

**NHS NORTH YORKSHIRE AND YORK
BOARD MEETING**



Meeting Date: 23 March 2010

**Report's Sponsoring Director:
Rachel Johns, Interim Director of Public Health**

Title of Paper: Sustainable Development and Carbon Reduction Plan

Actions Requested:

The Board is asked to approve the Sustainable Development and Carbon Reduction Plan

Corporate Objectives supported by this paper:

1. To develop a sustainable financial framework which will provide resources for service development and supporting infrastructure and some contingency once the debt has been fully repaid.
2. To be an employer of choice within the PCT health economy.
5. To develop the organisation so that it is prepared for any required change in configuration, particularly in relation to community and mental health services.

Executive Summary:

1. Introduction

The Sustainable Development and Carbon Reduction Plan is the result of the PCT's work in partnership with the Carbon Trust over the past 10 months. It outlines our responsibility for sustainable development, and identifies how we can achieve our 25% reduction in CO2 emissions target.

The plan describes:

- The Carbon Management Programme process
- Understanding and measuring our baseline emissions
- The projects identified to help achieve our target to reduce emissions
- The financial implications
- How carbon management and sustainable development will be embedded within the organisation
- How the wider themes of sustainable development can be developed

2. Risks

The risks of not implementing the carbon reduction plan is that our CO2 emissions increase, with resulting financial implications, and possible reputational damage.

3. Finance / resource implications

The plan identifies that there is potentially a £7.2m reduction in energy, travel, waste and water costs if the 25% target is achieved over 5 years. In order to achieve this, mainly capital expenditure is required. The cumulative effect is that a net saving will be realised after 5 years, mainly in revenue savings

5. Statutory/regulatory/legal implications

At present there are no statutory/regulatory/legal implications. The PCT may become liable to participate in the Carbon Reduction Commitment in the future if thresholds for participation are reduced

6. Working with stakeholders/communications plan

In developing this plan, a number of staff from different staff groupings have been involved through a series of workshops run in conjunction with the Carbon Trust. The plan also outlines a communications plan with staff around raising awareness of carbon issues.

7. Action Required

The Board are asked approve this plan

8. Assurance

The plan outlines how the Carbon Management projects will be implemented and how performance against the target will be monitored. Further updates (annual) to the board are proposed.

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NHS North Yorkshire and York

and

NHS North Yorkshire and York Community and Mental Health Services

Sustainable Development and Carbon Management Plan

Date: 11/03/10

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Owner: Bruce Willoughby

Approval route: Board

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APPENDICES

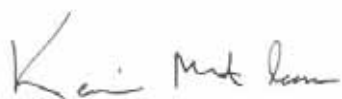
Appendix A Carbon Management Matrix – Embedding

Foreword from Chairman

We in the NHS have a responsibility to reduce carbon emissions. Not only is it a good thing for a sustainable future, but there is a link between health – our core business – and reducing carbon. In times of austerity, some would argue that we should retreat from climate change. But now is the time to act, as there are also sound financial reasons.

NHS North Yorkshire and York contributes to the rising levels of carbon in our atmosphere. But we can influence and reduce this. This plan sets out how we as an organisation plan to reduce our emissions, but also outlines how we can influence others to reduce their emissions, and importantly, how we should prepare for the effects of climate change.

The Board have been supportive of the development of this plan, and are keen to see real changes over the next five years so that we can meet our 25% reduction in baseline emissions.



Kevin McAleese CBE, Chairman, NHS North Yorkshire & York

Foreword from Carbon Trust

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

NHS North Yorkshire and York was selected in 2009, amidst strong competition, to take part in this ambitious programme. NHS North Yorkshire and York partnered with the Carbon Trust on this programme in order to realise substantial carbon and cost savings. This Carbon Management Plan commits the PCT to a target of reducing CO₂ by 25% by 2014 and underpins potential financial savings to the organisation of around £7.2 million cumulatively by that date.

There are those that can and those that do. NHS Trusts can contribute significantly to reducing CO₂ emissions. The Carbon Trust is very proud to support NHS North Yorkshire and York in their ongoing implementation of carbon management.



Richard Rugg
Head of Public Sector, Carbon Trust



Executive Summary

NHS North Yorkshire and York have participated in the Carbon Trust’s NHS Carbon Management Programme. The purpose of the programme is to understand and develop a plan to reduce the organisation’s carbon emissions. This Sustainable Development and Carbon Management Plan sets out how the PCT will tackle our responsibility towards climate change.

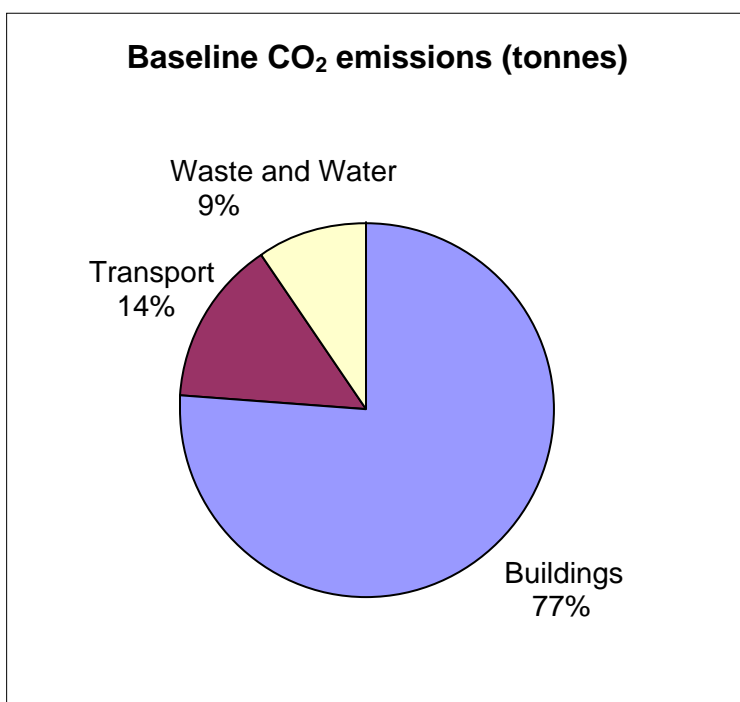
Our vision is that NHS North Yorkshire and York will:

- show local leadership in carbon reduction
- be prepared for, and reduce, the health effects of climate change

We have set ourselves a target to reduce CO₂ emissions from our operations by 25% by 2014/15 from 2008/09 levels (Theme 1), as well as working with partners to reduce carbon emissions in the community (Theme 2); ensuring that the commissioning of health services takes carbon reduction into consideration (Theme 3); exploiting opportunities to link health improvement initiatives in our communities to the carbon reduction agenda (Theme 4); and ensuring we continue to protect the population against the health effects of climate change (Theme 5). We have initially focused on the first of these themes in order to lay the foundations for the other four.

Our baseline emissions for 2008/09 are 13,229 tonnes of CO₂. These can be broken down into the following areas:

Year 2008/09	Total CO ₂ Emission (tonnes)	Buildings Energy Use (tonnes)	Transport (tonnes)	Waste and Water (tonnes)
Baseline CO ₂ emissions (tonnes)	13,229	10,060	1,913	1,255



Taking into account the assumed increase in prices, the PCT will save £7,203,740 cumulatively over the 5 years if we reduce our emissions by 25% based on the value at stake calculations.

A number of projects have been identified which will help us achieve 90% of our 25% target reduction in emissions over the five years, including a communications strategy that will help implement carbon awareness with staff across the organisation.

The cumulative net present costs for these projects are estimated to be around £-1 million. This means that the projects will pay for themselves, and after 5 years there will be a net saving. The costs and savings are currently estimated using expert guidance from the Carbon Trust and will be reviewed on a regular basis. The majority of this investment is capital and will release revenue savings.

Year	Capex for year	Net Cost Savings starting this year (Incl OpEx)	Total net cost savings for this year (Incl OpEx)	Total net present cost for this year	Cumulative net present cost of programme
2009/10	£ 754,000	£ 35,632	£35,288	£718,712	£718,712
2010/11	£ 734,600	£ 964,290	£980,693	-£246,093	£472,619
2011/12	£ 150,000	£ 11,412	£982,302	-£832,302	-£359,683
2012/13	£ 100,000	£ 29,330	£998,850	-£898,850	-£1,258,533
2013/14	£2,300,000	£ 49,178	£1,036,046	£1,263,954	£5,421
2014/15	£ -	£ -	£1,026,036	-£1,026,036	-£1,020,616

All capital investments for projects will need to be subject to the PCT's capital criteria and evaluated on the Estates and Capital Steering Group, on which members of the Carbon Management Project Team sit

This plan outlines how sustainable development and carbon management is becoming embedded across the organisation with a more robust and reproducible methodology to measure our carbon footprint year on year in a consistent way that will allow us to track progress against the target.

