

The Moray Council Carbon Management Programme

Carbon Management Plan (CMP)



Date: 10 March 2009

Version number: Finalised Draft



Owner: Emma Gordon/Bill Anderson

Approval route: CMT, Policy and Resources Committee

Approval status:



Contents

Foreword from Alastair Keddie, Chief Executive, Moray Council	4
Foreword from the Carbon Trust	5
Management Summary	6
1 Introduction	9
2 Carbon Management Strategy	9
2.1 Context and drivers for Carbon Management	9
2.2 Our low carbon vision	10
2.3 Strategic themes	10
2.4 Targets and objectives	10
3 Emissions Baseline and Projections	11
3.1 Scope	11
3.2 Baseline	11
3.3 Projections and Value at Stake	13
4 Carbon Management Projects	14
4.1 Existing projects	14
4.2 Planned / funded projects	15
4.3 Near term projects	16
4.4 Medium to long term projects	16
4.5 Projected achievement towards target	16
5 Carbon Management Plan Financing	18
5.1 Assumptions	18
5.2 Benefits / savings – quantified and un-quantified	18
5.3 Additional resources	Error! Bookmark not defined.
5.4 Financial costs and sources of funding	19
6 Actions to Embed Carbon Management in Your Organisation	19
6.1 Corporate Strategy – embedding CO ₂ saving across your organisation	19
6.2 Programme Management – bringing it all together effectively	19
6.3 Responsibility – being clear that saving CO ₂ is everyone's job	20
6.4 Data Management – measuring the difference, measuring the benefit	20
6.5 Communication and Training – ensuring everyone is aware	20
6.7 Policy Alignment – saving CO ₂ across your operations	21
7 Programme Management of the CM Programme	21
7.1 The Programme Board – strategic ownership and oversight	22
7.2 The Carbon Management Team – delivering the projects	22
7.3 Succession planning for key roles	23
7.4 Ongoing stakeholder management	23
7.5 Annual progress review	23
Appendix A: Carbon Management Matrix - Embedding	24
Appendix B: Definition of Projects	Error! Bookmark not defined.



Foreword from Alastair Keddie, Chief Executive Moray Council

The Moray Council is proud of Moray's unique and high quality environment. The Council is also committed to reducing the impacts of Climate Change within Moray and elsewhere. The Council looks forward to being involved in and supporting the Carbon Management Programme. It will not only help the environment in Moray and beyond, but also help the Council to manage and limit its spending on energy and scarce resources.

In the Council we already have an excellent record of innovative 'green' projects, and Moray's residents and businesses have shown their keenness to embrace new environmental technologies. Our staff are the driving force in a wide range of sustainable development projects ranging from reducing energy consumption by changing how we use electricity and heat, to installing new technology in buildings, equipment and vehicles.

Our journey towards reducing carbon emissions will be helped by our involvement in and commitment to the Carbon Management Programme. As part of this Programme and the Partnership with Scottish Councils and public bodies, the wealth of experience and enthusiasm available will help us to achieve our target of reducing the Council's carbon emissions by 30% by 2014. The Programme also helps us to achieve and support other Council priorities in the Community Plan, Single Outcome Agreement and Corporate Plan.

The approach to Moray Council's Carbon Management Programme has been to use the skills and commitment of staff from across the Council's departments. Members of the Carbon Management Team have come up with the ideas and projects that will help achieve that 30% carbon emission reduction. The projects which have been selected for this Programme have the support of the Councillors, Managers and the Team, but achieving them will depend on all of us playing our part. Many staff share an interest in tackling Climate Change, environmental issues and reducing carbon emissions. By working together across the Council, we can all play our part, and we will all benefit from the results of this Programme.

- Our objective is clear – 'reduce carbon emissions by 2014'
- We have our projects to achieve this – they are set out in this Programme.
- How we achieve our objective and projects? – we share and use our interests and commitment through involvement as individuals or project teams.

I am proud to give my support to the Carbon Management Programme

Signed A Keddie
 (or G McIntyre)



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 public sector as key to delivering carbon reduction across the UK inline with its Kyoto commitments and the Public Sector Carbon Management programme is designed in response to this. It assists organisations 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.

The Moray Council was selected in 2008, amidst strong competition, to take part in this ambitious programme. The Moray Council partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Plan commits the organisation to a target of reducing CO₂ by 30% by 2014 and underpins potential financial savings to the organisation of around £1 million

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

A handwritten signature in black ink, appearing to read "Richard Rugg".

Richard Rugg
Head of Public Sector, Carbon Trust





Management Summary

The Moray Council has prepared this Carbon Management Programme as one of a range of initiatives to deal with climate change, and the best use of resources. It is generally accepted that climate change is happening, and that carbon emissions are a contributory factor. In Scotland it is expected that there will be an increase in extreme weather events, Moray has experienced some of these in recent years, and localised flooding has caused significant damage and cost to residents, businesses, and other organisations. Reducing greenhouse gas emissions is associated with reducing the use of energy, and minimising the use of resources; these are major concerns for the Council, not only for environmental reasons but also for managing Council budgets, which has a direct impact on the level of services, which can be provided.

Staff and Councillors in the Council have a direct involvement in the Carbon Management Programme. Everyone when at work, is part of the Council's use of energy, ranging from lighting, using computers or other equipment, to reducing waste or increasing recycling. Carbon Management at work in the Council has the same aims as it would at home, namely to reduce the use of energy and fuel, to reduce the use of resources, and spend less money, which can then be saved or spent on other things.

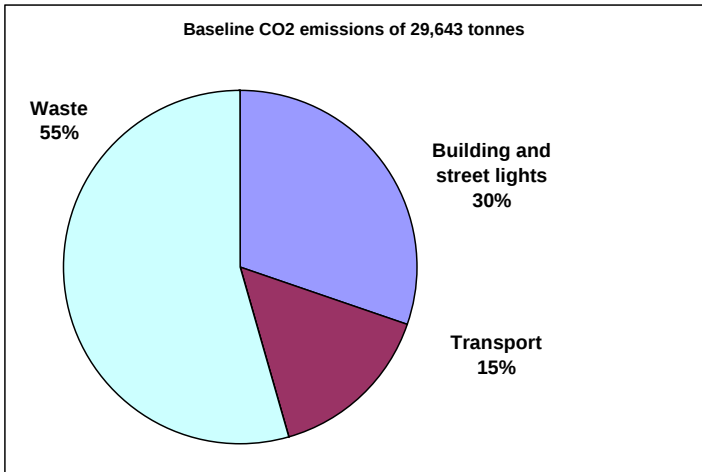
Climate Change and Carbon Management are not just issues for Moray and the Moray Council. At international level there are joint government agreements, closer to home the Scottish Government has a Climate Change Bill which has a target of reducing carbon emissions by 80% by 2050. All Scottish Councils, including Moray have signed the Scottish Climate Change Declaration, and there are other national legislation or initiatives advising or requiring the Council to agree strategies and targets for Climate Change and Carbon Management. Within that wider framework the Council has set a target, in the Carbon Management Programme, of reducing its carbon emissions by 30% by 2014.

The Carbon Management Plan links with a number of other actions currently being undertaken by the Council including the Scottish Climate Change Declaration and Carbon Reduction Commitment. Within the Council itself there are close links between the current Designing Better Services project and the efficiency savings that can be realised through the carbon management projects. The Council has also made a commitment to reduce Moray's carbon footprint. The Council has an opportunity to lead by example and encourage its community planning partners and the wider public to take action to reduce carbon dioxide emissions.

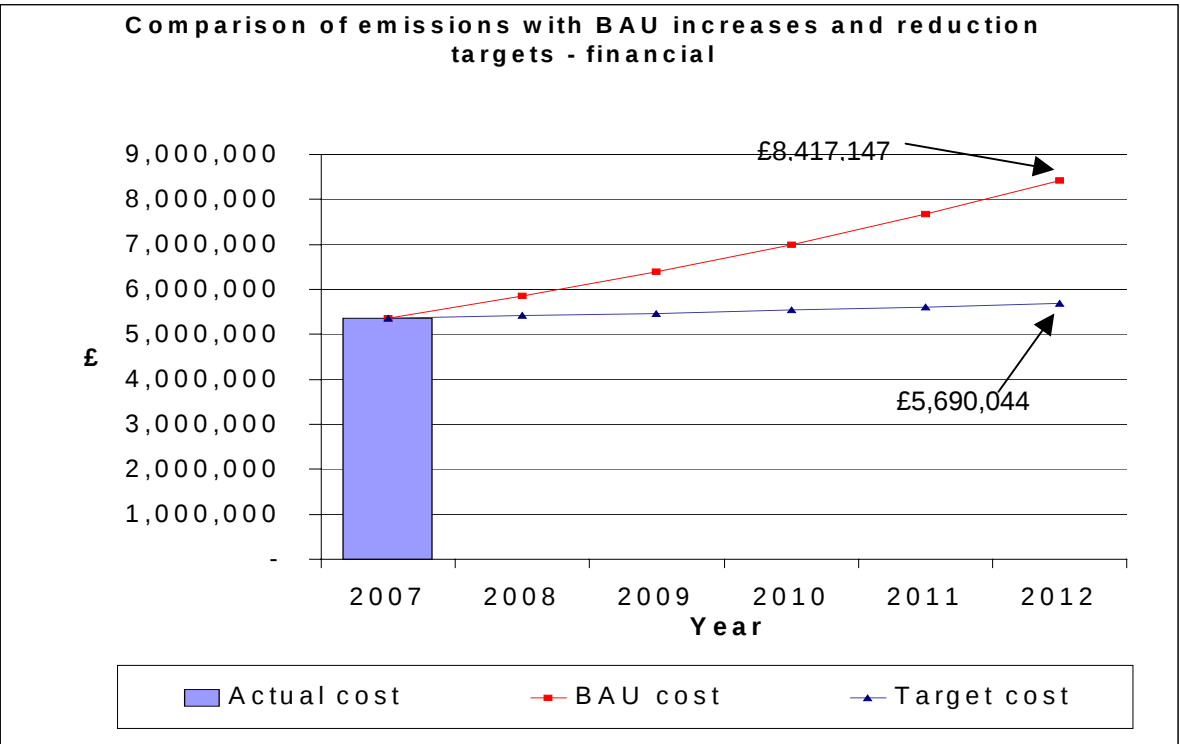
The Carbon Management Programme concentrates on key emitters within the Council's services which include energy consumption in Council owned non domestic buildings and schools, energy consumption in street lighting, fuel consumption within the Council's fleet and business miles travelled. The baseline figures also include municipal waste for the whole of Moray and this has a significant impact on the baseline figures.



