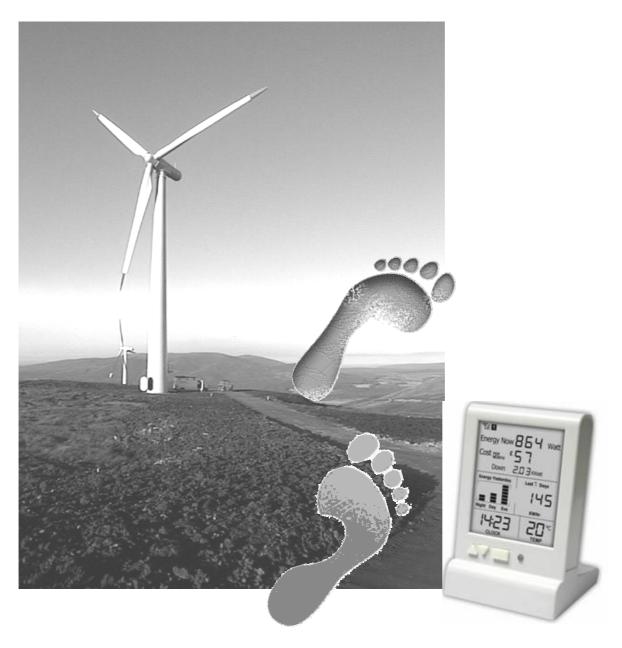


The Highland Council



Draft Carbon Management Plan 2009-2012



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FOREWORD FROM THE CHIEF EXECUTIVE, HIGHLAND COUNCIL

The environmental quality and the outstanding natural heritage of the Highland Council area are recognised internationally. The Council, in partnership with other public bodies, the third sector and communities, has a vital role to play in safeguarding the natural environment.



Climate change is one of the greatest threats to the Highland area and the Council seeks to be an exemplar of good environmental practice by thinking globally and acting locally. The Carbon Management Plan will enable the Council to reduce the harmful greenhouse gas emissions that result from Council operations. It forms one of the key monitoring frameworks in relation to improving our environmental performance. We recognise that as an employer, service provider and community leader we can also use the Carbon Management Plan to raise awareness and encourage others to tackle climate change through leading by example.

Alistair Dodds.

Chief Executive, Highland Council.

FOREWORD FROM THE CARBON TRUST

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

Highland Council was selected in 2008, amidst strong competition, to take part in this ambitious programme. Highland Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Plan commits the council to a target of reducing CO2 by 12% by 2012 and underpins potential financial savings to the council of around £1.8 million.

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

Richard Rugg, Head of Public Sector, Carbon Trust



INTRODUCTION

The Highland Council was one of the first Local Authorites in Scotland to produced a Carbon Management Plan (CMP) in 2006 with assistance from the Carbon Trust. The plan was successful in monitoring and reducing energy use in Council buildings. However difficulties were met in meeting emissions reduction targets in other areas and embedding monitoring mechanisms across Council Services.

The benefits and shortfalls of the original CMP are summarised in **Appendix 1**

In March 2008, the Member led Climate Change Working Group reviewed the progress of the CMP and agreed to address the shortfalls by refreshing the scope, targets and timescale of the plan. Through working with the Carbon Trust a second generation CMP has now been developed taking into consideration changes in legislation since 2006 and setting new targets to 2012.

The CMP sets out a clear strategy and action plan for Highland Council to reduce energy costs and CO_2 emissions over the next three years. The plan includes a comprehensive set of energy and carbon reduction programmes throughout the Council. It is important to note that this plan should be regarded as a live document and it needs to be reviewed and updated periodically to reflect any changes during the course of the Carbon Management Programme.

The primary focus of the revised CMP is to reduce carbon emissions from Council buildings; vehicle fleet; business travel; street lighting; internal waste and water.

Following the public consultation on the accompanying environmental report, the finalised document is expected to be adopted by November 2009.

1. CONTEXT AND DRIVERS FOR CARBON MANAGEMENT

1.1 DRIVERS

Climate Change:

The Highland Council recognises the serious threat posed by climate change. The Highland Council is a signatory of Scotland's Climate Change Declaration and is demonstrating its commitment to take actions against climate change at the local government level.

We acknowledge that:

• Climate change is occurring and human activities are having a significant, negative and potentially dangerous influence.

We commit to:

 Produce and publicly declare a plan, with targets and timescales, to achieve a significant reduction in greenhouse gas emissions from our own operations.

Scotland's Climate Change Bill:

Long-term emissions reductions targets will need to be achieved by The Highland Council in line with The Climate Change (Scotland) Act 2009, which places duties and targets on Local Authorities to reduce emissions. The Act sets an ambitious target of 42% emissions reductions by 2020 with an overall reduction of 80% by 2050. It is a key driver in encouraging emissions reductions in Scotland and The Highland Council wish to lead the way in terms of Local Authority action.

Carbon Reduction Commitment:

The Highland Council is captured under the forthcoming Carbon Reduction Commitment (CRC) and, from April 2010, will have to purchase carbon allowances in advance for emissions from buildings. The cost of purchasing allowances in the first year will be considerable (estimated at £500 000).

Due to the remote nature and large geographical area of Highland, most areas are out with the mains gas network and rely heavily on the use of oil and electricity. Oil and electricity have a larger carbon footprint than gas. This will result in Highland Council producing proportionally greater emissions than elsewhere in the UK. The prevailing weather is also of concern as the area is characterised by a typically colder climate than elsewhere in the UK. Should the qualifying period be particularly mild and subsequent winters cold, carbon emissions are likely to increase, putting the Council at greater risk of financial penalties through the purchase of increased allowances.

It is therefore important that the Council reduces energy use to avoid costs through increased energy prices and purchase of carbon allowances.

1.2 CONTEXT

High-level commitment towards action on climate change:

The Corporate Plan for The Highland Council sets out our ambitions for the Highlands; how we will achieve them and how we will measure our progress towards them.

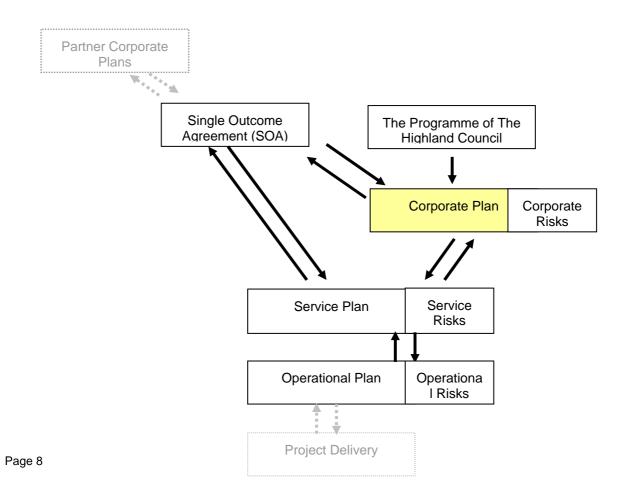
We want the Highlands to be one of Europe's leading regions. We want to create sustainable communities with more balanced population growth and economic development across the Highlands. We want to build a fairer and healthier Highlands.

To do this we will focus our action on our children and families; our communities and older people; our economy; our environment and as a public body, with duties to represent our communities, we will act to make the Council more effective and efficient.

The Programme contains a total of 93 commitments across five main themes:

- Theme 1 -What we will do for children and families;
- Theme 2- What we will do for communities and older people;
- Theme 3- What we will do for the economy;
- Theme 4- What we will do for our environment:
- Theme 5 -What we will do to make the Council more effective and efficient;

Hierarchy of Plans



Theme 4 of the Corporate Plan - "What we will do for our environment", contains within it several commitments aimed at combating climate change by reducing carbon emissions;

Theme 4 - What we will do for our environment;

- Produce and implement a climate change strategy for the Highlands which will reduce our impact on the environment and adapt our services to cope with the impact of climate change.
- As well as improving the energy efficiency of our Council housing stock, reduce the Council's energy use and carbon emissions from our buildings by 15% by 2010-11, from a baseline of 2005, by reducing or avoiding energy costs.
- Increase the use of renewable microgeneration technology sources to provide energy in the Council estate, with appropriate integration of wind turbines, biomass fuel boilers, combined heat and power and solar energy, increasing the overall rating from 1,800 kW in 2008 to a minimum of 4,000 kW in 2010.
- Prepare a green travel plan for the Council by 2008, and work with the Scottish Government to encourage and promote green travel plans for our public sector partners, and all businesses and developments across the Highlands.
- Reduce paper use in our offices and recycle 50% by the end of 2009.

Single Outcome Agreement:

The Highland Council has also included commitments to reduce CO_2 emissions in the Highland Community Planning Partners Single Outcome Agreement with the Scottish Government. The purpose of the Single Outcome Agreement is to identify areas for improvement and to deliver better outcomes for the people of the Highlands, and Scotland, through specific commitments made by the Council, its community planning partners and the Scottish Government.

Table 1 below highlights the National Outcomes that relate most closely to the issue of climate change in Highland with specific Local Outcomes listed for each one.

National Outcome	10.	We live in well designed, sustainable places where we are able to access the amenities and services we need.
Local 10 Outcome		New development and growth is planned and designed for sustainability
	10.4	Limit the impact of distance from services in rural and remote communities
National Outcome	11	We have strong, resilient and supportive communities where people take responsibility for their own actions and how they affect others
Local Outcome	11.1	A well supported voluntary sector with sustained high levels of volunteering in the Highlands
	11.2	More communities own, manage or have a stake in local assets
	11.3	Improved quality of life through community led action and more people feeling connected to their communities
National Outcome	12.	We value and enjoy our built environment and protect and enhance it for future generations
	12. 12.1	
Outcome Local		enhance it for future generations Recognition and awareness of the outstanding natural heritage of the
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Outcome Local Outcome National	12.1 12.2 12.3 12.4	enhance it for future generations Recognition and awareness of the outstanding natural heritage of the Highlands Limit pressures on species and habitats Improved environmental awareness and action Improve the quality of housing We reduce the local and global environmental impact of our

Carbon Trust Standard:

The Carbon Trust standard is a formal accreditation scheme for organisations that are measuring, managing and reducing CO₂ emissions. In January 2009, Highland Council successfully achieved the "Carbon Trust Standard". This can be formally used to demonstrate 'early action' towards the Carbon Reduction Commitment (see section 1.1 above). In 2010 the Highland Council will participate in phase two of the accreditation programme and will need to show continued emissions reduction including those from business travel.

Failure to maintain the standard will result in poor performance on the CRC Commitment league table and financial penalties to the Council.

Summary of Drivers:

- The need to address climate change and meet emissions reductions targets set by the Scottish Government.
- The need to reduce the cost of purchasing carbon allowances through the CRC scheme to which we are legally required to participate in (estimated £500 000 per annum).
- The urgent need to address rising pressure on Council budgets from escalating energy costs (e.g. electricity costs have increased by 66% since 2004/05 despite reduced energy consumption of 15% in this time)
- The need to meet the commitments outlined in the Highland Council Corporate Plan and Single Outcome Agreement with partners.
- The need to retain our Carbon Trust Standard Accreditation
- The need to embed carbon management processes across all Council Services and procedures.
- The need to reduce dependency on fossil fuels.

2. STRATEGIC THEMES

Our Low-Carbon Vision:

"The Highland Council wish to lead the way in the fight against climate change by demonstrating that a Local Authority can cut carbon emissions; maintain reductions long-term; continue to deliver services to the Highland people effectively and efficiently; safeguard the Highland environment; build strong and resilient communities; and promote and encourage change in others".

Within the revised CMP there are five strategic themes that carry across all sections.

These are:

Theme 1: Reduce Carbon Emissions from Internal Operations: Reduce emissions from those areas of Local Authority activity that can be measured and monitored. This includes energy use in Council owned buildings; street lighting, fuel use from staff business travel and fleet travel, emissions associated with the disposal of internal waste and emissions associated with water consumption in the top 100 buildings.

Theme 2: Reduce Energy Costs: Energy and fuel effiency can bring about direct financial savings to the Council as the unit price of electricity, gas and oil continues to increase. This is particularly important in an area such as Highland, which is geographically dispersed and experiences a cooler climate than elsewhere in the UK. It will also contribute towards efficiency targets set by the Scottish Government.

Theme 3: Exploring New Areas for Action: There are many actions taking place and being developed by Council Services that can help to achieve emissions reduction both in-house and in the wider community. While mechanisms to quantify such emissions savings may not currently be in place, it is important to recognise the work, encourage further projects and report progress. Over time data monitoring mechanisms may be developed.

Theme 4: Promote Awareness and Behavioural Change: Through training and events run through the Highland Council "Green Ambassadors"; through working with Personnel and developing effective staff induction and management training programmes and through education delivery in schools and communities the Council will work to encourage energy efficiency and increased understanding of climate related issues. A programme of press releases and the Highland Council website will highlight progress to the public.

Theme 5: Lead by Example: Although the CMP will focus primarily on Highland Council emissions from internal operations, The Highland Council recognises that it has the ability to influence change within the wider Highland community. The CMP will be used as the foundation to build upon partnership working towards tackling Climate Change across Highland.

TARGETS AND OBJECTIVES

We will reduce CO₂ emissions by 12% by April 2012 over a 2007/08 baseline.

3.1 Establishing Targets

The Highland Council wishes to demonstrate ambition and commitment towards mitigating the effects of climate change. **Appendix 1** outlines some of the shortfalls of the first CMP. Many of the previous targets were not met, or could not be measured against the baseline. It is therefore important that the new targets to 2012 are SMART (specific, measurable, achievable, realistic and time bound).

One of the main aims of the revised CMP is to embed carbon management process across all Council Services and activities to ensure that emissions reductions actions are put in place and monitored, and targets are met. It may be necessary to review such targets at interim points to take into consideration changing legislation.

