

# Highland Birchwoods Carbon Management Programme *for smaller organisations*

## Carbon Management Plan (CMP)



**Date:** 9<sup>th</sup> June 2011

**Version number:** 1.0

**Owner:** Darren Robbins Programme Manager

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## Foreword from Highland Birchwoods

Highland Birchwoods was originally established to enhance the role of native woodlands in the Highland landscape, economy and wider culture and we are still primarily concerned with the development and management of functional woodland ecosystems which support functional local communities.

Carbon management gives opportunities to reduce environmental impacts and save costs. Moreover, in addition to it creating opportunities for the establishment of new woodlands we anticipate opportunities for biomass heat markets and for greater use of wood in construction and manufacturing. Given these opportunities Highland Birchwoods commitment to the Highland Council Climate Change Declaration and the Scottish Government Carbon Management Plan process should come as no surprise: indeed we view the Carbon Management Plan itself as an opportunity to provide leadership and encourage others to take a pro-active role in carbon management.

Stewart Meikle  
Chairman, Highland Birchwoods

## Foreword from the Carbon Trust

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

Highland Birchwoods was selected in 2010, amidst strong competition, to take part in this ambitious programme. Highland Birchwoods 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 CO<sub>2</sub> by 10% by 2013.

There are those that can and those that do. Public sector organisations can contribute significantly to reducing CO<sub>2</sub> emissions. The Carbon Trust is very proud to support Highland Birchwoods in their ongoing implementation of carbon management.



Richard Rugg  
Head of Public Sector, Carbon Trust



## Management Summary

Highland Birchwoods (HB) was one of the companies selected amidst strong competition to participate in the Carbon Trust's Carbon Management Programme. This has provided us with a comprehensive process for managing our emission of greenhouse gases produced as a direct result of our activities.

The primary focus of this programme is to reduce emissions that fall directly under the control of HB by 10% by 2013, and 14% by 2015.

The overall objectives of the Carbon Management process are:

- To change our current practices, taking a whole-organisation approach, over the short to medium-term, ensuring that carbon emissions become one of the issues that are automatically considered in regular management decision making processes.
- To undertake a series of interventions or projects that will lead directly to measurable emission reductions.

This Carbon Management Action Plan (CMAP) will achieve these outcomes by specifying and timetabling key actions that are credible, adequately resourced and with clear responsibility identified for implementation. These actions are not limited to specific technical interventions leading directly to emission reductions, but will include the full range of management, policy and enabling actions that are required to integrate fully the habit and practice of Carbon Management in the existing management policies and practices of Highland Birchwoods.

The CMAP is intended to provide a practical and formal basis for carrying out carbon emission reduction actions, policy and enabling actions, over a short to medium term timescale.

It is proposed that the CMAP will be fully integrated with our Climate change action plan where we have already signed up to a year on year 3% reduction. This Strategy and Implementation plan outlines how we can meet and potentially exceed this target with long-term commitment to the Carbon Management Programme.

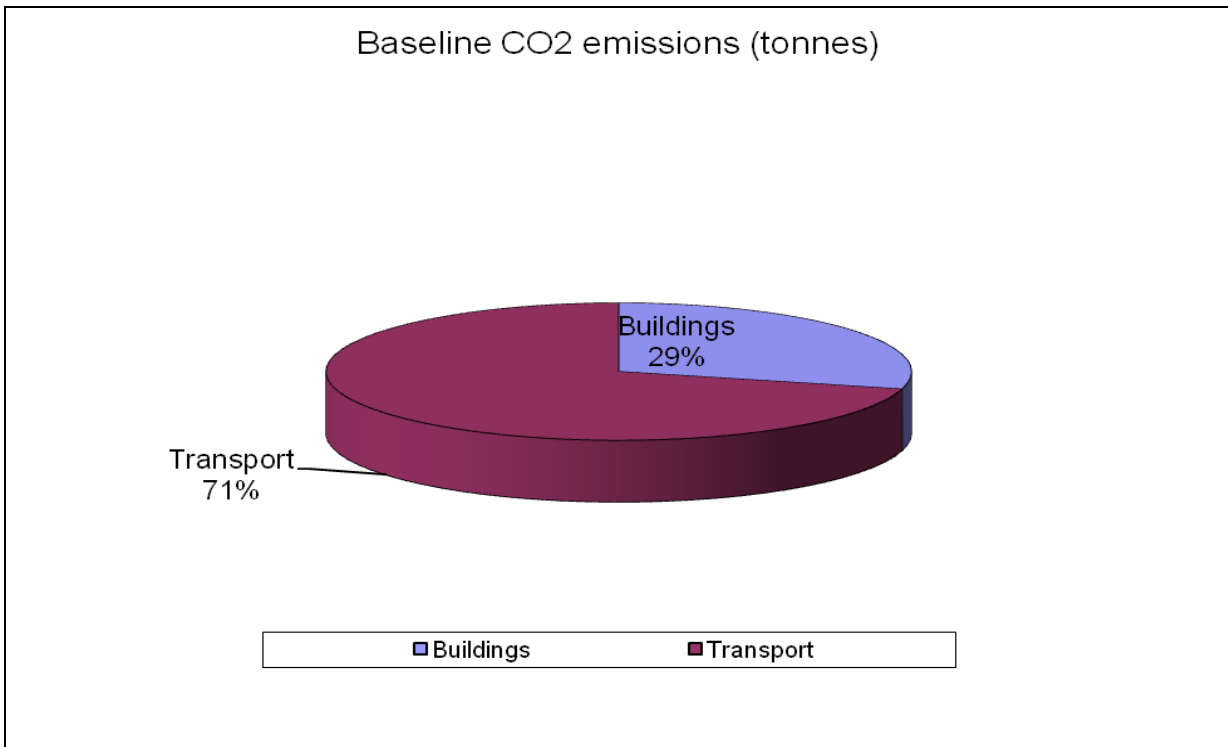
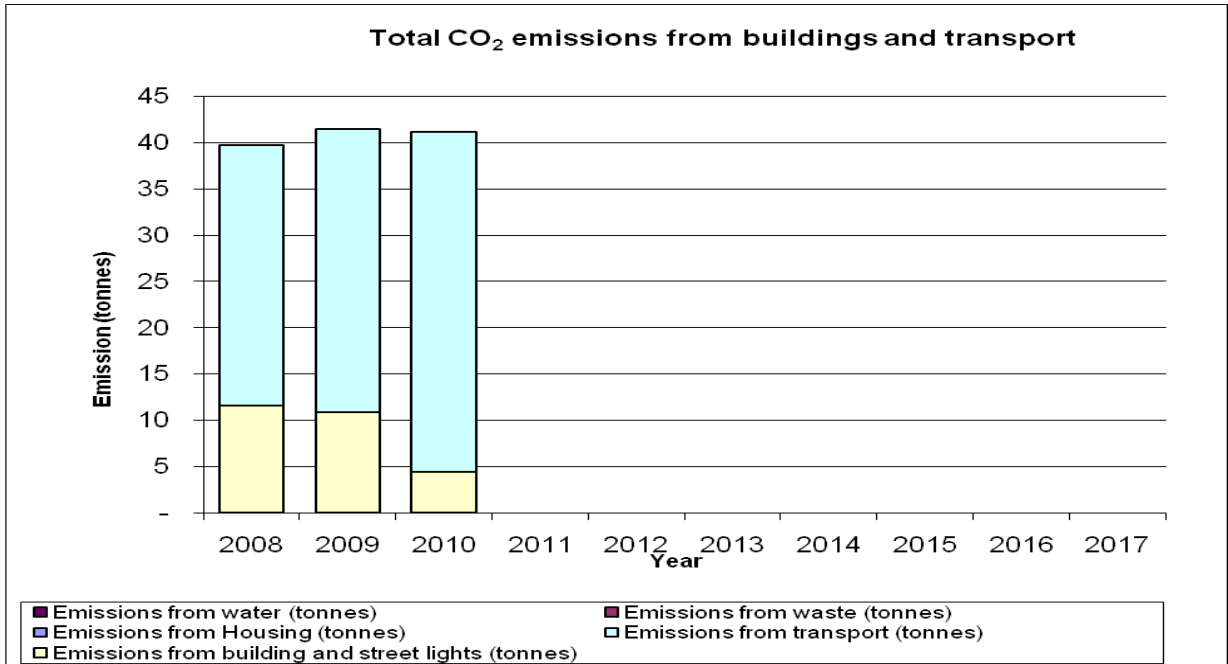


