Carbon Net Zero – "Our Green Plan 2021 - 2026"

NHS
Birmingham and Solihull
Mental Health NHS Foundation Trust

Prepared in partnership with

SSL+

Contents

Foreword

'Our Green Plan' represents a journey of how the Birmingham and Solihull Mental Health Foundation Trust (BSMHFT) with the support of Summerhill Services Ltd. (SSL), will move towards Net Zero.

Our Trust acknowledges the nation's declared climate emergency, and views climate change as the biggest challenge we as an NHS Trust, have yet to face. The impacts of climate change are trans-boundary and many.

Supply chains will inevitably be disrupted, and we take this opportunity as our first steps to becoming a climate change-resilient organisation to ensure we can deliver excellent levels of care now and in the future. We understand that climate change will affect people's mental and physical health directly and indirectly, and potentially exacerbate health inequalities in the communities we serve.

This document will embed environmental and sustainability principles further into our business-as-usual processes, aiming to create a 'green currency' and a new way of describing information, values or targets equivalent to that of financial.

As this Plan will demonstrate, there are many challenges ahead. However, we all should pause and recognise the significant progress the Trust has made to date, its regional and national recognition and the many interventions already achieved, in progress and being planned.

We hope that this plan has been written for BSMHFT in such a manner that it will be owned, developed, and delivered by all members of the Trust.
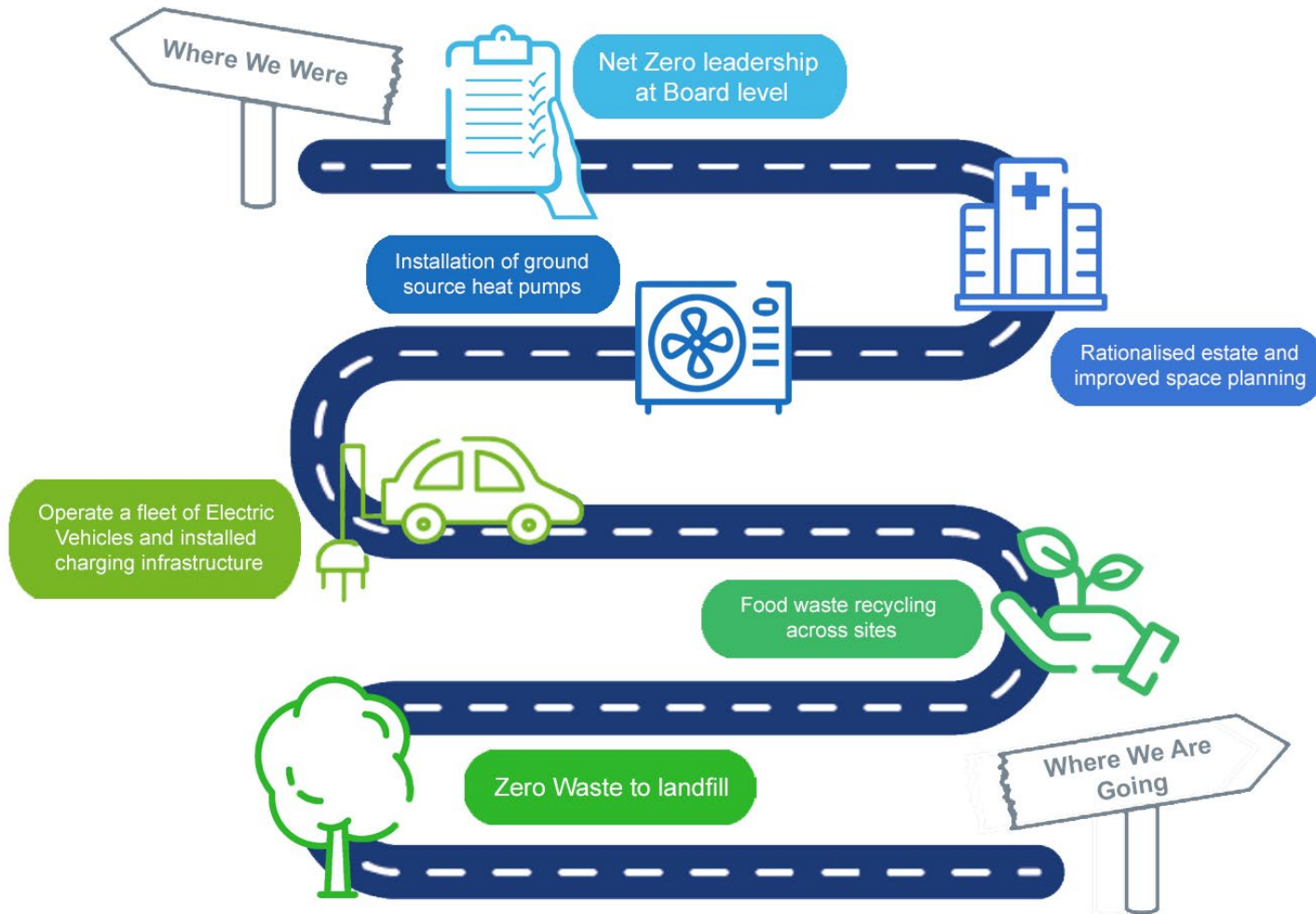
Dave Tomlinson - Executive Director of Finance