The CMP will act as a catalyst to promote further action within The Highland Council and will evolve over time becoming stronger and more effective at reducing carbon emissions. It is envisioned that targets will become more ambitious over time as monitoring and management arrangements are incorporated into Service delivery.

3.2 Targets

Emissions will be monitored by financial year. The overall emissions reduction target will be set out as follows:

Target		Sector	Total C0 ₂ saving (tonnes)	Baseline Year	Responsible Person
1	12%	Energy Use in Buildings	5226	2007/08	Principal Energy Engineer
2	12%	Staff Travel	524	2007/08	Travel Plan Coordinator
3	5%	Fleet	207	2007/08	Fleet Manager
4	20%	Internal Waste Management	1034	2007/08	Waste Management Officer Sustainable Development Officer
5	6%	Street Lighting	447	2007/08	Street Lighting Manager
6	10%	Water	14	2007/08	Senior Energy Inspector Sustainable Development Officer
		Total:	7450		

To monitor progress and allow for any revisions to be made following implementation of Government legislation an **interim target of 8%** emissions reduction by April 2011 will be set and reviewed as necessary.

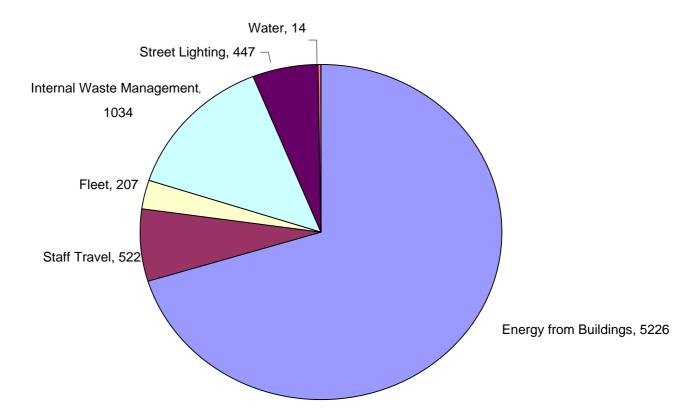


Figure 1 Target CO₂ emissions savings (tonnes) to 2012

4. Emissions Baseline and Projections

4.1 SCOPE

The CMP will be used to monitor and report progress from Highland Council internal operations only. It is important to be concise about which sets/sites are to be included within the scope of CMP reporting. As stated in **Appendix 1**, one of the shortfalls of the first CMP was a lack of detailed information on the categories scoped into the baseline. It was also unclear as to who was responsible for collecting and monitoring data on a regular basis.

The Greenhouse Gas Protocol, from the World Resources Institute, describes three Scopes of GHG emissions;¹

Scope 1 – Direct greenhouse Gas Emissions – GHG emissions from fossil fuel combustion on site e.g. gas, oil and coal. For the purposes of Highland Council CMP this includes heating gas and oil, fleet fuel and emissions from staff transport.

Scope 2 – Electricity and Indirect Emissions - Accounts for GHG emissions from the generation of purchased electricity consumed by the Council. For the CMP this includes all electricity consumed in Highland Council buildings.

Scope 3 - Other Indirect GHG emissions – GHG emissions as a consequence of the activities of the company but occur at a source not owned or controlled by the company (e.g. procurement of goods). For the CMP this includes emissions from the disposal of waste to landfill and from the treatment of water. Emissions on the products we purchase have been scoped out at this time due to complications in data gathering.

The following summarises the scope of The Highland Council CMP 2009-2012.

CO₂ Reduction in Council Properties: Energy use in Council properties includes all schools but excludes PPP buildings. The baseline period for this plan is set as 2007/08. However, it is possible to monitor overall energy performance as far back as 2004/05 through the Energy Management Performance Plan.

Council Housing Stock: Actions to reduce emissions within Highland Council Housing will be scoped into the plan, but quantitative emissions savings will not be reported alongside Council properties.

Street Lighting: The street lighting data to be scoped into the CMP excludes traffic lights and bollards. Electricity for street lighting is charged at a set price per lantern

¹ http://www.wri.org/project/ghg-protocol

and the Office of Government Commerce (OGC) North of Scotland buying group operate the current tendering process.

Staff Business Travel: Scoped into the Carbon Management Plan will be the following categories of business travel:

1	Casual Miles
2	Essential Miles
3	Lease Miles
4	Training Miles
5	Equivalent Car Hire Miles
6	Members Miles
7	Home Carer Miles
8	Support Workers Miles
9	Secondee Miles

Emissions from car and van hire are expected to be scoped into the CMP in 2011 when the contracts go out for tender and mileage data can be gathered. Emissions from public transport use are expected to be incorporated into the CMP in 2011. It is not anticipated that any emissions reductions targets will be set against public transport as the key focus in Highland will be to promote more sustainable transport options in place of the car. As a result public transport use may increase.

Fleet: Transport, Environment and Community Services have 1500 items on their database requiring the use of fuel. 800 of these are fleet vehicles with the remainder being made up of plant equipment which can be anything from lawnmowers to JCBs. For the purposes of Carbon Management reporting fuel consumption by fleet vehicles only will be scoped into the CMP 2009-2012.

Internal Waste: For the purposes of reporting, properties will be divided into four key types; Secondary Schools, Primary Schools, Offices and "other". All Highland Schools will be monitored for waste generation and for Highland Council offices the top 40 premises in terms of staff numbers will be focused on. This will allow the greatest change to be achieved with the staff resources available.

Water: Currently just over 50% of Council sites have water meters installed that give accurate measurement of usage in metres³. The Top 100 buildings have been ranked in order of water consumption. Actions towards water conservation can then focus on these sites and progress monitored through the CMP. In time all Council sites will have water meters installed and can be monitored and reported through the CMP. Although CO₂ savings are currently small it is expected to monitor all Council sites in this way in the future

4.2 EXCLUSIONS

To enable the boundaries and scope of the CMP to be concise, comparable and measurable; and to allow for the most efficient emissions savings actions to be prioritised the following exclusions will be made:

Commuter Travel:

Within the Highland Council Green Travel Plan there are objectives to promote and encourage emissions savings from staff traveling to and from work. However these emissions savings are difficult to quantify in a robust manner and as such have been scoped out of the CMP in favor of addressing business travel, which the Council has direct control over and is a higher priority. The large geographical distribution of the Highland Council area and rural nature create more challenges when addressing how staff travel to and from their place of work.

School Transport:

School transport is contracted to private suppliers. Due to the limited number of suppliers it is currently very difficult for The Highland Council to influence carbon emissions. Furthermore the Integrated Transport Network will combine public transport provision with school transport and it will not be possible to allocate emissions solely to school transport in these areas.

PPP Schools:

There is year on year reconciliation for energy consumption and cost in PPP schools at present, but this data is not reported in the overall energy monitoring for Highland Council. The risk of including within The Highland Council portfolio is that although the energy bills are paid by the Council they have no responsibility for energy saving works taking place at these premises, beyond the behaviour of the occupants and so have limited influence on carbon reduction.

Municipal Waste:

In January 2008 the Scottish Government introduced its "zero waste" policy which includes ambitious new targets to increase recycling by 70% by 2025, reduce landfill to 5% by 2025 and allow no more than 25% of energy to be produced from municipal waste by this time. The Highland Council waste management unit focuses on this work.

Progress towards emissions savings will be monitored by the Transport Environmental and Community Service. In addition, the purpose of the CMP is to report internal operational CO₂ emissions and not community emissions. Municipal waste has therefore been scoped out of The Highland Council CMP to prevent duplicated reporting.

Table 3 below summarises: which areas of emissions are scoped in and out of the carbon plan; who is responsible for collecting the data for each area; the format of data received and, where applicable, the frequency of reporting.

Table 3 – Scope and Exclusions of CMP

Area of Emissions	Scoped	Scoped	Data Collection Team	_Data	Frequency
	IN	OUT		Format	of reporting
Council Properties	✓		Finance/H&P	KWh/£	Quarterly
PPP Properties		✓		N/A	N/A
Fleet	✓		Fleet Manager	Litres/ £	Annually
Plant Equipment		✓	Fleet Manager	N/A	N/A
School Transport		✓		N/A	
Hire Trucks		✓		N/A	
Staff Casual Miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Staff Essential miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Staff Lease miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Training Miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Equivalent Car Hire Miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Hire Car Miles		✓	Principal Contracts Officer	Miles/£	From 2011
Hire Van Miles		✓	Principal Contacts Officer	Miles/£	From 2011
Members Miles	✓		Senior Accountant Technician	Miles/£	Quarterly
Home Carer Miles	✓		Operational Manager	Miles/£	Quarterly
Support Worker Miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Secondee Miles	✓		Car Leasing/Car Loans Officer	Miles/£	Quarterly
Public Transport		✓		Miles by transport mode/£	From 2011
Commuter travel		✓			N/A
Street Lighting	✓		Lighting Manager	Kwh/£	Annually
Traffic Lights and bollards		✓	Lighting Manager	N/A	N/A
Internal Waste	✓		Waste Officers	Tonnes/£	Annually
Municipal Waste		✓	Waste Officers	Tonnes	Annually
Water top 100	✓			M³/£	Annually
All Council Water		✓		M³/£	From 2011

4.3 BASELINE

For the purposes of the revised CMP the baseline period is set as the financial year 2007/08.

The emission calculation factors are taken from Defra's Environmental Reporting Guidelines for Company Reporting on Greenhouse Gas Emissions.

In addition to reporting on energy consumption, carbon emissions and cost, a factor is included (where applicable) to account for the likely costs associated with the purchase of carbon allowances through the forthcoming Carbon Reduction Commitment (CRC) legislation. Such reporting will enable the council to address Strategic Themes 1 and 2 outlined on page 12.

The Highland Council baseline CO₂ emissions for 2007/08 = 65 427 tonnes.

Figure 2 and **Table 4** below outline the CO₂ emissions and associated costs per sector scoped into the CMP for the baseline year 2007/08.

Figure 2: Highland Council Carbon Emissions by Sector 2007/08

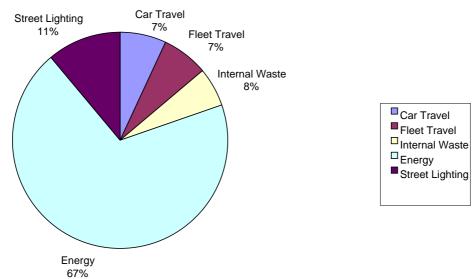


Table 4 – Summary table of emissions for baseline year 2007/08

		2007/08				
Highland Council Carbon Footprint	Defra Emission Conversion Factor (kg Co2/unit)	Units Consumed	C0 ₂ emissions tonnes	Cost £	Cost CRC Certificates	
Target 1: Emissions from Building	gs					
Electricity	0.43/Kwh	53,852,172	23156	£5,278,136	277,872	
Gas	0.19/Kwh	21,630,607	4110	£390,935	49,320	
Oil	0.265/Kwh	63,501,173	16828	£2,542,105	201,936	
Total:		138,983,952	44057	£8,211,176	528,684	
Target 2: Emissions from Staff Bu	usiness Travel					
Casual Miles	0.34/mile	1,682,283	572	£672,913	N/A	
Essential Miles	0.34/mile	2,616,231	890	918.297.08	N/A	
Lease Miles	0.34/mile	1,322,835	450	£145,512	N/A	
Training Miles	0.34/mile	599,180	204	£127,026	N/A	
Equivalent Car hire Miles	0.34/mile	1,402,739	477	£154,301	N/A	
Member Miles	0.34/mile	612,127	208	£301,779	N/A	
Home Carers	0.34/mile	2,776,767	944	£1,110,707	N/A	
Support Workers	0.34/mile	579,538	197	£231,815	N/A	
Seconded Miles	0.34/mile	62,506	21	£13,251	N/A	
Motorbike	0.17/mile	2,148	0.37	£516	N/A	
Public Transport					N/A	
Total:			4369	£3,945,491	N/A	
Target 3: Emissions From Fleet						
Vehicles Petrol	2.3035/litre	23894	55	£2,773,176	N/A	
Vehicles LPG	1.495/litre	4221	6	£162,912	N/A	
Vehicles Diesel	2.6391/litre	1580770	4172	£24,014	N/A	
Vehicles Gas Oil	2.7619/litre	72264	200	£4,262	N/A	
Total:		1,681,149	4433	£2,964,364	N/A	
Target 4: Emissions Internal Was	ste					
Internal Waste Top 40	447kgCo2e/tonne	1160	519	£108,110.60	N/A	
Waste from Primary Schools	447kgCo2e/tonne	1861	832	-	N/A	
Waste from Secondary Schools	447kgCo2e/tonne	1777	794	-	N/A	
Other HC	447kgCo2e/tonne	7200	3218	-	N/A	
Total:		11998	5362	108, 110.60	N/A	
Target 5: Street lighting	0.43/kwh	16,430,232	7065	1, 400 000	84,780	
Target 6: Emissions from Water						
Water Top 100	0.404/m3	350156	141	£987,259	N/A	
TOTAL 2007/08			65, 427	£16,108,290	613,464	

4.4 Breakdown of Emissions by Area:

Buildings

Figure 3: CO₂ Emissions from energy use in buildings 2007/08:

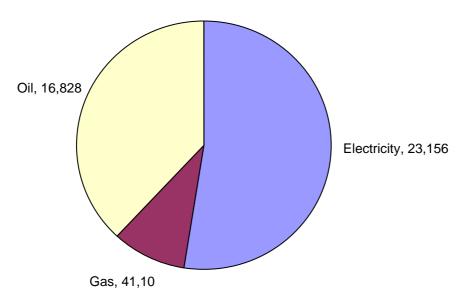


Table 5 - Breakdown of CO₂ emissions and cost by Service 2007/08

The Finance Service assimilates energy billing process and has provided resources for accounting support for gas and electricity to ensure that the best available data, derived from billing information, is available for reporting. The billing process has been reviewed and streamlined where possible (e.g. the largely paper-based process to pay gas bills has now been automated). Conversion factors used are those supplied by the Department for the Environment, Food and Rural Affairs (Defra) in their guidelines for company reporting on greenhouse gas emissions.

