

TRUST BOARD

Date of Meeting: 11/09/2012	Agenda Item No: 6.3	Enclosure: 5
Intended Outcome:		
For noting ✓	For information	For decision ✓
Title of Report: Carbon Management Progress Report.		
Aims: To report to the Trust Board on progress made against the implementation of the Carbon Management Plan agreed in April 2011 for the 25% reduction of carbon emissions by 2015.		
Executive Summary:		
<ul style="list-style-type: none"> The Trust has a projected carbon emission target for 2012/13 of 1476 tonnes. Considerable investment is required for 2012/13 to realise the projected target of 1476 tonnes which will realise 46% of the overall target for 2015. The completion of the Heavy Oil Project will achieve a financial saving within 6 months as well as achieving Carbon reduction. 		
Specific implications and links to the Trust's Strategic Aims:		
Ensure we provide high quality, safe and effective care for all our patients including meeting essential standards of safety and quality as set out by the CQC		✓
Develop a viable integrated clinical strategy for secondary care services which is sustainable and affordable		
Develop a new healthcare facility in West Cumbria that is fit for the 21st century		
Achieve sustainable financial balance through the delivery of the Trust's internal Cost Improvement Programme, securing a viable contract income from our GP commissioners and contributing to the system wide cost reductions		✓
To develop and implement a successful merger or acquisition plan that enables the Trust to become part of an existing NHS Foundation Trust		✓
Recommendations: To note the contents of the report and agree the capital investment to release efficiency savings in revenue costs and carbon reduction targets.		
Prepared by: Jan Wharton Head of Resilience & Sustainability Alan Davidson Director of Estates and Facilities Management		Presented by: Corinne Siddall Director of Operations

<p style="text-align: center;">TRUST BOARD CARBON MANAGEMENT PROGRESS REPORT SEPTEMBER 2012</p>
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1. INTRODUCTION

The Trust Board agreed to a challenging programme of a 25% carbon emission reduction and energy sustainability in April 2011 with the North West Strategic Health Authority. The Trust in Partnership with the Carbon Trust identified ten key areas for intervention, with seventeen key projects for delivering efficiency savings and sustainable carbon management, all of which were previously approved by Trust Board.

This paper will update on current progress, detailing the intervention and commitment required to achieve the target for 2012/13 and progress the implementation of the Carbon Management Plan.

The Trust is now in a critical phase of realising the Carbon reduction cycle and increasing energy efficiency.

The Annual Target of carbon reduction to be achieved for the financial year 2012/13 is 1476 tonnes of which 70 tonne has been achieved to date, leaving a target of 1406 tonnes to achieve.

The identified projects below in the attached appendix from the Trust Carbon Management Plan, it should be noted that project owners have been changed from the original approved plan to reflect changes in personnel.

2. PROGRESS

Project Numbers 1, 2, 3 and 10 are all linked to the West Cumberland Hospital Redevelopment and will not be realised this year.

Project Number 5 has been partially implemented and approximately 30% of the retained estate circulation areas complete with plans in place for the remaining retained areas at WCH. This will be self-financing over a 2 year period as identified within the carbon plan.

The estimated capital cost for this project is £18k and the target date for completion is October 2013. Capital funding to progress this project is to be agreed.

Project Number 17 – Complete.

Project Numbers,7,8,13 and 14 have been re assessed and detailed up to date costs are currently being obtained. Subject to the necessary approvals and capital allocation, it is expected that the projects will be commenced in the final quarter of 2012/13 with the final completion of projects in October 2013/14.

Project 16: will not proceed and has therefore been withdrawn.

