East Ayrshire Council

Carbon Management Programme

Strategy and Implementation Plan (SIP)
October 2007.

Date: October 2007
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Contents

Front Cover
Picture 1: New Galston Primary School and Nursery School: Due to for completion June 2008
The design incorporates a number sustainable features including a ground source heat pump for space heating, solar cells and wind turbine for on site generation of electricity, the creation of a gray water storage facility to recycle rain water. long life, low energy and enhanced controlled lighting and well insulated structure designed to minimise heat loss and solar gain.
Picture 2: East Ayrshire Council's Transport fleet. Most vehicles are using bio diesel and ultra low sulphur diesel, using new oil free tyres and the disposal of tyres, fluids and other transport residue is by environmentally friendly methods.
Picture 3: Street Lighting at Mauchline, Burns Tower. Street lighting utilises 50% green energy and are build to 'S3' Standard
Picture 4: Recycling household waste 3 bins system. Blue for paper, brown for garden waste, grey/green for residual waste, black box for glass and cans/ tins.

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Executive summary

Improving the environment is a key priority theme within the East Ayrshire Community Plan. Protecting the environment now and for future generations is a strategic priority. Climate change is of international, national, regional and individual concern and responsibility. As a community leader and service provider, East Ayrshire Council is committed to act, lead by example and support the increasing challenge of reducing greenhouse gases.

Participation in the Carbon Trust Local Authority Carbon Management programme has enabled the Council to quantify its carbon emissions and develop a clear plan of action.

This plan outlines the Council focus on four themes:

- Reducing the environmental impact of the council's energy consumption.
- Reducing the environmental impact of the council's vehicle fleet.
- Reducing the environmental impact of landfill by reducing and recycling of the councils waste.
- Reducing the environmental impact of street lighting.

An action plan has been developed ranging from short term, low cost measures to projects requiring significant investment and implementation time.

The baseline position in 2004-05 has been used for the calculation of The Council's carbon emissions. This has been calculated as 19119 tonnes of CO_2, including an allowance for 50% of the Council's electricity supply being from renewable resources. It is estimated that the Council's energy related carbon emissions could increase by 21.6% between 2004-05 and 2009-10. However the Council's target is to reduce its combined energy and waste carbon emission by 10% by 2010.

Failure to take action could see energy related costs rise to £5.908M by 2010 from a base of £2.732M in 2004/05. The actions planned have the potential to reduce energy related costs for 2009-10 by £1.036M.

The Carbon Management Programme will be taken forward as an integral part of the council's broader Sustainability Strategy, under development at the time of this report.

The Carbon Management Programme Strategy and Implementation Plan (SIP) will raise issues that when carried out will result in benefit to the Council and could be used as a springboard to influence change in the wider community. The Council recognises the need to be visionary and proactive with regard to carbon reduction.

“A commitment to lasting development will help us make the right decisions, with the knowledge that we have taken full account of the social, economic and environmental consequences.”

East Ayrshire Community Plan – Improving the Environment

Sponsor:……	Executive:……
Chief Executive	Executive Head of Finance and Asset Management

1 Introduction

East Ayrshire Council (EAC) objectives in pursuing the Local Authority Carbon Management (LACM) programme are:

- To quantify the carbon emissions associated with running the council.
- To identify and implement schemes to reduce carbon emission, by reducing energy consumption, minimising waste and lowering environmental impact of transport.
- To progress towards the integration of sustainable energy generation.

The requirements of the Scottish Executive's environmental policy to reduce the total Scottish carbon emission together with the current financial situation where energy and raw fuel prices are rapidly increasing brought to a crucial point the need to implement a Carbon Management Programme. It is important therefore for East Ayrshire Council to continue to act diligently and efficiently in these matters.

To support our efforts to reduce Carbon Emissions, East Ayrshire Council joined the 4th year of the Local Authority Carbon Management (LACM) programme in June 2006. The LACM programme has been specifically designed by the Carbon Trust and is government sponsored for local authority use. It brings access to consultancy services to augment the in-house team. The Carbon Trust had already run the scheme successfully with other councils.

The purpose of the implementation plan is
1. To establish a baseline of our carbon emissions by looking at the main energy consumers including (but not exclusively) buildings, transport, street lighting and waste management.
2. To calculate the value of the real financial challenges that the Council faces and the implications if no action is taken to reduce our carbon emissions.
3. To highlight the financial and environmental benefit which can arise from resourceful ideas and the implementation of carbon reduction measures.

Consequently the adoption of this strategy document will bring benefits for the Council and its residents through better use of council's funds, generating a better living environment and showing a caring attitude towards a sustainable future for the subsequent generations.

The submission of the SIP will be in September 2007.

2004/5 has been used as the base year as this is the year prior to the commencement of the 3 year Energy Savings Investment Programme, instigated following the procurement of energy supplies and the consequent increase in base energy charges that came into effect on 1st April 2005.

The implementation of the energy savings programme has been ongoing since September 2005 and it is proposed to extend the original 3 year period to 5 years,

concluding in 2010. This will correspond to the target to reduce carbon emissions by 10% over this period.

The Plan encompasses actions ranging from simple short term work to longer-term projects and renewable initiatives.

One of the outcomes has been confirmation that the works carried out since 2005 have resulted in significant reduction in carbon emissions. This demonstrates that if continued the Council is in a realistic position achieve the reduction target of 10% and that investment in projects that reduce energy consumption have the additional positive effect on reducing carbon emissions.

This document will be by submitted to the Cabinet for approval following discussion by the Corporate Management Team.

2 Carbon Management Strategy

2.1 Context and Drivers

The Community Plan for East Ayrshire embodies within it the principles of energy efficiency, conservation and sustainable development.

“A sustainable community is one which makes sure that today’s decisions do not have a negative effect on the future and where the actions will have a long lasting effect”.

All successful organizations including the Scottish Government and UK Government recognise the need to become fully committed to energy and environmental management. It is imperative that East Ayrshire Council be recognised publicly as being one of these committed organisations.

The matrix (Table 1) below highlights the Council’s position with regard to Carbon Management and identifies areas in need of development and sets improvement targets. The bold text demonstrates the current position within the Council. Line 5 (green) sets out the aspirations for the Council.

	POLICY	ORGANISATION	INFORMATION AND DATA	COMMUNICATION AND TRAINING	FINANCE	MONITORING & EVALUATION
5	Specific climate change policy with targets signed off and implemented + Action plan with clear goals and regular reviews to confirm actions undertaken and targets achieved/being progressed	**Climate change/carbon management is a full-time responsibility of an individual** **+ Climate change responsibilities integrated into responsibilities of senior managers in different departments** **+ Political support from the highest level in the council.**	CO_2 emissions compiled for all main LA sources for a baseline year and regular collation of annual emissions data + Data externally verified	Formalised communication and training plan for all staff on carbon and energy related matters, including integration in induction and other normal training processes +Communication on carbon and energy related matters with the community and other key business partners	Well defined and effective internal financing mechanisms for carbon/energy saving projects + Extensive use of external finance sources as appropriate + Good internal resources for management/coordination tasks	Management Review of carbon management process by senior management. + Regular reviews by core team on progress with carbon management
4	Specific climate change policy with targets developed and signed off, but not implemented	Climate change/carbon management is a full-time responsibility of an individual + Climate change responsibilities integrated into responsibilities of senior managers in different departments	CO_2 emissions compiled for all main LA sources for a baseline year (i.e. buildings, streetlighting, transport (fleet and commuting) and waste if relevant) + Data internally reviewed	Formalised communication and training plan for all staff on carbon and energy related matters, including integration in induction and other normal training processes	**Internal & external funding on a regular basis for carbon/energy saving projects** **+ Sufficient internal resources for management/coordination tasks**	**Regular reviews by core team on progress with carbon management (e.g. review of actions, check against emissions profile and targets, addition of new opportunities etc.)**
3	**Climate change included in wider policy documents**	Climate change/carbon management is a part-time responsibility of an individual + Climate change responsibilities integrated into responsibilities of people in different departments	**CO_2 emissions data compiled for some sources for a baseline year (e.g. buildings and streetlighting) and source data available for other sources (e.g. transport)**	**Ad hoc communication and training delivered to all staff on carbon and energy related matters**	Internal & external funding on an ad hoc basis for carbon/energy saving projects + Limited internal resources for management/coordination tasks	Ad hoc assessment of all aspects of carbon/energy policies/strategies, targets and action plans
2	Climate change as an aspiration in non-policy documents	Climate change/carbon management is a part-time responsibility of an individual	No CO_2 emissions data compiled for any sources but energy data compiled on a regular basis	Communication and training to specific groups in the Council (e.g. energy team) on carbon or energy related matters	Some internal financing on an ad hoc basis for carbon and/or energy efficiency related projects + Limited internal resources for management/coordination tasks	Ad hoc reviews of specific aspects of carbon/energy policies/strategies, targets and action plans
1	No climate change policy or strategy and no mention of climate change in policy/strategy documents	No individual with responsibility for climate change issues	No CO_2 emissions data compiled for any sources and energy data not compiled on a regular basis	No communication or training to staff on carbon or energy related matters	No internal financing or funding for carbon and/or energy efficiency related projects	No monitoring of carbon/energy policies/strategies, targets and action plans

