

NHS West Sussex Carbon Management Plan (CMP)



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Foreword from Chief Executive John Wilderspin

People may be wondering why NHS West Sussex have developed a Carbon Management Plan at a time when we know the PCT as an organisation has a limited lifespan and there are so many other management challenges we are facing. The answer is simple; our starting point is **improving patient care**.

It may not be immediately obvious, but carbon reduction runs through everything we do. It is about improving the patient experience in our estate, improving patient pathways to remove unnecessary steps, improving our resilience in the face of climate change and managing our cost base against a background of ever increasing energy prices. For us as commissioners, the carbon reduction itself is not the sole driver, it is what a change in approach and a philosophy of sustainable development can deliver for the benefit of patients. As stated clearly in the introduction to NHS Carbon reduction strategy for England:

'Carbon management is an increasingly important issue for all organisations. Taking sustainability and carbon emissions seriously is an integral part of a high quality health service'

This plan reflects the state of change in the NHS and we have focussed on some short term deliverables. Running alongside that however is how we ensure continuity into the future. Much is still uncertain at the time of writing this plan, not least the future of PCT estate. However the vision of commissioners who understand the value of carbon reduction in the commissioning cycle and embedding it within clinical change remains valid and is a legacy we can be proud to pass on. As is made clear in the Sustainable Development Unit publication 'A Route Map for Sustainable Development' (Feb 2011), this is not limited to financial sustainability *'but must focus too on social and environmental sustainability so that the NHS of the future remains in the best possible position to improve quality and to limit its impact on the environment within which it works.'*



A handwritten signature in black ink that reads "John Wilderspin". The signature is written in a cursive, flowing style.

John Wilderspin, Chief Executive

Foreword from Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for NHS Trusts - 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 in line with the Climate Change Act targets, and the NHS Carbon Management programme is designed in response to this. It assists NHS Trusts in saving money on energy and putting it to good use in patient care, whilst making a positive contribution to the environment by lowering carbon emissions.

NHS West Sussex partnered with the Carbon Trust on this ambitious programme in 2010 in order to realise substantial carbon and cost savings. This Carbon Management Plan commits the NHS Trust to a target of reducing CO₂ by 16% by 2013 and underpins potential financial savings to the organisation of around £844k over 3 years 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 West Sussex in their ongoing implementation of carbon management.



Richard Rugg
Head of Public Sector, Carbon Trust



Executive Summary

Given the serious threat climate change poses to life, our health and our wellbeing, the case for taking action towards carbon reduction is now compelling and clear. In a context of unprecedented financial pressures and increasingly stringent emissions targets, NHS West Sussex takes its social and environmental responsibilities seriously - a commitment which is demonstrated in the development of this Carbon Management Plan. The plan is an 'active and working strategy' which gives NHS West Sussex the opportunity to become a system leader in promoting and delivering the benefits of carbon reduction to all across the local health economy. Crucial to our vision is understanding that carbon reduction is a health issue and is integral to everything we do.

With ever increasing energy costs presenting a risk to funds for frontline services, a do nothing or 'Business as Usual' approach is no longer an option. Indeed NHS West Sussex faces a number of strategic challenges that have an impact on carbon emissions which need to be addressed by the plan. These include the provider arm integration to Sussex Community Trust which as well as ensuring effective collaborative working, requires a review in to the ownership and responsibility of future carbon emissions. In addition, the NHS is facing its biggest financial challenge which the PCT is addressing through the QIPP (Quality, Innovation, Productivity and Prevention) agenda. One of the key strands to this will be Estates rationalisation. This will be a positive asset for our carbon management plan and the two programmes are working together to realise mutual benefits.

As part of the programme, the PCT has assessed its carbon footprint from the areas of biggest impact, including buildings energy & water use, business travel and HQ waste that are currently measured:

- In our **2009/10** baseline year, the PCT was responsible for producing **9,976 tonnes of carbon dioxide** (CO₂) from operations
- This cost the PCT **£1.9m in energy and travel** during 2009/10, equivalent to £192 per tonne of CO₂¹
- The Trust has set an ambitious target of reducing absolute emissions by **16% by April 2013** to 8357 tonnes CO₂ - a total of **1619 tonnes CO₂ over 3 years**
- A 'Business as Usual' (BAU) approach would see the PCT's annual emissions rise to 10,187 tonnes CO₂ by 2013 and the cost of these emissions rise to £2.3m per annum
- By successfully delivering the target emissions savings the PCT will secure a financial 'value at stake' (VAS) **saving of £844k** over 3 years, mitigating the cost of higher energy prices and inflation.

The projects and actions outlined in this Carbon Management Programme (CMP) to achieve our carbon reduction target require an ongoing capital investment programme over 3 years up to April 2013. The biggest potential for savings lies within the built estate which is largely dependent on the application and successful delivery of 'invest to save' projects. This will require a capital investment in the region of **£320,000**. This figure will be further qualified with formal quotations once business cases are formulated for carbon reduction projects.

¹ The emissions and costs derived from travel include business mileage claimed by community staff during 2009-10, see section 3.2 for full details

Already since March 2010 the PCT has embarked on a range of carbon reduction initiatives for which capital investment has already been secured or have been implemented without the need for capital²:

- **Replacement of DHW boilers at Crawley Hospital** – The plant is due to be upgraded with the installation of four Eco boilers generating anticipated annual savings of **£62k and 503 tonnes CO₂**, with completion due in summer 2011
- **AMR utility metering** – Automatic metering is being rolled out across the estate where utility accounts are held by the PCT. This will greatly improve the quality of carbon related data for future CRC reporting requirements.
- **Trust wide awareness campaign** – A staff energy awareness campaign was launched across the PCT in December 2010 focussing on a series of ‘quick win’ actions to deliver rapid savings.
- **HQ printer rationalisation**
- **10% reduction in business travel** – In line with the PCT’s green travel policy all staff are being encouraged to curb their business mileage by utilising initiatives such as video conference facilities for meetings
- **25% diversion of waste to landfill** – Although the PCT’s recycling system is well established within Trust headquarters, there are further reductions to be made at other sites through better management of corporate waste

In line with the PCT's wider sustainability agenda, we have identified our strategic themes:

Sustainable Commissioning - Using our Commissioning function to influence and shape the activities of our providers. Understanding the value of carbon reduction in improving patient pathways, improving system resilience in natural disasters and using the contracting function to support change.

Optimise Existing Systems - Carbon Reduction within our Estate including physical improvements to building services and infrastructure and working in partnership with our tenants. This includes delivering our QIPP targets in relation to estates rationalisation.

Changing Behaviours and stakeholder involvement - Reducing carbon emissions from our own direct activities including our headquarters and locality offices premises and behaviour change in our staff.

Long Term Sustainability - Embedding Carbon Management into the PCT’s transition Plan.

Sections 4 and 5 of this plan outline the projects we have identified in order to reach our ambitious targets and section 6 outlines the actions to embed sustainable development against each of our strategic themes. Lastly Section 7 outlines our implementation plans for the transition period.

This plan therefore represents our comprehensive approach to carbon management and sustainable development across all of our strategic themes. It has been written against a background of significant change, but provides the framework for the NHS to continue to focus throughout the transition period and to provide a legacy we can be proud of.

² A full and comprehensive outline of all future carbon reduction projects can be found in section 4

1. Introduction and Local Context

As our Chief Executive's foreword makes clear, we are not an organisation with a long term future. Even within the timetable laid out in 'Equity and Excellence: Liberating the NHS', recent announcements in the National Operating Framework have made clear there will be further changes such as the 'clustering' of PCTs in early 2011. For NHS West Sussex there is an expectation that there will be a Sussex cluster comprising four PCTs, which are expected to have a single executive team. The focus of our carbon plan is necessarily therefore focussed on 'doing what we can do now within our resources' and 'planned handover and positive legacy' for the future. These are explored further in our strategic themes outlined in section 2.3 below, but this plan itself forms a key part of our planned handover.

A further aspect of our local context, is our role as a Commissioning PCT. NHS West Sussex is no longer a provider of services. We are a relatively small organisation of approximately 300 staff but we spend on behalf of our population a health budget of £1.2 billion. Our Strategic Commissioning Plan³, which is based on a Joint Strategic Needs Assessment, outlines how we will use those resources to improve the health of our population. The vision of the organisation is:

'Lifelong health and wellbeing for everyone in West Sussex.'

NHS West Sussex recognises the importance of managing its environmental impact and energy consumption as efficiently as possible to ensure the best use of resources is prioritised for patient care. Indeed, through reduced carbon emissions, better staff awareness, better procurement practices and improved waste management, this plan compliments those wider strategic objectives of the PCT.

Background on the Carbon Trust Project:

Following an expression of interest to the Carbon Trust in 2010, we were accepted to take part in phase 5 of the ambitious NHS Carbon Management Programme. Utilising technical and strategic support provided by the Carbon Trust, we have developed this plan to embed carbon reduction in to the organisation.

The 5 step programme involved:

- **Mobilise the organisation** – building the team and determining the scope
- **Set baseline, forecasts and targets** – setting the baseline for the programme and its goals
- **Identify and quantify options** – identifying the risks and opportunities
- **Finalise strategy and implementation plan**- designing a cost effective strategy to cut emissions and save money
- **Implement the plan** – complete with budgets, targets and monitoring metrics

The resulting structured plan has been developed to realise carbon savings and embed a culture of sustainability within the PCT. This will ensure we are best placed to implement the plan to reduce our impact on climate change up to 2013 and beyond for successor organisations.

³ <http://www.westsussex.nhs.uk/our-priorities>

2. Carbon Management strategy

2.1 Wider Context and Drivers for Carbon Management

Man-made CO₂ and other greenhouse gas emissions, known as carbon emissions for short, are believed by the UK government and the majority of the scientific community engaged in the climate field to be a major contributory factor in the increase in global temperature seen since the Industrial Revolution. Whilst there are still some sceptics the evidence is very strong and the preventative principle has persuaded successive governments to commit to reducing emissions by 80% by 2050 as the UK's contribution to minimising the impact of climate change this century.

Government policy to achieve this target will certainly drive up the price of carbon. The NHS is a significant emitter of carbon both directly as a user of energy and indirectly as a consumer of goods and services and so will not be immune from these increased costs. Carbon reduction is therefore equivalent to cost reduction.

The case for carbon reduction is strengthened by the financial constraints that the NHS faces. With little real growth in NHS expenditure and increased demand for services there is a significant incentive to reduce energy and therefore carbon to release cash for frontline services. A recovering world economy, limitations on energy supply and a more challenging regime in terms of carbon taxation will drive energy prices above general inflation for the foreseeable future. The reduction in carbon should not just apply to the PCT's direct energy consumption but also to the supply chain of our suppliers of goods and services if we are to achieve cost efficiencies.

The recent White Paper, *Equity and Excellence – Liberating the NHS*, specifically addresses carbon and energy efficiency. It states *..” Further efficiencies can, and need to, be made from improving energy efficiency and developing more sustainable forms of delivery across the NHS, for example through working with the Carbon Trust and similar bodies on carbon reduction programmes that reduce energy consumption and expenditure.”*

Public sector leadership is critical to the achievement of the Government's climate change objectives, such as the long term goal to reduce CO₂ emissions by 80% by 2050 in the Climate Change Bill.

