

Board of Directors Item 3.2

Subject: Creating a Greener LHCH – Green Plan Report
Date of Meeting: 29th April 2025
Prepared by: Nicola Blair – Programme Manager for Strategic Partnerships
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Presented by: Thomas Pharaoh – Director of Strategy
Purpose of report: To update Board of Directors on progress of environmental sustainability programme

BAF Ref	Impact on BAF
N/a	N/a

Level of Assurance (please tick)		
To be used to provide the Board / Committee with a guide on the extent of assurance and evidence of assurance provided within the report		<input checked="" type="checkbox"/>
Level of Assurance	Description	
High	There is a strong system of internal control which has been effectively designed to meet the system objectives, and that controls are consistently applied in all areas reviewed.	<input type="checkbox"/>
Substantial	There is a good system of internal control designed to meet the system objectives, and that controls are generally being applied consistently.	<input checked="" type="checkbox"/>
Moderate	There is an adequate system of internal control, however, in some areas weakness in design and/or inconsistent application of controls puts the achievement and some aspects of the system objectives at risk.	<input type="checkbox"/>
Limited	There is a compromised system of internal control as weaknesses in the design and / or inconsistent application of controls puts the achievement of the system objectives at risk.	<input type="checkbox"/>
No	There is an inadequate system of internal control as weaknesses in control, and/or consistent non-compliance with controls could/has resulted in failure to achieve the system objectives.	<input type="checkbox"/>

Executive Summary

The report provides a summary of the Trust's progress in reducing and limiting its impact on the environment over the last four years. The report provides an update on the ten themes covered by the Trust's Green Plan.

Over the past four years, LHCH has made significant strides in integrating sustainability into its operations. Initiatives including the introduction of telehealth services, reducing single-use plastic gloves, promoting low-carbon inhalers, and enhancing green spaces on site have demonstrated the Trust's commitment to improving both health outcomes and environmental sustainability. These efforts have contributed to waste reduction, improved wellbeing for patients and staff, and supported broader carbon reduction goals.

The report also sets out some of the challenges faced. While good progress has been made to deliver the Trust's sustainability aims, this has been constrained by a number of factors including limited programme governance and programme management support. These factors are being addressed and LHCH will produce a refreshed Green Plan this year. There is clear potential for the five adult acute and specialist providers in Liverpool to work ever more closely together on this agenda as we come together in the University Hospitals of Liverpool Group.

Recommendation

The Board of Directors is asked to:

- Note the contents of the report and the progress made in lessening the Trust's environmental impact
- Note the intention to refresh the Trust's Green Plan by July 2025

CREATING A GREENER LHCH



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Introduction

Climate change is a health emergency and is widely recognised as one of the greatest threats to public health globally, nationally, and in our region. In March 2022, Liverpool Heart and Chest NHS Foundation Trust published its first ever Green Plan. This was done in response to the NHS setting the ambitious target of achieving net zero carbon emissions by 2040 (for our directly-controlled emissions) and by 2045 (for our indirectly-controlled emissions – including those that come from our supply chain). These targets and other information regarding this agenda can be found in the Delivering a net zero National Health Service report, published in October 2020. The NHS itself is currently accountable for approximately 4-5% of the UK's carbon emissions.

On 1st July 2022, the NHS in England became the first health system to embed net zero into legislation, through the Health and Care Act 2022. This places duties on NHS England, and all Trusts, Foundation Trusts, and Integrated Care Boards to contribute towards statutory emissions and environmental targets. Improving the carbon footprint of the NHS will lead to significant improvements in cost, efficiency, patient care and patient outcomes that are often associated with reducing carbon emissions.

The purpose of this report is to outline the progress and challenges over the last 4 years around sustainability and our green agenda.

'Creating a Greener LHCH' is set out in ten broad sustainability themes:

- 🌍 Corporate approach
- 🌍 Care models
- 🌍 Workforce
- 🌍 Travel and transport
- 🌍 Energy, estates & facilities
- 🌍 Waste and water
- 🌍 Food, catering and nutrition
- 🌍 Green spaces and biodiversity
- 🌍 Suppliers and partners
- 🌍 Adaptation



This report contains a section on each of these themes. For each theme it sets out the activities that have taken place over the previous four years. The final section sets out some conclusions of the report and challenges we have faced. Our plans for the coming years will be set out in our refreshed Green Plan 2025-28, which we expect to publish in July 2025.

Our Green Journey 2021-25

Removing desflurane has saved **200 kilotons** of carbon (40 kilotons per year). This is equivalent to removing the annual emissions of **55,000 homes**.

23,140kg plastics reduced with gloves aware scheme



26 sign ups to cycle to work scheme



250 electric vehicles purchased



7 staff completed online net zero module



0.68 tonnes of textiles saved and not gone to landfill from LHCH and **£385 raised** so far to LHCH Charity.

£12k saved so far from switching to recycled paper and approximately **5.5 tonnes of food waste** has been collected from site.



500 crocus bulbs planted

81 trees planted

8 volunteer planting sessions onsite



£192,984 saved with new LED lighting, energy-efficient pumps, Air Handling Units, and Passive Infrared lighting (PIR) controls being introduced

1 Corporate approach

The Trust has a Board-level lead for sustainability (the Directory of Strategy) and launched its first ever Green Plan in 2022. The Director of Strategy is supported by a Programme Manager within the Strategy Team, who supports the green agenda as part of their wider role. The Trust therefore doesn't have a dedicated sustainability lead. The Programme Manager, along with Estates & Facilities teams, plays a leading role in building on the progress of previous years in establishing sustainability as a key part of the business of our organisation.

In previous years there has not been formal governance in place to support the sustainability programme and there has not been systematic reporting to the Board of Directors. We have addressed this in 2024/25 by setting up a Health Inequalities and Anchor Group with core members who meet bi-monthly, with sustainability as part of the agenda. This group reports to Operational Board and we will continue to keep our green governance under review.

Information on sustainability is included as part of corporate induction and local inductions. New starters to the Trust are presented with information around net zero and information regarding sustainable travel and the different schemes and incentives that we have available to support them to make a greener commute to work (at least occasionally). This can have a positive impact in terms of employee recruitment and retention, highlighting to our staff, and prospective staff, that LHCH is an organisation that cares about the climate crisis and that we are committed to reducing our environmental footprint. LHCH now have a net zero module incorporated in the training offer in ESR; however, only 7 staff have completed this so far since summer 2023, so we aim to encourage more of our staff to complete this online module over the next 12 months.

