

The Highland Council
Finance, Housing and Resources Committee
22 August 2012

Agenda Item	
Report No	

Annual Progress Report on the Carbon Management Plan 2009-2012

Report by Assistant Chief Executive

Summary

This report reviews performance of the Carbon Management Plan up to the end of March 2012 and finds that overall emissions have reduced by 13% or 8973 tonnes since the baseline year of 2007/08. This exceeds the 12% emissions reduction target set for this time. Total costs have increased by 4% from £18,259,590 to £18,986,796 due to rising energy and fuel prices but costs avoided (costs the Council would have paid had energy and fuel consumption not reduced) amount to £2,431,872 since the baseline year. Actual savings of £352,178 have been achieved by reducing staff and member business travel in their own cars; although wider savings of £642,028 were made across all travel budgets including public transport and car hire. Nearly all sectors have shown emissions reductions, and significantly from Council buildings; although emissions from street lighting increased as the network expanded and the method of calculating emissions from energy use changed. Total costs through the CRC Energy Efficiency scheme amounted to £509,832 in 2011/12.

1. Background

- 1.1 Highland Council, along with all 32 Scottish Local Authorities, has signed Scotland's Climate Change Declaration and committed to tackle climate change. In 2009, the Scottish Government passed the Climate Change (Scotland) Act setting binding targets for public bodies to reduce their CO₂ emissions. The Highland Council Programme 2012-2017 states that:

"The Council will continue to reduce carbon emissions from Council operations, with their associated costs, to achieve the Scottish Government's target of 42% reduction in emissions by 2020".

- 1.2 In promoting new and innovative projects, the Council will maintain a commitment to Scotland's Climate Change Declaration. The Council's progress is monitored through the Carbon Management Plan (CMP). It sets out a strategy for emissions reductions and cost savings from those carbon emitting activities that Highland Council can monitor and influence. This paper summarises progress over the four years of the current CMP from 2008/9-2011/12. The baseline from which progress is monitored is 2007/08 as follows:

CO2 emissions reductions target by Sector 2007/08-2011/12						
	Sector	Target %	Baseline Emissions 2007/08	Emissions Savings Target (tonnes Co2)	Actual Emissions Savings achieved	Change in emissions % 2009-2012
1	Energy use in buildings	-12%	44094	5226	-6967	-16%
2	Staff Travel	-12%	3963	524	-1032	-27%
3	Fleet (baseline 08-09)	-5%	10595	207	-1357	-13%

4	Internal Waste	-20%	1391	278	-129	-9%
5	Street Lighting	-6%	7065	447	+490	+7%
6	Water Top 100	-10%	141	14	+22	+16%
	Total:	-12%	67101	6696	-8973	-13%

2 Summary of Progress 2009-2012

- 2.1 In 2011/12, the Highland Council's total CO₂ emissions from all six sectors scoped into the CMP amounted 58,128 tonnes, a reduction of 8973 tonnes since the baseline of 2007/08. A 13% saving over the lifetime of the CMP, exceeding the target of 12% set. Progress is outlined in **Appendix 1**. Chart 1 below shows progress year by year. It can be seen that progress was slower than anticipated in 2009/10 and 2010/11 due to increased heating demand during significantly colder winters. Emission reductions in the final year of the plan have been greater than any previous year enabling the four year target to be exceeded..