2.1.1 Costs

Recent years have seen a sharp increase in fossil fuel prices. The combination of dwindling supply and reliance on imports are partly responsible. The cost increases that the Council is facing are not simply related to energy and fuel prices but also to the hidden cost of services like waste sent to landfill.

- The Council property portfolio has seen its energy costs rise by approximately 30% over the last two years and was subject to a further rise in April 2007 by approximately the same percentage.

  The Council secures best value for the supply of gas and electricity through the Authorities Buying Consortium (ABC). ABC procures energy for 14 Scottish Councils. In 2004-05 the total Council energy bill for gas and electricity was £1.88M. This increased to £2.44M in 2005-06. This increase is principally the result of market fluctuations in energy costs.

  For 2007/08, ABC has advised that electricity contract prices will increase by 27.5% and gas by 35.1%. This amounts to a £0.742m increase on the 2006-07 energy bill or 30.4%. Allowing a further 15% a year in 2008-09 and 2009-10 this gives a total increase over the five year period to 2009-10 of 124%.

  This ever rising energy trend strengthens the business case for an energy conservation campaign, energy efficiency measures, and exploring opportunities for renewable and less conventional energy production.

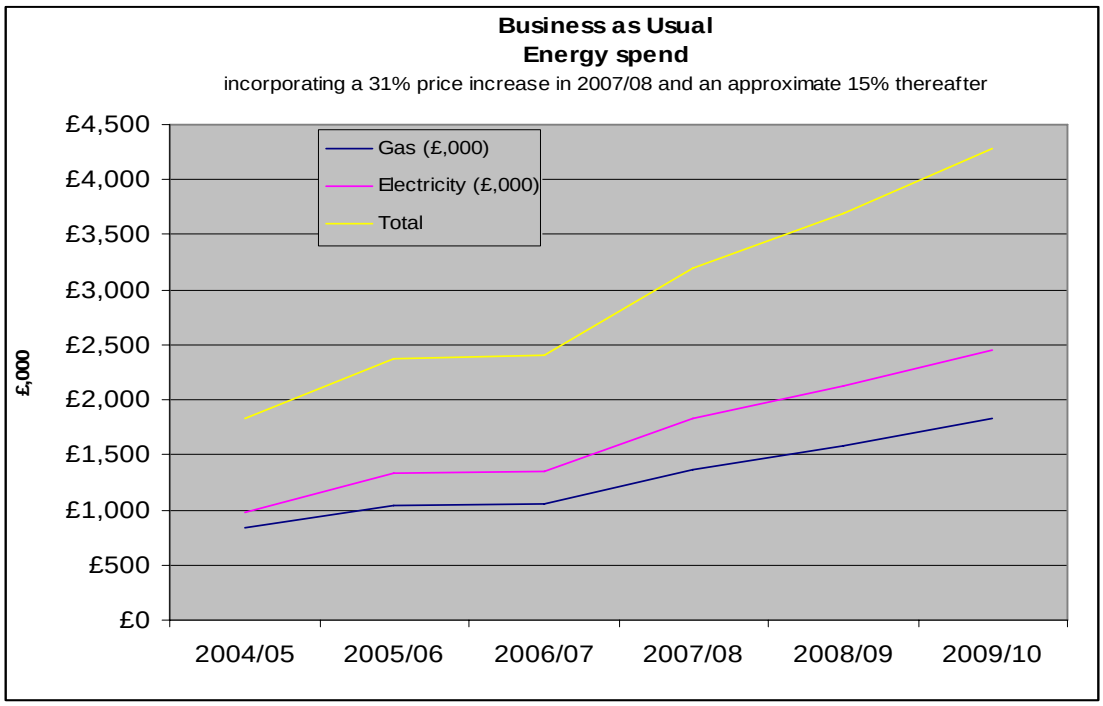

Figure 1: Projected increase in energy costs (2005 to 2010)

- The energy costs for street lighting will rise by 28.3% from April 2007 due to the new contract for electricity which will run from April 2007 to March 2009, at which point the Council is likely to face another rise in energy prices for street lighting. Energy consumption for street lighting is also rising due to the volume of new housing development and subsequent increase in number of columns within East Ayrshire.

- Transport raw fuel costs increased between £0.08 and £0.10 per litre during 2006/07. The average usage by Council vehicles is 1.2 million litres per year giving an increase in cost of about £100,000.

- The Waste Management prerogative is to consider recycling and diversification of waste in order to reduce the cost of landfill. At present the landfill tax increases annually at a rate of £3 per tonne. The landfill tax for 2006-07 was £21 rising to £24 in 2007-08. New regulation to be in place by next year will see the annual increase in landfill tax rising to £8 per tonne. Investment in recycling will help mitigate such increase in landfill charges. The council at present sends approximately 3800t of waste to landfill sites. This waste also has the effect of creating harmful methane emissions.

2.1.2 National Directives

The Scottish share of 1.7M tonnes of CO_2 in annual savings by 2010 has been calculated as an equitable contribution to the United Kingdom Climate Change Policy (UKCCP). Scotland's Climate Change Programme 2000 launched on the 30th March 2006 by the Executive has quantified in carbon terms its obligations. The Scottish Executive target is to exceed the Scottish share by 1 million tonnes of carbon through its devolved policies. This is inclusive of the UK obligation under the Kyoto protocol to reduce greenhouse gas emissions by 12.5% below the 1990 levels in the period 2008 – 2012 and to move towards the domestic goal of 20% reduction in carbon dioxide emissions by 2010, and 60% by 2050.

The introduction of the EU Landfill Directive (1999/31/EC) resulted in local authorities in the United Kingdom being set demanding municipal solid waste (MSW) and bio-degradable municipal waste (BMW) landfill diversion targets up to 2020. In addition to this Directive, Scottish local authorities are also required to adhere to the Landfill Allowance Scheme (Scotland) Regulations 2005.

2.1.3 Directive on Energy Building Performance.

It has been recognised by the European Community research that around 40% of final energy consumption is in the building user sector. Generating Energy Performance Certificates for Public Buildings in compliance with the Guidance Document on implementation of Articles 3, 4, 5 & 6 of EU Directive 2002/91/EC on the energy performance of buildings, will be required by 2008. The energy performance of a

building will be reflected in a carbon dioxide emission indicator. A reduction in emissions is a principal 'driver' for the Scottish Government's strategy to encourage energy efficiency in use of buildings.