2 Care models

2.1 Background

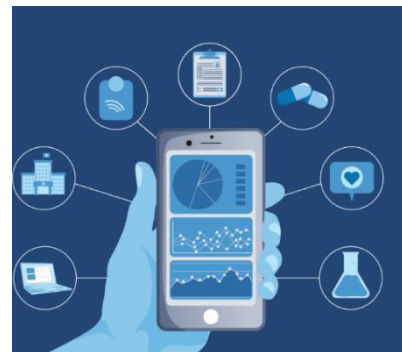
LHCH's care models allow us to deliver care whilst reducing the amount of travel required for patients. In recent years, the landscape of healthcare has been evolving rapidly, driven by the demand for sustainability and long-term value. Innovative models of care are emerging as a response to these challenges, focusing on delivering efficient, effective, and patient-centred services. Our focus is to deliver systems that ensure high-quality care is maintained over time, all while minimising environmental impact and reducing costs.

Over the last 4 years a range of sustainability initiatives have been championed by our clinical teams across the Trust.

2.2 The story so far

Telehealth

LHCH has implemented telehealth initiatives incorporating remote monitoring, prehabilitation, and rehabilitation interventions to enhance health outcomes and reduce hospital admissions for patients on waiting lists. To date, 378 participants have been recruited for telehealth trials, with 284 receiving telehealth services and 94 receiving standard care. The integration of telehealth services aims to increase transparency regarding waiting lists and improve access to procedural information for patients, primary care providers, and community members. By reducing the need for physical hospital visits, telehealth has the potential to improve patient outcomes while reducing strain on healthcare resources, contributing to both health and sustainability objectives.



Nasal Specs

The Trust is transitioning from face masks to nasal specifications for post-surgery patients in the Post-Operative Care and Critical Unit (POCCU) to improve patient comfort and reduce waste. Nasal specs are more comfortable and better tolerated, enabling easier eating and drinking, while also reducing oxygen consumption. This transition results in a significant saving of oxygen and a reduction in carbon dioxide emissions, contributing to the Trust's environmental sustainability goals. Our plastic footprint for nasal specs per annum is around 316kg, as opposed to 4053kg for Aqua Packs/Aerosol face Masks. The carbon footprint of plastic (LDPE or PET, polyethylene) is about 6 kg CO₂ per kg of plastic (that's equivalent to driving a car for 6 kilometres), therefore CO₂ emissions for nasal specs is around 1896kg and for alternative masks its 24,318kg of CO₂. A saving of 22,422kg of CO₂ per year.

Swap to Stop

The Stop to Swap (S2S) initiative is designed to support individuals in quitting smoking by offering e-cigarette starter kits, personalised nicotine guidance, and ongoing support. Smoking remains a leading cause of preventable deaths in the UK, and vaping is seen as a less harmful alternative. This programme aims to reduce smoking rates within the Trust's community, thereby improving public health while addressing health disparities. Data from the initiative will be assessed to evaluate its effectiveness after six months. One of the notable advantages of vaping is the reduced amount of waste it produces. Unlike cigarettes, which leave behind butts, packaging, and excess litter, vaping products primarily consist of reusable devices and less disposable waste. The production of vaping devices and e-liquids typically emits fewer carbon emissions than traditional tobacco products. The process of creating e-liquids requires less energy and resources than growing, processing, and distributing tobacco. As a result, the overall carbon footprint of vaping is considerably lower. By making the switch, users contribute to a decrease in overall emissions, helping combat climate change.



Dry Powder Inhalers (DPI)

LHCH conducted an audit on inhaler prescribing practices to assess the environmental impact of Metered Dose Inhalers (MDIs) versus Dry Powder Inhalers (DPIs). The audit highlighted the current use of DPIs across various settings, with a focus on increasing their use to reduce carbon emissions. The NHS Long-Term Plan (NHS LTP) sets out a clear target to reduce absolute inhaler emissions by at least 50% by 2028 through optimising, prescribing, improving patient inhaler technique, self-management and adherence, substituting high carbon MDIs for low carbon DPI alternatives, where clinically appropriate. The Trust has currently increased DPI usage by 10%, and by 2028 we aim to increase DPI prescriptions to 50% in line with the NHS Long Term Plan. There is a significant difference between DPIs and MDIs and due to the absence of Hydrofluorocarbon (HFC) propellants, DPIs have a lower carbon footprint compared to other inhalers.

Reusable Gowns

Since 1st April 2021, following a successful trial, LHCH operating theatres have used reusable gowns provided by Elis, which are collected and delivered twice weekly. This initiative has reduced clinical waste by approximately 8 tonnes per year, saving £12,000 annually in gown purchase costs, £7,000 in VAT, and £3,200 in clinical waste disposal costs. The annual CO₂e reduction associated with this initiative is 23,520 kg.*

Anaesthetic Gases

Across the NHS, anaesthetic gases are commonly used as a part of everyday surgeries. These gases alone, along with analgesic gases like nitrous oxide, are responsible for over around 2% of all NHS emissions. Amongst anaesthetic gases, desflurane is one of the most common, but also one of the most harmful. It has 20 times the environmental impact of other less harmful greenhouse gases and using a bottle has the same global warming effect as burning 440 kg of coal.

In June 2021, LHCH removed Desflurane vaporisers from its anaesthetic practices, contributing to a significant reduction in carbon emissions. At the time of introducing this initiative there was an estimated annual CO₂e saving of approximately 71,764kg, as reported in the Q3 report dated 1st October 2021. This move is part of the Trust's broader commitment to reducing its environmental footprint.

'Gloves-off' campaign

LHCH is committed to reducing inappropriate single-use glove usage, a significant contributor to NHS waste. Research indicates that up to a third of glove usage is unnecessary, and eliminating this can enhance hand hygiene and patient safety. During 2023, approximately 5.5 billion single-use gloves were used in the NHS, generating 15 tonnes of waste. As an NHS Trust, we rely heavily on PPE, with gloves being a notable example. Each single-use glove generates 26g of CO₂e, and every box of



* Knowing the difference between CO₂ and CO₂e and how to calculate both figures is an important step in understanding our impact on the environment. CO₂ only measures Carbon Dioxide. However, CO₂e stands for "Carbon Dioxide Equivalent" and measures CO₂ plus all other greenhouse gases including methane, nitrous oxide, and more. CO₂e gives us a better view on the total environmental impact of our actions and operations.

