



Audit Scotland
Carbon Management Programme
for smaller organisations

Carbon Management Plan (CMP)

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Foreword from the Auditor General for Scotland and Chair of the Audit Scotland Board

Climate change represents a significant, long-term challenge for Scotland and the rest of the world. Scotland has ambitious targets to reduce its emissions of greenhouse gases over future decades. Audit Scotland will play a key role in holding public sector organisations to account for and helping them to improve their performance in this area. We are also committed to reducing the greenhouse gas emissions that are caused by our own operations – this is the focus of this plan.

During 2008/09, Audit Scotland produced around 533 tonnes of carbon dioxide (CO₂). Around 60 per cent of our emissions came from energy used to heat and light our buildings and power our computer equipment. The majority of the rest are caused by the travel that is an important part of our work. We plan to reduce our total CO₂ emissions by 20 per cent over the next five years.

Over the last four years, with the support of our staff, we have implemented a number of initiatives to reduce our use of energy and increase our use of public transport and recycling. Now, with the support of the Carbon Trust, we have developed a plan which will help us achieve more ambitious CO₂ reduction targets. The plan includes consolidating our Edinburgh property portfolio; reducing the impact of our business travel; and capping the emissions of leased cars.

Robert W Black
Auditor General for Scotland

John Baillie
Chair of Audit Scotland Board

Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for all public bodies - 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.

Audit Scotland was selected in 2009, amidst strong competition, to take part in this ambitious programme. Audit Scotland 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 20% by 2014 and underpins potential financial savings to the organisation of around £40,000.

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 Audit Scotland in its ongoing implementation of carbon management.

A handwritten signature in blue ink, appearing to read 'Richard Rugg'.

Richard Rugg
Head of Public Sector, Carbon Trust





1 Introduction and summary

1.1 Introduction

In 2005, Audit Scotland committed to reduce the impact of its work on the environment and our corporate plan for 2009/12 commits us to reducing our carbon footprint. Since 2005, our Environment Group has developed a number of initiatives to contribute to reducing our impact on the environment (Exhibit 1).

Exhibit 1 Audit Scotland initiatives to reduce its impact on the environment

- Awareness campaigns
- Motion sensitive lighting introduced into communal areas in 18 George Street
- Water coolers removed from 18 George Street and replaced by chilled mains water
- Bike-to-work scheme offered to staff every second year
- All reports are now published on 100% recycled paper
- Printers are set to double-sided by default
- Fair trade tea and coffee used for meetings
- Recycling of plastic, glass and paper
- Single journey bus tickets available to reduce use of taxis for short journeys
- Policy to encourage travel by train instead of plane.
- Office printers replaced with fewer and more efficient multi function devices
- Reducing the number of servers from 37 to 15
- Video conferencing facilities installed
- Moving from desktop and laptop computers to Thin Clients and fewer laptops
- Reducing the number of phones / PDAs from 237 to 160.

Source: Audit Scotland

This Carbon Management Plan provides a framework for Audit Scotland to reduce its carbon dioxide (CO₂) emissions. By participating in the Carbon Management Programme we are benefiting from the expertise and assistance of the Carbon Trust.

1.2 Summary

In 2008/09, Audit Scotland's operations resulted in the emission of 533 tonnes of CO₂. The majority of these emissions come from the energy used to heat and light our buildings and power our computer equipment, and business travel to carry out our work.

We have set a target to reduce our emissions of CO₂ by 20 per cent by 2014. In practice, this means we aim to reduce our emissions by 107 tonnes. To achieve this ambitious target we will focus on the following projects:

- closing our Osborne House office in Edinburgh and therefore saving energy
- reducing the amount of energy used to support information technology
- reducing business car travel
- capping the emissions of our leased fleet.

Reducing our energy consumption is also important financially as energy prices continue to rise and public finances become more restricted. We estimate that the actions taken in this plan will save around £40,000 over the period to 2014.

This Plan was originally approved by Audit Scotland's Management Group on 27 April 2010 and presented to the Board on 3 June. This plan was revised in April 2011 to capture changes to the projects and refinements to the benchmark data. Emissions in the benchmark year are up from 480 tonnes to 533 tonnes. This means that the overall target of a 20% reduction in emissions now equates to 107 tonnes instead of 97 tonnes.



2 Carbon management strategy

2.1 Context – our role and vision

Audit Scotland is responsible for the audit of public bodies in Scotland. We hold them to account and help them to improve. Reducing CO₂ emissions will be a significant challenge for the public sector over the next few years and decades, and we are developing an approach for assessing the public sector's performance in responding to climate change. We are also committed to reducing our own emissions of CO₂ and have adopted the following vision:

We will maximise our contribution to Scotland's carbon reduction commitment through our audit work and by changing the way we operate.

2.2 Drivers for carbon management

The Climate Change (Scotland) Act 2009 sets ambitious targets to reduce Scotland's greenhouse gas emissions by 42 percent by 2020 and an 80 percent reduction by 2050 in comparison with 1990 levels. Achieving these outcomes will require radical changes to Scotland's infrastructure and also to collective and individual attitudes and behaviours.

Audit Scotland and the wider public sector have key roles to play as leaders and role models in reducing greenhouse gas emissions. The Act places a duty on all public bodies – including Audit Scotland - to act "*in the way best calculated to contribute to the delivery*" of targets to reduce greenhouse gas emissions.