*“Highland Birchwoods are committed to supporting the role of forestry in addressing the key environmental issues confronting society. Carbon management is a major element of this. As a result the organisation is firmly committed to development and long term delivery of an organisational carbon management plan.”* Darren Robbins – Programme Manager

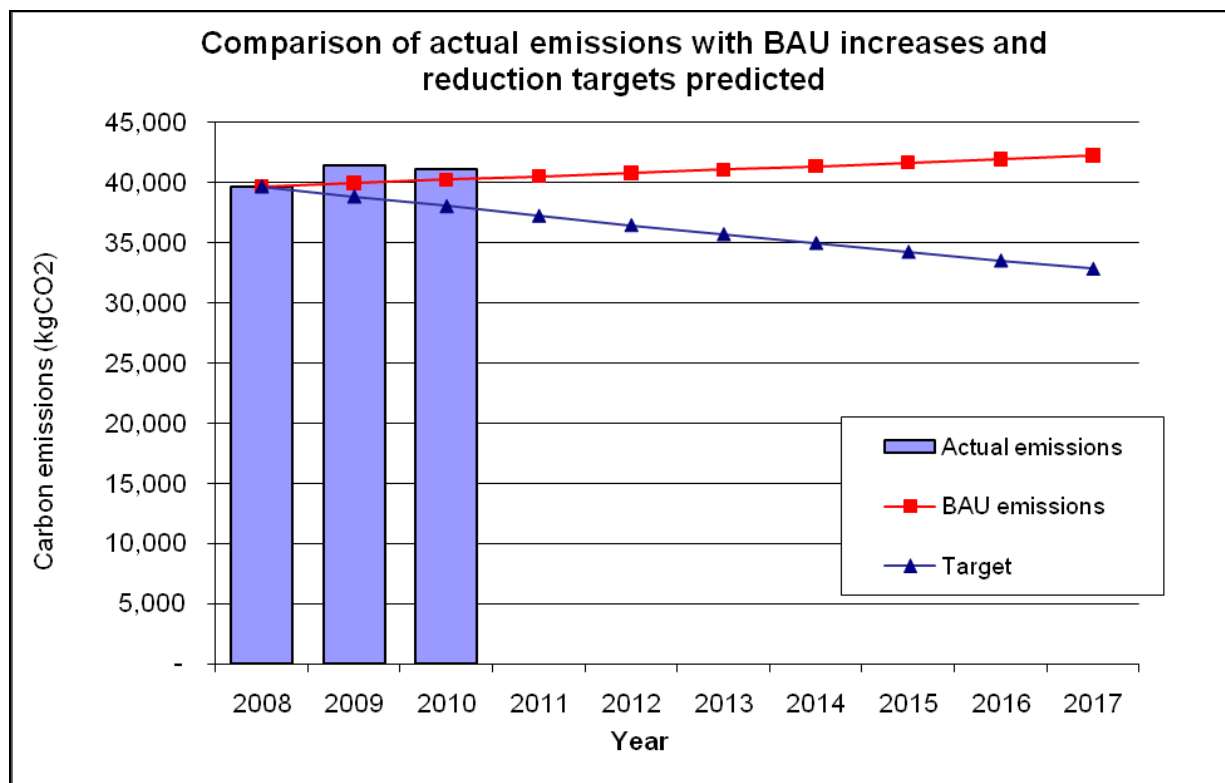
**Emissions Baseline**

Carbon emissions (expressed as tonnes of carbon dioxide, CO<sub>2</sub>) from the Highland Birchwoods building and operations in 2008/9 have been estimated to be **40 tonnes**. The following charts present a breakdown of the emissions and associated costs.

**HB Target: 10% reduction by 2013**



The graphs on page 5 clearly demonstrate that our immediate and primary focus needs to be on transport and building emissions, which represent the main usage of our business. Waste and water are not currently being measured and are not significant, for example our bin collection is currently once a month. We do wish to improve on this however, and will look to include these at a later date.



The Scottish Government’s current target is a reduction in carbon emissions of 42% by 2020 and 80% by 2050 (against 1990 baseline values). By 2013 we have targeted a minimum reduction of 10% for our business; this will reduce our emissions from 40 tonnes to 33 tonnes as demonstrated in the above graph. We aim to exceed this if possible and will continue our focus to further reduce Highland Birchwoods emissions thereafter.

As a small charitable company our investment opportunity is limited, recognising the substantial impact that it would make we have recently invested in the installation of a new woodfuel boiler, however moving forward we will need to concentrate on smaller and more financially viable projects. We have agreement that money saved through the delivery of our proposed projects will be allocated for reinvesting in new ones.

**Implementing the Programme**

This Strategy and Implementation Plan will be owned by Highland Birchwoods. The actions detailed in the CMP will be agreed and authorised by the HB Board.

The programme of work will be led by Darren Robbins, Programme Manager, supported by Carolyn Gethin, Finance Manager on a day-to-day basis.

Highland Birchwoods CMAP has been developed with support from the Carbon Trust.

## 1 Introduction

Highland Birchwoods is widely respected for the knowledge, skills and passion of its dedicated team and for the successful delivery of a wide variety of environmental projects. Partners and clients across Europe and the UK have worked with us and continue to do so, recognising that we have the expertise to help them achieve shared goals.

We accept the overwhelming evidence that demands a significant reduction in greenhouse gas emissions, and we recognise that we have a corporate social responsibility to contribute to the achievement of government targets. With this in mind we recently signed up to the “Highland Council Climate Change Declaration” publicly declaring our intent to make verifiable, consistent reductions in carbon emissions.

All of the staff at HB are actively involved, and we have already taken significant steps by installing a new woodfuel boiler, improving our recycling efficiency, promoting our work from home policy and using conference calls and video conferencing to reduce domestic and international travel.



