Local Authority Carbon Management Programme

Clackmannanshire Council

Strategy and Implementation Plan (SIP) Template

Date: 11/02/2008

Version number: DRAFT 4

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MANAGEMENT SUMMARY

The objectives of this Implementation Plan are to set direction within the authority for all services or departments to achieve targets as set in the LACM allowing achievement of a five-year carbon reduction process.

The overall goal of the project is to reduce the Authority's carbon output by 15% over the next five years. Clackmannanshire Council have signed up to meet the targets of Scotland's climate change declaration, the Council's own sustainability aspirations, LACM5 and the moral responsibility placed upon us, through the operation of this project.

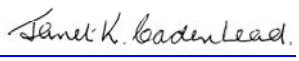
Clackmannanshire Council has felt the impact over recent years of rising costs related to gas, water and electricity use and with a likelihood of severe increases in the future, see the LACM as a tool to both reduce costs and CO_2 emissions.

Clackmannanshire Council's current total CO_2 emissions amount to 52,753 tonnes and a reduction of 7,913 tonnes over five years would represent a saving of 15%. Clackmannanshire Council feel this is a realistic yet challenging target to meet that will require ongoing assessment ensuring reasonable (5-7 years) payback periods from any financial investment.

Key projects that will contribute to meeting this target include a continuation of the work on the housing stock to reduce energy consumption, a widespread and comprehensive energy awareness campaign and the implementation of incentives for staff to use environmentally friendly modes of transport as opposed to personal cars.

Statement of Commitment

Clackmannanshire Council's Chief Executive and Council Leader have reviewed the stated commitments of the LACM SIP document and are committed to providing the necessary resources and impetus to the realisation of the carbon management programme. It is desired that the LACM and related strategy as described in this document will ensure Clackmannanshire Council continues to provide leadership to Scottish local authorities on the road towards operating a sustainable economy.



Chief Executive

Council Leader

1. Introduction

The purpose of this document is to outline how Clackmannanshire Council will progress with the implementation of the Carbon Management Strategy. The council already has the vision and drive at all levels to reduce carbon emissions and this plan aims to give a framework into which this energy and initiative can be channelled in a way that will ensure success.

Clackmannanshire Council has a long tradition of pursuing measures such as energy efficiency, and in areas such as waste recycling is one of the leading councils in Scotland. It is from this kind of environment that the decision was made to enter into the Local Authority Carbon Management programme with a view to targeting and quantifying reductions in carbon emissions over the next five years and beyond.

Although the programme as a whole covers a period of five years, this plan aims only to identify the next steps in this process to achieve the initial target of a 3% reduction in emissions over the next 12 months. Many of the initiatives proposed here will continue to run throughout the duration of the programme but this plan should be seen as a starting point to prompt action in all departments which will lead to further initiatives being proposed over the coming months and years.

2. Carbon Management strategy

2.1 Context and Drivers

Although the authority has a history of taking positive action towards energy saving and carbon reduction, the current environmental situation and climate change are exerting greater pressures on the business community, householders, and local authorities to manage energy use and in turn reduce carbon emissions.

Clackmannanshire Council has over the last few years been committed to increasing sustainability in all of its activities. This impetus has now been given structure within the council in the form of a comprehensive Sustainability Strategy, outlining how the Council intends to develop towards ensuring that sustainability is mainstreamed into all of its activities.

An important part of this strategy is carbon management, and it has acted as a driver for investigating all issues relating to carbon emissions from council activities in more detail. This is the role of the Local Authority Carbon Management (LACM) programme, providing a framework for the Council to evaluate its activities at present, and to plan a way forward in order to meet clearly defined carbon reduction targets.

The Council has over the last few years committed to lowering energy use in many of its public buildings and housing stock and through the use of high efficiency boiler plant, thermal insulation upgrade programmes, improved heating control and the installation of low energy lighting. In addition the Council's fleet of vehicles are now highly maintained, making them more efficient in terms of fuel consumption. Furthermore the Council's waste management team are developing a waste minimisation and recycling strategy.

Although much work has been completed and is ongoing, it is thought that there is scope to reduce energy consumption and carbon emissions further. The consensus amongst Council staff is that most of the 'quick wins' have been or are being targeted. Innovative solutions and a strategic approach (as part of the Sustainability Strategy) are now required to make further progress. A coordinated approach will be required to tackle some of the suggested solutions such as a travel plan, climate change action plan, waste minimisation plan, micro generation, and renewable energy solutions.

2.2 Vision

To make a significant contribution to government targets for the reduction of greenhouse gas emissions and to become fully compliant with the commitments outlined in Scotland's Climate Change Declaration.

To establish Clackmannanshire Council as a national leader in operating a sustainable, low carbon economy.

To develop a 'whole council' approach, where not only council employees, but also all those who live and work within the Clackmannanshire area participate in and continue to experience the benefits of, a more sustainable society.

2.3 Objectives and Targets

2.3.1 Strategic Objectives

- To make a significant contribution to the overall drive towards greater sustainability within the Council as outlined in the Sustainability Strategy.
- To integrate carbon management practices into all the Council's activities.
- To deliver long term cost savings from carbon emission reductions.
- To develop links drawing together all outputs from participating groups annually, whereby analysis of results are published and made available to all employees and the community with successes or failures analysed to provide information for all future actions of the programme.
- To inform the community of Clackmannanshire, including all business and community groups or partnerships of the LACM programme and the opportunities arising from and the benefits both in environmental and financial terms.
- To deliver information on the progress of the programme through the local press and the internet.

2.3.2 Specific Targets

As a part of the LACM programme, Clackmannanshire Council has set the following overall target:

To reduce CO2 emissions by 15% of 2007/08 levels by 2012

In order to reach this target, the Council will focus on six specific areas within the council, and aims to reduce the emissions associated with each action by 15% from current figures. It should be noted that given Business As Usual (BAU) assumption, where emissions would generally be expected to rise if no action is taken, the actual reduction by 2012 will be significantly greater than 15% over what it would otherwise have been, provided the targets are reached.

The six areas where the council will focus its efforts to reduce emissions are:

- Council Buildings
- Transport Activities
- Streetlighting
- Waste
- Council Housing
- Staff commuting habits

2.4 Strategy

It is important that the Carbon Management Strategy is viewed within the broader perspective of Clackmannanshire Council's Sustainability Strategy, which provides a framework for improving the Council's sustainability performance. With this in mind, the LACM Strategy & Implementation Plan (SIP) should be seen as being part of the overall sustainability strategy, rather than separate to it.

Section 2 of the Sustainability Strategy, titled 'Carbon Management and Sustainable Energy Use', is the main area, under which most of the SIP falls. However the SIP also covers some issues relating to both waste management and sustainable travel and so it is important that the objectives set out in the sustainability strategy are incorporated into the relevant sections in the SIP, in order to ensure that the Council maintains a coherent approach to developing its sustainability.

The following is an outline of how the council intends to act in order to meet the reduction targets in each of the relevant areas.

<u>Council Buildings</u>

- Investigate opportunities using photovoltaic panels/ground source heat pumps/and biomass heating systems.
- Thermal insulation for all buildings fabric and roof.
- Design in sustainability when constructing new works or maintenance.
- Develop waste management plan for property services.
- Establish energy rating for each property and set up monitoring systems.
- Water management systems/push taps/urinal flushing systems/rainwater harvesting/meter monitoring.
- Develop programme of heating plant replacement using high efficiency plant and efficient control systems.
- Progress energy awareness campaign from education to the whole of the property portfolio.
- The purchase of energy efficient sustainable materials and equipment.
- Set a carbon management policy statement on all tenders.
- Investigate suppliers recycling material and equipment packaging.

<u>Transport</u>

All objectives associated with transport tie in closely with the Sustainable Travel section and the forthcoming Travel Plan, which seek to reduce emissions associated with transport and travel within Clackmannanshire.