Project 4 is critical to the Trust in meeting a substantial amount of this year's (2012/13) carbon reduction target and has three key phases:

- The installation of sub metering at the West Cumberland Hospital to identify baseline usage by Division/Departments and to enhance the sub metering at the Cumberland Infirmary Site is key to the success in monitoring and understanding energy consumption and therefore areas for improvement. This requires initial funding of £15k for an outright purchase of software and the provision of portable monitors.
- Burning of the existing Heavy oil which will take approximately 4 - 8 week's dependant on organisational heat demands/requirements at the time. There is no cost to this process as the oil is in store; This would negate the need to utilise gas; therefore based on current gas usage we would save a **minimum** of £2k per month OR selling the existing oil which will negate the need to increase any carbon emission (Permits are required) and will provide an alternative solution. Work for this project is currently on going and a full option appraisal will be available by the end of September 2012.
- A full site audit of the WCH site steam system with a view to modify the existing boilers to use gas oil as an alternative to the Heavy Oil, a more efficient and low carbon source of energy. There is a minimum 10% efficiency saving on fuel demand as the Heavy oil requires continuous heating. This equates to a further £2k saving on the monthly usage based on the minimum usage. This improvement will require the application of sub metering for effective monitoring to demonstrate a reduction in energy use. This Survey is complete and is due to be reported back to the Head of Resilience and Sustainability on the 6 September 2012.

Project 8 which relates to improving staff awareness through education and communication strategies is currently in the planning stage but small scale implementation has commenced prior to the August bank holiday on a "switch off campaign" Monitoring is subject to requiring the implementation of sub metering to measure the baseline and impact outcome. A crude analysis was undertaken across both sites and an average of a 2% efficiency saving on electricity usage demonstrated with an approximate daily saving of £200 which demonstrates with the appropriate resource and equipment approximately £67K per year can be achieved as well as reducing the Carbon emissions by a further 2 %.

A Trust sustainability web page has been developed and this is hoped to provide information for staff across the organisation on progress made and opportunities for staff to contribute to “Green Initiatives”.

Project Number 11 is not feasible due to the fact that there is continuous running of the duty pumps rather than interruptible stop start scenarios which was assumed on this project. Therefore this project is withdrawn

Project Numbers 6,9,12 and 15 are based at CIC and is dependent on working partnerships with HMC and Interserve which will need further discussion to progress. If agreement is reached these projects can be scheduled for implementation in 2012.

3. ANNUAL CARBON SAVINGS 2012/13

The Trust has a Carbon reduction target for 2012/13 of 1476 Tonnes which is a 30% achievement of the overall target for 2015. On the 31 May 2012 the Trust had achieved 274 tonnes above target for the year 2011/12 which was set at 34 tonnes the Trust therefore needs to reduce carbon emissions by 1202 tonnes as a minimum throughout 2012/13.

4. IMPLICATIONS FOR THE TRUST 2012/13

Subject to final costing and evaluation of each project proposal an investment of approximately £300k is required to realise the identified annual cost savings in 2012/13 and the Carbon emission reduction as identified.

The savings potential for the full Year is approximately £270k; based on the Carbon Management Plan the implementation cost would be realised fully within 2.8 years.

The projects if implemented by October 2012 would provide a projected revenue saving of £135,000 during 2012/13, but a full year saving in 2013/14 of £270k.

5. ENERGY CONSUMPTION

The energy consumption for 2012/13 is estimated to be the same as last year with no significant decrease despite the 30% footprint reduction at the West Cumberland Hospital site. This is due to the heavy industrial usage of equipment and buildings on the Laing O'Rourke building site which is directly metered to the Trust. This will continue to be a consumption pressure until complete. The sub metering will provide evidence on consumption usage which will assist the Trust in planning the utility costs over the new build period. There is also a noted increase in electricity use at CIC which appears to relate to the Heart centre

development. A period of sub metering is being undertaken by Interserve to provide assurance that this is the reason for the increase.

The CRC allowance purchased from the Environment Agency this year for 2011/12 is 13221tco2@ £12 per tco2= £170,004.00. There is current discussion that this may increase to £16 for energy used during 2012/13 but has yet to be announced.

An External Audit by I Prophet has been procured and is been undertaken currently, prior to the 27 September deadline when the allowances will be surrendered to ensure we are fully compliant.

The Trust could then be audited at any time within the next 18 months by the Environment Agency. All participating agencies are expected to be audited within phase 1 of which we are half way through.

6. GREEN PROJECTS

In addition to the identified projects in the appendix, The Trust has implemented and maintained the following: throughout 2012;

- Recycling of paper, glass and metal and cardboard realising a 100 tonne carbon reduction.
- Cycle to work scheme realising a 50 tonne carbon reduction.
- Introduction of teleconferencing a 50 tonne carbon reduction on reduced travel.

