

**TRUST BOARD**  
**27 July 2017**

<b>AGENDA ITEM NUMBER</b>	7.1
<b>TITLE OF PAPER</b>	<b>Sustainable Development Group Progress Report</b>
Confidential	<b>NO</b>
Suitable for public access	<b>YES</b>
<b>PLEASE DETAIL BELOW THE OTHER SUB-COMMITTEE(S), MEETINGS THIS PAPER HAS BEEN VIEWED</b>	
None:	
<b>STRATEGIC OBJECTIVE(S):</b>	
Excellent experience	Projects aim to improve patient experience by improving the standards and comfort levels of the indoor environment, improving the amenity of our outdoor open spaces and by improving customer perception through catering and transport policies and projects.
Top productivity	Projects led by the Group work to reduce energy and pollution taxation costs incurred by the Trust. Schemes can also have the dual benefit of promoting staff awareness and involvement. The projects led by the Sustainable Development Group also serve to demonstrate good corporate social responsibility.
<b>EXECUTIVE SUMMARY</b>	
	This paper reports annual progress made on the Trust's Sustainable Development Action Plan and carbon footprint. Emissions trends and costs this year are within normal patterns of variation despite an increase of 4% during 2016-17. Overall, the Trust carbon footprint has still fallen by 10% in 10 years, notwithstanding a 49% increase in Trust business activity over the same period.
<b>RECOMMENDATION:</b>	The Trust Board is asked to note the report.
<b>SPECIFIC ISSUES CHECKLIST:</b>	
Quality and safety	There are no specific quality or safety issues
Patient impact	Projects undertaken by the group work towards improving service infrastructure to allow for the expected growth of clinical services. Indoor temperature control within existing and new buildings will also be improved.
Employee	Employees will experience an improved indoor working environment
Other stakeholder	This paper provides assurance to Department of Health and CQC, the Trust is meeting its carbon footprint reporting responsibilities.
Equality & diversity	There are no specific equality and diversity issues.
Finance	Some projects led by the Group have capital funding implications. Funding will be secured through the Trust's normal business planning and capital planning processes as necessary.
Legal	Trusts are required to meet mandatory carbon reduction targets contained within the NHS Sustainability Strategy.
Link to Board Assurance Framework Principle Risk	

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<b>PRESENTED BY DIRECTOR NAME/ROLE</b>	Valerie Bartlett, Deputy Chief Executive
<b>DATE</b>	20 July 2017
<b>BOARD ACTION</b>	Receive

## Sustainable Development Group Progress Report

### 1. PURPOSE OF PAPER

This is an annual progress report on the work of the Trust's Sustainable Development Group in fulfilling the commitments as set out in the Commitment to Sustainable Development Policy. In reporting these matters to the Board, the Trust demonstrates assurance on environmental cost and regulatory compliance as well as demonstrating good corporate social responsibility.

### 2. BACKGROUND AND SCOPE

The Group's work is focused on facilities and procurement-related projects and policies to improve patient experience. These projects work to meet NHS carbon reduction targets and minimise the impact of environmental pollution and associated taxes.

The key sustainability issues facing the Trust are as follows:

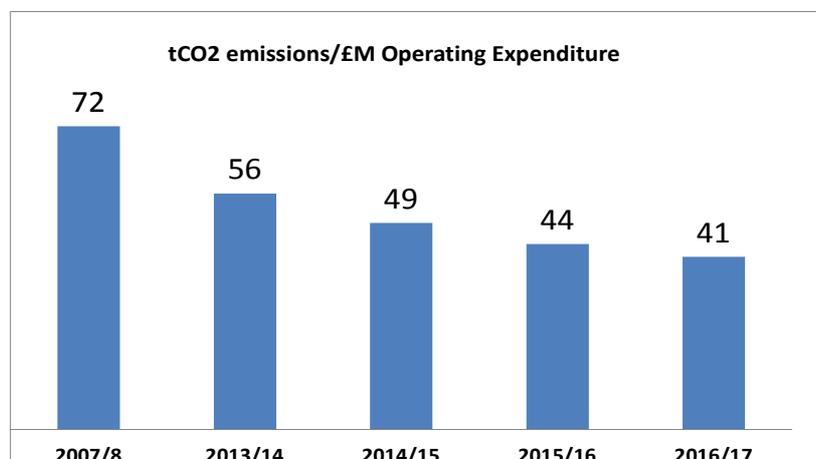
1. Reduce the Trust's overall carbon footprint and meet NHS and UK climate change CO2 pollution reduction targets. Minimise waste, pollution tax and fuel cost liability.
2. Implement the Trust Energy and Climate Change Strategy to improve existing buildings, plant and other infrastructure to accommodate growing demand and address indoor overheating. Ensure that site capital redevelopment programme also minimises future energy cost and regulation liabilities.
3. Promote sustainable travel and to promote the wider wellbeing of patients, visitors and staff.