Energy costs have more than doubled since 2004. The Carbon Trust suggests that prices will continue to rise over the period of this plan by around eight percent each year. Reducing our energy consumption will not only reduce our emissions of greenhouse gases but will also reduce the impact of rising energy prices on our costs and therefore on the fees that we charge our clients.

2.3 Strategic themes and our target

We recognise the challenges facing public bodies across Scotland to deliver public services in a recession and that difficult decisions need to be made about competing priorities and how best to spend tighter budgets. In managing our own organisation we are faced with the same issues and recognise the vital contribution that reduced emissions can make to managing our costs and achieving our annual efficiency savings.

Over the past five years we have implemented a wide range of measures to reduce our impact on the environment and most of the "quick wins" have now been achieved. The focus of our work is now shifting to areas where greater effort is required to achieve significant reductions in emissions. With the encouragement of the Carbon Trust we have set an ambitious target of reducing our carbon footprint by 20% by 2014 – a reduction of over 100 tonnes from the 2008/09 baseline.

The majority of our emissions come from energy used in our leased offices and business travel so these are the areas where we will seek the greatest reduction. Our focus in this plan is to identify high impact projects that will deliver significant reductions in CO₂. These new projects will be in addition to the projects that are already underway and those that are planned. We will review progress annually.

We have set an ambitious target of reducing our carbon footprint by 20% by 2014 – a reduction of 107 tonnes from the 2008/09 baseline.



3 Emissions baseline and projections

3.1 Scope

Over the past five years we have implemented a wide range of measures to reduce our impact on the environment and most of the “quick wins” have now been achieved. The focus of our work is now shifting to areas where greater effort is required to achieve significant reductions in emissions. The scope includes CO₂ emissions from the delivery of Audit Scotland’s functions. It relates mainly to the energy used in buildings and travel to carry out our work. It includes:

- energy used in our six leased offices in Edinburgh (x 3), East Kilbride, Inverness and Aberdeen
- all business travel
- waste we produce.

The following areas are currently excluded from the scope of the programme:

- employee commuting
- water used in buildings
- energy used by employees working from home
- embedded emissions in the goods procured by Audit Scotland
- emissions from work carried out by private audit firms and other contractors.

3.2 The baseline position

The baseline year chosen for this programme is financial year 2008/09. We estimate that in 2008/09 Audit Scotland produced 533 tonnes of CO₂ – as detailed in exhibit 2.

We recognise that some of our baseline data is still uncertain and aim to improve our data capture. We may need to adjust our baseline data and our target as our information gathering improves.

Exhibit 2: Summary of emissions and costs for baseline year 2008/09

	Energy	Business travel	Waste and water	Total
Baseline CO₂ emissions (tonnes)	308	216	9	533
Baseline Cost (£)	£93,006	£180,247	unknown	£273,253

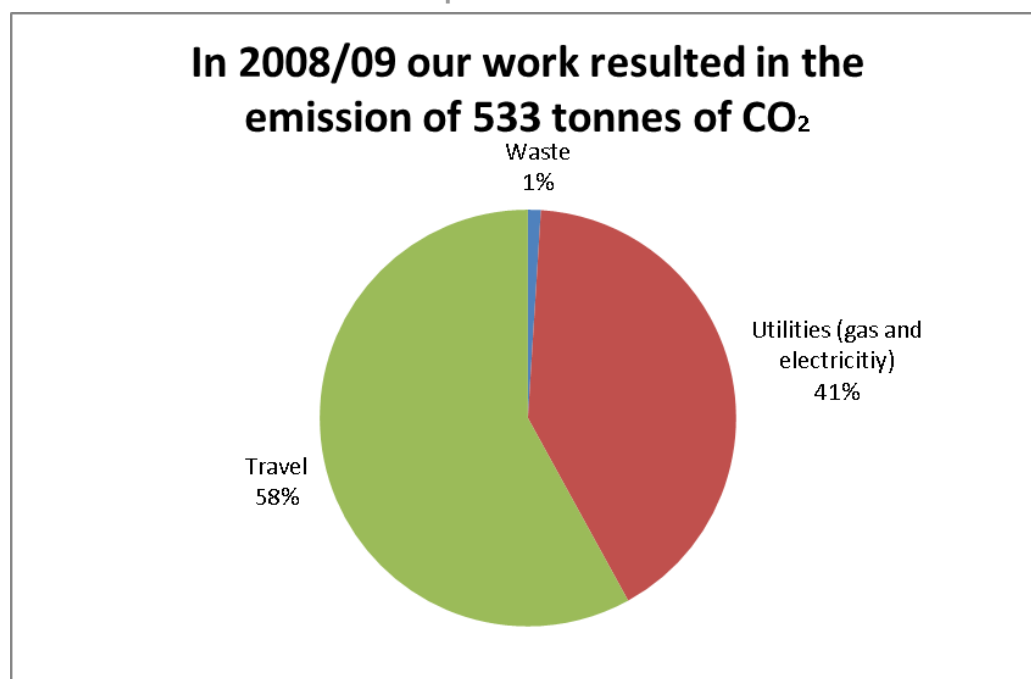
Notes:

1. *The revised baseline emissions are higher than in previously published information. The revised data represents a more realistic picture of our overall CO₂ emissions, as it includes estimates of energy used in buildings where we are not able to directly measure use ie 18 George Street and Osborne House. The estimates are derived from costs used in reports produced by the Energy Savings Trust.*
2. *We have do not have comprehensive costs for all travel. We are using costs only for business car travel and air and rail travel booked through the Travel Company.*
3. *A breakdown of the baseline data used to inform this report is included in Appendix A together with a discussion of the caveats about data accuracy and the assumptions made.*

Source: Audit Scotland

This data in exhibit 3 shows that in 2008/09, 58% of Audit Scotland’s emissions come from energy used in our buildings. The other significant source of emissions was business related travel which represents 40% of the total.