- Set up procurement procedures offering alternatives on vehicle purchase.
- Develop and deliver awareness training for all drivers on efficient driving practices (reduce tyre wear and fuel use).
- Create fuel efficiency targets for all types of vehicles and monitor fuel use (display in vehicle).
- Monitor exhaust emissions on all vehicles.
- Investigate the use of pool cars.
- Reward mileage allowances on high efficiency engines.
- Encourage pool bicycle use in Alloa area and by Rangers and other appropriate peripatetic workers.
- Reduce mileage claims by 10% by 2012.
- Increase modal share of sustainable modes by 2012.

The Housing Estate - Housing Services

- Develop and deliver a sustained tenant and public awareness campaign on energy saving practices.
- Continue heating upgrades.
- Continue thermal insulation programmes.
- Develop sustainable construction practices in maintenance programmes.
- Consider water efficiency measures in the housing estate.
- Regularly re-evaluate housing emissions using HECA data and calculation tools.

Waste Management

All objectives associated with waste tie in closely with the Waste Management section and the forthcoming Waste Minimisation and Prevention Plan, which seek to pursue the below objectives.

- Establish baseline figures on emissions from landfill sites.
- Assess feasibility of emissions capture on redundant landfill areas.
- Reduce waste to landfill tonnage to 50% of 1995 levels by 2013.
- Recycle or compost 55% of waste by 2020.
- Stop growth in municipal waste by 2010.

Street Lighting

- Investigate the use of solar power.
- Use lower energy bulbs.
- Reduce lux levels where deemed to be suitable.
- Investigate the efficiency of timers against photocells.
- Investigate reducing lighting periods.

Commuting

- Promote car sharing to and from work.
- Encourage the use of public transport to and from work.

3. Emissions Baseline and Projections

3.1 Scope

The scope of the baseline study was cast as wide as possible in order to give a comprehensive representation of the overall carbon emissions from council operations. All the categories are listed below and are taken into account in baseline calculations.

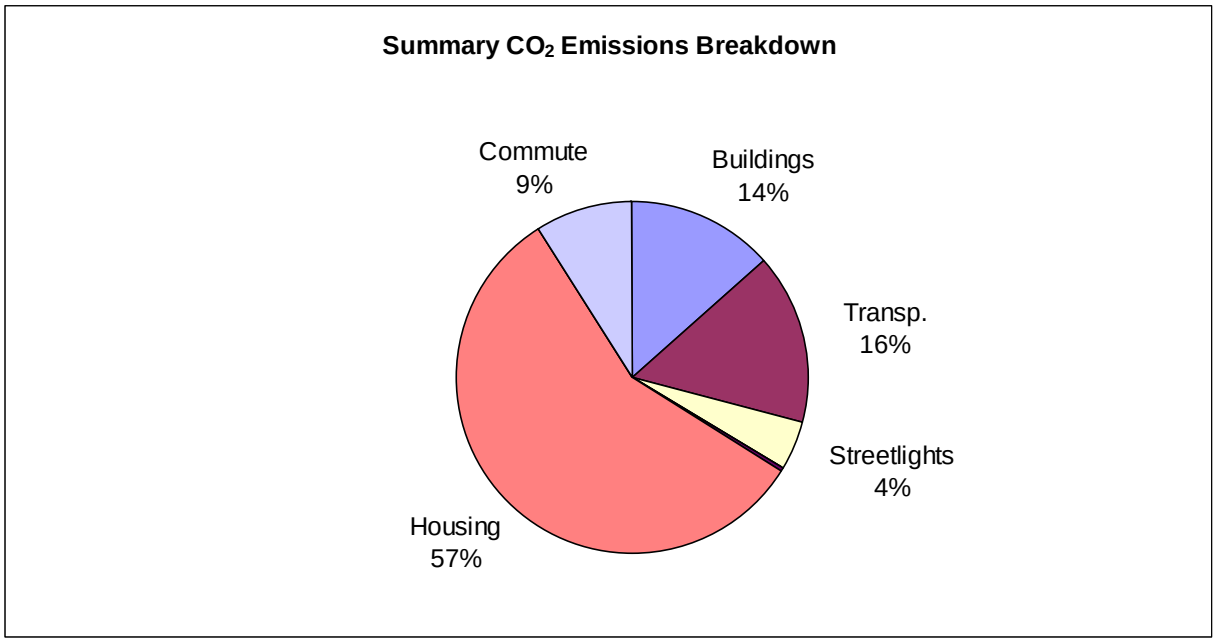
- Council Buildings
- Fleet Transport
- Employee business travel
- Streetlighting
- Collected Waste (skips)
- Council Housing
- Commuting

Of these categories listed, housing accounts for more than half of all carbon emissions due to the large number of council owned houses in the area. After housing, transport, and then buildings are the largest contributors and so these areas are the primary focus of the carbon management action plan.

3.2 Baseline

Clackmannanshire Council's emissions baseline and energy costs for the financial year 2006-07 are as follows:

SOURCE	COST (£)	% Overall	CO_2 TONNES	% Overall
Buildings	888,317	20.8	7184	14
Transport	3,117,801	72.9	8247	16
Street Lighting	268,609	6.3	2310	4
Collected Waste	-		127	0
Commuting	-		4725	9
Council Housing	-		30160	57
TOTAL BASELINE	**4,274,727**	**100**	**52753**	**100**



Emissions Data Notes

1. Buildings: As billed data from the Council's comprehensive records for electricity and fossil fuels. Consistently and accurately recorded by the Council's energy officer.
2. Transport: Collated data from councils records for mileage and fuel consumption along with miles travelled by staff on business.
3. Street Lighting: As billed data of kWh consumed by all streetlights bollards and signs.
4. Collected Waste: All waste collected from skips in tonnes.
5. Council Housing: Data amassed form Housing Energy Conservation Act (HECA) report from 2005. Up until 2005 there was a trend of 1.8% annual reduction in housing energy consumption. The HECA reports are based on SAP methodology and so can be considered a good indicator of emissions from housing given that only generic information regarding building size etc is available. It is thought that the HECA report methodology might be utilised year on year to reflect the changing size and composition of the housing stock.
6. Commuting: Data from a survey of staff travel habits extrapolated across whole workforce. This is made using fairly large assumptions. (i.e. that results of a survey of ~300 employees was representative of commuting habits across the entire council).

3.3 Projections

As full data was only available for the 2006/7 period, Business-as-Usual (BAU) projections were made using the best available figures of annual percentage increase per sector from the DTI. This is a broad assumption and, once 2-3 years data has been gathered it should be revisited in order to assess the current trends. Projections for the next five years are shown in the table below.

BAU CO_2 Emissions Data from Projection from Baseline (tCO_2/Annum)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Comments
Buildings	7184	7234	7285	7336	7387	7439	0.7% Annual increase
Transport	8247	8395	8547	8700	8857	9016	1.8% Annual increase
Streetlights	2310	2326	2342	2359	2375	2392	0.7% Annual increase
Housing	127	128	129	130	131	132	0.7% Annual increase
Waste	4725	4810	4897	4985	5074	5166	0.7% Annual increase
Commuting	30160	30371	30584	30798	31013	31230	1.8% Annual increase
TOTAL	52753	53265	53783	54307	54838	55375	