### 3. CARBON FOOTPRINT

NHS England requires the Trust to report its carbon footprint on an annual basis. It is used as an overall measure of the Trust's environmental impact.

The NHS overall has been set a commitment to meet the government target to reduce our carbon footprint by 34% by 2020 and 80% by 2050. To date the Trust has reduced its carbon footprint by 10% since 2007. During 2016-17 there was a 4% increase in emissions since last year which totalled 38,455 tonnes.

Operating expenditure, which is used as a measure of economic activity, has however increased by 49% since 2007. Taking this into account, the emissions per £m of operating expenditure indicate a trend of continuing improvement. This is shown below.



The relative contributions from each contributing sector of our carbon footprint are shown overleaf.

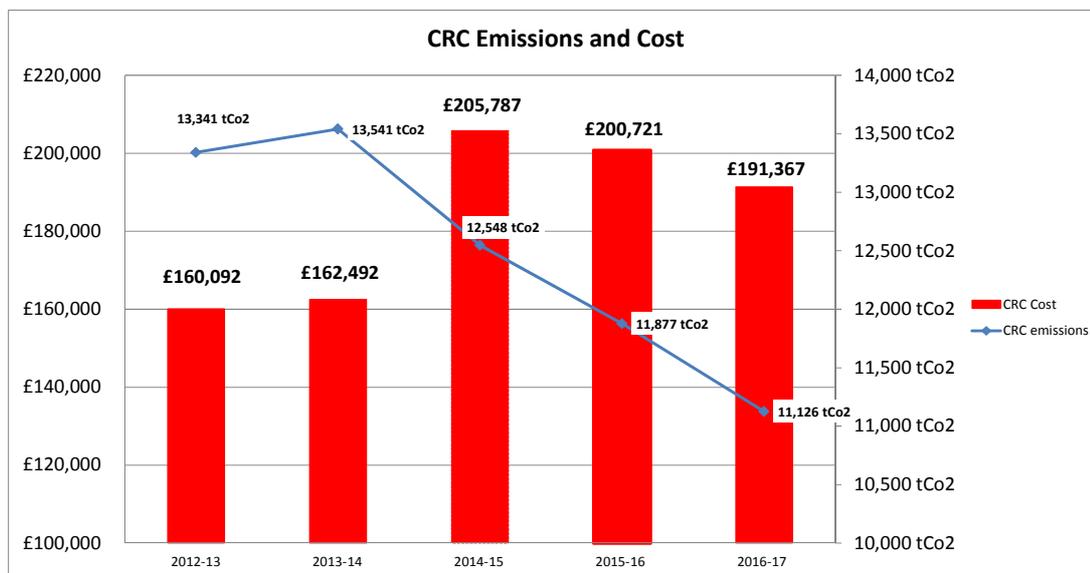
Carbon Sector	Total/yr (tonnes CO <sub>2</sub> )	% change against previous year	% change against 2007/8 base year
Energy use	11,500	-3%	-12%
Transport	1,000	-3%	-69%
Waste production	350	-4%	-49%
Water/Sewage	150	+4%	-35%
Procurement (outsourced emissions)	24,000	+7%	-5%
<b>Overall change in our carbon footprint 2015-16</b>		<b>+4%</b>	<b>-9.8%</b>

Of the total footprint, procurement of goods and services contributed 65% (24,300 tonnes CO<sub>2</sub>) and energy consumption 30% (11,500 tonnes CO<sub>2</sub>) of the total; the other carbon sources such as waste, water and transport now collectively contribute approximately 5% (1500 tonnes CO<sub>2</sub>). This is comparable with last year and largely remains unchanged. Actions to address these emissions sectors are contained later within this report.

## 4.0 MINIMISE POLLUTION TAX AND FUEL COST LIABILITY

### 4.1 Pollution Tax

CO<sub>2</sub> pollution from electricity and gas is taxable under the government's CRC (Carbon Reduction Scheme) tax scheme. Continuing improvements to energy management and pollution reduction have succeeded in reducing the Trust's tax liability for the 3<sup>rd</sup> year running. Compared to last year costs have fallen by 5% to £191,367, despite an increase in the cost per unit of pollution by 2%. The Trust's taxable emissions also fell from 11,887 tonnes to 11,126 tonnes.