Highland Birchwoods woodfuel boiler and shed

Through working with the Carbon Trust, we will be in a position to accurately measure our results to date, share best practice and gain the impetus required to meet our targets. To achieve this we are seeking to define strategic and operational measures capable of reducing CO<sub>2</sub> emissions by at least 10% over the next 5 years against a baseline of 2008/09.

The Carbon Trust’s Carbon Management Programme for small organisations is based around a five-step process through which participating companies can create an organisation-wide carbon management strategy and action plan. The steps in the programmes process are as follows:

- Step 1: Mobilise the organisation
- Step 2: Set baseline, forecasts and targets
- Step 3: Identify and quantify options
- Step 4: Finalise Carbon Management Plan
- Step 5: Implement Plan

## 2 Carbon Management Strategy

### 2.1 Context and drivers for Carbon Management

Available scientific evidence indicates that global average temperature is continuing to rise in a manner that is related to (and caused by) elevated atmospheric concentrations of “greenhouse” gases, most notably CO<sub>2</sub>. This threat to global climate posed by increasing CO<sub>2</sub> emissions is already defining new policy and regulatory frameworks locally, nationally and internationally.

Scotland's Energy Efficiency Action Plan includes a headline target to reduce total energy consumption by **12 per cent by 2020**. Together with existing commitments, including the target to generate 80 per cent of Scottish electricity consumption levels from renewable energy within the next decade, the energy efficiency target will be key in delivering Scotland's world-leading carbon-reduction target of a **42**

*"Scotland is well-positioned to power the low carbon economy, harnessing our vast renewables potential. Just as we will be at the vanguard of the renewables revolution, we must also help lead a revolution in energy efficiency - tackling demand and improving the efficiency of our homes, transport systems and energy use right across the public and private sectors. Energy use is responsible for the major share of greenhouse gas emissions, contributing to climate change. Making our homes and other buildings more energy efficient is the easiest and quickest way to cut carbon emissions, while reducing fuel costs and supporting jobs".*

First Minister Alex Salmond

**per cent cut in CO<sub>2</sub> by 2020.**

By improving household energy efficiency, Scots could save an estimated £2 billion by 2020 from smaller energy bills, while investment in energy efficiency over that period could directly support around 10,000 jobs in Scotland.

The public sector has agreed that they must do more to ensure that their buildings are energy efficient and this has created a number of legislative drivers:

- **Energy Performance Certificates:** From January 2009 there is a legal requirement for all public sector buildings with a total useful floor area of over 1,000m<sup>2</sup>, to show an Energy Performance Certificate) in a prominent place, clearly visible to the public.
- **Carbon Reduction Commitment Energy Efficiency Scheme (CRC):** The Carbon Reduction Commitment is a mandatory “cap & trade” emissions trading scheme for organisations whose total electricity consumption is greater than 6,000MWh or approximately £500k. If an organisation falls within the CRC scheme **all** electricity and fuel emissions are covered. From 2010 the performing of organisations will be published in the CRC league table.

Although these drivers do not directly affect Highland Birchwoods, we take the view that the public bodies who support us, and the public agencies with whom we are building commercial relationships, will expect beneficiaries and suppliers to comply with these standards. In addition, failure to be seen to be addressing carbon management and related environmental issues can only damage our reputation as an organisation with a focus on sustainable use of natural resources.

Measures to increase energy efficiency will have the added benefit of reduced energy costs, which is particularly important for the future given the predicted increases in energy prices. Energy and fuel costs have seen a dramatic rise in recent years, with energy prices increasing by well over 50% since 2004. This trend is not expected to change and we must accept that the price we pay for our energy will continue to increase in the coming years.

On the 2<sup>nd</sup> June 09 Highland Birchwoods and other members of the Highland Environment Forum signed up to the “Highland climate change declaration” demonstrating their commitment to playing their

part in achieving the targets agreed for Scotland, and we are confident we will achieve this through the delivery of the CMP.

All 13 partners in the Forum signed up to the Declaration, which includes agreements to take action to mitigate against climate change, reduce the organisations' collective Carbon Footprint and share and promote best practice.

The commitment given by all members of the Forum is to:

- Measure their Carbon Footprint and work to reduce emissions from operations by 3% per annum
- Provide an annual update of progress towards emission reductions
- Share information and work with fellow partners in Highland to promote good practice on climate change
- Encourage and work with others in business and communities to take action to adapt to the impact of climate change to reduce their own greenhouse gas emissions and to make the public committed to action

## 2.2 Our low carbon vision

By 2020 we intend to have achieved the SG target for carbon emission reduction and in doing so we will:

- Act as an exemplar for other small social enterprises, demonstrating how to use carbon management to deliver efficiency and cost saving benefits to the organisation
- Continue to take a lead role in incorporating carbon management into best practice in the development, management and use of natural resources

## 2.3 Strategic themes

Highland Birchwoods will focus on the below key areas:

**1. Choosing energy options responsibly:** As a company that actively promotes renewable energy through the delivery of its projects Highland Birchwoods will where viable seek to ensure that it's heating, lighting and other power requirements are met through environmentally sustainable options.

**2. Managing disposal prudently:** Highland Birchwoods is encouraging and assisting staff to reduce, reuse and recycle waste.

**3. Valuing sustainability in procurement:** Highland Birchwoods is committed to evaluating energy efficiency and taking account of ongoing energy costs as important considerations in all procurement decisions.

**4. Facilitating sustainable travel practices:** Highland Birchwoods will seek systematically to reduce its carbon footprint by encouraging the use of video conferencing, utilisation of public transport options where possible for travel, and focusing on a work from home policy.



**Highland Environment partners:**

The Highland Council; SNH; HIE; Cairngorms National Park; Northern Constabulary; Highland Environment Network; Community Energy Scotland; Highland Birchwoods; Forestry Commission Scotland; the Crofters Commission; RSPB; SEPA; Cifal Findhorn

## 2.4 Targets and objectives

**Target:**  
**Reduction of Highland Birchwoods carbon footprint by  
at least 10% by 2013 from a 2008/09 baseline.**

The baseline year for Highland Birchwoods carbon emissions is 2008/09. Our carbon emission statistics for that year were gathered and amounted to 40 tonnes.

This reduction is forecast to be split between the Building and transport elements of our carbon footprint as follows:

- **Buildings** – accounting for **29%** of the total
- **Transport** – accounting for **71%** of the total

Our carbon reduction initiatives are scheduled in a manner which is set to deliver savings of **3.1%** year-on-year in order to deliver the above target. Quick wins or delays in the realisation of savings for re-investment may create variations in the pace of delivery.

## 3 Emissions Baseline and Projections

### 3.1 Scope

**The scope of this carbon management plan includes electricity and wood fuel usage, commuting and business travel.**

Calculating an emissions baseline is the first step in enabling Highland Birchwoods to quantify its carbon footprint and to gain a better understanding of its overall carbon contribution. This section will detail the sources that have been included and how the emissions baseline has been calculated. The baseline will be used to measure our emissions reduction performance as carbon-saving initiatives are implemented during future years.

The scope of the Baseline Assessment will initially be limited to Highland Birchwoods site boundaries and activities, products or services within it. We will identify which activities in our organisation are responsible for green house gas (GHG) emissions being released into the atmosphere.



