

EXECUTIVE SUMMARY
REPORT TO THE TRUST EXECUTIVE GROUP
28 JANUARY 2015

Subject:	Sustainable Development Programme Annual Report
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Status¹	To note

PURPOSE OF THE REPORT:

Provides a summary of progress over the last year on the following:

- Carbon emissions and energy reductions
- Estate rationalisation
- Travel
- Waste management.
- Catering

KEY POINTS:

- The Trust has achieved the 2015 NHS carbon reduction targets
- Targets post 2015 will only be met by continuation of the existing measures along with other measures which enable healthcare services to be provided with less estate and less travel. Existing measures will contribute

IMPLICATIONS

	Aim of the STHFT Corporate Strategy 2012-2017	Tick as Appropriate
1	Deliver the Best Clinical Outcomes	✓
2	Provide Patient Centred Care	✓
3	Employ Caring and Cared for Staff	✓
4	Spend Public Money Wisely	✓
5	Deliver Excellent Research, Education & Innovation	

RECOMMENDATION(S):

To note and comment

APPROVAL PROCESS

Meeting	Presented by	Approved	Date
TEG	HAC		28.1.15
HCGC	HAC		24.2.15
Gov Council	HAC		

Sheffield Teaching Hospitals NHS Foundation Trust

TRUST EXECUTIVE GROUP - 28 JANUARY 2015

ANNUAL REPORT ON THE SUSTAINABLE DEVELOPMENT PROGRAMME

1. INTRODUCTION

The previous report was presented to the Healthcare Governance Committee in February 2014.

This paper provides a summary of the progress over the last year and focuses on the following key headings:

- Carbon emissions and energy reductions:
 - Emissions trends
 - Update on the principle carbon and energy reductions schemes
 - Future energy strategy
- Estate rationalisation
- Travel
- Waste
- Catering

2. CARBON EMISSIONS AND ENERGY REDUCTIONS

2.1 Emissions trends

Emissions due to **gas** consumption:

2007/08 Annual Carbon Dioxide Emissions (tco ₂) =	26,647
2008/09 Annual Carbon Dioxide Emissions (tco ₂) =	29,834
2009/10 Annual Carbon Dioxide Emissions (tco ₂) =	27,677
2010/11 Annual Carbon Dioxide Emissions (tco ₂) =	24,660
2011/12 Annual Carbon Dioxide Emissions (tco ₂) =	19,071
2012/13 Annual Carbon Dioxide Emissions (tco ₂) =	20,962
2013/14 Annual Carbon Dioxide Emissions (tco ₂) =	18,270

Emissions due to **electricity** consumption:

2007/08 Annual Carbon Dioxide Emissions (tco ₂) =	35,133
2008/09 Annual Carbon Dioxide Emissions (tco ₂) =	36,171
2009/10 Annual Carbon Dioxide Emissions (tco ₂) =	34,712
2010/11 Annual Carbon Dioxide Emissions (tco ₂) =	32,005
2011/12 Annual Carbon Dioxide Emissions (tco ₂) =	30,038
2012/13 Annual Carbon Dioxide Emissions (tco ₂) =	29,061
2013/14 Annual Carbon Dioxide Emissions (tco ₂) =	29,220

The predicated outturn for 14/15 is emissions due to gas consumption are expected to reduce to 14,600 tco₂. It is expected emissions due to electricity consumption will remain roughly the same.

The current electricity contract (2012-2016/18) requires all electricity used by the Trust to be purchased (subject to availability) from either: Good quality combined heat and power (GQCHP) or renewable sources (green energy produced by hydro, wind and solar).

Advice has been sought Advice has been sought (*from Swan Energy Ltd: specialist consultant providing support in the management of emissions reporting and compliance with the requirements of the CRC Energy Efficiency Scheme, the EU ETS and the EU ETS Small Emitter and Hospital Opt-out Scheme, also see attached e-mail*) on the issue of reporting and given the above the Trust is able to report that emissions due to electricity consumption as being zero.

Therefore, the Trust's Carbon Dioxide Emissions (tco₂) due to energy consumption for 2013/14 is 18,270 (tco₂). This equates to a reduction of 70% since 2007/08 and already exceeds the 2030 NHS Carbon Reduction target which requires a 64% reduction.