The Council's baseline emissions for baseline year 2007 is as follows:



As well as calculating the Council's baseline emissions, the value at stake in undertaking the projects and the potential cost savings associated with action are compelling.





The following projects have been identified to reduce the Council's carbon dioxide emissions and represent a comprehensive package of measures covering various aspects of the Council's emissions addressing both technological and change management challenges.

Awareness raising and behavioural change campaigns

Heating Controls

Vehicle Utilisation

Green Fleet Review

Travel Planning

Promotion of video and teleconferencing and renewable technologies

Server Virtualisation

Procurement of Multifunctional Devices

100% kerbside recycling and composting food waste

Adoption of BREEAM standards

Voltage Optimisation

The implementation of the majority of these projects over the course of this five-year plan would require an investment of just under £1 million that should amount to financial savings of £ 1.8 million. The package of measures identified will also reduce the Council's carbon dioxide emissions by 6000 tonnes that means a 20% reduction in carbon dioxide emissions from the 2007 baseline.

The Moray Council has been highly ambitious from the beginning, deciding to aspire to 30% reduction and include all of Moray's waste. This more challenging target can be reached through the implementation of the identified waste projects but there are significant levels of capital and revenue expenditure involved in the region of £6.15 million. The decision to address waste at a strategic level was based on the strong belief that this is something the Council can influence and has a strong track record in successful delivery of waste initiatives. It is accepted that the primary focus of these projects has not been to reduce emissions or identify cost savings but to meet impending Government targets for recycling and reduce the volume of waste to landfill.

Ultimately, the timely implementation of all of these projects has a significant role to play in reducing the Council's emissions and Moray's carbon footprint in line Community Planning Single Outcome Agreement Objectives.



1 Introduction

The purpose of this document is to provide a robust 5-year framework for the delivery of a variety of projects to achieve a 30% reduction in carbon dioxide emissions. A significant amount of work has been ongoing over several months across various services in the Council in order to establish the Council's baseline emissions. Workshops have been held to identify projects to reduce emissions, these include behavioural change and awareness raising campaigns, promotion of renewable technologies, installation of heating controls and increased use of green IT. Business cases have been developed for all of the identified projects these consider the financial viability and carbon savings associated with the projects. An important element of the plan in terms of its success is the effective and timely implementation of the projects on the ground.

Alongside these projects the Council is also seeking to embed carbon management into its corporate plans, policies and day to day business to ensure it becomes a consideration in decision making across the Council. The Moray Council has already demonstrated its commitment to the environment and emissions reductions through the implementation of an extensive waste minimisation programme currently exceeding Scottish Government targets for recycling. The Council has developed an innovative pilot project to run its fleet vehicle on used cooking oil from schools. As part of the carbon management plan it is hoped to expand on work in both these areas.

2 Carbon Management Strategy

2.1 Context and drivers for Carbon Management

There is now little doubt that climate change is occurring and man-made emissions are a significant contributory factor. In Scotland there is expected to be an increase in the number of extreme rainfall and storm events. Flood events within Moray have shown the destructive potential of extreme weather on communities.

Scotland's net emissions of carbon dioxide in 2005 were over 54 million tonnes, approximately 0.2% of the World's carbon dioxide emissions. Put in context Scotland has 0.08% of the World's population and therefore produces a much greater average amount of carbon dioxide in proportion to its population. The Scottish Government has sought to address this in the creation of a Scottish Climate Change Bill that seeks to create mandatory targets to reduce emissions by 80% by 2050.

Alongside the Climate Change Bill there are other legislative measures that require local authorities to reduce emissions including the Carbon reduction Commitment (CRC) and Energy Performance in Buildings Directive (EPBD). Beyond legislative requirements, energy prices have been particularly volatile and have increased significantly, this has resulted in attractive cost savings associated with cutting carbon emissions.

Implementation of the carbon management plan will assist in meeting the Community Planning Partnerships Single Outcome Agreement (SOA) objectives. One of the commitments within the SOA is to reduce Moray's carbon footprint. Furthermore, the Carbon Management Plan will also link directly to the Council's commitment to prepare a Climate Change Action Plan as it meets 5 of the 7 objectives of the Declaration.

At present the Council is currently undertaking a "Designing Better Services" project to identify efficiency savings, most of the proposals identified as part Carbon Management have significant efficiency savings associated with them and accordingly there is a synergy between the Designing Better Services and the Carbon Management Programme.



2.2 Our low carbon vision

The Moray Council strives to lead by example in its carbon emission reductions and inspire others to take action by:

Implementing a targeted package of effective projects to realise emissions and efficiency savings.

Share best practice and work in partnership with our Community Planning Partners to find local solutions and realise large savings.

Disseminate an effective awareness campaign to Moray Council staff and the wider public.

Embed Carbon Management into the Council's day to day business.

2.3 Strategic themes

This plan focuses on the key carbon dioxide emitters within the Council's control, these have been identified as transport, waste, street lighting and energy in buildings.

There are two distinct types of projects included within the plan and these can be characterised as technological changes i.e. heating, lighting controls, use of renewables and green IT. The other is change management whereby the carbon management is embedded into the Council's policies, procedures, change habits and raise awareness.

2.4 Targets and objectives

The Moray Council will reduce the CO₂ emissions from its activities by 30% from the 2007 baseline, by April 2014

In order to achieve the above target the Council requires to save 8,892 tonnes of carbon dioxide over 5 years. In the first year of the programme it is intended to meet approximately 10% of this target by implementing a package of measures. It should be noted that these projects result in savings year on year over the course of the 5-year plan and therefore account of nearly 50% of all savings across the five-year term. The projects identified for the first year include a focussed awareness raising campaign and creation of a Green Champions Network by early 2010. This action will be supplemented by a rolling programme of energy efficiency projects for example installation of heating controls, loft insulation and voltage optimisation. A significant proportion of the emission reductions in year 1 are dependent on financial backing being given to the Speyside High School biomass project. The Council is part financing this with £200,000 from capital funds, currently alternative funding is being sought from the Climate Challenge Fund, Scottish Community and Householder Renewables Initiative (SCHRI) and the Scottish Rural Development Fund (SRDF)

In the medium to long term the plan has identified a number of projects including server virtualisation, vehicle utilisation and 100% kerbside recycling and composting of food waste. The waste projects have



a significant contribution in terms of carbon savings however they also require high levels of investment. If all the projects are on time over the five-year project the Council could exceed its' 30% target. This is viewed as a built in contingency in the event that projects are not taken forward. It is accepted that over the five time period projects may not receive funding whilst new projects will be identified and the plan must have the flexibility to reflect this. For the above reasons the projects within the plan will be refreshed on an annual basis to reflect changes.

3 Emissions Baseline and Projections

3.1 Scope

The emissions sources for the baseline have been taken from the energy used in street lighting, council buildings, and fleet fuel consumption and business mileage claims from staff and from the amount of waste to landfill. The following sources were excluded from the data gathering exercise, as they did not provide sufficient useful data:

- water consumption and waste water (insufficient accurate data)
- staff commuting data (insufficient accurate data)
- business miles travelled by hire car (data not available)
- business miles travelled by other transport methods.
- council housing (energy usage not controlled by The Moray Council)

3.2 Baseline

The baseline data is for the financial year 2007/08. The data was collected from the following sources:

- Lighting Area Engineer Lighting
- Buildings (non-domestic) Energy Officer
- Travel Fleet Services Manager
School Travel Co-ordinator
Finance Officer
- Waste Waste Management Officer

The following emission factors were used to convert the data into carbon and carbon dioxide figures.