*Highland Birchwoods office*

The most widely accepted approach is to identify and categorise emissions-releasing activities into three groups. The three scopes are:

**Scope 1 (Direct emissions):** Activities owned or controlled by our organisation that release emissions straight into the atmosphere. They are direct emissions. Examples of scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces, vehicles; emissions from owned or controlled process equipment.

**Scope 2 (Energy indirect):** Emissions being released into the atmosphere associated with our consumption of purchased electricity. These are indirect emissions that are a consequence of the organisation's activities but which occur at sources we do not own or control.

**Scope 3 (Other indirect):** Emissions that are a consequence of our actions, which occur at sources which we do not own or control and which are not classed as scope 2 emissions. Examples of scope 3 emissions are business travel by means not owned or controlled by our organisation, waste disposal, or purchased materials.

Initially scope 1 and scope 2 emissions will be incorporated with some scope 3 emissions. In the future, we will look to include additional scope 3 emissions as our recording process improves.

Highland Birchwoods will include CO<sub>2</sub> emissions from the following list, all of which the company uses through the delivery of organisational functions. The scope covers the energy used in our buildings and transport, however does not include the embedded emissions in the goods procured by our organisation.

#### To be included in our scope:

- **Woodfuel use for heating**
- **Electricity usage.** Highland Birchwoods purchase electricity through NPower.

- **Business travel.** Fuel figures include that used for all business mileage. It includes travel for all of our staff in personal vehicles, and also includes business mileage travelled by rail and air.
- **Employee commuting.** We are keen to encourage car sharing and work from home initiatives among staff and Highland Birchwoods has been able to take part in a bike to work scheme to help encourage our staff to cycle to work.

To be excluded from our scope:

- **Water.** We are keen to identify opportunities to reduce our water use; however measurement is an immediate issue.
- **Waste.** We are keen to identify opportunities to reduce our waste use; however measurement is an immediate issue. We hope to include this at a later date.

### 3.2 Baseline

The Highland Birchwoods baseline data will be calculated on our financial year, March 2008 – February 2009. Table 1 below identifies the source data used to calculate the baseline. Tables 2 and 3 identify the sources of data used to calculate the baseline, as well as assumptions and CO<sub>2</sub> conversion factors. This information is documented to ensure that any future carbon emission calculations can be performed using the same methods, therefore ensuring like for like comparison in the future.

**Table 1 Source data**

Building Electricity	Building woodfuel	Business travel (rail, air, mileage)	Commuting (mileage)
Billed information	Invoices	Travel claims	Working days x distance from postcode
Invoices		Company mileage costs	
		Company credit card statements	
		Hire car account	

**Table 2 Stationary sources**

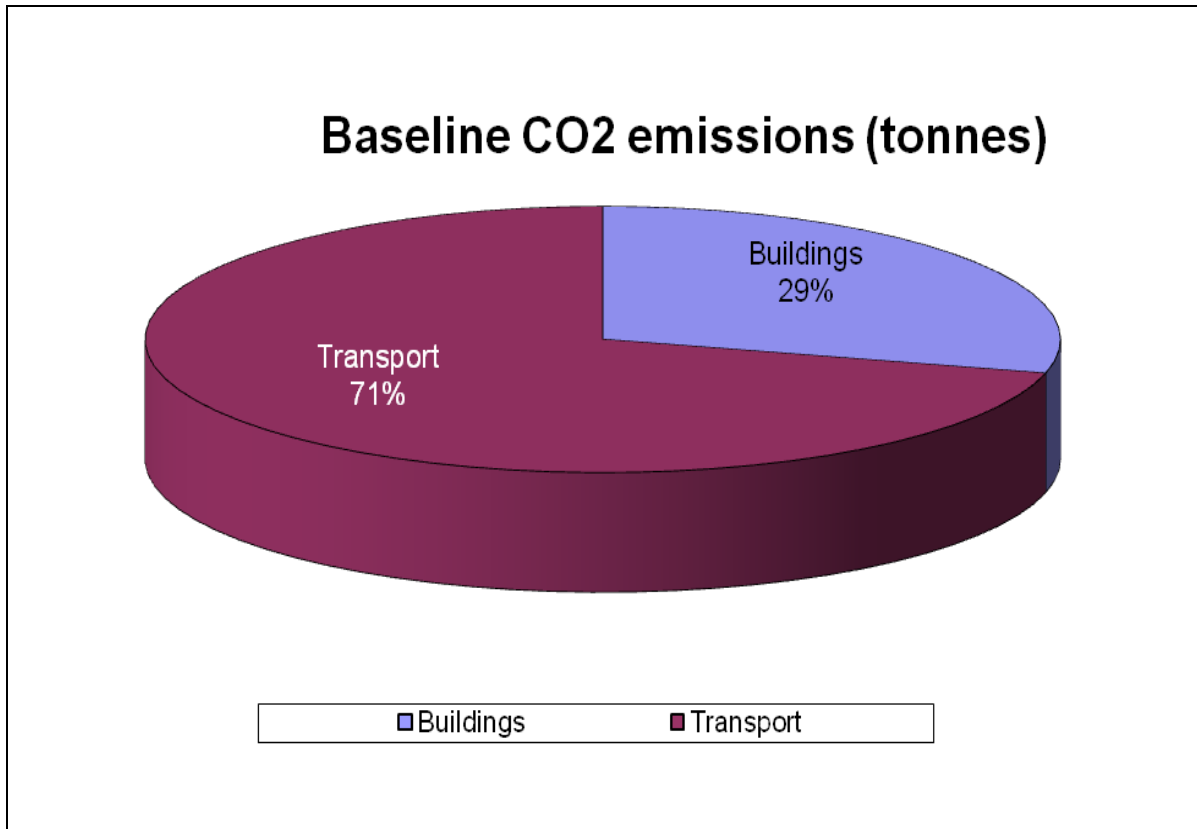
Energy type
Electricity (grid)
Woodchip

**Table 3 Mobile sources**

Fuel or vehicle type	Units	CO <sub>2</sub> factor (kg/unit specified)	Reference
Petrol	litres	2.32	<a href="#">Defra</a>
Diesel	litres	2.63	<a href="#">Defra</a>
Small petrol car, up to 1.4 litre engine	km	0.17	<a href="#">Defra</a>
Medium petrol car, from 1.4 - 2.0 litres	km	0.21	<a href="#">Defra</a>
Large petrol cars, above 2.0 litres	km	0.30	<a href="#">Defra</a>
Average petrol car	km	0.21	<a href="#">Defra</a>
Small diesel car, up to 1.7 litre or under	km	0.15	<a href="#">Defra</a>
Medium diesel car, from 1.7 to 2.0 litre	km	0.18	<a href="#">Defra</a>
Large diesel car, over 2.0 litre	km	0.25	<a href="#">Defra</a>
Average diesel car	km	0.19	<a href="#">Defra</a>
Medium petrol hybrid car	km	0.13	<a href="#">Defra</a>
Large petrol hybrid car	km	0.22	<a href="#">Defra</a>
Average car (unknown fuel)	km	0.20	<a href="#">Defra</a>
Small diesel van (≤1.25t)	km	0.18	
Medium/large diesel van (>1.25 ≤3.5t)	km	0.27	
Bus	Passenger km	0.13	<a href="#">Defra</a>
Rail - national rail	Passenger km	0.05	<a href="#">Defra</a>
Rail - light rail	Passenger km	0.08	<a href="#">Defra</a>
Rail - underground	Passenger km	0.07	<a href="#">Defra</a>
Air - long haul international	Passenger km	0.08	<a href="#">Defra</a>
Air - short haul international	Passenger km	0.09	<a href="#">Defra</a>
Air - domestic	Passenger km	0.17	<a href="#">Defra</a>
Walk	km	0.00	-
Cycle	km	0.00	-

Collating our source data and using the conversion factors in tables 2 and 3 we have calculated the overall carbon emissions for 2008/09, as well as the overall financial cost to the business.