2.2 Update on the principle carbon and energy reductions schemes

The Trust has invested in the following measures to reduce emissions and energy consumption:

- **Replacement of power transformers at the Royal Hallamshire and Northern General Hospitals:** Replacement was necessary due to the age of the existing equipment and an increasing trend of failures. This provided an opportunity for energy savings. Old transformers have replaced with new high efficiency transformers which provide the facility for voltage reduction which enables savings of between 6-10%. The programme was completed in 14/15.
- **Conversion of lighting systems to high efficient/low energy LED (light emitting diodes) light fittings:** In addition to the areas referred in the previous report, the following areas have or will be converted during 14/15: On-site street/car parking external street lighting at RHH, NGH and Jessop Wing. Internal corridors in Jessop Wing, Vickers, Firth, Chesterman, Ophthalmology and Dermatology. These schemes improve lighting levels, reduce energy consumption by typically 85%, reduce maintenance and also heat gains.
- **Northern General Hospital - Conversion of the steam infrastructure to low temperature hot water:** This has involved replacing the existing steam systems (used for providing space heating and water heating) with a low temperature hot water system. The benefits of which are: reduced boiler house losses and distribution system losses, reduced backlog and maintenance, infrastructure modernisation, improved hygiene of domestic hot water systems and provides opportunity to interface with other low carbon technologies such as combine heat and power.

The majority of the scheme was completed by April 2014. Works have continued throughout the year to complete the various elements which could only be completed during summertime. The performance of the system is subject to assessment across the four seasons.

2.3 Future energy strategy:

- **Leadership:** There is an active energy management group within Estates led by the Estates Director. The group meet on a monthly basis to review all aspects of emissions and energy consumption
- **New capital developments and major refurbishments:** Such schemes provide consequential improvements in terms of energy and emissions reductions as a basic requirement.

- **Royal Hallamshire Hospital:** A strategy is being developed to de steam the site. The building is served by air handling systems which currently use steam for heating. The plan is to convert these systems to operate on low temperature hot water, in so doing this will reduce energy and open up a significant opportunity for heat recovery using heat pumps. The installation of heat pump technology will enable heat recovery during the heating season and the recovery of cooling during the summer.

Progress will be subject to the performance of a test installation to validate the benefits and, if appropriate, produce a business case.

- **Northern General Hospital:**

Progress on the following is as follows:

Central boiler house: Further condensing boilers will be installed in 15/16 to increase the capacity and provide resilience.

An outline business case for a CHP (combined heat and power) installation has been evaluated. In broad terms the capital cost was around £2M and the ROI (return on investment) was around 5 years. The proposal is subject to further consideration and value engineering to reduce the capital cost and improve the ROI. Any subsequent progress will be subject to a compelling business case and the availability of capital.

During 2014 the Trust received two offers from EoN Energy for a MTHWS (medium temperature hot water system) supply from the Blackburn Meadows district heat network located in the Lower Don Valley (located at the side of the M1 at Meadow hall). If this option was pursued, it would mean the Trust's boilers could be switched off; they would only be used thereafter as a resilience measure to cover periods when the MTHWS was unavailable (due to system failure, shut down and repairs). In broad terms the offer price would mean the Trust would pay for heat at a price marginally below the cost of gas and would also be required to pay a one off connection charge of £85K + VAT. Accepting this offer would close down the CHP option and as such leaves the Trust with no significant option to reduce electricity costs, the costs of which are likely to increase over time. In 2013 the Department of Energy and Climate Change estimated that delivered electricity prices would rise by approximately 35% in real terms for small and medium users by 2020. Given this it was agreed to further develop the CHP business case for the NGH.

3. ESTATE RATIONALISATION

The Trust's Corporate Strategy embodies an Estate Strategy which sets out the following objective:

To reduce the overall size of the estate, improve space utilisation to deliver financial and carbon savings to create a more sustainable organisation.

Reducing the estate will:

- Reduce running costs and backlog liabilities.
- Reduce carbon emissions. Less estate will reduce carbon emissions resulting from the buildings, travel and procurement activities.
- Increase the sustainability of the Trust's service provision.
- Act as a change agent/driver/enabler for service change.
- Be challenging and require culture change in how space is regarded and used.