100 gloves is equivalent to driving 20 miles in a standard petrol car. Through our gloves-off campaign, we collected data on baseline glove usage, conducted audits with housekeepers, and collaborated with our communications team to develop materials highlighting when glove use is necessary. Working with Quality Improvement (QI), we gathered data that revealed 432,000 gloves were used at a cost of £10,445.76, resulting in 11.23 tonnes of CO2e emissions. Additionally, 61% of staff had inadequate hand hygiene during this period. After a review, hand hygiene improved by 20%, and more staff refrained from using gloves when they weren't required.

Despite these improvements, procurement data six months post-launch (November 2024) showed no significant reduction in the purchase of single-use gloves. This highlights the challenge of driving behaviour change, especially in practices deeply ingrained in daily routines. Nevertheless, at LHCH, we remain committed to aligning our sustainability efforts with patient safety and continuing to push for change in support of both objectives. Over the coming years, we will continue exploring ways to make consumable items more sustainable, where clinically appropriate.

GLOVES ON

NHS
Liverpool Heart and Chest Hospital
NHS Foundation Trust



GLOVES OFF

NHS
Liverpool Heart and Chest Hospital
NHS Foundation Trust



Be glove aware and only wear them when you need to...

3 Workforce

3.1 Background

LHCH employs approximately 1,950 members of staff. Our workforce is one of the greatest assets that we have at LHCH with regards to bringing about sustainable change across the Trust. With the continued support of our Communications team we have sought to raise awareness among staff and pave the way for continued behaviour change through various methods including: engagement events, updates and information being shared via screensavers, staff surveys around travel, updates at Team Brief and on the staff intranet, and the inclusion of sustainability-related projects and updates as part of our staff-wide e-bulletins. This is to ensure that colleagues understand the role that they can play with regards to supporting net zero. Our workforce continues to demonstrate considerable enthusiasm and interest for the green agenda at LHCH.

3.2 The story so far

October Green Awareness Month

The Trust initially introduced an October Green Awareness Month to kickstart the sustainability journey at LHCH, with a series of events each working day throughout October focused on the green agenda. These initiatives were designed to engage and involve staff in promoting sustainability. However, for various reasons the Green October Awareness Month could not be sustained in subsequent years.



Green Champions

We previously started up the Trust's first Green Network Champions group seeking to harness the expertise and enthusiasm of our colleagues. A green champion is someone who wants to create change to improve the environmental impact associated with our services at LHCH. The aim of the green champions was to be the 'green eyes' within their area of work – identifying carbon emitting/waste producing processes and raising these with their colleagues, the champions' group and the Programme Manager to work together to identify more sustainable solutions.

The network was an inclusive group, encouraging the support of staff from all professional backgrounds within the Trust. The group met on a quarterly basis to discuss the successes and challenges of the sustainability programmes and provided a space for staff to bring their own ideas and initiatives to the group for further discussions. Unfortunately, as with the October awareness month, various issues with providing the necessary level of support meant that the group did not continue. The creation of a successful champions group will significantly increase our capacity for rolling out sustainability-focussed projects across our organisation and we are therefore looking at introducing the network again with better engagement and communication and this will be detailed in our refreshed LHCH Green Plan.

Sustainable Travel at LHCH

LHCH is committed to promoting sustainable travel options for our staff. A dedicated Sustainable Travel Page is available on the staff intranet, providing comprehensive information on a range of travel options. This includes details of schemes LHCH participates in, such as the Cycle to Work programme, travel discounts, and an upcoming Liftshare project. The page ensures staff have easy access to alternative travel arrangements, promoting the use of cycling, public transport, and car-sharing options. By making this information readily available with just one click, we encourage staff to consider sustainable travel methods as part of their daily commute.

Net Zero Training for Staff

All corporate inductions now include a net zero slide to ensure that every new team member is introduced to our environmental goals. Additionally, as part of our commitment to sustainability, LHCH has introduced a net zero Module within our eLearning Health Package. This 30-minute course, available via the Electronic Staff Record (ESR), aims to raise awareness of the climate and ecological emergency and its impact on healthcare. Since its introduction in 2024, seven staff members have completed the module.

The course covers the importance of sustainable value, where environmental, social, and financial aspects are considered alongside health outcomes. It explores how healthcare practices can contribute to the reduction of carbon emissions, costs, and waste while improving the quality of care. The Building a Net Zero NHS initiative is designed to guide healthcare workers in integrating sustainability into their roles, offering practical examples and case studies on reducing the environmental impact of clinical practices.

Waste Management and Recycling Initiatives

Waste management and recycling are key priorities in our sustainability efforts. LHCH has integrated the net zero module into our training programme to ensure staff are aware of our commitment to sustainability. In collaboration with the Facilities Management Team, we are introducing specific training focused on recycling across the hospital site. Discussions with Stericycle are underway to provide resources and the potential to incorporate recycling training into local modules.

We recognise the need for better education on recycling practices, especially on the wards. Our goal is to provide staff with clear, accessible training, including infographics and videos, to improve understanding and compliance with recycling procedures. This training will be delivered through internal communications, ensuring that all staff are equipped with the knowledge to meet future audits and sustainability targets.

Collaboration with Communications Team

Our ongoing collaboration with the Communications Team has been instrumental in engaging staff with the sustainability agenda at LHCH. Moving forward, we aim to strengthen this partnership and continue to foster greater awareness and involvement in our sustainability initiatives. We will focus on broadening our engagement with staff to ensure that sustainability remains at the forefront of our operations over the coming years. In addition to this, we aim to engage with our workforce on the sustainability agenda over the next few years. Through these initiatives, LHCH is committed to fostering a sustainable and environmentally responsible workplace, aligned with our goal of reducing our carbon footprint and supporting the broader objectives of the net zero NHS.

