix
	kWh saved PA	38,297
	Emissions reduction(tonnes co2 PA)	20.57
	Cost per Tonne CO2 over the life of project	£37.82
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	3 weeks
	Lead time	8 week
	Time scale to complete on site	2 weeks
	Impact on the Service	minimal
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	76,595
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	38,298
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name		Bredon House Corridor Lighting
Project Description		Corridor lights are on 24 hours a day 365 days of the year. Change light fittings to T5 fittings with automatic controls to turn off the lights when no one is in the corridor
Qualified costs and benefits	Capital Investment	£15,000.00
	Revenue costs	£0.00
	Financial saving per year	£2,709.00
	Payback period	5.54 years
	Internal funding	none
	External funding	Salix
	kWh saved PA	31,501
	Emissions reduction(tonnes co2 PA)	16.92
	Cost per Tonne CO2 over the life of project	£44.34
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Framework contractor
	Procurement period	3 weeks
	Lead time	3 week to deliver lights
	Time scale to complete on site	4 weeks
	Impact on the Service	Minimal
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	35,739
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	3,852
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name		Crossgates Depot Voltage Optimisation
Project Description		
The voltage supplied to buildings is much to higher than is needed by the equipment due to allowance in drops in voltage across the network. Electric supply is 240Volts +/- 6%. Over supply to equipment is lost in heat and shorten equipment life span. Voltage optimisation works by reducing losses in electrical equipment, therefore saving energy and reducing CO2 emissions		
Qualified costs and benefits	Capital Investment	£6,433.00
	Revenue costs	£0.00
	Financial saving per year	£2,286.00
	Payback period	2.81 years
	Internal funding	none
	External funding	Salix
	kWh saved PA	26,584
	Emissions reduction(tonnes co2 PA)	14.28
	Cost per Tonne CO2 over the life of project	£30.61
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	8 weeks
	Lead time	8 week to manufacture
	Time scale to complete on site	3 weeks
	Impact on the Service	Minimal
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	204,494
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	177,910
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name		Palace Theatre Lights
Project Description		Replacement of halogen spot lights in the bar and Auditorium with LED lighting
Qualified costs and benefits	Capital Investment	£1,800.00
	Revenue costs	£0.00
	Financial saving per year	£375.00
	Payback period	4.80 years
	Internal funding	
	External funding	Salix
	kWh saved PA	4,359
	Emissions reduction(tonnes co2 PA)	2.34
	Cost per Tonne CO2 over the life of project	£30.76
Resources	RBC staff	Theatre Technicians to install
	External consultants	None
	External contractors	none
	Procurement period	3 weeks
	Lead time	1 month
	Time scale to complete on site	1 week
	Impact on the Service	Minimal impact during installation,
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	155,873
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	151,514
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	John Homer	
Project Co ordinated	John Homer	

Project Name Palace Theatre Voltage Optimisation		
Project Description The voltage supplied to buildings is much to higher than is needed by the equipment due to allowance in drops in voltage across the network. Electric supply is 240Volts +/- 6%. Over supply to equipment is lost in heat and shorten equipment life span. Voltage optimisation works by reducing losses in electrical equipment, therefore saving energy and reducing CO2 emissions		
Qualified costs and benefits	Capital Investment	£7,905.00
	Revenue costs	£0.00
	Financial saving per year	£1,743.00
	Payback period	3.58 years
	Internal funding	none
	External funding	Salix
	kWh saved PA	20,263
	Emissions reduction(tonnes co2 PA)	10.88
	Cost per Tonne CO2 over the life of project	£49.35
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	8 weeks
	Lead time	8 week to manufacture
	Time scale to complete on site	3 weeks
	Impact on the Service	Require minimal shut down of electric to install
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	155,873
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	135,610
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name Redditch Council Building Management System (BMS)		
Project Description The BMS controls, on and off times of heating and ventilation, optimises the temperature to maintain a comfortable temperature by monitoring the outside temperature and adjusting the heating accordingly.		
Qualified costs and benefits	Capital Investment	£100,000.00
	Revenue costs	£0.00
	Financial saving per year	£22,939.00
	Payback period	4.36 years
	Internal funding	Existing R&M budget, Service
	External funding	Salix
	kWh saved PA	872,191
	Emissions reduction(tonnes co2 PA)	161.36
	Cost per Tonne CO2 over the life of project	£68.86
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	12 weeks
	Lead time	1 month
	Time scale to complete on site	4 months
	Impact on the Service	Minimal impact during installation, if works are carried out during spring and summer months when the heating systems will be off.
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	
	Gas Consumption 2008/9	8,721,310
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	7,849,719
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	John Homer	
Project Co ordinated	John Homer	