During 13/14 an Estate Rationalisation Group was established under the leadership of the Director of Finance. The key objective of the Group is to progress short to medium term opportunities to reduce the estate. The group meets on a regular basis and reports to the Capital Investment Team.

The following buildings on the NGH site are planned to be demolished in 14/15:

- Norwood Cottage
- 282 and 284 Herries Road
- Loxley House
- Rivermead Laundry
- Gardeners Department
- Chesterman House
- Herries Road Stores
- Old intake sub station
- Old water tower
- Sorby blocks 1&2

4. TRAVEL

The Trust's Travel Plan outlines a number of measures which provide sustainable travel opportunities for patients, visitors and staff by encouraging car sharing, use of public transport, cycling and walking with a key objective to reduce car travel. In October 2014, Sarah Coates replaced Claudia Westby as Travel Plan Co-ordinator.

Work continues with Sheffield City Council and South Yorkshire Passenger Transport Executive to sustain/develop initiatives as detailed below:-

The Trust actively promotes Sustainable Travel in delivering the Travel Plan. New initiatives have been introduced and initiatives outlined last year continue to be progressed. The key elements are:

4.1 Cycling & Walking

- The Bicycle User Group has a membership of over 900 cyclists.
- Bike Doctor Clinics continue to be held and have proved to be popular. The Trust has committed to the continuation of this initiative with regular dates confirmed for the next 12 months.
- The I-Choose a Bicycle Scheme continues to be successful and 1063 bikes have been acquired since the introduction of the scheme in March 2009.
- New secure cycle shelters and additional cycle stands have been installed at both campuses which now provide secure parking for almost 400 bicycles.
- A 'Rainy Day Wash and Dry' service is available to staff at the Northern site, to encourage staff to continue their commute by active travel through the winter months.
- A Cyclist's Spares Box is available to staff at both campuses, which includes puncture repair kits and bicycles tools.
- Learn to Ride sessions for adults are held weekly at the Northern General site and city centre locations.
- A number of Breakfast walks to work and lunchtime walks were ran successfully through the Spring and Summer in and around both hospital sites in conjunction with Activity Sheffield.

- The Tour de France proved to be a major success for Sheffield. Not only did it show that Sheffield is capable of hosting a world class sporting event but it has also seen a boom in the number of cyclists across the city. The Trust is also supporting the City Council in the promotion of a number of legacy events that will be held around the anniversary of the Tour de France to further boost our cycling numbers. This should positively impact on the results of the next travel survey.

4.2 Public Transport

- The Trust H1 shuttle bus service continues to provide a valuable link between Northern / Central campuses and continues to grow in its popularity. This service has been extended and runs every day (Monday-Friday) excluding Bank Holidays from 0600 to 1800.
- A facility has been introduced which provides an automated voice announcement to staff via an elected telephone number to alert staff when the H1 service is suspended, for example due to inclement weather.
- An electric minibus with wheelchair access, funded by the League of Friends continues to operate on the Northern Campus and links with the H1 service at the Clocktower terminal. This service is free to use for patients, visitors and staff. It serves to reduce emissions and increase accessibility to Northern General Hospital.
- In June and July 2014 Trust staff were invited to take part in the Travel Trial Club which was linked to the Bus Boost Initiative. Staff were offered a 28 day Travelmaster ticket free of charge which allowed them to use any bus, tram or train in South Yorkshire. 258 members participated. Further initiatives were also introduced in December 2014 on a post-code basis.

4.3 Car Journeys

- The Trust has its own sub-section of the Liftshare.com website, where staff can register to find colleagues who live in their area and to car-share. The registration now asks if members have a 4x4 vehicle which can be used to assist colleagues in adverse conditions.
- At the Northern Campus, a car park is reserved for staff who car share and a guaranteed lift home in the event of emergencies is available to those staff.
- Flexible parking permits continue to be popular with those staff who usually travel by other sustainable modes of transport.

4.4 Other Initiatives

- The in-house transport service has introduced a fleet management system, which has seen the following benefits:

A reduction in the Transport Department's fuel expenditure by £14,000 (19%) from 2012/13 to 2013/14. There are obviously other variables, for instance fuel costs continue to fluctuate which would affect this budget, but the implementation of this system is believed to be a contributing factor to the savings identified.

The Hotel Services fleet has one of the lowest safety indicators scores (the lower the score the safer the driver) compared to other Teletrac customers, which has been confirmed by the Teletrac group.