Buildings and lighting

Emission factors		
Energy type	Factor (kg CO ₂ /kWh gross)	Reference
Electricity (grid)	0.523	http://www.defra.gov.uk/environment/business/envrp/pdf/conversion-factors.pdf - Annex 3
Natural gas	0.185	http://www.defra.gov.uk/environment/business/envrp/pdf/conversion-factors.pdf - Annex 1
Gas oil	0.251	http://www.defra.gov.uk/environment/business/envrp/pdf/conversion-factors.pdf - Annex 1



Transport

Fuel or vehicle type	Units	CO2 factor (kg/unit specified)	Reference
Diesel	litres	2.63	http://www.defra.gov.uk/environment/business/envrp/pdf/conversion-factors.pdf - Annex 6
Average petrol car	km	0.21	http://www.defra.gov.uk/environment/business/envrp/pdf/conversion-factors.pdf - Annex 6

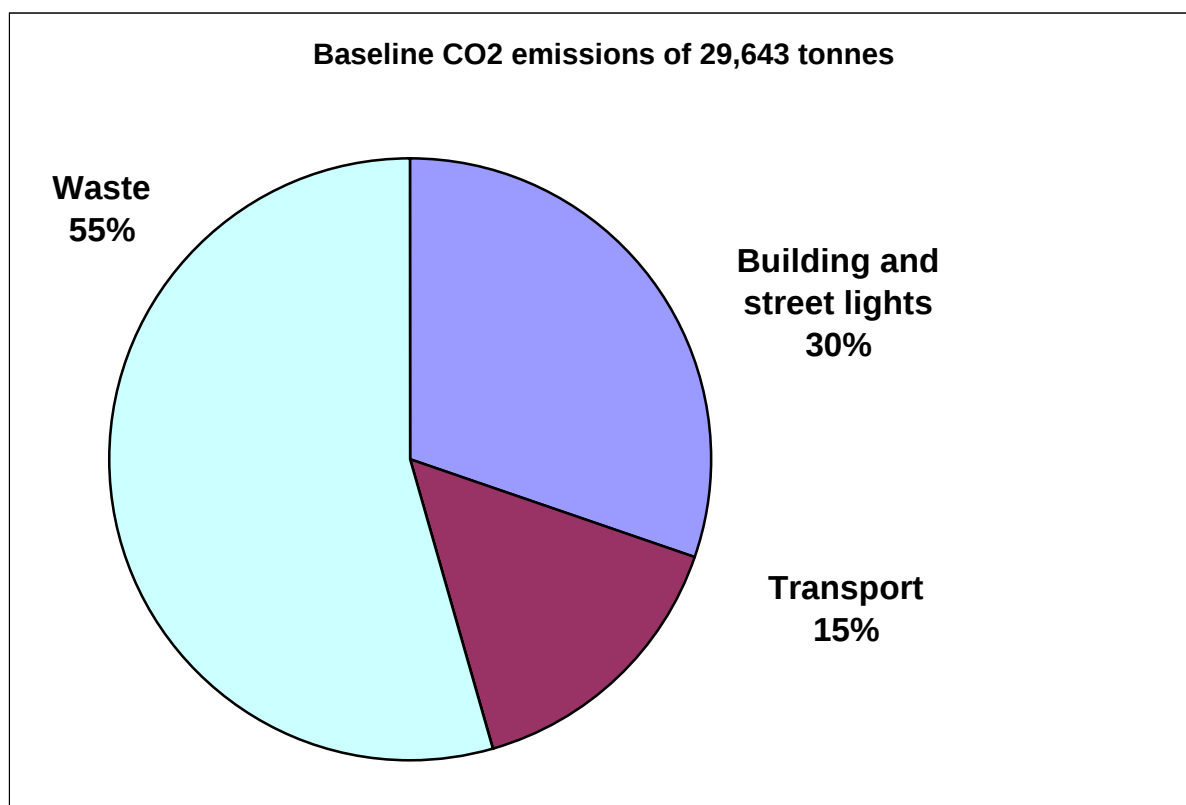
Waste

Emission type	Factor	CO2 units	Cost (£/unit)	Reference
Waste – Landfill (BLG m3/hr)	68300	KgCO2/BLG m3/hr		Information provided by The Carbon Trust

It should be noted that the majority of electricity used in council buildings come from renewable energy sources and therefore does not contribute to the carbon dioxide emissions in this plan. If, in the future, the Council did not purchase its electricity from renewable sources then the carbon dioxide emissions from building would increase significantly. Furthermore, not every council building was included in the baseline calculation as the consumption data for many smaller sites was either unavailable or incomplete. These buildings will be included in future years, as the data becomes available. In taking account of the above it is expected that the baseline in all likelihood will increase as data collection improves and other sources of emissions are included for example the Council's housing stock and commuting figures. This further reinforces that the plan needs to be a fluid document and adapt to forthcoming changes.

	Total	Buildings and street lights	Transport	Waste and Water
Baseline CO₂ emissions (tonnes)	29,643	8,974	4,558	16,111
Baseline Cost (£)	£5,368,296	£2,406,092	£2,962,201	£ -

Summary table of emissions for baseline year 2007



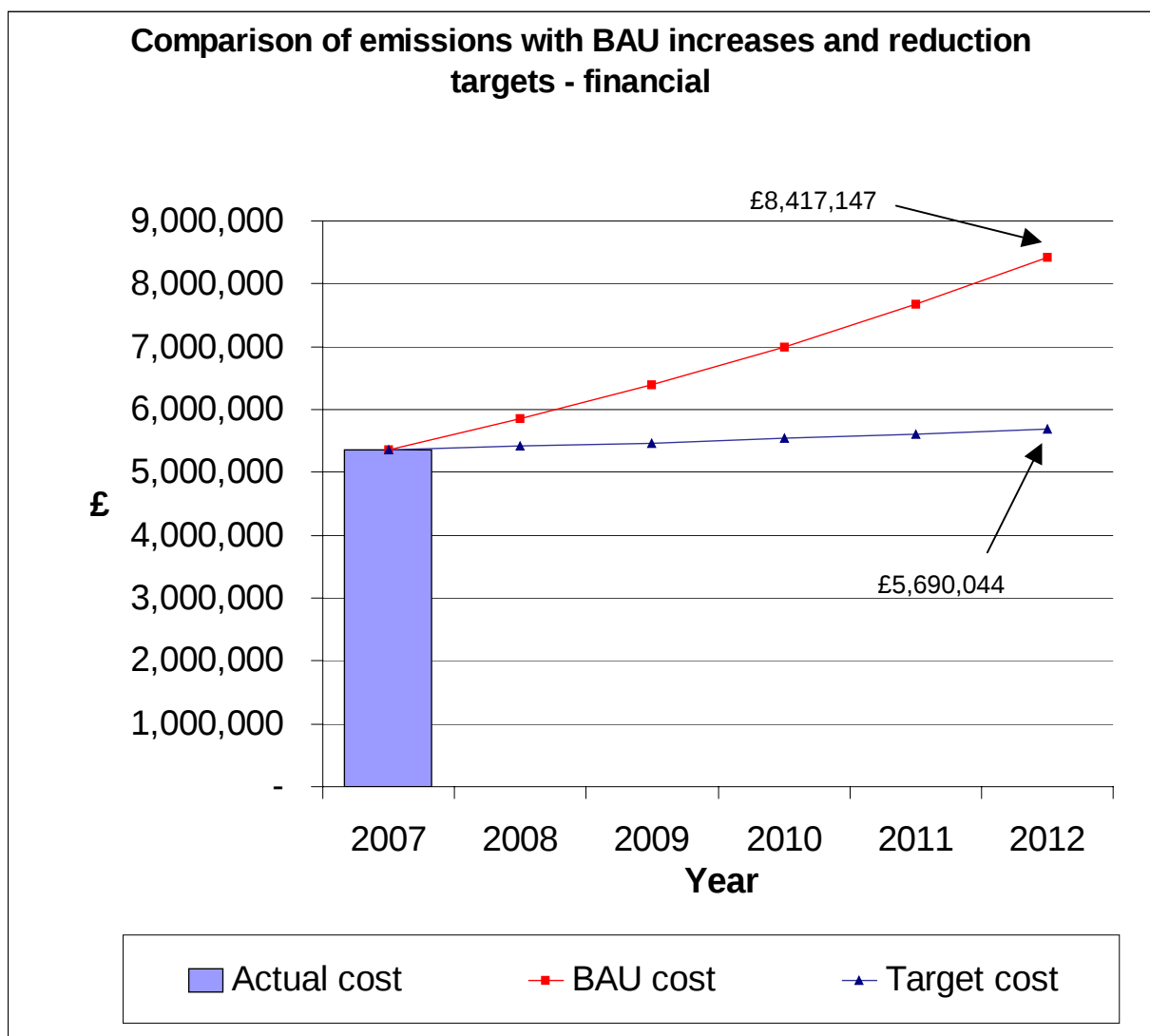
Summary of emissions for baseline year 2007

3.3 Projections and Value at Stake

The Business as Usual (BaU) projection shows the estimated rise in energy costs and energy demand per annum.

- BaU; Increase in energy demand for buildings and lighting; 0.7%, source DTI/DBERR EP68
- BaU; Increase in mileage for Fleet and business travel; 0.7%, source DTI/DBERR EP68
- BaU; Increase in waste to landfill; 0.7%, source DTI/DBERR EP68
- BaU; Increase in electricity costs; 15%, source The Carbon Trust

- BaU; Increase in all other fuels; 6%, source The Carbon



Financial summary of BaU and reduction target

The 'Business as Usual' scenario is based on the '**cost of not doing this programme**' and shows expected costs by 2012. The current costs of £5,368,296 will rise to £8,417,147 by 2012 based on 2007 assumptions of energy costs. This will give an increase of £3,048,851. However by successfully instigating this programme will see the costs rise to £5,690,044 a financial increase of £321,748 (approx 10% of the BaU scenario). The difference between the BaU costs and the Target costs by 2012 will be £2,727,103 (based on 2007 energy costs)

4 Carbon Management Projects

The criteria for Carbon Management Projects has been to ensure that they are not confined to one specific area or department, for example, not just energy saving projects instigated by the Energy Officer but to ensure that a wide range of carbon saving projects are considered.



4.1 Existing projects

Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce	Fin	CO ₂			
TMC - 001	Awareness raising & behavioural change	Planning Officer	£15,000			£46,490	168t	< 1 yr	8.2	2009
TMC - 002	Heating controls	Energy Officer	£116,665			£23,626	128t	4.9 yrs	6.3	2009
TMC - 012	Voltage optimisation	Energy Officer	£21,345			£6,667	38.3t	3.4 yrs	1.9	2009
	Loft insulation	Energy Officer	£16,829			£6386	39.8t	2.7 yrs	2	2008

The rolling programme of energy reduction projects funded by the 'Spend to Save' budget will continue and be reflected in the consumption figures recorded in the baseline toolkit. These will also be recorded in the CMP Register to illustrate reductions.