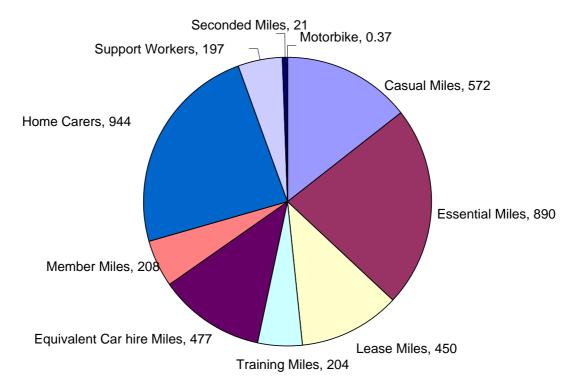
Only 71 of the Council's 815 properties are heated by gas because of the limited extent of the mains gas network. The majority of the Council's top-energy consuming properties are heated by oil, which accounts for 46% of all energy use and 44% of energy bills. Electricity is the most expensive fuel source used by the Council with the highest associated CO₂ emissions.² Electricity accounts for 39% of the Council's energy use and 49% of energy costs. Over 60% of Council properties rely on electricity for both heat and power.

	Electricity		Gas		Oil	
Service	2007/08 Carbon Emissions (tonnes)	Cost £ 2007/08	2007/08 Carbon Emissions (tonnes)	Cost £ 2007/08	2007/08 Carbon Emissions (tonnes)	Cost £ 2007/08
Education, Culture & Sport	15,245	3,403,060	2,740	263,039	14597	2,218,839
Social Work	1,911	481,401	547	49,274	1545	216,997
TECs	3,039	719,891	88	8,399	373	58,945
Other HC	2,961	673,784	735	70,223	313	47,324
Services Total	23,156	5,278,136	4,110	390,935	16828	2,542,105

² http://www.defra.gov.uk/environment/business/envrp/conversion-factors.htm

Staff Business Travel

Figure 4: CO₂ Emissions from Staff Business Travel 2007/08



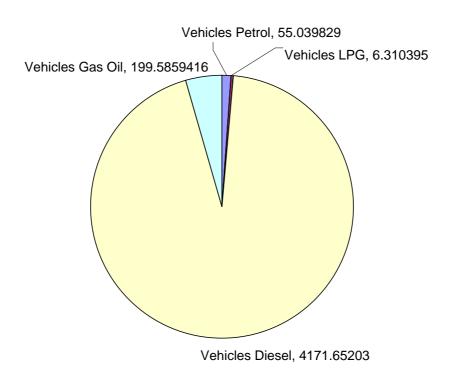
Highland Council collect mileage data for all business travel undertaken by car. This data can then be converted into CO₂ emissions per km to give an overall figure for CO₂ emissions in tonnes. Mileage data will be collected as follows:

- Casual Miles: Individuals must provide a record of miles with their expense forms and therefore a fairly robust record of miles is held by Finance Service. There will always be some individuals who do not claim miles but this is unavoidable.
- Lease Cars: Lease car users also have to provide a record of their miles in their expense claim forms and this will also provide a robust record.
- **Home Carers:** Currently self-calculate their miles and submit a financial sum for re-payment to the Social Work Service.
- **Support Workers:** Submit expense claims to Finance Service and receive allocated payment per mile.
- **Members:** Submit mileage details monthly with their expense claim forms. This data is kept in isolation from other staff claims.
- **Motorbike:** Staff that use motorbikes for business purposes can claim expenses at special mileage rates dependant on the size of the engine.
- Excess Miles/ Secondment: This is paid to staff that have moved from their base to a new working place as a compulsory measure.
- **Equivalent Car Hire:** A mileage rate paid where a member of staff chooses to use their own car in place of a hire car.

Systems to capture public transport and hire car/van miles are being developed and scheduled to be scoped into the CMP in 2011.

Fleet:

Figure 5: C0₂ Emissions from Fleet 2007/08



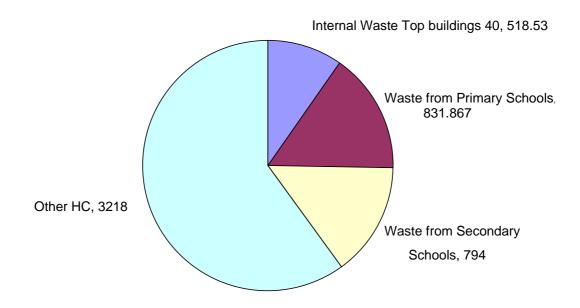
It is not currently possible to collect robust mileage data from fleet vehicles for a number of reasons:

- Fuel cards When a vehicle is filled at a forecourt petrol pump, the driver pays
 with a fuel card and is asked to state the vehicle mileage to the cashier who
 inputs the data onto the system. Many drivers submit numbers off the top of
 their heads and this method is not robust enough.
- **Depots** When a vehicle is filled from a Highland Council Depot and the driver is asked to read the milometer on the vehicle there is room for personal error and often milometers are misread.
- Workshops The only way to get accurate vehicle mileage data is when a
 mechanic reads the milometer during regular service. The length of time
 between servicing is dependant on vehicle type and use and therefore it is not
 a data source that can be relied upon for reporting regularly.

It is therefore proposed that vehicle CO₂ emissions are measured in terms of actual fuel consumption in litres rather than miles travelled. The Transport, Environmental and Community Service keep data on fuel consumption and Defra conversion factors can be applied for the different fuel types. The main fuel types used in fleet vehicles are petrol, diesel and gas oil with a limited number of vehicles running on LPG and bio-diesel blend.

Waste

Figure 6: C0₂ Emissions from Internal Waste 2007/08



The total volume of waste can be calculated from bin uplift data collected by the refuse collection service. This provides the total number and volume of bins collected and the information can be converted into weight using standard conversion factors. CO_{2e} can be calculated by applying Defra conversion factors to each tonne of waste being sent to landfill. Such waste results in the release of methane gas, which can be presented as equivalent CO_{2e}

Street lighting

Total electricity consumption of street lighting for the period 2007/08 was 16,431,516KwH resulting in 7065 tonnes of CO₂.

Electricity for street lighting is charged at a set price per lantern and the office of Government Commerce North of Scotland buying group operate the current tendering process. The new contract commenced in June 2008 and saw a 42% increase in energy costs further highlighting the need for energy reduction measures.

Emissions from street lighting are calculated by applying the standard Defra conversion factor to the total KWh the Highland Council were billed for in a given year.

Where energy savings can be demonstrated, information on savings is returned to OGC by the Highland Council Street lighting manager and these savings are deducted from the bill. At present there is nothing written into the contract as to the frequency of reporting back energy savings. The purchase of energy for street lighting through

national procurement is expected to commence in 2009 and reporting requirements are likely to change as a result of this.

Water

In calculating CO₂ emissions from water a standard conversion factor of 0.404kg CO₂/m³ of water consumed can be applied. This is based on standard conversion factors supplied by the Carbon Trust and takes into account the energy needed to treat and pump the water we use and dispose of. Below is a table outlining the energy requirements involved in supplying drinking water and treating waste:

Table 6: Energy requirements in supplying drinking water and treating waste

Stages in treatment	Energy using equipment	
Abstracting water from boreholes or rivers.	Pumps	
Filtering, disinfecting and water treatment.	Monitors, dosing machines and analytical equipment.	
Transfer to storage reservoirs.	Pumps	
Supply to domestic and commercial consumers.	Pumps and monitoring equipment	
Return of wastewater to treatment works	Pumps	
Cleaning wastewater	Aerators, pumps, actuator valves, level controllers, mixers, monitoring equipment.	
Return the treated water to the environment or reuse the water.	Pumps	

The Highland Council is supplied by Scottish Water with billing process carried out by Business Stream. Currently just over 50% of Council sites have water meters installed that give accurate measurement of usage in m³. All other sites are charged a set figure each year through the application of rates. As of April 2009 it is a requirement of the Scottish Government that all public buildings in Scotland have water meters installed. Therefore we expect more Council buildings to have water meters in place and reporting on such water consumption will increase over time.

For 2007/08 the top 100 buildings have been ranked in order of water consumption. Actions towards water conservation can then focus on these sites and progress monitored through the CMP. Unusual or differing figures can be investigated and causes of water loss avoided.

4.5 Projected Future Emissions

The graph below assumes continued growth of operations and Service delivery of 2% per annum. It can be seen that without a Carbon Management Plan in place, CO₂ emissions will continue to increase. Following the targets set out in the original CMP developed in 2006, emissions would be reduced by approximately 3000 tonnes by 2012. The revised CMP sets a target reduction of almost 8000 tonnes 2012.

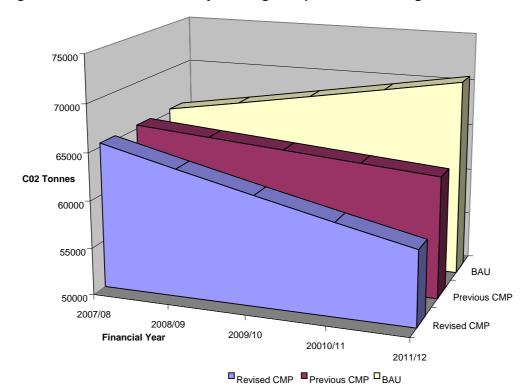
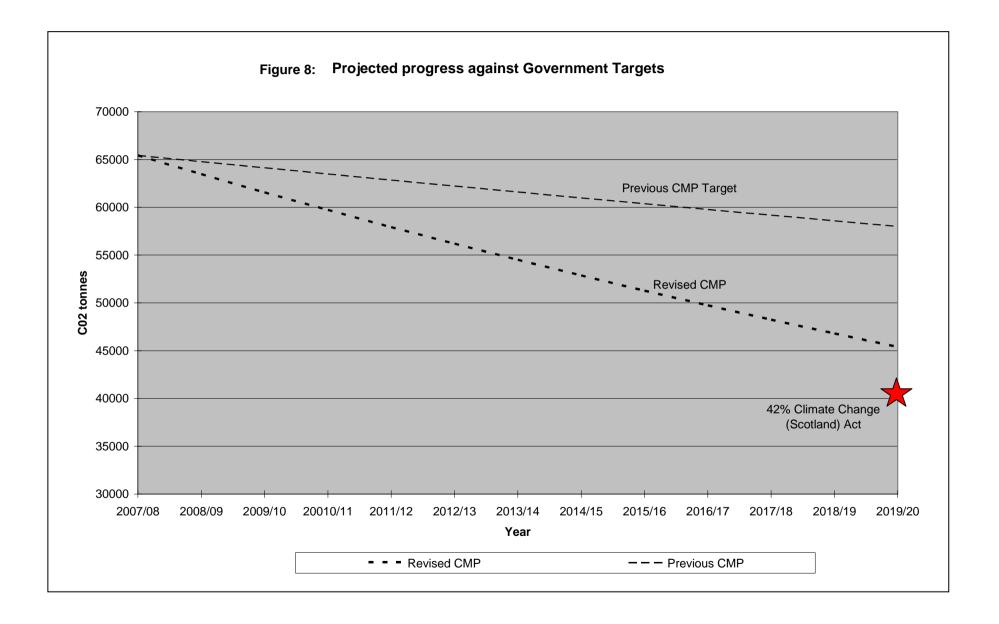


Figure 7: Business as usual Projection against previous CMP target and revised CMP

4.6 Climate Change (Scotland) Act

As noted previously the legislation sets an overall GHG emissions reduction target for Scotland of 80% by 2050 over a baseline of 1990, with an interim target of 42% emissions reduction by 2020. The Highland Council does not have organisational baseline information for 1990 but if we apply a 42% target against the baseline of 2007/08, we can demonstrate long term anticipated progress through implementation of a successful Carbon Management Programme.

The targets for 2009-2012, as stated in section 3.1 above, are to be SMART (*specific, measurable, achievable,* realistic and *time bound*). The emphasis of this plan (2009-2012) will be to embed Carbon Management processes so that the mechanisms are in place to make future targets more ambitious and achievable, while continuing to reduce overall emissions. Targets will need to be reviewed at regular intervals and budget periods set by the Scottish Government through the Climate Change (Scotland) Act 2009 will form the framework for these interval periods.



4.7 VALUE AT STAKE

The economic and environmental effects of climate change are clearly documented. In his report to the UK government in 2006, Sir Nicholas Stern warned that responding to severe weather events in the future could cost the UK between 5 and 20% of GDP, whereas stabilising greenhouse gas emissions and implementing the right policies now could reduce this cost to as low as 1% GDP³. Climate Change is one of the greatest threats to ecosystems and biodiversity. The European Union has initiated a research project to explore "The Economics of Ecosystems and Biodiversity" (TEEB). In May 2008 phase 1 of the project reported estimated financial losses from forest ecosystems alone to be at a value equivalent to 28 billion euros each year with the value increasing over the period to 2050 ⁴

Without an adequate Carbon Management Plan in place the costs associated with increased energy consumption and associated carbon emissions will continue to increase at an organisational level. The table below demonstrates that since 2004/05 Highland Council has reduced electricity use in buildings by 15% but energy costs have increased by 66% over this same period due to an increase in the unit cost of electricity.

