



**BIRMINGHAM EAST AND NORTH PCT BOARD MEETING
SUSTAINABILITY REPORT –
25TH FEBRUARY 2009**

Birmingham Primary Care
Shared Services Agency

Background

As anticipated in the previous report, there have been significant developments in the field of sustainability recently.

The Climate Change Act 2008, has been introduced which has raised the bar, in setting an 80% reduction in CO² emissions by 2050 (the previous being 60%), from a 1990 baseline, with a minimum reduction of 26% by 2020.

Alongside this a new Health Technical Memoranda 07-07 “Sustainable Health & Social Care Buildings”, has been published in January 2009, setting building specific targets.

Furthermore, the “Saving Carbon, Improving Health”, the NHS Carbon Reduction Strategy, has been published in January 2009, incorporating further short term targets proposing a 10% reduction by 2015 from a 2007 baseline.

All these initiatives are combining to further require NHS organisations to focus on Sustainability, as a key component, in every aspect of service delivery.

The Saving Carbon Strategy reminds us, that the NHS had a carbon footprint of approx’ 18 million tonnes of CO² emission in 2007. The apportionment of this being as follows – 22% associated with Energy, 18% Travel/Transport, and 60% Procurement, as shown on the pie chart.

Travel:	3.41 MtCO ₂	(18%)
Building energy:	4.14 MtCO ₂	(22%)
Procurement:	11.07 MtCO ₂	(60%)

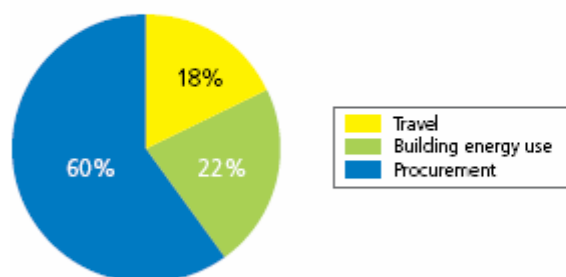


Figure 7: Breakdown of NHS England 2004 emissions

To help understanding 1 tonne of CO² in volume terms, would fill a sizeable ‘hot’ air balloon.

The ‘Saving Carbon’ document has been produced following a period of wide spread consultation, across many NHS organisations, and proposes as a Good Corporate Citizen, the NHS should be taking a leading role in this agenda. The PCT has already signed up to the BCC Sustainability Strategy, which is seeking to deliver a very ambitious target of a 60% reduction by 2026.

All these targets present a huge challenge for the PCT set against the move to increase community based services, with an increasing size of Estate. Inevitably shifting services from secondary care sector will increase activity, with no obvious comparable reduction in the Acute Sector. Unlike HoB, where their development programme is linked to a downsizing of City & Sandwell Hospitals. There is no equivalent initiative for HoEFT

A graph extracted from the Strategy document shows the size of the challenge facing the NHS.