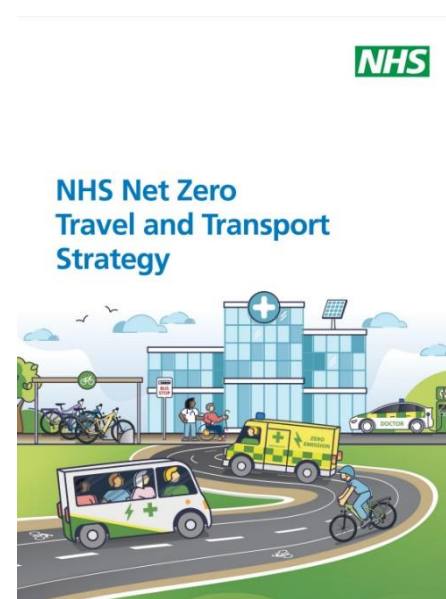


4 Travel and transport

4.1 Background

The NHS fleet is the second largest fleet in the country (after Royal Mail), consisting of over 20,000 vehicles travelling over 460 million miles every year. This fleet, combined with the impact of NHS commissioned services and staff travel directly contributes to the 36,000 deaths that occur every year from air pollution.

In October 2023, the NHS produced a Net Zero Travel and Transport Strategy. This strategy outlines the goals and targets that NHS Trusts should work towards in order to tackle the challenges of climate change and air pollution. The strategy states that the NHS will have decarbonised its fleet by 2035 and includes information and targets relating to: vehicles owned and leased by the NHS, staff travel emissions, and ambulances and non-emergency patient transport services. The strategy also outlines the benefits that making these changes will bring to patients, staff, and society as a whole.



4.2 The story so far

Travel Survey

A Travel Survey in collaboration with Liverpool University Hospitals Foundation Trust, Liverpool Women's Hospital Foundation Trust and The Walton Centre Foundation Trust, was conducted in June 2023. The survey gathered up to date information on how staff, patients and visitors travel to our site. The survey data was used to better understand the issues staff, patients and visitors experience when travelling to LHCH, and what can be done to improve travel options and reduce our carbon impact. One of those findings included factors that would encourage staff to carshare, with 15% of staff answering, 'a database to find colleagues to share with'. This has led LHCH to sign up to the Liftshare app, which encourages staff to share car journeys, further reducing single-occupancy vehicle use and contributing to the reduction of our carbon emissions. The results of the survey also led to the Active Travel Stakeholder Engagement Forum (ATSEF), which LHCH is a part of, reaching out to Liverpool City Council (LCC) and receiving funding which supports various travel-related sustainability projects.

Cycle to Work Scheme

In partnership with Cyclescheme Ltd, LHCH offers a Cycle to Work Scheme that enables staff to purchase a tax-free bike for commuting. Over the last four years (2022-2025) LHCH has supported 26 staff to access the cycle to work scheme. Enabling staff to access savings by paying for the bike through monthly deductions, which are spread over a 12-month period. For instance, staff can purchase a £600 bike for less than £1 per day. This initiative not only encourages sustainable commuting but also offers significant cost savings. For a 3-mile daily commute, staff can save approximately £100 annually on fuel costs by opting to cycle instead of driving. Staff can calculate their individual savings online via the Cyclescheme website.

Active Travel Facilities

To further encourage staff to cycle to work, LHCH, in collaboration with LUHFT, provides a shared bike shed at the Broadgreen site. This facility offers staff a safe and secure location to store their bicycles during the workday. Staff can sign up to use the bike shed through the sustainability team at LUHFT. There are additional facilities on site to support active travel such as showers and locker rooms. Future plans when budget permits, include enhancing the bike shed facilities and adding shower facilities to further support cycling as a sustainable commuting option. The provision of secure bike storage aims to reduce the number of cars on-site and supports LHCH's goal to lower its carbon footprint.

Dr Bike @ Live Well Work Well (LWWW) Events

The Dr Bike Scheme provides free bicycle checks for staff, aiming to encourage cycling as a viable and sustainable transport option. The scheme, in partnership with other NHS Trusts, visits Broadgreen regularly, offering bike maintenance checks and advice on safe cycling practices. These events support staff in maintaining their bikes and gaining the confidence to cycle to work, contributing to a more sustainable transport culture within the Trust.

Bike User Group

LHCH encourages staff to engage in cycling through the Bike User Group (BUG), a collaborative initiative with Liverpool University Hospitals NHS Foundation Trust (LUHFT). Staff can sign up to the group to receive regular updates, newsletters, and access to various cycling-related events and resources. The BUG provides information on initiatives such as cycle champions, ride volunteers, bike buddy schemes, and group bike rides. The aim of the group is to promote cycling as a sustainable mode of transport and to inform staff about new cycling initiatives and plans within the Liverpool region.

Bike Rack Installation for Patients

In partnership with Liverpool University Hospitals NHS Foundation Trust (LUHFT), LHCH can utilise additional bike racks located outside the Broadgreen shared reception for use by both staff and patients. This initiative aims to encourage sustainable travel, reduce vehicle congestion, and lower the carbon footprint.

Active Travel Group

LHCH is actively involved in the Active Travel Group, a collaboration with Liverpool City Council (LCC) Highways and other NHS Trusts across the Cheshire & Merseyside region. The group's primary focus is on consultations and strategies related to active travel, specifically targeting the development of sustainable travel routes around and into hospital sites. As part of this group, LHCH plays a role in identifying new, environmentally driven routes that can benefit both patients and staff.

Through regular attendance at the Active Travel Strategy and Engagement Forum (ATSEF), LHCH has gained a clearer understanding of the processes within LCC Highways, funding mechanisms, and the various active travel projects that are either in progress or planned for the future. The group is currently awaiting consultation dates for the Local Cycling and Walking Infrastructure Plan (LCWIP) and Mobility Strategy, which will inform future developments in active travel infrastructure. Additionally, LHCH is awaiting the consultation on the 10/10a green bus routes. Recent work has included reports on the AT4 consultation, the Childwall City Route, as well as consultation rides and workshops. As part of the ongoing work, the group is exploring the installation of major cycle routes into the city in 2025.

Travel Discounts

LHCH has partnered with Arriva to provide staff with discounted travel through the Travel Club. This initiative allows staff to pay for their bus travel via a monthly direct debit. In addition to discounted bus fares to and from work, the travel ticket provides unlimited travel on any Arriva bus within the selected travel zone, even during days off, at no additional cost. The scheme aims to encourage staff to use public transport, reducing the number of cars on-site and contributing to the reduction of our overall carbon footprint. In response to staff feedback from the staff survey LHCH have created a staff intranet page that consolidates all available travel offers, ensuring staff are well-informed of these sustainable options.