Table 7: Electricity 2004/05-2008/09

	Use KWh	C02 Tonnes	Cost £
2004/05	60,675,232.00	26,090.00	3,067,672.00
2007/08	51,447,696.00	22,123.00	5,083,947.00
% Change	-15%	-15%	(66%

Average Cost (p/kWh - pence)						
2004/05 - Baseline						
5.06	6.63	9.74	9.80	9.88		

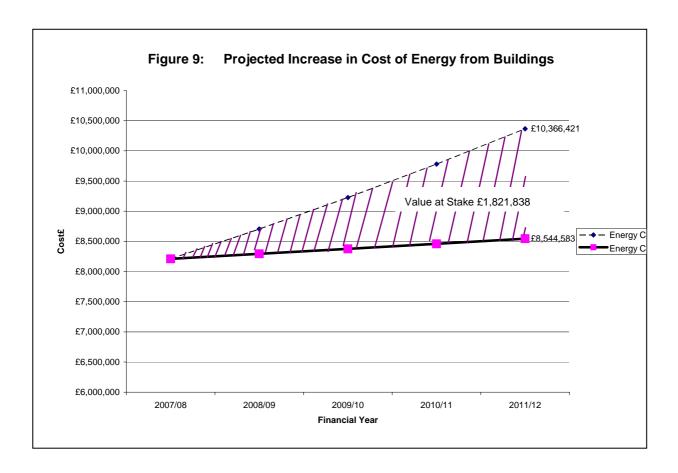
Had we not reduced electricity use by 15% the Council would have been facing energy bills much higher than at present.

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³ http://www.hm-treasury.gov.uk/stern_review_climate_change.htm

⁴ http://www.teebweb.org/

The graph below shows the projected cost of energy from buildings including gas, oil and electricity over a BAU projection and CMP. The BAU projection assumes increased energy use of 2% per annum and increased energy costs of 4% per annum. The CMP projection assumes reduced energy use of 3% per annum but increased costs of 4% per annum.



The forthcoming CRC legislation has a number of financial risks associated with failing to reduce CO_2 emissions. Section 4.5 above highlights that business as usual will result in 72,236 tonnes of CO_2 emissions by 2012 compared with 56,184 tonnes of CO_2 emissions following implementation of the CMP. Energy from buildings and street lighting, as highlighted in section 4.3 above, accounts for 78% of this. Such emissions will require the purchase of CRC allowances.

In addition, failure to reduce emissions will result in financial penalties of up to 10% per annum for those worst performing businesses. Beyond 2012 the penalties become greater.

The graph below demonstrates the estimated annual cost of carbon allowances under a BAU scenario against CMP implementation (based on a cost of £12 per tonne).

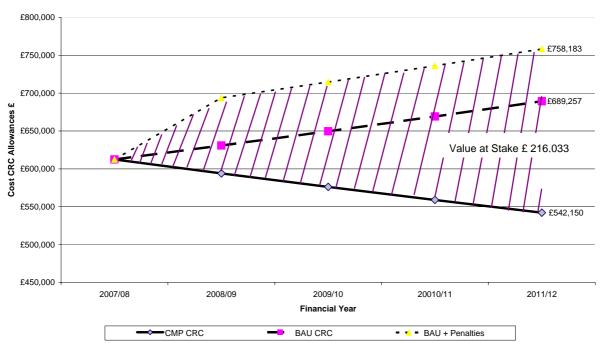


Figure 10: Cost of Participating in CRC scheme – BAU against CRC implementation

Total Value at Stake from energy £2,037,871 by 2012

*based on the assumptions above

5. CARBON MANAGEMENT PROJECTS

5.1 Work Programme

Table 8 outlines the work programme of the Climate Change Working Group in relation to mitigation (reducing GHG emissions). The work plan has been developed to help achieve the targets set out in the CMP aiming to reduce carbon emissions by 12% by 2012.

The current actions included in the work plan are colour coded to show that actions are:

- Completed or delivery is on target: G (Green)
- Making progress with some slippage: A (Amber)
- · Showing no significant progress: R (Red)
- To be programmed: P (Purple)

Those actions that are driven by legislative commitments are also highlighted.

Appendix 2 outlines some of the work taking place within Highland Council Services that further contribute toward emissions reduction for the Council, the wider region and beyond. While such actions are difficult to quantify in terms of tonnes of CO₂ saved, highlighting such actions demonstrates the good work Highland Council is already doing and that Climate Change issues are already being adopted across the different Services.

Through the implementation of the revised CMP it is hoped that more actions can be identified and developed across services so that Climate Change can become an integral part of every day decision making.

Table 8: Work plan of the Carbon Management Plan 2009-2012

G = Completed or delivery on target

A = progress with some slippage

P = To be programmed

PROJECTS REQUIRING CAPITAL INVESTMENT

PROPERTY – 12% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress	Costs £	Co2 Saving (tonnes/per annum)
E1	Energy Monitors to all schools	H&P/ ECS	Р	7500	20
E2	Voltage and Power improvement Devices to buildings	H&P	Р	10, 000	32
E3	Low Energy Bulbs to all Council Housing Stock	H&P	Р	35, 250	30
E4	Zoning of Heating Systems in buildings	H&P	Р	200, 000	20
E5	Replacement of old heating controls in buildings	H&P	Р	450, 000	20
E6	Installation of new Biomass boiler at Drummuie flagship building.	H&P	Р	195, 000	25
E7	Golspie Area Schools/Pool Heating System	H&P	Р	1, 349, 900	1361
E8	Installation of heat recovery to 4 pools	H&P	Р	600, 000	86
E9	Installation of heating Monitors to buildings	H&P	Р	11, 500	34
E10	Installation of 4 No. Biomass boilers	H&P	Р	800, 000	134

1 PROCEDURAL AND POLICY PROJECTS

PROPERTY – 12% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress
E11	Conduct Insulation and improvement to one high profile building visited by the public.	H&P	Р
E12	Create online energy consumption data for each Council property and monitor trends against targets.	CEXO/H&P	Р
E13	Reviewed programme of renewable installations	H&P	G
E14	Investigate implementation of formal environmental Management Systems in accordance with ISO14001	H&P	Р
E15	Incorporate recommendations from Apr 08 internal audit of energy management targets reporting and energy billing into energy management reporting mechanisms and associated processes.	H&P CEXO	Р
E16	Explore Alternative methods of accurately monitoring heating need and oil consumption in buildings.	H&P	Р
E17	Integrate the plans and targets associated with improving energy efficiency in the Council's housing stock as part of the Council's approach to energy management	H&P	Р
E18	Report on Energy Efficiency works in housing stock & associated carbon savings to be produced for future meeting of the Group.	H&P CEXO	Р
E19	Ranking Buildings in relation to heat loss and insulating the worst performers	H&P	Р

2 PROJECTS REQUIRING CAPITAL INVESTMENT

STAFF TRAVEL – 12% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress	Costs £	Co2 Saving (tonnes/per annum)
T1	Cycle Storage for Dingwall High St Council Offices	CEXO	Р	1,000	2
T2	Cycle Storage for Lochaber House, Fort William	CEXO	Р	1,000	3
T3	Cycle Storage for Kinmylies Office, Inverness	CEXO	Р	1,000	1
T4	Cycle Storage for new Wick Office	CEXO	Р	2,000	3
T5	Cycle Storage for HQ Council Offices, Inverness	CEXO	Р	6,000	4
T6	Cycle Storage at Invergordon Academy	CEXO	Р	2,000	1
T7	Pool Bikes	CEXO	Р	7,000	4
T8	Staff personal storage for active travel, HQ	CEXO	Р	2,700	3
Т9	Staff storage and shower refurbishment for active travel, Kinmylies	CEXO	Р	3,000	1
T10	Staff personal storage for active travel, Lochaber House	CEXO	Р	2,700	3

2 PROCEDURAL AND POLICY PROJECTS

STAFF TRAVEL - 12% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress	C0 ₂ savings (tonnes per annum)
T11	Commitment to low-emissions business-related car-hire	CEXO/FINANCE	Р	73
T12	Increase passenger mileage claim rates to encourage car-share	CEXO	Р	56
T13	Exploration of desk-based alternative to VC (eg. webcams)	CEXO/IT	Р	
T14	Continued survey of staff travel patterns	CEXO	G	
T15	Dissemination of transport hierarchy across Council staff to aid travel decisions	CEXO	G	
T16	Roll out of Travel Plans across council Premises	CEXO	G	
T17	Explore options for increased shower facilities with neighbouring businesses.	CEXO	Р	
T18	Identify implications of efficiennt driver training to wider category of staff and Members.	CEXO	Р	
T19	System in place for booking public transport and capturing mileage.	CEXO/TECS	А	

3 PROJECTS REQUIRING CAPITAL INVESTMENT

FLEET – 5% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress	Costs £	Co2 Saving (tonnes/per annum)
F1	Electric vehicle purchase for use in Inverness area (internal mail etc)	TECS	Ф	20,000	4

3 PROCEDURAL AND POLICY PROJECTS

FLEET – 5% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress
F2	Fleet Rationalisation of vehicles	TECS	Р
F3	Re-routing of waste collection vehicles to maximise uplift and minimise mileage.	TECS	Р
F4	Deliver driver training to maximise fuel efficiency through behavioural change. Produce plan for certificate of professional competence	TECS	Р
F5	Strong policy in relation to fleet vehicle use.	TECS	Р

4	PROJECTS REQUIRING CAPITAL INVESTMENT	
WASTE -	WASTE – 20% EMISSIONS SAVINGS BY 2012	

	Action	Service Responsible	Progress	Costs £	Co2 Saving (tonnes/per annum)
W1	Internal Recycling of Paper. Purchase of Recycling Bins.	CEXO	G	30, 000	862

4 PROCEDURAL AND POLICY PROJECTS WASTE – 20% EMISSIONS SAVINGS BY 2012

	Action	Service responsible	Progress
W2	Set systems to measure baseline recycling rates	CEXO	G
W3	Develop waste reduction action plan	CEXO	Р
W4	New kerbside collection routes incorporating schools	TECs	Р
W5	Re-establishing industrial shredder at HQ building.	CEXO	G
W6	Monitoring amount of internal waste produced	CEXO/TECS	G
W7	Reduction of paper usage in sites	ALL	G
W8	Encouraging bin reduction	CEXO	G
W9	Waste Awareness behavioural / educational campaign	CEXO	G
W10	Establishment of policy on 'confidential' waste	CEXO	Р
W11	Reduction of food waste in schools and encouragement of composting linking with ecoschool campaign	CEXO/ECS/ TECS	Р
W12	Implementation of Internal paper recycling Policy.	CEXO	G

W13	Implementation of Internal Waste minimisations Strategy	CEXO	G
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5 PROJECTS REQUIRING CAPITAL FUNDING

STREETLIGHTING - 6% EMISSIONS SAVINGS BY 2012

	Action	Service Responsible	Progress	Costs £	Co2 Saving (tonnes/per annum)
L1	Nairn lighting Dimming Project - change lanterns in existing lighting scheme in Nairn to use dimmed white light source. 160 lanterns.	TECS	Р	£48 000	15
L2	Inverness Riverside - Change lanterns to white light source. 110 lanterns	TECS	Р	£71,500	24
L3	Caithness/Sutherland (A) Roads - Change decorative lanterns to white light source 90 lanterns	TECS	Р	£68,000	26
L4	Badenoch (A) Roads - Change lanterns to white light source. 250 lanterns	TECS	Р	£75,000	30
L5	Ross (A) Roads - Change lanterns to white light source. 240 lanterns	TECS	Р	£72,000	28
L6	Lochaber/Skye (A) Roads - Change lanterns to whitelight source. 220 lanterns	TECS	Р	£66,000	26

5	PROCEDURAL AND POLICY PROJECTS
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STREETLIGHTING - 6% EMISSIONS SAVINGS BY 2012

	Action	Service responsible	Progress
L7	Policy in favour of electronic lanterns during renewals.	TECS	G
L8	Systems to set higher standards of energy efficiency for all new street lighting provided by developers	TECS	G

6	PROJECTS REQUIRING CAPITAL FUNDING	
WATER -	WATER – 10% EMISSIONS SAVINGS BY 2012	

	Action	Service Responsible	Progress	Costs £	Co2 Saving (tonnes/per annum)
Wt1	Further roll out of water saving urinal scheme.	CEXO	Р	128000	40

6	PROCEDURAL AND POLICY PROJECTS
WATER -	10% EMISSIONS SAVINGS BY 2012

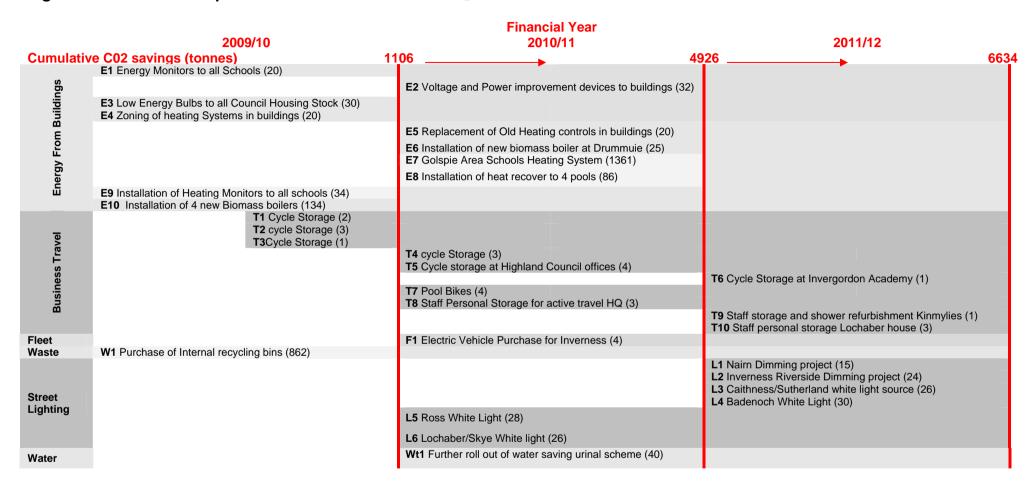
	Action	Service responsible	Progress
Wt2	Set system in place to monitor the number of call-outs to fix leakages and floods in buildings	H&P	Р
Wt3	Input water meter data into SIGMA to enable consumption reports to be drawn out in line with energy reports.	H&P/CEXO	Р
Wt4	Policy in place for twin flush/low water WC's when replaced.	H&P	Р
Wt5	Programme of toilet rationalisation	CEXO	Р
Wt6	Policy in place for inclusion of grey water systems in new-builds of a certain size.	P&D	Р
Wt7	Identify sites with little waste water (e.g. Nursery and village greens); review the rates charged and back-date.	H&P	Р
Wt8	Review of the rate-able charges at sites.	H&P	Р
Wt9	Education and Awareness Campaign on water conservation	CEXO	Р
Wt10	Conduct Water Audit	CEXO/H&P	Р
Wt11	Further roll out the installation of Hippo's in toilet cisterns.	CEXO	
Wt12	Develop Water minimisation Action Plan	CEXO	Р

5.2 Timeline of Progress:

Projects requiring capital funding, as outlined above, have been grouped together to form a timeline. Forecasting of anticipated emissions will become increasingly important after April 2010 when the Highland Council will be captured under the Carbon Reduction Commitment. The creation of a timeline of activity will make it easier to forecast future emissions reductions. **Figure 11** below shows the proposed project implementation dates and the cumulative CO₂ savings over time.