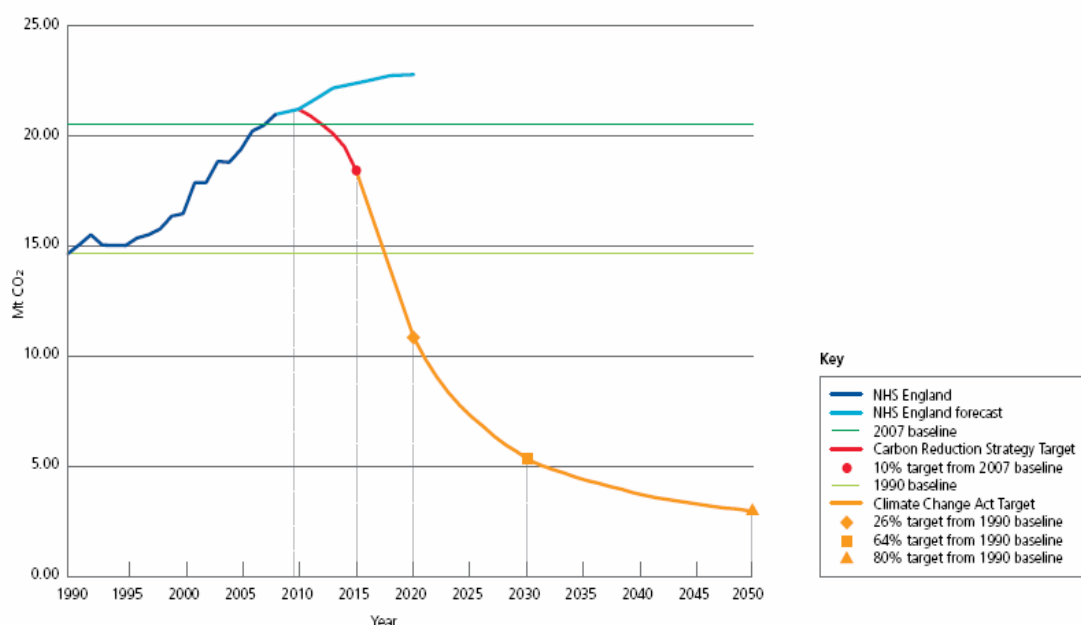


Figure 13: Graph of the NHS England CO₂ Emissions Baseline and Climate Change Act Targets

To remind ourselves why we might be doing all of this, apart from the locally derived health benefits, the West Midlands with a population of 5.3m produces as much CO² as the whole of Nigeria, a country with a population of 140m. It is a clear political view that western society has an obligation to the 3rd world, to reduce global impact of climate change.

The real danger is that because the targets look unachievable, we all do nothing, which is not acceptable.