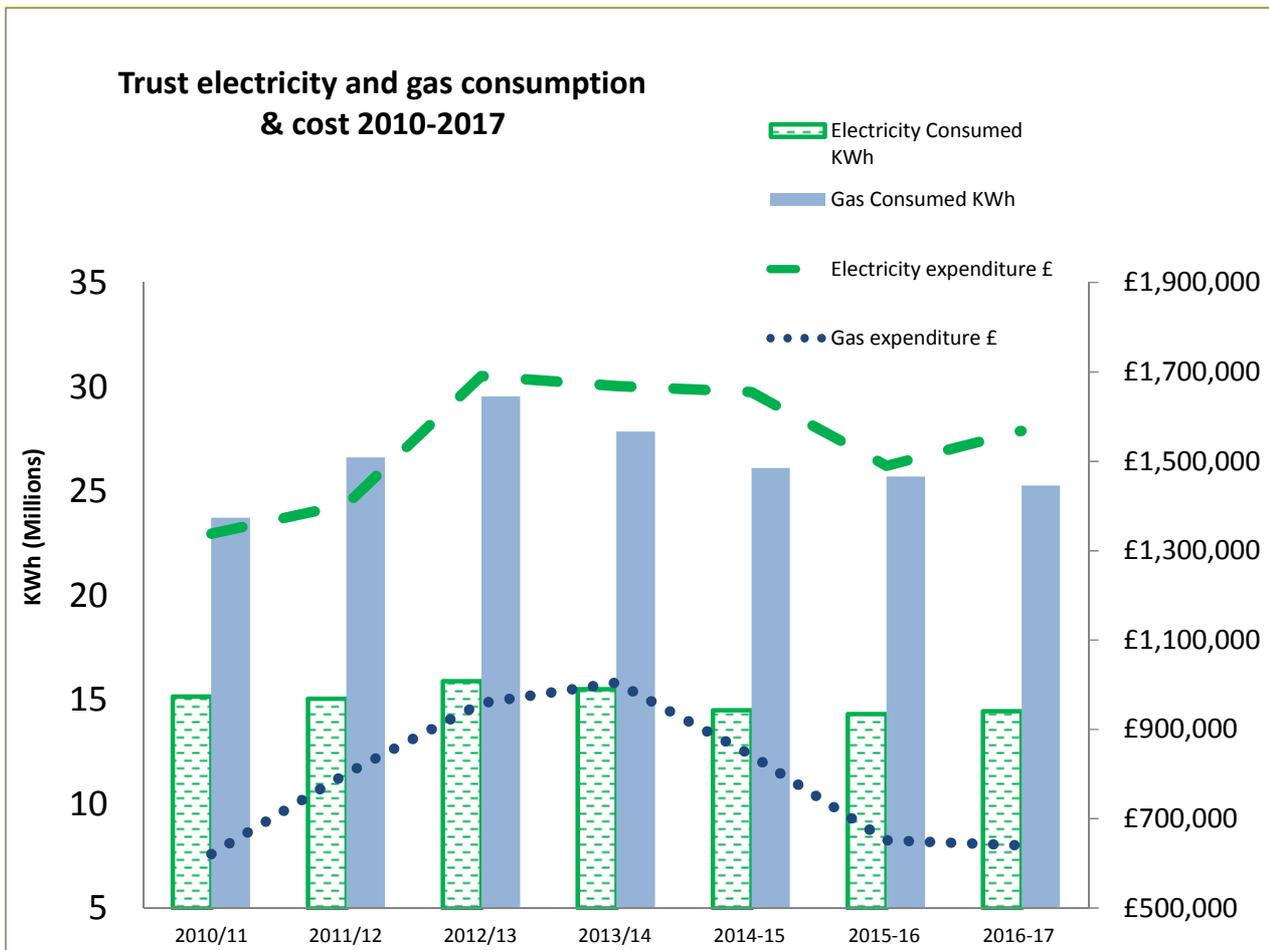


Had the Trust not improved control of emissions over the past three years, the Trust would be paying £42,000 more in tax and £295,000 more in energy costs. This improvement can be attributed to a combination of better management, investment in improved building plant and warmer than average winter periods. Empirical evidence shows that more work is clearly required. Funding through the backlog maintenance and sustainability capital programmes are supporting prioritised improvements to building control systems, plant, and building fabric.