**Emissions percentage chart**



**Baseline cost**

	Total	Buildings	Transport
<b>Baseline CO<sub>2</sub> emissions (tonnes)</b>	40	12	28
<b>Baseline Cost (£)</b>	£11,030	£2,843	£8,187

### 3.3 Projections and Value at Stake

The lifespan of the CMP is 5 years with the aim of reducing our CO<sub>2</sub> emissions by 10% in that time, the additional benefits of the CMP are that we will be managing our energy usage and moving towards more sustainable energy sources. This is important because the International Energy Agency predict that everyone's energy requirements will increase over the next twenty years, and that the price of energy produced by fossil fuels will also rise over this time period as the reserves run low.

The Carbon Trust baseline tool helps highlight the difference between carrying on in the way we worked in our baseline year 2008/9 (Business as Usual, BaU) for the next five years, in comparison with the projected outcome through the delivery of the CMP. This difference is referred to as the "Value at Stake". The Carbon Trust set the projections using the figures produced by The Department of Trade and Industry (DTI) and the Department of Business, Enterprise, and Regulatory Reform (DBERR).

The projections are a useful tool to explain why the CMP is important as they show not just the savings made each year, but the "Value at Stake" both in terms of CO<sub>2</sub> emissions and finance.

Table 1. The difference between the amount of CO<sub>2</sub> produced from BaU compared with the reductions estimated in the CMP

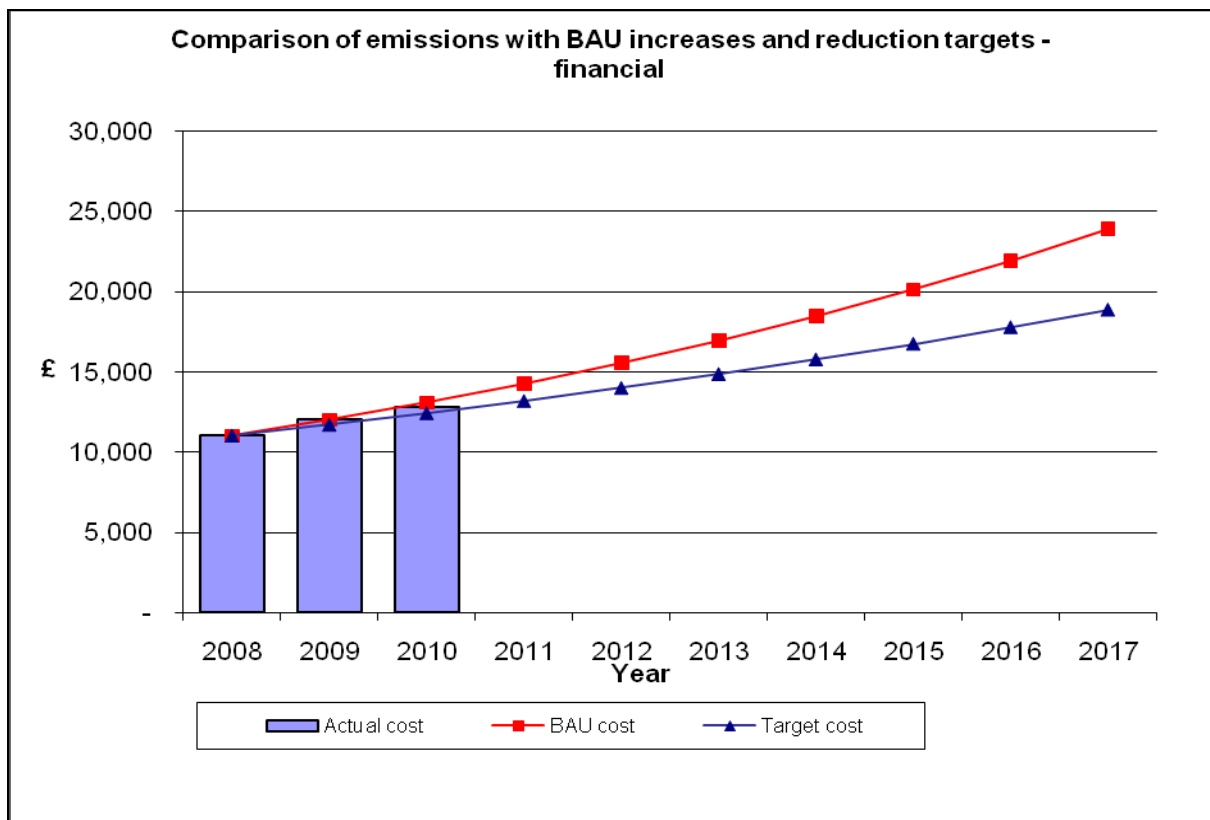
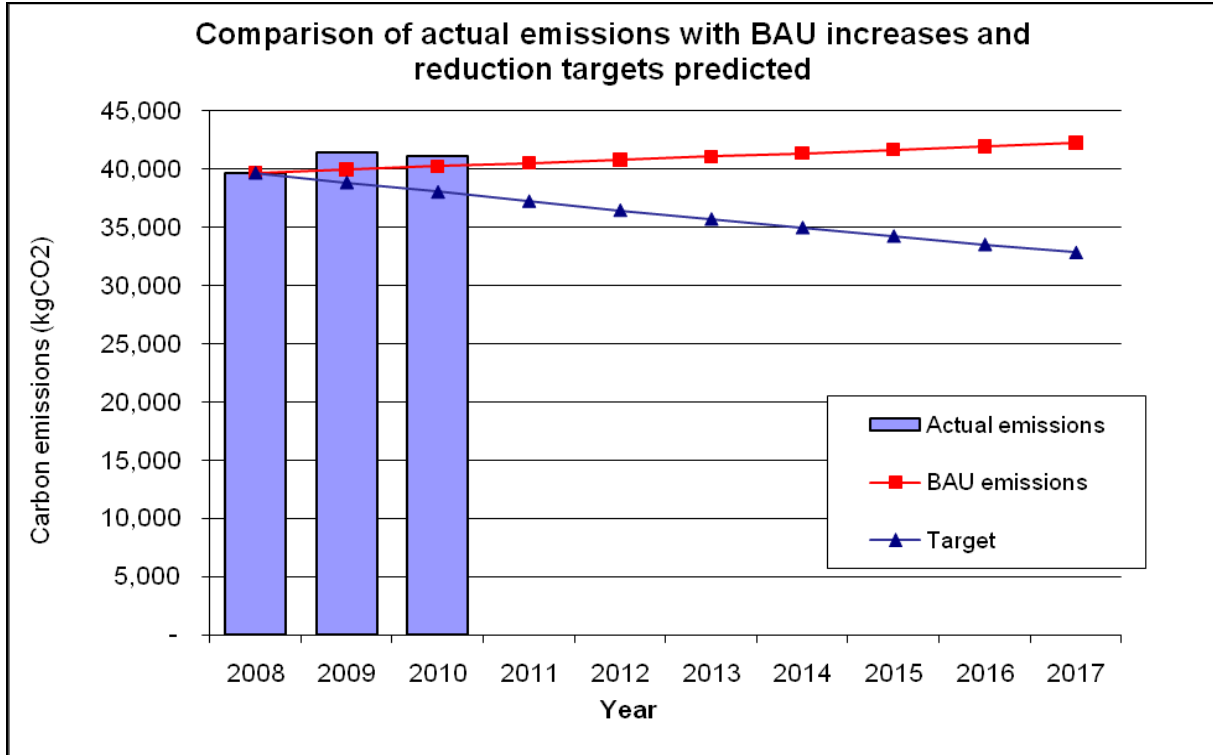
Year	2008	2009	2010	2011	2012	2013
Total value of Kg of carbon dioxide emissions at stake	0	1,104	2,193	3,267	4,326	5,371
Cumulative value of Kg of carbon dioxide emissions at stake	0	1,104	3,297	6,563	10,889	16,260