Liftshare Programme

As part of our ongoing sustainability efforts, LHCH has collaborated with other NHS Trusts to launch the Liftshare app. This innovative platform aims to reduce commuter emissions by enabling staff to share car journeys. The app allows staff to register their travel routes, making it easier to set up car-sharing arrangements. This initiative not only reduces the number of cars on the road but also addresses the issue of limited parking spaces at LHCH, where there is a growing waiting list for parking permits. The project is set to go live in Spring 2025, and we plan to report on its progress after 12 months of implementation.

LHCH Fleet Vehicle

Currently, LHCH operates a single fleet vehicle, a diesel-powered porter van used for waste removal. With an annual mileage of approximately 3,300 miles, this vehicle does contribute to greenhouse gas emissions. As part of our ongoing commitment to sustainability, the Trust is actively exploring options for an electric vehicle (EV) to replace the diesel van. We plan to assess EV options prior to the lease expiring on our current vehicle, allowing us ample time to identify the best alternative for a greener future. Transitioning to an electric vehicle will help reduce our carbon footprint, decrease air pollutants and support our long-term environmental goals.

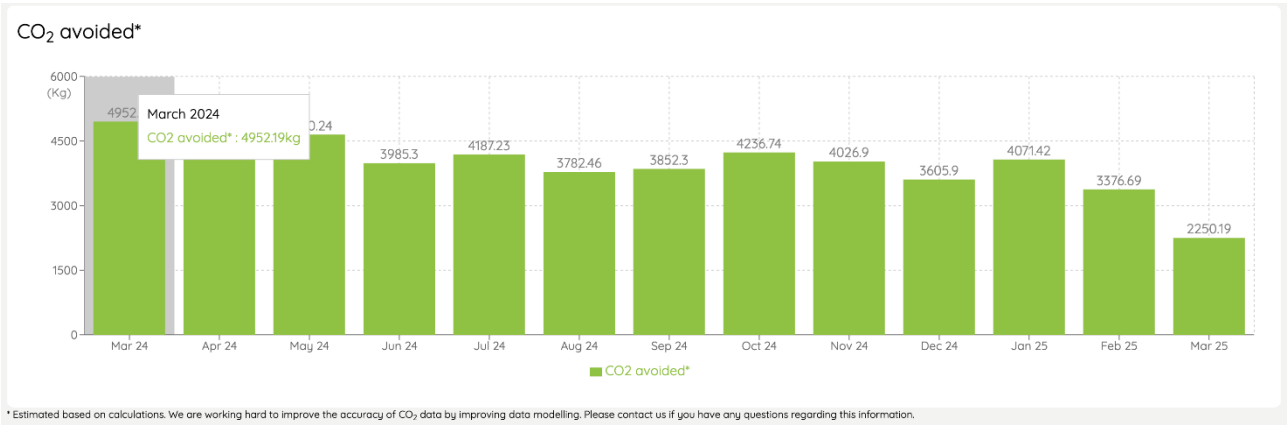
NHS Fleet Scheme

LHCH supports staff in accessing the NHS Fleet Scheme through a salary sacrifice arrangement, allowing staff to obtain a new car and insurance at a reduced cost. This initiative not only offers financial benefits to staff but also encourages the uptake of low-emission vehicles. From 2022 to the present, LHCH staff have purchased a total of 336 vehicles through the scheme, including 250 electric vehicles and 86 non-electric vehicles, supporting our commitment to more sustainable travel choices.



Electric Vehicle (EV) Charging Stations

Liverpool Heart and Chest Hospital (LHCH) have installed 10 Electric Vehicle (EV) charging stations on-site to support the transition to sustainable travel. These stations are available for staff use, with the energy usage contributing to revenue generation. CO2 emissions avoided by the use of these charging stations have been calculated by PodPoint (data displayed below), using data from July to September. Based on this data, the total CO2 emissions avoided in the past 12 months is estimated at 2,261.5 kg. The installation of these EV charging points underlines LHCH’s commitment to encouraging low-carbon transport options for staff and visitors.



This month in review

So far this month you have generated £1,079.52 in revenue from 1 site and delivered 4,038.4 kWh of energy

Energy delivered	CO ₂ avoided*	Revenue	Energy cost
4,038.4 kWh	2,261.5 Kg	£1,079.52	£242.57

* Estimated based on calculations. We are working hard to improve the accuracy of CO₂ data by improving data modelling. Please contact us if you have any questions regarding this information.

Usage

43 customers used your chargers resulting in 206 charges

Charges	Total charge duration	Unique drivers*
206	37,469 minutes	43

* Unique drivers are only counted where a charge has been claimed. Unclaimed charges will not contribute to this total. Please contact us if you have any questions regarding this information.



5 Energy



5.1 Background

The NHS Estates 'Net Zero' Carbon Delivery Plan (published in August 2021) aims to address the aspects of the net zero strategy related to estates and facilities activities. The document references a range of actions that can be taken to tackle climate change, including: a four-step approach to decarbonise the NHS Estate, driving forward a circular economy, the electrification of the NHS fleet, engaging the supply chain, and preparing the estate for severe weather.

Estates 'Net Zero' Carbon Delivery Plan

Summary Report



5.2 The story so far

LED Lighting Replacement Project

As part of ongoing energy efficiency improvements, LED lighting has been installed throughout the LHCH site, and this will continue as part of all future capital projects. Through a successful application for funding via the NEEF grant, the Trust is currently undertaking a further significant LED lighting replacement project. This will involve replacing 1,143 fluorescent light fittings across the estate with energy-efficient LED alternatives. The project is expected to significantly reduce both energy consumption and carbon emissions, while also enhancing the hospital's visual environment.

Energy Reduction Initiatives

The Trust has pursued other energy reduction initiatives in addition to LED lighting. Energy-efficient pumps, air handling units (AHUs), and passive infrared lighting (PIR) controls have also been introduced. Compared to the 2018/19 baseline, these initiatives have resulted in energy savings of 804,099 KWh, which equates to a CO₂e reduction of 187,468 kg per annum. The total cost savings from these energy efficiencies amount to £48,246 annually.