2.2 Vision

The introduction to the East Ayrshire Community Plan states;

"East Ayrshire will be a place with strong, vibrant communities where everyone has a good quality of life and access to opportunities, choices and high quality services which are sustainable accessible and meet people's needs."

One of the guiding principles within the Community Plan is Sustainability

"Sustainability is at the heart of this plan. We are committed to making sure that the outcomes of social, economic and environmental improvements are sustainable and will stand the test of time. A sustainable community is one which makes sure that today's decisions do not have a negative effect on the future and where actions will have a long-lasting effect. Sustainability is an important part of community life, from health, housing, education, transport and economic development to conservation and waste management. We will make sure that decisions we make meet the needs of today and protect the environment for the future."

One of the key priority themes of The Community Plan is Improving the Environment which includes the following aims:

- protecting, improving and using our natural and built environment in an environmentally friendly way,
- extending woodland planning and nature conservation;
- by increasing the amount of waste that is recycled and re-used;
- by making our homes and buildings more energy efficient,
- by reducing the environmental effect of transport
- by developing a transport system that meets national, regional and local needs".

2.3 Objectives and Targets

2.3.1 Broad Objectives:

- To actively contribute to the Scottish Government's targets for carbon emission reduction.
- To ensure a sustainable approach of work, design and resources.
- To reduce carbon emission through property energy conservation, street lighting and transportation.

- To reduce carbon emission from waste and minimise landfill through reducing and recycling waste.
- To influence decision making towards an environmentally friendly option whilst being faced with a growth in population and the consequent requirement of new development. Through Partnership and sharing of resources.

2.3.2 Targets:

- A 10% reduction in energy and waste carbon emissions by 2010 (from 2004-05 levels).
- Waste targets, with recycling provision in all council premises by 2008:
  - 75% increase in paper and cardboard recycling by 2008.
  - 75% of drinks cans to be diverted from the residual waste stream by 2008.
  - 100% toner cartridges to be diverted from residual waste by August 2007.
  - 50% organic kitchen waste to be diverted from landfill by August 2007.
- To continue the process of procuring street lighting electricity from renewable sources (currently at 50%) at the best affordable rate; to continue best practise and analysis of technology in street lighting to achieve best balance between capital investment, revenue and environmental impact.
- To reach the cleanest and most fuel efficient fleet possible based on technical advances over the next 5 years.

2.4 Strategy

- **Property:**

- To reduce carbon emission from operational property by at least 8% below the 2004-05 baseline by 2010.
- To upgrade building fabric (walls, roof, and windows), along with improved lighting and heating system controls.
- To continue electricity procurement at the current 100% green energy level,
- To monitor, target and benchmark energy usage in our buildings.
- To identify through monitoring the poor performing building and prioritise maintenance, repair and improvement.
- To create an effective Energy Management and Awareness Programme.
- To raise standards of contractual procurement for upgrades of building fabrics and office technology.
- To continue cost analysis and develop implementation plan in favour of green energy production.

Waste:

- To improve waste minimisation, raise awareness and accountability in all council premises,
- To recycle paper and cardboard waste in all council premises.
- To divert drinks cans, toner cartridges and organic kitchen waste from the residual waste stream.
- To reduce carbon emission through lowering landfill.
- To upgrade standards and raise issues of sustainability in all works done or contracted by the council.

Transport:

- To procure Ultra low sulphur diesel (ULSD), and increase the use of bio-diesel.
- To dispose of tyres, fluids and other transport residue in an environmentally friendly method.
- To continue to develop a sustainable attitude towards all components of the Transport Fleet work and partnership work.
- To continue life cost analysis of new technology.

Street Lighting:

- To continue life cost analysis of new technology and implement when deemed to be cost positive.
- To strive towards 100% green energy procurement, depending on cost implication.

Partnership:

- To work in partnership with Community Planning Partners to deliver a carbon efficient environment.
- East Ayrshire Council together with 11 other Scottish councils, through the Authority Buying Consortium (ABC), will promote initiatives including the purchase of green energy and energy efficient supplies.

Policies & Procedures:

- A Sustainability Strategy is being developed to embrace the wider remit of energy, waste, procurement, biodiversity and the carbon management programme,
- Standards of procurement will be challenged to reflect a positive discrimination towards an energy efficient approach to contracts and any works contracted to be within sustainability standard (energy efficient, recycling, safe disposal),

- The carbon management programme has the potential to be built upon and therefore increase the influence and awareness of carbon reduction on all council activities and in doing so monitor and reduce all emissions. The delivery of the action plan will be monitored by the Corporate Management Team.

Budgets:

- In 2004-05 the Council allocated £1.6 million from the Capital budget through the Regeneration and Efficiency fund to be spent over 2 years, with future allocation being subject to a review of opportunities thereafter.
- The Scottish Executive's Central Energy Efficiency Fund, allocated a cyclic fund of £350,575 to East Ayrshire Council towards energy efficiency projects, with a maximum pay back time of 5 years.
- Partnership for Renewables project is a linked Carbon Trust and industrial partner's venture to install 500MW worth of renewable energy production by 2011. This venture has been primarily aimed at the Public Sector; Health Services and Local Authorities. East Ayrshire Council has been approached to be part of this venture and negotiations are ongoing.
- Sustainable designs can be the subject of applications for external funding ie SHRI funding for a ground source heat pump at Galston Primary School. For housing the funding is obtained through energy providers and grant systems.
- Upgrading of procurement standards to reflect carbon reduction principals will bring the need to re-evaluate budgets.
- Maintenance regimes should be enhanced to keep all equipment at optimum running standard. This may require additional investment in this area.

Communication:

- Creation of a Carbon Management Implementation Group to oversee the projects and the progress of carbon reduction, with an annual review of the SIP targets and update the SIP as appropriate for new projects.
- Using Carbon Management Implementation Group officers to influence changes through their own division.
- Energy Task Force meetings set up to review departmental energy performance and act as a discussion forum for the detailed and general approach to energy conservation matters.
- Reporting to the Corporate Management Team on an annual basis on energy and carbon management.

3 Emissions baseline and projections

3.1 Baseline

East Ayrshire Council's energy budget will increase by £0.742M for 2007/08. This reflects the rise of energy prices and consumption. The reduction of this figure is a

priority and all activities that reduce energy consumption and carbon emissions will help to achieve this.

The Carbon Trust Programme, although mainly focusing on the reduction of carbon emission, necessarily includes a financial perspective as a starting point for the programme. Council activities which contributed most to the council's carbon emissions and where short term cost-effective carbon reduction measures could be made were targeted first.

The attractiveness of the Carbon Trust Programme is its flexibility of use and ease of expansion.

The base year for calculation was set as 2004/5. The choice was made to reflect the work carried out in the year 2005-06 through the council's own initiative to conserve energy. The documentation, baseline emission, financial valuation calculation, followed by clear objectives, targets and action plan would demonstrate the momentum already established and identify the achievements of the council over the past 2 years.

Baseline Carbon emissions were calculated from the council position in 2004-05, using the following:

- **Energy Consumption in Council buildings**: the amount of energy consumed in council buildings is directly influenced by the way that buildings are designed, managed and used. Although the ability to change buildings is limited, there is significant potential to influence how they are used and managed. Electricity and gas consumption data were obtained for most sites through our Energy provider's historical data. It must be noted that there will be some inaccuracies in the data. The work carried out through this project has enabled improved data gathering protocol to be instigated ensuring that future consumption data will be more reliable.

- **Street Lighting**: The electricity supply for the street lighting is provided on an un-metered basis on a known number of lamps and standard operating hours at a known cost. From this data and pro-rata increase rate, it has been possible to estimate the carbon emission associated with street lighting fairly accurately.