This has created a number of legislative drivers for public bodies:

- **The Climate Change Act**, which sets legally binding emissions reductions of 34% by 2020 and 80% by 2050 over a 1990 baseline. The public sector is expected to lead the way towards meeting the targets.
- **Display Energy Certificates**: 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.⁴.
- **Carbon Reduction Commitment**: The Carbon Reduction Commitment is a mandatory 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

⁴ more information on DEC can be found at www.communities.gov.uk/planningandbuilding/theenvironment/energyperformance/certificates/displayenergycertificates

emissions are covered. A league table of carbon performance during 2010/11 will be published in Summer 2011 and from April 2012 carbon credits at £12 per tonne must be purchased for 2011/12 emissions⁵.

- **NHS Sustainable Development Unit:** the NHS strategy “Saving Carbon, Improving Health” sets a target for NHS Trusts to reduce their carbon emissions by at least 10% between 2007 and 2015, and to develop a Board approved carbon management strategy. Furthermore, the recently published “Route Map for Sustainable Health” sets out a framework for the NHS to achieve a truly sustainable, low carbon health system.⁶
- **Feed in tariffs for renewable energy:** NHS trusts can benefit from feed in tariffs for energy generated from renewable sources on site such as solar PV and NHS West Sussex must explore the potential options for such technology.

Finally and not to be under-estimated is the need for NHS West Sussex to be seen as a leader in the local community in sustainability in general and in ensuring a strong legacy for the commissioning organisations that will succeed the PCT. Climate Change if left unchecked is expected to have significant impacts on public health (e.g. increasing frequency of heatwaves) and it should be recognised that opportunities to reduce carbon emissions can have positive health impacts e.g. walking/cycling versus cars.

2.2 Our Low Carbon Vision

We have developed a vision that reflects the evolving priorities of the NHS and promotes a culture of carbon management for healthcare in West Sussex:

‘Our vision is to maximise carbon reduction during the lifetime of the PCT and to develop sustainable methodologies and cultural shifts to hand on to successor organisations that will continue the work.’

2.3 Strategic themes

NHS West Sussex has embarked on our carbon reduction programme against a background of significant change in the NHS. The transfer to GP Commissioning from April 2013 means that we have adapted our strategies and plans to ensure that we maximise the short term return projects as well as embedding into our policies and procedures, longer term sustainable practices that can be used and developed within the revised NHS infrastructure.

The carbon reduction strategic themes are different for a commissioning organisation compared to a ‘pure’ provider, such as an acute trust. The provider function of NHS West Sussex integrated with South Downs Health to form a new organisation, Sussex Community Trust, in October 2010. At that point the PCT no longer had any provider responsibility. What this means is that the number of staff we directly employ and the carbon footprint of our direct activities is dramatically changed. We do however in the short term at least remain a property landlord with the responsibilities that gives us. Our key strategic themes therefore can be summarised as in Table 1.

⁵ more info on the CRC can be found at:

<http://www.defra.gov.uk/Environment/climatechange/uk/business/crc/index.htm>

⁶ Available at: http://www.sdu.nhs.uk/sd_and_the_nhs/route-map.aspx

Table 1. Strategic themes for carbon management within NHS West Sussex

<p>Strategic Theme 1: Sustainable Commissioning</p>	<p>Using our Commissioning function to influence and shape the activities of our providers. Understanding the value of carbon reduction in improving patient pathways, improving system resilience in natural disasters and using the contracting function to support change.</p>
<p>Strategic Theme 2: Optimise Existing Systems</p>	<p>Carbon Reduction within our Estate including physical improvements to building services and infrastructure and working in partnership with our tenants. This includes delivering our QIPP targets in relation to estates rationalisation.</p>
<p>Strategic Theme 3: Changing Behaviours and stakeholder involvement</p>	<p>Reducing carbon emissions from our own direct activities including our headquarters and locality offices premises and behaviour change in our staff. Linked closely to strategic theme 1, working closely with stakeholders across health services and social services.</p>
<p>Strategic Theme 4: Long Term Sustainability</p>	<p>Embedding Carbon Management into the PCT's transition Plan. This will need to deliver our low carbon visions stated in Section 2.2 above.</p>

Sustainable Commissioning is the least developed because of the relatively recent emergence of PCTs as solely commissioners and the change in focus that will bring to carbon reduction activities. Initiatives in the past have focussed on what we can directly 'do' with our own operations. Previous work on procurement has the best similarity in that it seeks to change behaviour in others, although the levers available to effect change may be different when ordering a product compared to a clinical service.

Of significant challenge to the NHS is the delivery of the national £20 billion efficiency savings required by 2013/14. Within NHS West Sussex there is a well developed QIPP (Quality Innovation, productivity and prevention) plan, which is embodied within our strategic commissioning plan and the work on carbon reduction links directly to this plan.

A key QIPP workstream is our Estates strategy and where appropriate, site rationalisation. This is a whole health economy approach which includes our provider organisations as well as PCT-owned estate. NHS West Sussex has recently formed a LIFTCo who we will be working with to deliver our key objectives.

The Board approved CMP will assist our organisation to clarify our objectives on environmental responsibility and set out a plan of future carbon management action.

To achieve our low carbon vision and deliver against our strategic themes, NHS West Sussex will:

1. Comply with all relevant legislation and regulatory requirements;
2. Include climate change mitigation and adaptation in the organisation's risk register including associated financial risks;
3. Consider both mitigation and adaptation (including links to emergency preparedness) strategies for each objective.

4. As further details of the new NHS infrastructure are published, we will develop a clear plan for including carbon reduction within the handover of responsibilities to successor organisations. These could be a number of bodies including GP commissioning consortia and the NHS Commissioning Board

More specifically, there are 10 thematic areas that will be addressed by the PCT and future commissioning organisations:

- **Energy and carbon management** – Improved energy management must be a priority for the PCT to ensure the estate and associated operations are low carbon
- **Procurement** - Sustainable procurement of goods within the PCT is hosted by Sussex Community Trust's procurement team, see sections 6.4 and 6.5 for further details
- **Low carbon travel and transport** – Through the established travel sub-group the PCT is endeavouring to reduce business mileage by 10%, this will have a positive financial impact as well as obvious environmental benefits
- **Water** – The PCT will seek to reduce water consumption from operations as much as possible
- **Waste** – The PCT must address future waste management by implementing waste initiatives and improving on existing recycling systems
- **Designing the built environment** – In conjunction with LIFT Co. all future building developments should be designed to a BREEAM Code 'EXCELLENT' rating and all refurbishments to a 'VERY GOOD' rating
- **Operational and workforce development** – Awareness and education is central to embedding a low carbon culture in the organisation and future job descriptions highlight the importance of environmental awareness as soon as new staff come in to the organisation
- **Role of partnerships and networks** – The PCT has already and will continue to establish key partnerships in carbon reduction such as with the community provider trust and future GP consortia
- **Governance** – Particularly in a time of significant change in the NHS, effective governance of the carbon management programme is vital to its future success⁷
- **Finance** – Given current financial pressures successful delivery of the carbon management programme can release significant revenue savings

2.4 Targets and objectives

The original target for the programme was to reduce emissions from the 2009-10 baseline level by 25% by 2015. However, in light of the Government White Paper on Health and the transfer of future commissioning responsibilities to GP consortia, the target has been reduced to 16% by 2013. This target still requires the PCT to cut absolute CO₂ emissions at the same rate year on year.

'NHS West Sussex will reduce CO₂ emissions from our operations by 16% by 2013 from 2009-10 baseline levels.'

⁷ See section 7 on programme management for further details

3. Emissions Baseline and Projections

3.1 Scope of the baseline

The scope of our carbon footprint has been defined to capture organisational emissions derived from building heating fuels and electricity used by sites that the PCT either owns or manages utility accounts for. Transport emissions are also included.

The following sources of CO₂ emissions have been included in the scope of our carbon baseline:

- Building energy use (electricity and fossil fuel) in the Core PCT Estate and essential wider PCT premises – (see Appendix A for a schedule of buildings emissions)
- Water consumption
- Owned fleet fuel use
- Organisation owned business travel
- PCT headquarters waste

There are a number of additional scope areas that may be included for in future years, subject to appropriate data being available:

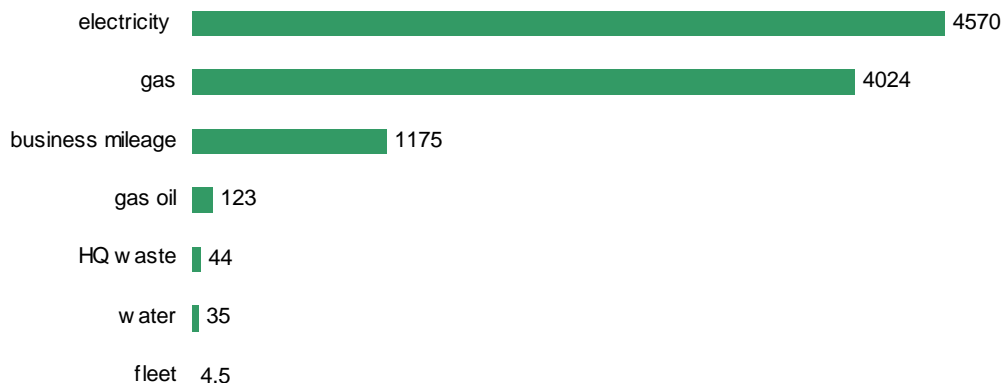
- Business travel for outsourced functions
- Employee commuting
- Waste produced by the operations of our commissioned providers
- Refrigerant & other gas losses (e.g. N₂O)
- Reduction in consumption of goods & services, including commissioned clinical pathway redesign.

3.2 Baseline

As a baseline study, we have assessed our carbon footprint in line with the Carbon Trust methodology. This has allowed us to quantify our carbon emissions and will allow monitoring of our action plan.