Total emissions savings from implementation of all projects will result in 6634 tonnes CO_2 savings, approximately 10% over the baseline 2007/08. It can be seen that even if all projects for capital funding are to be implemented the target of 7450 tonnes emissions reduction by 2012 cannot be achieved. Procedural and policy change actions of the work plan, together with a targeted education and awareness programme will be required in order to meet a 12% emissions reduction target by 2012.

Figure 11. Timeline of Implementation with cumulative C0₂ emissions:



6. Financial costs

The following section outlines the proposed projects that will require financial investment in order to assist the Highland Council in meeting a 12% emission reduction target by 2012. Costs and carbon savings are presented alongside the total pay-back period for each project.

6.1 Assumptions

The Financial costs savings and associated carbon savings outlined in the following section are based on a number of assumptions including:

- Energy prices will not fluctuate more that 10% in price over this time.
- The Highland Council will implement all of the projects included in the project list in order to meet their targets.
- The Highland Council meets their target set for energy from buildings and does not need to purchase excess Carbon Allowances on the secondary market of the CRC scheme.
- Highland Council property assets do not increase in this time.
- Level of service does not increase during this time.

There are a number of risks associated with the projected costs savings. These include:

- The increased cost of electricity, gas, oil and transport fuels.
- The prevailing weather conditions colder winters will result in increased energy use.
- The uncertainty of carbon allowance selling prices on the secondary market.
- Priorities of Capital spending elsewhere.
- The risk of new and innovative technology failing to meet expectations.

6.2 Sources of Funding

While some funding exists within Service budgets, it is anticipated funding through the Highland Council Capital Programme will be necessary to ensure carbon emissions reductions of a larger scale. It may also be possible for certain projects to seek funding through external grant agencies.

Table 9 below, outlines the cost, carbon savings and sources of available funding for each individual project requiring investment within the Carbon Management Plan.

TABLE 9. CARBON AND COST ANALYSIS

		Project Descriptor	Capital Cost £	Annual Operating Cost	Year of start	Existing Funding Available (e.g. Service Budgets/ Grants)	Funding Sought £	Lifetime of project (years)	Unit Savings (e.g. Kwh, litre etc)/ year	Amount of unit savings/ year	Gros s Savin gs £/ year	Savings Co2/ year	Savings in CRC allowance purchase (if relevant)/ year	Pay- back period
Energy from Buildings	E1	Installation of heating monitors to all buildings (and parts of buildings)	£11,500. 00	Operating and maintenanc e costs are met by the service	2009	none	£11,500. 00	5	kWh	up to 10% per building	£8,00 0.00	34	£ 412.00	2
	E2	Voltage and power improvement devices to buildings	£10,000. 00	Operating and maintenanc e costs are met by the service	2009	none	£10,000.	5	kWh	up to 10% per building	£7,50 0.00	32	£ 387.00	2
	E3	Low Energy bulbs to all Council Stock	£35,250. 00	Operating and maintenanc e costs are met by the tenant	2009- 10	part arranged through Energy companies	£10,000. 00	5	kWh	nominal 850w per property	to tenan ts	30	N/A	N/A
	E4	Zoning of Heating Systems in Buildings	£200,000 .00	Operating and maintenanc e costs are met by the service	2009- 11	part arranged through appropriate capital works	£150,00 0.00	5	kWh	up to 10% per building	£ 15,00 0.00	20	£ 240.00	10
	E 5	Replacement of old heating controls in buildings	£450,000 .00	Operating and maintenanc e costs are met by the service	2009- 12	part arranged through appropriate capital works	£300,00 0.00	25	kWh	up to 10% per building	£ 15,00 0.00	20	£ 240.00	20

E6	Installation of Biomass boiler at Drummuie Flagship building	£195,000 .00	Operating and maintenanc e costs are met by the service	2009- 10	none	£195,00 0.00	35	kWh	14,000	£ 6,000 .00	25	£ 300.00	31
E7	Golspie Area Schools/Pool Heating System	£1,349,9 00.00	Operating and maintenanc e costs are met by the service	2009- 11	none	£1,349,9 00.00	35	kWh	350,000	£55,7 52.00	1361	£ 16,332.00	19
E8	Installation of heat recovery to 4 pools	£600,000 .00	Operating and maintenanc e costs are met by the service	2009- 12	none	£600,00 0.00	30	kWh	200,000	£9,60 0.00	86	£ 1,032.00	56
E9	Installation of heating monitors to buildings	£11500	Operating and maintenanc e costs are met by the service								34		
E10	Installation of 4 No. Biomass boilers	£800,000 .00	Operating and maintenanc e costs are met by the service	2009- 14	part arranged through appropriate capital works	£200,00 0.00	30	kWh	546,000	£ 18,00 0.00	134	£ 1,608.00	10

		Project Descriptor	Capital Cost £	Annual Operating Cost	Year of start	Existing Funding Available (e.g. Service Budgets/ Grants)	Funding Sought £	Lifetime of project (years)	Unit Savings (e.g. Kwh, litre etc)/ year	Amount of unit savings/ year	Gros s Savin gs £/ year	Savings Co2/ year	Savings in CRC allowance purchase (if relevant)/ year	Pay- back period
	T1	Cycle Storage for Dingwall High St Council Offices	1,000	nil	2009	none	1,000	10	miles	4,608	1,106 .00	1.5	N/A	N/A
	T2	Cycle Storage for Lochaber House, Fort William	1,000	nil	2009	none	1,000	10	miles	7,968	2,742 .00	2.7	N/A	6 months
Staff	Т3	Cycle Storage for Kinmylies Office, Inverness	1,000	nil	2010	none	1,000	10	miles	2,784	669.0 0	1.0	N/A	1 year
Travel	T4	Cycle Storage for new Wick Office	2,000	nil	2010/1 1	2,000	none	10	miles	7,968	2,742 .00	2.7	N/A	N/A
	T5	Cycle Storage for HQ Council Offices, Inverness	6,000	nil	2010	none	6,500	10	miles	10,368	2,800 .00	3.5	N/A	N/A
	Т6	Cycle Storage at Invergordon Academy	2,000	nil	2009	2000	none	10	miles	2,784	669.0 0	1.0	N/A	N/A

	Project Descriptor	Capital Cost £	Annual Operating Cost	Year of start	Existing Funding Available (e.g. Service Budgets/ Grants)	Funding Sought £	Lifetime of project (years)	Unit Savings (e.g. Kwh, litre etc)/ year	Amount of unit savings/ year	Gros s Savin gs £/ year	Savings Co2/ year	Savings in CRC allowance purchase (if relevant)/ year	Pay- back period
T7	Pool Bikes	7,000	3,000	2009	none	6,500	5	miles	10,368	2,800 .00	3.5	N/A	N/A
Т8	Staff personal storage for active travel, HQ	2,700	nil	2010	none	2,700	10	miles	7,968	2,742 .00	2.7	N/A	N/A
Т9	Staff storage and shower refurbishment for active travel, Kinmylies	3,000	nil	2010	none	3,000	10	miles	3,552	853.0 0	1.2	N/A	N/A
T10	Staff personal storage for active travel, Lochaber House	2,700	nil	2010	none	2,700	10	miles	7,968	2,742 .00	2.7	N/A	N/A
F1	Electric vehicle purchase for use in Inverness area (internal mail etc)	20 000	5 000	2011	3500	20 000	10	miles	12 000	6980	3.7	N/A	
W1	Internal Recycling of Paper. Purchase of Recycling Bins.	£30 000	met by existing waste uplift budgets	2009	£30 000	NONE	3			None	862	N/A	N/A
	T8 T9 T10	Pool Bikes T7 Staff personal storage for active travel, HQ T8 Staff storage and shower refurbishment for active travel, Kinmylies T9 Staff personal storage for active travel, Lochaber House T10 Electric vehicle purchase for use in Inverness area (internal mail etc) W1 Internal Recycling of Paper. Purchase of	Project Descriptor Cost £ Pool Bikes 7,000 T7 Staff personal storage for active travel, HQ 2,700 T8 Staff storage and shower refurbishment for active travel, Kinmylies T9 Staff personal storage for active travel, Lochaber House T10 Electric vehicle purchase for use in Inverness area (internal mail etc) 20 000 W1 Internal Recycling of Paper. 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		Project Descriptor	Capital Cost £	Annual Operating Cost	Year of start	Existing Funding Available (e.g. Service Budgets/ Grants)	Funding Sought £	Lifetime of project (years)	Unit Savings (e.g. Kwh, litre etc)/ year	Amount of unit savings/ year	Gros s Savin gs £/ year	Savings Co2/ year	Savings in CRC allowance purchase (if relevant)/ year	Pay- back period
	L1	Nairn lighting Dimming Project - change lanterns in existing lighting scheme in Nairn to use dimmed white light source. 160 lanterns.	£48 000	Reduction of 50% in energy cost	2010	Service meet operation and maintenance costs.	£48 000	30	Kwh	35000	4200	15	180(to be confirmed by Defra for street lighting)	10-12 yrs
	L2	Inverness Riverside - Change lanterns to white light source. 110 lanterns	£71,500	Reduction of 55% in energy cost	2010	Service meet operation and maintenance costs.	£71,500	30	Kwh	56000	6720	24	288	10-12 yrs
Street Lighting	L3	Caithness/Sutherland (A) Roads - Change decorative lanterns to white light source 90 lanterns	£68,000	Reduction of 60% in energy costs	2010	Service meet operation and maintenance costs.	£68,000	30	Kwh	60000	7200	26	312	12-13 yrs
	L4	Badenoch (A) Roads - Change lanterns to white light source. 250 lanterns	£75,000	Reduction of 40% in energy costs	2010	Service meet operation and maintenance costs.	£75,000	30	Kwh	68500	8220	30	360	9-10 yrs
	L5	Ross (A) Roads - Change lanterns to white light source. 240 lanterns	£72,000	Reduction of 40% in energy costs	2010	Service meet operation and maintenance costs.	£72,000	30	Kwh	65700	7884	28	336	9-10 yrs
	L6	Lochaber/Skye (A) Roads - Change lanterns to whitelight source. 220 lanterns	£66,000	Reduction of 40% in energy costs	2010	Service meet operation and maintenance costs.	£66,000	30	Kwh	60000	7200	26	312	9-10 yrs

		Project Descriptor	Capital Cost £	Annual Operating Cost	Year of start	Existing Funding Available (e.g. Service Budgets/ Grants)	Funding Sought £	Lifetime of project (years)	Unit Savings (e.g. Kwh, litre etc)/ year	Amount of unit savings/ year	Gros s Savin gs £/ year	Savings Co2/ year	Savings in CRC allowance purchase (if relevant)/ year	Pay- back period
Water	Wt1	Water minimisation in urinals through installation of movement sensors	128000	29200	2010	none	167200	5	m3	390	1449 60	0.2	N/A	1.5 years

7. EMBEDDING CMP PROCESS

A Carbon Management Matrix for embedding throughout Council Services and operations can be found in **Appendix 3.** This is the standard matrix provided by the Carbon Trust. Using the assessment matrix the Highland Council currently scores 30 out of a possible 40 for the baseline year of 2007/08. This can be broken down as follows:

Corporate Strategy 4 points Programme Management 3 points Responsibility 4 points Data Management 5 points Communication and Training 4 points Finance and Investment 3 points Policy Alignment 3 points 4 points **Engagement of Schools** Total: 30

The Highland Council aims to have achieved a score of 38 or above by 2012 through implementing the Carbon Management Plan. The key areas of renewed focus revolve around financing projects and prioritising capital spending as well as aligning policy across the Council in particular across the five sectors within the CMP beyond energy from buildings.

It is intended that the CMP will undergo internal audit to verify that the systems/processes are actually delivering the desired outcomes. This will determine the areas performing well and those which are not. Such information will then inform the process of subsequent change management that will be needed to ensure further progress is made. Through future programmed work with the Carbon Trust actions to work towards improved performance will be developed.