- **Transport**: The transport fleet consist of mostly executive vehicles, workforce vans and lorries and heavy machinery. The procurement and provision of bio-diesel and high quality gas oil enable the carbon emissions of the transport fleet to be quantified. Even though not quantifiable, the environmental disposal of vehicles' waste fluids, recycling of tyres as well as oil-free tyre purchase, will no doubt reduce carbon emission.

- **Waste management**: The management of the "reduce, re-use, recycle" campaign is well organised throughout the council public activities. The Cleansing Service considered looking inward and, with a special grant from the Scottish Executive, a series of investigations allowed the service to quantify the tonnage of waste sent to

landfill sites from internal activities. This enabled an action plan to be prepared and targets set for the council's own premises. In response to the EC Landfill Directive (1999/31/EC) and Scottish Executive recycling targets, the Council's Cleansing Service has phased in household kerbside recycling. The service allows householders to segregate their waste at home for separate recyclate collection. In addition, the Council conducted an audit and analysis of waste arising from Council premises and operations. This information, including waste minimisation and recycling targets is summarised in the Waste Prevention Action Plan.

EAST AYRSHIRE COUNCIL 2004/05 BASELINE CARBON EMISSIONS FROM THE ABOVE SOURCES
= 19,119 tonnes of CO_2*

* Total includes an allowance for 50% of the Council's energy supply being from renewable sources as at 2004

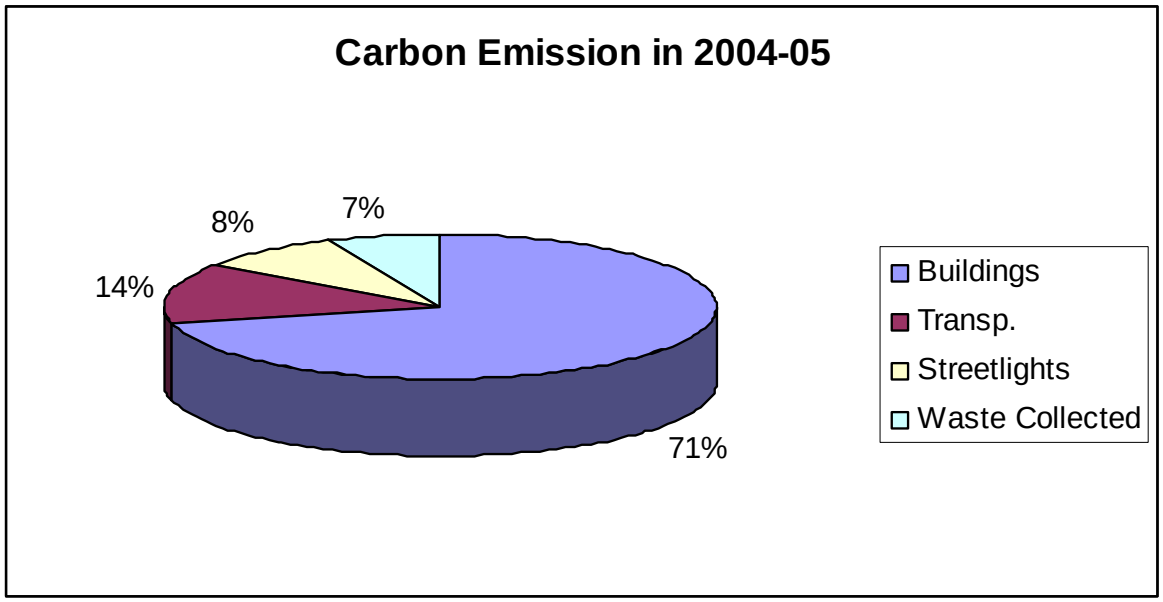

Figure 2: Percentage of Carbon emission produced in 2004-05

3.2 Projections

Projections of cost and carbon emission relate to the increase in prices and taxes of utility energy, transportation fuel and landfill fees as well as the increase in usage.

Most figures in the following tables are estimates. This gives an approximate value resulting from calculation based project work carried out in a progressive manner and the assumption that saving & carbon reduction will be achieved on an annual basis.

- Cost related projection

The estimate of energy related cost projected to 2010 includes the following assumptions:

- The annual increase of commodities prices, taxes at a minimum rate of 15%.

- Electricity demand will continually increase due to advances in technology and individuals' aspirations as more computers, interactive boards, etc, are added to the power network and any other commodity consumption increase at a minimum of 1%.
- Additions to street lighting which depend largely on new development in housing and roads at a minimum of 15%.
- The steady increase in all Council activity.

Table 2: Business-as-usual Energy related cost value-at-stake:

Business as Usual	**2004/05**	**2009/10**
Energy related cost	**£2.732M**	**£5.908M**

Table 3: Reduced emission energy related cost value at stake:

Reduced emission	**2004/05**	**2009/10**
Energy related cost	**£2.732M**	**£4.872M**

By adopting proactive measures to reduce carbon emission, East Ayrshire Council will mitigate the cost increase by an estimated **£1.036M.**

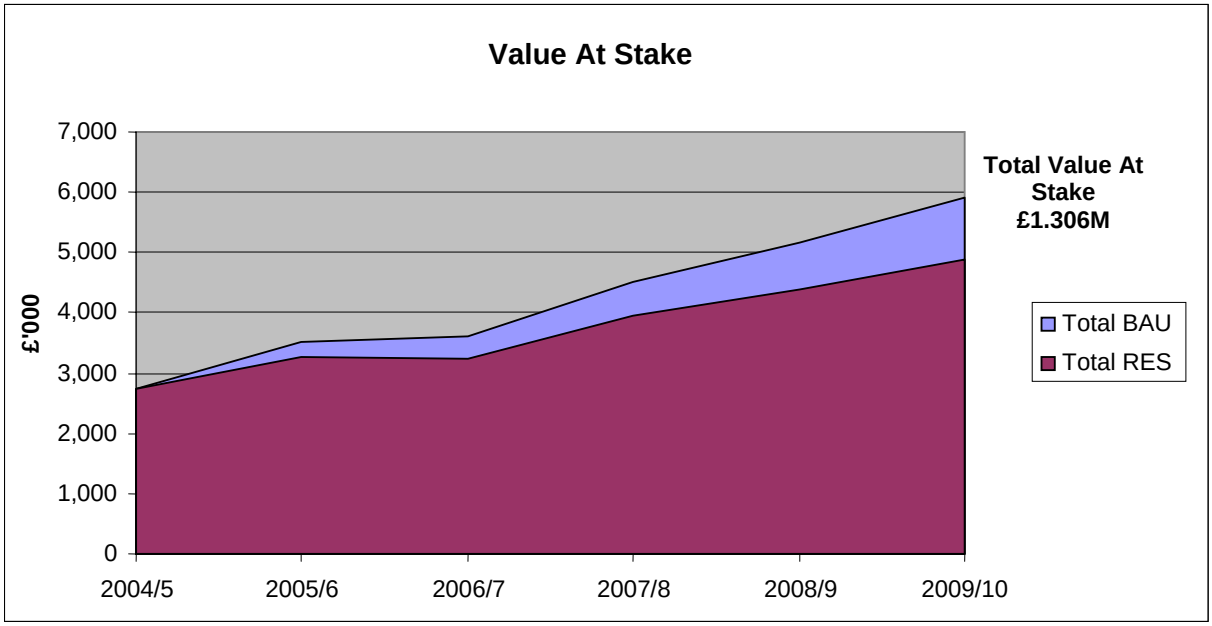

Figure 3: Cost related value at stake - Business as Usual and Reduced Emission Scenario.