Exhibit 3: Our revised Carbon footprint for 2008/09



Source: Audit Scotland

Energy related emission

Energy used in our buildings creates 308 tonnes of carbon emissions. Exhibit 4 shows the amount of energy used in each building in the baseline year. Because our offices are all leased properties there are some constraints on what we are able to do to reduce emissions but we have identified three key opportunities to reduce energy related emissions. We aim to rationalise our property portfolio when lease break opportunities arise and in 2012 plan to close our Osborne House office and to close our Aberdeen office in 2012. In addition, we plan to make improvements to our Information Technology infrastructure to reduce the amount of energy we use.

Exhibit 4: Emissions by building/source 2008/09

Emissions data for 2008/09	Emissions from electricity (tonnes CO ₂)	Emissions from gas (tonnes CO ₂)	Waste to landfill (tonnes CO ₂)	Water (tonnes CO ₂)	Total emissions
110 George Street	36	20	6	<1	64
18 George Street	72	61	2	n/a	136
Osborne House	40	22	n/a	n/a	62
East Kilbride	27	22	n/a	n/a	49
Inverness	2	1	n/a	n/a	3
Aberdeen	2	1	n/a	n/a	3
Sub total	179	129	9		317

Notes:

- Where the energy monitoring data is reasonably reliable we have used it. We estimated the amount of electricity used in Osborne House and gas used in 18 George Street from their cost.



2. We have included information for water usage where we have it.

Source: Audit Scotland

Travel related emissions

Our business travel created 216 tonnes of carbon or 40% of our total emissions. Exhibit 5 provides a breakdown of the different types of business travel and shows that travel by car creates 172 tonnes of carbon and is the main source of travel related emissions.

Business car travel comprises a mixture of Audit Scotland fleet cars and private cars used for business travel. Our leased fleet comprises around 100 cars. In total we travelled over 800,000 km in 2008/09 (over 500,000 miles). Using the Carbon Trust carbon calculator our business car travel generated 172 tonnes of carbon in the baseline year.

Looking to the future, we will attempt to reduce the emissions from our fleet by capping, or placing an upper emission limit, on the cars available for lease. In addition, we will attempt to reduce the miles travelled by car by using more public transport and video conferencing, and through improved travel planning.

Exhibit 5: Emissions by mode of travel 2008/09

Mode of travel	Distance travelled (km)	Cost	CO ₂ emission (tonnes)	Proportion of total travel related CO ₂ emissions
Business car	830,571	£93,716	172	80%
Rail	211,379	£29,581	12.7	6%
Air domestic	133,287	£41,522	25.5	12%
Air long haul	24,274	See note 2	2.9	1%
Bus	10,444	£2,643	1.1	<1%
Air short haul	9,094	See note 2	0.9	<1%
Taxi	3,999	£12,785	0.8	<1%
Total	1,196,109	£180,247	216	100

Notes:

1. The above baseline data for travel is slightly underestimated: it includes car travel and other travel booked centrally but excludes public transport and air travel booked directly by individuals and reclaimed through our expenses system. We hope to include this additional travel information in future and will revise our baseline accordingly.
2. Air domestic cost is a total for all air travel.
3. CO₂ emissions for business car travel has been calculated using the Carbon Trusts carbon calculator.

Source: Audit Scotland

3.3 Overall cost/value at stake

Using the baseline data we have calculated a business as usual emissions scenario for each year until 2014. The projection uses a Carbon Trust assumption that energy use is likely to increase by 0.7% and shows that if we do nothing we will generate an additional 10 tonnes of CO₂ by 2014.

We have also projected the likely increase in cost of energy, car travel and waste using the baseline data and assumptions provided by the Carbon Trust. If we do nothing to reduce emissions the cost of energy, car travel and waste will increase by over £90,000 by 2014.

Section 4 of this plan identifies the projects we will carry out to achieve our target.



4. Carbon management projects

4.1 Existing projects

Throughout the period of this plan we will continue with the projects and good work carried out by our Environment Group as these will help us to achieve our target. During 2010, the following projects will be pursued by the Environment Group:

- remove waste paper bins from desks and introduce bin islands
- promote public transport, for example, through single journey bus tickets
- implement the recommendations from the 110 George Street heating review.

4.2 Planned projects

We will embark on some new projects focusing on reducing emissions from energy used in buildings and business travel as these are our main sources of emissions.

We recognise that there are some restrictions on what we will be able to achieve given that:

- we have already taken many opportunities to reduce travel and energy use
- we have to travel throughout Scotland in order to effectively carry out our audit work
- we are a relatively small, office-based organisation with rented accommodation
- we have plans to rationalise our property portfolio over the period of this plan and beyond.