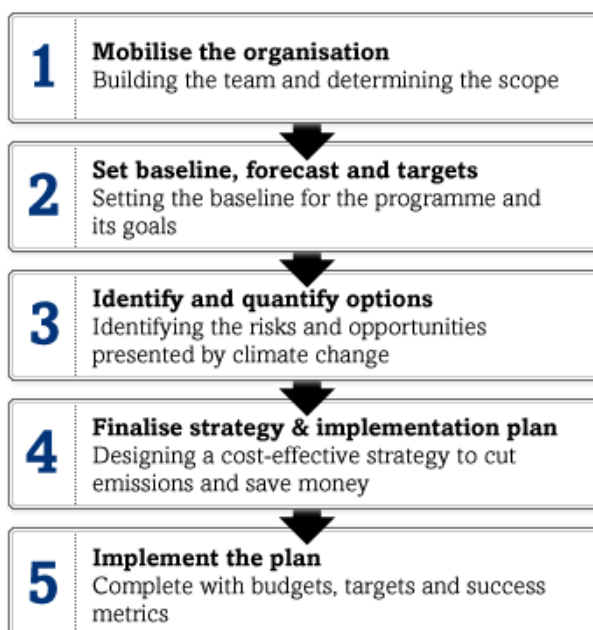
The plan describes how the projects will be implemented, ensuring that progress against the plan is fed into the performance and governance structures within the PCT. Now that we have a plan to reduce our emissions, the wider themes of sustainable development can be developed and implemented.

1. Introduction

The Government is making some ambitious targets with respect to Carbon Reduction and it is looking to the NHS to become the leading Public Sector Organisation on Climate Change Mitigation.

This is the fourth year the Carbon Trust has run the NHS Carbon Management Programme (NHSCMP). The NHSCMP sees the delivery of a Carbon Management Plan (CMP) at each NHS Trust involved. This plan highlights risks and opportunities posed by climate change and will provide a strategy to reduce carbon emissions and create cost savings over a set period of time. A number of acute trusts have already completed the programme, but this is the first time that Primary Care Trusts (PCTs) have been able to participate.

This document represents the NHS North Yorkshire response to the challenge of carbon reduction implementation. The NHSCMP takes organisations through a five stage process which started for NHS NYY in May 2009.



In developing this plan, a number of staff from different staff groupings have been involved through a series of workshops run in conjunction with the Carbon Trust.

These workshops included:

- mobilising the organisation (June 2009),
- stakeholder identification (July 2009),
- opportunities identification (October 2009),
- and strategy and implementation (January 2010).

The results of these workshops, along with the outputs from the five steps outlined above have been translated into this Sustainable Development and Carbon Management Plan. It will provide a structural action plan for realising carbon saving

and embedding carbon management into the PCTs day-to-day business. In identifying potential schemes to reduce carbon, the PCT has been as ambitious as possible and has considered a broad range of possible actions including enabling and direct emissions reduction projects. The project has involved all directorates with Public Health, Finance and Estates leading.

This Sustainable Development and Carbon Management Plan describes how NHS North Yorkshire and York (both commissioner and Community and Mental Health Services) can reduce its carbon emissions, and outlines the other roles we can play on the wider sustainable development agenda within North Yorkshire and York.

2. Sustainable Development and Carbon management – the case for action

2.1 Context and drivers

2.1.1 *Climate change as a threat to health*

In the UK ¹, increases in deaths, disability and injury as a result of climate change are likely to occur from:

- extremes of heat and cold;
- floods and storms, including health hazards from chemical and sewage pollution;
- food poisoning;
- respiratory problems from the damaging effects of surface ozone during the summer and mould growth in housing;
- skin cancer and cataracts;
- Insect-borne disease from increases in flies and fleas (although malaria outbreaks are likely to be rare).

These effects are already starting to appear. In 2003, the major heat wave in Europe caused more than 23,000 premature deaths, including almost 11,500 in France alone.

The global impact of climate change will indirectly affect the UK² with:

- crop failures causing food insecurity through rising food prices and possibly food shortages;
- armed conflict over water, land and food supplies, and major flooding, leading to mass migration, creating potentially huge numbers of displaced people.

Figure 1 below summarises how climate change affects health.

2.1.2 *National Drivers*

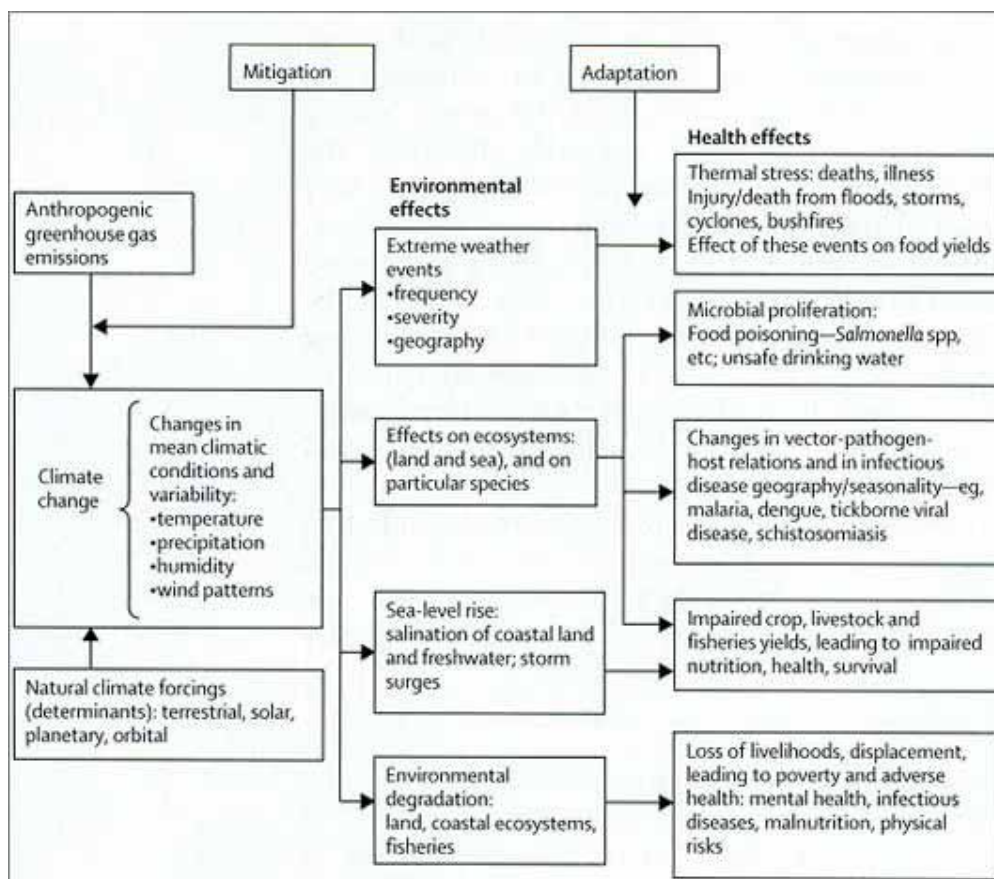
The national strategy on reducing carbon within the NHS ([‘Saving Carbon, Improving Health’](#)) was launched by the NHS Sustainable Development Unit in January 2009. It outlines the case for the NHS taking a lead in carbon reduction, given that it is the biggest employer in Europe, that there are real health threats from climate change and that reducing carbon emissions saves the NHS money and is cost-effective. It states that every NHS organisation should have a carbon reduction board approved policy as well as setting a 10% reduction target in the total NHS carbon footprint on 2007 levels by 2015. Because this baseline looked at total NHS emissions (including those indirectly attributable to the NHS), NHS organisations have had to set more ambitious targets, in order to help achieve the 10% reduction.

¹ Department of Health and Health Protection Agency (2007). *Health Effects of Climate Change in the UK. An Update of the Department of Health Report 2001/02*. Available from: www.dh.gov.uk

² Faculty of Public Health (2008) *Sustaining a Healthy Future: Taking action on Climate Change*. Available from: www.fph.org.uk

The Climate Change Act sets legally binding emissions reductions of 34% by 2020 and 80% by 2050 over a 1990 baseline for the UK. This Act has cross party support, and the public sector is expected to lead the way towards meeting the targets.

Figure 1: Schematic summary of main pathways by which climate change affects population health



Source: McMichael AJ, Woodruff RE & Hales S (2006) Climate change and human health: present and future risks. The Lancet 367: 859-869

NHS organisations are now included in the Department of Energy and Climate Change (DECC) carbon trading scheme (called Carbon Reduction Commitment). It will apply to all organisations whose annual half hourly metered electricity use is above 6,000 MWh (the PCT's total electricity consumption is 7,044 MWh). The scheme will operate on a cap and trade basis – with participants first buying allowances equivalent to their anticipated emissions and then trading surplus or buying additional allowances through a market trading network. Not reducing energy consumption will result in financial penalties. At present, NHS North Yorkshire and York does not meet the criteria to be included in the CRC due its limited half hourly metering. However, this threshold may be reduced in the future.