- Carbon emission related projection

The estimation of carbon related energy emission projected to 2010 has been based on the same assumptions as the above:

Table 4: Business-as-usual Energy related carbon value-at-stake:

Business as Usual	**2004/05**	**2009/10**
Energy related Carbon emission	**21,891(tCO_2)**	**26,620(tCO_2)**

The reduced emission projection related to energy use has been evaluated taking into account the following reduction percentage per year:

- Reduction per year in electricity consumption 2.0%
- Reduction per year in streetlight electricity consumption 0.5%
- Reduction per year in gas consumption 2.0%
- Reduction per year in petrol consumption 1.0%
- Reduction per year in diesel consumption 1.0%
- Reduction per year in business travel consumption 1.0%

Table 5: Reduced emission energy related carbon value at stake:

Reduced Emission	**2004/05**	**2009/10**
Energy related Carbon emission	**21,891(tCO_2)**	**20,106(tCO_2)**

Note; Figures in Tables 4 and 5 are a most wasteful case and do include an allowance for energy supply being from renewable sources.

East Ayrshire Council, by actively tackling the reduction of carbon emission through energy efficiency, greener transport plan and increased re-use, reduce & recycle operation, will mitigate the carbon emissions by an estimated **6,514 tCO_2** in 5 years.

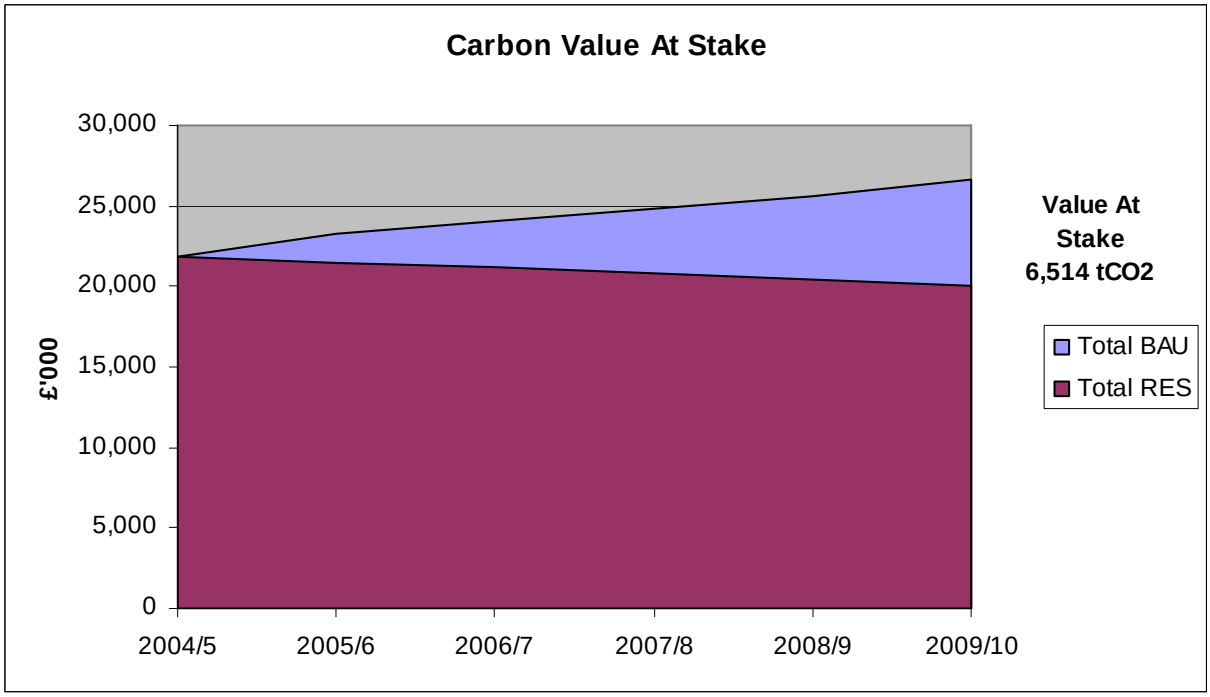

Figure 4: Carbon emission related value at stake - Business as Usual and Reduced Emission Scenario.

3.3 Past actions and achievements

- **Energy Strategy**: In 1996 an energy policy was developed and included in the Environmental Policy of the Council. This was formally adopted by the Policy & Resources Committee at its meeting of 4th June 1996. The Energy Policy was reviewed in 1998 and again this year (2007) to update and fully incorporate the concept of carbon reduction and climate change mitigation. An integration process is being developed to ensure compatibility with the Sustainability Strategy currently being developed by the Sustainability Working Group.
- **Energy Management in Buildings***:* Energy Management comes under of the remit of Technical Services. Past years have seen:
    - The development of Monitoring and Targeting systems for energy usage.
    - The linkage with energy suppliers for the downloading of consumption information for bills analyses.
    - The manual meter reading process for accurate consumption information.
    - Good housekeeping advice.
    - Site investigation.
    - Targeted promotional activities.
- **Staff and business travel***:* Little progress is evident in this area to date, but given the potential is worth further investigation.

- **Procurement***:* ABC procures energy fuels and other equipment/offices supplies at discounted prices by combining with 11 other Local Authorities. Procurement of green energy has been increasing since 2004 from 20% to 100% for electricity and now up to 50% for the street lighting supply. More energy saving technology has been incorporated into the basic ABC catalogue such as compact fluorescent lights, and the use of the energy labelling scheme encourages the purchase of 'A' rated goods.
- **Waste***:* Major recycling of paper, glass and cans has successfully been undertaken in the public arena since 2004 and now being promoted within the council's own premises. The household recycling rate has risen dramatically with the successful introduction of kerbside recycling. The Council is looking to replicate this success through the achievement of the Waste Prevention Action Plan.
- **Industrial transport fleet***:* East Ayrshire Council has used bio-diesel and low sulphur fuel since their introduction on the market.
- **Other**: Home Energy Conservation Act (HECA), introduced in1995 and due to finish in 2007, has demonstrated that continuous energy efficiency improvement could achieve a major reduction in harmful emissions (East Ayrshire target set at 30%), improve health, reduce energy bills and poverty as well as increasing job opportunity and bring community awareness of responsibility in environmental issues. A 19.63% reduction in carbon emission was achieved by 2005.

4 Carbon Management Implementation Plan

4.1 Nominated actions and emissions reduction opportunities

- No-cost and low-cost direct emissions reduction actions – actions that may be taken within existing personnel, management and financial resources in the course of normal activities;

- Direct emissions reduction actions requiring investment – this will include the bulk of emissions reduction opportunities identified in the course of the LACM project.

- Long-term enablement actions – actions that lead to, or which make easier, future emissions reduction, and actions that help to embed carbon management in the organisation.

Table 6: Short listed actions:

Projects to Reduce the environmental impact of Council's property energy consumption				
No cost / Low Cost direct emission reduction actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/ year**	**Summary**
Comprehensive staff awareness,	Funding committed Technical Services Budget		295	Using the Carbon Trust Posters, advise to staff and awareness training.
Development of energy champion	Funding committed Technical Services Budget			Every property has nominated a person that will return meter reading and highlight problems.
Supporting Eco-School programme	Funding committed Technical Services Budget	.		The Eco-School programme involves different blocks to tackle, energy being one. Support to the school using Carbon Trust publications.
Energy strategy	Funding committed Technical Services Budget			Document highlighting the principals and the vision of the council concerning energy issues, draft being prepared.
Monitoring & targeting system,	Funding committed Technical Services Budget		1,783	Each monthly billed property within the statement bill is being monitored and a target set for energy savings, allowance made for energy efficiency measures.
Meter reading update	Funding committed Technical Services Budget			All properties are requested to send meter readings every month. The meter reading is then compared with the bill received. If any difference is identified a procedure to rectify is followed.