During the 2009-10 baseline year, NHS West Sussex emitted 9976 tonnes of CO₂

Figure 1. NHS West Sussex 2009-10 emissions sources tonnes CO₂



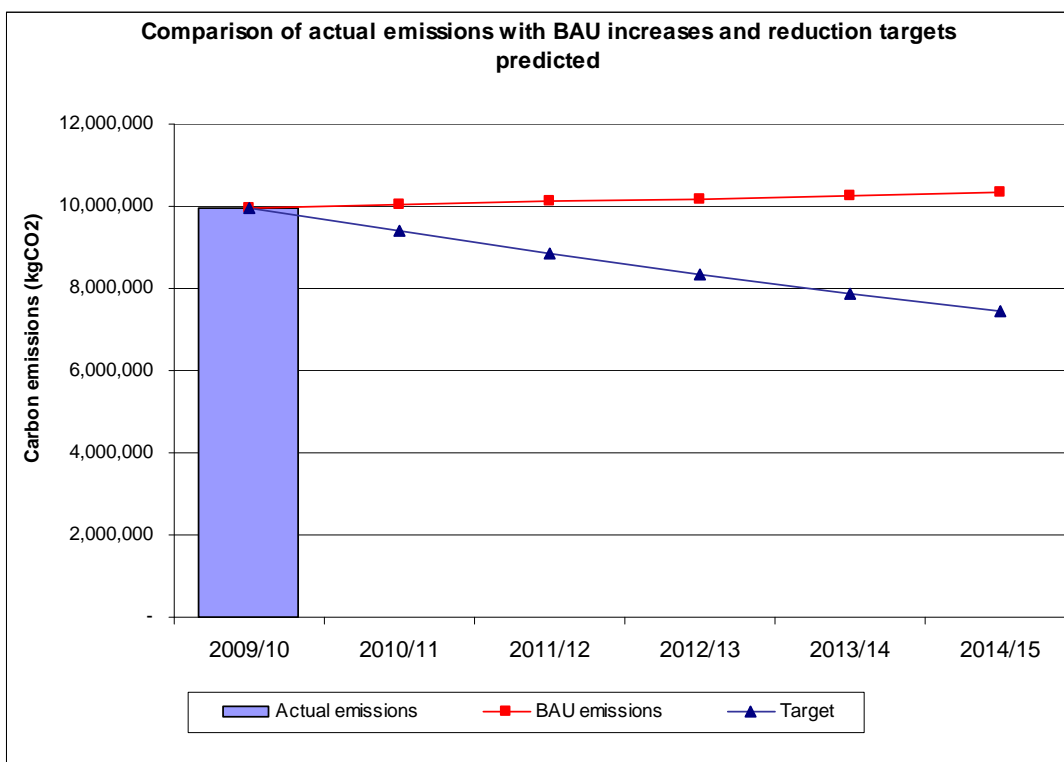
The data has been converted into carbon emissions using recognised standard government emission factors provided by the Carbon Trust. The methodology used to calculate buildings energy emissions for electricity and gas broadly follows that of the CRC energy efficiency scheme i.e. emissions have been included where either the PCT owns the building or the holds and settles utility accounts. Indeed, if the target emissions for 2011/12 are met this will result in an approximate **saving of £14,500** in the purchase of carbon credits which will be mandatory from April 2012 under the CRC scheme.

It is likely the scope and parameters used for defining the baseline will need to be reviewed in future years as the destination of the PCT's estate becomes clear and future commissioning organisations take over. If the community provider takes up ownership of the estate then the PCT's actual carbon baseline will be dramatically reduced at which point emissions targets will also have to be reviewed. Furthermore, the emissions and costs derived from travel include business mileage claimed by community staff as the 2009/10 baseline year was prior to the provider arm split away from NHS West Sussex. Future monitoring years will not include these miles and subsequently travel generated emissions will be significantly less. This however cannot be claimed as a valid carbon saving within the local health economy.

3.3 Projections and Value at Stake

The Value at Stake (VAS) to the PCT for this carbon reduction programme is the difference in cost and carbon emissions between a 'business as usual' (BAU) scenario which assumes no action is taken to reduce carbon emissions between the baseline year in 2009-10 up until April 2013, and then a reduced emissions scenario (RES) whereby the future reduction targets are successfully met. The cumulative Value at Stake (VAS) for NHS West Sussex is **£844,000** which is effectively a future cost to the PCT that will be staved off by successfully achieving our carbon reduction target. The BAU scenario takes in to account Government predictions of a 0.7% annual increase in the demand for stationary energy sources and a 5.3% cost increase in stationary energy sources. Figure 2 below demonstrates the difference between the BAU scenario and our target future carbon emissions.

Figure 2. Trajectory - Emissions



The RES assumes the 16% carbon reduction target up to April 2013 will be achieved. The key to achieving this emissions target is in releasing the carbon saving potential across the PCT estate including building energy, IT and business travel. The projects to enable this are outlined in section 4. Figure 3 below demonstrates the difference between our target costs and the costs should the PCT take no action and continue with business as usual. This difference forms the financial value at stake which stands at £844,000 over 3 years, representing the value of costs that delivery of the carbon management plan will mitigate. The carbon value at stake totals 3723 tonnes of CO₂ over 3 years.

Figure 3. Trajectory – Costs

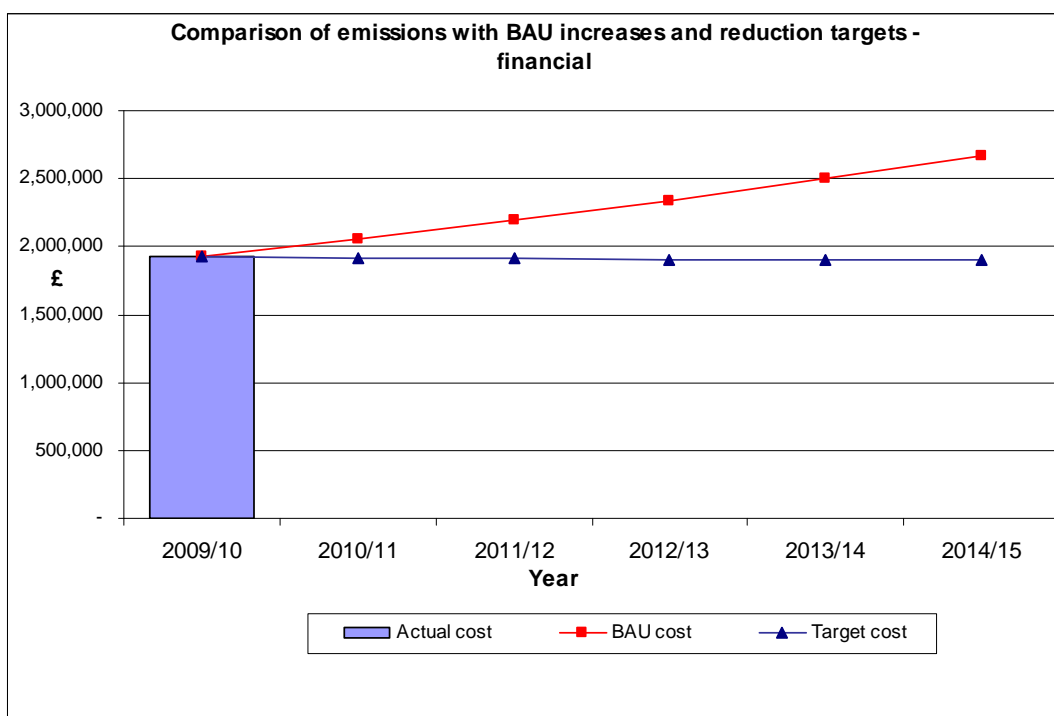


Table 2. NHS West Sussex cumulative value at stake

	2009/10	2010/11	2011/12	2012/13	Cumulative Total
tCO₂		642	1,251	1,830	3,723
£k		134	278	431	844

4. Carbon Management Projects

In order to secure the VAS the PCT has already embarked on a number of carbon saving initiatives as set out in the executive summary. However, to fully achieve our absolute carbon reduction target, a range of further projects have been scoped and costed in readiness to formulate future business cases. These are summarised in tables 3, 4 and 5 below.

The projects have been derived from idea generation and discussion from within the PCT's sustainable development group as well as from existing and planned Estates capital projects. The group has tried to include a wide range of projects across the organisation to ensure all directorates take ownership for carbon reduction.

The projects have been separated in to three categories according to their current funding status and anticipated timescale of implementation and financial payback:

- **Funded and existing** – projects which have already entered the implementation phase and generated savings will begin to be seen within a year. Funding is considered to have already been secured for these projects so they have been omitted from future years' capital estimates
- **Planned for 2011-12** – projects which have been fully defined and quantified to form the basis of business cases for implementation during the 2011-12 financial year
- **Longer term** – projects with higher payback times but still with significant carbon saving potential that require further investigation and consideration within the broader context of the changing NHS landscape

As outlined in Section 5, projects will go through the usual business planning processes. While projects will be initially prioritised on the basis of financial and energy (carbon) savings, projects will also need to be considered against other less easily quantifiable benefits. These benefits will include:

- The longer term benefit for the health economy and the PCT's role as good stewards of NHS resources
- Improved reputation as a good citizen and contributions to the wider community
- Providing a strong legacy to successor organisations
- Improved awareness of carbon emissions to promote staff engagement and motivation
- Partnership working with our providers and potential future 'owners' of current PCT estate

In order to successfully deliver the projects on time and within budget, it is anticipated that extra project management and implementation support services will be required. We currently estimate this support to be in the region of **£53k** which equates to **£1,500 per project or 20%** of the total anticipated capital spend.

To achieve the full target we will continue to look for cost effective carbon savings opportunities throughout the life of the PCT to identify more projects and ensure a clear programme is handed on to successor organisations.

Table 3. Carbon Reduction projects - Funded and existing

Ref	Project	Lead	Cost		Annual Saving (yr 1)		Pay back (yrs)	Net Present Cost (£)	% of Target	Year
			Capital	Rev	£	tCO ₂				
1	Crawley Hospital DHW boilers replacement	Estates	£500k		£62k	503	6	-£865k	31.06	2011
2	Crawley Hospital HV Transformer reduction	Estates	£0		£10k	56	0	-£85k	3.43	2011
3	Causeway HQ printer rationalisation	Informatics	£0		£122 ⁸	0.7	0	-£0.5k	0.04	2011
4	Awareness raising and communication campaign	Communications	£0		£14.5k	86	0	-£40.5k	5.33	2011
5	25% diversion of waste to landfill via implementation of recycling network and infrastructure	Facilities	£0		£5.2k	5	0	-£44k	0.30	2011
6	10% reduction in business mileage	Travel Group	£0		£11.2k	24	0	-£31.5k	7.27	2011
7	Bognor Regis BMS upgrade	Estates	£25k		£5k	33.7	4.9	-£47k	2.08	2011

Table 4. Carbon Reduction Projects – planned for 2011-12

Ref	Project	Lead	Cost		Annual Saving (yr 1)		Pay back (yrs)	Net Present Cost (£)	% of Target	Year
			Capital	Rev	£	tCO ₂				
8	Horsham Hospital voltage optimisation	Estates	£7.4k		£2.7k	14.7	2.7	-£15k	0.91	2011
9	Sub-metering of Linwood from Kleinwort	Estates	£1.5k		£6.5k	39.2	0.2	-£90.7k	2.42	2011
10	Causeway BMS upgrade	Estates	£4.3k		£1.8k	10.1	2.4	-£16.3k	0.63	2011
11	Causeway improved lighting controls	Estates	£4.1k		£1.5k	8.3	2.7	-£13.4k	0.51	2011
12	Crawley Hospital - Variable Speed Fans	Estates	£13k		£5.2k	28.8	2.5	-£62.1k	1.78	2011

⁸ The savings calculated are based on pure energy costs and do not include the associated running costs of printing such as consumables and paper of which the saving will be significant.