### 4.2 Gas and electricity expenditure

Annual gas expenditure for 2016-17 was £639,934. This remains almost unchanged (-1.8%) when compared to 2015-16. 25.2 million units of gas were used last year, a reduction of 1.7% when compared against 2015-16. The unit rate for gas cost also remains largely unchanged from last year 2.25p (excl. VAT) – a 1% reduction.

Electricity expenditure was £1.57m in the year to March 2017. Electricity costs for 2016-17 have since risen 17.5% to 12.49p (incl. VAT). This is due in most part to increased UK transmission charges which form 60% of the unit cost. These are applied irrespective of the energy supply contract negotiated rates. The negotiated cost component of the unit rate rose only by 4%. Overall, 14.4 million kilowatt hours of electricity were used last year, an increase of 1.1% when compared against 2015-16.



## 5. Capital and Estates Maintenance

### Capital

The main sustainability consideration is the SPH site redevelopment. The nature of this development will be controlled by sustainability policies governing building performance which are contained within the local authority and regional planning policy frameworks.

In 2017/18 following Trust Board approval of the Outline Business Case, plans will be put in place to dispose of the west site at St. Peter's Hospital. The disposal will also involve the demolition of the majority of remaining Ramp buildings during 17/18. The demolition work and disposal work will reduce backlog maintenance costs and improve energy efficiency and estates productivity.

The Trust is developing plans with Viridian–Optivo to rebuild the Silverlands and Parklands accommodation at St. Peter's to provide modern accommodation with an additional 170 bedrooms to support more staff living on site.

Upgrades to wards and new buildings such as the Critical Care consolidation and Neurophysiology/Endoscopy are being completed with LED lighting and other building sustainability measures.

Estates

Sustainability programme expenditure

The budget allocation for the programme for 2016-17 was £100,000; for 2017-18 this has been further reduced to £70,000. Summarised below is the work undertaken last year and the prioritised work for 2017-18. Any savings listed below have been accounted for within cost improvement plans for electricity and gas for 2017-18.

2016 -17 Schemes implemented	Cost	£ Saving
Lighting upgrades to Abbey wing, OPD	42,000	5000
Ashford boiler replacement (contribution)	26,000	3000
Asbestos removal/ Pipe lagging	13,000	1000
Electric vehicle charging point installation	7500	0
Building control systems – valve replacements	7000	1500
Consultancy: boiler installation at Ashford and burner control systems at SPH	4,800	0
TOTAL	100,000	10,500

2017-18 Schemes planned	Cost	£ Saving
Replace hot water tanks with plate heat exchangers	30,000	6,000
Boiler upgrades to heat recovery and burners	20,000	7,500
Building control systems – valve replacements and electronic controls	10,000	3,000
Green ward project implementation support costs	10,000	10,000-20,000
TOTAL	70,000	26-36,000

Electrical resilience

Design consultants have now been appointed and their first task will be to carry out a risk assessment on our electrical infrastructure including our supplies from the District Network Operator (DNO). The intention is to review the existing incoming supplies, plant, distribution, cables, transformers, switchgear, protective and power factor devices to sub main distribution level. This will enable a resilience risk rating to be identified which will be used to focus future investment in line with risk reduction measures. This stage of the work will be completed by this

October. £1.5m has already been allocated to address the major infrastructure risks. Combined Heat and Power (CHP)

Combined heat and power systems present the Trust with a major carbon and cost saving opportunity, as well as supporting the Trust's plans for electrical resilience. Depending on design, finance and operating model used, financial savings are expected to be within £100,000 to more than £400,000.

Investigations into operating models and viability will continue this year. Outline and detailed design proposals will be developed once the SPH site redevelopment and electrical resilience scheme designs have been finalised and factored into the CHP design. Issues and options for the CHP scheme will be discussed within an outline and full business case planned for 2018.

#### Building management control systems (BMS)

The BMS controls for the Operating Theatres at St Peters Hospital are obsolete. Estates are unable to efficiently control the temperature/environment when a patient is being treated. Concerns over the potential risk to patients are at a level to require the issue to be recorded on the Trust risk register. Work to upgrade the BMS controls is part of this year's planned maintenance programme. The work will be completed this year.

#### Overheating

Key areas of work have focussed on reducing the cost of carbon emissions and addressing the frequency and severity of summer indoor overheating attributed to climate change.