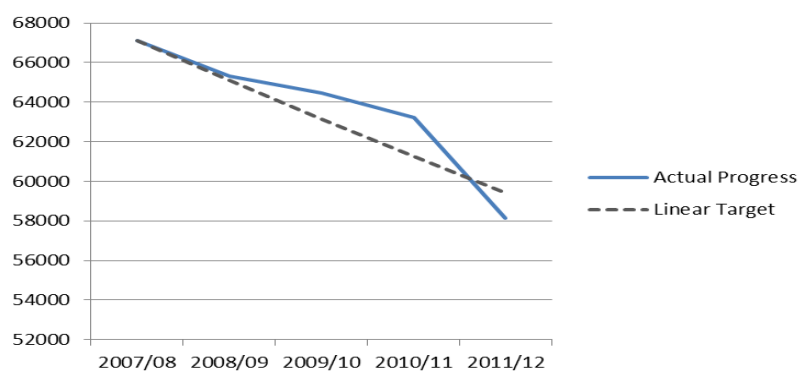


Chart 1 – Progress emissions reductions (tonnes CO₂) 2007/08-2011/12

- 2.2 Total costs associated with the sectors scoped in to the CMP are outlined in **Appendix 2**. Despite a decrease in energy and fuel consumption, costs have increased by 4% or £727,206 over the lifetime of the plan. This is due largely to the rise in: oil and gas prices for heating buildings; diesel and gas oil for fleet; waste collection and landfill tax; and water charges. These costs are set at rates out with the Council's control.
- 2.3 Costs avoided refers to the sum the Council would have had to pay in 2011/12, if energy consumption had stayed at the 2007/08 level and based on current prices. In 2011/12 total costs across all six sectors amounted to £18,986,796. Without the efforts to decrease energy and fuel use through implementing the CMP, costs would have been 13% higher in 2011/12 amounting to £21,418,668. Since 2007/08 the Highland Council has avoided costs of £2,431,872 through implementation of the CMP.

3. Energy Use in Buildings

- 3.1 Over the baseline year of 2007/08 total emissions savings of 16% have been achieved from energy use in buildings exceeding the target set of 12% set. Energy consumption by energy type is shown in the graph below. It can be seen that following slower than anticipated performance in 2009/10 and 2010/11, energy reductions in 2011/12 were greater than any other previous year, with the greatest savings being achieved through a reduction in heating oil use. Progress has been achieved through:

- Renewable energy installations;
- Energy efficiency actions e.g. more efficient ICT estate;
- Improved insulation and heating controls
- Awareness raising and behaviour change;
- Improved monitoring and scrutiny of energy use;
- Changes to staffing and estate.

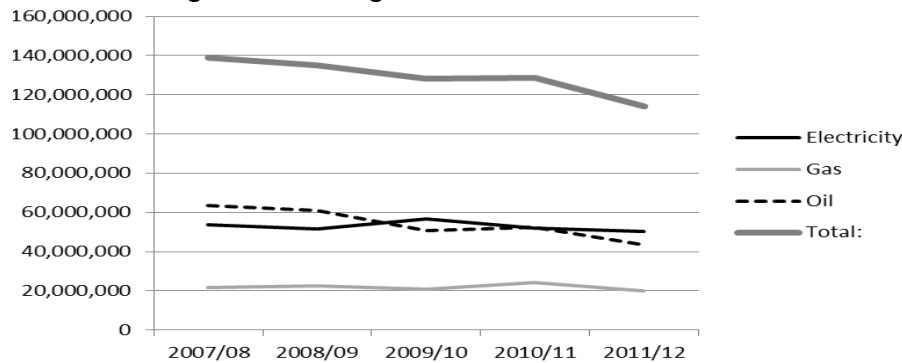


Chart 2 – Energy consumption KWh by energy type 2007/08-2011/12

Further reductions in energy use are expected following the completion of the refresh of ICT provision in March 2012 and will feature in future annual reports.

3.2 While emissions have reduced by 16% since 2007/08 costs have increased by 2% in this time due to a general increase in unit energy price. Chart 3 shows costs by energy type between 2007/08 and 2011/12. A spike in electricity costs in 2009/10 and 2010/11 has now reduced to below the baseline price. Gas and oil costs continue to be higher than in the baseline year. Gas and oil use make up 66% of the Council's overall energy consumption in buildings.

3.3 Since 2007/08 the Highland Council has avoided costs of £1,810,692 from energy use in buildings. Had consumption remained at 2007/08 levels the total energy bill for 2011/12 would have risen from £8,410,029 to £10,220,721.

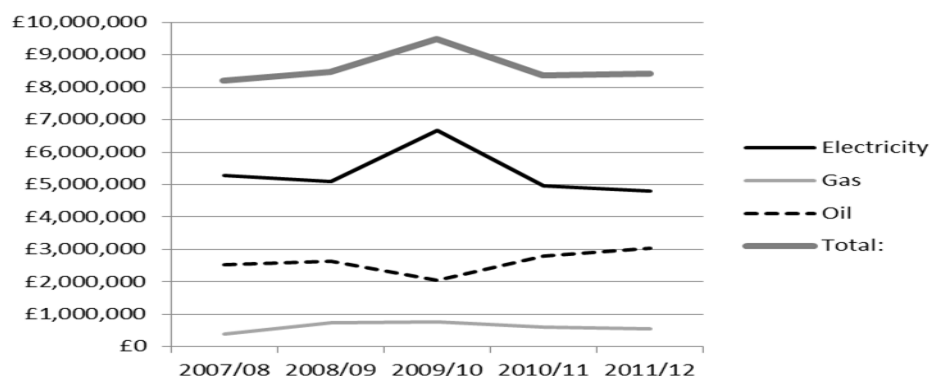


Chart 3 – Total cost by energy type 2007/08-2011/12

4. Staff Travel

4.1 Over the baseline year of 2007/08 total emissions savings of 27% have been achieved from reduced staff travel, based on staff and member mileage