13	Crawley Hospital BEMS upgrade	Estates	£31k	£16.1k	103.5	1.9	-£198k	6.39	2011
14	Durrington Health Centre - Optimum start heating controls	Estates	£0.4k	£0.1k	1	2.7	-£1.6k	0.06	2011
15	Haywards Heath Health Centre - Optimum start heating controls	Estates	£0.4k	£0.16k	1.1	2.7	-£1.9k	0.07	2011
16	Zachary Merton - BMS upgrade	Estates	£2.9k	£1k	6.8	2.8	-£11.8k	0.42	2011
17	Zachary Merton - upgrade heating controls	Estates	£11.7k	£2.7k	18.3	4.3	-£27.1k	1.13	2011
18	Bognor Hospital awareness programme on heating and lighting	Estates	£0k	£7k	£7k	41.7	1.0	0.42	2011
19	Bognor Hospital loft insulation	Estates	£7.5k	£1.2k	8.2	6.1	-£2.6k	0.08	2011
20	Bognor Hospital - new burners for heating boilers	Estates	£9k	£2.7k	17.9	3.4	-£21.7k	0.18	2011
21	Bognor Hospital AHU heat recovery	Estates	£4.5k	£2.3k	15.3	2.0	-£21.8k	0.15	2011
22	Bognor Hospital - install frequency converters	Estates	£1.7k	£0.9k	5.3	1.8	-£9.5k	0.05	2011
23	Bognor Hospital pool cover for Hydrotherapy	Estates	£2k	£0.4k	2.6	5.2	£.3k	0.03	2011
24	Bognor Hospital lighting and controls upgrade	Estates	£14k	£4k	22.1	3.4	-£19.7k	0.22	2011
25	Bognor Health Centre - recommissioning of H&V systems and energy management review	Estates	£15k	£5.4k	36	2.8	-£30k	0.36	2011
26	Steyning Health Centre - improved operation of controls and site review of energy management	Estates	£15k	£6.9k	39.6	2.2	-£43k	0.40	2011

Table 5. Carbon Reduction Projects – Requiring further feasibility work

Ref	Project	Lead	Cost		Annual Saving (yr 1)		Pay back (yrs)	Net Present Cost (£)	% of Target	Year
			Capital	Rev	£	tCO ₂				
27	Horsham Hospital Therapies Redevelopment - Energy efficient lighting	Estates	£432		£126	0.7	3.4	-£612	0.04	2012
28	Horsham Hospital Therapies Redevelopment - TRVs	Estates	£13,863		£3,233	21.6	4.3	-£23.3k	1.34	2012
29	Causeway Cavity Wall insulation	Estates	£5,885		£1,401	9.4	4.2	-£10.2k	0.58	2011
30	Crawley Hospital improved wall Insulation	Estates	£53,000		£12,688	84.9	4.2	-£156k	5.24	2011
31	Kleinwort Centre - BMS fine tuning	Estates	£1,533		£790	5.1	1.9	-£9.7k	0.32	2011
32	Kleinwort Centre - Zoned heating controls	Estates	£2,958		£648	4.3	4.6	-£6.3k	0.27	2011
33	Shoreham Health Centre - Upgrade to condensing boilers	Estates	£18,200		£1,531	10.2	11.9	£0.5k	0.63	2011

5. Carbon Management Plan Financing

Estates rationalisation and existing invest to save & maintenance schemes have existing funding in place. In addition some projects have already secured funding in 2010/11 through existing Operating plan processes. This includes replacement/upgrade of Crawley Hospital boilers - with potential to save 4% of PCT’s carbon footprint and installation of AMR meters for automatic utility readings.

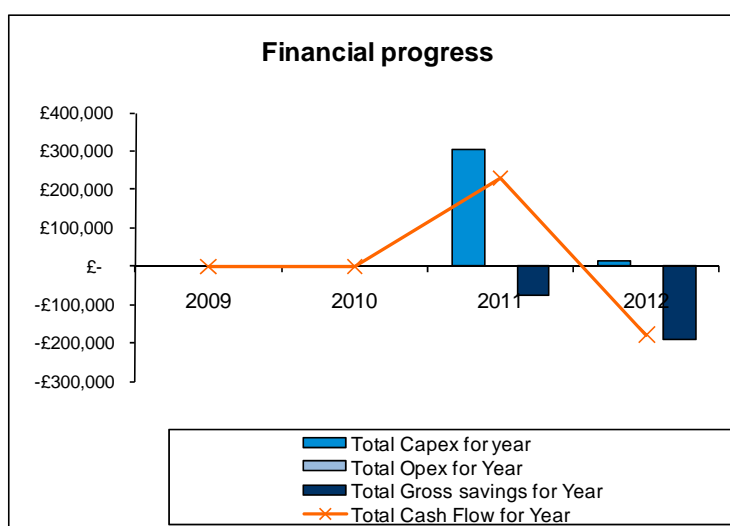
Although the programme will require significant investment, the majority of projects will typically payback within 3 years. Those projects that do require capital investment will go through the usual business case processes. Against the background of financial constraint outlined in the context above, there will clearly be an increased focus on ensuring all investments deliver their savings and in a realistic timescale. The scale of the QIPP challenge means that the PCT will be making relative judgements on those investments that will have the greatest return and the widest impact on delivering efficiencies to the health economy.

In addition the Strategic Health Authority has recently announced new procedures for the approval of capital spending. This will require all expenditure to go through additional approval processes. One of the key benefits of this will be to ensure that there is sign-up from emerging GP commissioning consortia to the proposed investment and will ensure that at an early stage GP commissioners will be involved in decision making about sustainable development issues.

Table 6. Summary of benefits & savings of carbon reduction projects

	2011/12	2012/13
Annual capital cost - (£)	305k	15k
Annual operational costs – (£)		7k
Cumulative annual cost saving - (£)	62k	211k
Cumulative annual CO₂ saving - (tCO₂)	503	1265
% of target achieved	31	78

Figure 4. Financial progress demonstrating return on capital investment



6. Actions to Implement and Embed Carbon Management in NHS West Sussex

6.1 Corporate Strategy – embedding CO₂ saving across the organisation

As outlined in the Chief Executive’s introduction, carbon reduction in the NHS has a far wider context than the saving of carbon itself. As system leader and a commissioner the PCT has a crucial role in influencing our providers, taking direct actions as a landlord and in recognising the links between climate change and health. Using our four strategic themes outlined in Section 2.3 embedding our corporate strategy can be seen as follows

Strategic Theme 1: Sustainable Commissioning

As part of the NHS system changes, the formation of Public Health England and much closer working with local authorities will be a key driver for embedding CO₂ reduction within health improvement. Action now will have health benefits immediately. For example, increased levels of active travel, lead to a reduced risk of obesity, diabetes, heart disease, and mild mental illness, as well as reducing road traffic injuries and deaths, and improving air quality. Action will not only benefit the health of the population now, but also benefit and support changes in the health care system as a whole. See Section 6.5 for activities the PCT will be undertaking.

Appendix B, attached, provides a useful matrix representation of carbon management embedding within organisations. It will be essential as part of the authorisation process for emerging GP consortia that the relevant aspects of this are incorporated into developing systems. Table 7 below demonstrates the PCT’s current performance on each embedding criteria as generally being at level 4. The organisation is aspiring to universally achieving level 5 and the successful implementation of the carbon management plan will enable this.

Table 7. Current performance matrix on embedding of carbon management

POLICY	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	PROCUREMENT	MONITORING & EVALUATION
4	4	4	3	4	5	4
<p>SMART Targets developed and quantified but not implemented</p>	<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"> Environmental / energy group(s) give ad hoc: <ul style="list-style-type: none"> Training Communications 	<ul style="list-style-type: none"> Regular financing for CM projects Cost estimate complete for most projects Some external financing 	<ul style="list-style-type: none"> Senior purchasers consult & adhere to sustainable procurement policy (e.g. PASA or Forum for the Future guidance) Sustainability integrated in tendering & evaluation criteria Whole life costing Collaborative procurement 	<ul style="list-style-type: none"> Core team regularly reviews CM progress: <ul style="list-style-type: none"> Actions Profile & Targets New opportunities quantification

Strategic Theme 2: Optimising Existing Systems

At the time of developing this plan it is unclear where the long term responsibility for current PCT Estate will sit. However the Department of Health website announced in Mid January 2011 that

'All aspirant community foundation trusts (CFTs) are to be given the opportunity to acquire the PCT owned estate required to support the delivery of services for which they have responsibility.'

And in addition

'Aspirant CFTs and their PCTs should immediately commence the process of identifying and agreeing the estate which will be made available to CFTs, in order to ensure completion by 1 April 2011 (or by the date of NHS trust establishment if later than 1 April 2011).'

The plan has been written based on the assumption that the PCT will continue as landlords for our community estate until 2013 and therefore will have responsibility for building fabric and performance. The announcements by the Department of Health will potentially mean an earlier handover. However this does not lessen our commitment to continue to work pro-actively to ensure that the legacy we hand on. Our strategy will be to maximise the improvements in estates that we can make during the lifetime of the PCT and ensure the handover of estates with a clear carbon reduction strategy for each building as part of a cohesive, overall estates plan. The estates issues do represent a vital part of our ability as commissioners to demonstrate carbon reductions and form a crucial part of the patient's quality experience of their care. The PCT sustainable Development group have already formed strong links with the Environmental Manager for Sussex Community Trust, our community provider, and these will be further strengthened and built on as part of the discussions we will be having on the future of our Estate.

Strategic Theme 3: Changing Behaviours and Stakeholder Engagement

To address our responsibilities linked to our own direct activities, NHS West Sussex has developed and implemented a staff awareness campaign starting with a 'green christmas' campaign in December 2010. Our communications plan, attached at Appendix D will be further developed to provide continuity and a seamless progression to GP commissioning consortia. Within the new organisations, issues such as embedding within induction programmes will be required as part of our on-going plans to part of our everyday activities.

Strategic Theme 4: Long Term Sustainability

As an organisation with a limited life-span, the corporate strategy in the longer term will necessarily need to focus on 'handing on' to successor organisations and indeed this is one of our key strategic themes. During 2011/12 as GP consortia start to be developed there is an ideal opportunity for the sustainability agenda to be embedded within the emerging structures. Within West Sussex both our emerging GP Commissioning Consortia have been named in the first wave of pathfinder consortia. These means they will be at the forefront of developing systems for GP Commissioning and will have access to advice and support from other developing consortia across the country. This plan does not underestimate this challenge however; not because there is a lack of commitment or interest, but simply because of the sheer size and scale of the changes taking place. As part of embedding therefore it is important to ensure that all key stakeholders have a clear vision of the integration between carbon reduction and improving health. This is not an added extra but part and parcel of what we do everyday. This will be achieved through inclusion of sustainable development in the transition work plan and in working towards the RCGP GP commissioning competencies – see section 6.5.

6.2 Data Management – measuring the difference, measuring the benefit

Management of energy data has historically been poor within the PCT. However large progress has already been made to addressing this, most notably through an AMR project rolling out automatic electricity and gas meters across the whole estate. This will enable far more accurate and efficient monitoring of energy data not least to provide successful measurement of ongoing progress in the carbon reduction programme but also to ensure statutory emissions reporting is completely accurate. Utilising future monitoring and targeting software will allow level 5 data management to be achieved within the embedding matrix. Further improvements still need to be made to improve data collection for waste, transport and procurement.