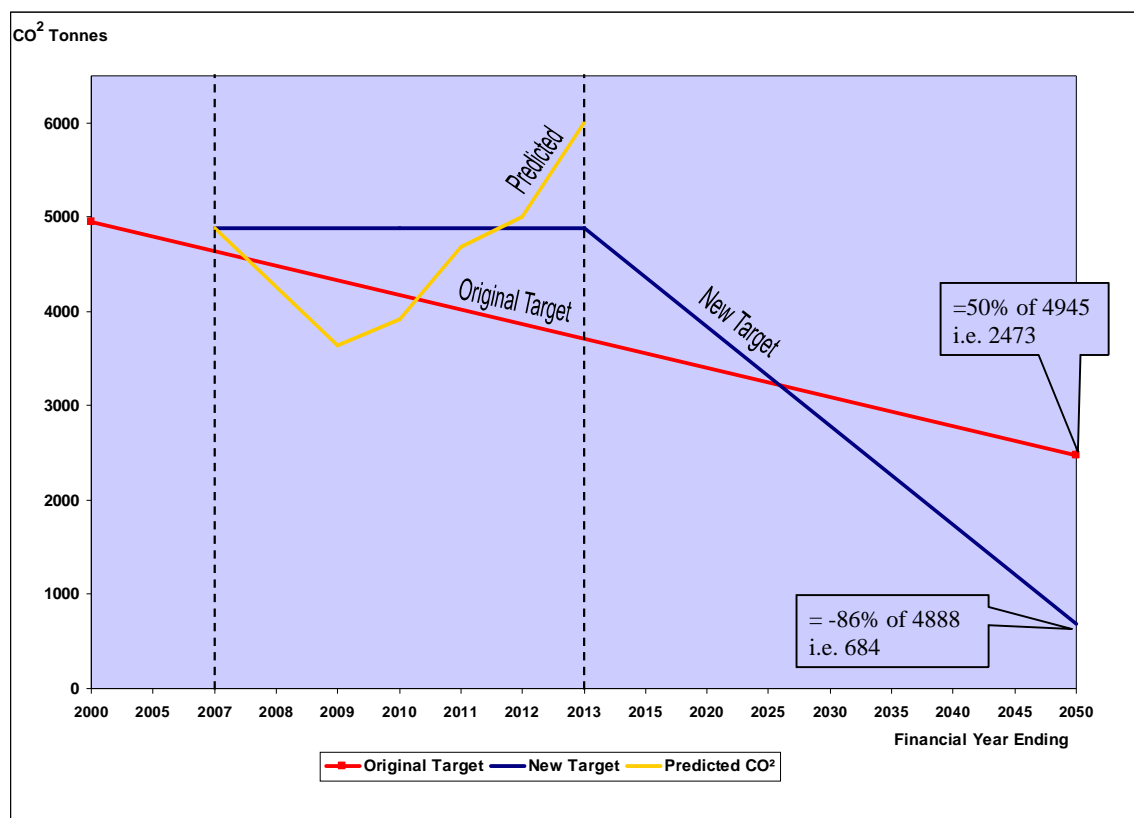
PCT Policy & Carbon Implementation Plan

Following the Carbon Trust supported initiative; the PCT agreed a policy and Carbon Implementation Plan in January 2008, to reduce the assessed 1629 tonnes per annum, produced by the organisation, in the areas of energy, waste and business mileage. Below is a

chart showing the total emissions as a consequence of PCT activity incorporating a Procurement & Travel to work estimates, set against the national targets.

TOTAL CO²

Sustainable Development: Projected reduction based upon the requirements of 'Saving Carbon, Improving Health' (January 2009)



Financial Year ending	New target CO ² Emissions Tonnes	Predicted CO ²
2000	4945	—
2007	4888	—
2008	4888	—
2009	4888	3645
2010	4888	3918
2011	4888	4682
2012	4888	5000
2013	4888	6014
2050	684	—

The policy included targets aimed at achieving low carbon buildings, on the replacement of building stock, which were ahead of targets, currently proposed in the HTM.

This has been reflected in the specification requirements for the new Sattley Health Centre, and will continue to be stepped up progressively to achieve greater savings in CO² on future schemes.

It is to be noted that as GP's move from their older often non compliant buildings into PCT leased accommodation, the overall energy load of the organisation increases, as currently the GP Estate does not figure in any baseline assessments.

The challenge for the PCT is that as investment is made in new builds, albeit more energy efficient buildings, the overall floor area of the Estate will increase dramatically over the next few years. It is also to be noted, seasonal variation can have an impact as is evident, as this is the coldest winter period for somewhere between 13 and 15 years.

Looking at the growth of the estate, over a period from January 2007 for the next 5/6 years, the increased floor area could be up to 50339 sqm or up 330%. Inevitably energy consumption and therefore CO² emissions will increase against targets, which are aimed at reducing. The older, less efficient building stock must be released.

This emphasises the importance that for the PCT, to stand any chance of meeting targets, the growth in the Estate, has to be offset by alternative strategies in the areas of Travel/Transport and Procurement.

Below is a chart plotting the CO² related to energy and where the PCT should be to meet the target.