Energy efficiency is a key part of the Trust's maintenance and capital programme and there are a full range of further examples of positive supportive work, from pipe lagging and valve jackets to upgraded roof insulation. In addition, there is an ongoing upgrade of the hospital's building management system (BMS) that is underway and has capital allocated.

Coolnomix Trial

A trial of Coolnomix, an intelligent thermostat designed to improve the efficiency of air conditioning units, was conducted at LHCH in early 2024. The system, which typically improves efficiency by up to 30% in other trials, also provides data on savings in CO₂ emissions and costs. However, the results of the trial at LHCH remain under review and there has yet not been any wider installation.



6 Waste and water

6.1 Background

The NHS is one of the largest producers of waste in the country, and it is everyone's responsibility to dispose of waste in a safe, efficient, and sustainable manner. NHS providers in England produce approximately 156,000 tonnes of clinical waste each year that is either sent to high temperature incineration (HTI) or for alternative treatment (AT). This is equivalent to over 400 loaded jumbo jets of waste. This has a significant environmental impact and is associated with high running costs and carbon emissions.

It is a legal requirement for NHS providers to comply with waste legislation and regulations. Doing so ensures that waste is minimised, treated and disposed of in a safe way that reduces environmental harm, protecting patients, staff, the NHS, and the wider community.

In March 2023, an NHS Clinical Waste Strategy was produced which sets out NHS England's ambition to transform the management of clinical waste by eliminating unnecessary waste, finding innovative ways to reuse, and ensuring that waste is processed in the most cost effective, efficient, and sustainable way. This strategy contains advice and guidance on data management, investing in a skilled workforce, compliance requirements, developing a resilient infrastructure that meets future demand, waste segregation targets, improving our use of resources, reducing our carbon impact, and establishing a commercial waste model that delivers better value for the NHS.

At LHCH, we partner with B&M for general waste disposal and Stericycle for clinical and non-clinical waste management. As a shared site on Broadgreen, we rely on LUHFT to provide waste reports, which support our ERIC returns.

6.2 The story so far

Recycled Paper

LHCH transitioned to using recycled paper in 2023, this has resulted in savings of £4,040, when comparing the original paper cost of £12,000 + VAT to the new recycling paper cost of £7,960 + VAT (based on usage pre-covid). The switch to recycled paper has also contributed to a reduction in CO₂e emissions, around 8,000kg CO₂e per annum when based on around 5,000 reams of paper used. The challenge faced at the time was that the procurement team highlighted that some printers on the LHCH site were incompatible with the recyclable paper, as some older printers were not able to accept the recycled paper. Despite this, most of the trust has moved to recycled paper, and in 2023-2024 the Trust spent a total of £15,416.18 on white copier paper of which 43.13% (£6,649.49) of this was recycled.

Waste Streams and Recycling Initiatives

To improve waste management and ensure compliance, LHCH has converted the use of orange bags to offensive non-clinical bagging systems. This conversion involved an investment of approximately £15,000 and is expected to provide an equivalent return on investment.

Textile Recycling - Roberts Recycling Boxes

In an effort to reduce textile waste and support sustainable practices, LHCH has introduced textile recycling boxes across the site. This initiative encourages staff to donate unwanted clothing, diverting textiles from landfill. The collected items are exported to Eastern Europe for resale as affordable clothing. The local company facilitating this initiative supports the real living wage and contributes to social value. Between June 2023 and January 2025, this project has raised £385.40 for the Trust's charity office and diverted 1,406 kg of textile waste from landfill, demonstrating both environmental and social impact.



Electronic Menu System

LHCH introduced an electronic menu system for its onsite catering in May 2024, replacing the previous paper-based system. This shift enhances operational efficiency, improves service delivery, and reduces food waste. The system, managed via tablet by Medirest, provides detailed nutritional and allergen information for patients, ensuring better patient care. This innovation aligns with the Trust's sustainability goals by reducing paper usage and supporting waste minimisation.

Sharp Smart Initiative

For over 10 years, LHCH has implemented the Sharp Smart initiative, which ensures the proper disposal of sharps waste. Used sharps are safely removed from site and disposed of in accordance with regulations. The storage containers are then decontaminated and reused on-site, reducing the need for additional waste generation. This sustainable approach helps minimise waste while maintaining high standards of safety and compliance.

Spot Checks and Audits

The Facilities Team at LHCH conducts regular spot checks and audits to ensure that internal waste is disposed of correctly and in compliance with sustainability guidelines. The Team Leader is responsible for overseeing these audits, and any issues identified during the process are addressed through in-house training. This approach ensures that all staff are well-informed and that waste management practices are continuously improved, supporting the Trust's commitment to effective and responsible waste disposal.

Single Use Instruments and Recycling Theatre Materials

Six months ago, Liverpool Heart and Chest Hospital (LHCH) partnered with Johnson & Johnson MedTech to implement a Take-back Programme aimed at reducing single-use medical waste from operating theatres. As part of the initiative, J&J MedTech provides designated waste containers in theatres for the collection of single-use instruments and suture relay trays. Once collected, these materials are transported to MYgroup in Hull, a family-run business committed to sustainable waste solutions. MYgroup processes the plastics and upcycles them into high-quality furniture through its MYReFactory brand. Any remaining secondary raw materials are responsibly recycled or redistributed, ensuring as much material as possible is diverted from landfill or incineration.

Operating rooms are responsible for approximately 30% of a hospital's total waste, making them a critical area for sustainability efforts. This initiative supports the NHS Clinical Waste Strategy by addressing the complexities of recycling medical waste and promoting closed-loop processes, ultimately contributing to reduced environmental impact across the healthcare sector.



Recycling Process – Contaminated – illustrative example



In addition to our recycling initiatives outlined above, we actively reuse gowns in both Theatres and Catheter Labs to further reduce waste. We also continue to monitor and minimise the environmental impact of anaesthetic gases used in clinical settings. For further details on these practices, please refer to Section 2 under Care Models.

7 Food, catering and nutrition

7.1 Background

Food, catering, and nutrition are critical areas for sustainability within the NHS due to their significant impact on both environmental and health outcomes. These initiatives not only contribute to reducing the carbon footprint but also ensure that patients, staff, and the wider community benefit from healthier, more sustainable food practices.