8. COMMUNICATION

A communication Strategy has been developed to enable successful implementation of the Carbon Management Plan. This can be found in **Appendix 4.**

Through the Councils reporting requirements of Scotland's Climate Change declaration and through the Single Outcome Agreement, progress against targets are published externally. In addition quarterly reports of the progress in reducing energy use through the Energy Management Performance Plan are published with the committee papers and available for the public to see on the Councils internet. The aim is to publish progress reports of the CMP in the same way.

The Council's Carbon Management Plan incorporates emission reduction targets for staff and member travel, fleet, street lighting, water and waste management as well as from buildings. There was recognised a need to revise the Council's existing behavioural change and training packages which focused primarily on energy from buildings. This also recognised the vital role all staff and members can play in not only reducing the emissions of Council operations but also of the region in general through good practice applied at home. Such programmes must be updated and refreshed to ensure that energy savings are sustained.

The Highland Council developed a voluntary scheme for Council employees called "Green Ambassadors". More than 105 staff members have joined the scheme. Benefits offered include:

- Resources in the form of posters, stickers and information sheets, both online and in hard copy.
- Advice, guidance, training, toolkits, contact and FAQ sources;
- Exclusive opportunities for Green Ambassadors to network and liaise with each other in person at events or electronically through forums;
- Exclusive e-mail updates on Climate Change related developments occurring within the Council.
- Free training programme.
- Free Library Service
- Competitions and prizes.



9. PROGRAMME MANAGEMENT OF THE CMP

Good programme governance is essential to bring all elements of the Carbon Management Programme together and will prevent the shortfalls of the previous CMP, highlighted in Appendix 1, from occurring again. A diverse set of projects and actions are planned under the Carbon Management Programme and these projects need to be coordinated and managed. The progress of individual projects needs to be monitored and reviewed regularly to ensure key milestones are achieved and any issues and blockages are dealt with accordingly.

9.1 STRATEGIC OWNERSHIP:

The core of the Carbon Management Programme consists of two groups; the Climate Change Working group (CCWG) and the Carbon Management Plan Officer Group (CMPOG). The CCWG provides the strategic oversight and advocates for the programme at corporate level. The group is made up of cross-party Members as outlined below:

CLIMATE CHANGE WORKING GROUP								
Members (15) to i	ncorporate Convene	r, Leader of Council's Administra	ation and Committee Chairs					
PARTY	NAME	ROLE	WARD					
Independent (6)	Sandy Park	Convener	Nairn					
	Carolyn Wilson	Chair – Resources	Cromarty Firth					
	Margaret Davidson	Chair – HSW Committee	Aird & Loch Ness					
	Bill Fernie	Chair – ECS Committee	Wick					
	John Laing	Chair – TECS Committee	Eilean a'Cheo					
	Hamish Fraser	Chair - Gaelic Committee	Eilean a'Cheo					
Liberal Democrat (4)	Dr Michael Foxley	Leader of the Council's Administration	Fort William and Ardnamurchan					
	Ian Ross	Chair – PED Committee	East Sutherland and Edderton					
	Dr David Alston	Budget Leader and Chairman of the Budget Information Group	Black Isle					
	Glynis Sinclair		Culloden and Ardersier					
SNP (3)	Jean Urquhart	Chair – A& S Committee	Wester Ross, Strathpeffer and Lochalsh					
	Drew Hendry		Aird & Loch Ness					
	George Farlow		North, West and Central Sutherland					
Labour (1)	Jimmy Gray	Provost Chair – City of Inverness Committee	Inverness Millburn					
IMG (1)	David Chisholm		Dingwall and Seaforth					

The CCWG meets quarterly and Carbon management is a standing item for reporting at each meeting. Prior to being presented to the CCWG all CMP papers go to the Councils Weekly Business Meeting to allow Director scrutiny.

Following approval by the Climate Change Working Group, progress is reported to the Councils Resources Committee for any decisions to be taken. Such reports contain:

- the carbon emissions savings to date;
- the financial savings to date;
- progress against legislative requirements;
- progress against internal targets set;

9.2 THE CARBON MANAGEMENT PLAN OFFICERS GROUP

Carbon Management Plan implementation will be coordinated by the Sustainable Development Officer. The Head of Policy and Performance will oversee progress and submit reports to the relevant committees. A number of key individuals will have responsibility for different aspects of the plan as outlined below:

Responsible For:	Lead officer:
Co-ordination and Monitoring:	Sustainable Development Officer, Policy and Performance, Chief Executives Office.
	Policy Assistant, Policy and Performance, Chief Executives Office.
Target 1:12% Council property.	Principal Sustainability Officer, Housing and Property.
Target 2: 12% Staff Travel	Travel Plan Coordinator, Policy and Performance, Chief Executives Office.
Target 3: 5% Fleet	Fleet Manager, Transport Environment and Community Service.
Target 4: 20% Internal Waste	Waste Management Officer, Transport, Environment and Community Service (advice),
	Sustainable Development Officer (implementation)
Target 5: 6% street lighting	Street lighting Manager, Transport, Environment and Community Service.
Target 6: 10% water	Senior Energy Inspector, Housing and Property (advice)
	Sustainable Development Officer (implementation)

The above staff make up the CMPOG and meet quarterly to discuss progress in advance of any reports being submitted to Committees. An organisational flow-chart is shown demonstrating where each officer sits within the Council together with a diagram of reporting process.

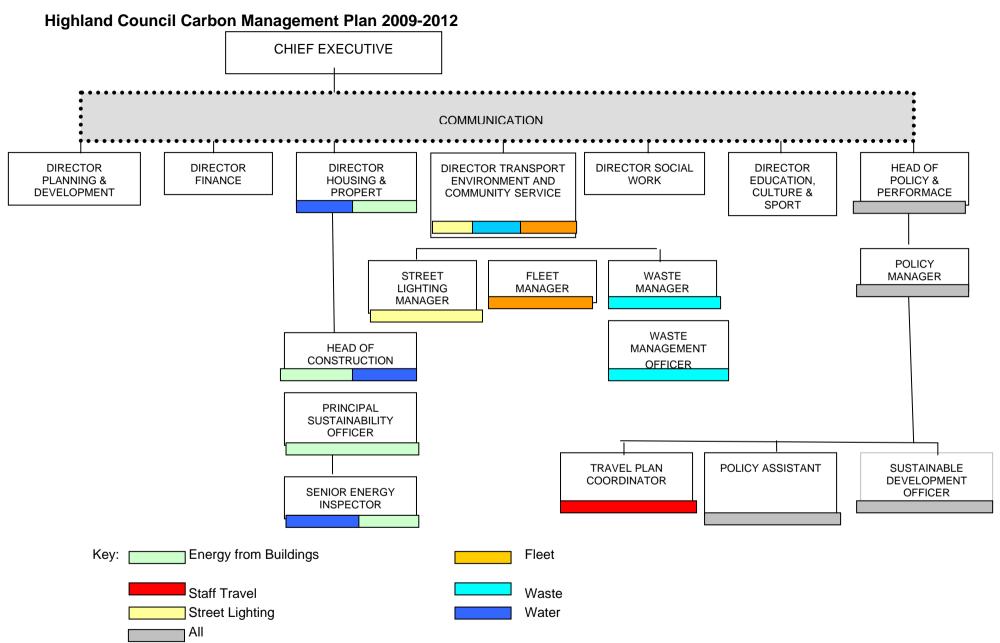


Figure 12. Highland Council Organisational Flow Chart

9.3 Responsibility across Services:

In addition to the CMP Working group, staff from personnel, procurement, ICT and Planning and Development are invited to discuss ongoing and proposed projects that contribute towards more qualitative carbon emissions reduction projects.

Such projects are highlighted in **Appendix 3**.

9.4 Succession planning:

The Highland Council have learned from past experience that if key individuals leave post before the programme is fully established progress can stall (**see Appendix 1**). For this reason the following succession plan should be used to ensure that this revised Carbon Management Plan continues to be monitored and reported.

The Sustainable Development Officer is responsible for monitoring Carbon Management Progress. In the absence of a Sustainable Development Officer the Policy Assistant should assume responsibility. In the unlikely event that neither are available then responsibility should go to the Principal Sustainability Officer, Housing and Property Service.

All reports must be signed by the Head of Policy and Performance before going to committee.

It is recognised that some individuals may be nearing retirement and will take with them a vast amount of knowledge and understanding when they leave. It is recommended that where possible replacements shadow staff before they leave the Council to ensure that information and knowledge is transferred and not lost.

9.5 ANNUAL PROGRESS REVIEW

The Energy Management Performance Plan is reported quarterly to the Resources Committee and anually each August. This process will continue for emissions savings in Council properties.

All other targets within the Carbon Management Plan will be reported quarterly to the Climate Change Working Group, where possible, and annually to the Resources Committee. For certain sections, for example streetlighting, it will not be possible to report progress on a quarterly basis and annual reporting will give a clearer picture of progress. The Climate Change Working Group will review progress towards Carbon Management. This will include:

- CO2 savings against the internal target;
- Co2 savings against national targets;
- financial savings, from fuel and energy efficiency;
- financial savings through the CRC;
- Progress towards partnership working;
- Behavioural change;

BENEFITS AND SHORTFALLS OF CMP 2006-2009

APPENDIX 1

The first Highland Council Carbon Management Plan (CMP) was developed as part of the Councils involvement in the Carbon Trust's Local Authority Carbon management Programme that ran from May 2005 to April 2006. By 2010 the CMP aimed to reduce the Council's C02 emissions by:

Target 1: 15% in Council properties

Target 2: 5% in staff travel

Target 3: 4.5% in the Council's Fleet

Target 4: 1.5% in Municipal waste Management

Target 5: 1% in Street lighting

This aimed to deliver an overall reduction of 6.8% measured against a 2004/05 baseline. Measured against a "business as usual" projection, it represents an effective saving of 15% in $C0_2$ emissions by 2010.

The CMP was successful in reducing emissions from Council buildings and municipal waste. Despite an increase in lanterns, street lighting emissions stabilised in the period. Progress however was limited in the sectors of fleet and business travel and problems were met particularly in regard to collection of baseline data, governance and monitoring of these sectors.

The Drivers for CMP at Local Authority level have changed since 2006 and the revised CMP has been developed to reflect changes in legislation and data gathering processes in this time. The aim of the revised CMP is to deliver 12% emissions savings in the three years 2009-2012. Measured against a "business as usual" projection this represents a saving of 18% CO₂ emissions in this time over a baseline of 2007/08.

The table below highlights some of the benefits and shortfalls of the first CMP and the lessons learnt that have been carried over and incorporated into the revised CMP 2009-2012.

Benefits of first CMP	Lessons Carried Forward
Investment: In 2005 the Scottish Executive awarded a grant of £671 992 to the Highland Council through the Central Energy Efficiency Fund (CEEF) In September 2005 the Council agreed to the establishment of an Energy Efficiency Investment Fund (EEIF) to supplement the CEEF. £1m was to be invested in 2005/06 and £1m in 2006/07 with a further £833 000 available for further energy efficiency measures from the Capital Programme each year from 2007 to 2010. To date £423 000 has been spent in the Energy Management Capital Programme which is £1,577,000 more than anticipated at this time.	£1.4 million in energy costs have been avoided through energy savings projects since 2004/5. Through section 6 of the revised plan it is aimed to demonstrate financial savings across all sectors represented in the CMP and continue to save costs.
Emissions Savings: Since 2004/05 14.2% emissions savings have been achieved from Council buildings (gas, oil and electricity).	Revised CMP aims to continue this progress in buildings and expand across other sectors scoped into the plan.
Improved data management: An automated online energy billing system was installed called SIGMA which provides real time energy data for all Council buildings.	The revised CMP will scope out the ability of SIGMA to capture other data, for example, water bills.
Innovation: The Energy team have trialled various renewable energy and energy efficiency technologies since 2005 and established solutions appropriate to the needs of Highland Council.	The revised CMP will continue to encourage innovative solutions to reducing carbon emissions in rural areas through a revised renewables programme to 2012.
Raising awareness and understanding: Posters, screensavers, training events and energy champions were created and council staff became more aware of their need to conserve energy.	Through the communication plan outlined in Section 9 of the CMP the education and awareness work will continue and expand across all six sectors scoped into the CMP.
Recognition of the work involved: Developing and implementing the first CMP gave the Council an insight into the staff time involved in implementing action monitoring progress. Certain key individuals were under extreme pressure.	Improved Cross-service working. Section 4 of the plan outlines the Service personnel responsible for data collection across the Council. The Finance Service provides additional assistance in collating billing information.