For the first time in 2009/10, PCT's use of natural resources will be assessed by the Audit Commission. The Key lines of Enquiry (KLOE 3.1) assesses how the PCT:

- understands and can quantify its use of natural resources and can identify the main influencing factors;
- manages performance to reduce its impact on the environment; and
- manages the environmental risks it faces, working effectively with partners.

As of 1 October 2008 there is a legal requirement for all public sector buildings with a total useful floor area of over 1,000m², to show a Display Energy Certificate (DEC) in a prominent place, clearly visible to the public.

Measures to increase energy efficiency will reduce 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. Carbon reduction makes good financial sense.

2.1.3 Local Drivers

The Yorkshire and Humber SHA have developed a Carbon Reduction Accord, to which NHS North Yorkshire and York have signed up. It states that the PCT will explore ways in which it can reduce its greenhouse gas emissions and develop lower carbon services. This fits very well with the 'care closer to home' agenda outlined in Healthy Ambitions.

Both City of York and North Yorkshire Strategic Partnerships have Local Area Agreement (LAA) targets to reduce community CO₂ emissions (NI186). These community emissions will include emissions from NHS organisations. The PCT, through its staff (and family and friends of staff); and through commissioning carbon reduction with its providers, can play an important role in reducing these community emissions.

2.2 Our low carbon vision

In response to climate change, the NHS North Yorkshire and York will:

- show local leadership in carbon reduction
- be prepared for, and reduce, the health effects of climate change

2.3 Strategic themes

The following strategic themes for sustainable development have emerged during the process of the carbon management programme:

- Theme 1. **Reducing our own carbon footprint** around staff travel, building energy use, waste reduction and procurement of goods and services through:
 - Engaging with staff through a communications strategy
 - Reviewing and improving current buildings energy use
 - Linking with IT developments
 - Making the financial case through linking with the PCT's 5 year Strategic Plan
- Theme 2. **Working with partners** to reduce carbon emissions in the community
- Theme 3. Ensuring that the **commissioning of health services** (primary and secondary care) takes carbon reduction into consideration

- Theme 4. Exploiting opportunities to **link health improvement initiatives** in our communities to the carbon reduction agenda and vice versa e.g. active travel, Healthy Weight Active Lives strategy, physical activity and reduction in meat consumption

- Theme 5. Ensure we continue to **protect the population against the health effects of climate change**

The focus of this plan is on the first theme. However, this will be a ‘living’ document, and will be updated as we show progress towards Theme 1, and further develop the other themes.

2.4 Targets and objectives

NHS North Yorkshire and York will reduce CO₂ emissions from our operations by 25% by 2014/15 from 2008/09 levels.

This target has been developed based on an assessment of what is a challenging but achievable target and is in line with government and Carbon Trust expectations. The target will be annually reviewed to assess progress and ambition

If we meet our target, the following annual reductions are expected:

Year	Predicted Business as Usual (BAU) Emissions (tCO ₂)	Target Emissions (tCO ₂)
2008/9	13,229	13,229
2009/10	13,321	13,229
2010/11	13,414	12,489
2011/12	13,508	11,791
2012/13	13,603	11,131
2013/14	13,698	10,509
2014/15	13,794	9,921
Absolute reduction target by 2014/15		25%
Compound Annual Reduction Rate		5.92% per annum
Final year footprint target		9,921 tCO ₂
BAU emission growth forecast		4% per annum
2014/15 BAU Emission Forecast		13,794 tCO ₂
Relative emissions reduction		28%

As well as the target for reducing our emissions, within the next 12 months the PCT will need to:

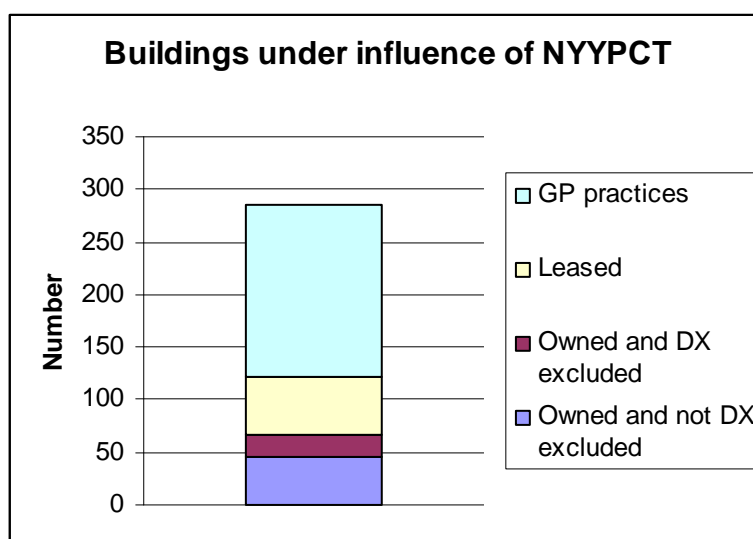
- Establish management and performance monitoring structures to ensure the Carbon Management Plan is delivered.
- Improve carbon related data quality across a number of areas to allow more effective energy management.

- Implement Year 1 of the programme of building energy improvements identified in this plan.
- Deliver the identified “Quick Wins” including launching staff awareness campaigns.
- Undertake and resource scoping surveys across a number of areas to quantify opportunity and inform future carbon reduction initiatives.
- Agree a finance strategy to enable delivery of the programme

3. Emissions baseline and projections

3.1 Scope

The following chart shows the number of estates buildings emissions that can be influenced by NHS North Yorkshire and York. 'DX' buildings are those which have been assigned as being at risk of imminent breakdown of physical state, where it is impossible to improve without replacement (i.e. in need of major repairs, which are so costly that an exit strategy is recommended to be developed).



In consultation with the Carbon Trust, we agreed that our baseline should focus on the buildings whose energy bills we have direct influence over, or are large and have potential to reduce carbon emissions. This enables a baseline to be set which is measurable, and progress towards reducing our carbon emissions can therefore be monitored in a consistent way. The wider carbon emissions we can influence are described in Section 3.3.

For our total baseline assessment, we agreed that the following emissions were included:

- Owned building energy (including Ryedale, 37 Monkgate, Richmond Friary PFI and Sovereign House) (66 buildings)
- Lease cars business miles
- Organisation owned business travel including excess mileage
- Waste produced by buildings and operations
- Water used in buildings and operations

The NHS Sustainable Development's Unit's publication, 'Saving Carbon Improving Health', indicates that procurement accounts for 60% of the total NHS Carbon footprint. However, calculating the exact Carbon impact from our Trust's procurement activity would require considerable resources. We will look at ways of developing ways to include measurement of procurement in the future, but in the meantime, we recommend quantifying carbon emissions reductions from individual procurement projects where possible.

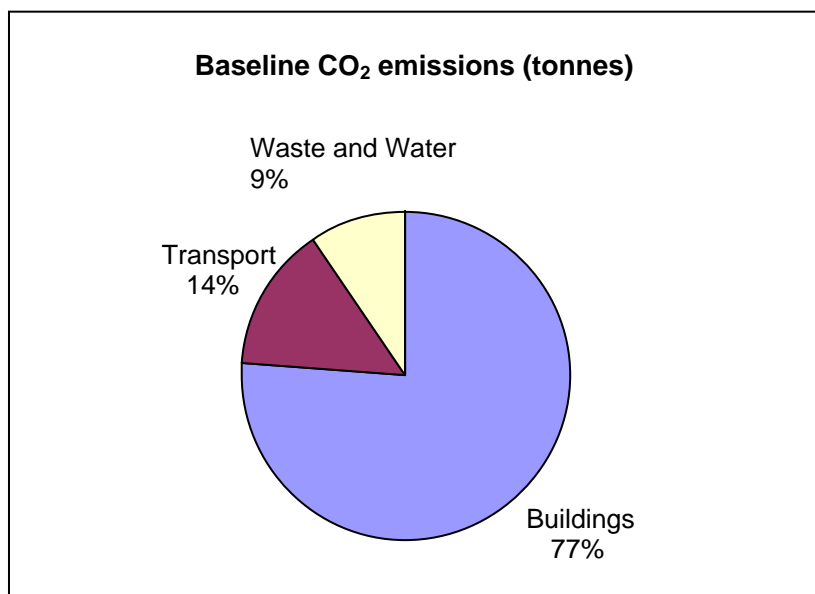
We have looked at NHS North Yorkshire and York emissions as a whole (both the commissioning and the CMHS arms of the PCT).