CMAP Target

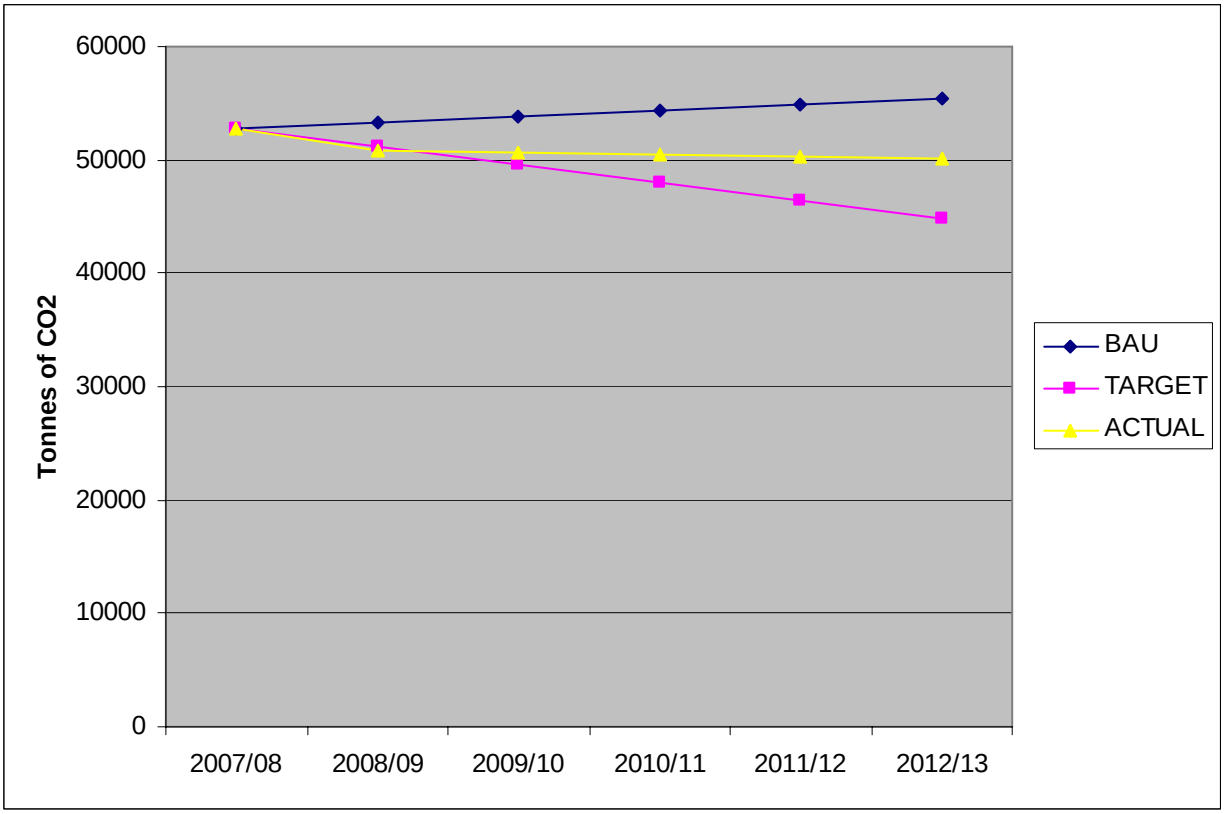
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Comments
Buildings	7184	6968	6753	6537	6322	6106	
Transport	8247	8000	7752	7505	7257	7010	
Streetlights	2310	2241	2171	2102	2033	1964	
Housing	127	123	119	116	112	108	
Waste	4725	4583	4442	4300	4158	4016	
Commuting	30160	29255	28350	27446	26541	25636	
TOTAL	52753	51170	49588	48005	46423	44840	15% overall reduction over 5 years

With Currently Identified and Quantified Opportunities

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Comments
Buildings	7184	6249	6300	6351	6402	6454	
Transport	8247	7849	8001	8154	8311	8470	
Streetlights	2310	2325	2341	2358	2374	2391	
Housing	127	128	129	130	131	132	
Waste	4725	4607	4694	4782	4871	4963	
Commuting	30160	29617	29084	28560	28046	27542	
TOTAL	52753	50776	50548	50335	50136	49951	

The above projections of the Council's total carbon emissions over the next five years for the three scenarios are presented in graphical form below. It can be seen clearly from this graph that if all the accurately quantifiable measures (see Appendix A) are implemented then the initial target of a 3% reduction will be met.

It will however be necessary to identify further opportunities on an annual basis if the 15% reduction is to be met by 2013. It should be noted that there are many activities which the Council either are currently undertaking, or plan to soon undertake which should have the effect of reducing emissions significantly but are not generally foreseeable. For instance, the ongoing awareness programme is likely to make a widespread impact and although it is impossible to give a figure for tonnes of CO_2 saved, the benefits will be borne out over time as the council continues to collect data for its emissions.



3.4 Past Actions and Achievements

Sustainability Strategy

The Council are in the process of finalising a sustainability strategy outlining how they aim to move towards greater sustainability in all council activities. This is the overarching policy document which brings together all the different initiatives within the various activities of the Council and provides a coherent strategy for increasing the Council's overall sustainable performance.

It is within the context of the Sustainability Strategy that the Carbon Management Programme seeks to specifically address the issue of carbon emissions and provide an action plan with clear steps that can be taken to reduce the Council's carbon footprint. As has been identified previously, there are other areas covered by the Sustainability Strategy, and documents such as the Travel Plan and the Waste Minimisation & Prevention Plan that contain several aspect that affect the SIP and serve to reinforce many of its objectives.

Energy Management in Buildings

Clackmannanshire Council have been very active in this area with a number of projects being completed in the last year in keeping with the programme of replacing ageing heating plant with new, more efficient models. These projects will contribute to efforts to cut carbon emissions by 15% by 2012 and savings should begin to become apparent during the 2008/09 period. Projects which have been undertaken up to 31 March 2008 include those shown in the table on the following page:

Projects Undertaken Up to 31 March 2008

Site	Project	Annual CO_2 Savings	Annual Cost Savings
Greenfield House - Old Building	Replacement of ageing gas boiler with newer model. Likely to achieve reasonable improvements in system efficiency.	8 tonnes	£700
Greenfield House - New Building	Old, inefficient electric storage heaters replaced with new high efficiency 3-pipe gas heat pump system capable of providing both heating and cooling to the office space.	62 tonnes	£12,600
Muckhart Primary School	Existing electric storage heater system replaced with entirely new LPG fired boiler with space heating provided via fan convectors and radiators.	12 tonnes	£3,900
Park Primary School	Existing gas boilers replaced with high efficiency condensing model.	23 tonnes	£2,400
St Serfs Primary School	Existing gas boilers replaced with high efficiency condensing model.	10 tonnes	£1,000
Clackmannan Primary School	New gas boilers and fan convectors replacing existing gas boiler and older fan convectors	13 tonnes	£1,300
Alva Primary	Replacement of aging radiators with fan convectors - improvements to heating controls.	2 tonnes	£200
TOTAL:	**This equates to a reduction of 1.8% of the CO_2 emissions from council buildings.**	**130 tonnes**	**£22,100**

Water

Although not specifically targeted by Clackmannanshire Council within the LACM Programme, it should be noted that significant steps have been taken to reduce water use within council buildings, with the widespread implementation of measures such as percussion taps. This will ultimately have associated emissions savings which are not accounted for here.

Waste

Investigations are ongoing into the feasibility of capturing emissions gas from a redundant landfill site in Clackmannanshire.

This is in the feasibility stages at present and is expected to have a capacity of between 0.3 and 0.5 MW electricity generation for a period of around 10 years. There is thought to be little potential to use waste heat or CHP to link in with district heating given the remoteness of the proposed site.

The combined cost for the extraction system, flare and generator is thought to be in the region of £860,000.

The project is shortly to be put out to tender after which the Council will make a decision to progress further with the project.

There are currently no active landfill sites in the Clackmannanshire area.

Renewables

The installation of a wind turbine and solar panels at Menstrie primary school has been a pioneering project by Clackmannanshire Council that will yield energy savings whilst also acting as a valuable education tool for the school pupils, with the system set up to display how much of a contribution it is making to the schools load at any one time and hence raising awareness among pupils and staff.

If this proves to be a successful initiative then there may be other opportunities to implement similar measures at other Council buildings. There have however been some problems with the perception of such projects by the general public, with wind turbines in particular being regarded as intrusive.