Despite these restrictions we have identified a number of projects, as listed in exhibit 6, which will help to reduce our carbon footprint by our target of 107 tonnes. We have calculated the likely CO₂ savings from each of the projects and believe that we will be able to achieve our target if we successfully implement them. Appendix B provides more detail on each project.

Exhibit 6: Planned projects

Ref	Project	Lead	Saving		Year
			Financial	CO ₂	
1	Reduce the amount of energy used by: <ul style="list-style-type: none"> • closing our Osborne House Office and • closing our Aberdeen office 	David Hanlon	£19,500	62t 3t	2012/13 2012
2	Reduce the amount of energy used in our information technology	Allan Davie	£7,000	28t	
3	Reduce the number of business car miles travelled by 10%	Directors	£9,400	12t	2010/11 – 13/14
4	Reduce the carbon profile of our leased cars	Diane McGiffen	---	7t	2011/12
5	Reduce the amount of waste we produce	Mary Muir	---	1t	
6	Introduce carbon impact assessment for policies	Diane McGiffen	---	nil	
7	Improve our data capture, analysis and reporting arrangements	David Hanlon John Lincoln	---	nil	
	Total		£35,900	113t	

Notes:

1. The financial savings “total” in exhibit 6 does not account for inflation and therefore does not match the potential savings identified elsewhere in this report.
2. In implementing project 4 the goal will be to work within the existing financial envelope.

Source: Audit Scotland

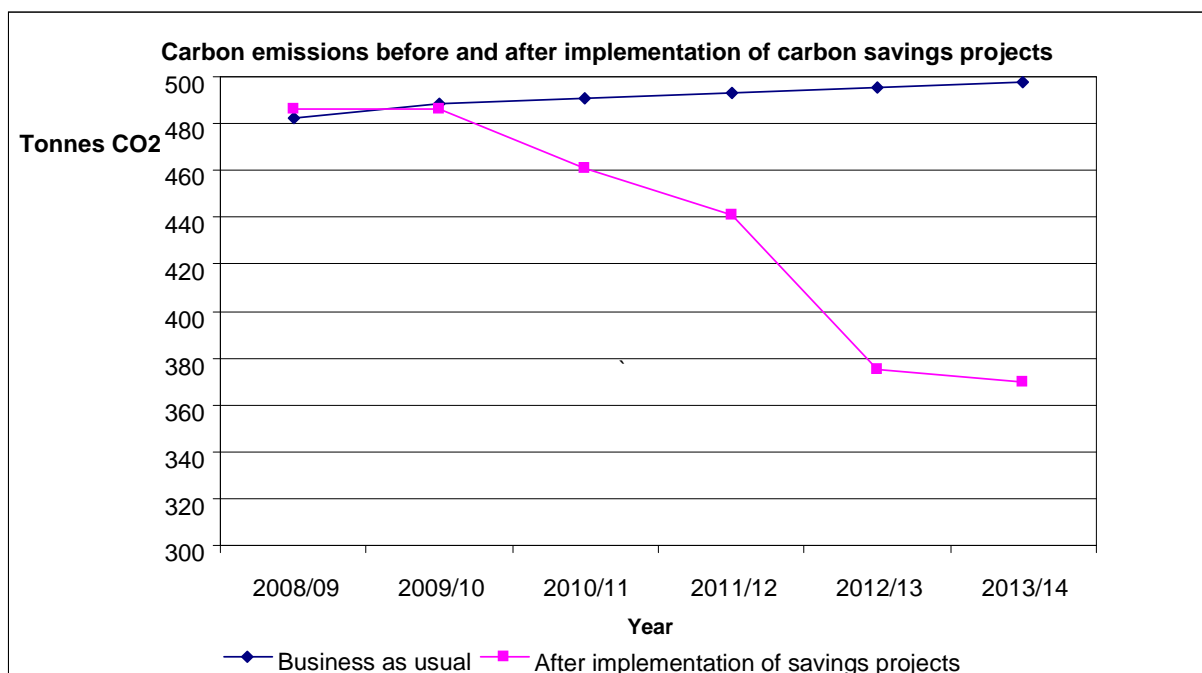


Although exhibit 6 implies that we have the potential to cut emissions by 113 tonnes this figure should be treated with some caution for the following reasons:

- in the process of reducing business car travel by 10% we will probably increase the amount of travel by rail and other means. We have accounted for the worst case scenario assuming that all of the miles are travelled by rail instead of car.
- In the process of closing our Osborne House office and transferring staff to our other Edinburgh Offices we are likely to increase the amount of energy used in other buildings but we have not been able to quantify this increase.

The impact of the carbon reduction projects is spread over a number of years as illustrated in exhibit 7.