6.3 Policy alignment

The carbon management plan is endorsed by the Board and we will assess progress and effectiveness of the strategies and provide feedback both to the Board and publicly. We aim to make sustainable development core to decision making and will move towards requiring business cases to include sustainability and carbon reduction measures as a mandatory element of proposals.

6.4. Procurement and purchasing

Although our carbon footprint derived from procurement has not been calculated, given that 60% of the NHS total carbon footprint is generated from procurement the following policy hosted by Sussex Community Trust is adopted by NHS West Sussex:

- The strategy will address the Trust's obligations in respect of Sustainable and Ethical procurement
- The number of sustainable supply sources will be increased as will use of products manufactured from recycled materials. The Trust will work with suppliers to reduce waste through improved packaging and consideration will be given to the carbon footprint of goods and services purchased.

6.5. Sustainable Commissioning

Building on section 6.4 above it is apparent however that direct procurement of products is a relatively very small part of a PCT's (or its successor commissioning organisations') activities. It is as a commissioner of health services that the greatest shift of understanding will be required to truly embed carbon management and sustainability principles.

As commissioners of services, NHS West Sussex has adapted its tendering processes to ensure that there is an assessment of health service providers' sustainability strategy within the tender documentation. This ensures that there is an active assessment of carbon reduction as part of the procurement process. Linked to this will need to be the active monitoring of provider's compliance with, and achievement against their carbon management as part of contract monitoring.

Looking at strategic theme 4 and the longer term position of sustainability within the emerging GP Commissioning Consortia, sustainable commissioning will be built into the PCT's transition plan. The RCGP Centre for Commissioning has recently published a Commissioning Competency Framework⁹, which the PCT will be using a key resource with GPs in developing consortia plans and structures. This framework includes promoting sustainability and states

⁹ http://www.rcgp.org.uk/centre_for_commissioning.aspx

‘Commissioners should act as careful stewards of resources in the NHS and the natural environment. The consortium’s own operations should be efficient and ecologically sound, and commissioning plans should promote the reduction of wasted natural, financial and human resources.’

The framework outlines a range of competencies at different levels and for different professional groups. For example

‘Commissioning leaders should: include the principles of sustainability in all service evaluation and design activities’ and ‘Commissioning teams should: build capability in measuring, predicting and improving the use of resources in the local health economy’

During the transition period, the opportunity has been taken when re-issuing job descriptions to ensure that every description includes a reference to personal responsibilities for sustainable development.

7. Implementing During Transition

The PCT has formed a Sustainable Development group during the life of the carbon trust project to help in developing the ideas and projects for this Carbon management plan. This group will now move on to implementation and embedding. In the light of the planned direction of travel for PCT estates and GP Commissioning, we will further strengthen the involvement of our community trust and emerging GP commissioning consortia.

Figure 5. NHS West Sussex programme structure

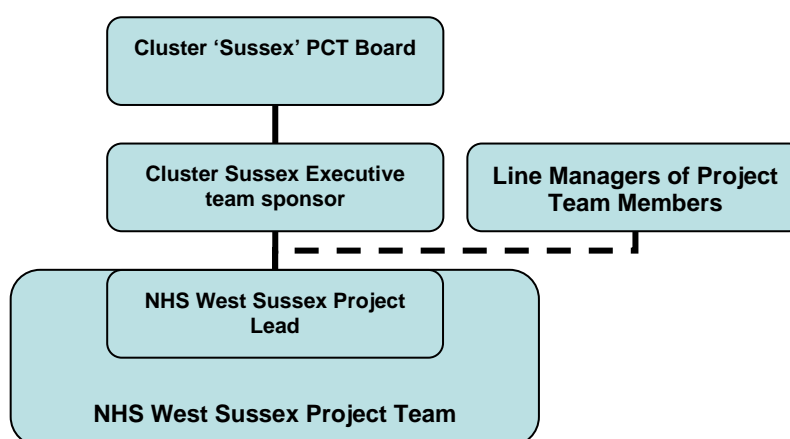


Table 9. NHS West Sussex Sustainable Development Group

Role	Name	Directorate/department
Project Sponsor	Alison Hempstead	Head of Planning & Governance
	Ian De Bruin	Head of Strategic Estates
Project Lead	Charles Sainsbury	Estates
NHS West Sussex sustainable development group members	James Blakely	Human Resources
	Tamsin Cornwall	Public Health
	Steve McNally	Finance
	Laura Skelcey	Communications
	Simon Mansfield	GP Commissioning – South Federation
	Diane Gilmour	GP Commissioning – North Association
	Rayner Wilson	Facilities
	Pat Radley	Contracting
	Adrian Woolley	IT
Partner and stakeholder membership	Will Clark	Environmental Manager – Sussex Community Trust
	Julian Thompson	Procurement – Sussex Community Trust

Appendix A: Site schedule of stationary emissions for 2009-10 baseline year

Premises Name	Postcode	Gross internal area (m ²)	2009-10 energy consumption (kWh)			Site emissions - tn CO ₂
			Gas	Elec	Oil	
Hospitals						
Crawley Hospital	RH11 7DH	32,347	11,011,613	4,080,667		4,234
Horsham Hospital (incl Annexe & Cottage)	RH12 2DR	11,540	4,071,463	1,012,485	87,295	1,319
The Kleinwort Centre	RH16 4BE	1,325	562,685	169,859		195
Nightingale Primary Care Centre	RH16 4BN	2,008	406,413	163,086		163
Arundel District Hospital	BN18 0AB	1,062	367,908	114,831		130
Bognor Regis War Memorial Hospital	PO22 8PP	7,181	1,716,858	900,299		803
Zachary Merton	BN16 2EA	2,316	791,753	150,107		227
Health Centres/Clinics						
Bognor Regis	PO21 1UT	1,610	391,855	115,428		135
Broadfield	RH11 9YZ	840	245,730	61,489		78
Burgess Hill	RH15 9BS	376		24,862		13
Central Clinic	BN11 1HE	450	138,757			26
Crawley Down	RH10 4HY	1,504	85,622	56,313		46
Durrington	BN13 2RX	1,144	209,003	78,866		81
East Grinstead	RH19 3JS	542	103,831	24,877		33
Hassocks	BN6 8LY	579	158,729	37,429		49
Haywards Heath	RH16 3BB	1,842	242,739	136,555		119
Hurstpierpoint	BN6 9UG	1,522	78,829	68,384		52
Lancing	BN15 9AG	909	195,111	73,530		76
Littlehampton	BN17 5HG	939	200,435	45,000		61
Shoreham	BN43 5US	1,234	332,136	104,618		118
Sidney West	RH15 8HS	1,520	116,336	66,230		57
Steyning	BN44 3RJ	2,043		108,813		59
Corporate offices						
The Causeway	BN12 6BT	7,160		608,834	399,554	430
83A Aldwick Road	PO21 2NW	115		19,660		11
West Sreet	PO19 1RP	750	53,253	27,152		24
28-29 Westhampnett Road	PO197HH			37,532		20
Care homes/supported accomodation						
Holly Lodge	RH13 5NY	200	154,181	34,400		47
The Cherries	PO19 6PL	200	55,209	23,077		23
Bewbush Bungalows	RH11 6BH	350	189,909			35
Miscellaneous						
Downlands Business Park	BN14 9LA			142,109		77
Gatwick Airport N & S terminals	CR3 5YA		93,159	32,864		35
Totals =		83,608	21,973,517	8,519,356	486,849	8,775

Appendix B: 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 by Board Carbon reduction target fully costed and underpinned by quantified projects Action plan contains clear goals & regular progress reviews 	<ul style="list-style-type: none"> CM is full-time responsibility of a few people CM integrated in responsibilities of senior managers Chief Exec support Involvement of clinicians Part of all job descriptions 	<ul style="list-style-type: none"> Quarterly or better collation of CO₂ emissions for scope 1 and 2 Systems being set up for scope 3 Data externally verified M&T in place for: <ul style="list-style-type: none"> Buildings Waste 	<ul style="list-style-type: none"> Key staff given formalised CM: <ul style="list-style-type: none"> Induction and training Incentives Communications CM matters regularly communicated to: <ul style="list-style-type: none"> Full internal and external community, including patients Key partners 	<ul style="list-style-type: none"> Granular & effective financing mechanisms for CM projects Finance representation on CM Team Whole life costing embedded into procedures Ring-fenced fund for carbon reduction initiatives 	<ul style="list-style-type: none"> Senior purchasers consult & adhere to sustainable procurement policy (e.g. PASA or Forum for the Future guidance) Sustainability integrated in tendering & evaluation criteria Whole life costing Collaborative procurement 	<ul style="list-style-type: none"> Senior management review CM process Core team regularly reviews CM progress and target Plan and progress reports publically available Visible board level review
4	<ul style="list-style-type: none"> SMART Targets developed and quantified 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 Cost estimate complete for most projects Some external financing 	<ul style="list-style-type: none"> Environmental demands incorporated in tendering Familiarity with OGC and other best practice Whole life costing for all major purchases 	<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 Carbon target set but not quantified 	<ul style="list-style-type: none"> CM is part-time responsibility of a few people CM responsibility mainly within Estates 	<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 or target Carbon reduction 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"> Some idea of investment needed to reach target 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	<ul style="list-style-type: none"> No policy No climate or carbon reference 	<ul style="list-style-type: none"> No CM responsibility designation 	<ul style="list-style-type: none"> CO₂ emissions not measured 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

Appendix C: Definition of Projects

Project: Reference:	1. Crawley Hospital DHW Boilers
Owner (person)	<i>Bill Banks</i>
Department	<i>Estates</i>
Description	<i>Replacement of existing gas fired boilers with upgrade to high-efficiency equipment with plate heat exchangers for domestic hot water and heating.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £75k • Payback period: 6 years • CO₂ Emissions reduction: 503 tn CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital cost of £526k</i> • <i>Funding secured within 2010-11 capital programme</i>
Resources	<ul style="list-style-type: none"> • <i>Engineering consultancy fees of £17.5k included within capital fund for project</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Management of heating and hot water supply and temporary relocation of boilers during transition</i> • <i>Principal risks: interruption to supply of hot water and heating</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Ongoing measurement and monitoring of emissions post implementation with on site BMS</i>
Timing	<ul style="list-style-type: none"> • <i>Installation and completion scheduled for Summer 2011</i>
Notes	

Project:	2. Crawley Hospital HV transformer reduction
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>By tweaking the high voltage equipment for the electricity supply on to site a significant reduction in electricity bills can be achieved.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £10k • Payback period: n/a • CO₂ Emissions reduction: 56 tn CO₂
Funding	<ul style="list-style-type: none"> • <i>Minimal cost, no capital required as equipment owned by the PCT</i>
Resources	<ul style="list-style-type: none"> • <i>Alteration to HV equipment to be carried out by electricity supply network maintainers</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Full assessment of on site supply requirements must be carried out before changes are made.</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Full monitoring of bills and energy data using iM&T software post implementation</i>
Timing	<ul style="list-style-type: none"> • <i>Completion during 2011</i>
Notes	