4.0 Carbon Management Implementation Plan

4.1 Shortlisted Actions and Emission Reduction Opportunities

The following list outlines some actions which the Council has identified as potential opportunities for carbon emissions savings. Where possible at this stage, the predicted emission saving (in tonnes of CO2) associated with each action is shown. It should be noted that this is just an initial step of an ongoing process and Clackmannanshire Council will continually be looking to identify and quantify new opportunities.

Long-Term Enablement Actions

Action	Date	Funding	Summary
1. Reduce the amount of miles travelled by employees by 10% **Carbon Saving** 203 tonnes	Ongoing actions will develop from the travel plan implementation	Energy fund CEEF	In the baseline year, casual business mileage accounted for over 1000 tonnes of CO2 emissions. It is likely that much of this is unnecessary and measures should be taken at high level to enforce a reduction. Initially, council policy should be amended to prevent paying out mileage for unnecessary travel.
2. Implement Environmental Procurement policy **Carbon Saving** Unknown	April 2008 Ongoing	Consultation to take place with the procurement manager on the way forward and the resource required in developing an environmental policy satisfying the Councils needs and requirements on sustainability and carbon reduction.	A good environmental procurement policy could have a big effect on the councils overall carbon emissions in the long term, leading to an eventual improvement of the environmental performance of all the councils equipment. An effective policy will mean that higher efficiency devices can be more easily justified in line with the council's long term objectives.
3. Develop a Waste Minimisation Plan **Carbon Saving** Unknown	In place and an ongoing year on year assessment required	No major investment required	The Council has made significant progress with recycling: it provides a kerbside collection for the most common types of recyclable and compostable waste; facilities exist at Forthbank for recycling other materials; and work is ongoing to increase the range of materials that can be deposited for recycling. However recycling is not the only way to address waste management: work is beginning to find ways to reduce the amount of waste produced, and re-use as much as possible, both within the Council itself and Clackmannanshire as a whole.

4. Begin departmental quarterly reports on energy performance. **Carbon Savings** No direct Savings	In place	No investment required Output should help identify future savings	A measure which would help to give different departments and also individual employees more ownership over their energy use at work. Instilling a sense of competition between Departments may help to drive down energy use.
5. Identify buildings with potential to be heated by biomass heating systems. **Carbon savings** No savings at this stage	2008/09	Any projects must produce reasonable payback periods ie 5-7 years No cost implications at this stage	Alongside the Council's ongoing upgrade of old heating plant, steps will be taken to identify sites which are, or will be in the future, candidates for having heating supplied by woodchip boilers. Upon such sites being identified, feasibility studies should be carried out to determine suitability.

No and Low-Cost Direct Emissions Actions

Action	Date	Funding	Summary
6. Ban staff bringing in own heating. **Carbon Savings** Unknown	April 2008 ongoing	No investment required	It has been noted by the Property team that there is a tendency throughout the Council for employees to bring in their own heating. The exact extent to which this is happening is not known, but it is likely that it has a significant impact. Not only does this add to the energy consumption of the council but it can also interfere with the heating control on any given site. Banning this practice would bring immediate savings. Such a measure may be highly unpopular with certain staff so a cooperative approach between the Property team and the individuals may be required.
7. Implement incentives for staff not to drive. **Carbon Savings** 203 tonnes	08/09 Travel plan implementation Will produce directives	Self financing	The Council has already taken measures to promote alternatives to driving between Council premises, such as providing pool bicycles at the three main offices. These are underused however, and further action is needed. It has been noted that the 55p per mile for private cars that employees currently receive could be reduced for non-essential travel but further measures may also be possible, such as paying mileage for using other forms of transport instead of cars.

8. Investigate the potential for reducing the amount of mileage accrued by plant and vehicles. **Carbon Savings** 343 tonnes	08/09 and ongoing working practices and procedures need addressing long term aim	Self financing?	Emissions from the Council's plant vehicles accounts for a large amount of overall emissions (about 6.5%) and so any reductions that could be made would have a significant impact. A reduction of 10% would lead to carbon savings of around 343 tonnes.
9. Improvements in IT **Carbon Savings** 129 tonnes	Ongoing	If carried out as part of scheduled replacement of old PC's no extra costs are incurred, financial savings of ~£130 per unit are made.	The council IT manager has identified the possibility to replace up to 650 of the councils PC's with lower energy Wyse Terminals. The process of implementing this measure has already begun and if it is implemented fully about 120 tonnes of carbon savings could be expected. Also, the council have taken measures to reduce the energy consumption associated with their servers, leading to further savings of 9 tonnes. This is part of a wider IT strategy in which Clackmannanshire Council have been recognised as a 'Best Practice' Authority.
10. Implement an ongoing energy awareness campaign **Carbon Savings** 360 tonnes	07/08 ongoing to be taken forward with emphasis on primary schools although this is moving ahead and to be rolled out to include all buildings	No cost implication at the moment with the Energy officer currently promoting CO2 reduction within the primary school estate (probable requirement in the future for assistance in interrogating and analysing database results) Energy fund and energy savings could fund part time position	An energy saving awareness campaign will be introduced and sustained indefinitely, with the aim of improving awareness among staff of how their habits in the workplace affect the councils overall carbon emissions and offering advice on how they can be minimised. As part of this awareness campaign all of the Council's buildings with a floor area of over 1000m^2 will have displayed Building Energy Performance Certificates. An example of such a certificate is shown in Appendix C.
11. Introduce a monitoring and targeting programme throughout the Council's buildings. **Carbon savings** 287 tonnes	In place and ongoing major objective is to interrogate results in high use areas and develop measures to reduce them	No cost implications	This is already performed to an extent. Analysis of the baseline data shows that several of the council's buildings have overly high consumption. The Energy Officer currently has a comprehensive data collection regime and this could be built on to identify areas of high consumption and set targets for reducing this. It is likely that this project would assist in the identification of further work that could be carried out on the building stock in order to save energy.

12. Carry out an investigation into the further use of small scale renewable energy devices in Clackmannanshire **Carbon Savings** Unknown	07/08 and ongoing	Any projects must produce reasonable payback periods 5-7 years	A pioneering project using small scale renewables, namely a wind turbine and solar panels, has already been implemented and the benefits will be seen in the coming year. An investigation into the potential for extending this is likely to identify a number of potential opportunities.

Direct Emissions Reduction Actions

Action	Date	Funding	Summary
13. Carry out widespread building fabric improvements across Council's stock. **Carbon Savings** 11 tonnes	07/08 and ongoing	CEEF Capital Revenue Energy fund	Improvements in building fabric will yield large reductions in the heat load of buildings, particularly older buildings. The council will be fitting loft insulation and double glazing to both Alloa Family Centre and Tillicoultry Community Centre as an initial phase of this initiative and there will be further opportunities for expansion in the future. More information on these two projects can be found in Appendix A. Furthermore, the Council has introduced a Carbon Management & Waste Awareness checklist to be filled out on every project undertaken. The checklist is shown in Appendix B
14. Rationalisation of Building Stock. **Carbon Savings** 52 tonnes	07/08 Continual assessment	Currently there are no foreseen costs to be incurred during 07/08 although this may change in the future and capital investment could be required	There are currently a number of issues regarding the Council's use of buildings which are having a detrimental effect on efforts to reduce energy consumption. The resolution of these issues will lead to a 1.5% reduction on carbon emissions from buildings.
15. Carbon Capture from redundant landfill sites **Carbon savings** Not included in baseline	07/08 ongoing consultants engaged	15k allocated to determine the viability of this project consultants report will confirm financial investment required and the use or disposal of methane gas after capture	It is known that dormant landfill sites give off large quantities of carbon. The Council is currently investigating the possibility of capturing these emissions and should it prove a technically feasible and cost effective option it will be implemented.