3.2 Baseline

The baseline year for the PCT’s carbon footprint is 2008/09 financial year. Baseline data was calculated using utility invoices for owned buildings (plus Ryedale, 37 Monkgate, Richmond Friary PFI and Sovereign House). Payroll data for travel claims was used to calculate travel emissions. Emissions have been calculated from units of energy/fuel and converted into carbon emissions based on the government’s CO₂ emission factors, and costed at local prices with travel as per the Agenda for Change terms and conditions. The precision for calculating our baseline has improved since first calculating it as we have managed to improve the data quality.

The total baseline emissions are 13,229 tonnes of CO₂. This can be broken down as follows:

Year 2008/09	Total CO ₂ Emission (tonnes)	Buildings Energy Use (tonnes)	Transport (tonnes)	Waste and Water (tonnes)
Baseline CO ₂ emissions (tonnes)	13,229	10,060	1,913	1,255
Baseline Cost (£)	£5,488,569	£1,535,931	£3,507,101	£445,537



Although the PCT qualifies for the CRC Energy Reduction Scheme, formally known as the Carbon Reduction Commitment (CRC), due to the size of the electricity consumption, it does not qualify under the requirement to have the volume registered under half hourly meters. Therefore only a disclosure is required at present. Data collection for the scheme will still have to be undertaken in case of changes to the requirements.

3.2.1 Buildings

The total energy use in the buildings in the baseline equate to 10,060 tonnes of CO₂. The top 10 sites by CO₂ emissions are:

Site	CO ₂ emissions due to energy use (tonnes)
Whitby Community Hospital	1,056
Bootham Park Hospital	1,026
Malton Community Hospital	979
Castleberg Hospital	822
Clifton House	803
Selby War Memorial Hospital	407
Skipton General Hospital	374
Ripon and District Community Hospital	344
Monkgate Health Centre	297
Rutson Rehabilitation Centre	251

3.2.2 Transport

The following table breaks down the carbon emissions by transport type. It shows that over 9 million kilometres of travel was undertaken in 2008/09.

Site or Group	Transport Type (by distance or fuel)	Journey Type	Units	Distance travelled or fuel used	CO ₂ emission (tonnes)
Business miles	Small car, up to 1.4 litre engine	Business	km	1,291,201	236
Business miles	Medium car, from 1.4 - 2.0 litres	Business	km	4,475,330	968
Business miles	Large I cars, above 2.0 litres	Business	km	1,051,324	312
Business miles	Large motorbike (over 500cc)	Business	km	827	0.1
Home to HQ	Small car, up to 1.4 litre engine	Business	km	39,043	7
Home to HQ	Medium I car, from 1.4 - 2.0 litres	Business	km	13,780	3
Home to HQ	Large cars, above 2.0 litres	Business	km	438	0.1
Passenger miles		Business	km	549,025	-

Leased car	Average car	Fleet	km	1,529,204	304
Public transport	Bus/Public transport rate	Business	Passenger km	374,518	33
Excess miles	Average car	Commute	km	212,931	44
Cycle	Cycle	Business	km	1,472	-
Rail miles covered	Rail - national rail	Business	Passenger km	96,560	6

3.2.3 Waste and Water

The total CO₂ emissions due to waste and water across the baseline estate are 1255 tonnes. The top 10 sites for CO₂ due to waste and water are shown below:

Site	CO ₂ emissions due to waste and water combined (tonnes)
Whitby Community Hospital	236
Worsley Court Community Unit For The Elderly	234
Malton Community Hospital	127
Bootham Park Hospital	118
Clifton House	67
Accomb Health Centre	63
Monkgate Health Centre	40
Limetrees Child Adolescent and Family Unit	37
Sovereign House NYYPCT Provider HQ	33
Cherry Tree House Community Unit For The Elderly	27

3.3 Extended Baseline

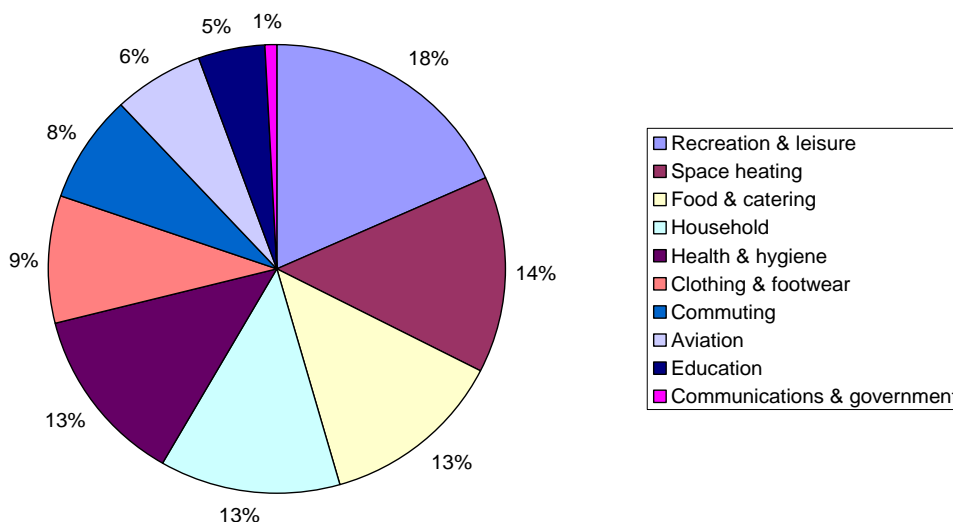
As a PCT, we have scope to influence a variety of other carbon emissions for which we do not have direct control over. These include staff commuting, procurement, emissions of provider organisations from which we commission services, and ultimately, the population whom we serve. It is impossible to get accurate data for all of these areas for the purposes of this report, but it is important to realise what effect we, as an organisation, can have on the wider community. This baseline is not part of our target on reducing emissions, but fits with our vision of being a local leader in carbon reduction.

We are the main commissioners of health care from four acute hospitals (Scarborough and North East Yorkshire, Harrogate, York, and the Friarage). We also commission from a number of surrounding trusts including Airedale, Leeds and James Cook. The estimated emissions from a typical acute trust³ are shown below. We also commission services from a number of independent contractors. The estimated emissions from each of these providers^{4,5}: (average) are summarised below

Service	Average emissions (tonnes)
General acute hospital	33,727
GP surgery	114
Dentist	99
Pharmacy	99
Optometrist	99

The average carbon footprint for an individual in the UK is 10.64 tonnes of CO₂ per year. A breakdown of the carbon emissions which make-up this overall total is presented below in the figure below

Average components of an individual's personal carbon footprint



The total estimated extended baseline emissions for the emissions of provider organisations from which we commission services, and the population whom we serve is summarised below:

³ Based on estimated carbon emissions from energy use for an average Acute Hospital and then using the Stockholm Institute report on NHS carbon footprint

⁴ Emissions taken from Health Service Journal article: <http://www.hsj.co.uk/resource-centre/your-ideas-and-suggestions/-gp-surgery-sustainability/5004950.article>

⁵ Energy consumption taken from Cibse Guide F benchmark (benchmark for Primary health care [general practitioners, surgeries & dental practices]), emission factors taken from Defra (<http://www.defra.gov.uk/environment/business/reporting/pdf/conversion-factors.pdf>) and floor area taken from <http://en.wikipedia.org/wiki/Tesco>

Footprint	Emissions per unit (tCO ₂ /yr)	Number of units	Total emissions (tCO ₂ /yr)
NHS North Yorkshire and York baseline carbon footprint			13,229
Extended Footprint			
General acute hospitals	33,727	4	134,908
GP surgeries	114	100	11,364
Community dentists	99	120	11,917
Pharmacies	99	100	9,931
Community optometrists	99	90	8,938
Local population	11	800,000	8,496,000
Total emissions			8,686,287