Project:	3. Causeway printer rationalisation
Reference:	
Owner (person)	<i>Adrian Woolley</i>
Department	<i>Informatics & Facilities</i>
Description	<i>Removal of personal printers within the PCT headquarters building and better utilisation of multi-functional devices</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £150 • Payback period: n/a • CO₂ Emissions reduction: 0.7 tn CO₂
Funding	<ul style="list-style-type: none"> • <i>No funding required</i>
Resources	<ul style="list-style-type: none"> • <i>The project will be delivered utilising internal resources</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Better utilisation of existing MFDs is vital</i> • <i>Staff need to realise the benefits of the project</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Continual monitoring and review of printing provisions will take place</i> • <i>Staff will be consulted and engaged throughout the project</i>
Timing	<ul style="list-style-type: none"> • <i>Implemented in late 2010 with immediate savings being seen</i>
Notes	<ul style="list-style-type: none"> • <i>The savings stated have not included additional savings of resources from reduced purchasing of printer consumables and paper from increased duplex printing, which will be significant.</i>

Project:	4. Awareness raising and communications campaign
Reference:	
Owner (person)	<i>Laura Skelcey</i>
Department	<i>Communications</i>
Description	<i>Ongoing sustainability and energy awareness strategy for all PCT staff launched with the 'Green Christmas' switch off campaign in December 2010 utilising a range of communications activities .</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £14.5k • Payback period: n/a • CO₂ Emissions reduction: 86 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Minimal cost utilising existing internal staff communications routes</i> • <i>Small costs associated with campaign material but focus on e-comms will minimise these</i> • <i>Potential sources of external funding will continually be explored</i>
Resources	<ul style="list-style-type: none"> • <i>The project will be delivered within current, internal resources and potentially in partnership with Sussex Community Trust</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Regular comms messages must be maintained to ensure momentum of the campaign is not lost</i> • <i>Staff need to be aware of the benefits of their actions</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Metrics of monthly energy performance will be displayed and distributed to all staff in PCT buildings</i>
Timing	<ul style="list-style-type: none"> ○ <i>Following launch in late 2010, campaign will be ongoing to form an integral part of the PCT's Carbon Management Plan</i>
Notes	

Project:	5. 25% diversion of waste to landfill
Reference:	
Owner (person)	
Department	<i>Facilities</i>
Description	<i>Despite well established office recycling systems at PCT headquarters, it is felt the Trust can achieve higher recycling rates, particularly at satellite sites by implementing an effective recycling network and infrastructure. This project will tie in closely with awareness raising.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £5.2k • Payback period: n/a • CO₂ Emissions reduction: 5 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Increasing the proportion of waste recycled will initially focus on better utilisation of existing systems so cost will be minimal</i> • <i>If further waste management contracts are deemed to be necessary the cost impact will be assessed carefully</i>
Resources	<ul style="list-style-type: none"> • <i>The project will predominantly be delivered by the existing Facilities team</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Effective communication of the importance of recycling is crucial</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Continual monitoring of recycled volumes to ensure increase in amount diverted from landfill</i>
Timing	<ul style="list-style-type: none"> • <i>Full implementation throughout 2011</i>
Notes	

Project:	6. 10% reduction in business mileage
Reference:	
Owner (person)	<i>Travel sub-group</i>
Department	
Description	<i>Given the large number of business mileage claims made during the baseline year there is a need for the PCT to reduce business mileage significantly.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £11.2k • Payback period: n/a years • CO₂ Emissions reduction: 24 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>This project requires no funding</i>
Resources	<ul style="list-style-type: none"> • <i>Project will be managed by the travel sub-group derived from the PCT's sustainable development group</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Encouragement of car sharing and greater use of video conferencing facilities are essential</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Monitoring and reporting of mileage claims will take place each month to assess both the financial and emissions impacts</i>
Timing	<ul style="list-style-type: none"> • <i>10% reduction is to be achieved within first year, 2010-11 financial year, and targets to be reviewed thereafter</i>
Notes	

Project:	7. Bognor Regis BMS upgrade
Reference:	
Owner (person)	<i>Steve Vango</i>
Department	<i>Estates</i>
Description	<i>The existing BMS is obsolete. Modern BMS systems will provide the site with greater control over the energy consumption for heating and hot water and will enable reductions in energy consumption.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £5k • Payback period: 4.9 years • CO₂ Emissions reduction: 33.7 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital funding of 25k has already been secured</i> • <i>Operational repairs and maintenance will largely be carried out by the PCT's on site maintenance team</i>
Resources	<ul style="list-style-type: none"> • <i>Internal resources used</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensuring the new system is compatible with others across the Trust</i> • <i>Users on site are fully trained to operate and optimise usage of the BMS</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Monitoring of consumed energy levels through iM&T software</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation expected during 2011. If not delivered, may form part of future Trust wide BMS upgrade</i>
Notes	

Project:	8. Horsham Hospital voltage optimisation
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>Voltage optimisation of electricity supply in to Horsham Hospital to achieve significant energy savings</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £2.7k • Payback period: 2.7years • CO₂ Emissions reduction: 14.7 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated capital cost of £7.4k, dependent on results of site survey</i>
Resources	<ul style="list-style-type: none"> • <i>Project to be managed within internal Estates department in conjunction with electricity supplier</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Site survey of existing supply voltage and capacity will determine exact levels of savings that will be achieved</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Voltage reductions and associated energy savings will be continually monitored through half-hourly supply data</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	9. Sub-metering of Linwood from Kleinwort
Reference:	
Owner (person)	<i>Charles Sainsbury</i>
Department	<i>Estates</i>
Description	<i>Linwood Mental Health Centre is currently consuming utility supplies from the adjoining Kleinwort building despite being occupied by a different Trust (Sussex Partnership). Sub-metering of Linwood will ensure the PCT will only incur the utility costs of Kleinwort and Sussex Partnership will pay for the proportion supplied to Linwood.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £6.5k • Payback period: 0.2 years • CO₂ Emissions reduction: 39.2 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Purchase of sub-meters anticipated to be £1.5k</i>
Resources	<ul style="list-style-type: none"> • <i>Project to be delivered internally in conjunction with utility suppliers</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Agreement with Sussex Partnership Trust to separate supplies will be required</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Savings will be easily derived and monitored from utility bills for the Kleinwort and also iM&T software</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	10. Causeway controls/BMS upgrade
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>Controls of heating and ventilation on site are ineffective. Installation and upgrade of a BMS system will enable heating and ventilation to be controlled to match occupancy on site.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £1.8k • Payback period: 2.4 years • CO₂ Emissions reduction: 10.1 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated purchasing cost of £4.3k</i>
Resources	<ul style="list-style-type: none"> • <i>May require some external consultancy, fees for which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensuring the new system is compatible with others across the Trust</i> • <i>Users on site are fully trained to operate and optimise usage of the BMS</i>
Measuring Success	<ul style="list-style-type: none"> • <i>System itself will measure improvements in energy efficiency</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation expected during 2011</i>
Notes	

Project:	11. Improved lighting controls at the Causeway
Reference:	
Owner (person)	
Department	<i>Estates & Facilities</i>
Description	<i>There is room for improving lighting controls at the Causeway particularly in areas that are not in constant use e.g. installation of PIR movement sensors to WCs.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £1.5k • Payback period: 2.7 years • CO₂ Emissions reduction: 8.3 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated cost of £4.1k for controls, sensors and energy efficient fittings</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>Project to be delivered internally</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>No risks</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Monitoring of on site energy supply through half-hourly electricity data</i>
Timing	<ul style="list-style-type: none"> • <i>Desired implementation during 2011</i>
Notes	

Project:	12. Crawley Hospital Variable Speed Fans
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>To reduce the need for air conditioning in the steriliser plant rooms, enlarged extract ducts with variable speed fans will better control plant room temperatures.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £5.2k • Payback period: 2.5 years • CO₂ Emissions reduction: 28.8 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated capital cost of £31k</i>
Resources	<ul style="list-style-type: none"> • <i>May require some external consultancy, fees for which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Full scoping and assessment of operational viability is essential</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Ongoing monitoring of plant room temperatures and energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project: Reference:	14. Durrington Health Centre – Optimum start heating controls
Owner (person)	
Department	<i>Estates</i>
Description	<i>The main heating time clock is set for twice as long as necessary. Optimised start/stop controller for the boiler will ensure heating and ventilation match occupancy patterns.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £0.1k • Payback period: 2.7 years • CO₂ Emissions reduction: 1 tonne of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated implementation cost of 0.4k</i>
Resources	<ul style="list-style-type: none"> • <i>Project to be managed internally</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Users on site are fully trained to operate and optimise usage of controls</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	15. Haywards Heath Health Centre – optimum start heating controls
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The boiler heating and AHU time clocks are set for more than twice as long as necessary – optimum start/stop controls will enable timing to reflect occupancy.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £0.16k • Payback period: 2.7 years • CO₂ Emissions reduction: 1.1 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated implementation cost of £0.4k</i>
Resources	<ul style="list-style-type: none"> • <i>Project to be managed internally</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Users on site are fully trained to operate and optimise usage of controls</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<i>Implementation during 2011</i>
Notes	

Project:	16. Zachary Merton – BMS upgrade
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The current dated BEMS system on site currently provides no active control over the boiler, heating distribution system or heating circulation. Upgrade of the existing system will regain this control.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £1k • Payback period: 2.8 years • CO₂ Emissions reduction: 6.8 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated purchasing cost of £2.9k</i>
Resources	<ul style="list-style-type: none"> • <i>May require some external consultancy, fees for which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensuring the new system is compatible with others across the Trust</i> • <i>Users on site are fully trained to operate and optimise usage of the BMS</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation expected during 2011</i>
Notes	

Project: Reference:	17. Zachary Merton – upgrade of heating controls
Owner (person)	
Department	<i>Estates</i>
Description	<i>In conjunction with the BMS upgrade, upgrade of heating controls will ensure better regulation of water heating throughout the building which currently is generally overheated in most areas.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £2.7k • Payback period: 4.3 years • CO₂ Emissions reduction: 18.3 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated capital cost of £11.7k</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>May require some external consultancy, fees for which budget has been allowed for in this plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Users on site are fully trained to operate and optimise usage of controls</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	18. BRWMH – awareness programme on heating and lighting
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>There is a lack of awareness among staff relating to the use of the thermostatic radiator valves for control of temperatures and the impact of a variable temperature circuit on the radiator temperatures as much as it did to lighting. Raising awareness is one of the best opportunities to achieve target energy reductions at lowest cost. The opportunity involves the provision of basic training to all staff in the building about the heating system</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £7k • Payback period: 1 year • CO₂ Emissions reduction: 41.7 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Costs of £7k for external training (if available) otherwise</i>
Resources	<ul style="list-style-type: none"> • <i>If funds are not available for external training, awareness will be raised as much as possible using internal resources</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Start the programme of training and awareness especially for heating as the heating season is now in full swing</i> • <i>Risk of staff not acting following training/awareness raising</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> ○ <i>Implementation during 2011</i>
Notes	