16. Phase Upgrade of Streetlighting **Carbon Savings** 1 tonne in first year	08/09	CEEF	Upgrading the streetlights throughout Clackmannanshire to utilise newer more efficient lamps would save both carbon and money. Council staff are currently trialling the use of more efficient COSMO lighting in a new build development. Should it prove effective it is thought that these will be gradually introduced to all of the Council's streetlamp applications (approximately 8,000 lamps). The lamps are currently 3 times as expensive as existing fittings but this cost is expected to reduce in coming years.
17. Widespread upgrade of lighting in Council buildings **Carbon Savings** 16 tonnes	Ongoing	Energy fund Revenue Schools fund	There is currently an ongoing project of upgrading lighting in the councils building stock which yields carbon savings as newer devices have higher efficiency and installation provides an opportunity to improve control and lighting strategy. This will be continued and expanded to include all possible sites.
18. Continued renewal and upgrade of ageing heating/cooling plant throughout councils building stock **Carbon Savings** Unknown	Ongoing	Schools fund Revenue Energy fund CEEF	The Council has an ongoing programme of replacing old and outdated heating plant with new equipment. In some cases this involves a simple like for like replacement, in others a complete overhaul of the existing system. This programme will continue throughout the duration of the carbon management programme and each project will contribute to the overall carbon savings within the Council.
19. Continued upgrade of building fabric and heating plant in council housing stock **Carbon Savings** 543 tonnes	Ongoing	Capital 08/09 projects not yet identified	The Council has an ongoing programme of upgrading the housing stock with the installation of new condensing boilers, loft insulation & double glazing. The continuation of this throughout the duration of the carbon management programme should achieve an annual reduction of emissions associated with housing of about 1.8%

TOTAL QUANTIFIED CARBON SAVINGS:	**2148 tonnes**

This total figure coupled with the 130 tonnes of savings already identified and carried out, amounts to an overall reduction of 4.3% of the current carbon emissions over the next year provided all the quantified measures are operational by the end of March 2008. This would amount to a significant reduction which exceeds the annual target of 3% which the Council have set.

Clearly, this represents a very positive first step for the Council on the path to meeting long term targets.

5.0 Implementation Plan financing

At this stage Clackmannanshire Council has identified a number of opportunities, to be implemented over the coming year, which, along with projects already carried out up to March 2008, will enable them to exceed the first of five annual 3% reductions in carbon emissions.

A summary of the capital costs, expected annual savings and overall carbon savings is shown in the table below. For a more detailed breakdown of these costs see Appendix A

Summary of predicted costs and savings

Total Estimated Capital Expenditure	£114,750
Total Annual Cost Savings	***08/09 savings***
Annual savings (£)	£470,850
Total Annual Carbon Reductions	**08/09 savings**
Carbon Reduction (tonnes)	2,278

The council plans to finance the majority of these projects through incorporating them into their capital and revenue plans for the 2008/09 along with utilising funds set up specifically to finance energy saving projects and projects specific to schools (Energy Fund & Schools Fund). Financial support will also be obtained from the Scottish Government's Central Energy Efficiency Fund (CEEF).

6.0 Stakeholder management and communications

Clackmannanshire Council is aware that effective communication with all relevant stakeholders is key to ensuring the success of the Local Authority Carbon Management Programme. This is particularly important when considering measures such as awareness programmes and other drives to reduce energy use by employees. To this end, a list of all stakeholders within the Council has been identified and is displayed in the table below, along with a summary of their roles within the programme and how initiatives will be communicated to them.

Stakeholder Group	Role Within Programme	Method of Communication
Council Elected Members	• Raise awareness of programme and its importance. • Integrate vision of carbon emission reduction into all activities.	• Briefings to Council members from project leaders Peter Morrison & Gordon Stewart.
Chief Executive & Directors	• Raise awareness of programme and its importance. • Advertise any savings made through measures associated with the programme. • Provide oversight of the programme and its development.	• Regular feedback briefings from Action managers with known savings communicated clearly. • Council-wide awareness campaign
Department Managers	• Raise awareness of programme and its importance. • Leadership of programme. • Provide initiative for further changes.	• Project leaders to assign targets to departments • Gather data and compare performance of departments • Provide feedback (simple posters/ assessment against KPI's on a regular basis)
All Council Staff	• Change everyday behaviour to reduce energy consumption and hence emissions. • Assess their roles within the Council and provide insight into how they could improve carbon efficiency.	• Council-wide awareness campaign • Implement energy champions in various departments.
Schools	• Raise awareness of pupils with input that will influence at-home behaviour. • Operate with highest possible efficiency.	• Presentations to pupils from the Council energy officer • Energy officer to ensure facilities staff are trained to ensure plant is operated correctly
Residents	• Change behaviour.	• Energy efficiency presentations & displays in council buildings • Housing team to distribute literature on energy efficiency in the home

7.0 SIP governance, ownership and management

7.1 Main roles and responsibilities

It is of vital importance that the Council's Carbon Management Action Plan has clearly defined governance and ownership to ensure that key carbon reduction actions are progressed in an appropriate manner and in accordance with the defined timescale.

The table below outlines the ownership structure within the Council, form overall responsibility for the programme down to individual responsibility for the various carbon saving opportunities.

CMAP Governance	Area	Area Manager	Associated Actions	Action Manager
Gordon Stewart Peter Morrison	Council Buildings	Peter Morrison	• Investigate potential for biomass • Monitoring & targeting • Investigate potential for micro renewables • Replace some PC's with Wyse terminals • Building fabric improvements • Rationalise building stock • Upgrade lighting • Upgrade ageing heating plant • Establish energy rating for all buildings with floor area over 1000m^2 • Begin quarterly reports from different departments on energy use. Use this to promote good practice in offices.	
	Transport & Travel (including Commuting)	Lesley Deans	• Reduce 'casual' mileage • Incentives not to drive • Reduce plant mileage • Implementation of Travel Plan	
	Waste Management	Graeme Cunningham	• Promote waste management throughout Council • Carbon capture from redundant landfill	
	Streetlighting	Charlie Norman	• Gradual upgrade of streetlighting	
	Housing	Carol Aldred	• Continue upgrading heating plant and building fabric in housing stock • Run awareness campaign aimed at residents	
	Procurement	Derek Barr	• Implement environmental procurement policy	
	Other Policy		• Ban staff bringing in personal heating • Energy awareness campaign	

7.2 Reporting and evaluation

In order to gauge the success of the Carbon Management programme it is essential that the Council's performance is monitored effectively. An outline of the necessary data is readily available in the Baseline Tool from Step 2 of the programme and the Council will gather equivalent data on an annual basis in order to monitor how carbon emissions are progressing.

By using the same standard of monitoring as is present in the Baseline calculation it will become evident over time not only how successful the practical and quantifiable projects are, but also will offer insight into the effect other measures such as the energy awareness campaign and the Travel Plan are having on the Council's carbon performance.

It will be the responsibility of the Area Manager to ensure that the relevant emissions data for each area is gathered on an annual basis.

The outcomes of evaluation of the gathered data will feed into the ongoing evolution of the plan to incorporate new measures and thus help meet the 15% reduction target over the next five years.

Appendix A: Quantified Actions

The following is an outline of all the actions which have been quantified to give the forecast for carbon reductions over the coming year.