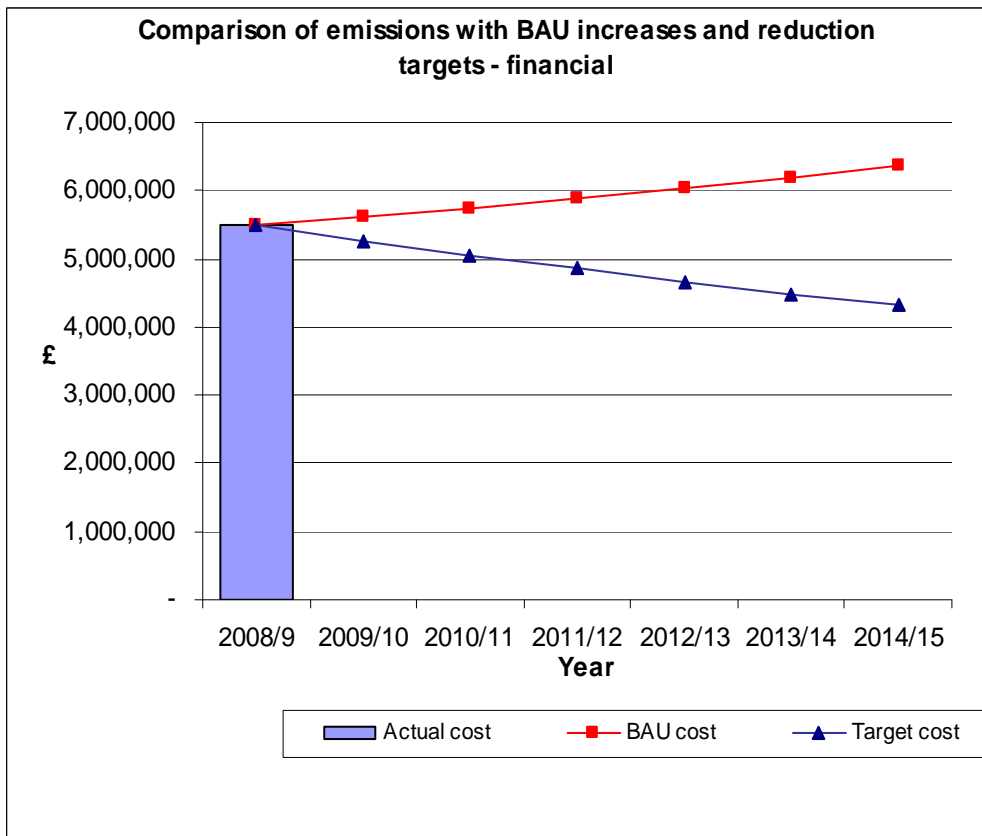
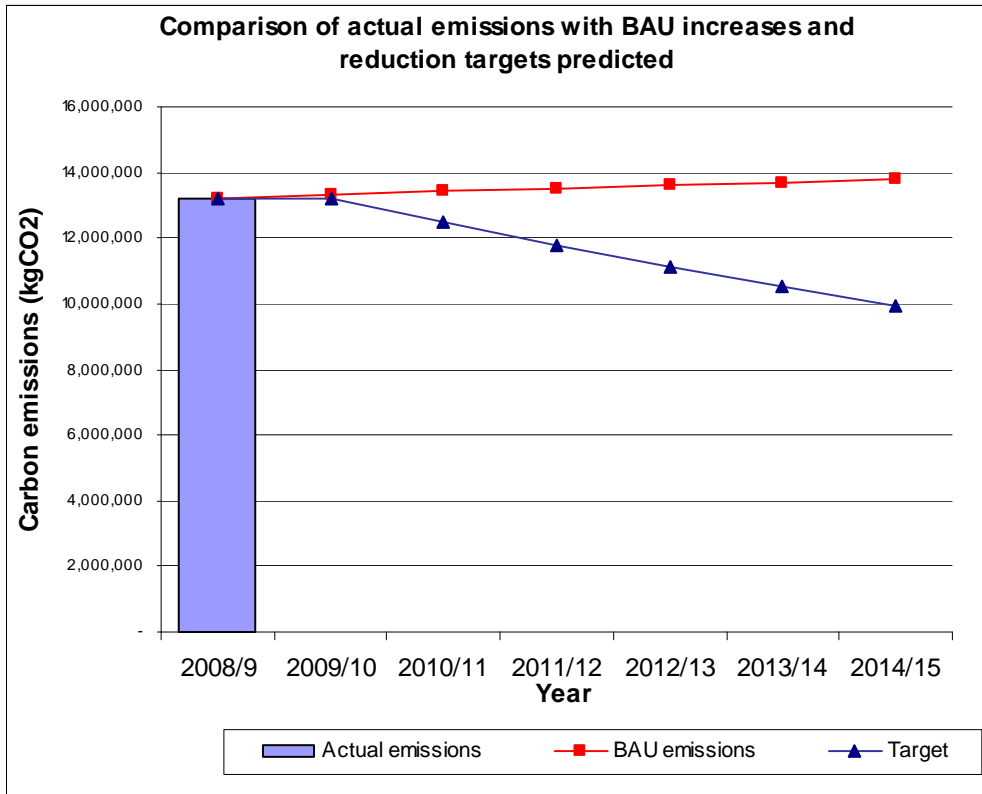
Clearly, we cannot affect change in everyone, however we do have a role. How we will approach these are dealt with in Themes 2 and 3 (working with partners and commissioning of health care)

3.4 Projections and Value at Stake

In assessing the implications of delivering the Carbon Management Plan two scenarios have been modelled:

- **Business as Usual (BAU).** This scenario is based on the PCT taking no action to reduce carbon emissions between 2010/11 to 2014/15. This takes into account increases in consumption at 0.7% increase per annum for energy, waste, water and transport. (Based on DTI figures (EP68)). Price assumptions for travel have remained the same due to paying under Agenda for Change pay and conditions. A price increase of 5.3% per annum for electricity and gas has been assumed. Waste and water has been based on OFWAT price increase of 9% from 2010-2015 which equates to 1.7% per annum.
- **Reduced Emissions.** The second scenario is to reduce the PCT emissions by 25% by 2014/15 from 2008/09 baseline

The graphs below show the implications from both scenarios for carbon emissions and costs. Under the BAU scenario, we will increase emissions by 4.2% and costs by £985,090 from 2008/09 baseline. Taking into account the assumed increase in prices, the PCT will save £7,203,740 cumulatively over the 5 years if we reduce our emissions by 25%.



4. Carbon Management Projects

The following section sets out the PCT's planned carbon reduction projects to deliver the carbon reduction target. The projects have been identified during the 'opportunities' workshop held in October with various staff members, along with expert advice from the Carbon Trust.

The majority of carbon emissions are generated from our building estate. In line with this, most of the projects identified involve improving building energy efficiency. In addition, other projects have been identified to reduce travel because of our large geographical area and high travel costs. Costs and savings have been estimated and will be refined during the programme. It is anticipated that more projects will be identified as the staff awareness programme is implemented.

4.1 Existing Projects

The following projects are already underway: (costs and savings are currently estimates). Due to our old estate and maintenance back log, we are aware that some of these projects will have a proportionately larger capital outlay than CO₂ and cost savings, but will contribute to meeting our CO₂ reduction target.

Ref	Project	Lead	Cost		Annual Saving		Pay back	% of Target	Year
			Capital	Operational	£	CO ₂			
	Cycle Scheme	Human Resources	NA	NA	TBC	TBC			2008
	Computer Based Learning Solution (CBLS)	Human Resources	160,590	42,000	TBC	TBC	NA		2009
	Integration of IT and telephony systems	IT	NA	NA			NA		2009
3	Abdale House roof repair/insulate	Alan Furby	0		562	3.70	0	0.14%	2009
8	Bootham ward 1 and 2 new roof	Alan Furby	350,000		211	1.39	NA	0.05%	2009
15	Malton Hospital - Ryedale ward upgrade	Alan Furby	100,000		4,113	27.30	NA	1.00%	2009
16	Mother and baby unit Bootham Park - new roof	Alan Furby	100,000		422	2.77	NA	0.10%	2009
17	Move out of the Rutson Hospital	Adrian Snarr	0		19,213	127.67	0	4.69%	2009
18	Pickering Health Centre boiler replacement	Alan Furby	50,000		1,012	6.66	NA	0.24%	2009
22	Whitby Hospital - Install additional roof insulation	Alan Furby	54,000		1,405	9.25	NA	0.34%	2009
24	Whitby hospital windows repair/replacement	Alan Furby	100,000		7,025	46.24	14.23	1.70%	2009

26	Discrete servers to virtual platforms	Shaun Macey	0		80	0.54	0	0.02%	2009
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4.2 Near Term projects

The following projects are planned to be implemented in 2010/11. Some will need further feasibility studies or further work and will need to go through the capital planning process. Other projects may be identified and will be included into the projects register to ensure that they contribute to the 25% CO2 reduction target. Costs and savings are currently estimates and will be refined as projects are developed.

The appointment of an Energy Manager will help achieve cost savings and CO2 savings (project 38). There is a risk that this may not be filled due to the 30% reduction in management costs expected for all PCTs over the next 3 years as per the Department of Health Annual Operating Framework.