Departmental communication				Energy Task Force remit is to monitor energy consumption and share information related to energy matters.
Energy Performance Certificates	Funding committed Technical Services Budget			Implementation January 2008 in Scotland for new buildings. All public buildings will require energy performance certificates by January 2009.
Benchmarking of buildings	Funding committed Technical Services Budget			More data to be collected to start the process of benchmarking. Also Scottish baseline to be established
Energy procurement 100% Green	Funding committed			A.B.C. Consortium act as a procurement agent, the requirement to obtain 100% renewable is clearly stipulated.
Maximum demand bill analysis	Funding provided Technical Services Budget			Most large consumers of electricity have a maximum demand level specified. The maximum demand availability is charge every month as a fixed charge. Through change of use to the building or over evaluation it is possible the demand level has reduced. Checking the highest level in the year and having it adjusted will bring monetary benefit. The electricity supplier will re-adjust automatically the maximum demand
Statement billing for energy and water	Funding provided Technical Services Budget			Download of statement billing through agreement with supplier allows for up to date account.
Water Meter downsizing, reduction of standing charges	A Scottish Water initiative			Has resulted in financial benefit.
Procurement of Energy Efficient IT/ catering equipment			210	Procurement of energy efficient IT and catering equipment is currently being undertaken.
Direct emission reduction actions requiring investment				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Loft Insulation	Funding Committed Spend to save budget - £220K	3 years	1,193	Quick and easy energy efficient measure to all properties with adequate roofing; saving on heat dispersion through the roof
Windows/ doors draught proofing	Funding Committed Spend to save budget – £230K	3 years	1,193	Most doors and windows draught-proofed
Cavity Wall insulation	Funding Committed Spend to save	3 years	114	Cavity wall insulation to appropriate buildings. Saving

	budget - £20K			on heat dispersion through the walls.
Pipe & valve insulation	Funding Committed Spend to save budget - £60K	3 years	345	Saving on heat dispersion through the pipeline and valve hot water/ heating distribution system.
Boiler control system	Funding Committed Spend to save budget - £20K		193	To ensure energy efficiency, boiler controls need to be adjusted. As well as a check up, installation of 2 more switches required for flexibility.
Thermostatic Radiator Valves	Funding Committed Spend to save budget - £50K	8 years	589	Auto regulation of heating within confined areas.
Zone controls	Funding identified, part of Energy conservation			Determination of zones to be created and adjustment of motorised valves.
Time clocks on photocopiers, printers	Funding identified part of Energy conservation		4	Smaller shared office equipment frequently not switching off, allowing 2/3 of energy to be saved a day
Low energy lighting	Funding Committed Spend to save budget - £340K	5 years	1,180	Major replacement of all strip lighting to low energy light bulb and driving gear.
Lighting controls	Funding Committed Spend to save budget - £ 30K		129	Selection of properties and areas to receive presence and light detector to save lighting less frequented spaces (toilet, staff rooms)
Spray taps	Departmental capital budget			Percussion, spray taps to reduce the use of water by timing the running and using less water through the spray. Installation mostly as part of maintenance works.
Long-term enablement actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Conversion of coal, oil and electrical heating to gas boiler	Funding identified to commence programme			Property based programme dependant on gas availability. Energy and cost savings.
Biomass: Wood boiler	No funding identified/app. £100K		544	Requires further investigation to be done into wood supply and storage.
Combined Heat and power small unit to district unit for heating	No funding identified			Requires further investigation to be done into district heating and possibility of small units.
Collection and reuse of rain water	Funding committed £36K		0.7 with a saving of 1800m^3/yr at the rate of 70.2p + charges	New Galston Primary School, design integrating grey water system for use in the toilets
Solar water heating combined with small	Funding committed approximately £30K		43	Requires investigation in the technology for larger building.

site wind power	per unit			At present domestic hot water system adequate.
Ground source heat pump	Funding committed £160K		144	To be installed in New Galston Primary School
Tree planting			Potential of 1tCO2 in one tree's life time.	As part of a new project for restoration of the countryside
Doon Academy Swimming Pool	Funding committed £40K		6.78	Replacement of ceiling to floor single glazing window with insulated wall panels and smaller double glazing windows.
Doon Academy Swimming Pool Cover	No funding committed, estimate £1.5K	3	9.3	
Window replacement/ double glazing	Departmental capital budget/	15	190	Carried out as maintenance of defective windows, not as an energy efficiency measure, however a great contributor
Boiler upgrading to high efficiency	Departmental capital budget	15	133	As part of conversion and maintenance of defective items
Roof replacement	Departmental capital budget			Mainly carried out as maintenance of defective items.
Electrical upgrades/ lightings	Departmental capital budget			Maintenance upgrade due the age of the property and new load requirement due to additional electrical items being installed.
Office/ catering procurement of energy efficient equipments	Departmental capital budget			More investigation required
Spray / non-concussive taps	Departmental capital budget			See basic measures As part of conversion and maintenance of defective items
Water saving urinal flush controls	Departmental capital budget			As part of conversion and maintenance of defective items
Build in energy management system/ smart metering	Property Services Budget			Remote access to boiler controls and meters to allow for quick detection of fault to be followed by prompt repairs.

Decrease the amount of waste produced in Council premises				
No cost / Low Cost direct emission reduction actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Reduce, re-use, recycle awareness campaign to all households and council premises	Strategic Waste Fund. Funding committed			
Waste Prevention Action Plan	Strategic Waste Fund. Funding committed			
Support of Eco-School programme	Strategic Waste Fund. Funding committed			
Waste representative in each property	Departmental budget. Funding committed.			
Introduction of chargeable recovery of recycled waste				Recycling rates received from premises. Monitoring of residual waste stream.
Procurement of Office equipment enabling waste minimisation	Funding not identified			Requiring Duplex printers, fax machines, photocopiers
Policy of safe disposal				Regulated by SEPA
Review of Contractual obligations	Departmental budget.			Review of contracts to include safe disposal of residue
Upgrading of Standards	Departmental budget.			Upgrade standards to include requirement for low residual waste (packaging…)
Direct emission reduction actions requiring investment				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Recycling of Paper, cans, glass, plastic,	Funding committed			Provision of skips, wheelie bins / bags and collection
Safe disposal of IT, hazardous waste, landfill, Confidential paperwork, food waste, metal, green waste	Funding approved through contracts			Provision of disposal skip areas, provision of contractual removal and safe disposal.
Long-term enablement actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Composting	Funding identified			Diverting food waste and garden waste to composting facility
In house shredding facility of confidential waste.	Funding identified			Promotion of in-house shredding faciltity
New Recycling/	No funding identified			

disposal sites				
Reduce emission from transport fleet				
No cost / Low Cost direct emission reduction actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Monitoring of drivers & driving style	Funding not identified £75K (CT)		158	Fuel consumption vs driving style.
Procurement of Bio-Fuel, ULSD,	Funding committed		1,578	
Procedure of Vehicle purchase	Funding committed £3K per vehicle			
Upgrading fleet to Standard Euro 5	Neutral old vs maintenance reduced cost			NOx reduced, Better fuel consumption possible
Fleet monitored every 6 wk				Fuel usage, smoke emission and oil usage
Direct emission reduction actions requiring investment				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Upgrading vehicles with Particles traps	Funding committed £200K			Part for specific size of engine, reduced pollution certificate, low taxation rate saving.
Procurement of Oil free Tyres	Funding identified			Old tyres, natural rubber, natural degredation
Upgrading Vehicles with ad-blue technology	Funding identified			Ammonia based substance which NOx gases and reduces carbon emission by heating up the temperature in the exhaust.
Recycling Tyres	Funding committed £0.50 per tyres @ £1000/year			Some tyres could be retreaded via manufacturer
Recycling Oils/ fluids/ batteries	Funding committed £500 per pick up			Tanks pick up , Investing in oil inspection by lab to check improving maintenance, reduce waste of oil, recycle and cleaned up oil, oil price greater but lower maintenance cost.
Long-term enablement actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Job creation of in-house Drivers trainers	£40K funding committed for one trainer, no funding identified for new trainers.			Better driving less fuel usage, safer driver, fewer incidents and repairs and time off work
Joint working with NHS, maintenance services	£20K/yr Funding committed			Increase the clean tag.