claims. Over this time 3,154,299 fewer business miles were travelled. This exceeds the original 12% target set. This reduction in miles has resulted in cost savings of £352,178 a decrease of 10% since the baseline year.

- 4.2 The Council ledger shows that since 2008/09 travel costs have reduced by £642,028. This includes costs associated with business miles claimed but also public transport, car hire and subsistence costs. For 2007/8 to 2011/12 it is not possible to calculate the carbon emissions arising from public transport and car hire use so reporting is confined to staff and members travelling using their own cars (grey fleet). From 2012/13 more comprehensive carbon emissions data from business travel will be available.

- 4.3 Savings have been achieved through:
- The implementation of a Business Travel Hierarchy asking staff to consider alternatives to using their own car for business travel;
 - Reducing travel, subsistence & accommodation budgets by approximately 7% per year;
 - Increased management scrutiny of staff travel;
 - Producing travel reports for sites, promoting and incentivising active travel, promoting and training staff in video conferencing;
 - Promoting car sharing and other behaviour change projects.

- 4.4 While emissions have reduced by 27% from 2007/8 to 2011/12 costs have reduced by 10%. This is largely due to changes in the mileage rate that could be claimed from April 2010.

5 Fleet

- 5.1 The baseline for fleet vehicles was re-set at 2008/09. Total fleet emissions have reduced from 10,595 tonnes CO₂ to 9,239 tonnes CO₂ since this time. These savings have been achieved through:

- Fleet vehicle rationalisation;
- Fitting speed limiters in light vehicles;
- Fuel efficient driving training;
- The purchase of two electric vans;
- Re-routing waste collection vehicles.

- 5.2 While emissions have reduced by 13% since this baseline, costs have increased by 10% during this time. This is due to the increase in fuel price per litre over the four year period. Had consumption remained at 2008/09 levels the total fuel bill for 2011/12 would have risen from £3,911,966 to £4,474,564. Since 2008/09 the Highland Council has avoided costs of £562,598 from fleet.

6 Internal Waste

- 6.1 Carbon emissions are calculated from waste by converting the waste in tonnes to carbon equivalent as waste disposed to landfill results in GHG emissions. Over the baseline year 2007/08, CO₂ emissions from internal waste sent to landfill have reduced by 9%. This is due to the introduction of waste minimisation and recycling policies, internal recycling facilities and alternate weekly collections. Progress is currently slower than the anticipated target of 20% by 2012. This is due to the time taken to implement initiatives such as

internal recycling facilities and alternate weekly collections.

- 6.2 Secondary schools' waste has reduced by 6% but primary school waste has increased by 8% since 2007/08. Although all schools now have alternate weekly collections in place a corporate programme of providing internal recycling facilities has not been implemented as in offices. Currently the waste awareness officers and the Sustainable Development team are implementing the Schools Global Footprint project with a dual focus on waste and energy. The key aim of the project is to reduce carbon from these sectors. Discussions over the provision of internal recycling facilities in schools are under way between ECS and TECs. It is anticipated that emissions associated with the disposal of internal waste to landfill will continue to decrease.
- 6.3 The data for waste generation comes with some qualifications. It is calculated based on the number of bins collected at each site and assumes that bins are full at time of collection. In addition the current system does not capture recycling from offices, so systems for improved data monitoring are now being developed. While the reduction in emissions from waste is below target, actual reductions may be under-reported.