Ref	Project	Lead	Cost		Annual Saving		Pay back	% of Target	Year
			Capital	Operational	£	CO ₂			
1	22 Brompton Road - Replace boiler and heating pumps	Alan Furby	8,600		562	3.70	15.30	0.14%	2010
2	22 Brompton Road - Upgrade Internal lighting	Alan Furby	1,300		201	1.34	6.48	0.05%	2010
5	Bedale Health Centre - Replace boilers and heating controls	Alan Furby	22,500		225	1.48	NA	0.05%	2010
6	Bedale Health Centre - Upgrade internal lighting	Alan Furby	1,500		201	1.34	7.48	0.05%	2010
9	Catterick Garrison Health Centre - Upgrade internal lighting	Alan Furby	2,900		257	1.72	11.30	0.06%	2010
10	Catterick Village Health Centre - Replace boilers	Alan Furby	24,500		1,686	11.10	14.53	0.41%	2010
13	Malton Hospital - Fit TRV's to 75 Radiators	Alan Furby	5,000		773	5.09	6.47	0.19%	2010
14	Malton Hospital - Upgrade internal lighting fit PIR controllers	Alan Furby	14,500		12,030	80.55	1.21	2.96%	2010
19	Replace internal lighting bulbs with low energy equivalent	Alan Furby	1,000		802	5.37	1.25	0.20%	2010
21	Stokesley Health Centre - Upgrade internal Lighting	Alan Furby	3,800		321	2.15	11.85	0.08%	2010
23	Whitby Hospital - Upgrade internal lighting	Alan Furby	149,000		12,030	80.55	12.39	2.96%	2010
27	Printer efficiency improvements	Shaun Macey	0		3,551	41.51	0.00	1.53%	2010
28	IT Power off	Shaun Macey	0	5,000	2,058	47.26	0.00	1.74%	2010

29	Best use of pool/lease/hire cars, log details eg car sharing	Adrian Snarr	0		5,651	12.60	0.00	0.46%	2010
30	Staff travel promotion 10% reduction	Adrian Snarr	50,000		399,000	48.21	0.13	1.77%	2010
31	Driver awareness training	Adrian Snarr	0		5,651	12.60	0.00	0.46%	2010
32	Training to make meetings more effective and look at all sites and ensure that alternative option to travel is available	Adrian Snarr	0		5,651	12.60	0.00	0.46%	2010
33	Review effects of Tele-health/Tele-medicine	Kerry Wheeler	190,000			5.04	NA	0.19%	2010
34	Sign up by directorates - to reduce travel by 10 % target reduction	Adrian Snarr/Nick Steele	0		336,000	211.37	0.00	7.77%	2010
37	Carbon awareness raising programme	Oliver Tipper	10,000		96,300	638.45	0.10	23.48%	2010
38	Energy Manager post developed and filled	Alan Furby		45,000	9,150	361.00	0.00	13.27%	2010
39	Opportunities from current energy survey work	Alan Furby	250,000		54,150	361.00	4.62	13.27%	2010

4.3 Medium to Long Term Projects

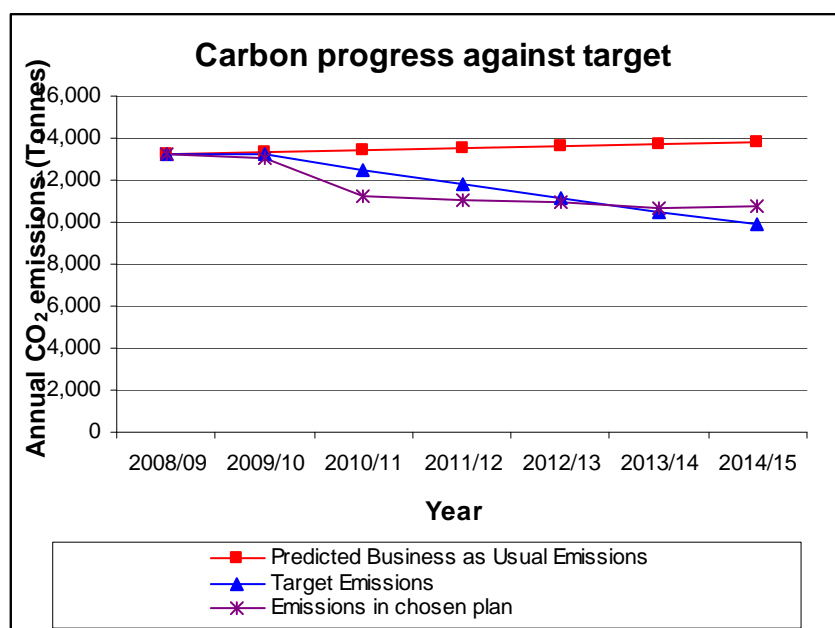
Several projects have been identified to start in year 2 to 5 as identified below. The detail of these may be subject to feasibility studies or further work.

Ref	Project	Lead	Cost		Annual Saving		Pay back	% of Target	Year
			Capital	Operatio-nal	£	CO ₂			
4	Audit of electrical equipment	Alan Furby	0		1,604	10.74	0.00	0.39%	2011
7	BMS or local heating control and review settings and Energy survey and review/zone heating and thermostatic valve	Alan Furby	150,000		19,670	129.48	NA	4.76%	2011
35	Working with partner organisations eg NYCC to stop duplication on routes (eg pt or other transport)	Adrian Snarr	0		11,302	25.20	0.00	0.93%	2011
36	Recycling and waste reduction policy - 10% of waste	Alan Furby		50,000	49,863	111.75	NA	4.11%	2011
11	Rationalise existing buildings within trust	Nick Steele/Adrian Snarr	0		12,880	85.68	0.00	3.15%	2012
12	Double glazing/cavity wall insulation	Alan Furby	2,000,000		14,050	92.49	NA	3.40%	2013

20	Selby Community Hospital development - BREEAM excellence replacing Selby War Memorial and Raincliffe	Alan Furby	100,000		16,450	109.19	6.08	4.02%	2012
25	Wind turbine opportunity	Alan Furby	300,000		12,832	85.92	23.38	3.16%	2013

4.4 Projected Achievement towards Target

If we implement all the projects as outlined, then we expect to achieve 90% of our target.



5. Carbon Management Plan financing

The financial benefits to the PCT from the implementation of the projects outlined in the plan are significant. However, capital investment is required in order to unlock the financial and carbon savings outlined.

5.1 Assumptions

The assumptions below have been made regarding price increase and increase in consumption. These projections are in line with advice from the Carbon Trust

- Increase in consumption per annum 0.7% (based on DTI figures EP68)
- Increase in energy prices 5.3% per annum
- Transport costs remain constant as per Agenda for Change agreement
- Water price increase as per OFWAT prices

5.2 Benefits / savings – quantified and un-quantified

	2009	2010	2011	2012	2013	2014
Annual cost saving	£35,288	£980,693	£982,302	£998,850	£1,036,046	£1,026,036
Annual CO₂ saving	235.99	2191.35	2468.52	2658.35	2986.05	2986.05
% of target achieved	7%	66%	75%	80%	90%	90%

Unquantified benefits:

- Improved reputation as a good corporate citizen by taking responsibility for its impact on the environment
- Financial efficiencies allowing increased investment in energy saving projects and patient care
- Creating a better environment for staff and patients
- Accurate assessment of performance and CO₂ emission reductions to demonstrate compliance with existing and future NHS strategy and legislation
- Positive staff engagement and motivation.
- Encourage staff, patients and the wider community to live healthier, low carbon lifestyles

5.3 Additional resources

The Carbon Management Programme team consists of representatives from Public Health, Finance, Estates, IT, Human Resources, Communications and Community and Mental Health Services. In addition it is envisaged that an Energy Manager will be appointed.

5.4 Financial costs and sources of funding

Figures in £ 1000's	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Annual costs:						
Total annual capital cost	754	735	150	100	2,300	0
Total annual revenue cost	0	162	209	96	95	94
Total costs	754	897	359	196	2,395	94
Committed funding:						
Committed annual capital	754	-	-	-	-	-
Committed annual revenue		-	-		-	-
Total funded	754	-	-	-	-	-
Unallocated funding						
Unallocated annual capital	-	-	-	-	-	-
Unallocated annual revenue	-	-	-	-	-	--
Total unfunded	-	-	-	-	-	-