Reduce emission from street lighting				
No cost / Low Cost direct emission reduction actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Striving towards procuring 100% green energy				
Actual standard of practise, European Standard (S3)				Possibility of white light and reducing category to S4 app 20% energy could be obtained on new build.
Partnership working	Departmental budget. Funding committed			STOT working group for best practice lighting policy
Reducing country road lighting				Refusal of new application for country road lighting.
Direct emission reduction actions requiring investment				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Cost ~Analysis Cosmopolis technology	No funding identified			Provide better efficiency light integrated control gear, very high efficiency white light, less maintenance possible
Cost ~Analysis White lighting	£16,000 to £18,000 a point and maintenance would be 3 times more. No funding identified			Residential area only, 300% dearer but not 300% more effective
Cost ~Analysis Electronic gear	£50 to £100 more than actual and no saving, Funding identified			New fit only, runs lamp at optimum performance and reduce heat loss.
Long-term enablement actions				
Action	**Cost/Funding**	**Payback**	**tCO2 Saving/year**	**Summary**
Upgrading Poles and lights	£400K No funding identified		400	Through maintenance only

4.2 Implementation Plan Summary

Table 7: Implementation summary plan:

Actions	Date
Insulation/ Draught proofing/ Cavity wall	Started September 2005, end April 2006
Lighting/ Lighting Controls	Started September 2005 to end April 2008
Pipe & Valve insulation	Started September 2005 to end April 2008
Boiler Controls/ TRVs	Started March 2007 to end April 2008
Energy Saving Campaign	Started January 2006 and to be continued
Energy monitoring	Started July 2006 to be continued
Water Monitoring	To start April 2008
Boiler Upgrading	On going
Conversion of coal, oil and electrical heating to gas boiler	January 2008
Double glazing window replacement	On going
Eco-School support	Started April 2006
Waste prevention Action	Started November 2006 to be continued
Oil free tyres	Started June 2006
Particles traps retrofit	Started April 2006 to be continued
Bio-fuel and ULSD	On going
Cost analysis for lighting equipment	On going
Installation of Electronic gear Street Lighting	Within 5 years
Use of LED display for Christmas lights	On going
Procurement Green energy	On going
In house driving instructors	To be confirmed
Renewables	To be confirmed
Update of Policy, Procurement, standards	To be confirmed
Composting	To be confirmed
Galston Primary School renewable energy features	April 2007
Doon Academy Swimming pool	November 2007
Installation of remote energy management system	To be confirmed
Partnership for renewable	Under negotiation

5 Implementation Plan - Financing

This section identifies the benefits that will flow to the Local Authority as a result of carrying out the Implementation Plan and the costs, clearly setting out the financial position.

- Financing criteria.

  Financial criteria applied to projects have been as follow:

  - 3 to 5 years payback period for low cost measures.
  - 5 to 10 years payback for longer term cost measures.
  - 10 to 20 years for long term actions including major refurbishments (windows, boiler replacement and upgrade…), renewable energy, etc...

  All payback periods described above are taken from technical engineering standards.

  The potential cost saving that a project can achieve in one year is simply calculated as the investment divided by specific measure payback period as above.

  For a more accurate calculation other criteria could be taken into account such as the weather, accurate consumption, commodity prices and taxes, maintenance required and control characteristics.

  Higher commodity or unit prices could facilitate a shorter pay back as minimum consumption saving will generate a higher cost saving. However lower commodity or unit prices will increase the repayment period and could bring critical financial difficulty.

- Internal and external sources of funds.
  - In 2004-05 the Council allocated £1.6M from its Regeneration and Efficiency fund to be spent over 2 years, with any future allocation being subject to a review of opportunities thereafter. A 5 year payback period for projects using the fund was required.
  - The Scottish Executive's Central Energy Efficiency Fund, allocated a cyclic fund of £350,575 to East Ayrshire Council towards energy efficiency projects, with a pay back time of 5 years maximum.
  - Sustainable designs can be the subject of applications for external funding (Scottish Community and Householder Renewables Initiatives (SCHRI)). For housing the funding is obtained through energy providers and various grant organisations.
  - Lottery funding may be available.
  - Scottish Government's Additional Capital Grant for 2007-08 which should maximise future savings to the Council (for example in ways that will enable the Council to reduce its energy costs). Allocation to East Ayrshire £1.212M.

- Summary of costs and benefits of the SIP.

The SIP sets out the Council's vision and the opportunities that can achieved in reducing carbon over 5 years.

However the project is ongoing and the Carbon Trust Programme is flexible allowing for change if required.

The summary shown below takes into account only the projects that have been carried out so far in order to demonstrate the potential benefit to the Council of carbon saving measures.

Other projects highlighted in table 6 will gradually be implemented, hence further investment and savings will be calculated to reach the total potential tCO2 saving that East Ayrshire Council can achieve for 2010.

Table 8: Summary of predicted costs and tCO2 savings for carried out projects:

Total Capital Expenditure of work carried out: £920,200

Total Estimated Annual Cost Savings:

Projects	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Draught proofing	£76,667	£76,667	£76,667		
Loft insulation	£73,333	£73,333	£73,333		
Pipe insulation	£20,000	£20,000	£20,000		
Lighting upgrade	£68,000	£68,000	£68,000	£68,000	£68,000
Cavity wall Insulation	£6,667	£6,667	£6,667		
Lighting control		£10,000	£10,000	£10,000	
Time clocks		£200			
Boiler controls			£6,667	£6,667	£6,667
Total	**£244,667**	**£254,867**	**£261,333**	**£84,667**	**£74,667**

Total Estimated Annual Carbon Reductions:

Projects	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Draught proofing	596.5	1193.0	1084.5	986.0	896.3
Loft insulation	596.5	1193.0	1084.5	986.0	896.3
Pipe insulation	172.5	345.0	313.6	285.1	259.2
Lighting upgrade	354.0	708.0	1180.0	1072.7	975.2
Cavity wall Insulation	57.0	114.0	103.6	94.2	85.6
Lighting control		38.7	129.0	117.3	106.6
Time clocks		4.0	3.6	3.3	3.0
Boiler controls			357.9	715.8	1193.0
Total Reduction (tCO2)	**1776.5**	**3595.7**	**4256.9**	**4260.3**	**4415.3**

6 Stakeholder management and communications

6.1 Stakeholder management

We recognise that effective communications with our key stakeholders will be fundamental to securing approval and endorsement of our plan and to ensure that the carbon management becomes part of the day-to-day business of the Council.