Timely and appropriate response to unexpected traffic disruptions which minimise the impact on GP collection times and sample turnaround e.g. ability to change routes (if necessary) at short notice in the case of an accident.

Improved route efficiency and planning for bespoke deliveries/collections.

Monitoring of vehicle idling time which is aligned with delivering fuel efficiency.

Monitoring of unauthorised movement/usage of the fleet e.g. out of hours usage, vehicle theft.

- The Trust's transport fleet is rated as 3* (maximum 5*) on the Eco Stars scheme and drivers have undergone eco-efficiency driving courses
- A campus link has been introduced which offers a timetabled taxi service transferring non-patient items between the hospital sites to reduce the number of inter-site trips and therefore reduce emissions and traffic congestion.
- Information on sustainable travel is now included in the Trust Induction programme.
- The Trust is involved in the Sheffield Move More Project which is a "whole city" approach to increasing physical activity in all ages, all abilities and all parts of Sheffield. Other partners include the Voluntary Sector, University of Sheffield, Sheffield Hallam University, Local Authority, Sheffield Chamber of Commerce and Sheffield International Venues (SIV).

5. **WASTE**

- The Trust continues to segregate waste and has separate collections for recycling waste, baled cardboard, batteries, aerosols, scrap metal and waste electrical and electronic equipment (WEEE) to achieve compliance to waste legislation and to optimise financial savings wherever possible.
- Work is on-going to introduce a segregation strategy for lower risk tiger stripe offensive healthcare waste from the orange sack infectious clinical waste stream which will result in reduced quantities of hazardous waste being generated and will divert waste from the more expensive clinical waste treatment disposal route. 12 tonnes of offensive waste was segregated in 2013/14.
- Reusable sharps containers continue to reduce the tonnage of waste incinerated. Each reusable container used has the potential to eliminate 500 single use sharps containers from the clinical waste incineration disposal route. Estimates suggest Trust reusable sharps containers eliminate 51 tonnes of plastic single use containers from the clinical high temperature incineration disposal route each year.
- Waste management pre-acceptance audit tool provides assurances to Trust contractors that waste is being segregated, packaged, colour-coded and described accurately on waste transfer paperwork. It also ensures wastes are transported in accordance with carriage of dangerous goods legislation.
- A new healthcare waste contractor was appointed in 2014. The contract stipulates zero landfill solutions for all healthcare waste types. This contract diverts 1,400 tonnes of Alternative Treatment residues to an energy recovery disposal route compared to the previous contractor's landfill disposal route.
- The Trust's Waste Management Policy is being reviewed to take cognisance of waste legislation and Department of Health (2013) Health Technical Memorandum (HTM) 07-01: Safe management of healthcare waste.
- Waste performance continues to be reported annually to DH via the Estates Return Information Collection (ERIC).
- The Trust has achieved good landfill diversion performance and has increased recycling by 9% in 2013/14.

- Trust CO₂e Emissions from Waste generated from data in the following table demonstrate it has achieved the interim 2015 Climate Change Act / NHS Carbon Reduction Strategy carbon reduction target of a 20% reduction of the 2007/08 baseline figure and is well on the way to achieving the 2050 target of an 80% reduction.

STH tCO₂e Emissions from Waste & % Reduction from 2007/08 Baseline								
Waste		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Recycling	(tonnes)	372	401	207	136	738	302	333
	tCO ₂ e	6.868	8.423	4.348	2.857	15.498	6.342	6.993
Re-use	(tonnes)	0	0	0	0	0	0	0
	tCO ₂ e	0	0	0	0	0	0	0
Compost	(tonnes)	0	0	0	0	0	0	0
	tCO ₂ e	0	0	0	0	0	0	0
WEEE	(tonnes)	0	0	0	50	36	47	47
	tCO ₂ e	0	0	0	1.05	0.756	0.987	0.987
Energy Recovery	(tonnes)	501	221	2522	2043	2054	2716	2606
	tCO ₂ e	10.523	4.642	52.973	42.912	43.134	57.036	54.726
Clinical HTI	(tonnes)	131	97	109	122	142	183	222
	tCO ₂ e	2.752	2.037	2.289	2.563	2.982	3.843	4.662
Clinical AT	(tonnes)	1456	1504	1519	1478	1374	1343	1418
	tCO ₂ e	30.583	31.591	31.906	31.045	28.854	28.203	29.778
Landfill	(tonnes)	2505	2517	197	361	360	332	362
	tCO ₂ e	612.266	615.199	48.15	88.235	87.9904	81.1467	88.4792
Total Waste (tonnes)		4965	4740	4554	4190	4704	4923	4988
Total Waste tCO ₂ e		662.992	661.892	139.666	168.662	179.214	177.558	185.625
CO₂e reduction		0%	0.002%	78.9%	74.6%	73.0%	73.2%	72.0%