The Trust has been successful in acquiring a NHS Forest Project from the Centre for Sustainable Healthcare (CSH). This resulted in 105 British Native Trees been planted across the Trust in 2012 which will be used to offset carbon emissions and celebrate the Diamond Jubilee. The Trust is now registered as an NHSS Forest site.

A further 400 trees are available to the Trust which are pending due to identifying a safe "nursery" area at WCH which will assist with landscaping the WCH site post new build. The trees are available free to the Trust with only the cost of planting and tree guards to be an associated cost for the Trust.

The Trust will continue to work closely with the Carbon Trust to review the Carbon management Plan and identify further carbon emission reductions and cost savings. It is the intention to build on the current carbon management plan and broaden into a full sustainability plan throughout 2012/13.

7. CONCLUSION

Good progress has been made against the agreed Carbon reduction target to date.

Actions need to be quantified and agreed to meet the remaining carbon reduction targets for 2012/13.

8. RECOMMENDATIONS

Trust Board members are asked to note the progress to date and the proposed projects to be delivered in year to achieve the Trust Carbon Reduction Target.

Appendix 1

Project: Reference:	1 to 3 New Hospital Build at West Cumberland Hospital
Owner (person)	Alan Davidson
Department	Project Management- (New Build)
Description	The construction of a new low carbon hospital to meet the needs of West Cumbria for a modern acute hospital
Benefits	<ul style="list-style-type: none"> • Financial savings: £263,414 • Payback period: [NO PAYBACK] • CO₂ Emissions reduction (assumes a total lifetime of 25 years): 46,447 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • Project Cost £90,000,000 • To be advised • Source of funding: Traditionally D of H financed project • Already agreed in principle and first stage released (OBC)
Resources	<ul style="list-style-type: none"> • Project Office Lead by dedicated Project Director and Team including external advisers
Ensuring Success	<ul style="list-style-type: none"> • Dependent upon Full Health Economy Support • Principal risks:-Finished out of contract time
Measuring Success	<ul style="list-style-type: none"> • Metrics for displaying performance or achievement TBA • Success will be measured upon completion when the plant is commissioned
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ Expected Board Approval of FBC May 2011
Notes	

Project: Reference:	4 <i>Removal of heavy oil backup facility in the existing WCH boilerhouse</i>
Owner (person)	Steve Dougan
Department	Estates
Description	The removal of or heavy oil back up facility when the interruptible gas contract ends in April 2011. Replace with gas oil, and recalibrate burners
Benefits	<ul style="list-style-type: none"> • Financial savings: £33,877 per year • Payback period: 0.6 years • CO₂ Emissions reduction: 5,226 tonnes of CO₂
Funding	<ul style="list-style-type: none"> • The project costs £20,000 • Operational costs are marginal and part of the boilerhouse routine • New build capital programme pre-works budget • This project is approved for action
Resources	<ul style="list-style-type: none"> • It will be managed within the existing resource of Estates
Ensuring Success	<ul style="list-style-type: none"> • This is a major recommendation in our Carbon Trust Report • At present up to 10% of steam produced is diverted to heat the heavy oil tanks. This cannot continue, so the project will proceed
Measuring Success	<ul style="list-style-type: none"> • When the site is supported by a gas oil back up, success will be judged as proven
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 1/5/2011 ○ completion date (when it will deliver savings): 30/6/2011
Notes	

Project: Reference:	5 <i>Replace corridor light with LED units in the retained estate at WCH</i>
Owner (person)	Steve Dougan
Department	Estates
Description	A short description of the project, no more than a paragraph
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 4,127 • Payback period: 2.2 years • CO₂ Emissions reduction: 31 tonnes of CO₂ pa.
Funding	<ul style="list-style-type: none"> • Project Cost £ 9,000 • Operational costs are nil as the units are sealed and guaranteed for 5 years • Revenue. • Funding will be allocated from 2011 revenue budget for lighting
Resources	<ul style="list-style-type: none"> • This project will be delivered in house with Estates Dep't staff
Ensuring Success	<ul style="list-style-type: none"> • For success, whole corridors will need to be available for upgrading. This will involve only minor routing problems • The main risk will be a need for minor redecoration to existing ceiling tiles.
Measuring Success	<ul style="list-style-type: none"> • The electrical load will be measured pre and post change to LED's. A reduction of more than 76% in loading will be the measure of success
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date September 2011 ○ completion date (when it will deliver savings): 30/10/2011
Notes	