4.2 Planned / funded projects

Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce	Fin	CO ₂			
TMC - 006	Green fleet review	Fleet Services Manager	£25,000			£42,000	120t	< 1 yr	5.9	2009
TMC - 007	Increased use of video conferencing	ICT	Nil			£200 per mtg	0.072t per mtg	<1 yr	3.5	2009
TMC - 008	Printer rationalisation & multifunctional devices	ICT	£13,500			£15,600	7t	<1 yr	0.3	2009
TMC - 009	Server virtualisation	ICT	£132,000			£10,000	86t	5.2 yrs	4.2	2010
TMC - 011	Vehicle Utilisation	Fleet Services Manager	£50,000			£42,000	120t	<1 yr	5.9	2010
TMC - 013	Embed carbon management into all corporate policies and plans	Head of Dev Services	Nil	£1k		N/k	N/k	N/k	N/k	2009

There are many projects planned for the coming year, mainly in the energy and awareness raising with well worked up projects in terms of Green IT and Fleet Services. The funding for the energy saving projects will come from the 'Spend to Save' and Central Energy Efficiency Fund budgets. Funding is discussed in more detail in Section 5 – Carbon Management Plan Financing.



4.3 Near term projects

Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce	Fin	CO ₂			
TMC – 003	Increased use of renewable technologies (retrofit & new builds)	Educ Services	£358,171	£38,700		£55,050	439t	6.5 yrs	21.5	2009
TMC – 005	Roll out of workplace travel plans	School Travel Co-Ord	External Funding	Existing Staffing			54t	Nil		2009

4.4 Medium to long term projects

Ref	Project	Lead	Cost			Annual Saving		Pay back	% of Target	Year
			Cap'l	Rev'ue	Res'ce	Fin	CO ₂			
TMC – 004	100% kerbside recycling and collection of food waste	Waste Officer	£4.43M	£682K		150K	980t	N/k	48	2011
TMC – 010	Adoption of BREAM standards for refurbishment and new builds.	Planning Officer	% of build cost from 0.8% to 5.7%			£22k	138t	N/k	6.8	N/k

Note: The savings estimated for TMC – 010 are based on the current costs of an average secondary school and projected onto a new build school of similar size.

There are many projects still to be evaluated and have feasibility studies carried out, including Variable Speed Drive and Air Handling Units at Sports and Leisure Centres.

A 'Reserve List' of projects has been made and these projects will be included in the programme as they progress. The 'Reserve List' will include many of the rolling programme of energy saving projects as well as any other carbon reduction project identified as we progress through this programme. Currently the list contains:

Loft insulation upgrades at schools and offices.

Computer software to switch off computers at a designated time.

Computer hardware to ensure that peripherals are switched off when the computer is switched off.

Voltage reduction and optimisation equipment to be fitted to larger consuming buildings.

Building Energy Management Systems (BEMS) to be fitted to larger consumer buildings. (6 primary schools identified for this project – to be carried out over summer 2009).

Heating control systems to be fitted to medium sized users (not suitable for BEMS).

Thermostatic Radiator Valves (TRVs) to be fitted to radiators as required.

Improved lighting and controls to be fitted at various locations.

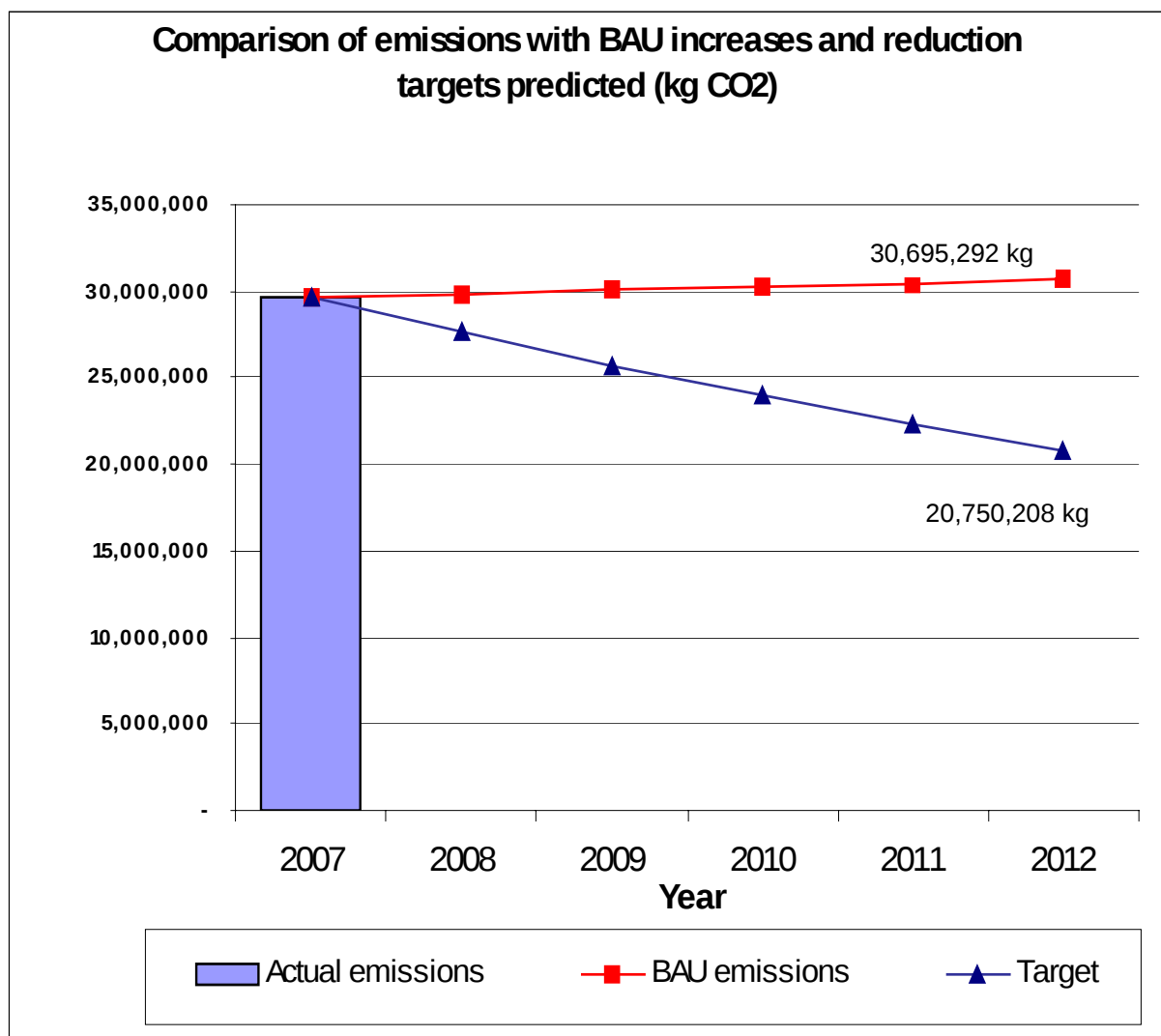
Improve insulation in boiler houses and pipework.

In the future further renewable energy projects will be investigated, these will qualify for funding from CEEF budgets and "Spend to Save" as well as attracting external funding from the Low Carbon Buildings Fund. The Council will always where possible draw down external funding to maximise Council budgets. In terms of waste beyond the implementation of 100% kerbside recycling and food composting the Council has long term plans to look at a heat from waste plant within Moray.

4.5 Projected achievement towards target

Carbon Dioxide emissions summary of BaU and reduction target

The current emissions of 29,643,155 kg (29,643 t) will rise to 30,695,292 kg (30,695 t) by 2012 based on 2007 assumptions. This will give an increase of 1,052,137 kg (1,052 t). However by successfully instigating this programme will see the emissions fall to 20,750,208 kg (20,750 t), a decrease of 8,892,947 kg (8,893 t). The difference between the BaU emissions and the Target emissions by 2012 will be 9,945,084 kg (9,945 t).





The timely implementation of all the projects identified will exceed the 30% target and there may be projects that fail to materialise due to circumstances beyond the council's control and replacement project will have to be identified to fill the gaps. The projects identified at this time will provide a stable base to reduce carbon output and future projects will build upon this.

5 Carbon Management Plan Financing

The implementation of all of these projects over the course of the five-year plan would require an investment of over £7 million. It is anticipated that this will result in financial savings of £ 1.2 million and reduce the Council's carbon dioxide by 30% that equates to almost 9000 tonnes of carbon dioxide.

These headline figures can be broken down further. To achieve a 20% reduction in emissions equating to 6000 tonnes of carbon dioxide the Council would require to invest £750, 000 to achieve savings of £1.2 million. This would mean financing all of the projects with the exception of 100% kerbside recycling and the composting of food waste.

A more challenging target of 30% could be reached through the implementation of the waste projects but there are significant levels of capital and revenue expenditure involved in the region of £6.15 million. The primary focus of these projects has not been to reduce emissions or identify cost savings but to meet impending Government targets for recycling and reduce the volume of waste to landfill.

The majority of the carbon management projects identified do yield financial savings for the Council. In terms of the energy efficiency projects identified the Central Energy Efficiency Fund (CEEF) and the Council's "Spend to Save" budget are the main funding mechanisms. In terms of CEEF monies £246,000 is already available for projects. In order to meet CEEF and Spend to Save criteria the projects identified have a payback of less than 5 years.

A number of the projects identified (travel plans and green fleet review) are supported by Government Funded agencies including the Energy Savings and the Carbon Trust itself. The Council will wherever possible try to fully utilise the expertise of such agencies to support existing and future projects. The Council has allocated £200, 000 of capital funding to the Speyside biomass project and currently alternative funding is being sought from the Climate Challenge Fund, Scottish Community and Householder Renewables Initiative (SCHRI) and the Scottish Rural Development Fund (SRDF).

5.1 Assumptions

The business cases have been developed based in 2007/08 energy prices and these have already increased significantly and accordingly the cost savings identified may have been underestimated.