***16,260 kg CO<sub>2</sub> is the CO<sub>2</sub> at stake if we do nothing compared to implementing this CMP***

Table 2. The difference between the financial costs from BaU compared with the cost from the CMP

Year	2008	2009	2010	2011	2012	2013
Total value of financial costs at stake	£0	£311	£670	£1,081	£1,551	£2,086
Cumulative value financial costs at stake	£0	£311	£981	£2,063	£3,614	£5,700

The cumulative effect of these savings can be seen more easily in the graphs below. The “Total Value at Stake” is the area between the 2 lines.



## Carbon Management Projects

This section contains a summary of those projects which will help us meet our carbon reduction targets over the lifetime of our plan. It includes projects which are already underway as well as those yet to begin. As the document shall be 'live', further projects will be added over the life of the plan.

Highland Birchwoods is a small charitable organisation, and as such is no different to other businesses in that we face continuous challenges in terms of our finance. We have recently invested £40,000 in the installation of a new woodfuel boiler, a real asset to our organisation and a major contributor to our target of a 10% carbon reduction. Whilst tremendous progress has been made in this area, we recognise that transport urgently needs to be addressed.

Having now analysed the limited available data for 2009 and 2010, it is evident that any reduction in carbon emissions achieved through the use of woodfuel is being negated by increased carbon through transport. Travel, particularly commuting, is being recorded more accurately during 2011.

We would also hope to instigate other small projects (as detailed below) in the not too distant future; however, we do need to maintain a realistic approach regarding the funding of these activities.

### 3.4 Existing projects

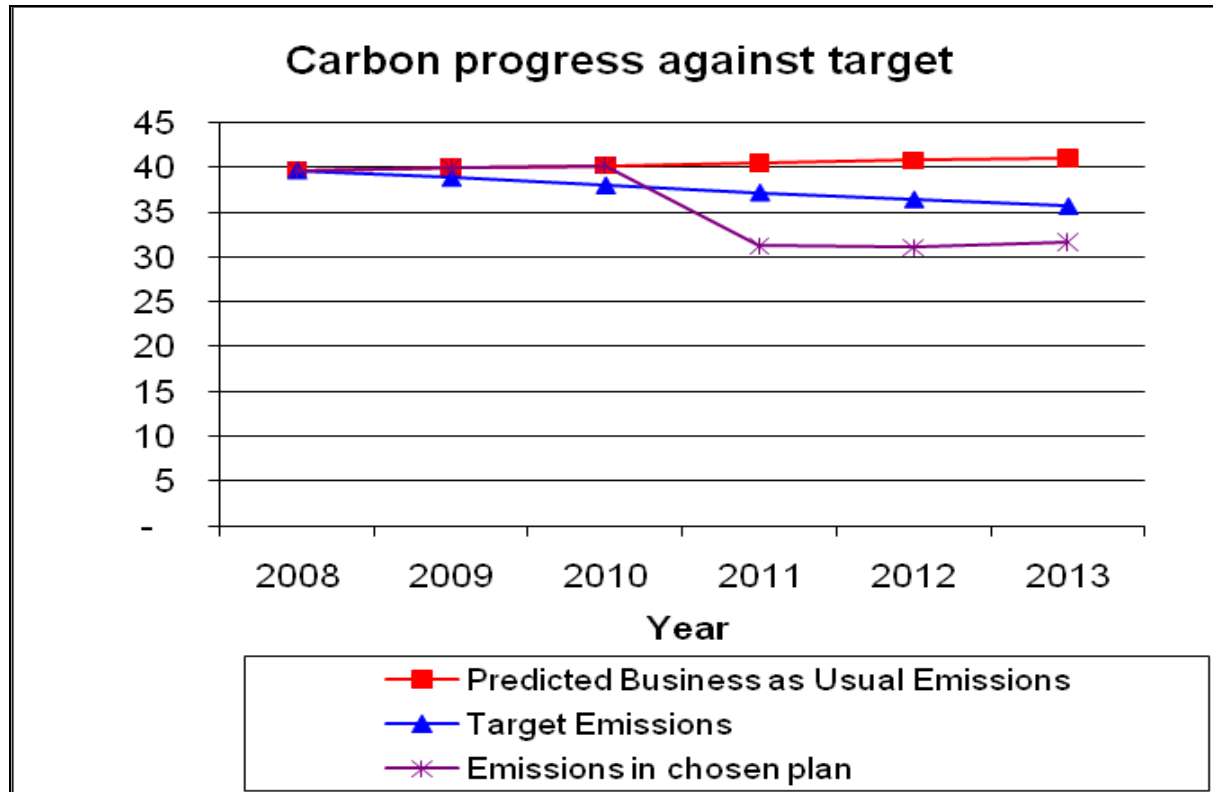
Ref	Project	Lead	Funded	Cost		Annual Saving		Pay back	% of Target
				Capital	Operational	Financial	CO <sub>2</sub>		
1	Wood fuel Boiler			£40,000	£0	£0	0 tCO <sub>2</sub>	0.0	0.00%
2	Reduced use of electric heaters due to more efficient heating system		yes	£ included above	£0	£1,560	6.4 tCO <sub>2</sub>	0.0	0.00%
3	Effective Travel Policy (Includes use of VC, and working from home)		yes	£1,174	£0	£886	2.5 tCO <sub>2</sub>	3.0	62.9%

### 3.5 Near term projects

Ref	Project	Lead	Funded	Cost		Annual Saving		Pay back	% of Target
				Capital	Operational	Financial	CO <sub>2</sub>		
1	Loft Insulation throughout main office buildings		No	£259	£0	£90	0.5 tCO <sub>2</sub>	4.2	11.5
2	Secondary glazing on windows		No	£286	£0	£70	0.4 t CO <sub>2</sub>	5.5	9.6

### 3.6 Projected achievement towards target

The below graph illustrates how the estimated emissions after implementing the proposed project list (purple line) contributes to the 10% reduction target (blue line) and how this compares to the business as usual case (red line).