The food sector within the NHS is responsible for a considerable portion of the organisation's carbon emissions. Sourcing food locally, reducing food waste, and opting for sustainable, plant-based options can all contribute to lowering carbon emissions. By focusing on sustainable sourcing practices (such as reducing food miles and prioritising seasonal produce), the NHS can significantly reduce its environmental footprint.

LHCH work with both our main food and catering partners – Medirest and ISS – to ensure that patients and staff have access to nutritious, sustainably sourced and thoughtfully produced food.

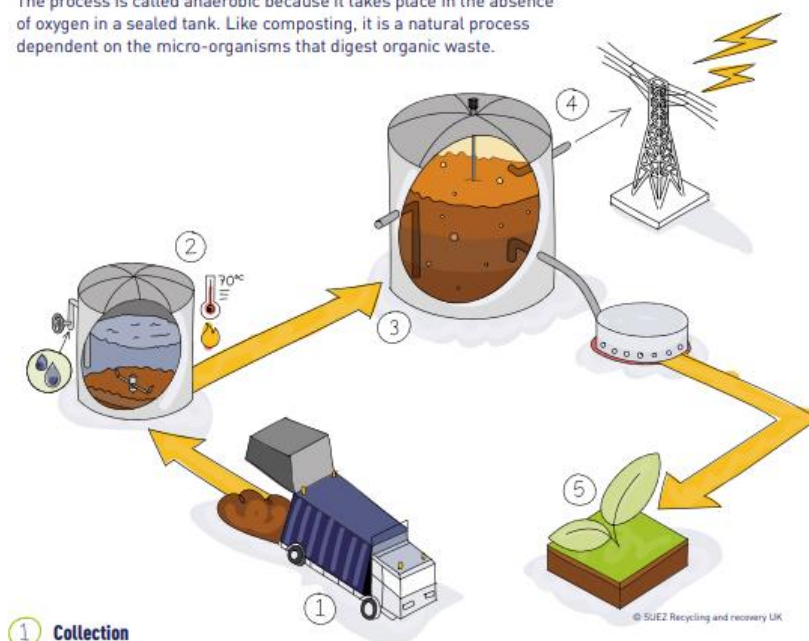
7.2 The story so far

Minimising Food Waste

As one of the largest public sector organisations, the NHS faces significant food waste challenges. By implementing food waste reduction programmes, such as improved stock management and ensuring leftovers are recycled or composted, NHS Trusts can contribute to waste minimisation. At LHCH, we separate food waste from general waste to help reduce both waste volumes and our carbon footprint. In partnership with Medirest and Suez, we use bespoke food waste caddies with biodegradable liners for indoor use, as well as larger containers for outdoor disposal. The collected food waste is then processed into compost via the anaerobic digestion facility, offering a more sustainable waste disposal method. In addition to our waste management practices, LHCH has made strides in enhancing operational efficiency by transitioning from paper to electronic menus, as highlighted in Section 6.2. This shift has not only improved meal planning and quality but also further reduced food waste. From April 2024 to March 2025, LHCH successfully collected 1.46 tonnes of food waste, all of which has been correctly disposed of through the anaerobic digestion facility. See below in detail the anaerobic digestion facility.

What happens in an anaerobic digestion facility?

Anaerobic digestion is an alternative way of composting food waste, while also producing renewable energy and avoiding carbon emissions. The process is called anaerobic because it takes place in the absence of oxygen in a sealed tank. Like composting, it is a natural process dependent on the micro-organisms that digest organic waste.



1 Collection

Food waste, collected from homes and businesses, is delivered – either directly or via a waste transfer station – to the reception hall of an anaerobic digestion facility.

2 Pre-treatment

First the food waste must be pre-treated to remove contaminants such as packaging and it is also diluted with water.

Heating this waste mixture to 70°C for one hour kills all pathogens in the food.

3 Digestion

Now pasteurised, the waste is fed into the anaerobic digester. As with composting, bacteria break down the waste, converting it into biogas and a residue, which is called digestate.

4 Energy

Gas piped from the digester is used to generate electricity and heat.

5 Other by-products

Water removed from the digestate in a centrifuge can be reused in the process. The digestate contains nutrients and, after maturing, can be used as a biofertiliser to improve soil.

Food Packaging and Utensils

In alignment with the NHS's broader environmental goals, switching to sustainable food packaging and utensils represents a practical and impactful step toward reducing waste and carbon emissions. This shift not only supports better waste management and ethical supply chains but also contributes to the health and wellbeing of patients and staff across the organisation.

At LHCH, our catering partners, ISS and Medirest, have adopted more environmentally responsible practices by replacing single-use plastics with wooden and recyclable utensils. In 2023, LHCH introduced Steamplicity meals, which use innovative micro steam technology to cook meals fresh on-site. These meals offer a 7-day shelf life, allowing greater flexibility in meal planning and contributing to a food waste rate of less than 2.5%. The switch to Steamplicity has also led to a noticeable reduction in packaging waste, further supporting our commitment to sustainability. By prioritising sustainable catering solutions, LHCH continues to demonstrate environmental responsibility, enhance operational efficiency, and contribute to the NHS's long-term sustainability strategy.

Providing Sustainable Options

It is important to provide the information and opportunities for people to make more sustainable choices. We have worked with our partners – Medirest and ISS – to ensure that where possible patients and staff are offered plant-based menu options and are given transparent information about the sources of ingredients.

Supporting Health and Wellbeing

Sustainable catering practices also support the health and wellbeing of NHS staff and patients. A focus on providing nutritious, balanced, and locally sourced meals can have positive effects on health outcomes. For LHCH patients, this means meals that contribute to recovery and overall well-being, while for staff, it provides healthier food options that improve energy and allow staff to continue to provide a high standard of care for the patients.

8 Green spaces and biodiversity

8.1 Background

The positive impact that spending time in and around green spaces can have on both our physical and mental wellbeing are widely acknowledged. Enhancing our green spaces at LHCH can have a positive impact on the well-being of our staff, patients and visitors as well as helping our local wildlife to thrive.