5.2 Benefits / savings – quantified and un-quantified

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Annual cost saving	Nil	£156,219	£346,219	£388,219	£388,219	£388,219
Annual CO₂ saving	Nil	888t	1094t	2414t	2414t	2414t
% of target achieved	Nil	10%	12%	27%	27%	27%



5.3 Financial costs and sources of funding

Figures in £ 1000's	2009/10	2010/11	2011/12	2012/13	2013/14
Annual costs:					
Total annual capital cost	£829,510	£3904,400	£54,400	£54,400	£29,400
Total annual revenue cost	£38,700	£545,900	£545,900	£545,900	£545,900
Total costs	£868,210	£4,450,300	£600,300	£600,300	£575,300
Committed funding:					
Committed annual capital	£668,339	£3,850,000	£0.00	£0.00	£0.00
Committed annual revenue	£0	£0	£0.00	£0.00	£0.00
Total funded	£668,339	£3,850,000	£0.00	£0.00	£0.00
Unallocated funding					
Unallocated annual capital	£161,171	£54,400	£54,400	£54,400	£29,400
Unallocated annual revenue	£38,700	£545,900	£545,900	£545,900	£545,900
Total unfunded	£199,871	£600,300	£600,300	£600,300	£575,300

6 Actions to Embed Carbon Management in Your Organisation

At the start of the carbon management programme in April 2008 the Carbon Trust asked the Moray Council to evaluate how carbon management was embedded within the organisation. It was concluded that the Council has little engagement with the concept of carbon management and occupied the lower rankings of the Carbon Trusts "Carbon Management Matrix – Embedding" and scored 1 out of a possible 5. The assessment demonstrated that in terms of where we are now, the Council has no climate change or carbon management policies in place at present and there is no recognised carbon reduction responsibility. The lack of data collection in terms of carbon emissions and internal reporting mechanism to monitor progress was also highlighted.

After evaluating the Council's current situation and assessing where we need to be in the next 5 years, the following improvements are required. In the forthcoming months and years the Council will need to embed carbon management into its corporate strategies. The Council has committed to reduce Moray's carbon footprint and this is listed as an objective within the Community Planning Single Outcome Agreement (SOA). In order to monitor progress towards achieving the targets there will be mechanisms put in place from April 2009 onwards to collect data and report progress to senior management on at least an annual basis. This is dealt with in more detail in latter sections of this plan.

6.1 Corporate Strategy – embedding CO₂ saving across your organisation

This Carbon Management Plan (CMP) is associated with other Council initiatives such as Scotland's Climate Change Declaration, Single Outcome Agreement and Designing Better Services. The plan is one of a number of projects that are cross-cutting and affect all Council Services and staff and will not only co-ordinate current actions but will influence future strategies, use of resources and activities. This will require raising the awareness of Climate Change, carbon emissions and reduction, this plan and the benefits accruing to the Council, staff, Moray's communities and the environment. The aims will be to obtain the support and participation of staff in the CMP to achieve its carbon emission targets, and to



embed principles of carbon reduction into the Council's decision making, its strategies, budgets and activities.

6.2 Responsibility – being clear that saving CO₂ is everyone's job

In order to be successful carbon management has to be everyone's responsibility and cannot be left exclusively to the Project Sponsor and Project Leaders to be accountable for action. Staff and senior management need to be fully engaged in the process and made aware of their roles. It is proposed to set up a Green Champions Network across the Council that is endorsed by high level senior officials. This will be linked to an extensive awareness raising campaign to try and raise staff knowledge and enthusiasm for the topic. It is also proposed to include carbon management issues as part of the induction that is delivered to all new Moray Council staff.

6.3 Data Management – measuring the difference, measuring the benefit

The introduction of 'smart meters' will remove the estimated electricity and gas reads at many sites and provide more accurate consumption figures. Also increasing the number of council buildings for which energy data is collected will provide a more accurate account of the council emissions and spending. This data will be collected on a monthly basis.

The collection of transport data including commuting and business travel by other means (rail, air, public transport, etc) will provide a more accurate account. The further increase in expanding the 'Green Travel' plans is hoped to decrease the amount of miles travelled throughout Moray.

The data will be collated and used to provide essential information for the instigation of carbon saving projects. These projects will be under the direct management and control of the relevant officers on the Carbon Management Group. By collecting the data in a central baseline programme will provide benchmarks and historical data to enable projects to be assessed.

All projects will be reported to senior management showing energy and carbon reductions as well as projected financial savings. Staff will be made aware of the ongoing projects and reductions through awareness briefings, posters and articles in the staff magazine. This will help to raise their awareness of the projects and the implications of their energy/fuel use.

6.4 Communication and Training – ensuring everyone is aware

An effective and inclusive communication strategy and training programme is essential to make the wide range of staff aware of their environmental responsibility as an employee and secondly what they can do to reduce emissions. Awareness raising and actions that stimulate behavioural change have a significant role to play in achieving reduction targets. This is especially pertinent when considering that the baseline data has highlighted that 75% of total energy consumption is accounted for by the Council's stock of school buildings.

The main platform for delivery is the roll out of an extensive awareness raising campaign to all staff across the Council and this will commence with a staff survey in early 2009 to gauge attitudes and appetite for the creation of the Green Champions Network. In order to assess success energy data will be collected before and after campaigns to monitor effectiveness. It is intended to add carbon management to the half day induction for all new staff and cover areas such as green travel, energy efficiency and recycling and produce a pack for employees with simple rules to follow. The training of janitorial, cleaning and teaching staff is considered a priority in reducing energy consumption. The Council's internal communications and Personnel section will assist in communicating with staff via the staff magazine, payslip, team briefs, email and internet. At a recent employee conference a session "How big are your feet?" was dedicated to carbon management and it is intended to continue to have carbon management on the agenda of any future employee conferences. This introduction for some staff will be extended to all staff through an official launch of the Carbon Management Plan.



6.5 Policy Alignment – saving CO₂ across your operations

To allow effective embedding of carbon management it has to be reflected in policy at a strategic level. This is the most challenging aspect of the plan and essential to the prolonged success of the programme. Appropriate embedding will also maximise the cost and carbon dioxide savings that can be achieved. The Council has come some way to embed carbon management and key principles associated with it as follows.

Most importantly the Council, within the Community Planning Partnership Single Outcome Agreement which sets out the Council's strategic priorities. This has been endorsed at the most senior level of the Council and by senior officials of the Council's Community Planning Partners that includes for example NHS Grampian, Highlands and Islands Enterprise and Moray, Moray College.

Through the Carbon Management Plan the Council has agreed in principle to the adoption of BREEAM standards putting more emphasis on the whole life costing of buildings and the long term running cost associated with them. This is a significant shift away from capital spending on new buildings that has traditionally been based on the up front build costs. A PPP project for two new schools in Moray has required the buildings meet BREEAM excellent standard.

In terms of Procurement the Council will attempt to influence Scotland Excel and Procurement Scotland to build energy efficiency into all sectoral and national contracts. The Council's procurement team is delivering a sustainable procurement module to all authorised and approved procurers that will include carbon management and consideration of whole life cycle of products and services.

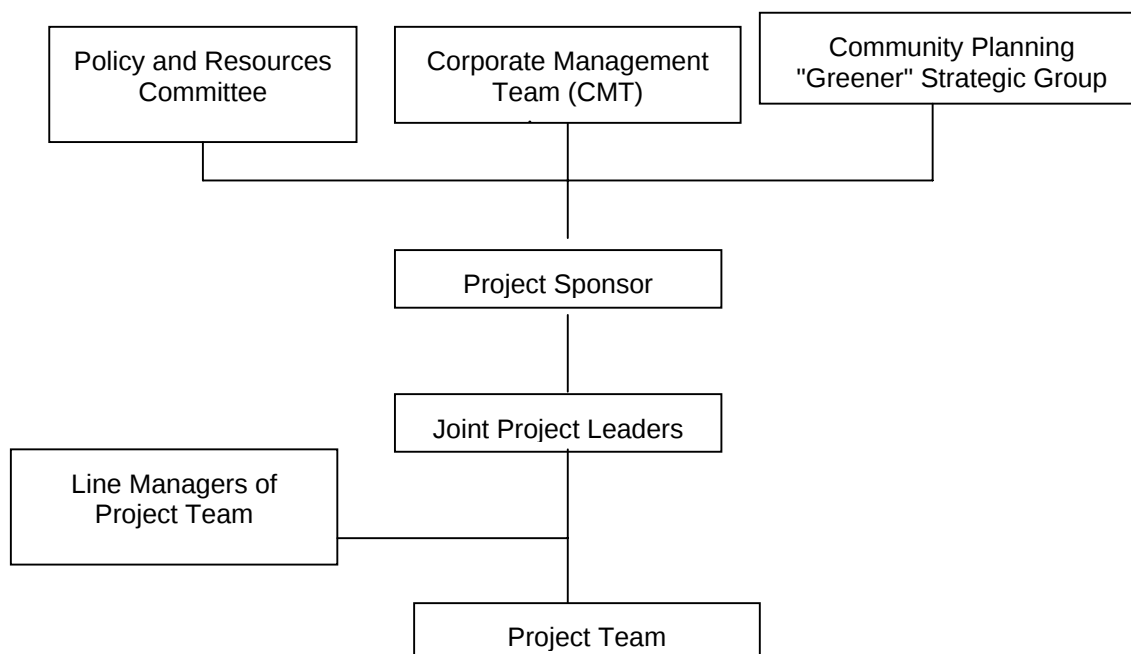
Through the Moray Development Plan the Council is requiring all large-scale developments to demonstrate a 15% reduction in carbon dioxide emissions beyond the 2007 Building Standards Regulations and stipulates the Low and Zero Carbon (LZC) technologies must be used to meet targets. This policy came into effect on 1 September 2008 and will require the Council to incorporate renewable technologies in all major developments.