Having now analysed data from years 1-3 of the Plan duration, we have discovered that whilst our Electricity emissions have significantly reduced (due to the installation of a new woodfuel boiler), unfortunately our travel – particularly commuting mileage – appears to have increased substantially since Year 1. However, we suspect that this apparent increase may be due to some mileage being double-counted due to insufficient recording of data in previous years, and from June 2011 we intend to implement a ‘logging’ system which will take better account of home working, car sharing etc.

The BAU case estimates a rise in emissions of 0.7% each year, meaning additional savings will need to be identified in order to achieve the desired 10% reduction by 2013.

**The 10% target reduction of  
2008/09 baseline CO2  
emissions will be reached by  
2013**

## 4 Implementation

The Carbon Management Plan will be implemented from April 2011 with some of the current projects started in 2009 being taken into consideration for the overall carbon reduction strategy.

**It is hoped that the Carbon Management Plan will benefit *Highland Birchwoods* by reducing fuel and energy costs by 12% by 2013/14, or £2,086 against the BAU scenario with cumulative savings in the region of £5,700**

### 4.1 Financing

The financing of our environmental initiatives will be based on the principle of “spend to save”. For each initiative a business case must be produced for board approval which clearly demonstrates an acceptable return on the investment made based on a whole lifecycle approach. Initiatives will be prioritised based on these financial measures and the funding available.

As a small charitable organisation, funding will need to be self financing. Initial investment funding for the woodfuel boiler was made available through the Scottish Government’s SBHS grant scheme; future funding will need to be generated by the cash savings from this initial investment. It is hoped that this will allow cashable savings to be gathered in the form of a spend-to-save rotating fund, where the savings from funded projects will pay back into the fund, thus enabling future initiatives to receive the funds required for implementation.

#### Assumptions

- The plan shall be self-financing, initiatives must be self-funded after the first financial year or have no cost attached, i.e. car sharing.
- It is assumed that energy costs will rise significantly above inflation over the life of the plan.
- Initiatives shall be risk-assessed prior to implementation; in relation to finance this shall prevent any unexpected adverse effect on budgets.
- The plan and figures within the plan depend upon the calculations provided by the Carbon Trust.

#### 4.1.1 Benefits / savings – quantified and un-quantified

The benefits are listed in the Implementation Plan in Section 4.5; the un-quantified benefits may be described as follows:

- Meeting the requirements of the Climate Change (Scotland) Act 2009
- Demonstrating our commitment towards protecting the environment to our staff, the public our partners and stakeholders.
- Widening our appeal to potential employees, partners and contractors
- Demonstrating the organisation as a sustainable employer
- Reducing overhead costs, allowing more funds to be spent on our social purpose
- Management of climate change risk within the organisation

#### **4.1.2 Financial costs and sources of funding**

Funding will be principally self financing. Initial investment funding for the woodfuel boiler was made available through the Scottish Government's SBHS grant scheme; future funding will need to be generated by the cash savings from this initial investment.

We will also look to target specific external funds such as grant initiatives where possible, to enhance our carbon reduction through additional projects.

## Governance for Implementation

### 4.1.3 Embedding Carbon Management

In order to build upon the commitment which Highland Birchwoods and its staff have already demonstrated to help meet our aim we intend to:

- Further embed carbon management into our performance management process
- Report quarterly energy usage figures for our building at staff and board meetings
- Use promotional material to be used as constant internal reminders of our targets and updated success
- Identify opportunities to promote our progress to our Clients and Customers via our quarterly e-zine, blog and website

### 4.1.4 Data Management – measuring the difference, measuring the benefit

Highland Birchwoods now has processes in place to enable collation of their own carbon data. This data will be collated by the owners of the plan and will feed into an annual report consisting of Key Performance Indicators (KPI's) that monitor how we are doing in all of our key areas.

KPIs to be measured include electricity consumption and staff travel by road, rail and air.

## 4.2 Resource commitment

### 4.2.1 Implementing the Initiatives

Darren Robbins, Programme Manager, supported by Carolyn Gethin, Finance Manager are the assigned owners of the plan, and are accountable for the delivery. As a small organisation we have agreed that the responsibility for the delivery of the overall plan will be one that will be shared across all of our staff.

All activities undertaken will be monitored and reported by the owners who will also assume responsibility for reporting progress on activities to the board.

### 4.2.2 Maintaining quality over time

We are committed to managing the reduction of our carbon emissions. Our Carbon Emissions Reduction Plan will be reviewed annually, the first review being due in 2012. This will enable us over a reasonable period of time to accurately gauge the success, or indeed failure, of individual initiatives, and to identify where changes are required, which may need to be in the form of alternative solutions.

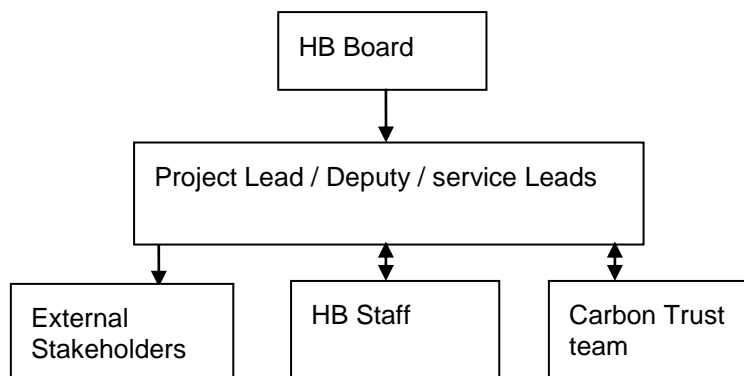
### 4.2.3 Programme Management of the CM Programme

Highland Birchwoods Carbon Management Plan will remain a 'live' document over the five year period it is scheduled to run. It will be overseen by the Board and managed by the Programme and Finance Manager.

The aims of this group are:

- To be a peer group for discussion to support the delivery of the Carbon Management Plan
- To be a focus for dissemination and exchange of information on practical advice to help meet emission targets
- To ensure that good practice from projects and activities is shared and promoted
- To share and discuss how best to achieve targets

#### 4.2.4 The Programme Board (or other Governance structure) – strategic ownership and oversight



#### 4.2.5 The Carbon Management Team – delivering the projects

Highland Birchwoods has enlisted the support of its entire staff in the delivery of its Carbon Reduction initiatives. There will be a quarterly meeting in the initial stages of the plan, with outcomes reviewed at the subsequent board meetings. Staff members shall be given responsibility as project leads on the initiatives relating to them, with recognition of the need to balance with current workloads.

#### 4.2.6 Succession planning for key roles

The plan will be owned by two individuals, however will be delivered by the Highland Birchwoods entire team with the Board playing a vital role. Through this approach and regular meetings to assess progress we will mitigate the over reliance on any one individual.