Shortfalls of first CMP	Lessons Carried Forward
Baseline emissions data was collected but lack of granularity of baseline composition documented. Unable to monitor progress in subsequent years for certain sectors.	A separate baseline report created in parallel to revised CMP documenting exactly which data sets make up the baseline and which conversion factors have been used will ensure continued progress.
Staff leaving the Council taking with them knowledge and expertise. Job titles, roles and responsibilities have altered or deleted in this time and there is a need re-identify the appropriate reporting Services and/or officers.	Succession Planning built into Section 9 of revised CMP
Irregular officer meetings and no minutes	Regular officer meetings and minutes of actions circulated will prevent loss of information should staff leave and assist with succession planning.
Changes in data gathering processes not communicated across Services. For example, fleet fuel originally data gathered from Council owned depots where vehicles filled up. Vehicles moved to the use of fuel purchase cards on forecourts. Depots were no longer in use. Data no longer captured in desired format.	Development of Officer Working group will provide cross Service discussion of any management changes that could affect CMP reporting.
Lack of Political Scrutiny: At the time of development there was no Member led Climate Change Working Group but instead a Sustainable Development Select Committee with fewer powers to implement change.	Section 8 of the revised CMP outlines the reporting procedure and key personnel responsible for different targets within the plan. The CCWG will scrutinise CMP progress and progress is reported to Full Council.
Lack of Financial Investment. Investment made available for energy from buildings but not for remaining sectors in CMP. For example, the Council's street lighting budget not resourced to purchase the energy efficiency equipment required to deliver significant carbon reductions.	To achieve emissions savings it will be necessary to invest extra resources on a "spend to save" basis. Such investments are outlined in Section 6 of the revised plan.
Municipal Waste reported alongside operational emissions of Council. Targets for municipal waste reduction and recycling driven by Zero Waste policies from Scottish government and unlikely to be influenced by CMP.	The revised CMP will account for the emissions from our internal operations only and not be confused with community generated emissions. The CMP has scoped internal waste into reporting where previously no data was available.
Financial savings the key driver	The Climate Change (Scotland) Act and associated target places legislative driver on Local Authorities to reduce emissions. Financial savings part of, but not the key driver for emissions savings. See section 1 of revised CMP.
15% emissions reduction measured against a business as usual projection. Actual savings only 6.8% over 5 years.	Actual emissions reduction of 12% over three years in line with Climate Change Act. Move away from targets set against Business as Usual Projections.
Lack of Information. Highland Council were one of the first Local Authorities to develop a CMP and had few examples of best practice to learn from.	All Scottish LA's have now completed the Carbon Trust Carbon management Programme and since 2005 there have developed many good examples to learn from and build such practices into revised CMP.
Political Pressure - focus areas for action were built around particular Highland Council wards where action was desired.	The development of Climate Change Actions within the councils Corporate Plan as outlined in section 1 of the revised CMP provides a strategic overview of action on climate change.

Shortfalls of first CMP	Lessons Carried Forward
Focus on behavioural rather than technical solutions. Of the 15% emissions reduction target by 2010 over a BAU projection in the first CMP, 10% was to be attributed to behavioural change.	Behavioural change will continue to be a focus. Section 9 of the revised CMP outlines our communication plan. However Behavioural change must be sustained and once emissions are achieved technology will be required to reduce emissions further.

FURTHER WORK BY HIGHLAND COUNCIL

APPENDIX 2

The following actions link to Strategic themes as outlined in Section 2, page 12 of the Carbon Management Plan.

Theme 3: Explore New Areas for Action

Theme 4: Promote Awareness and Behavioural Change

Theme 5: Lead by Example

Service	Action	Description
P&D	Forest and Woodland Strategy	The regional Strategy has three main functions. 1. It identifies opportunity at a Strategic Level in key areas. 2. It draws attention to types of forestry that funding should be targeted at. 3. It provides a framework for evaluating individual grant applications under the Scottish Forestry Grant Scheme.
P&D	Sustainable Design Guidance	Highland Council Supplementary Planning Policy: Designing for Sustainability, housing in the Countryside, Affordable Housing. Provides more detailed policy on the implementation of existing Local Plan policy in terms of the various topics listed.
P&D	Renewable Energy Strategy	The Strategy supplements the existing policies of the Council. It aims to provide guidance and direction for Council decisions and developer's plans. Many of the actions will be carried out through the planning and associated Environmental Impact Assessment processes. The Strategy outlines a vision for renewables energy in Highland and identifies 11 key points for action.
P&D	Access Strategy	Aims to address the needs and aspirations of people of all ages and abilities to deliver a wide range of recreational and enjoyment of the environment benefits for walkers, cyclists, equestrians and paddlers. Thereby contributing to social inclusion, health improvements, sustainable transport and improvement to the overall quality of life by unlocking this potential and guiding the way in which the Council and its partners can take forward plans for access throughout the Highland Council area.
P&D	Development Plan Policy Guideline on	Sets the framework for the type and scale of developer contributions which will be expected

	Developer Contributions (in development).	through developer contributions in association with the delivery of masterplans/development briefs or the assessment of planning applications.
Service	Action	Description
P&D	Highland Food Conference	Around ninety participants attended the "Local Food in the Highlands" conference in the Council Chamber on the 7th November 2008, representing a wide range of food producers, producer organisations, retailers and other food-related groups, in addition to the Highland Council, Scottish Government and other public sector organisations with an interest in the subject.
P&D	Local Food Action Plan	Taking forward the actions highlighted in the local food conference.
P&D	Area Wide Local Plan	The 2001 Highland Structure Plan is to be replaced by a Highland Wide Local Plan being developed under new legislation. The Council is working with Scottish Government on a pilot project to deliver new planning policies which are shorter, clearer and focussed on delivery of infrastructure and economic development for the area, and the first milestone will be to publish a Main Issues report in May 2009.
CEXO	Fair Trade Members Group	The Council has been serving Fairtrade tea and coffee following a decision by the Council in 2003 which stated that "The Highland Council supports the principle of Fairtrade and sustainable production and accordingly wishes to see all tea and coffee that is provided at official meetings brought under a recognised Fairtrade label or equivalent." The Council has established a small Working Group to look at progressing Fairtrade status for the Council area as a whole in with the Scottish Government's objective of achieving
		Fairtrade Nation Status. Fair Trade also aims to ensure that local producers get a good deal for their produce and reduce food miles.
CEXO	Fair Trade Event 2008	An exploration of the social movements that have shaped our past and guide our principles today.
CEXO	Corporate Improvement Programme	Focusing on eight areas of opportunity which have been formed into projects each with an individual business case identifying the anticipated immediate benefits and what the opportunities are in the future. Although focusing on cost savings, associated emissions savings can be achieved as a result particularly through projects: Information Management Mobile and Flexible Working Transport Asset management.

		These individual projects are explained in more detail below.
Service	Action	Description
FINANCE	Procurement – recycling of construction materials	Mandatory targets to ensure that construction materials are recycled.
FINANCE	Procurement – Supply contracts.	The procurement unit currently request certification of energy usage, heat, light, noise and radiation of goods purchased by the Council. Also accreditation such as ISO 14001from suppliers. To date 1/3 of suppliers have come forward with information.
FINANCE	Procurement - ICT contract.	Working to secure community benefits in terms of social-economic as well as environmental performance. The ICT contract ensures systems and training is made available and generates employment. Internally IS client exploring more efficient ICT equipment for use by Council staff.
EDUCATION	Eco Schools	Achieve Eco School status for all Highland schools by 2011.
CEXO	Allotments policy	The Council has recently agreed to develop an allotments policy and to support the development of allotments where there is demand.

CORPORATE IMPROVEMENT PROGRAMME

Information Management:

Information Management includes creating, capturing, registering, classifying, indexing, storing, retrieving, using and disposing of records and developing ways to manage records. The vision for an Information Management Strategy is for a consistent, co-ordinated and proactive approach to our information; managing it efficiently and effectively in order to give the customer a better service. Actions relevant to the CMP include:

- Development of the intranet to include data directories, online forms etc
- Development of the internet to include publishing FOI results for public consumption
- Creation of an information catalogue and a register of information custodians
- Requirements of a document management system
- Policy and procedure regarding records inventory, storage, retrieval and destruction
- Information currently in paper format to be scanned according to classification and use, to release estate for other purposes.

This project will use technology to help reduce the amount of paper consumed and disposed of by Highland Council and contributes towards emissions savings through reduced internal waste.

Mobile and Flexible Working:

The vision is 'for our workforce to be deployed speedily to where it's needed by our customers. Maximising the use of technology to sustain mobile and flexible working to create a more effective working pattern, maximising the Council's commitment to rationalise office accommodation. To achieve this vision the project will aim to:

- Develop workforce management technology which includes flexible working and task scheduling.
- Re-design Business Processes to deliver from a mobile workforce.
- Incorporate performance monitoring for continuous improvement.

This project will contribute towards the targets set out in the Business Travel and Fleet Travel sections of the CMP through reducing the need to travel. It will also contribute to reduced emissions from buildings as flexible approaches to work reduce the need to be based at a desk.

Transport:

There is a need for a Corporate Transportation Strategy/Policy to take account of the current fragmented organisation of transport connected activities within the Highland Council. The Highland Council Travel Plan Coordinator is working closely with the corporate improvement team to ensure that products that come out of the project are in line with the objectives of the CMP. These include:

- Saving in staff travel through reducing unnecessary journeys, video conferencing, less use of hired vehicles, taxis etc.
- More efficient use of pooled vehicles
- Reduce unnecessary journeys through GPS implementation and better coordination of the operational fleet.

This project will contribute towards the targets set out in the Business Travel and Fleet Travel sections of the CMP.

Asset Management:

The vision is to adopt a corporate approach to asset management to enable The Highland Council to proactively manage its assets. This will ensure Members and officers are provided with accurate information on which to base investment, maintenance and risk management decisions regarding the Highland Council's assets and that the assets support the strategic objectives of the Council, are fit for purpose, efficient and effective. Actions relevant to the CMP include:

- the rationalisation of assets i.e. disposing of surplus assets, acquiring assets, investment in assets together with maintenance to ensure that use of assets is maximised and costs minimised while meeting delivery needs
- making best use of scarce capital resources by taking a Corporate view of priorities to ensure that capital allocations support the objectives of the Council, the priorities of its Service teams and the capital requirements of its assets.

This project will contribute towards the targets set for street lighting, buildings and water



Carbon Management Embedding Matrix - Self Assessment

APPENDIX 3

	<u> </u>	Tedding Matrix - 3			İ	ALLEN	I	l
Now	4	3	4	5	4	3	3	4
Challenge						✓	✓	
	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *	ENGAGEMENT OF SCHOOLS
BEST	Top level target allocated across organisation CO ₂ reduction targets in Directorate Business Plans Action plans to embed strategy. Progress reviewed	Cabinet / SMT review progress against targets on quarterly basis Regular diagnostic reports provided to Directorates Progress against target published externally	CM integrated in responsibilities of senior managers CM part of all contracts / T's&C's Central CO₂ reduction advice available Green Champions leading local action groups	 Regular collation of CO₂ emissions for all sources Data externally verified Monitoring & Targeting in place for: buildings street lighting transport/travel 	All staff given formalised CO ₂ : induction and training communications Joint CM communications with key partners Staff awareness surveys	Finance committed for 2+yrs of Programme External funding being routinely obtained Ring-fenced fund for carbon reduction initiatives	CO ₂ friendly operating procedure in place Central team provide advice and review, when requested Barriers to CO ₂ reduction routinely removed	A 'whole school approach' including curriculum Mature programme of engagement in place wider community impact
4	 CO₂ reduction commitment in Corporate Strategy Top level targets set for CO₂ reduction Climate Change Strategy reviewed annually 	Sponsor eviews progress and removes blockages through regular Programme Boards Progress against targets requtinely reported to Senior Mgt Team	CM integrated in to responsibilities of department heads Cabinet / SMT regularly updated Staff engaged though Green Champion network	 Annual colletion of CO₂ emissions for: buildings street lighting transport/travel Data internally reviewed 	All staff given CO ₂ reduction: induction communications CM matters communicated to external community	 Coordinated financing for CO₂ reduction projects via Programme Board Funding principles and processes agreed Finances committed 1yr ahead Some ex ernal financing 	Comprehensive review of policies complete Lower level policies reviewed locally Unpopular changes being considered	A clear emphasis on energy / CO2 reduction in schools Council activities fully coordinated Broad set of education stakeholders engaged Funding in place
3	 CO₂ reduction vision clearly stated and published Climate Change Strategy endorsed by Cabinet and publicised with staff 	Core team regularly review CM progress: o actions o profile & targets o new opportunities	 An individual provides full time focus for CO₂ reduction Key individuals have accountability for carbon reduction Senior Sponsor actively engaged 	Collation of CO ₂ emissions for limited scope i.e. buildings only	Environmental / energy group(s) given ad hoc: training communications	 A view of the cost of CO₂ reduction is developing, but finance remains adhoc Some centralised resource allocated Finance on CM Team 	 All high level and some mid level policies reviewed, irregularly Substantial changes made, showing CO₂ savings 	A person has responsibility for Schools CO2 reduction Schools CO2 reduction projects coordinated Ad-hoc funding
2	Draft Climate Change Policy Climate Change references in other strategies	Ad hoc reviews of CM actions progress	CO ₂ reduction a part- time responsibility of a few department champions	No CO₂ emissions data compiled Energy data compiled on a regular basis	Regular awareness campaigns Staff given CM information on adhoc basis	Ad nee financing for CO₂ reduction projects	Partial review of key, high level policies Some financial quick wins made	Ad-hoc schools projects to specifically reduce energy / CO2
Worst	No policy No Climate Change reference	No CM monitoring	No recognised CO ₂ reduction responsibility	No CO ₂ emissions data compiled Estimated billing	No communication or training	• No specific funding for CO ₂ reduction projects	No alignment of policies for CO ₂ reduction	No CO2 / energy reduction policy for schools

^{*} Maior operational policies and procedures. e.g. Capital Proiects. Through Life Costing. Procurement. HR. Business Travel

Appendix 4

Highland Council Carbon Management Plan Communication Strategy 2009-2012

Introduction:

As a signatory of Scotland's Climate Change Declaration the Highland Council is committed to tackling the effects of climate change and adapting to the anticipated impacts.

A Carbon Management Plan has been developed, which aims to reduce Highland Council carbon emissions by 12% between 2009 -2012. The primary focus of the plan is to reduce carbon emissions from Council buildings, vehicle fleet, business travel, street lighting, internal waste and water. There are five strategic themes that carry across all sectors. These are:

Theme 1: Reduce Carbon Emissions from Internal operations

Theme 2: Reduce Energy Costs

Theme 3: Explore new areas for action

Theme 4: Promote Awareness and Behavioural Change

Theme 5: Lead by example

The timely and accurate communication of carefully chosen messages to specific individuals and groups, through appropriate and effective channels, will enable The Highland Council to address the themes as outlined above. It will be a key component in the designing, introduction and implementation of a successful carbon management programme. It is widely accepted that behavioural change can result in up to 20% emissions savings (ref). This communication Strategy is needed to ensure that emissions savings are achieved and that such savings are sustained over time.