7 Programme Management of the CM Programme

In order for the carbon management programme to be successful good governance is essential. The Corporate Management Team and Project Sponsor operate at a senior and strategic level and have been closely involved in the background work and preparation of this plan. They have an important role to play in the successful implementation of the plan in assisting in the its delivery and overcoming potential obstacles. The Council as an organisation needs to take on responsibility for carbon management and act to realise the full benefits associated with the plan. The programme only begins with the preparation of the plan and this means ensuring there is staff engagement and the core team continues to work together through the various stages of implementation.

7.1 The Programme Board – strategic ownership and oversight

Governance of Carbon Management Programme within Moray Council



(Vertical lines represent main lines of oversight/decision making and groups and to be kept informed/engaged in the process).

It is intended that the programme board will consist of the Corporate Management Team that represents all of the services involved in the programme. This team is chaired by the Chief Executive of the Council and meets on a monthly basis to discuss strategic issues across the Council. The board will be updated on progress towards targets and the status of projects and made aware of barriers to progress if required. Reports will be produced by the Project Leader and referred to the board through the Project Sponsor. Where it is necessary update reports will be provided to the Greener Strategic Group and the Council's Policy and Resources Committee.

7.2 The Carbon Management Team – delivering the projects

In order to implement the projects identified in this plan a project team will need to be assembled. The membership of this team will include the joint project leaders and the lead officers from key services (e.g. IT, fleet services and waste) identified to deliver the projects. The joint project leaders will then provide the link between the project team and programme board. It is intended that the team will concentrate primarily on the implementation of the rolling programme of projects, discuss mechanisms to record progress and monitor and evaluate success. There are three key roles that require to be fulfilled to facilitate project implementation these are performance and monitoring, supervision of project implementation and support to help deliver. It is anticipated that the two joint project leaders (Energy



Officer and Planning Officer) supported by energy office technical staff would fulfil these and the Project Sponsor address strategic issues and serious impediments.

7.3 Succession planning for key role

The roles of project sponsor and project leader are critical and consideration needs to be given to the impact to the programme if individuals leave posts. At present the programme has joint project leaders in the form of a Planning Officer and Energy Officer, this reduces the impact of any departure and it is unlikely that both will leave at the same time. The loss of an Energy Officer would have a more significant impact as it is intended that all data collation, monitoring and reporting would be the remit of this officer. The Council's Project Sponsor is from within the Development Services Section which is relatively unaffected by Carbon Management, it is likely that this position could be filled by Senior Management post within Direct Services that has responsibility for fleet, waste and street lighting.

7.4 Ongoing stakeholder management

The following key individuals, organisations and stakeholders will require to be kept informed of progress. The following table identifies these and states how they will be engaged, how often and by whom.

Amend table from project plan and adapt

7.5 Annual progress review

The progress towards emission reductions and efficiency savings will be reported on at least an annual basis. It is intended that data will be collected from the relevant Council services on a quarterly basis and responsibility reporting will rest with the Project Leaders and where possible and be incorporated into existing reporting regimes. In terms of reporting mechanisms the Council will modify the template within the CMPR. The Programme Board will be made aware of progress on a quarterly basis with a report detailing carbon dioxide savings made from the baseline and financial savings. This will then be compiled into an annual report to be referred to the Council's Policy and Resources Committee.

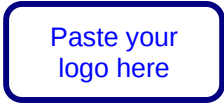
In order to keep the programme fresh the baseline data will be reviewed and a further opportunities workshop will be scheduled for early 2010 to ensure that the plan reflects projects that are being progressed and is aligned to the Council's priorities. The Carbon Trust will also be updated on progress towards targets on an annual basis

Insert CMPR excerpt



Appendix A: Carbon Management Matrix - Embedding

	CORPORATE STRATEGY	PROGRAMME MANAGEMENT	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	POLICY ALIGNMENT *
5	- Top level target allocated across organisation - CO₂ reduction targets in Directorate Business Plans	- Senior Management Team/Committee/Court review progress against targets on quarterly basis - Quarterly diagnostic reports provided to Directorates - Progress against target published externally	- CM integrated in responsibilities of senior managers - CM part of all job descriptions - Central CO₂ reduction advice available - Green Champions leading local action groups	- Quarterly collation of CO₂ emissions for all sources - Data externally verified - M&T in place for: - Buildings - street lighting - waste - transport	- All staff given formalised CO₂ reduction: - induction and training - communications - Joint CM communications with key partners - Staff awareness tested through surveys	- Finance committed for 2+ yrs of Programme - External funding being routinely obtained - Ring-fenced fund for carbon reduction initiatives	- CO₂ friendly operating procedure in place - Central team provide advice and review, when requested - Barriers to CO₂ reduction routinely considered and removed
4	- CO₂ reduction commitment in Corporate Strategy - Top level targets set for CO₂ reduction - Climate Change Strategy reviewed annually	- Sponsor reviews progress and removes blockages through regular Programme Boards - Progress against targets routinely reported to Senior Mgt Team	- CM integrated in to responsibilities of department heads - Senior Management Team/Committee/Court regularly updated - Staff engaged through Green Champion network	- Annual collation of CO₂ emissions for: - buildings - street lighting - transport - waste - Data internally reviewed	- All staff given CO₂ reduction: - induction - communications - CM matters communicated to external community	- Coordinated financing for CO₂ reduction projects via Programme Board - Finances committed 1yr ahead - Some external financing	- Comprehensive review of policies complete - Lower level policies reviewed locally - Unpopular changes being considered
3	- CO₂ reduction vision clearly stated and published - Climate Change Strategy endorsed by Cabinet and publicised with staff	- Core team regularly review CM progress: - Actions - profile & targets - new opportunities	- An individual provides full time focus for CO₂ reduction and coordination across the organisation - Senior Sponsor actively engaged	Collation of CO₂ 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 ad-hoc - Some centralised resource allocated - Finance representation on CM Team	- All high level and some mid level policies reviewed, irregularly - Substantial changes made, showing CO₂ savings
2	- Draft Climate Change Policy - Climate Change references in other strategies	Ad hoc reviews of CM actions progress	CO₂ 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 ad-hoc basis	Ad hoc financing for CO₂ reduction projects	- Partial review of key, high level policies - Some financial quick wins made



1	• No policy • No Climate Change	• No CM monitoring	• No recognised CO₂ reduction responsibility	• No CO₂ emissions data compiled • Estimated billing	• No communication or training	• No specific funding for CO₂ reduction projects	• No alignment of policies for CO₂ reduction
---	---	--	---	---	--	---	---

* Major operational policies and procedures, e.g. Capital Projects, Procurement, HR, Business Travel

Project:	Awareness Raising/Behavioural Change Campaign
Reference:	TMC – 001
Owner (person)	Emma Gordon (Planning Officer)
Department	Corporate (Personnel/ Energy Office)
Description	Awareness raising campaign focussing in on the 15 top carbon dioxide emitting properties in the Council's portfolio. These properties account for 50% of the carbon emissions associate with energy consumption in non-domestic buildings. Awareness raising is proposed to take the form of poster campaigns, magazine articles, payslip messages alongside establishment of a carbon/green champions network, competitions, displays and training events/presentations and staff induction process. Successful awareness raising campaigns have been shown to yield reductions of 10% and in exceptional cases 15%.
Benefits	- Financial savings: £ 232,451 - Payback period: less than 1 year - C₂ Emissions reduction: 840 tonnes of CO₂ - Yr 1 reduction will be 8.2% of target
Funding	- Project cost - £15,000 (over 5 years) - Operational costs - £3,000 p.a. - Source of funding: internal - Decision to be made by senior management (CMT)
Resources	Resources for this project will come from internal sources (staff) to enable delivery and from current internal sources, the Carbon Trust and Energy Saving Trust for posters etc.
Ensuring Success	- Allow sufficient time in terms of staff resources to carry out programme effectively - Actions need to be supported by Personnel Section and Internal Communications - Principal risks are: that the campaign does not received full backing from staff at all levels and that only staff with an interest in this area attend. Lack of resources prevent updated posters, articles etc being produced and staff lose interest.
Measuring Success	- Consumption data will be collected prior to the start of the project. - One year later the data will again be collected and compared
Timing	- Milestones / key dates. - start date: Feb 2009 – send out staff awareness survey - completion date: evaluate savings 01/03/2010 - Start campaigns in Spring and Autumn 2009
Notes	Campaign based on Carbon Trust publication – Creating an Awareness Campaign

Project:	Heating Controls
Reference:	TMC - 002
Owner (person)	Bill Anderson (Energy Officer)
Department	Energy Office, Estate Services Dept
Description	The project involves the fitting and/or upgrading of heating controls. A Building Energy Management System (BEMS) would be the preferred option in all cases but is not always suitable. A rolling programme of upgrading and extending the BEMS at all secondary schools is in progress and therefore these have not been included as individual projects under this plan. The installation of BEMS and minor heating controls is being rolled out to all suitable primary schools and office sites as required. For the purpose of this plan a single project of 6 primary schools will be explained below.
Benefits	- Financial savings: £ 118,130 - Payback period: 4.98 years - CO₂ Emissions reduction: 128 tonnes of CO₂ - Yr 1 reduction will be 6.3% of target
Funding	- Project cost - £116,665 - Operational costs - nil - Internally funded from Council Spend to Save projects budget - Funding currently available for this type of project
Resources	This project will be delivered by the Energy Officer, utilising expertise from local contractors and support from the council Property Dept
Ensuring Success	- Accurate consumption data and layout plans of the site required ensuring that the controls are located correctly and controlling suitable areas. - Principal risks: If the project is not sufficiently financed then the correct controls cannot be purchased and the site will continue to waste energy in over consumption and wasted heat.
Measuring Success	- The heating levels and consumption levels will be monitored to ensure suitable standards of heating are maintained at the correct times. - Annual report on fuel consumption to be reported to senior management
Timing	- There are certain milestones that require attention: - The start date for these projects will be well in advance of the actual installation dates - The controls and control units will be designed and manufactured in advance and held until a suitable time is available for installation. - The installation and commissioning dates will have to be during school holidays to avoid disruption. The completion dates for the projects will be prior to the school restart date.
Notes	This rolling programme will continue until all suitable buildings are completed. The next phase of schools will be carried out during summer 2009.