Project Name		Town Hall Valve and pipe lagging in plant rooms
Project Description		All pipework in the boiler plant rooms are insulated but the valves are not. Carry out insulation of 159 valve and flanges.
Qualified costs and benefits	Capital Investment	£5,814.00
	Revenue costs	£0.00
	Financial saving per year	£3,150.00
	Payback period	1.85 years
	Internal funding	none
	External funding	Salix
	kWh saved PA	119,771
	Emissions reduction(tonnes co2 PA)	22.50
	Cost per Tonne CO2 over the life of project	£11.66
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Heating Contractor
	Procurement period	3 weeks
	Lead time	1 week
	Time scale to complete on site	2 weeks
	Impact on the Service	None
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	
	Gas Consumption 2008/9	848,810
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	729,039
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name	Town Hall Voltage Optimisation	
Project Description	The voltage supplied to buildings is much to higher than is needed by the equipment due to allowance in drops in voltage across the network. Electric supply is 240Volts +/- 6%. Over supply to equipment is lost in heat and shorten equipment life span. Voltage optimisation works by reducing losses in electrical equipment, therefore saving energy and reducing CO2 emissions	
Qualified costs and benefits	Capital Investment	£28,878.00
	Revenue costs	£0.00
	Financial saving per year	£10,061.00
	Payback period	2.87 years
	Internal funding	Existing R&M budget, Service
	External funding	Salix
	kWh saved PA	116,990
	Emissions reduction(tonnes co2 PA)	62.82
	Cost per Tonne CO2 over the life of project	£31.23
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	8 weeks
	Lead time	8 week to manufacture
	Time scale to complete on site	3 weeks
	Impact on the Service	Require minimal shut down of electric to install and will require transfer of CCTV and Life line during that period
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	899,922
	Gas Consumption 2008/9	
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	782,932
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	

Project Name		Town Hall Zoning Valves
Project Description		Redditch Town Hall. Zoning valves will give greater control over the heat levels in the building.
Qualified costs and benefits	Capital Investment	£5,000.00
	Revenue costs	£0.00
	Financial saving per year	£1,116.00
	Payback period	4.48 years
	Internal funding	
	External funding	Salix
	kWh saved PA	42,441
	Emissions reduction(tonnes co2 PA)	7.85
	Cost per Tonne CO2 over the life of project	£47.17
Resources	RBC staff	No additional staff
	External consultants	None
	External contractors	Specialist contractor
	Procurement period	3 weeks
	Lead time	1 month
	Time scale to complete on site	1 week
	Impact on the Service	Minimal impact during installation, if works are carried out during spring and summer months when the heating systems will be off.
Benchmarking Based on kWh consumption April to March	Electric consumption 2008/9	
	Gas Consumption 2008/9	8,721,310
	Water consumption 2008/9	
Target 2009 /2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	8,678,869
	Water consumption 2009/10	
Actual 2009 2010 kWh April to March	Electric consumption 2009/10	
	Gas Consumption 2009/10	
	Water consumption 2009/10	
Project Proposer	Chris Hemming	
Project Co ordinated	Chris Hemming	