A programme of behavioural change and awareness raising will be delivered across all Highland Council staff, Members and the wider public. It will also facilitate knowledge transfer between stakeholders and partner organisations.

It is hoped that the communication plan will help to:

- Establish a shared understanding of the Carbon Management Plan's vision and goals;
- Generate enthusiasm for carbon management;
- Secure necessary resources;
- Keep the actions in touch with changing priorities;
- Identify risks and issues and adapt actions where appropriate;

- ensure accurate information and guidance is available for staff;
- Improve readiness for change amongst individuals that may be impacted by the carbon management programme, through changes to working practices etc;
- Improve communication between staff of different Services, between operational and management staff and between different organisations.

Communication Channel Audit

Establishing what current channels of communication exist, who they reach, and how effective they are is an important first step in designing communication of the carbon management programme. A communication channel audit was carried out by the Highland Council Carbon Management Working Group and is summarised in **Annex** 1:

Examples of channels include:

- Face to Face channels (e.g. departmental meetings, team meetings, staff forums, management cascades, video conferencing);
- Electronic channels (e.g. e-mail, intranet, internet, CD ROMs, pop-ups);
- Printed channels (e.g. local authority newsletter or newspaper, specialist or departmental newsletter, posters, stickers, external magazines or newspapers);
- Other media channels (e.g. video, telephone, teleconference, marketing media (products, disposables), radio, television etc).

Identifying Audience

There are a number of key audience groups to target and each require a different approach to ensure key messages are communicated in the correct language, format and to the correct timescale. A summary of key audience groups is shown below:

Target Audience	Description.
HC general staff	12 500 employees work for Highland Council and can be contacted via all media types highlighted in the communications channel audit in Annex 1.
HC teaching staff	The school systems have their own method of communicating with teaching staff that we should tap into including Head teacher forums and CPD training events.
HC manual staff	Do not have access to electronic forms of communication and would require more face to face and written forms.

HC management staff	There are approximately 200 managers within HC that attend management briefings and management development training days. In addition to the general medias, communication should be in the form of presentations and reports at designated meetings.
HC Members	There are 80 elected highland Council members representing communities across Highland. They each have pigeon holes centrally at HQ and can be contacted via e-mail. Members will also read reports put to committees and make recommendations.
HC Green Ambassadors	There are approximately 105 Highland Council Green Ambassadors – volunteers to promote green awareness amongst fellow colleagues. They have their own online forum to discuss green issues as well as a designated web page on the intranet.
HC Temporary staff	Highland Council use "Global Highland", an employment agency, to hire temporary staff. Such staff do not undergo induction training in the same way as other HC employees.
HC Responsible Premises Officers	Each Council site has a designated responsible officer responsible for the management of that facility. Such officers receive training to enable them to carry out their duties (e.g. meter readings and maintenance checks)
The Public	Approximately 230 000 people live within Highland. News releases, radio broadcasts, household mailings and the internet are the methods used to communicate with the public at present. The HC internet gets 7000 hits a day.
Partner Organisations	80 partner organisations from the private, voluntary and public sectors attended the highland Council Climate Change Workshop in June 2008 and are moving towards a joint declaration on Climate Change. In addition the Single outcome Agreement is developing commitments with key partner organisations, including the set-up of an environmental forum.

Approximately 14000 Council House tenants are communicated directly through the Housing and Property Service.
Property Service.

Communication Action Plan

The communications action plan is a summary of intended communications actions, their timing and responsibility. The plan has been developed based on the findings of the communications channel audit in Appendix 1.

Progress will be monitored as part of the Carbon Management Plan monitoring framework.

The Communication Action Plan is outlined in Annex 2.

HIGHLAND COUNCIL COMMUNICATION CHANNELS AUDIT

ANNEX 1

Internal Facing:	Internal Facing:						
Communication Channel	Description	Target Audience	Timing	Responsible Service/Officers			
Management Briefing	An opportunity for senior management to filter down key strategic messages form the council to Service Management Staff.	Service Managers	Ongoing	Employee Development			
Payslips	12500 staff get payslips through the post and there is an opportunity to put key messages into these.	All Staff	Monthly	Finance			
Head Teacher Forums	Head Teachers meet to discuss key topics.	Head Teachers	Ongoing	ECS			
Service Newsletters	Some Services produce quarterly newsletter which are available under common folders on the staff Intranet.	All Staff	Various depending on Service but at least Quarterly.	Services			
Council Newsletters	The Council PR team produce a Corporate Newsletter every two or three months that is distributed electronically to 4500	Staff/members/Public	Every 2 months	PR Team/Services			

	staff. It is expected that managers print off a copy for manual staff to read but is hard to police.			
Member Workshop	It is proposed to hold a two hour workshop to go over carbon management issues with ALL members. The idea will be run past the Weekly business Group.	Members	To be scheduled annually	Weekly Business Meeting/Leadership Meeting
Staff Workshop	Green Ambassadors are currently invited to a Carbon management Workshop and it is proposed to extend this to ALL staff.	All Staff	To be scheduled annually	CEXO
Job Specification	It is proposed that those employees with climate change responsibilities in the role should have something incorporated into their job description to this effect. Currently only a handful of staff have climate change mitigation in their job description.	Staff with Sustainability issues as part of their remit.	As and when	Personnel
Events	Programme of events being developed to role out to highland council green	All Staff	Throughout the year.	CEXO/H&P/TECS

	Ambassadors and link in with the Highland Environmental Networks yearly training programme.			
Staff Intranet	Use of staff noticeboard and common folders to communicate events, news and information	All Staff	Ongoing	CEXO
Staff E-mail	All user e-mails used to promote events, competitions and news on climate related issues.	All Staff	Ongoing	CEXO
Posters	Posters have been created in line with the Green Ambassador Campaign to encourage people to switch off power, use less paper and create less waste as well as make informed decisions about the need to travel.	All Staff	Ongoing – updated bi- annually.	CEXO
Member Champion	It is proposed to select a Member to Champion individual actions towards reducing carbon emissions amongst staff and employees.	Members, Staff and Communities	Ongoing	CEXO
Head Teacher Champion	As above but to Champion the work within schools.	Schools	Ongoing	ECS
Green Ambassadors	Over 60 green Ambassadors are in place to communicate	All Staff	Ongoing	CEXO

	action within the work force.			
Agency Contracts	Currently agency staff do not require to go through an induction and so some way of ensuring they are aware of Highland Council policy on climate change is needed.	Temporary Staff,	As and When	Procurement/All
Flexi Card Machines	Staff that clock in and out using time cards can be given key messages via the machine to coincide with events.	All Staff at clock-in sites	Combine with events.	Personnel
Screensavers	The highland Council screensaver is in need of refreshing with new messages on emissions savings.	All staff with computers	Ongoing – updated bi- annually.	CEXO/IS
Notice Boards	Staff communal areas and canteens have notice boards where leaflets, posters and information can be placed. Especially important for manual staff who have no access to computers.	All Staff	Ongoing	All

External Facing:						
Communication Channel	Description	Target Audience	Timing	Responsible Service/Officers		
Publications	Pamphlets, leaflets, posters etc produced by Services to inform public of their current work.	Public	Ongoing	CEXO/graphics team		
Website	The One-stop shop for all areas of Corporate and Service information, including ward forums and Community Councils, minutes of meetings etc. there are over 7000 hits a day with up to 11 000 hits during times of bad weather.	Public and staff	Ongoing	PR Team/Webmaster. CEXO could coordinate relevant Carbon Management Sites.		
Annual Newspaper	Printed and distributed to the public by the PR team.	Staff/members/Public	Once a year (November)	PR Team		
Council Tax leaflets	Information on Council tax rates is distributed to 115 000 households across Highland.	Public	Once a year (March/April)	Finance		
Partnership Workshops	Through working towards a Climate Change Strategy for Highland opportunities exist to communicate with partners.	Stakeholders	Ongoing	CEXO		
Site unveilings	When new renewable energy installations or recycling facilities are installed use as opportunity for press release.	Public	As and When	Services/Pr Team		

Press releases	Ensure report on progress in the press and in particular, installations as above and events.	Public	Ongoing	Services/PR Team
Waste Awareness Campaigns	Waste Awareness Team have a programme of education and awareness raising and leaflets and materials for distribution to highland Household.		Ongoing	TECS
National Events	Tie in with events such as Energy Efficiency Week, Bike week etc	Public	Ongoing	CEXO

Staff Training and Development							
Communication Channel	Description	Target Audience	Timing	Responsible Service/Officers			
Management Development Training	All Managers attend a 2 day residential training exercise once a year.	Managers	Once a year	Employee Development			
Staff Induction Training	All staff work through an induction check list with their line managers upon joining the Council.	All Staff	As and When	Personnel			
Personal Development Plans	Staff are encouraged to work with Line managers to develop Personal Development Plans aimed at addressing any training needs and building on staff experience.	All Staff	Once a Year	Employee Development			
Responsible Officer Training	All Council buildings have a nominated responsible officer responsible for the day to day	Staff at specific Building Sites	Once a Year	CEXO			
Health and Safety Training		Staff with specific jobs	Once a Year	Services			

HIGHLAND COUNCIL CARBON MANAGEMENT COMMUNICATION ACTION PLAN 2009-2012

ANNEX 2

G = Completed or delivery on target

A = progress with some slippage

R = No significant progress

P = To be programmed

INTERNAL FACING:					
	Action	Service	Time Frame	Status	Comment
1.1	Explore the opportunity to add a message to Employee payslips in line with a national event or campaign	CEXO/ FINANCE	Annually	Р	Currently income is generated through advertising space on pay slips so would depend on available space.
1.2	Attend one management briefing session for each Service.	CEXO	Annually	Р	Scope out timetable of briefing sessions and arrange a slot on one.
1.3	Attend a head teacher Forum	CEXO/ ECS	Annually	Р	Scope out timetable of forums and subject matter and liaise with ECS an appropriate one to attend
1.4	Feature Carbon management Progress in Service Newsletters	ALL	Annually	Р	
1.5	Corporate Newsletter	CEXO	Quarterly	G	Progress in emissions reductions featured in recent edition.
1.6	Hold a series of events aimed at raising awareness amongst staff	CEXO/ H&P/TECS	Ongoing	G	Two events have taken place with green Ambassadors and a programme of events is being developed.
1.7	Advertise initiatives and events on staff notice board on intranet	CEXO	Ongoing	А	More use of Intranet staff notice board is needed.
1.8	Hold Staff workshop aimed at raising awareness of Carbon Management.	CEXO	Once at time of CMP Launch	A	One workshop held with TECS Service was found to be very useful. Need to Role out across all Services.

1.9	Member Workshop	CEXO	Once at CMP Launch	Р	Extend beyond the Membership of the CCWG.
1.10	Poster Campaign aimed at reducing waste and energy use and encouraging sustainable modes of transport.	CEXO	Bi- annually	G	Posters have been created and distributed across premises and staff. Update and refresh campaign every two years.
1.11	Energy Display Certificates Campaign	H&P	Bi- annually	G	Posters created for all properties over 1000m2 and all schools.
1.12	Assign a Member Champion	CEXO	April 2009	Р	Invite to Launch of CMP
1.13	Assign a Head Teacher Champion	CEXO/ECS	April 2009	Р	Invite to Launch of CMP
1.14	Encourage more Green Ambassadors to volunteer	CEXO/ TECS/ H&P	2010	Р	The scheme is only in it's third month so a new marketing campaign should take place next year
1.15	Develop message on Flexi card machine to coincide with key events	CEXO/ personnel		Р	,
1.16	Update Council Screensaver	CEXO	April 2009	R	Action delayed by IT staff.
1.17	Create printed guidance for manual staff	CEXO	April 2009	R	Web materials have been created. Need to produce printed version for use by all.

EXTERNAL FACING:					
	Action	Service	Time Frame	Status	Comment
2.1	Update the Carbon Management Section of the Highland Council Website and ensure linkages are made with all other relevant section on line.	CEXO	April 2009	Р	
2.2	Hold Community Events to tie in with National Campaigns	ALL	Ongoing	G	Energy Efficiency Weeks, Waste Awareness Campaigns and WWF Earth Hour are examples of some.
2.3	Send a message out on the annual distribution of council tax letters	CEXO/ FINANCE	April 2010	Р	
2.4	Continue regular role out of press releases related to emissions reductions	CEXO/Ser vices	Ongoing	G	
2.5	Conduct regular workshops with partnership organisations	CEXO	Quarterly	G	This has commenced through the HC partnership approach to climate change conference and will continue.
2.6	Conduct events at site-unveilings for new renewable energy installations	CEXO	Ongoing	Р	
2.7	Ensure Carbon Management features on publications distributed to the public	CEXO	Ongoing	Р	

STAFF TRAINING AND DEVELOPMENT:					
	Action	Service	Review date	Status	Comment
3.1	Explore Inclusion of CMP priorities in induction for agency workers. Liaise with Global Highland over options	FINANCE/C EXO		Р	
3.2	Attend Management Development Training	CEXO/ H&P	2010	Р	First round of Management Training has passed. Tie in with the next set.
3.3	Build CMP priorities into staff induction training	CEXO/ Personnel	2009	Р	
3.4	Build CMP into Personal Development Plans linking to the training opportunities on offer for staff	CEXO/ Personnel	2009	Р	
3.5	Responsible Officer training	CEXO/ H&P	2009	А	Training has taken place in the past but needs refreshed.
3.6	Link in with Health and Safety training for certain staff groups.	CEXO	2009	A	Has taken place in the past through TECS. Need to explore more opportunities in future.
3.7	Programme of training opportunities for Green Ambassadors	CEXO	Ongoing	G	Programme developed. Linking in with the Highland Environmental Network.