Project:	Increased use of renewable technologies
Reference:	TMC - 003
Owner (person)	Alison Hannan
Department	Educational Services
Description	A project to replace 2 oil fired boilers supplying heat to Speyside High School, Community Centre and Swimming Pool with a biomass boiler and gas fired standby boiler.
Benefits	- Financial savings: £ 275,250 - Payback period: 6.5 years - CO₂ Emissions reduction: 2,195 tonnes of CO₂ - Yr 1 reduction will be 21.5% of target
Funding	- Project cost: £358,171 (estimated) - Operational costs: £38,700 p.a. (woodchips) - Source of funding: internal - £200,000 from Capital Fund, external – funding not confirmed - approached the following: Scottish Community & Householder Renewables Initiative (SCHRI); Scottish Rural Development Fund (SRDF); Climate Challenge Fund and Renew Services – invest as part of a co-operative - Decision for external funding to be made at end of FY 08/09
Resources	Specialist contractors will be required to support this project. Property Dept will provide assistance as required as CDM Co-ordinator also required.
Ensuring Success	- The Feasibility Study has shown that this project is possible, although it does not include costings for a back-up boiler. Council required to make decision on increasing funding for this boiler. - Principal risks: i) Risks during construction: Timescale of construction during school operation hours. Winter months would require portable boiler might have impact on Swimming Pool and School. Road layout for deliveries to avoid possible accidents around school entrance. Storage for wood pellet and regular supply of local woodchip/pellet ii) Risks post construction Regular supply of local woodfuel pellet/chip - Technical: lack of back-up boiler will jeopardise this project. - Financial: lack of funding for back-up boiler and remaining balance for biomass boiler.
Measuring Success	Energy consumption figures available for comparison before the project is carried out and figures will be available post project. This will be evaluated one year after project completion date.
Timing	- Milestones / key dates: - o start date: poss. Jul 09 - o completion date: Sep 09 This is dependent on sufficient funding being available.
Notes	The successful conclusion of this project will provide a baseline model for future projects.



Project:	100% kerbside recycling and collection of food waste
Reference:	TMC - 004
Owner (person)	Steve Williamson (Waste Management Officer)
Department	Environmental Protection
Description	The extension of kerbside recycling to all households within Moray and the inclusion of food waste and associated treatment of green/food waste. This will require additional vehicles, crews, containers and access to an appropriate treatment plant for the green/food waste.
Benefits	- The object in the first instance is to achieve targets set by Scottish Government by using the most efficient and cost effective methodology whilst giving the maximum environmental benefit. Inaction may result in penalties of £150 per tonne being levied by Scottish Government on landfilling of biodegradable waste over our allowance. The diversion of food waste will ensure that penalties of up to £750k are avoided - CO₂ Emissions reduction: 4900 tonnes of CO₂ - Yr 1 reduction will be 48% of target
Funding	- Project cost: Kerbside - £930,000: Treatment – £3.500,000 - Operational costs: Kerbside - £577,000: Treatment - £105,000 - Revenue savings: £408,000 - Sources of funding: internal funding only. The allocation from the Scottish Government's Zero Waste Fund in RSG has not been ring fenced.
Resources	Staff currently involved in the Waste Implementation Plan Working Group (Estates, Finance, Legal, Fleet Services and Environmental Protection) will assist in the delivery of this project. The Scottish Environmental Protection Agency will also be consulted.
Ensuring Success	- Key success factors are: - Delivery of collection system - reduction in waste to landfill - increase in recycling levels - Principal risks: Lack of financial and timeous action will result in under achievement.
Measuring Success	Performance can be measured directly on comparison with data captured prior to implementation of the extended collection system.
Timing	- Milestones / key dates e.g. - start date: 01/03/2009 pending decision by committee - completion date: 31/03/2014 - purchase of vehicles 2011-13 - Access to composting plant: March 2012
Notes	

Project:	Workplace travel plans
Reference:	TMC - 005
Owner (person)	Chris Thompson (School Travel Co-ordinator)
Department	Transportation
Description	Adoption and implementation of Corporate and office level travel plans. This aims to reduce carbon emissions from travel.
Benefits	- Financial savings: £ nil, no payments made for staff commuting travel - Payback period: N/A - CO₂ Emissions reduction: 1% p.a. 270 tonnes % of target – as above
Funding	- Project cost: linked into Awareness Raising project - Operational costs: £20,000 and staff time. - Source of funding: full funding available from Hitrans.
Resources	Consultancy time from the Energy Saving Trust, Hitrans, Local Office Travel champions and Fleet Management.
Ensuring Success	Communicating travel choice information to employees and encouraging changes in travel behaviour.
Measuring Success	Annual travel survey updates will be administered and compared against the existing baseline survey for HQ and major offices.
Timing	- Milestones / key dates e.g. - Start date: HQ Travel Plan 01/09 - Completion date: Update and staff survey 01/08/2009
Notes	The implementation of this project will hopefully decrease the commuting CO ₂ figures. These figures have not been included in the baseline calculations as no figures were available. They will be included in the baseline after the conclusion of the staff survey when definite figures are available.

Project:	Green fleet review
Reference:	TMC - 006
Owner (person)	Leslie Thomson (Fleet Services Manager)
Department	Environmental Protection (Roads)
Description	Conduct a Green Fleet Review in conjunction with the Energy Saving Trust (EST) with the aim to implement a range of measures that achieve benefits of cutting carbon dioxide emissions, reduce mileage & fleet costs, and encourage innovation with regard to alternative fuels. Opportunity to scrutinise the Authorities grey fleet.
Benefits	- Financial savings: £210,000 - Payback period: less than 1 year - CO₂ Emissions reduction: 600 tonnes of CO₂ - Yr 1 reduction will be 5.9% of target
Funding	- Project cost: £25,000 - Operational costs: nil - Source of funding: internal (EST services provided free). - Any funding decision to be made by senior management
Resources	- Major commitment from internal management to provide information on review. - EST to compile and submit report.
Ensuring Success	- Project must be linked to Fleet Review - Internal examples of good practice must be advertised - Staff require to be educated on gray fleet issues - Principal risks: project given low priority by operational departments and lack of resources.
Measuring Success	- Reduced fleet size and fuel budget - Increase in dual fuel vehicles and alternative fuel vehicle use
Timing	- Milestones / key dates: - start date: as soon as evaluation complete and funding granted - completion date: ongoing project
Notes	

Project:	Increased use of video conferencing
Reference:	TMC - 007
Owner (person)	Phil McDonald (ICT Team Leader)
Department	Finance & ICT
Description	Video conferencing provides an effective alternative method for attending meetings providing savings in time, money and carbon emissions. Currently the Council have 2 video conferencing units one designed for meetings with a number of participants while the other is a more portable unit normally used for one to one meetings. There are three stages to this proposal. The first stage involves the promotion of video conferencing facilities within these meeting rooms and attempting to remove the mystique surrounding this new technology. If this increases the use of video conferencing and if it is established that there is a requirement to enable both units to operate at the same time additional telephone lines could be installed. The final stage would require further consideration and a shift in technology to provide video conferencing at the desk.
Benefits	- Financial savings: £ 200 per meeting - Payback period: less than 1 year - CO₂ Emissions reduction: 72 tonnes - Yr 1 reduction will be 3.5% of target
Funding	- Project cost: £15,000 to replace existing end of life equipment. - Operational costs: Approx. 15p per minute for telephone call charges with minimum energy requirements to power equipment.
Resources	This project can be delivered by current ICT staff and in conjunction with project TMC – 001.
Ensuring Success	- Key success factors: the positive promotion of video conferencing will be required. - Principal risks: video conferencing suite not updated or staff trained in correct use will prevent this project from succeeding
Measuring Success	The number of business trips will be required both prior to and at the end of this project to fully evaluate the savings and reductions.
Timing	- Milestones / key dates: - Promotion of video conferencing – March 2009 - Identify measurement recording procedures – March 2009 - Conduct initial review – September 2009 - Procure replacement unit – following review of initial success.
Notes	- No current information on the number of trips made in a year. This project is based on an estimated 1000 trips to meetings per year. - For this project, the average saving from a 2-hr meeting is £200 and 72 kg of CO₂. - The larger of the Video Conferencing units is end of life and unsupported. This can continue to be used but will be increasingly difficult to repair. Replacement cost is estimated to be £15,000.

Project:	Printer rationalisation/multi-function devices
Reference:	TMC - 008
Owner (person)	Phil McDonald (ICT Team Leader)
Department	Finance & ICT
Description	A "Multi Functional Device" (MFD) is a machine that operates as an all-in-one printer, photocopier, scanner and fax. The Moray Council, as part of a consortium, have awarded the contract for the replacement and maintenance of existing photocopier devices with Multi Functional Devices (MFDs) to Xerox UK Limited. The replacement of the existing photocopiers alone justifies the investment although further savings will be made through replacement of existing devices in a rationalisation programme. With the new photocopiers it will be possible to leverage the Council's hardware and IT investment through a rationalisation programme therefore maximising cost savings, increasing productivity and reducing carbon footprint.
Benefits	- The benefits arising from the photocopier replacement have been based on financial assessment alone. A baseline assessment report identifying the potential reductions in CO₂ emissions will be produced following the installation stage. An estimated range of benefits is produced below based on case study from the Carbon Trust. - Financial savings: £ 78,000 - Payback period: less than 1 year - CO₂ Emissions reduction: 7 tonnes of CO₂ - Yr 1 reduction will be 0.3% of target
Funding	Funding for this project has already been approved based upon a financial assessment of the contract alone.
Resources	This project will be resourced from current ICT staff and contractors.
Ensuring Success	- Key Success Factor: Support from service managers and the positive promotion of Multi Function Devices will be required to ensure the most effective utilisation of this equipment and maximise the benefit. - Principal risk: The full benefits of implementing Multi Function Devices within a rationalisation programme will not be realised if existing devices continue to be used.
Measuring Success	- The baseline assessment report produced in April will provide the backdrop to any further measures of success - Utilisation of the new Multi Function Devices will be recorded and compared against the baseline assessment
Timing	- Milestones / key dates - o start installation of equipment: 01/12/2008 - o conduct baseline assessment: 30/04/2009 - o Completion date: 5 years.
Notes	- Although this project will deliver a reduction in the carbon emissions, an assessment of the anticipated reductions will be undertaken once the equipment has been installed towards end of April. - The rationalisation of equipment will take place over time and as devices are identified and reach end of life. - Further savings will be made in the reduction of consumables.