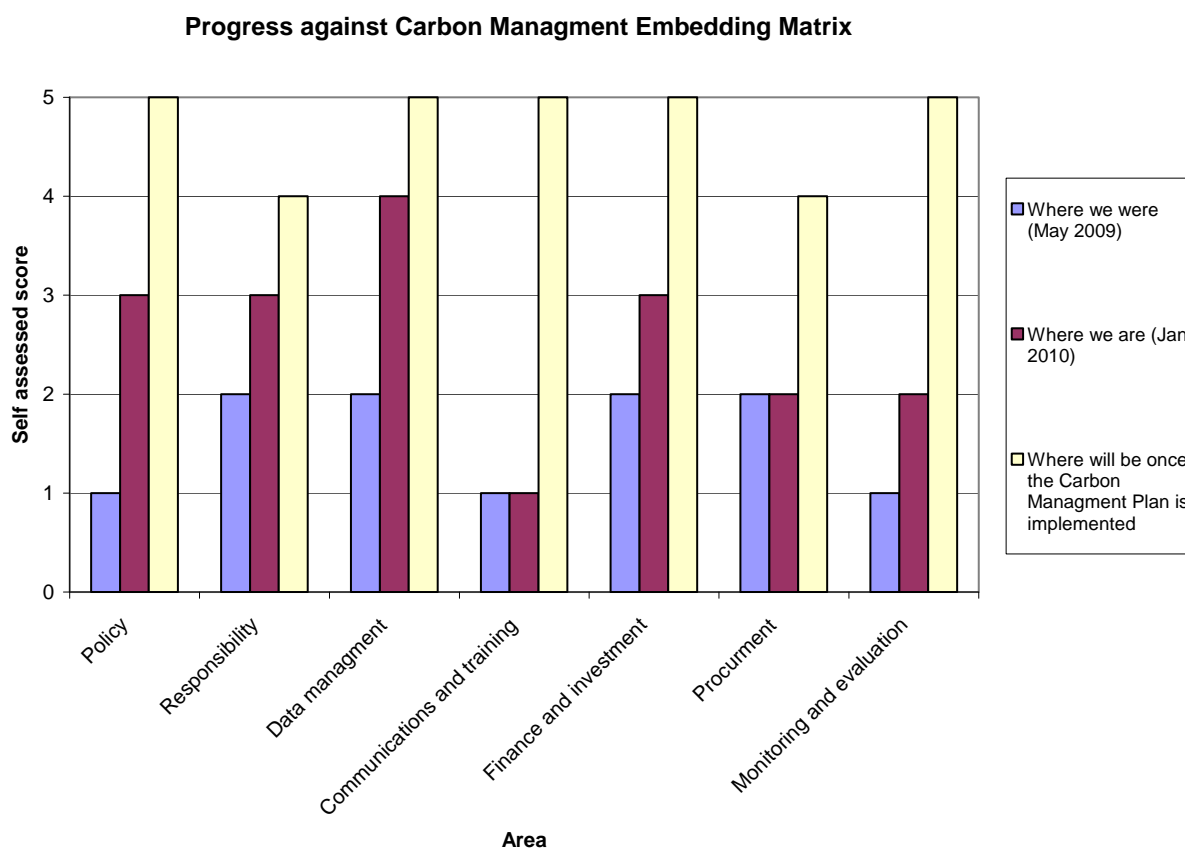
Financial costs and funding are currently awaiting confirmation. The board are fully signed up to this initiative and capital commitments have been identified. It is expected that revenue costs will be funded from the project savings. This programme also features within the PCT 5-year Strategic Plan and Q&P programme.

All capital investments will be subject to the PCT's capital criteria and evaluated on the Estates and Capital Steering Group, on which members of the Carbon Management Project Team sit.

All other funding sources will be pursued wherever opportunities are identified (e.g. Salix).

6. Actions to embed Carbon Management in the PCT

One of the main outcomes from this plan is to make carbon reduction core PCT business. We have used the Carbon Trust Carbon Management Embedding Matrix to score our progress (see Appendix A). This plan outlines the actions needed to improve in all these areas. The chart below shows our self-assessed progress against the matrix during the NHS Carbon Management Programme. However, it shows how the plan needs to be implemented in order to achieve our aspirations.



6.1 Corporate Strategy – embedding CO₂ saving across the PCT

Carbon reduction is included in the PCTs 5-year Strategic Plan and related Operational Plan demonstrating that there is high level sign up to reducing our carbon emissions. The Board have already approved an interim sustainable development plan (May 2009) – which highlighted the need to be involved with the NHS Carbon Management Programme. The Board have already received an update on progress (September 2009) including an outline of the baseline emissions. We expect to achieve level 2 status on KLOE 3.1 Use of Resources (despite it being the first year that PCTs have had to take part in this particular assessment) – this assesses the KLOE across both the commissioner and provider (NHSNYY CMHS) elements of the PCT.

The PCT's Ethical Procurement policy has been amended to include carbon reduction issues. Most of our procurement is through national NHS procurement who internally have their own sustainable procurement policy. We have also included lines within the contracts with our acute providers of health care around carbon reduction and aspire to develop this (Theme 3).

This Sustainable Development and Carbon Reduction plan will be reviewed by the Board in March 2010 for approval.

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

Carbon reduction is everyone's responsibility. The projects outlined highlight a number of buildings and transport schemes which will reduce emissions. However, without staff engaged, we will fail to meet our reduction target.

As part of our plan, we will set up a network of 'energy champions'. These are people who are interested in the subject area, and volunteer to help reduce emissions in the sites where they work. They will receive training on carbon reduction and will disseminate communications to staff via notice boards and individually. They will highlight areas for concern which may result in new projects being worked up and implemented.

We are also planning to record business travel usage and telephone conferencing by directorate so that savings can be monitored and good practice recognised. Clearly, different directorates will be able to contribute in different ways.

6.3 Data Management – measuring the difference, measuring the benefit

The existing baseline represents a reliable assessment of emissions from the PCT's scope in 2008/09. However during the first year of implementation the baseline data will be reviewed and improved. It is not expected that these data improvements will substantially affect the baseline. Additional areas will also be looked at for example employees commute to work via a staff travel survey. Data will also be reported quarterly to the Carbon Management Project team. Data on the PCT's performance will be reported frequently to the Directors and communicated to staff regularly to raise awareness. Performance will also be reported in the PCT annual Report.

We have used the national ERIC returns database to assess how we perform compared to other similar organisations. From previous returns, we are in the middle tertile for energy costs per 10m² compared to other community and mental health organisations.

6.4 Communication and Training – ensuring everyone is aware

NHS North Yorkshire and York will seek to effectively engage with staff in order to support the objectives of the Carbon Management programme.

Communications staff from both its commissioning and provider arms will drive this forward. They will:

- Develop regular targeted staff communications to highlight key initiatives i.e. teleconferencing, switch offs, cycle scheme etc
- Develop an intranet page dedicated to carbon management initiatives
- Develop a visual presence for carbon management messages in staff workplaces i.e. posters, leaflets, stickers etc
- Use both a top down (via the Chairman) and bottom up (via staff side committees) approach to engage staff
- Support the 'carbon champions' initiative through communications
- Celebrate key milestones both internally and externally in carbon management projects i.e. launching the staff survey

This communications strategy will be launched on March 16th 2010.

6.5 Policy Alignment

Carbon Awareness has been incorporated into the Ethical/Sustainable Procurement Policy that was ratified at the Board in June 09.

We are building the need to consider carbon into the business case templates for capital and commissioning projects.

Human Resources are represented in the Carbon Management group so that changes to policies affected staff can be fed through the appropriate policy review groups.

7. Sustainable Development and the wider themes

The bulk of this Carbon Plan looks at Theme 1 (Reducing our own Carbon Footprint within NHS North Yorkshire and York). Section 2 highlighted our vision beyond this initial theme:

- to show local leadership in carbon reduction
- to be prepared for, and reduce, the health effects of climate change

The other wider themes will be developed as the plan becomes more embedded into the organisation. The other themes with their outline actions are:

➤ **Theme 2.**

Working with partners to reduce carbon emissions in the community

- Engage in the sustainability partnerships with the local authorities
- Continue to support improvements in home insulation (particularly to vulnerable groups) through the Affordable Warmth Group
- Support changes in staff knowledge and behaviours around carbon reduction to apply at work and back in their homes and communities (links to communications strategy section 6.4)

➤ **Theme 3.**

Ensuring that the commissioning of health services (primary and secondary care) takes carbon reduction into consideration

- Include contractual requirements for provider organisations to reduce carbon
 - Highlight and disseminate good practice in provider organisations across our health economy
 - Include awareness of carbon in the development of patient pathways
- Carbon awareness is already part of the contract with our acute providers. We aim to build on this by include more concrete metrics to demonstrate carbon reduction as when the national metrics are developed.

➤ **Theme 4.**

Exploiting opportunities to link health improvement initiatives in our communities to the carbon reduction agenda and vice versa e.g. active travel, healthy weight active lives strategy, physical activity. The Health Improvement Team is part of the carbon management project.