8.2 The story so far

The Trust is committed to enhancing green spaces and biodiversity on site for the benefit of both staff and patients. In partnership with LUHFT Nature Ranger and volunteer staff members, 81 trees have been planted on the LHCH site in recent years, along with wildflower patches, bird boxes, and over 200 crocus bulbs. These efforts are aimed at increasing biodiversity and creating a dedicated wellbeing space for staff to enjoy. The newly planted trees are part of the NHS Forest Project and the Queen's Green Canopy initiative. Tree species have been carefully selected to align with the names of our clinical areas. While the carbon offset and the specific benefits to local

air quality from these trees are yet to be fully assessed, their inclusion is expected to contribute positively to the site's environmental footprint.

Expanding our green space at LHCH has a positive impact on both the physical and mental wellbeing of our staff and patients, while supporting key sustainability goals. By planting trees, shrubs, and wildflower patches we have helped to reduce noise pollution from nearby roads and enhances biodiversity across the site. These efforts contribute to the Trust's sustainability goals by fostering an environmentally friendly atmosphere, improving the local ecosystem, and creating a peaceful, therapeutic environment for all visitors. As with any busy NHS Trust, LHCH has limited space, which has presented a few challenges over the last four years, particularly around our green spaces, nevertheless we continue to work with our LHCH site partners to do what we can, to continue to enhance our green spaces.



9 Suppliers and partners

9.1 Background

Currently, NHS England procures goods and services from around 80,000 suppliers. The activities and practices of our suppliers make up a large part of our wider carbon footprint. The NHS supply chain is currently estimated to be responsible for a staggering 60 – 80% of the NHS's carbon emissions. Only through engaging with our suppliers, and our many other partners, will we be able to fully address our impact on the environment.

In November 2023, NHS England produced a roadmap to help suppliers align with our net zero ambitions between now and 2030. Health Procurement Liverpool (HPL) manages LHCH's procurement processes, playing a vital role in ensuring that the Trust meets its requirements for

goods, services, works, and utilities, while achieving value for money throughout their lifecycle. This process generates benefits for the organisation, society, and the economy, while minimising environmental impact. By integrating sustainability and social value into our procurement activities, we aim to support broader environmental and social objectives.

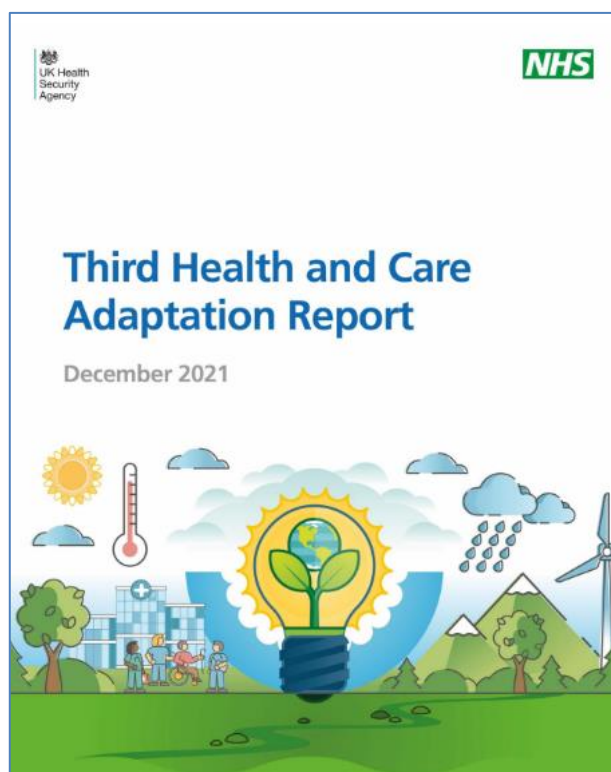
In addition to this we collaborate with key partners across various sections of our sustainability initiatives. LHCH attends the C&M Sustainability Group meetings bi-monthly and engages with Liverpool partners to share knowledge and best practices. This close working will continue as the five adult acute and specialist providers in Liverpool come together as the University Hospitals of Liverpool Group over the coming years. Additionally, we will continue to explore ways to engage with our major equipment suppliers such as Boston Scientific and Medtronic to ensure their practices align with our sustainability goals.

10 Adaptation

As the NHS's Third Health and Care Adaptation Report states: 'Climate change is already here. There is a clear and immediate need for the health and care sector to reduce its carbon emissions to net zero, and to adapt to the impacts of climate change that can't be avoided, building resilience into the system as it protects and promotes the health of populations now and in the future'.

The report is co-developed by the NHS and Public Health England (PHE) and outlines the practical steps that can be taken by NHS Trusts to help build resilience and adapt to climate change.

Adaptation is the process of adjusting our systems and infrastructure to continue to operate effectively while the climate changes. The 'Delivering a net zero NHS' strategy commits to building resilience and adaptation into the heart of the net zero agenda, understanding that these two issues must be tackled as two sides of the same coin. LHCH currently do not have an adaptation plan but are very aware this is something that needs creating for the future. Our focus has firmly been in reducing emissions and establishing our sustainability work. However, with support from the ICB and other Trusts, we expect to have something in place over the next few years.



11 Conclusion and next steps

Over the past four years, LHCH has made significant strides in integrating sustainability into its operations. Initiatives such as the introduction of telehealth services, reducing single-use plastic gloves, promoting low-carbon inhalers, and enhancing green spaces on site have demonstrated the Trust's commitment to improving both health outcomes and environmental sustainability. These efforts have contributed to waste reduction, improved wellbeing for patients and staff, and supported broader carbon reduction goals. Sustainability continues to be a core focus of the Trust's agenda, and with the continued support of a refreshed Green Plan in 2025 we aim to build on this momentum over the next three years.

However, several challenges persist. The age of many of our buildings restricts our ability to make energy-efficient improvements to utilities and infrastructure. Funding constraints have also hindered progress on some of our sustainability goals and the shared nature of the hospital site creates further limitations. Education on recycling practices, especially on the wards, is needed, as are improved active travel facilities. Another challenge lies in maintaining staff engagement and momentum and this has been exacerbated by the limited programme management resource in place and the lack of clear governance to support the programme. Overcoming these challenges will be the focus of our refreshed Green Plan.

Despite these obstacles, LHCH remains determined to focus on innovative solutions to advance sustainability in alignment with the Trust's Green Plan. Over the next three years, we will continue to address these issues, ensuring that sustainability remains embedded across all aspects of our work. There is clear potential for the five adult acute and specialist providers in Liverpool to work ever more closely together on this agenda as we come together as the University Hospitals of Liverpool Group over the coming years.