Exhibit 7: Carbon emissions: business as usual and projected carbon savings

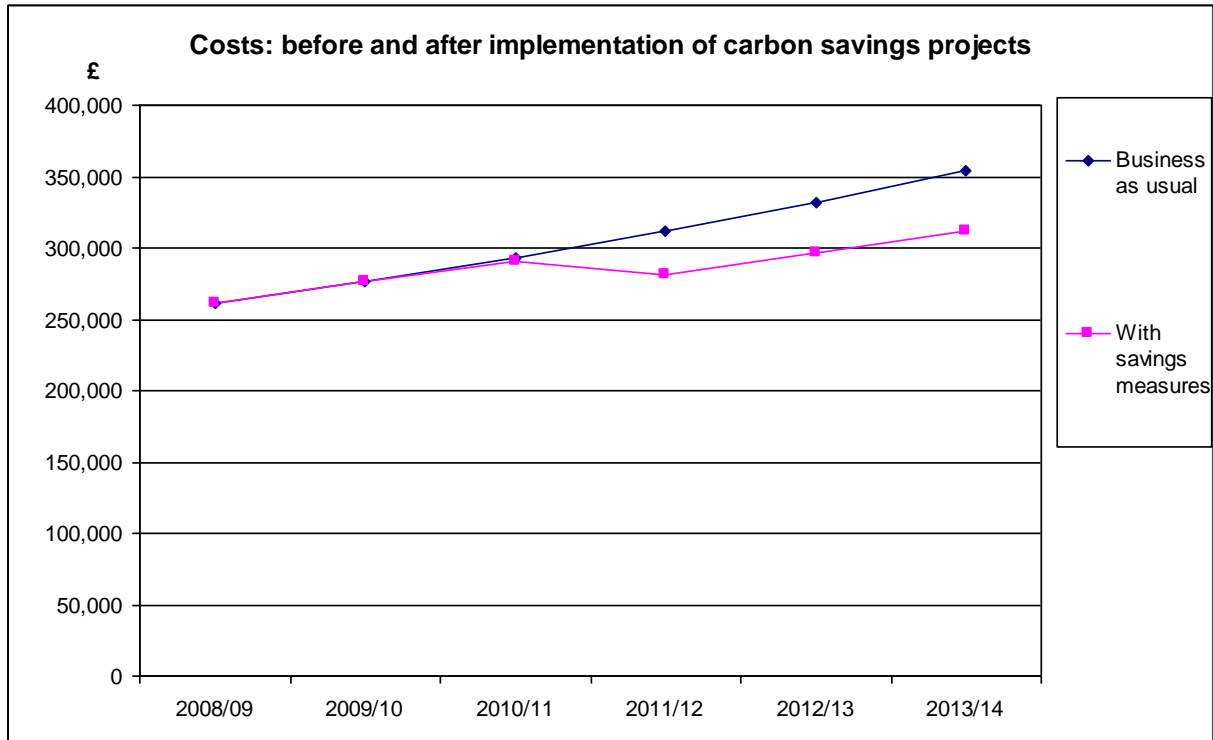


Source: Audit Scotland

To understand the potential financial benefits of the energy savings projects exhibit 8 compares the business as usual projections with the forecast savings from the carbon reduction projects. From this we can see that even if we successfully deliver the projects and meet our 20% target, our costs will increase but the increase will be less than the business as usual scenario. Instead of our costs rising by over £90,000 our increase is likely to be £50,000 providing an overall saving to Audit Scotland of around £40,000.



Exhibit 8: Costs: business as usual and projected savings



Source: Audit Scotland

Looking further ahead, beyond the period of this plan we plan to further rationalise our property portfolio. Energy performance and access to public transport will be influential selection criteria.



5 Finance, governance and implementation issues

5.1 Finance

We do not anticipate the need for any new or additional funding to support the projects we have identified and are fortunate that funding has already been approved for most of them.

The main area of uncertainty is around the potential cost of implementing project 4 but our aim will be to do as a zero cost option following negotiations with staff and their representatives. We will use options analysis to support decision making and the financial implications of the preferred scenario will be brought to the attention of our Management Group for approval.

We expect that some of the projects will result in cost savings and these have been quantified, where possible, elsewhere in this plan.

5.2 Governance arrangements

We recognise the need for strong leadership and long-term corporate commitment to meeting our environmental targets, particularly at a time when there may be considerable pressure to divert money to more immediate issues. To ensure we remain focussed we will allocate senior staff to lead and drive this project. In time, we aim to embed a commitment to reducing CO₂ into our corporate culture so that it becomes a mainstream management responsibility which enjoys the continued support and commitment of staff.

To ensure that the projects are implemented and progress is monitored we will set up a carbon scrutiny board to: monitor performance against this plan; ensure that progress is reported; and that appropriate new opportunities (those which require policy change) are developed, approved and implemented.

The carbon scrutiny board will be chaired by Lynn Bradley and will include representatives from across the organisation. The chair of the environment group will be part of the carbon scrutiny board to ensure continuity and avoid overlap. Progress will be reported to Audit Scotland's Management Group twice a year, to the Audit Scotland Board annually, and publicly in our annual report and on our website.

We are fortunate that decisions have already been taken to support most of the projects in this plan. In particular, the decision to close Osborne House and relocate staff to our other Edinburgh offices has already been approved by our Management Group and does not therefore need to be factored into this plan. The areas where careful planning, consideration and approval will be required are mainly around travel planning and changing the carbon profile of our fleet cars. Decisions in this area will be required from the Audit Scotland Management Group.

We recognise the importance of staff support in achieving our objectives and will consult with them and where appropriate, with their representatives, on proposals which affect them directly or the way we work.