Project: Reference:	6 Replace corridor lighting at CIC with LED units
Owner (person)	Alan Davidson
Department	Estates – PFI Contract Review and Liaison
Description	Replace existing lighting in main corridor areas at CIC with LED units
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 5,454 • Payback period: 2.97 years • CO₂ Emissions reduction: 40 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £16,179 • Operational costs are 0 as the units are sealed and guaranteed for 5 years • To be agreed with Contract Review Meetings • Change order following a gain share principle
Resources	<ul style="list-style-type: none"> • Interserve via Health Management (Carlisle) Plc
Ensuring Success	<ul style="list-style-type: none"> • Regular updates at Monthly Review Meetings
Measuring Success	<ul style="list-style-type: none"> • Success will be proven if post fit consumption is more than 76% reduced on pre fit measurements
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 1/10/2011 ○ completion date (when it will deliver savings): 30/11/2011
Notes	

Project: Reference:	7 Relag remaining ducts in retained Estate at WCH
Owner (person)	Sean Hoban
Department	Estates
Description	A Project to renew and improve the lagging in ducts under the retained estate at WCH
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 6,060 • Payback period: 1.8 years • CO₂ Emissions reduction: 37 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £10,900 • Operational costs, are nil as the covering is maintenance free • Source of funding: Building re-provision. • Funds will be allocated at the end of phase 1
Resources	<ul style="list-style-type: none"> • This will be managed by specialist insulation technicians
Ensuring Success	<ul style="list-style-type: none"> • As long as phase 1 rebuild commences, this project will be viable
Measuring Success	<ul style="list-style-type: none"> • Success will be measured by a measured reduction in ambient temperature within the duct space
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 1/6/2012 ○ completion date (when it will deliver savings): 1/8/2012

Project: Reference:	8 Trust wide awareness campaign for 1 month period
Owner (person)	Jan Wharton
Department	Estates
Description	A planned campaign of information and awareness involving all staff to raise the profile of Carbon saving and its potential to reduce costs within the Trust
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 68,171 • Payback period: 0.1 years • CO₂ Emissions reduction: 474 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £ £3,000 • Operational costs, £ 2,500 • Source of funding: Internal, from energy budget in 2011
Resources	<ul style="list-style-type: none"> • Lead by Grahame Pinches assisted by Natalie Rutherford • Resources will be shared through members of the Carbon Management Team.
Ensuring Success	<ul style="list-style-type: none"> • To succeed, this project will need • Timeliness • Engagement • Support at Trust Board
Measuring Success	<ul style="list-style-type: none"> • Success will be measured by the month on month reduction in utility costs compared to last year. It will be recorded immediately post presentation, and after every repeat session.
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 31/3/2011 ○ completion date (when it will deliver savings): 31/3/2012
Notes	

Project: Reference:	9 <i>Provision of water borehole for CIC</i>
Owner (person)	Alan Davidson
Department	Estates
Description	The borehole and well head services have been provided to replace the Utility provided water mains on site
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 156,000 • Payback period: 0.89 years • CO₂ Emissions reduction: 34 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £156,000 • Operational costs, £15,000 • This project is fund through the Trust Capital Programme
Resources	<ul style="list-style-type: none"> • Complete, subject to commissioning and validation
Ensuring Success	<ul style="list-style-type: none"> • This project will only succeed if the bore hole water (meeting the appropriate standards) is used to replace the current metered water supply
Measuring Success	<ul style="list-style-type: none"> • Successful use
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 1/4/2009 ○ completion date: T.B.A.
Notes	