Project 1: Reduce the amount of miles travelled by employees by 10%.	
Description and notes	Business mileage accounts for 2030 tonnes of carbon emissions per year. It is proposed that much of this is unnecessary and that large reductions could be achieved.
Quantified costs and benefits	• This initiative would require capital investment, as it may include changes to working practices and the need for consultancy involvement should be considered . • A 10% reduction of casual mileage would result in a saving of 203 tonnes of carbon. • This would result in an annual financial saving of around £74,000 • Payback period – Immediate • Careful consideration would be required if the measure is to be accepted by staff.
Resources	• Any funding for this measure will be met internally, using the Energy Fund
Specific Actions	• Introduction of the Travel Plan for Clackmannanshire Council • Introduction of Alloa-Larbert bus service to provide link to new Forth Valley Hospital. • Feasibility study into provision of a railway station at Cambus • Introduction of Park & Ride at Tillicoultry • Re-opening of passenger rail service between Alloa and Glasgow
Timescales	• This measure will require regular review throughout the duration of the programme with targets set on an annual basis.
Ownership	This measure will fall under the Travel Plan which is the responsibility of S Bell
Estimated overall carbon reduction from this project	**203 tonnes per year**

Project 7: Implement Incentives for Staff not to drive.	
Description and notes	Council employees are currently paid 55p for every mile travelled and this often acts as an incentive for staff to use their own cars. It is proposed that these resources would be better deployed as an incentive to use more environmentally friendly modes of transport.
Quantified costs and benefits	• This initiative would require moderate capital investment with savings used to progress the initiative. • A further 10% reduction of casual mileage would result in a saving of 203 tonnes of carbon. • This would result in an annual financial saving of around £74,000 • Payback period – Immediate • Careful consideration would be required if the measure is to be accepted by staff.
Resources	• Any funding for this measure will be met internally, using the Energy Fund
Specific Actions	• Introduction of the Travel Plan for Clackmannanshire Council

	• Begin paying staff to use green alternatives to private cars for work related travel (such as the pool bicycles), or just walking.
Timescales	• This measure will require regular review throughout the duration of the programme with targets set on an annual basis.
Ownership	This measure will fall under the Travel Plan which is the responsibility of S Bell
Estimated overall carbon reduction from this project	**203 tonnes per year**

Project 8: Investigate the potential for reducing the amount of mileage accrued by plant vehicles.	
Description and notes	Plant vehicles contribute 3432 tonnes of carbon to the councils overall annual emissions. It is likely that there are opportunities for reducing this.
Quantified costs and benefits	• This measure would require minimal financial investment, as it is more based on a change of practice • A reduction in plant mileage of 10% would lead to a reduction in carbon emissions of 343 tonnes • This reduction would result in an associated annual financial saving of £125,000 • Payback period – Immediate
Resources	Minimal financial investment required
Specific Actions	• First step is to liaise with manger of plant fleet to identify any 'easy wins' within the operation of plant vehicles.areas of potential improvement. • Implement incentives for drivers to use their vehicles less (league tables/prizes) • Monitoring of vehicle mileage and a policy of using most efficient vehicles in fleet for high mileage activities
Timescales	• This measure will require regular review throughout the duration of the programme with targets set on an annual basis.
Ownership	Measures of this nature fall under the Travel Plan, the responsibility of S Bell
Estimated overall carbon reduction from this project	**343 tonnes per year**

Project 9: Improvements in IT	
Description and notes	In many instances a full PC is not required by the user and could be replaced with a Wyse terminal device which uses ~80% less electricity. The IT manager has identified 650 units within the council that could be replaced with terminals and implantation has begun. Recent server improvements will also yield energy savings.
Quantified costs and benefits	• This measure requires minimal capital investment if it is implemented as part of routine replacement of PC's when it will offer savings over normal PC's of around £130 per unit. Otherwise investment would be required. Maximum capital expenditure (were all terminals to be purchased apart from routine replacement) would be in the region of £95,000 • A standard PC is rated at 315W whereas a terminal only requires 46W.

	• (315 – 46)/1000 x 650 units x 8 hours x 5 days x 40 weeks = 279,760 kWh • 279,760 kWh =120 tonnes CO_2 • This reduction would result in an associated annual financial saving of £22,380 • Payback period – 4.3 years • Further savings of 9 tonnes of CO_2 will be achieved through the replacement of 16 HP ProLiant JL550 servers (800W) with 8 HP ProLient DL585 servers (1300W) • (16 x 800) – (8 x 1300)/1000 x 24 hours x 365 days = 21,024kWh • 21,024kWh = 9 tonnes CO_2 • Annual financial saving of ~£1,700
Resources	To be confirmed
Timescale	To be completed by end of March 2009
Ownership	IT issues are the responsibility of Scott Carruthers
Estimated overall carbon reduction from this project	**129 tonnes per year**

Project 10: Implement an ongoing energy awareness campaign	
Description and notes	Awareness of not leaving lights and equipment on when not required would reduce electricity consumption. Clackmannanshire Council will constantly strive to ensure that staff are being made aware of energy issues through the energy officer.
Quantified costs and benefits	• This measure would require minimal financial investment from the energy efficiency fund. • A good energy awareness campaign could be expected to reduce energy consumption in buildings by 5-10% • A 5% saving in building energy consumption would result in a reduction in carbon emissions of 360 tonnes • Payback period – Immediate
Resources	Minimal financial investment required (energy fund)
Timescale	To continue on from current efforts with annual review of effectiveness throughout the course of the programme
Ownership	Measures of this nature fall under the remit of the council's energy officer – Richard Scobie
Estimated overall carbon reduction from this project	**360 tonnes per year**

Project 11: Introduce a monitoring and targeting programme	
Description and notes	A good monitoring and targeting programme will help to identify areas of high consumption within the council's building stock and will lead to further opportunities for making improvements therein.
Quantified costs and benefits	• This measure would require minimal financial investment, as energy data is already comprehensively gathered by the energy officer • A good monitoring and targeting programme could be expected to reduce energy consumption by up to 4%. This would correspond to a reduction in carbon emissions of 287 tonnes • This reduction would result in an associated annual financial saving

	of £71,400 • Payback period – Immediate
Resources	Given that the Council already has measures in place to monitor energy use in buildings this should require minimal financial investment.
Timescales	To be begun immediately and sustained throughout the duration of the programme
Ownership	Measures of this nature fall under the responsibility of Richard Scobie, the energy officer
Estimated overall carbon reduction from this project	**287 tonnes per year**

Project 13: Carry out widespread building fabric improvements across Council's stock.	
Description and notes	Improvements in building fabric can lead to significant savings in emissions associated with heating. Calculations of financial costs and carbon/financial reductions from this measure are based on two confirmed projects, the installation of loft insulation and double glazing at Alloa Family Centre and Tillicoultry Community Centre.
Quantified costs and benefits	• Estimated Capital costs for fitting loft insulation to Alloa Family Centre and Tillicoultry Community Centre: £22,000 (Costs for double glazing not yet confirmed) • Estimated emissions reduction of 11 tonnes • Associated financial saving of £1,200 • Payback period – 18 years
Resources	Funding from CEEF, Energy fund and council capital spend
Timescales	These measures to happen by end March 2009 with others to be staged throughout the duration of the programme
Ownership	Improvements to building fabric fall under the remit of the property team leader, Peter Morrison.
Estimated overall carbon reduction from this project	**11 tonnes per year**

Project 14: Rationalisation of Building Stock.	
Description and notes	Optimising the use of the councils buildings to ensure that energy is not wasted. For instance, currently some buildings are only half full but require to be heated in full.
Quantified costs and benefits	• No capital investment necessary at this time. • It has been estimated that implementation of this measure will lead to a reduction in carbon emissions of 52 tonnes. • This will result in an annual saving of £10,000 • Payback period - immediate
Resources	No major requirements
Timescales	To be completed by end of March 2009
Ownership	This measure is the responsibility of the property team leader, Peter Morrison
Estimated overall carbon reduction from this project	**52 tonnes per year**

Project 16: Gradual upgrade of streetlights

Description and notes	Upgrading the streetlights throughout Clackmannanshire to utilise newer more efficient lamps would save both carbon and money. In the first year a trial run of 50 or so lamps is expected.
Quantified costs and benefits	• This initial measure would require a capital investment of £6,750 • It is estimated that a trial run upgrade of 50 streetlights in a new developments would lead to a reduction in carbon emissions of 1 tonne. • This would result in an annual cost saving of £450 • Payback period – 15 years
Resources	Potentially funded by CEEF
Timescale	To be completed by the end of March 2009
Ownership	Streetlighting is the responsibility of the roads and transportation team leader, Charlie Norman. If successful this measure might be implemented on a much wider scale.
Estimated overall carbon reduction from this project	**1 tonne per year**