Sustainable Development

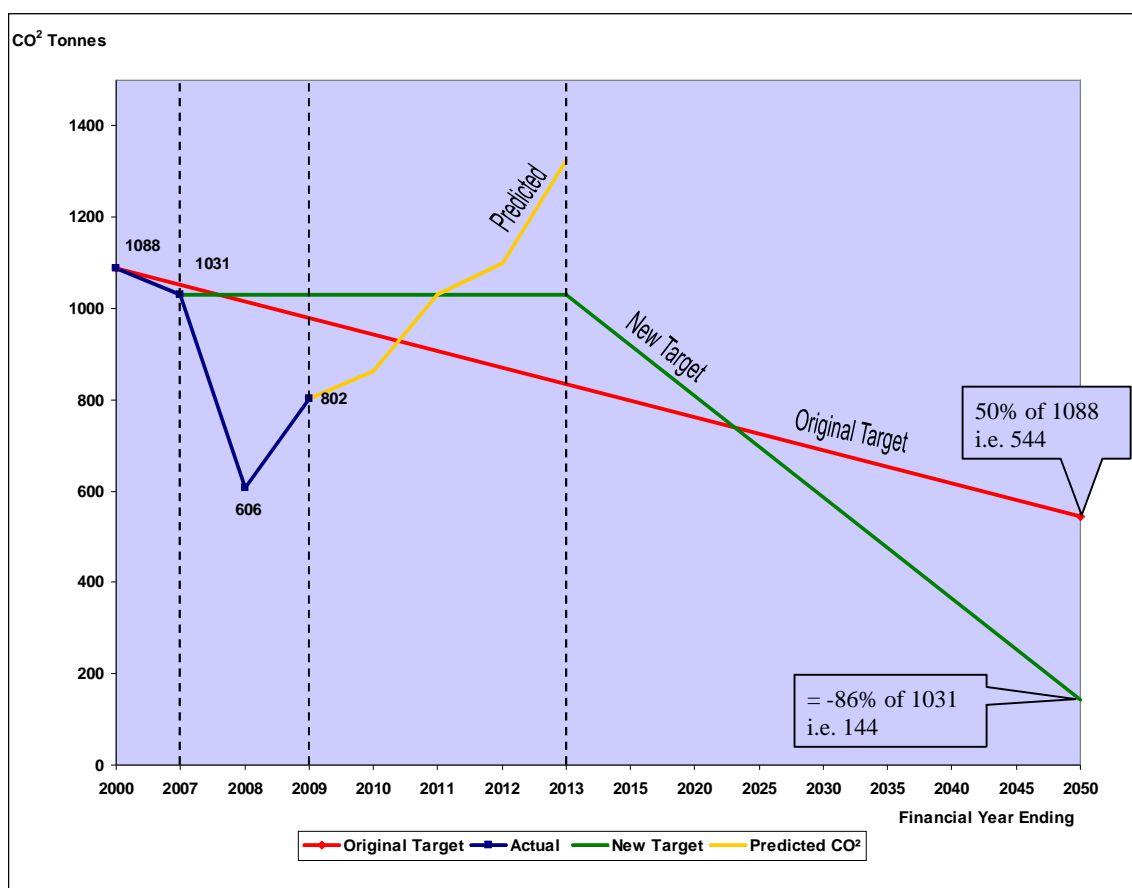
Energy

Base Year 2000

Financial Year ending	Floor Area M ²	Heated Volume M ³	Actual Energy		Actual CO ² Emissions	Original Target	New Target
			kWh	GJ	Tonnes	Tonnes	Tonnes
2000	17254	58063	4419051	15909	1088	1088	-
2007	165744	54383	4038435	13480	1031	1011	1031
**2008	19038	66633	4300893	15483	609	1001	1031
2009	27855	97493	5662126 *	20384 *	802 *	990	1031
2010	30121 *	105424 *	6087917 *	21917 *	862 *	979	1031
2011	37422 *	130977 *	7275670 *	26192 *	1030 *	968	1031
2012	40122 *	140427 *	7765323 *	27955 *	1100 *	957	1031
2013	50339 *	176187 *	9341683 *	33630 *	1323 *	946	1031
2050	Not Known	Not Known	-	-	-	544	144

* = Estimated

** Green energy procured, which reduced emissions total for BEN PCT



The 1990 baseline quoted in all government documents is an unknown quantity for the PCT.

The Carbon Saving Strategy

The Strategy sets out key actions in the following areas –

1. Energy & Carbon Management

- 1.1 Regular Board level reviews of performance in energy efficiency and carbon reduction. Annual report to all staff, public and stakeholders.
- 1.2 Carbon measurements should replace energy measurements on the target for reduction.
- 1.3 All NHS organisations to create a strategic plan, to develop more resilient and renewable energy sources, to ensure a guaranteed supply.
- 1.4 All NHS capital development should be assessed to ensure options are evaluated on a whole life cost basis. Low carbon options to include more renewable energy, passive cooling, ultra efficient lighting, sustainable transport and natural environment.
- 1.5 Every NHS staff member should be able and encouraged to take responsibility for energy consumption and carbon reduction.