Project: Reference:	10 Provision of Borehole water at WCH
Owner (person)	New Hospital Project Team
Department	Estates
Description	This project is devised to replace mains water at WCH with a treated borehole supply. This will give additional security of supply.
Benefits	<ul style="list-style-type: none"> • Financial savings: £ £133,467 • Payback period: 1.3 years • CO₂ Emissions reduction: 23 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £164,000 • Operational costs, £11,000 • The project will be funded from the existing water budget, with initial exploratory well fees funded by the Trust Capital Programme
Resources	<ul style="list-style-type: none"> • Fully contained by the drilling company
Ensuring Success	<ul style="list-style-type: none"> • For this to succeed, Trust wide agreement for the use of bore hole water will be needed with full clinical support. Drilling is always subject to risk, and although unlikely may pass through a barren area of bedrock.
Measuring Success	<ul style="list-style-type: none"> • Successful testing of water samples from the well and replacement of mains services
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: TBA ○ completion date (when it will deliver savings): TBA ○ interim deliverable / decision points
Notes	

Project: Reference:	11 <i>Variable speed drive replacement at WCH</i>
Owner (person)	Steve Dougan
Department	Estates
Description	This project replaces the existing DHW control gear with variable speed drives to ensure constant control is kept of the pumps and that they run at peak performance
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 10,507 • Payback period: 2.8 years • CO₂ Emissions reduction: 78 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £29,500 • Operational costs, 0 • Funded via 2011 Capital Allocation funds. • Decision on funding level made April 2011
Resources	<ul style="list-style-type: none"> • Components fitted by Trained contractors
Ensuring Success	<ul style="list-style-type: none"> • This is key to upgrading the drive pumps for the DHW system. At present the performance is inefficient and costly • Principal risks, it is possible that only high profile capital bids will be funded in 2011.
Measuring Success	<ul style="list-style-type: none"> • Success will be measured by the costs of circulating DHW supplies reduces in line with predictions, and dead legs” are significantly reduced
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: TBA ○ completion date (when it will deliver savings): TBA ○ interim deliverable / decision point
Notes	

Project: Reference:	12 Replacement of single glazed units in Admin Block
Owner (person)	Alan Davidson
Department	Estates
Description	The Administration Block at CIC, which is a Grade 2 listed building has single glazed sash windows. This project looks at the feasibility of improving the thermal performance of the building envelope, working closely with Health Management, Interserve and the Local Authority Conservation Officer
Benefits	<ul style="list-style-type: none"> • Financial savings: £ £24,670] • Payback period: 2.4 years • CO₂ Emissions reduction: 150 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £60,000 • Operational costs, 0 • Source of funding:- Life cycle replacement/capital/gain Share arrangement
Resources	<ul style="list-style-type: none"> • Feasibility study to be led by Interserve
Ensuring Success	<ul style="list-style-type: none"> • The key factor to success is the ability to improve the thermal performance whilst satisfying the Conservation Officer within agreed costs • Persuading staff to keep them closed
Measuring Success	<ul style="list-style-type: none"> • Planning permission/listed building consent • Staff approval
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date 1/4/2012 ○ completion date (when it will deliver savings): 30/6/2012
Notes	

Project Reference:	13 <i>Implement energy saving measures from the ACU inspection report</i>
Owner (person)	Steve Dougan
Department	Estates
Description	The said report named several opportunities to save money by Removing redundant coolers, which were still operational and upgrading controls to prevent hunting of the system.
Benefits	<ul style="list-style-type: none"> • Financial savings: £ £11,466 • Payback period: 0.3 years • CO₂ Emissions reduction: 85 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £4,000 • Operational costs, 0 • Source of funding:-Revenue budget 2011. • This will be funded from the existing maintenance budget.
Resources	<ul style="list-style-type: none"> • No added resources required
Ensuring Success	<ul style="list-style-type: none"> • Due to these units working until at least 2014, it is essential that the advisory report is acted upon.
Measuring Success	<ul style="list-style-type: none"> • Removal of redundant chiller units which are free cycling, with failed batteries
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 1/7/2011 ○ completion date (when it will deliver savings): 7/7/2011
Notes	