Project 17: Widespread upgrade of lighting in Council buildings	
Description and notes	There is currently an ongoing project of upgrading lighting in the councils building stock which yields carbon savings as newer devices have higher efficiency and installation provides an opportunity to improve control and lighting strategy. Emissions reductions are calculated for upgrade of lighting at Menstrie House and new occupancy sensor controls in the large, open plan offices at Lime Tree House.
Quantified costs and benefits	• Estimated financial cost for these two projects is £10,000 • Associated emissions reduction of 16 tonnes • Annual financial saving of £3,000 • Payback period – 3 years
Resources	Funding available from Energy Fund and councils annual revenue. For work in schools money will also be available from Schools Fund.
Timescales	Ongoing from 07/08 measures. To be sustained throughout the duration of the programme.
Ownership	Lighting upgrades are the responsibility of the property team leader, Peter Morrison.
Estimated overall carbon reduction from this project	**16 tonnes per year**

Project 19: Housing – continued upgrade of building fabric and heating plant in council stock	
Description and notes	Clackmannanshire council has an ongoing programme of upgrading the housing stock with the installation of new condensing boilers, loft insulation & double glazing. The continuation of this throughout the duration of the carbon management programme will an annual reduction of emissions associated with housing of about 1.8%
Quantified costs and benefits	• Currently incurs no financial cost on the council • Estimated emissions reductions of 1.8% per annum. This will equate to a saving of 543 tonnes in 2008/09

Resources	Funding obtained from HECA
Timescales	Continuing on from current work. To be sustained until all housing stock has been fully upgraded.
Ownership	Responsibility of Housing Strategy officer, Carol Aldred.
Estimated overall carbon reduction from this project	**543 tonnes per year**

SUMMARY

Measure	Carbon Savings (tonnes per year)	Financial Saving per year	Capital cost
Project 1	203	£74,000	-
Project 7	203	£74,000	-
Project 8	343	£125,000	-
Project 9	129	£24,080	£96,000
Project 10	360	£67,000	-
Project 11	287	£71,400	-
Project 13	11	£22,000	£22,000
Project 14	52	£10,000	-
Project 15	1	£370	£6,750
Project 17	16	£3000	£10,000
Project 19	543	-	
TOTAL	2148	£470,850	£114,750

Appendix B: Carbon Management & Waste Awareness Check List

PROPERTY MAINTENANCE AND DESIGN

CARBON MANAGEMENT AND WASTE AWARENESS

CHECK LIST

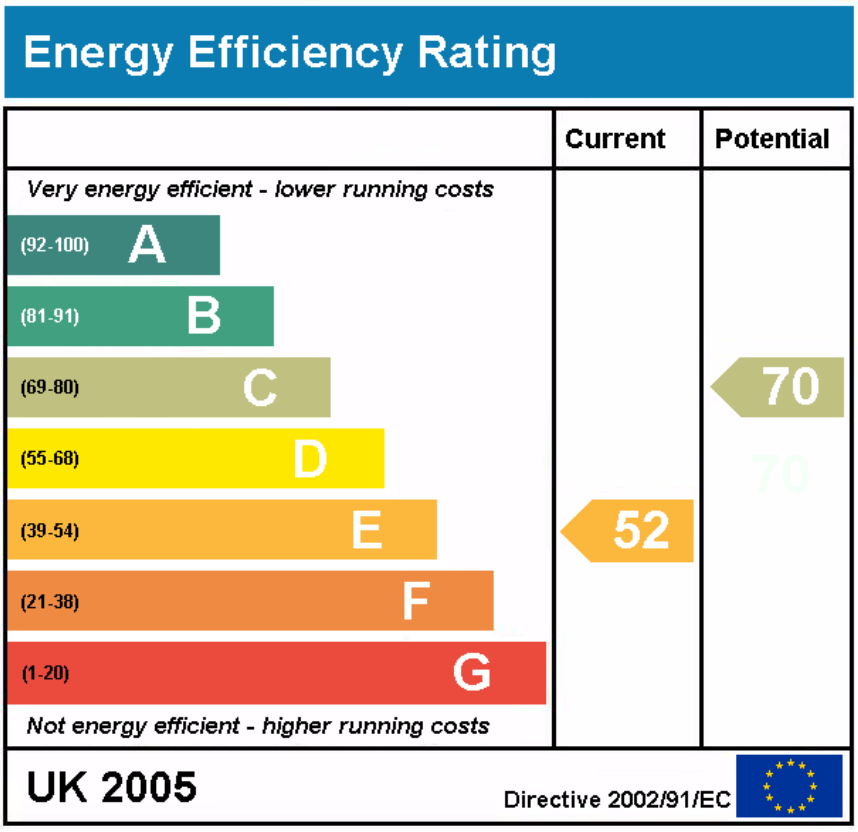
PROJECT TITLE ---------- CONTRACT/JOB NUMBER ---------- JOB DESCRIPTION ----------

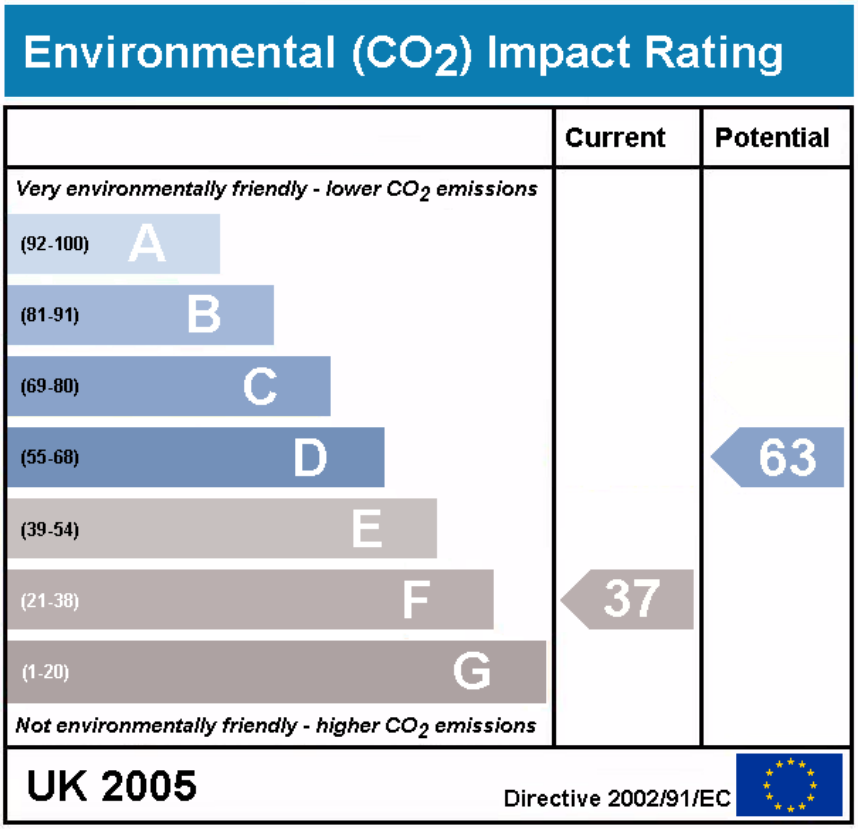
PROJECT LEADER ---------- SERVICE/CLIENT ----------

1	Will the project effects have an impact either positive or negative on energy use in the building	yes	no	?
2	Has consultation taken place with the Councils energy officer to ensure all energy saving principles are being considered			
3	Will the contract assist in meeting the Councils waste minimisation objectives			
4	Will the proposal support the implementation of an energy audit relating to CO2 emissions' and financial outturns'			
5	How will the project actions contribute towards the achievement of the indicators contained in the Councils Sustainability Strategy, and Climate Change Action Plan			
6	Will grey or recycled water be used as part in any of the contract actions			
7	To what extent will the project reduce CO2 emissions in the building use			
8	Have renewable/recycled products been considered for use in the project Information @ www.wrap.org.uk			
9	Will the project contribute to the authorities Local Authority Carbon Management programme. Will the completed project contribute to the reduction of the councils Carbon Footprint ?.			
11	Have renewable energy sources been considered for use in the project			