2. **Procurement & Food**

- 2.1 NHS should take every opportunity to manage its operations and procurement efficiently, thereby minimising waste and carbon from the outset.
- 2.2 The NHS should work in partnership with suppliers to improve sustainable and low carbon procurement.
- 2.3 Local procurement, whole lifecycle costs and the environmental impact of financial decisions, should be considered by all NHS organisations, in preparation for the use of carbon, as a currency.
- 2.4 Further research will be undertaken in to carbon footprints of pharmaceuticals within the NHS, to better understand this, and inform actions to produce significant reduction.
- 2.5 The promotion of sustainable food and nutrition throughout the NHS, should become the norm.

3. **Low Carbon Travel, Transport & Access**

- 3.1 All Trusts should have a Board approved active Travel Plan, as part of their Sustainable Development Management Plan.
- 3.2 The NHS should consider introducing a flat rate for business mileage, regardless of engine size, or even model option (car, cycle, foot).
- 3.3 NHS organisations should establish consistent monitoring arrangements, so reduction in emissions from road vehicles used for NHS business can be measured.
- 3.4 Mechanisms to routinely and systemically review the need for staff, patients and visitors to travel, need to be established in all NHS organisations.
- 3.5 Healthcare delivery must continue to move closer to home.

4. **Water**

- 4.1 Efficient use of water should be integrated into building developments of the design stage.
- 4.2 Water costs and consumption should be measured, monitored and reported annually by all NHS organisations as part of their annual report.
- 4.3 Heads in the NHS infrastructure should be identified and fixed immediately.
- 4.4 Water efficiency technology should be adopted as standard across the NHS.
- 4.5 Routine purchasing of bottled water should be avoided.

5. **Waste**

- 5.1 Management of domestic, clinical and hazardous waste should be reported at Board level by all NHS organisations.
- 5.2 Boards should undertake a balanced risk assessment of waste and its associated costs, and carbon, including those related to single use, and disposable medical equipment, in contrast to sterilisation.
- 5.3 All Trusts should ensure they have the necessary skills to manage waste legally efficiently and cost effectively.
- 5.4 All Trusts should monitor the quantity and cost of all waste streams and set trajectories to monitor, manage and reduce them over time.
- 5.5 DH and NHS SDV will consider appropriate targets to –
 - Reduce waste from clinical areas/hazardous waste
 - Reduce domestic waste to landfill
 - Increase recycling

6. **Designing the Built Environment**

- 6.1 All new buildings and major refurbishments should be designed to withstand significant climate change and weather extremes.
- 6.2 All new healthcare buildings should aim to achieve a target of being low carbon by 2015, (low carbon is deemed to be 35 to 55gj/100m³).
- 6.3 A low carbon design taskforce of public and private sector expertise, should be established to develop a blue print for the optimum low carbon healthcare building, accompanied by best practice guidance.
- 6.4 All decisions about design and build of healthcare facilities must be explicit about how they encourage a broader approach to sustainability, including transport, delivery of services and community engagement.
- 6.5 All NHS buildings need to move quickly to have a significantly lower carbon impact, not only in their construction, but also in their lifetime and in their decommissioning. NHS buildings must be designed to promote sustainable behaviour in staff and patients, and they must be adaptable to support change towards a low carbon patient pathways.

7. **Organisational and Workforce Development**

- 7.1 Future leadership development should take account of the organisational and individual competencies, required to deliver carbon reduction.
- 7.2 NHS organisations and SHA's should work in partnership with Higher Education Institutions, to ensure that Sustainability and Carbon Reduction concepts are included in undergraduate and postgraduate curriculum.

- 7.3 NHS organisations should consider including Sustainability and Carbon Governance as a responsibility on all job descriptions for Chief Executives and Director level posts, and on all job descriptions for NHS staff.
- 7.4 NHS organisations must ensure their staff have information about and opportunities to use low carbon travel options.
- 7.5 Audio, Video and Web Conferencing technology must be made available by NHS organisations, and staff must be trained on these technologies to support a cultural shift away from routine car, and other high carbon travel, and to encourage more homeworking where appropriate.