Project:	19. BRWMH improved insulation
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>In the new building roof space there is approximately a 4" layer of Rockwool insulation in poor condition. The Ventilation plant and Tank rooms have no insulation. Improving insulation levels will reduce the heat losses from the building and thereby reduce the gas consumption for heating.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £1.2k • Payback period: 6.1years • CO₂ Emissions reduction: 8.2 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital costs of £7.5k to survey for potential hot spots through building walls or roofs with view to increasing the overall U value for roof insulation to 0.3 W/mK</i>
Resources	<ul style="list-style-type: none"> • <i>External contractor included within capital cost</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensure a thorough thermographic survey is carried out by a reputable contractor</i> • <i>No risks</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> ○ <i>Implementation targeted for 2011</i>
Notes	

Project:	20. BRWMH new burners for heating boilers
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The current burners are single output burners without possibilities of modulation or high/low fire. We recommend that the burners are replaced with a modern burner and control system that allows for modulating the burner between high fire, low fire and off to control the supply temperature of the primary circuit. Modern burners will allow operation with lower levels of excess air and hence reduce dry flue gas losses.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £2.7k • Payback period: 3.4 years • CO₂ Emissions reduction: 17.9 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital cost of £9k</i>
Resources	<ul style="list-style-type: none"> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>No risks</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>For implementation during 2011</i>
Notes	

Project:	21. BRWMH AHU heat recovery
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The HR systems consist of the pumped glycol circuit with a pressurised expansion vessel. The systems should be re-commissioned such that they recover heat from the exhaust air when there is a sufficient temperature difference between the hot and cold streams such that the value of heat recovered outweighs the operational costs of the circulation pump.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £2.3 • Payback period: 2 years • CO₂ Emissions reduction: 15.3 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Cost of £4.5k to re-commission the AHUs to maximise heat recovery from the ventilation system</i>
Resources	<ul style="list-style-type: none"> • <i>Undertaken by contractors within project cost</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensure quotation are from reputable contractors</i> • <i>No risks</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Measured through on site BMS system</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	22. BRWMH install frequency inverters
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>On the constant temperature circuits the flow rate to the AHU and heat exchangers is constant and controlled at the user via a three port valve. This means that the return temperature will vary according to demand for heating. By varying the flow rate one can control the return temperature this means that the primary circuit temperature to the boilers will be reduced and the boilers will also operate more efficiently.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £0.9k • Payback period: 1.8 years • CO₂ Emissions reduction: 5.3 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated cost of £1.7k</i>
Resources	<ul style="list-style-type: none"> • <i>Project to be completed internally</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Competitive quotations for cost of the inverters required</i> • <i>No risks</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Monitoring and measurement through on site BMS system</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	23. BRWMH pool cover for hydrotherapy
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The hydrotherapy pool reportedly lacks a pool cover – this will increase the amount of evaporation from the pool and hence the cooling effect of that evaporation. Use of a pool cover reduces the evaporation and hence reduces water losses and heat losses. The pool cover should be installed such that it can be put on and removed by one person and that there will be no impediment to people with reduced mobility using the pool.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £0.4k • Payback period: 5.2 years • CO₂ Emissions reduction: 2.6 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Cost of £2k for the purchase of the pool cover</i>
Resources	<ul style="list-style-type: none"> • <i>Maintained internally</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Main risk is level of uncertainty in settings of air handling unit associated with the pool – the longer the hours the AHU is in service the greater the level of evaporation and hence the greater the level of losses.</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Continual monitoring of temperatures and evaporation rates on sites</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project:	24. BRWMH upgrade of lighting and controls
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>Corridor lighting is a mix of different lighting types. Some are relatively modern others are low frequency main fittings with T8 tubes. Modern High frequency fluorescent lighting can reduce the energy consumption as well as providing the opportunity for improving controls. The project consists of standardising the lighting used in the main corridors and wards and applying modern controls where possible. The controls would be used in areas with intermittent occupation e.g. offices, public toilets and treatment rooms and not in the wards themselves.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £4k • Payback period: 3.4 years • CO₂ Emissions reduction: 22.1 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital cost of £14k</i>
Resources	<ul style="list-style-type: none"> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Focus needs to be to prioritise areas with the highest occupation e.g. corridors</i> • <i>No risks</i>
Measuring Success	<ul style="list-style-type: none"> • <i>Measurement of consumption through half-hourly electricity supply data and sub meters</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project: Reference:	25. Bognor Regis Health Centre – recommissioning of H&V systems and energy management review
Owner (person)	
Department	<i>Estates</i>
Description	<i>The building is generally overheated with the last heating start time some 4 to 5 hours too early. Systems need to be checked and internal temperature sensors relocated to the main internal core areas. Total heating fuel consumption is estimated to be 50% greater than necessary.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £5.4k • Payback period: 2.8 years • CO₂ Emissions reduction: 36 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital fund of £15k to check, existing H&V systems and install new controls, sensors and BEMS as necessary</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>External consultancy fees required which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Users on site are fully trained to operate and optimise usage of controls and H&V systems</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project: Reference:	26. Steyning Health Centre – improved operation of controls and energy management review
Owner (person)	
Department	<i>Estates</i>
Description	<i>The building is estimated to consume 50% more energy than necessary. HVAC control settings are currently wasteful and need to be reset to match occupancy patterns and reduce use of air conditioning for cooling in the building that is generally overheated.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £6.9k • Payback period: 2.2 years • CO₂ Emissions reduction: 39.6 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital fund of £15k to check, existing H&V systems and install new controls, sensors and BEMS as necessary</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>External consultancy fees required which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Users on site are fully trained to operate and optimise usage of controls and H&V systems</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	

Project: Reference:	27. Horsham Hospital Therapies Redevelopment – Energy efficient lighting
Owner (person)	
Department	<i>Estates/Capital Projects</i>
Description	<i>As part of a redevelopment of space utilisation and fittings within therapy services at Horsham Hospital there will be an upgrade to more energy efficient lighting.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £126 • Payback period: 3.4 years • CO₂ Emissions reduction: 0.7 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Cost of £432 part of overall current capital scheme</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>External project managers being used as part of wider capital scheme</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Risk of insufficient funds to improve energy efficiency</i>
Measuring Success	<ul style="list-style-type: none"> • <i>iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Implementation during 2011</i>
Notes	<i>N.B. this project requires further feasibility work</i>

Project: Reference:	28. Horsham Hospital Therapies Redevelopment – TRVs
Owner (person)	
Department	<i>Estates/Capital Projects</i>
Description	<i>As part of a redevelopment of space utilisation and fittings within therapy services at Horsham Hospital there will be an upgrade to the heating system to include TRVs.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £3.2k • Payback period: 4.3 years • CO₂ Emissions reduction: 21.6 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Capital fund of £13k</i>
Resources	<ul style="list-style-type: none"> • <i>External project managers being used as part of wider capital scheme</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Risk of insufficient funds to improve energy efficiency</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Targeted implementation during 2011</i>
Notes	<i>N.B. this project requires further feasibility work</i>

Project: Reference:	29. Causeway Cavity Wall Insulation
Owner (person)	
Department	<i>Estates</i>
Description	<i>A significant amount of perimeter heating is currently lost through walls on site. Cavity wall insulation would remedy this.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £1.4k • Payback period: 4.2 years • CO₂ Emissions reduction: 9.4 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated capital cost of £6k</i>
Resources	<ul style="list-style-type: none"> • <i>External feasibility survey may be required for which fees have been allowed</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Project may not payback within the useful lifetime of the building</i>
Measuring Success	
Timing	<i>More feasibility work in to costing and benefits of the project is required to ensure it will payback within a reasonable timescale</i>
Notes	

Project:	30. Crawley Hospital improved wall Insulation
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>Building fabric is generally poor across the site and improved insulation and wall lining would remedy significant heat loss.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £12.6k • Payback period: 4.2 years • CO₂ Emissions reduction: 85 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated capital cost of £53k</i>
Resources	<ul style="list-style-type: none"> • <i>Additional resource for site feasibility survey</i>
Ensuring Success	
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	
Notes	<i>More feasibility work in to costing and benefits of the project is required to ensure it will payback within a reasonable timescale</i>

Project:	31. Kleinwort Centre – BMS fine tuning
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The current system cannot be controlled locally by supervisors on site. An outstation with local user interface panel should be fitted to ensure the controls can be fine tuned to allow the plant to run at optimum efficiency.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £0.8k • Payback period: 1.9 years • CO₂ Emissions reduction: 5.1 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated cost of £1.5k</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>May require some external consultancy, fees for which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensuring the new system is compatible with others across the Trust</i> • <i>Users on site are fully trained to operate and optimise usage of the BMS</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> ○ <i>Desired implementation in 2011</i>
Notes	

Project:	32. Kleinwort Centre – zoned heating controls
Reference:	
Owner (person)	
Department	<i>Estates</i>
Description	<i>The separate Chapel building on site is heated on the same circuit as a critical area of the hospital. The building is only used for storage so needs to be segregated and controlled separately from the hospital.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £0.6k • Payback period: 4.6 years • CO₂ Emissions reduction: 4.3 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated cost of £3k to zone the Chapel heating and install local controls and TRVs where necessary</i>
Resources	<ul style="list-style-type: none"> • <i>External consultancy fees may be required which have been allowed for in the plan</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Users on site are fully trained to operate and optimise usage of the BMS</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> • <i>Desired implementation during 2011</i>
Notes	

Project: Reference:	33. Shoreham Health Centre – Upgrade to condensing boilers
Owner (person)	
Department	<i>Estates</i>
Description	<i>The current boilers on site are 40 years old and very inefficient. Replacement with high efficiency condensing boilers would achieve significant savings.</i>
Benefits	<ul style="list-style-type: none"> • Financial savings: £1.5k • Payback period: 11.9 years • CO₂ Emissions reduction: 10.2 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • <i>Anticipated capital cost for boilers of £18k</i> • <i>Ongoing operational and maintenance costs will be internalised within the existing Estates team</i>
Resources	<ul style="list-style-type: none"> • <i>Some external resource may be required to fully scope out and deliver implementation of the project</i>
Ensuring Success	<ul style="list-style-type: none"> • <i>Ensuring a payback can be achieved within the useful lifetime of the building</i>
Measuring Success	<ul style="list-style-type: none"> • <i>BEMS and iM&T software will be utilised to continually monitor energy consumption</i>
Timing	<ul style="list-style-type: none"> ○ <i>Implementation date to be confirmed</i>
Notes	<i>N.B. further feasibility work is required to assess the full extent of capital outlay required and the associated benefits. Payback is currently too high.</i>

NHS West Sussex Carbon Management Programme

Communication Plan

1. Background

The UK Government has placed an emphasis on the public sector setting a leading example on Climate Change. Public sector leadership will be critical to the achievement of the Government's climate change objectives, such as the long term goal to reduce CO₂ emissions by 80% by 2050 in the Climate Change Bill.

In terms of the NHS, the NHS strategy 'Saving Carbon, Improving Health' sets a target for NHS trusts to reduce their carbon emissions by at least 10% between 2007 and 2015, and to develop a Board approved carbon management strategy.

NHS West Sussex has already agreed that Sustainable Development is core, corporate business. NHS West Sussex is working with the Carbon Trust to develop and implement its Carbon Management Programme.

NHS West Sussex has set an aspiration target of reducing CO₂ emissions from operations by 16% by 2013 from 2009-10 baseline levels.