5.3 Implementation issues

Responsibility for ensuring that the projects in Appendix A are implemented will remain with the managers who have corporate responsibility for their delivery. Lead managers have been identified for individual projects. Lead managers will work closely with the Scrutiny Board to ensure that appropriate monitoring data is captured and that the progress of their project is captured and reported.

We recognise the need to work closely with staff and liaise with their representatives where projects affect them and the way we work.

We recognise the need to improve our data capture arrangements to support monitoring and reporting. This is such an important issue that we are setting this up as a distinct project. Our aspiration is that a centralised data capture tool will be created for monitoring and reporting purposes and that:

- energy usage information will be gathered and input by our office services team
- travel information will be gathered and input by the finance team



working with



- costs will be gathered and input by our finance team.

Ideally, we envisage that a project officer will liaise with finance and office services colleagues to verify and analyse the data and provide reports to the scrutiny group.



working with



Appendix A: Baseline cost and carbon footprint data

The baseline data used to inform this report is included here together with a discussion of the caveats about data accuracy and the assumptions made in modelling the business as usual option and changes in energy costs. The table below describes the methodology used to calculate baseline cost and CO₂ emissions information and describes how we might improve the accuracy of this information over the course of the project.

Component	Cost information	CO ₂ Emissions	Potential changes during the course of the project
Energy use at 18 George Street and Osborne House and East Kilbride	<p>Audit Scotland is currently billed for gas and electricity consumption using a percentage of floor space basis.</p> <p>Given the energy savings measures we have put in place in both offices over the past few years it is possible that we pay for more energy than we use.</p>	<p>Because Audit Scotland does not have access to all of the gas and electricity meters we do not have an accurate picture of energy use in these buildings.</p> <p>The baseline data for energy uses the methodology used by the Energy Savings Trust reports for electricity in Osborne House and gas in 18 George Street.</p> <p>The amount Audit Scotland is charged for electricity is converted into an estimate of CO₂ emissions by converting the cost into the number of units that would be bought by that amount of money. This notional number of units is converted into CO₂ emissions using conversion factors supplied by the carbon trust.</p> <p>We use meter readings for East Kilbride as we can access meters.</p>	<p>We have been trying to gain access to all electricity meters in both buildings for some time. If we were able to do this it might be possible to calculate a more accurate estimate of CO₂ emissions for these buildings.</p> <p>However, this would not result in cost savings as this would require changes to the terms of the lease.</p>
Energy use for other offices	<p>Cost information is calculated using energy bills for each of these offices.</p>	<p>CO₂ Emissions from these buildings are measured from gas and electricity meter readings using conversion factors supplied by the carbon trust.</p> <p>Because our Aberdeen office is new we do not have sufficient data on energy use or costs so we have estimated that energy use and costs will be around the same as for our Inverness office.</p>	<p>Energy bills and meter readings to be used for Aberdeen office.</p>
Business car travel	<p>Business car mileage is paid at an average of 40p per mile for journeys by private car (30% of total miles) and an average of 10p per mile for journeys by fleet car users (70% of total miles).</p>	<p>The CO₂ emissions from fleet and private cars are calculated using the Carbon Trust's carbon calculator.</p>	



	We have around 105 lease cars. The costs included in this data are only for leased car mileage and exclude leasing costs, service costs, insurance, etc.		
Rail travel	Rail journey costs include only those journeys booked centrally through the Travel Company.	CO ₂ emissions for rail travel are calculated by multiplying the rail mileage by a conversion factor supplied by the Carbon Trust (0.06 kg per passenger km).	In future, an upgraded electronic expenses system may allow us to calculate a more accurate emissions figure by allowing us to calculate rail travel CO ₂ emissions where journeys are booked by individual employees and claimed through expenses.
Taxi use	Taxi costs are based on invoices for Edinburgh contract taxi's only. Taxis used by staff where the cost is claimed on the travel expenses form are excluded.	CO ₂ emissions for taxi use are calculated by multiplying the number of taxi journeys by an estimate of the average taxi mileage (2.5 miles) and multiplying this by a conversion factor supplied by the Carbon Trust (0.2kg per passenger km).	In future, an upgraded electronic expenses system may allow us to calculate a more accurate emissions figure by allowing us to calculate taxi mileage travel CO ₂ emissions where journeys are paid for by employees and claimed through expenses.
Air travel	Air travel includes costs only include those journeys booked centrally through the Travel Company. Flights booked by staff where the cost is claimed on the travel expenses form are excluded.	The air travel data supplied by The Travel Company was used to calculate the number of long-haul, short-haul and domestic air miles and these mileages were CO ₂ Emissions are calculated by multiplying mileage for each flight category by a conversion factor supplied by the Carbon Trust (long haul 0.12 kg per passenger km, short haul 0.11 kg per passenger km, domestic 0.19 kg per passenger km).	In future, an upgraded electronic expenses system may allow us to calculate a more accurate emissions figure by allowing us to calculate air travel CO ₂ emissions where journeys are booked by individual employees and claimed through expenses.
Bus travel	Bus journey costs are for the number of single journey tickets used in Edinburgh at £1.10 each. The distanced travelled by bus is calculated using an average journey distance of x km	CO ₂ Emissions for bus travel are calculated by multiplying the number of bus journeys by an estimate of the average bus mileage (2.7 miles) and multiplying this by a conversion factor supplied by the Carbon Trust (0.11kg per passenger km).	In future, an upgraded electronic expenses system may allow us to calculate a more accurate emissions figure by allowing us to calculate CO ₂ emissions where bus journeys are made by individual employees are claimed through expenses.