8. Role of Partnerships and Network

- 8.1 The NHS should use its leverage within local partnership and performance frameworks to promote carbon reduction.
- 8.2 Every NHS organisation should pursue climate change action in their Local Strategic Partnership (LSP).
- 8.3 NHS/DH regional sustainable development networks need further support to ensure wide representation across organisations and functions.
- 8.4 Each SHA Board should receive at least annually, a report about progress in meeting the requirements of this strategy in their Region.
- 8.5 The NHS should take a lead on Sustainable Development and Carbon Reduction, and be exemplar to other sectors and to other health systems.

9. Governance

- 9.1 Every NHS organisation should sign up to the NHS Good Corporate Citizenship assessment model, and produce a Board approved Sustainable Development Management Plan, which sets out clear measurable milestones, to measure, monitor and reduce direct carbon emissions.
- 9.2 The NHS should set itself targets and trajectories to at least meet the provision of the Climate Change Act. In the first instance this should be a 10% reduction of 2007 levels by 2015 as a minimum.
- 9.3 Carbon reduction and sustainable development are corporate responsibilities for all organisations, and should be an inherent part of each NHS organisations performance and governance mechanisms.
- 9.4 Healthcare regulators should consider making sustainability, and the environmental impacts of services an integral part of quality standards.
- 9.5 SHA's (through PCT's) and Regional Government Offices should ensure -

- The NHS delivers carbon reduction through its commissioning frameworks.
- The NHS delivers on its sustainability commitment within Local Area Agreements (LAA).
- Sustainable Development Regional Networks in the NHS are developed further, and given more prominence to ensure broad corporate representation across organisations and directorates.

10. **Finance**

- 10.1 NHS organisations should develop carbon literacy and embed carbon reduction in their financial mechanisms.
- 10.2 NHS organisations should take advantage of schemes which support investment in energy efficiency initiatives.
- 10.3 DH and NHS SDU, will provide practical guidance for Trusts on the Carbon Reduction commitment, following the consultation process in 2009.
- 10.4 NHS organisations should be involved in Local Strategic Partnership arrangements and regional economic forum, in order to play their part in developing a sustainable and resilient health economy.
- 10.5 The DH and NHS SDU will work in collaboration to encourage the development of further incentives, to support carbon reduction in the NHS.

11. **Looking Ahead – The Next Steps**

- 11.1 The NHS SDU, SDC and DH will continue to develop the most appropriate metrics, to measure and monitor direct and indirect carbon footprints across the NHS, and translate them into trajectories and milestones for the NHS to meet legally binding Governance targets.
- 11.2 Societal and NHS scenarios set in a low carbon world would be developed by the NHS SDU, to better understand the ways healthcare delivery should be shaped.
- 11.3 Models of care and how they may be developed in a low carbon society, should be considered by the NHS, in order to develop low carbon pathways, and maximise the co-benefits of health and health systems.
- 11.4 The NHS should be exemplar users and investors in low carbon technology, to enable the delivery of sustainable healthcare.
- 11.5 Current and future NHS leaders should be developed to understand and manage future risks and opportunities of sustainability, carbon reduction and climate change.
- N.B. These actions are extracts from the “Saving Carbon, Improving Health” Strategy document.

An Action Plan will need to be developed to clarify the leads responsible, to address the issues highlighted and set some realistic timescales, however the PCT has as a consequence of the Carbon Trust programme, already made significant first steps.

Summary of Current Position for BEN PCT

1. Energy Usage

Whilst good progress had been against meeting the 20% reduction by 2010 target, despite the cold weather, the increasing size of the estate is working to offset any savings, and the longer term trajectory, is that the 2015 and 2020 target will not be achieved.

Initiatives to reduce carbon such as solar heating, ground source heat pumps are being explored on current and future projects.

Photo voltaic and wind power generation, has yet to be proven as a viable option. There are currently no options for Micro Combined Heat & Power; however discussions are underway with Utilicon who are partnering with BCC, and are piloting small scale plant, which may ultimately be useful.