Project: Reference:	14 <i>Implement quick win energy saving measures from the ACU inspection report</i>
Owner (person)	Steve Dougan
Department	Estates
Description	The said report named several opportunities to save money by Carrying out numerous small changes to the ACU unit's parts to effect better operation and control.
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 7019 • Payback period: 0.4 years • CO₂ Emissions reduction: 52 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £2,500 • Operational costs, 0 • Source of funding:-Revenue budget 2011. • This will be funded from the existing maintenance budget.
Resources	<ul style="list-style-type: none"> • No added resources required
Ensuring Success	<ul style="list-style-type: none"> • Due to these units working until at least 2014, it is essential that the advisory report is acted upon.
Measuring Success	<ul style="list-style-type: none"> • Improved efficiency and lower power consumption
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: 1/7/2011 ○ completion date (when it will deliver savings): 7/7/2011
Notes	

Project Reference:	15 <i>Installation of a wind power generator at CIC</i>
Owner (person)	Alan Davidson
Department	Estates
Description	This concerns the installation of a 50 KW wind turbine on Hospital land, and use the power generated as a source of revenue from feed in tariffs.
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 19,958 • Payback period: 1.6 years • CO₂ Emissions reduction: 147 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £75,000 • Operational costs, 0 • This installation at 7m/s wind speed is capable of recouping £27,000 per annum in tariff payments from the National Grid. Subject to the satisfactory conclusion of the feasibility study this scheme can be funded by Interserve on a shared profit basis
Resources	<ul style="list-style-type: none"> • Specialist installation group supplied with the Turbine to fit and commission
Ensuring Success	<ul style="list-style-type: none"> • Planning permission is a pre requisite, as is securing support from the local residents • Principal risks; Failure to engage the community.
Measuring Success	<ul style="list-style-type: none"> • Consistent returns from feed in payments
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: TBA ○ completion date (when it will deliver savings): TBA
Notes	

Project: Reference:	16 <i>Installation of a wind power generator at WCH</i>
Owner (person)	New Hospital Project Team
Department	Director of Operation/Deputy Chief Executive Officer
Description	This concerns the installation of a 50 KW wind turbine on Hospital land, and use the power generated as a source of revenue from feed in tariffs.
Benefits	<ul style="list-style-type: none"> • Financial savings: £ 19,958 • Payback period: 1.6 years • CO₂ Emissions reduction: 147 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £75,000 • Operational costs, 0 • This installation at 7m/s wind speed is capable of recouping £27,000 per annum in tariff payments from the National Grid. It would be funded by Interserve on a shared profit scheme
Resources	<ul style="list-style-type: none"> • Specialist installation group supplied with the Turbine to fit and commission
Ensuring Success	<ul style="list-style-type: none"> • Planning permission is a pre requisite, as is securing support from the local residents • Principal risks; Failure to engage the community.
Measuring Success	<ul style="list-style-type: none"> • Consistent returns from feed in payments
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: TBA ○ completion date (when it will deliver savings): TBA
Notes	

Project: Reference:	17 <i>Install heat pump unit in WCH calorifier station</i>
Owner (person)	Steve Dougan
Department	Estates
Description	The main calorifier station at WCH is overheated, and affects the floor temperatures above. This project would recycle the heat to the main entrance 1 floor above
Benefits	<ul style="list-style-type: none"> • Financial savings: £ £3075 • Payback period: 2.2 years • CO₂ Emissions reduction: 23 tonnes of CO₂ per annum
Funding	<ul style="list-style-type: none"> • Project cost, £5,000 • Operational costs, £800 pa • The funding for this is uncertain as it is as yet speculative. • The decision would be made on a fully prepared business case
Resources	<ul style="list-style-type: none"> • Specialist installer, and maintenance once per year by a heat engineer • This project is not yet robust
Ensuring Success	<ul style="list-style-type: none"> • To be advised
Measuring Success	<ul style="list-style-type: none"> • Removal of heat from an enclosed space, to perform space heating at the main entrance hall
Timing	<ul style="list-style-type: none"> • Milestones / key dates e.g. <ul style="list-style-type: none"> ○ start date: TBA ○ completion date (when it will deliver savings): TBA
Notes	