Comparison of business as usual costs with forecast savings from projects

Business as usual costs

Costs	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Business car travel (£)	£93,716	£101,588	£110,122	£119,372	£129,399	£140,269
Energy (£)	£93,006	£100,818	£109,287	£118,467	£128,418	£139,205
waste (£)	£3,000	£3,000	£3,000	£3,000	£3,000	£3,000
Total (£)	£189,722	£205,406	£222,408	£240,839	£260,817	£282,474

Forecast savings from projects

With savings measures	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
business car travel (£)	£93,716	£101,588	£107,582	£113,929	£120,651	£127,769
energy (£)	£93,006	£100,818	£109,287	£93,675	£101,543	£110,073
waste (£)	£3,000	£3,000	£3,000	£3,000	£3,000	£3,000
Total costs (£)	£189,722	£205,406	£219,869	£210,604	£225,194	£240,842

Notes:

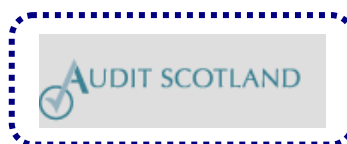
1. *Energy costs – we have assumed an 8.4% increase in energy costs per annum as recommended by the Carbon Trust.*
2. *Energy consumption – the Carbon Trust advises that energy consumption is likely to increase by 0.7% p/a*
3. *Travel - We have only included the cost of travel by car as this is the area we will focus reductions on.*



Appendix B: Definition of projects

This section sets out the eight projects we have identified to achieve our target.

Project 1:	Reducing the amount of energy we use by rationalising our property portfolio
Ownership and responsibility	David Hanlon
Description and notes	<p>a) We will reduce our Edinburgh property portfolio from 3 to 2 offices in 2012. By relocating staff in Osborne House to our George Street Offices we hope to reduce energy use by 62 tonnes.</p> <p>b) Aberdeen</p>
Costs and Benefits	<p>a) Closing our Osborne House office will result in energy savings of around £20,000.</p> <p>Closing OH should reduce emissions by up to 62 tonnes. This project is expected to save up to 12% of our overall target.</p> <p>We have not yet been able to estimate the likely knock-on increase in energy in our other Edinburgh offices when staff are relocated but are aware of the need to make estimate the potential effect.</p> <p>b) Closing Our Aberdeen office has the potential to reduce emissions by up to 3 tonnes</p>
Resources	No additional costs incurred. Minimal additional energy likely to used in other offices once staff re-locate.
Ensuring and measuring success	
Timing	<p>a) Planning for this project has already begun and a decision has already been taken to not to renew the lease. The lease break occurs in March 2012 and all staff will have to have been related prior to that date. Energy savings will be realised in 2012/13.</p>
Sources of information and guidance	



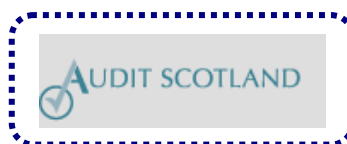
Project 2:	Reducing the amount of energy used by information technology.
Ownership and responsibility	Allan Davie
Description and notes	<p>Potential ways of reducing energy are being investigated, quantified and pursued where practical eg:</p> <ol style="list-style-type: none"> 1. Decommission and power down 7 servers the computer rooms (saving 17.9 tonnes, 50% in 2010/11 and 50% in 11/12). 2. Turning-up the temperature in the server room in 18 GS (2010) 3. Piloting setting up 10 banks of desks on timer switches as part of “3 to 2” project at 18 George Street. By end 2011. 4. Old servers are being replaced by new and more energy efficient models as part of the replacement cycle for equipment. 5. Restructuring of computer room network, replacing 6 switches with 2 more energy efficient units (saving 8.7 tonnes of CO₂, by March 2012). 6. The planned reduction in Audit Scotland staffing levels and move to hot desks in 18 George Street will free up thin clients and laptops. ISG intends to reduce the number of laptops in use by deploying the surplus thin clients, thus reducing our overall energy consumption. Removing 20 Laptops will save 2 tonnes of CO₂, by 2012.
Costs and Benefits	<p>We are not able to calculate the savings from all of the projects above but where we can, we estimate savings of 28.6 tonnes of CO₂</p> <p>We have already budgeted for decommissioning IT equipment and purchased the network switches therefore we do not anticipate any additional costs from these projects.</p> <p>Timer switches for the “3 to 2” project will cost approximately £18 per bank of desks.</p> <p>By decommissioning the 7 servers we should save £3,408 from reduced energy consumption. However, the servers are in 18 George Street where we are not billed directly for energy used but are billed on a proportion of floor space occupied. As a result, we will not be able to measure the energy reductions or realise the full financial savings.</p>
Resources	This project will be delivered using existing resources.
Ensuring and measuring success	We will not be able to directly measure the energy savings from this project because of the limitations of our buildings and will rely instead on the assumptions and estimated savings.
Timing	The savings will be achieved over several time periods as outlined above.
Sources of information and guidance	Data from the Carbon Trust (consultants) has been used to inform these calculations.