2. Utilities

All electricity is currently purchased from renewable sources, through PASA contracts; this was a significant first step. Opportunities to find local electrical generators are very limited at present, but again, Utilicon are proposing to develop a network of energy centres across the City in the future, and each new development will be assessed for availability.

3. Waste Management

Disposal arrangements for Domestic, Clinical and Hazardous Waste are all in place to meet statutory regulations. What is not evident, however, is any significant strategies happening to reduce overall quantity of waste produced at the operational level.

4. Travel/Transport

A lease car policy, which encourages the selection of lower CO² emission vehicles, is in the process of being drafted, but has yet to be adopted. It is likely to take 2 to 3 years to make any real significant impact, due to the length of existing contracts, by which time lower emission levels will be required.

All other “grey” vehicle usage (employee owned vehicles) and travel to and from work, is not reducing, and there is no apparent strategies in place to radically change working practices, that would influence it. It is essential a robust green travel plan is developed and implemented.

There is embryonic use of Audio, Video and Web Conferencing to avoid the need to travel to meetings, but this would have to radically change, working practice to have a major impact.

5. Procurement

With potentially 60% of the carbon produced by the PCT in the procurement supply chain, it is this area that needs the most attention. Whilst there are some tools available to assess carbon, unfortunately to date, it is not evidently being routinely used, and therefore targeting and monitoring progress is not effective at this time. It is this area most work is needed in the future.

6. Construction

The specification for new builds for particularly LIFT developments has been reviewed and targets incorporated, to ensure each new build is assessed for appropriate sustainability features, to achieve better than NHS targets and the BREEAM Excellent rating. Saltley development will incorporate solar panels, ground source heat pump to supplement hot water production, together with rain water harvesting. The provision of mechanical cooling will be minimised, in the design, and lighting controls are to be incorporated.

7. Organisational Support

BEN PCT has established its own Sustainability Group, and there is a City Wide Group under the chairmanship of Mike Burns, to bring together all the PCT's representatives, to share ideas and good practice on reducing carbon.

There has been limited successes, around reducing bottled water usage, however, there is a great deal more to do, to get sustainability as a mainstream component of everyday activity.

In Conclusion

The PCT has taken the important initial steps towards a low carbon economy, but there is a massive challenge to meet the Government set targets across all areas of its activity.

There is a need to get people fully informed, and more importantly to think carbon reduction, and it really needs to be in everyone's objectives on an annual basis, to drive this.

Specific options around Travel and Procurement are needed, and whilst sustainability has a price tag, the NHS is seen as key organisation in taking the sustainability agenda forward.

It is proposed, that in conjunction with PCT Sustainability Lead Mike Burns, a more detailed annual report on progress within the PCT, be produced later in the year, along with an action plan incorporating the recommendations of the Sustainable Development Commission, with appropriate leads.

M J Wiltshire
Director of Estates & Facilities

NHS Carbon Reduction Strategy for England (January 2009)

1. When BENPCT calculated its carbon footprint at January 2008, the only known values were:

▪ Energy	1088
▪ Waste	24
▪ Business Miles	<u>517</u>
	<u>1629</u> Tonnes

The unknown values were (and remain!);

- Procurement
- Transport

2. The NHS calculates that the three main CO² emissions in percentage terms are

▪ Buildings	22%
▪ Transport	18%
▪ Procurement	60%

3. If for BENPCT we applied the average estimated value to the information we know then BENPCT carbon footprint could be:

▪ Buildings	1088	(known)
▪ Transport	890	(estimated)
▪ Procurement	<u>2967</u>	(estimated)
Total	<u>4945</u>	

4. Floor Area (M²)

- 2007 = 16574 (actual)
- 2013 = 50339 (estimated)

5. Tonnes of CO²

- 1 Tonne CO² = 5405 kWh Gas
- 1 Tonne CO² = 1862 kWh Electricity

The factors used are taken from Defra's GHG conversion factors for company reporting, published April 2008. Obtained via Carbon Trust.