As part of an ongoing review of the management of overheating in our buildings the estates backlog programme is addressing specific issues. These are listed below: Improvements undertaken during 2016-17:

- Dedicated cooling has been provided to drugs rooms
- Local temporary additional cooling units were provided to patient focused areas, following the Heat wave plan.
- New extra cooling has been provided to sterile services dept. packing clean room to help reduce temperatures by installing a new chiller.

In addition to this, during 2017-18 the backlog programme will aim to address sustainability issues in the following areas:

- Change old heating valves and review options to replace old glazing units, or add solar reflective film to south-facing windows to reduce overheating in wards.
- Install wall mounted fans in agreed ward bay areas with Infection Prevention Control/Emergency resiliency leads' support.
- A building-specific options appraisal to provide long-term overheating control
- Review the need for a business case to provide additional cooling in Ashford, by installing a new chiller to two ventilation plant systems.
- Provide improved controls to some of the older theatre ventilation plant.

## 6. STAFF COMMUNICATION AND ENGAGEMENT

Peter Wilkinson, Consultant Cardiologist has been appointed as Sustainability and Health Ambassador for NHS England (South). The Ambassador role is to promote the Trust's sustainability agenda within and beyond the organisation. Besides improving communications to all staff, Peter has been instrumental in securing sponsorship for Sustainability week 2017 and a new programme called Green Ward. Starting in July 2017 this quality and improvement project has a specific emphasis on "greening" patient pathways and process efficiency. The project also provides significant opportunities for staff to "be the change" through direct involvement in shaping and improving Trust services.

## 7. WASTE MANAGEMENT

The cost of waste disposal fell 13% from £306,979 in 2015-16 to £272,813 last year. Waste generation increased 4.2% from 1194 tonnes in 2015-16 to 1243 tonnes.

Working with the waste contractor, the Trust is undertaking annual audits on all waste streams across the Trust. An action plan has been developed to address specific areas of improvement.

This includes improving waste segregation to produce better quality recycling - for example metals, cardboard, batteries and toner cartridges removed from the mixed recycling stream and are disposed of at zero cost. The maintenance and capability of the cardboard balers together with additional training has led to the doubling of recycled output to 2 tonnes over the past 6 months.

Future Plans also include:

- Reviews of potential environmental and cost savings to individual waste streams e.g. mask and tubing recycling in theatres
- Work with Hotel Service colleagues in reducing the quantity of disposable items and sourcing recyclable alternatives where possible e.g. hand towels, plastic cups.

## 8. PROCUREMENT

Emissions created by the manufacture, distribution and disposal of goods and services purchased by the Trust are reported as part of carbon footprint. The Trust cannot cut CO<sub>2</sub> emissions from many of our supply sources since these are generally beyond our control, yet nevertheless form the vast bulk of our carbon footprint.

The Procurement team's approach to sustainability is based on efficacy and whole life value. For existing contracts, the department conducts on-going price reviews, challenging service contractors to match and better competitor offers. Choices to reduce solid waste and reduce the frequency of vehicular deliveries are also commonplace in the team's approach.

## 9. TRANSPORT

The Transport team regularly review measures to improve safety and to reduce vehicle pollution and congestion. The commercial fleet is under regular review and should electric vehicle leasing cost become comparable with diesel engine vehicles a business case would be formed to consider switching vehicles from diesel to electric in 2017/18.

Safety cameras were fitted to the hopper buses this year to ensure passenger and driver safety. Road cameras and a vehicle tracking and route optimisation system were installed last year.

Looking forward to this year, it is understood that the Trust pharmacy services are reviewing service provision to outside organisations. Any planned increase in this service is likely to increase the financial and environmental costs incurred by the Trust.

## **10. CATERING**

The Trust has reduced food miles by consolidating and reducing the number of suppliers and making more use of local suppliers where possible. Just by consolidating our dairy supplier, OCS nationally has saved 492,960 food miles per year. Adding this to the grocery and fresh food totals of 401,280 food miles, we have achieved a total saving of 894,240 food miles per year. The amount of emissions saved in total is the same as driving a regular petrol car over 35 times around the equator.

Older fridges and freezers have been replaced with better efficiency models. Food wastage is monitored and where possible, reduced. There is currently a pilot scheme being run that is reviewing plate colour and its effect on food wastage.

## **11. RECOMMENDATION**

The Trust Board is asked to note the report.