On-going monitoring of waste management statistics demonstrates appropriate actions are being taken to improve re-cycling performance and segregation of incineration. Unfortunately segregation of offensive waste from infectious waste has been slow during 2014. Trials continue in the NGH Spinal Injuries Unit and work is on-going with the Infection Control Team to increase the tiger-stripe waste stream.

6. CATERING

Extensive work has been undertaken during 2014 with to seeking achievement of the Food for Life Catering Mark Award.

A stepped approach is being taken given the level of work required. There is a need to demonstrate compliance with appropriate criteria to achieve either a Bronze, Silver or Gold award. A four week menu cycle and a number of derivative therapeutic menus are being assessed for suitability and compatibility with appropriate criteria.

Over 75% of the menu options for patients and staff are now freshly prepared which is a requirement of the scheme. A new supplier has been sourced for bouillon mixes for sauce based dishes, ensuring that these are free from problem additives. There has been a move from using skimmed milk powder to using fresh milk in milk based sauces, and ready mixes (such as crumbles and sponges) which are now being made using the base ingredients.

Changes have been made to stock orders, recipes and production method statements to reflect the changes in food processing.

There is a move towards operating a two season menu to reflect the use of more seasonal fruit and vegetables in menus.

Improvements have been made to local purchasing and supply routes:

- The majority of raw meat continues to be purchased from J W Young of Sheffield, with much of the diced/minced beef and sausages originating from within the region.
- Fresh milk purchased from Hillsborough Dairy thus the majority of our milk originating from within region.
- Fresh fruit and vegetables are supplied by J Palins of Matlock;
- Bread supplied to deli bars is supplied by Fosters Bakery in Barnsley;
- All fish is Marine Conservation Society approved;
- Free range eggs are used in egg based dishes;
- Fresh potato is now used rather than potato mix.

A declaration has been sought all our fresh and cooked meats supplied satisfy UK welfare standards. Staff have been trained in the benefits of the scheme and we are actively promoting a commitment to the scheme by incorporating the principles of Food for Life on the website (presently being updated) and in newsletters.

An audit carried out in December 2014 has received a positive outcome. Work continues on five minor points to achieve the Bronze award.

Organic beef which is sourced locally, is offered on patient and staff menus.

Fresh fruit baskets are being trialled for patients at the RHH. If successful the plan will be to introduce this at the NGH.

Work continues on the wards to better tailor food provision and to minimise waste.

6.1 Community Schemes

A vegetable plot has been developed outside of the Central Processing Unit (CPU). Produce including fresh herbs, cucumbers, radishes, carrots have been picked and used in the preparation of meals. This is currently managed by STH and it is hoped long term that links with local schools will create interest and involvement in home grown produce together with social/therapeutic benefits.

Fair trade tea and coffee options; Sheffield based Cafeology, dealing direct with the grower for coffee and tea (except flavoured teas) currently supplies all Trust dining rooms. Suitability for patients is being tested.

6.2 Recycling

CPU -There has been a decrease in paper packaging generated from the use of skimmed milk powder since the move to fresh milk in the majority of our milk based dishes.

7. CONCLUSIONS

The report sets out the progress against the sustainability agenda across the Trust to date, particularly within Estates and Hotel Services. Achievements are outlined in the following areas including favourable performance against targets for total emissions and emissions relating to energy consumption

- Carbon emissions and energy reductions:
 - Emissions trends
 - Update on the principle carbon and energy reductions schemes
 - Future energy strategy
- Estate rationalisation
- Travel
- Waste
- Catering

REFERENCES:

The NHS Sustainable Development Unit (2009). NHS Carbon Reduction Strategy for England.

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