7 Street Lighting

- 7.1 Since 2007/08 total emissions from street lighting have increased by 7%. The street lighting network has increased from 47,321 lanterns in 2007/08 to 51,289 columns in 2011/12. This 8% increase in network size is due to new developments. Street lighting is on an un-metered supply and charged per lantern. In 2011/12, The UK overseeing body (UMSUG) which reviews the nationally agreed burning hours for un-metered street lighting increased the figures for the North of Scotland from 3912 hours to 4130 hours per lantern per year. Although the lights are operating in exactly the same way as previously, this increased multiple has a major effect on annual load figures resulting in a 5.6% rise in total Kwh reported which is out of Highland Council's control.
- 7.2 Total costs associated with street lighting have increased by £308,258 or 22% since 2007/08 due to a rise in unit price per Kwh. However, taking into consideration the extended street lighting network and the new charges, although the network has increased in size by 8% since 2007/08, electricity use has only increased by 1.3% in this time showing relative efficiency savings. For the purpose of CMP reporting, however, only absolute emissions are recorded.

8 Water Consumption Top 100 buildings

- 8.1 Water use in the top 100 sites has increased by 16% since 2007/08. The top 100 site list is dynamic and can change as buildings come on stream. In the baseline year 2007/08 only 100 sites had water meters installed. All sites now have water meters installed; therefore the top 100 list has changed too much to be comparable. This will be addressed in future reports as all water sites are captured within data management.

9 Next Steps

- 9.1 A full report outlining the actions that have contributed to the total emissions reductions 2009-2012 will be published by December 2012 and made available to the public. The Highland Council Programme has a further commitment that “*we will publish a carbon management plan by 2013*”. This will be the Council’s third CMP since 2005 and will set targets and actions from 2012 to 2020. The plan will be brought to a future meeting of the Finance, Housing and Resources Committee for approval.

10 Financial Implications

- 10.1 The total cost of the energy and fuel consumed in 2011/12 across all strands scoped into the CMP was £18,986,796. Emissions from energy use in buildings are subject to a carbon tax (currently £12 per tonne CO₂) through the UK Government’s CRC Energy Efficiency Scheme. In 2011/12 this cost the Council £509,832.

- 10.2 As part of the Climate Change (Scotland) Act 2009 there is now a duty placed upon public bodies to produce an annual sustainability report alongside their financial accounts. Highland Council has been presenting financial data alongside emissions data reported since 2005 and therefore meeting this duty will be straightforward. The first report will be published alongside the annual accounts online in September 2012. Doing so will:

- Increases accountability and transparency;
- Help to identify trends in performance to new audiences;
- Help identify opportunities for operational and financial savings;

The standardised approach helps public bodies to compare performance and will be particularly useful for reporting on the joint regional Highland Climate Change Declaration with other public partners.

11 Equalities Implications

An equality impact screening exercise will take place as part of the review of the CMP to identify if a full Equality Impact Assessment is required.

12 Climate Change Implications

Reduced CO₂ emissions will help to mitigate the cause of climate change and meet the legislative requirement of the Climate Change (Scotland) Act 2009.

13 Risks

Without an adequate CMP in place, the costs associated with increased energy consumption and associated carbon emissions will continue to rise. Land fill taxes continue to escalate. CRC legislation places a tax on every tonne of CO₂ emitted with the cost per tonne expected to rise, adding a further financial burden.

14. Conclusion

- 14.1 The Highland Council’s Carbon Management Plan 2008/9-2011/2 has successfully met its targets. Systems to implement, monitor and communicate carbon reduction activities at Highland Council are now actively improving data management and scrutiny. The Council continues to meet its duties under the Climate Change (Scotland) Act, 2009 and progress will be reported

back to the Scottish Government later in 2012 as part of our commitment towards Scotland's Climate Change Declaration.

15. Recommendation

15.1 Members are asked to NOTE the progress in CO₂ emissions reductions 2008/9-2011/2 and that a revised Carbon Management report 2012-2020 will be brought to a future meeting of the Finance, Housing and Resources Committee for consideration.

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Date: 06/08/2012

Background Papers: Data supplied by the following officers:

Fleet: Willie MacPherson, Fleet Manager, TECs

Energy: Eddie Boyd, Principal Energy Engineer, Housing & Property Service

Staff Travel: Kristina Reid, Senior Payroll Officer, Finance Service

Waste: Andy Hume, Waste Management Officer (Strategy) TECs

Street Lighting: Andrew Matheson, Street Lighting Manager, TECs

Water: Eddie Boyd, Principal Energy Engineer, Housing & Property Service

Appendix 1

Highland Council Carbon Emissions 2007-08 to 2011-12

	= emissions increase		= emissions saving		= savings exceeding target
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	CO ₂ emissions (tonnes)			% change in CO ₂ emissions		
	Baseline 2007-08	2010-11	2011-12	2010/11- 2011/12	2007/08- 2011/12	Target by 2012
Target 1 : Energy Use in Buildings						
Electricity	23,156	22347	21,722	-3%	-6%	
Gas	4,110	4643	3,836	-17%	-7%	
Oil	16,828	13888	11,569	-17%	-31%	
Total:	44,094	40878	37,127	-9%	-16%	-12%
Target 2: Staff Business Travel						
Business Miles	1461	1,475	1,402	-1%	-0.3%	
Lease Miles	450	356	182	-47%	-58%	
Training Miles	204	115	56	-50%	-72%	
Equivalent Car hire Miles	477	338	224	-31%	-51%	
Member Miles	208	174	155	-8%	-23%	
Home Carers	944	710	635	-6%	-30%	
Support Workers	197	166	11	-93%	-94%	
Re-located Miles	21	117	117	+4%	+473%	
Total:	3963	3452	2,781	-16%	-27%	-12%
Target 3: Fleet *Baseline of 2008/09						
Vehicles Petrol	126*	110	79	-28%	-38%	
Vehicles Diesel	9436*	9133	8,350	-9%	-12%	
Vehicles Gas Oil	1028*	1116	810	-27%	-21%	
Total:	10595*	10,359	9,239	-11%	-13%	-5%
Target 4: Internal Waste						
Internal Waste Top 40	336	335	194	42%	42%	
Waste from Primary	540	564	582	+3%	+8%	
Waste from Secondary	515	476	486	+2%	-6%	
Total:	1,391	1,375	1,262	-8%	-9%	-20%
Target 5: Street Lighting	7065	7192	7556	+5%	+7%	-6%
Target 6: Water Top 100	141	120	163	+36%	+16%	-10%
TOTAL	67,101*	64, 116	58,128	-9%	-13%	-12%

Appendix 2

Highland Council Costs associated with Carbon Emissions 2007-08 to 2011-12

 = cost increase	 = cost saving	 = cost avoided
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	Cost £			% change in Cost		Costs Avoided 2007/08- 2011/12
	Baseline 2007-08	2010-11	2011-12	2010/11- 2011/12	2007/08- 2011/12	
Target 1 : Energy Use in Buildings						
Electricity	5,278,136	4,966,413	4,805,674	-3%	-9%	
Gas	390,935	609,665	559,027	-8%	+43%	
Oil	2,542,105	2,788,609	3,045,328	+9%	+20%	
Total:	8,211,176	8,364,687	8,410,029	+1%	+2%	
Target 2: Business Travel (staff and members using own cars) ¹						
Business Miles	1,591,210	1,754,556	1,952,809	+11%	+23%	
Lease Miles	145,512	115,078	70,119	-39%	-52%	
Training Miles	127,026	71,658	36,081	-50%	-72%	
Equivalent Car	154,301	109,489	86,635	-21%	-44%	
Member Miles	279,050	204,906	198,506	-3%	-29%	
Home Carers	1,110,707	820,971	869,576	6%	-22%	
Support Workers	231,815	193,311	14,692	-92%	-94%	
Re-located Miles	13,251	74,130	72,277	-2%	+445%	
Total:	3,652,873	3,344,099	3,300,695	-1%	-10%	
Target 3: Fleet *Baseline of 2008/09						
Vehicles Petrol	49,940*	48,667	39,134	-20%	-22%	
Vehicles Diesel	3,328,887*	3,561,976	3,664,896	+3%	+10%	
Vehicles Gas Oil	181,330*	217,525	207,936	-4%	+15%	
Total:	3,560,157*	3,828,168	3,911,966	+2%	+10%	
Target 4: Internal Waste						
Internal Waste	108,111	142,800	92,313	-35%	-15%	
Primary Schools	173,309	260,400	270,901	+4%	+56%	
Secondary	165,152	219,600	221,136	+1%	+34%	
Total:	446,572	622,800	584,350	-6%	+31%	
Target 5: Street Lighting	1,400,000	1,626,164	1,708,258	+5%	+22%	
Target 6: Water	987,259	915,369	1,071,497	+17%	+9%	
TOTAL	18,259,590	18,701,287	18,986,796	+2%	+4%	

*** Costs avoided can be calculated when consumption has reduced but costs have increased.*

¹ This excludes costs associated with car hire and public transport.