Table 9: List of key stakeholder groups:

Stakeholder Group	Aim of Communication/ involvement	Activity
Council and Committee	■ Establish clear understanding of cause and local effect of climate change. ■ Endorse the LACM vision.	■ Cabinet approval of LACM Strategy and Implementation Plan. ■ Include energy awareness in induction training for new councillors.
Chief Executive and Executive Directors	■ Establish clear understanding of cause and local effect of climate change. ■ Endorse the LACM vision. ■ Give leadership for implementation of SIP. ■ Identify champions for key objectives presented in the SIP.	■ Corporate Management Team approval of LACM Strategy and Implementation Plan. ■ Awareness campaign in each directorate. ■ Assign objectives to Executive Directors.
Key Heads of Services/ Service Managers	■ Establish clear understanding of cause and local effect of climate change ■ Give local leadership for implementation of SIP ■ Identify new areas for carbon reduction and implementation ■ Ensure accurate information and guidance is provided ■ Acknowledge carbon management in decision making process	■ Awareness campaign at departmental level ■ Assign objectives, targets and actions to services ■ Produce Service briefing notes
All Council staff	■ Improve everyday office behaviour towards carbon reduction ■ Local commitment towards implementation of SIP ■ Acknowledge carbon	■ Regular energy awareness articles ■ Include energy awareness in induction for new staff ■ Energy/ waste champions and

	management in decision making process ■ Ensure accurate information and guidance is provided ■ Influence home behaviour	networking
Schools	■ Highlight financial case for carbon reduction actions ■ Highlight links to curriculum ■ Involve pupils in energy/ waste monitoring ■ Influence home behaviour	■ On going Eco-School programme ■ Janitors training ■ Development of in-house education package.
Local Strategic Partnership and other key partner organisations	■ Showcase Council as best practice provider. ■ Support for similar action elsewhere	■
Residents	■ Provision of Energy advise for all householders ■ Alleviate Fuel Poverty ■ Optimise take up of home improvement grant schemes	■ Energy efficiency week ■ Energy advise surgeries ■ Light bulbs distribution ■ Electrical/ Lighting refurbishment ■ Boiler refurbishment

6.2 Communications Plan

This section outlines the communication plan that will be followed to strengthen the SIP delivery.

The aim of the communication plan is:

- Communicate the purpose, process and success of the LACMP
- To fully engage the stakeholders
- To maximise staff support

6.2.1 Communication Methods

- Annual reporting on performance to the Corporate Management Team and Cabinet.
- Regular meetings with department or section heads through the Energy Task Force Group along with the development of a Sustainability Working Group.
- LACM Implementation Group to progress and review the Carbon Management programme.
- Meetings and talks on energy conservation have been given to forums such as Head Teachers (Primary & Secondary), Janitorial and cleaning staff. Requests

for talks and visits have been made a priority. A more systematic approach to spread the message to all staff should be developed.

7 SIP Governance and Management

7.1 Main roles and responsibilities

In order to ensure that there is effective and ongoing ownership of the Carbon Management programme it is important to define a governance structure for the programme. The mechanisms adopted depend on the nature of existing structures and overall aspirations for Carbon Management. A generic structure for management accountability includes the following responsibilities:

- Chief Executive and Executive Head of Finance and Asset Management will be responsible for setting the strategic direction for Carbon Management, agreeing the resources to be devoted to the Implementation Plan and reviewing the progress against the objectives outlined in the Plan.
- Carbon Sponsor, Carbon Manager (to be appointed) will be responsible for developing and implementing the Carbon Management Plan and for achieving the Carbon Management targets. In keeping with the scope of Carbon Management, the Carbon Manager's role would be much broader than that of a traditional Energy Manager.
- LACM Implementation Group will be a group of key internal stakeholders and have responsibility to:

- Review and update the Implementation Plan on an annual basis
- Monitor and report progress against plan
- Monitor and report emissions performance
- Maintain the opportunity database
- Update the projects opportunity database to include new project(s)
- Internal and external communication; and
- Engage with sustainability / environment champions on awareness raising initiatives

Table 10: Governance structure

Role LACM Programme	Name	Position
Elected member champion	To be appointed	
Senior Officer representative (project sponsor)	Fiona Lees	Chief Executive
Senior Officer representative (monitoring project performance)	Alex McPhee	Executive Head of Finance and Asset Management
Carbon manager (managing actions/ reporting)	George Malone	Principal Engineer
LACM Implementation group (building management)	George Stratford	Contract Compliance Manager

LACM Implementation Group (transport)	Mr P. McClusky	Transport Manager
LACM Implementation Group (waste management)	Mrs M. Templeton	Strategy and Policy Manager
LACM Implementation Group (street lighting)	Mr L. Paget	Principal Engineer
Finance Representative	Mrs Lorna Service	Exchequer Manager
Communication Representative	Mr David Morgan	Publication Relations Officer
Procurement Representative	Mr Alex Reid	Senior Procurement Officer

The following table highlights some of the key areas of action which are necessary for the plan to be sustained, and the people who are responsible for specific areas.

Table 11: Roles & Responsibility for Carbon Management Implementation Plan

	Responsible person			
Activity	***Executive / Member representation***	***Carbon Manager/ monitoring (sponsors)***	***LA CM core group***	***Others***
Carbon Management Implementation Plan				
- *Set objectives*	√		√	
- *Manage implementation plan*		√	√	
- *Monitor and review progress*		√	√	*Audit*
- *Manage risks and issues*		√	√	
- *Report*		√	√	
Financing of Carbon Management Activities	√	√	√	*Finance Division/ External funding*
Carbon Management in Buildings		√	√	*Property Asset management*
Carbon Management in Transport		√	√	*Roads/ Transport Division*
Carbon Management in Waste		√	√	*Cleansing Services*
Carbon Management in Street Lighting		√	√	*Roads/ Transport Division*
Renewables	√	√	√	*All divisions*
Purchasing, procedure, standards	√	√	√	*Trading Standards, Procurement Division*
Communications and community relations	√	√	√	

7.2 Benefits management

It is the responsibility of all staff involved in the delivery of the Carbon Management Plan to ensure that quantitative and qualitative benefits are determined before projects are adopted and continue to assess these benefits at regular intervals.

7.3 Reporting and Evaluation

The carbon management programme is intended to form an integral part of the sustainability strategy. Actions from the programme will also be reflected in delivery plans for other key strategies – for example energy strategy and waste strategy.

Active performance management will be achieved at a number of levels:

- Responsibility for monitoring performance on the implementation plan overall will lie with the Carbon Management Group (to be adopted). Progress will be reported to Corporate Management Team, the Cabinet and the Carbon Trust on an annual basis.

- Carbon Manager will be responsible for the updating of the plan and named representatives will be responsible for the delivery of individual targets and progress of respective projects.

- Reporting the achievements of the plan to all appropriate stakeholders will be achieved through six monthly meeting with carbon managers and elected member.

7.4 Risks and Issues Management

The following is a brief description of the process that will be used at a high level by those governing the carbon management process, to predict / identify risks and issues at a programme level, identify the means of managing and resolving these, ensure that actions are taken, and regularly review their status, including some of the risks that could influence the development of the SIP, their impact and actions to facilitate recovery.

Table 12: Risks and Impact table

Risk	Impact	Action
Failure to progress the Carbon Plan	Failure to achieve government targets.	Carbon management team.
Unable to secure capital finance to fund all measures.	Reduction on the potential carbon saving and long term financial benefit.	Instigate spend to save action to allow measures to be funded in the future.
Failure of projects to deliver anticipated carbon and cost savings.	Failure to achieve agreed targets.	Measure not to be repeated and careful analysis to be considered for similar project. Amend Carbon management report accordingly.

Reduction in energy prices.	Potential increase of payback time.	Amend Carbon management report accordingly.
Departure of key project officers.	Projects' progress and implementation delayed**.**	Interim arrangements for Carbon management to be made a priority.

Appendix A: Galston Primary School and Nursery School – Example of Best Practice.

East Ayrshire Council awarded a £7.2m contract to Barr Construction Ltd for the construction of a new Primary and Nursery School in Galston. Work started in February 2007.

The school will be one of the most modern design concepts in the UK incorporating a number renewable energy features ensuring a low carbon footprint. Systems will be installed into the school to monitor energy use and energy generation thus giving children the opportunity to learn first-hand about sustainability and environmental issues.

The environmentally-friendly features to reduce the environmental impact of the school and demonstrate the Council's commitment to the principles of energy efficiency, conservation and sustainable development include:

- A ground source heat pump for space heating, minimising gas consumption
- Solar cells and wind turbine for on site generation of electricity.
- A well insulated structure designed to minimise both heat loss in winter and solar gain in summer
- Long life, low energy and enhanced controlled lighting installation
- A grey water storage facility to recycle rain water.

The completion date for the new school is August 2008.