### 4.3 Implementation Plan

Ref	Specific Initiative	Lead Officer	Predicted CO2e Saving (tonnes)	Costs (£)	Predicted Money Saving P/A	Year Benefits Start	Pay back time scale	Source of Finance	Remarks on Deliverability
HB001	Installation of a woodfuel boiler and storage facility	DR	0	40,000	£0	2009/10	N/A	SBHS	
HB 002	Reduced use of electric heaters due to more efficient heating system	DR	6.4	0	£0	2009/10	N/A	N/A	
HB 003	Effective Travel Policy (Includes use of VC, and working from home)	DR	2.5	0	£1,174	2010/11	3yr	N/A	
HB 004	Loft Insulation throughout main office buildings	DR	0.5	259	£62	2012/13	4.2yr	Not identified	

Ref	Specific Initiative	Lead Officer	Predicted CO2e Saving (tonnes)	Costs (£)	Predicted Money Saving P/A	Year Benefits Start	Pay back time scale	Source of Finance	Remarks on Deliverability
<b>HB005</b>	Secondary glazing on windows	DR	0.4	£286	£51	2012/13	5.5yr	Not identified	
<b>HB006</b>	Localised Lighting	DR		£744	£246	2011/12	3yr	Not identified	

## Appendix A: Definition of Projects

*This template should be used to define each of the projects within your programme. It should contain all the key information without being too long – one page would be a fair guide. The owner of the project should, if at all possible, complete the Project Definition.*

*Please take this template as a basis and tailor it to your own requirements.*

<b>Project:</b>	<b><i>Installation of a woodfuel boiler and storage facility</i></b>
<b>Reference:</b>	<i>HB-001</i>
<b>Owner (person)</b>	<i>Darren Robbins</i>
<b>Description</b>	<i>The installation of a new woodchip boiler, boiler shed and woodchip storage facility on site.</i>
<b>Benefits</b>	Financial savings: £ 0 Payback period: N/A years CO <sub>2</sub> Emissions reduction: 0 tonnes of CO <sub>2</sub> This initiative will result in a reduced requirement for electric heating (see HB-002)
<b>Funding</b>	Project cost: £40,000 Operational costs, e.g. annual maintenance or running costs Source of funding: SBHS Secured and paid
<b>Resources</b>	Contractor
<b>Ensuring Success</b>	Design and implementation Principal risks: Planning consent
<b>Measuring Success</b>	Reduced heating - electricity cost
<b>Timing</b>	<i>Delivered: 2009</i>
<b>Notes</b>	

<b>Project:</b>	<b><i>Reduced use of electric heaters</i></b>
<b>Reference:</b>	<i>HB-002</i>
<b>Owner (person)</b>	<i>Darren Robbins</i>
<b>Description</b>	<i>Following the implementation of the woodfuel boiler we will focus on reducing the requirement and use of the electric heating.</i>
<b>Benefits</b>	Financial savings: £62 Payback period: 4.2 years CO <sub>2</sub> Emissions reduction: [x] tonnes of CO <sub>2</sub> % of target – the percentage of your CO <sub>2</sub> saving target will this project annually contribute
<b>Funding</b>	Project cost, e.g. the initial cost of implementing the project Operational costs, e.g. annual maintenance or running costs Source of funding: internal, external, investment criteria to be met etc. Say how /when decision on funding will be made
<b>Resources</b>	Additional resource (e.g. people) requirements to enable delivery and where these will come from If this project will be delivered within current resources, say so
<b>Ensuring Success</b>	Key success factor: installation of the woodfuel boiler Principal risks: none
<b>Measuring Success</b>	Reduction in heating bill
<b>Timing</b>	<ul style="list-style-type: none"> <li>• <i>start date: 1<sup>st</sup> October 2009</i></li> <li>• <i>completion date (when it will deliver savings): 1<sup>st</sup> October 2010</i></li> <li>• <i>quarterly bills will provide early indication of progress</i></li> </ul>
<b>Notes</b>	

<b>Project:</b>	<b><i>Effective Travel Policy</i></b>
<b>Reference:</b>	<i>HB-003</i>
<b>Owner (person)</b>	<i>Darren Robbins</i>
<b>Description</b>	<i>We have introduced and will be actively encouraging a work from home policy, the introduction of video conferencing to reduce UK and International travel as well as investigating lift sharing and cycle to work schemes where viable.</i>
<b>Benefits</b>	Financial savings: £ 1,174 Payback period: 3 years CO <sub>2</sub> Emissions reduction: 2.5 tonnes of CO <sub>2</sub> % of target – 62.9%
<b>Funding</b>	Project cost - HB resource
<b>Resources</b>	Creation, implementation and measurement of the model Software for conferencing available and trained out Conference call details are obtained and available to all staff All staff trained to utilise WFH facility on laptops
<b>Ensuring Success</b>	Key success factors: People are aware and actively engaged Principal risks: software issues, associates not willing to participate in calls, culture shift within HB; change in business resulting in increased travel requirements
<b>Measuring Success</b>	Timesheets; calendar; accounting software
<b>Timing</b>	<i>Milestones / key dates</i> <ul style="list-style-type: none"> <li>• <i>start date: in place</i></li> <li>• <i>completion date (when it will deliver savings): 31/07/2013</i></li> <li>• <i>quarterly reports to review progress, issues etc</i></li> </ul>
<b>Notes</b>	

<b>Project:</b>	<b><i>Loft Insulation</i></b>
<b>Reference:</b>	<i>HB-004</i>
<b>Owner (person)</b>	<i>Darren Robbins</i>
<b>Description</b>	<i>The insulation of the loft in Highland Birchwoods office</i>
<b>Benefits</b>	Financial savings: £62 per year Payback period: 4.2 years CO <sub>2</sub> Emissions reduction: 0.5 tonnes of CO <sub>2</sub> 11.5% of target
<b>Funding</b>	The cost of insulating the loft based on price today is £259. A funding source is not yet identified, however will be allocated from financial savings incurred through the carbon reduction plan on approval from the board if no external funding identified.
<b>Resources</b>	Resource requirement is minimal, contacting professional companies and agreeing pricing and date is all that is required.
<b>Ensuring Success</b>	Finance to be identified, along with approval from the board There is minimal risk in ensuring that the finance is in place and approved
<b>Measuring Success</b>	Reduction in heating bill
<b>Timing</b>	<i>Pending funding</i>
<b>Notes</b>	

<b>Project:</b>	<b>Secondary Glazing on Windows</b>
<b>Reference:</b>	<i>HB-005</i>
<b>Owner (person)</b>	<i>Darren Robbins</i>
<b>Description</b>	<i>To add secondary glazing to all of the windows at the Highland Birchwoods office</i>
<b>Benefits</b>	Financial savings: £51 per year Payback period: 5.5 years CO <sub>2</sub> Emissions reduction: 0.4 tonnes of CO <sub>2</sub> 9.6% of target
<b>Funding</b>	The cost of implementing the secondary glazing based on today's price is £286. A funding source is not yet identified, however will be allocated from financial savings incurred through the carbon reduction plan on approval from the board if no external funding identified.
<b>Resources</b>	Resource requirement is minimal, contacting professional companies and agreeing pricing and date is all that is required.
<b>Ensuring Success</b>	Finance to be identified, along with approval from the board There is minimal risk in ensuring that the finance is in place and approved.
<b>Measuring Success</b>	Reduction in heating bill
<b>Timing</b>	<i>Pending Funding</i>
<b>Notes</b>	