➤ **Theme 5.**

Ensure we continue to protect the population against the health effects of climate change

- ensure emergency preparedness (e.g. heat wave plan, flood plan)
 - review services provided in view of new health threats as they arise,
 - tailoring health promotion activity to new threats (e.g. skin cancer awareness)
- The emergency preparedness team are part of the carbon management project. The Staying Healthy pages on the PCTs website includes information on sun safety⁶

⁶ <http://www.nypct.nhs.uk/StayingHealthy/SunSafety/index.htm>

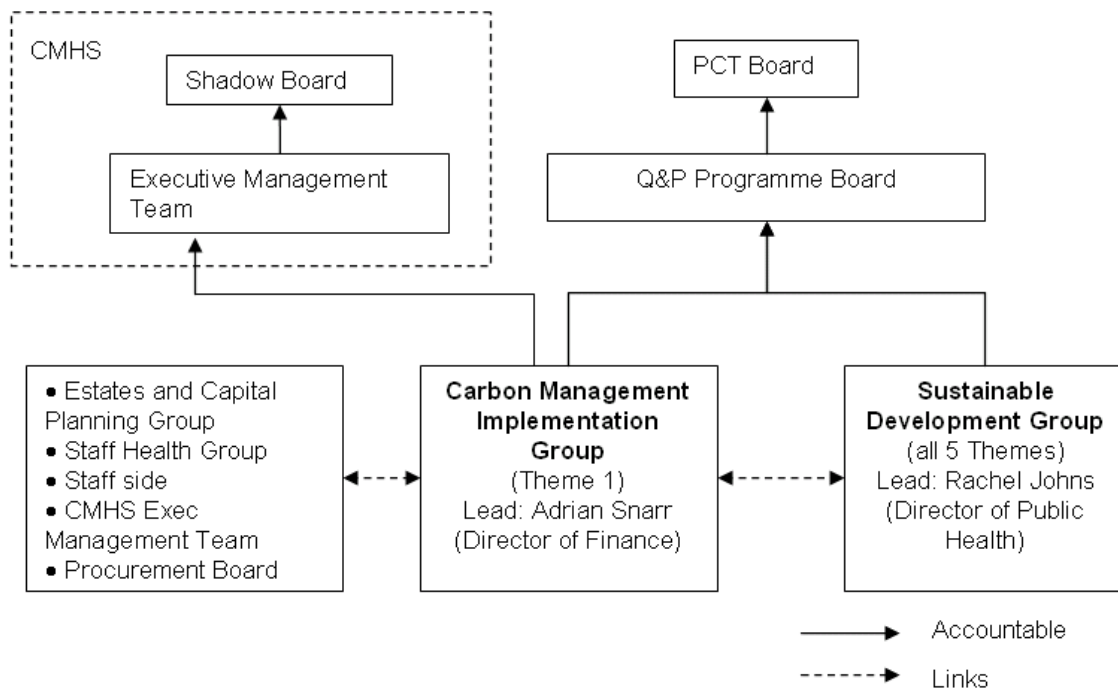
8. Programme Management of the Sustainable Development and Carbon Management Plan

Accountability and governance are crucial to ensure that this plan is implemented and performance is monitored.

8.1 Sustainable Development Committee and Q&P Programme Board – strategic ownership and oversight

A Sustainable Development Group will be developed which is sponsored by the Director of Public Health. It will have a remit to further develop and implement the Sustainable Development and Carbon Management Plan for NHS North Yorkshire and York. The Sustainable Development Group will review progress against all five themes highlighted in this plan, but will now focus on developing action plans for the remaining wider themes (2-5).

The Carbon Reduction Implementation team (Theme 1) will be directly accountable to the Q&P Board and will be lead by the Director of Finance. It will also report into the Executive Management Team of CMHS.



8.2 The Carbon Management Implementation team – delivering the projects

This is a small team of estates, finance, communications and IT who have been identified as project leads for carbon reduction. Its purpose is to deliver the projects outlined in the plan, and to identify and develop new projects as they arise. It will continue to meet monthly and will report into Q&P Programme Board as well as the Sustainable Development Group. It will be led by the Director of Finance.

8.3 Succession planning for key roles

Currently the Director of Public Health is Project Sponsor for the whole sustainability agenda. The Director of Finance has been identified as the project sponsor for the Carbon Management element. In terms of the project management of the development of the carbon plan, the role has been shared across Estates, Finance and Public Health, with regular meetings. This has meant that there is a shared understanding of the issues across different directorates and individuals, should a gap in project management in delivery develop. This way of working has enabled the team to cross cover each other.

8.4 Ongoing stakeholder management

There will be continued engagement with the Estates and Capital Planning Group, Staff Health Group, and Procurement Board through representation on the Carbon Management Implementation Team from those groups. The communications strategy has also identified the need to keep key stakeholders involved – especially by the use of identified energy champions by June 2010.

There have been, and will continue to be regular Board updates and Director briefings.

8.5 Annual Progress review

Progress against the overall carbon reduction target and the other four themes will be reported to the Board on an annual basis. More frequent reporting of the Carbon Management Plan (Theme 1) will be via the Q&P Programme Board.

Appendix A

Carbon Management Matrix – Embedding

	POLICY	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	PROCUREMENT	MONITORING & EVALUATION
5 BEST	<ul style="list-style-type: none"> SMART Targets signed off Action plan contains clear goals & regular progress reviews Strategy launched internally & to community 	<ul style="list-style-type: none"> CM is full-time responsibility of a few people CM integrated in responsibilities of senior managers VC support Part of all job descriptions 	<ul style="list-style-type: none"> Quarterly collation of CO₂ emissions for all sources Data externally verified M&T in place for: <ul style="list-style-type: none"> Buildings Waste 	<ul style="list-style-type: none"> All staff given formalised CM: <ul style="list-style-type: none"> Induction Training Plan Communications CM matters regularly communicated to: <ul style="list-style-type: none"> External community, including patients Key partners 	<ul style="list-style-type: none"> Granular & effective financing mechanisms for CM projects Finance representation on CM Team Robust task management mechanism Ring-fenced fund for carbon reduction initiatives 	<ul style="list-style-type: none"> Senior purchasers consult & adhere to ICLEI's Procura+, Forum for the Futures manual & principles, or Sustainability comprehensively integrated in tendering criteria Whole life costing Area-wide procurement 	<ul style="list-style-type: none"> Senior management review CM process Core team regularly reviews CM progress Published externally on website Visible board level review
4	<ul style="list-style-type: none"> SMART Targets developed but not implemented 	<ul style="list-style-type: none"> CM is full-time responsibility of an individual CM integrated in to responsibilities of department managers, not all staff 	<ul style="list-style-type: none"> Annual collation of CO₂ emissions for: <ul style="list-style-type: none"> Buildings Transport waste Data internally reviewed 	<ul style="list-style-type: none"> All staff given CM: <ul style="list-style-type: none"> Induction Communications CM communicated to: <ul style="list-style-type: none"> External community Key partners 	<ul style="list-style-type: none"> Regular financing for CM projects Some external financing Sufficient task management mechanism 	<ul style="list-style-type: none"> Environmental demands incorporated in tendering Familiarity with Procura+ Joint procuring between NHS Trusts or with LAs. 	<ul style="list-style-type: none"> Core team regularly reviews CM progress: <ul style="list-style-type: none"> Actions Profile & Targets New opportunities quantification
3	<ul style="list-style-type: none"> Draft policy Climate Change reference 	<ul style="list-style-type: none"> CM is part-time responsibility of a few people CM responsibility of department champions 	<ul style="list-style-type: none"> Collation of CO₂ emissions for limited scope i.e. buildings only 	<ul style="list-style-type: none"> Environmental / energy group(s) give ad hoc: <ul style="list-style-type: none"> Training Communications 	<ul style="list-style-type: none"> Ad hoc financing for CM projects Limited task management No allocated resource 	<ul style="list-style-type: none"> Whole life costing occasionally employed Some pooling of environmental expertise 	<ul style="list-style-type: none"> CM team review aspects including: <ul style="list-style-type: none"> Policies / Strategies Targets Action Plans
2	<ul style="list-style-type: none"> No policy Climate Change aspiration 	<ul style="list-style-type: none"> CM is part-time responsibility of an individual No departmental champions 	<ul style="list-style-type: none"> No CO₂ emissions data compiled Energy data compiled on a regular basis 	<ul style="list-style-type: none"> Regular poster/awareness campaigns Staff given ad hoc CM: <ul style="list-style-type: none"> Communications 	<ul style="list-style-type: none"> Ad hoc financing for CM related projects Limited task coordination resources 	<ul style="list-style-type: none"> Green criteria occasionally considered Products considered in isolation 	<ul style="list-style-type: none"> Ad hoc reviews of CM actions progress
1 Worst	<ul style="list-style-type: none"> No policy No Climate Change reference 	<ul style="list-style-type: none"> No CM responsibility designation 	<ul style="list-style-type: none"> Not compiled: <ul style="list-style-type: none"> CO₂ emissions Estimated billing 	<ul style="list-style-type: none"> No communication or training 	<ul style="list-style-type: none"> No internal financing or funding for CM related projects 	<ul style="list-style-type: none"> No Green consideration No life cycle costing 	<ul style="list-style-type: none"> No CM monitoring