Project:	Server virtualisation
Reference:	TMC - 009
Owner (person)	Phil McDonald (ICT Team Leader)
Department	Finance & ICT
Description	Approximately 130 servers (and increasing) are in use throughout the council. Unfortunately an increasing number of servers results in increased power requirements with a corresponding increase in demand for cooling requirements. One method of reducing the number of physical servers is to introduce a server consolidation programme through virtualisation. In a virtualised server infrastructure environment a number of virtual servers can exist on a single physical server therefore reducing the number of physical servers required to perform the same functions. A recent independent study of the server room found that of the 130 servers, 111 were capable of being virtualised down to 7 or 8 physical servers providing a consolidation ratio of approximately 14:1.
Benefits	- Financial savings: £ 50,000 - Payback period: 5.2 years - CO₂ Emissions reduction: 430 tonnes of CO₂ - Yr 1 reduction will be 4.2% of target
Funding	- Project cost: £132,000 - Operational costs: £7,200 p.a. - Source of funding: internal funding for the extra costs can be offset by the savings made by energy reductions; funding required for server replacement - If a pro-active 5-year server replacement programme were implemented then £77,000 per annum would be spent on servers.
Resources	This project will be resourced from current ICT staff and contractors.
Ensuring Success	Any aspect of virtualisation will reduce energy consumption from the servers and reduce the load on the air conditioning units. Full virtualisation will be required to make the above savings.
Measuring Success	- Energy consumption prior to the project implementation will be recorded. - The energy consumption can be recorded at various phases of the project to record consumption reduction
Timing	- Milestones / key dates - start date: no definite start date until project approved - completion date: 5 years after start date - savings will be noticed at the end of each phase.
Notes	The success of this project will depend on a pro-active server replacement programme.

Project:	Adoption of BREEAM standards for refurbishment and new builds
Reference:	TMC - 010
Owner (person)	Emma Gordon
Department	Planning officer
Description	BREEAM (Building Research Establishment Environmental Assessment Method) is a widely used environmental assessment method for buildings. Buildings are assessed against set criteria to provide an overall score. The Council has selected the BREEAM very good rating for all new buildings.
Benefits	- Financial savings: £ 110,800 - Payback period: n/k years - CO₂ Emissions reduction: 690 tonnes of CO₂ - Yr 1 reduction will be 6.8% of target This is based on the current costs of an average sized secondary school if replaced by school of BREEAM 'Very Good' standard.
Funding	- Project cost: capital costs vary dependent on the site - Primary schools; between 1.8% to 3.8% - Secondary schools; between 0.8% to 2.7% - Air conditioned office block; between 0.1% to 5.7%
Resources	New building contractors will be required as well as support from present staff.
Ensuring Success	- The principal risk is the perception that BREEAM will incur substantial additional costs. To mitigate this risk there needs to be staff training and awareness of BREEAM. Commitment across the Council and Senior Management - Principal risks: technical - Lack of in house expertise and BREEAM assessors. Lack of commitment to implementing BREEAM - Financial: lack of funding to meet the standards
Measuring Success	Energy monitoring will show the reduced consumption levels achieved in these buildings compared with traditional build buildings.
Timing	Research currently underway by BRE and PPP Team.
Notes	Lower energy consumption will reduce carbon emissions. Running costs will be less than that of traditionally built buildings and capital costs will be recouped over life of building.

Project:	Vehicle utilisation
Reference:	TMC - 011
Owner (person)	Leslie Thomson (Fleet Services Manager)
Department	Environmental Protection (Roads)
Description	Best utilisation of the Council vehicle fleet will reduce cost and carbon use. This can be achieved by analysing the number of dual purpose and shared vehicles on the fleet. Also by analysing departmental vehicle specification to ensure vehicles are fit for purpose and establishing the core fleet operational requirement for each section. This will reduce the overall number of vehicles and cost of ownership as well as reduce external spot hires. It will determine low utilisation vehicles and evaluate the use of pool cars at strategic locations. Vehicle tracking systems will be evaluated to reduce unauthorised vehicle use.
Benefits	- Financial savings: £ 210,000 - Payback period: less than 1 year - CO₂ Emissions reduction: 600 tonnes of CO₂ - Yr 1 reduction will be 5.9% of target
Funding	- Project cost: £50,000 - Operational costs: nil - Source of funding: internal funding required. - Senior management approval required
Resources	- Management resources required as each department will be required to identify their core fleet specifications and numbers. - Operational Section Managers will be required to represent each department.
Ensuring Success	- Key success factors: - Internal examples of good practice identified, Econ Unibodies, hooklifts and sharing of Ground and Roads plant - Clear links to Designing Better Services and Green Fleet Review - Principal risks: project given low priority by operational departments and lack of resources.
Measuring Success	- Reduced fleet size and fuel budget - Increase in dual fuel vehicles and alternative fuel vehicle use
Timing	- Milestones / key dates: - start date: as soon as evaluation complete and funding granted - completion date: ongoing project
Notes	This project could also increase productivity by providing the correct vehicle for a task.

Project:	Voltage optimisation
Reference:	TMC - 012
Owner (person)	Bill Anderson (Energy Officer)
Department	Energy Office, Estates Services Dept
Description	The project involves the fitting of a voltage reduction device that will reduce the supply voltage to the site and thus reduce the power consumption by equipment within the site. The size and capacity of the device depends on the power consumption and the maximum demand of the site. The device reduces the operating voltage supplied to equipment from the current 240-250 volts closer to the nominal 220-230 volts. It will not decrease it below the European minimum level of 216 volts. This project was carried out on two sites.
Benefits	- Financial savings: £33,335 - Payback period: 3 years 5 months - CO₂ Emissions reduction: 191.5 tonnes of CO₂ - Yr 1 reduction will be 1.9% of target
Funding	- Project cost - £21,345 - Operational costs - nil - Internally funded from Council Spend to Save projects budget - Funding currently available for this type of project
Resources	This project will be delivered by the Energy Officer, utilising expertise from local contractors and support from the council Property Dept
Ensuring Success	- Accurate consumption data required ensuring that unit is sized correctly to the site and the voltage is optimised to the correct level. - Principal risks: If the project is not sufficiently financed then the unit cannot be purchased and the site will continue to waste energy in over consumption.
Measuring Success	- The electricity consumption will be monitored to ensure that it has decreased and thus emissions decreased. - Annual report on electricity consumption to be reported to senior management.
Timing	- There are certain milestones that require attention: - Data collection – one week's worth of voltage levels recorded at the closest and furthest points of the input supply to assess the levels. - Evaluation of voltage levels and consumption data to size unit required. - Business case based on unit costs, fitting costs and estimated savings to be made. - Unit purchased and fitted. - Savings started on installation of unit. - Monitoring of consumption to determine actual savings and emission reductions.
Notes	Although this project reduces electricity consumption and the electricity consumed is from a renewable source, it has been included, as the reduction will allow other users to source a 'green' supply. This will continue as part of a rolling programme.

Project:	Embedding Carbon Management in Corporate Policies and Plans
Reference:	TMC - 013
Owner (person)	Stewart Halkett (Head of Development Services)
Department	Development Services
Description	The Carbon Management Plan (CMP) is associated with other Council initiatives such as Scotland's Climate Change Declaration, Single Outcome Agreement and Designing Better Services. The CMP is one of a number of projects that are crosscutting and affect all Council Services and staff. The CMP will not only co-ordinate current actions but will influence future strategies, use of resources and activities. This will require raising the awareness of Climate Change, carbon emissions and reduction, the CMP and the benefits accruing to the Council, staff, Moray's communities and the environment. The aims will be to obtain the support and participation of staff in the CMP to achieve its carbon emission targets, and to embed principles of carbon reduction into the Council's decision making, its strategies, budgets and activities.
Benefits	- Objective to embed the CMP into Council strategies. Policies and activities to achieve carbon reductions and financial savings - See individual projects
Funding	- Operational costs: £1,000 p.a. - Source of funding: internal funding from departmental budgets and energy efficiency budgets
Resources	The Sponsor and Joint Project Leaders of the CMP will be required to assist the Core Team on implementing the 'embedding' proposals
Ensuring Success	- Key success factors: - Achieving annual and 5 year period reductions in carbon emissions. - Inclusion of carbon reduction in strategies, policies or decisions. - Evidence of staff training, communications, feedback - Principal risks: lack of commitment to communications, staff involvement and embedding of carbon reduction in Council activities.
Measuring Success	Achievement of carbon emission reductions
Timing	- Milestones / key dates: - The commitment on resourcing, budgets and staff will be agreed by 01/03/2009 - Website established by 01/04/2009 - Include in staff induction by 01/04/2009 - Inclusion of carbon emission reduction in strategic decision making by 01/07/2009
Notes	