Project 3:	Reducing Audit Scotland's business car mileage by 10 percent
Ownership and responsibility	Directors
Description and notes	In 2008/09, Audit Scotland's total business mileage was over 800,000 km. This generated 172 tonnes of CO ₂ . Travel planning for all our audit work will be undertaken in order to reduce this by 10 percent or 17 tonnes of CO ₂ . Some of this business mileage will necessarily have to be replaced by alternative forms of travel. Assuming a worst case scenario of the whole 10 per cent reduction in business mileage being wholly replaced by train travel, this would produce a net CO ₂ saving of 9 tonnes per year.
Costs and Benefits	We estimate the potential to save around £9,300 from reduced mileage claims.
Resources	Travel planning will require additional time in the planning of all audit work.
Ensuring and measuring success	Ensure that securing reductions in business mileage and overall travel associated with audit work are embedded within managers' performance objectives. Success will be measured by monitoring annual business mileage.
Timing	Immediate
Sources of information and guidance	



Project 4:	Placing a 140 gCO₂/km cap on lease cars
Ownership and responsibility	
Description and notes	Any new car leased by Audit Scotland would have to have an emissions performance of better than 140gCO ₂ /km. In 2008/09, Audit Scotland's total business mileage was over 800,000 km. Seventy percent were travelled in leased cars. By combining the business mileage of each leased car and the emissions performance of each car, the total CO ₂ emissions from business mileage in leased cars was 83.46 tonnes CO ₂ . Sixty-five percent of the leased car fleet have emissions of over 140 gCO ₂ /km. Placing an upper limit on emissions of 140 gCO ₂ /km has the potential to save 6.9 tonnes of CO ₂ per year (assuming no change in business mileage).
Costs and Benefits	The aim is to deliver this project with no additional costs.
Resources	Management time will be required for planning this project and assessing the options and liaising with staff and their representatives.
Ensuring and measuring success	Will need to be discussed by Management Group and negotiated with trade union representatives and then communicated to all staff eligible for a leased car.
Timing	Ideally, it should be implemented from January 2011. During 2011, 59 percent of lease car fleet is due for replacement and a further 24 percent is due for replacement during 2012.
Sources of information and guidance	



Project 5:	Reducing the amount of waste we produce
Ownership and responsibility	Environment Group
Description and notes	<p>Waste accounts for less than 2% of our carbon emissions. The Environment Group has already introduced several initiatives to reduce waste, notably recycling facilities and double sided printing and copying. Although further reductions may not have a significant effect on our overall emission target, reducing waste is relatively simple and cheap to do and is a powerful agent of culture change.</p> <p>The Environment Group will continue to raise awareness of the importance of reducing waste (at source and through reusing and recycling). The specific projects they will pursue include removing individual waste bins; removing bottled water from offices; reducing the number of printed documents we produce; reducing the purchase of biscuits for meetings.</p>
Costs and Benefits	Minimal costs. Although carbon emissions saved will be small compared to the overall target, everyone can play an important role in becoming waste conscious and reducing CO2.
Resources	Environment Group
Ensuring and measuring success	Staff support will be important for these measures to succeed.
Timing	2010/11
Sources of information and guidance	



Project 6:	Introducing carbon impact assessments for policies
Ownership and responsibility	
Description and notes	<p>To ensure that new and existing policies include a carbon impact assessment to determine the impact of the policy on our carbon emissions.</p> <p>An initial review has identified the following policies which are likely to have an impact on carbon emissions and should be subject to a review.</p> <ol style="list-style-type: none"> 1. travel policy 2. home-working policy 3. international policy 4. office opening hours <p>An impact assessment methodology will need to be developed for new and existing policies.</p>
Costs and Benefits	<p>Time will be required to develop and implement the assessment methodology. The aim would be to carry out this project using existing resources and at no extra cost. This would help to raise awareness of carbon emissions and our targets.</p>
Resources	
Ensuring and measuring success	<ul style="list-style-type: none"> • Our ability to develop a straightforward carbon impact assessment process and to quantify the impact of the policy. • Need for mgt approval and support of policy owners to carry out a carbon impact assessment.
Timing	2010 onwards
Sources of information and guidance	Our own impact group may be able to offer advice along with the project lead for equality impact assessments.



Project 7:	Improving our data monitoring and reporting
Ownership and responsibility	
Description and notes	<p>We need a single source of planning and monitoring data and a consistent methodology to use over the period of this plan.</p> <p>We need to gather two key sets of data: usage information which helps us to calculate our emissions; and financial information about the cost of energy and travel.</p> <p>We recognise the limitations which we are currently working within and that estimated or proxy information has to be used in some places.</p> <p>The biggest single improvement is likely to come from the introduction of a new, electronic expenses claim system which will improve data capture for travel.</p> <p>We will continue to negotiate with our landlords to access energy meters and to encourage them to install a water meter in 18 George Street.</p>
Costs and Benefits	
Resources	In-house resources will be used. Input will be needed from Finance and Facilities teams.
Ensuring and measuring success	
Timing	<p>Improved data capture and recording arrangements should be pursued immediately.</p> <p>The new expenses system will be implemented from 2011/12.</p>
Sources of information and guidance	