2. Aims

The aims of this Communications Plan are to:

- Identify stakeholders to contribute to the development of the NHS West Sussex Carbon Management Programme
- Set out clear communications activities
- Increase awareness within the PCT as well as the local community
- Encourage involvement from all stakeholders to support the achievement of the wider NHS West Sussex Carbon Management Programme outcomes
- Set out process for engaging specific target groups

3. Stakeholders

The NHS West Sussex Carbon Management Programme focuses internally to encourage the organisation to become more sustainable and reduce its carbon emissions.

It is also focused on encouraging the organisation as commissioners to consider carbon management and sustainability when developing contracts with providers.

As a result, NHS West Sussex staff are the primary stakeholder for communications. This includes the Board, Executive Team and all staff members.

It is recognised that key decision makers, such as directors and team managers, have a significant role to play. It is also recognised that there are existing networks and channels such as the LIF and SMT to reach these audiences.

External stakeholders will also be vital in this programme. During the transitional period over the next three years, NHS West Sussex will be working closely with partners to transfer commissioning responsibilities. The longer term aim of the programme would be to raise awareness within our partners of the need to be sustainable and manage carbon emissions as they take on commissioning for the future.

Key external stakeholders:

West Sussex County Council

A key partner in future joint commissioning as well as in implementing Carbon Reduction initiatives on a County wide basis.

GP Practice Based Commissioning Leads

Need to be prepared for a potential transfer of carbon management reflecting the shift in commissioning responsibilities to GPs.

Community Hospital Managers

Potentially an important link in ensuring carbon management plans and strategies are delivered across all services, particularly where multiple tenants occupy one site.

Patient and Public Council Representatives

Service users should be represented and consulted in the development of any carbon management plans that have implications for patients.

There also need to be consideration for the media. Although not a primary audience, as more coverage is giving to the future financial challenge within the public sector both nationally and locally, positive stories about savings will be an effective way to communicate the work being done by NHS West Sussex to tackle the issue.

4. Key messages

There will be a wide range of activity associated with the NHS West Sussex Carbon Management Programme.

To ensure communications are effective and consistent, they should focus on the key messages listed below.

Financial challenge – taking action now to make the NHS more sustainable will save the organisation money. At a time when we have a financial challenge ahead, it is vital everyone does what they can to make the organisation more efficient. In addition from 2010 poorly performing NHS organisations will be penalised depending on their position in the Carbon Reduction Commitment table.

Energy – NHS West Sussex has committed to a reduction in carbon and this has been pledged to the Carbon Trust. We must make reductions to meet our targets just as we are doing with our contracts with providers for example.

Leading the way – NHS West Sussex has the opportunity to be a local leader in this programme, encouraging partners to take steps and building a sustainable future for the NHS in the county.

5. Communications Activities

TARGET AUDIENCE	KEY MESSAGES	ACTIVITY	TIMING	RESPONSIBILITY
INTERNAL AUDIENCES				
Board	Financial challenge – how the programme is performing to make savings	Case for action prepared and presented to the Board	By end of Oct 2010	Alison Hempstead / Charles Sainsbury
	Energy - Performance assurance to reach target	Carbon Management Strategy for Board approval	By end of Feb 2010	
		Update on actions and savings achieved	April 2010	
Executive Team	Current performance	Briefing prepared to follow case for action Board approval?	Oct 2010	Alison Hempstead / Charles Sainsbury
	Ensure ownership and sign up to the programme	Circulate Carbon Management Strategy	By end of Feb 2010	
SMT	Raise awareness of work programme	Briefing prepared to follow case for action Board approval?	Oct 2010	Alison Hempstead / Charles Sainsbury
	Ensure ownership and sign up to the programme	Intranet – text to raise	Oct	

	Encourage teams to take responsibility for the actions	awareness Email updates – through Weekly News bulletin sent out by Linda Benny Regular updates on actions	First entry in the news update w/c 20 th Sept 2010 quarterly	Laura Skelcey Alison Hempstead / Charles Sainsbury
NHS West Sussex staff	Raise awareness of the programme Call to action to encourage people to follow the programme Promote the work being done to reduce costs to encourage confidence in the organisation Regular updates on actions	Intranet – text to raise awareness Email updates – through Weekly News bulletin sent out by Linda Benny Internal campaign? Weekly message Email signature panel update	By end of September 2010 First entry in the news update w/c 4 th Oct 2010 Quarterly November 2010 October	Laura Skelcey Laura Skelcey (Linda Benny) Laura Skelcey Laura Skelcey (Nick Brookes) Laura Skelcey
EXTERNAL AUDIENCES				
GP consortia / PBC Leads	Raise awareness of work programme Ensure partnership working and ownership, leading to	Briefing prepared to follow case for action Board approval? Regular updates on	Oct 2010	Alison Hempstead / Charles Sainsbury PBC committee/

	<p>sign up to the programme</p> <p>Encourage teams to take responsibility for the actions</p>	<p>actions</p> <p>Information on NHS West Sussex Intranet/GP website</p> <p>Conversations/ briefings with PBC leads about the programme and actions identified?</p>	<p>Bi-monthly After milestones</p> <p>By end of Sept 2010</p> <p>ongoing</p>	<p>Federation meetings</p> <p>Laura Skelcey / Bryn Thomas</p> <p>Charles Sainsbury / Pat Radley?</p> <p>LOCALITY LEADS</p>
GP Practice Managers	<p>Raise awareness</p> <p>Start initial discussion for future service contracting and changes/actions as part of the programme</p>	<p>Briefing prepared to follow case for action Board approval?</p> <p>Information on NHS West Sussex Intranet/GP website</p>	<p>Oct 2010</p> <p>By end of Sept 2010</p>	<p>Produced by team – Alison / Charles. Laura to distribute</p> <p>Laura Skelcey / Bryn Thomas</p>
West Sussex County Council	<p>Raise awareness of work programme</p> <p>Ensure partnership working and ownership, leading to sign up to the programme</p> <p>Encourage teams to take responsibility for the actions</p>	<p>Incorporated into Joint Commissioning work?</p> <p>Presentation to group?</p>	<p>April 2011</p>	<p>JCU team?</p>

	Try to influence WSCC to take on actions			
Community Hospital Managers	Raise awareness of work programme Encourage cooperation particularly around estate issues and where there may be actions for a premises which has a number of providers accommodated	Conversations/ briefings with provider leads about the programme and actions identified? Information on Intranet – liaise with South Downs to ensure they have information about sustainability on their new Intranet	Ongoing October	Charles Sainsbury Laura Skelcey to liaise with Mary Kalmus at South Downs
Patient and Public Council Representatives	Raise awareness of work programme	Update to the next PPC meeting?	April 2011	Laura Skelcey to liaise with Howard/Vinny
Wider stakeholders eg. MPs	Raise awareness of work programme	Letter/bulletin update after strategy is signed off Updates in E-bulletin	Early 2011 Next edition	Laura Skelcey Laura Skelcey (Linda Benny)
Media	Promote the activity of the programme and successes	Key milestones or activity reported in media releases Tie into key dates such as Bike to Work week	May 2011	Laura Skelcey

6. Communications Timescales/Milestones

TIMESCALE	ACTIVITY	RESPONSIBILITY
w/c 27 Sept 2010	Intranet copy uploaded	Laura Skelcey
	Sustainability included in weekly news (Wed)	“
	Inclusion of programme update in E Bulletin	“
	Intranet text shared with South Downs to encourage provider staff to communicate key messages	“
w/c 04 Oct 2010	Email to staff to encourage update to signature panel	Laura Skelcey
	Sustainability included in weekly news (Wed)	“
	Intranet text uploaded to South Downs internal site	“
	Review intranet text to focus on Walk to School week with NHS staff angle	“
	Media release – walk to school month/NHS staff focus on walking to work	“
w/c 11 Oct 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 18 Oct 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 25 Oct 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
	AGM Board meeting - Case for action prepared and presented to the Board	Alison Hempstead / Charles Sainsbury
	Briefing prepared to follow Board for ET, SMT and PBC	
w/c 01 Nov 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
	Briefing on programme distributed to key stakeholders including PBC following Board meeting	
w/c 08 Nov 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 15 Nov 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 22 Nov 2010	Sustainability included in weekly news (Wed)	Laura Skelcey
	Inclusion of programme update in E Bulletin	Laura Skelcey
w/c 03 Jan 2011	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 10 Jan 2011	Sustainability included in weekly news (Wed)	Laura Skelcey

w/c 24 Jan 2011	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 31 Jan 2011	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 07 Feb 2011	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 14 Feb 2011	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 21 Feb 2011	Sustainability included in weekly news (Wed)	Laura Skelcey
w/c 28 Feb 2011	Carbon Management Strategy finalised and submitted to Board	Alison Hempstead / Charles Sainsbury

Key stakeholder groups or individuals

Board of Directors / Chairman

A briefing note to accompany the draft Project Plan and Carbon Baseline assessment will be presented to the Chairman & Board of Directors. A similar briefing note will accompany the Carbon Management plan at the end of the project.

Finance

Under pressure to reduce expenditure, for example on utilities. Finance will be briefed on its role within the project by the project group Finance Lead. May also be invited to attend carbon accounting specific training.

Estates/Energy

Responsible for coordinating the carbon base lining process for the Carbon Management Plan. Main providers for energy consumption for buildings use, compiling data from other invoice approvers (possibly Finance as well). Involved in the process of identifying and prioritising opportunities for carbon savings, especially in the built environment.

HR

Vital in engraining SD within staffing policies and improving environmental awareness & behaviour. Potential source of staff travel data such as business mileage, commuting distances as well as lease cars and maintenance vehicles to contribute towards overall carbon footprint for travel.

Communications

Communications project representative to ensure the consistency of PCT wide messages and to support the Project Lead with Communication strategies. The Project Lead will also provide periodic updates for publication by the Comms team via intranet, email, etc.

Facilities

Probable data providers for quantities of domestic waste and recycling. Partly responsible for implementing waste management and recycling strategies.

IT

Promoting energy efficient use of the IT network and equipment by staff. Supporting Comms and the Project Lead in enabling any e-communication strategies as necessary.

PCT Wide Staff

The majority of PCT staff will not be directly involved in the Carbon Management Project, although ultimately carbon savings across the Trust will rely on their support of the process. Communications with PCT staff will be via the PCT Intranet, possibly weekly e-Comms and visual displays. Trust staff will be invited to make suggestions for any carbon reduction initiatives pertinent to the project.

Appendix E: List of abbreviations and acronyms

Abbreviation	Description
AMR	Automatic Meter Reader
BAU	Business as Usual
BEMS	Building Energy Management System
BREEAM	Building Research Establishment's Environmental Assessment Method
CFTs	Community Foundation Trusts
DEC	Display Energy Certificate
DHW	Domestic Hot Water
iM&T	Information Monitoring and Targeting
IT	Information Technology
MFDs	Multi Functional Devices
PCT	Primary Care Trust
QIPP	Quality, Innovation, Productivity & Prevention
RCGP	Royal College of General Practitioners
RES	Reduced Emissions Scenario
SHA	Strategic Health Authority
TRV	Thermostatic Radiator Valve
VAS	Value at Stake