Comment and explain why a certain assessment has been given

Appendix C: Sample Displayed Building Energy Performance Certificate





SEA SCREENING REPORT (COVER NOTE)

PART 1

To: SEA.gateway@scotland.gsi.gov.uk

or

SEA Gateway
Scottish Executive
Area 1 H (Bridge)
Victoria Quay
Edinburgh EH6 6QQ

PART 2

An SEA Screening Report is attached for the plan, programme or strategy (PPS) entitled:

Clackmannanshire Council Local Authority Carbon Management Programme Strategy and Implementation Plan

The Responsible Authority is:

Clackmannanshire Council

COMPLETE PART 3 or 4 or 5

PART 3

Screening is required by the Environmental Assessment (Scotland) Act 2005. Our view is that:

☐ **an SEA is required** because the PPS falls under the scope of Section 5(3) of the Act and is likely to have significant environmental effects ***or***

☐ **an SEA is required** because the PPS falls under the scope of Section 5(4) of the Act and is likely to have significant environmental effects ***or***

☒ **an SEA is not required** because the PPS is unlikely to have significant environmental effects

PART 4

☐ The PPS does not require an SEA under the Act. However, we wish to carry out an SEA on a voluntary basis. We accept that, because this SEA is voluntary, the statutory 28 day timescale for views from the Consultation Authorities cannot be guaranteed.

PART 5

☐ None of the above apply. We have prepared this screening report because:

……
……
……

SEA SCREENING REPORT (COVER NOTE)

PART 6

Contact name	Peter Morrison
Job Title	Property Team Leader
Contact address	Development and Environmental Services Clackmannanshire Council Kilncraigs Greenside Street Alloa FK10 1EB
Contact tel no	01259 45 2669
Contact email	pmorrison@clacks.gov.uk

PART 7

Signature (electronic signature is acceptable)	
Date	12 February 2008

SEA SCREENING REPORT - KEY FACTS

Responsible Authority	Clackmannanshire Council
Title of PPS	Local Authority Carbon Management Programme Strategy and Implementation Plan
Purpose of PPS	The purpose of the Strategic Implementation Plan (SIP) is to set the direction for all services and departments within Clackmannanshire Council to archive targets as part of a five-year carbon reduction process.
What prompted the PPS (e.g. a legislative, regulatory or administrative provision)	The SIP was produced as part of the Local Authority Carbon Management Programme.
Subject (e.g. transport)	Carbon management
Period covered by PPS	Five years
Frequency of updates	Annually
Area covered by PPS (e.g. geographical area – it is good practice to attach a map)	Clackmannanshire
Summary of nature/ content of PPS	The purpose of the Strategic Implementation Plan is to outline how Clackmannanshire will progress towards reducing its carbon emissions. The proposed objectives are given at the end of this document.

Are there any proposed PPS objectives?	X	**YES**		**NO**
Copy of objectives attached	X	**YES**		**NO**
Date	12 February 2008			

SEA SCREENING REPORT

Our determinations regarding the likely significance of effects on the environment of Clackmannanshire Local Authority Carbon Management Programme Strategy & Implementation Plan is set out in Table 1.

TABLE 1 – LIKELY SIGNIFICANCE OF EFFECTS ON THE ENVIRONMENT

TITLE OF PPS

Clackmannanshire Local Authority Carbon Management Programme Strategy & Implementation Plan (SIP)

RESPONSIBLE AUTHORITY

Clackmannanshire Council

Criteria for determining the likely significance of effects on the environment (1(a), 1(b) etc. refer to paragraphs in Schedule 2 of the Environmental Assessment (Scotland) Act 2005)	**ikely to have significant environmental effects? YES/NO**	**Summary of significant environmental effects (negative and positive)**
1(a) the degree to which the PPS sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources	NO	The SIP is intended to guide the Council towards reducing emissions from its own operations: it does not intend to directly influence activities outwith the Council.
1(b) the degree to which the PPS influences other PPS including those in a hierarchy	NO	The SIP is intended to guide the Council towards reducing emissions from its own operations: it does not intend to directly influence policy.
1(c) the relevance of the PPS for the integration of environmental considerations in particular with a view to promoting sustainable development	NO	The SIP is one of the outcomes of the Sustainability Strategy and Climate Change Action Plan, which is currently undergoing SEA.

Criteria for determining the likely significance of effects on the environment (1(d) etc. refer to paras in Schedule 2 of the Environmental Assessment (Scotland) Act 2005)	**Likely to have significant environmental effects?** **YES/NO**	**Summary of significant environmental effects (negative and positive)**
1(d) environmental problems relevant to the PPS	NO	The SIP is intended to guide the Council to reducing the carbon emissions as a result of its own operations: although this is intended to have a beneficial impact in terms of climate change mitigation, it is not expected that this impact will be significant.
1(e) the relevance of the PPS for the implementation of Community legislation on the environment (for example, PPS linked to waste management or water protection)	NO	The SIP is not intended to implement Community legislation on the environment.
2 (a) the probability, duration, frequency and reversibility of the effects	NO	The SIP should lead to a reduction in carbon emissions over the five-year period and beyond, but this is not considered to be significant.
2 (b) the cumulative nature of the effects	NO	The SIP should lead to a reduction in carbon emissions over the five-year period and beyond, but this is not considered to be significant.
2 (c) transboundary nature of the effects (i.e. environmental effects on other EU Member States)	NO	The effects of climate change mitigation activity are global, but the impact of the SIP is not considered to be significant.
2 (d) the risks to human health or the environment (for example, due to accidents)	NO	The SIP is not considered likely to pose any risks to the environment or to human health.

Criteria for determining the likely significance of effects on the environment (1(d) etc. refer to paras in Schedule 2 of the Environmental Assessment (Scotland) Act 2005)	**Likely to have significant environmental effects?** **YES/NO**	**Summary of significant environmental effects (negative and positive)**
2 (e) the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)	NO	The effects of climate change mitigation activity are global, but the impact of the SIP is not considered to be significant.
2 (f) the value and vulnerability of the area likely to be affected due to- (i) special natural characteristics or cultural heritage; (ii) exceeded environmental quality standards or limit values; or (iii) intensive land-use.	NO	The SIP is not considered likely to have significant impacts.
2 (g) the effects on areas or landscapes which have a recognised national, Community or international protection status.	NO	The SIP is not considered likely to have significant impacts.

A summary of our considerations of the significant environmental effects of the Clackmannanshire Local Authority Carbon Management Programme Strategy & Implementation Plan is given below.

TABLE 2 – SUMMARY OF ENVIRONMENTAL EFFECTS

The SIP is intended to guide Clackmannanshire Council to reduce the carbon dioxide emissions that are the result of its activities. Although this is being carried out within the intention of having a beneficial impact on the environment by contributing to climate change mitigation, it is not considered that the environmental impact of the SIP will be significant.

The Council's Sustainability Strategy is currently undergoing SEA and will include indicators and targets for the reduction of carbon emissions.

APPENDIX:
DRAFT OBJECTIVES OF THE CLACKMANNANSHIRE LOCAL AUTHORITY CARBON MANAGEMENT PROGRAMME STRATEGY & IMPLEMENTATION PLAN

- To make a significant contribution to the overall drive towards greater sustainability within the Council as outlined in the Sustainability Strategy.

- To integrate carbon management practices into all the Council's activities.

- To deliver long term cost savings from carbon emissions reductions.

- To develop links drawing together all outputs from participating groups annually, whereby analysis of results is published and made available to all employees and the community with successes or failures analysed to provide information for all future actions of the programme.

- To inform the community of Clackmannanshire, including all business and community groups or partnerships of the LACM programme and the opportunities arising from and the benefits both in environmental and financial terms.

- To deliver information on the progress of the programme through the local press and the internet.