Winston Weir - Non-Executive Director

Progress to date – recognising our achievements

Where We Were

Net Zero leadership at Board level

Installation of ground source heat pumps

Rationalised estate and improved space planning

Operate a fleet of Electric Vehicles and installed charging infrastructure

Food waste recycling across sites

Zero Waste to landfill

Where We Are Going

Introduction

"While the NHS is already a world leader in sustainability, as the biggest employer in this country and comprising nearly a tenth of the UK economy, we're both part of the problem and part of the solution.

That's why we are mobilising our 1.3 million staff to take action for a greener NHS, and it's why we have worked with the world's leading experts to help set a practical, evidence-based and ambitious route map and date for the NHS to reach net zero."

Sir Simon Stevens, former NHS Chief Executive

A sustainable society is a thriving, inclusive society with cultural vitality, which uses its resources efficiently and sensibly, and has a pleasant and healthy environment, which is treated responsibly and sensitively whilst meeting social needs.

For Birmingham and Solihull Mental Health Foundation Trust (BSMHFT) this means continuing to provide the same high or a further enhanced standard of healthcare for all our service users whilst managing our resources better and minimising our negative impact on the environment.

Our climate is changing for the worse due to our actions and is threatening our quality of life by impacting our health, environment, economy, and society. We now know that the main cause of climate change is the emission of greenhouse gases, of which carbon dioxide (CO_2) and methane are the most significant.

We are all experiencing the impacts of climate change and Birmingham and Solihull will increasingly be affected by climate change resulting from previously emitted CO_2 and methane.

We must be prepared for this, with our four clear overarching priorities being:

Sustainable production and consumption – working towards achieving more with less, reducing the inefficient use of resources and breaking the link between economic growth and environmental degradation.

Natural resource protection and environmental enhancement – protecting and replacing the natural resources which we depend on.

Sustainable communities – creating places where people want to live and work in, now and in the future.

Climate change and energy – confronting the greatest threat by changing the way we use, procure, and generate energy.

The Trust has won and been finalists at several Health Service Journal awards for its approach to Sustainable Development. In addition, the Sustainability and Carbon reporting undertaken by Summerhill Services Ltd. (SSL) on behalf of the Trust has been recognised nationally as an exemplar of best practice.

To continue the success of the work already done, the Trust has amalgamated existing policies and strategies into this single Green Plan and accompanying Area of Focus Action Plans.

Executive Summary

BSMHFT is committed to the principles of Sustainable Development and will progressively integrate these principles into our daily activities.

Through our work with the Department of Health, NHS England, other Government departments and our communities we will seek to raise awareness of sustainability and to ensure our activities support the achievement of sustainable development objectives wherever possible, whilst underpinning the improvement of health and well-being.

Investment in greener technologies, renewable energy and heat decarbonisation will be needed, as well as in ensuring that staff and contractors have the ability and knowledge necessary to support and lead positive changes.

This Plan and its actions need to be owned by all within the Trust, with staff and contractors empowered to make and promote sustainable choices and changes.

It must be recognised that the 'big ticket' items do not always have the greatest impact. Instead, many quick wins at a team and site basis can make a huge impact on the environmental efficiencies, carbon emissions and the sustainability of the healthcare delivered by and within BSMHFT.

The Trust will need to balance its resources and prioritise accordingly. Patient wellbeing and safety will always come first when considering investment and budgets. Therefore, the organisation must recognise that interventions and ways of working that provide the right direction of travel must be developed without creating a strain on our resources.

This Plan places actions onto teams and individuals to lead and own, benchmark, and deliver real outputs. Although written by Summerhill Services Ltd. (SSL) on behalf of the Trust, this Plan is not SSL's, and it is not SSL's remit to deliver it. However, SSL will help with Green Plan delivery, such as within the Estates and Facilities, Travel and Transport, and Food and Nutrition areas of focus.

As per the BSMHFT 2007 Strategy, the ethos and practices of Sustainable Development in its many guises must be owned by all.
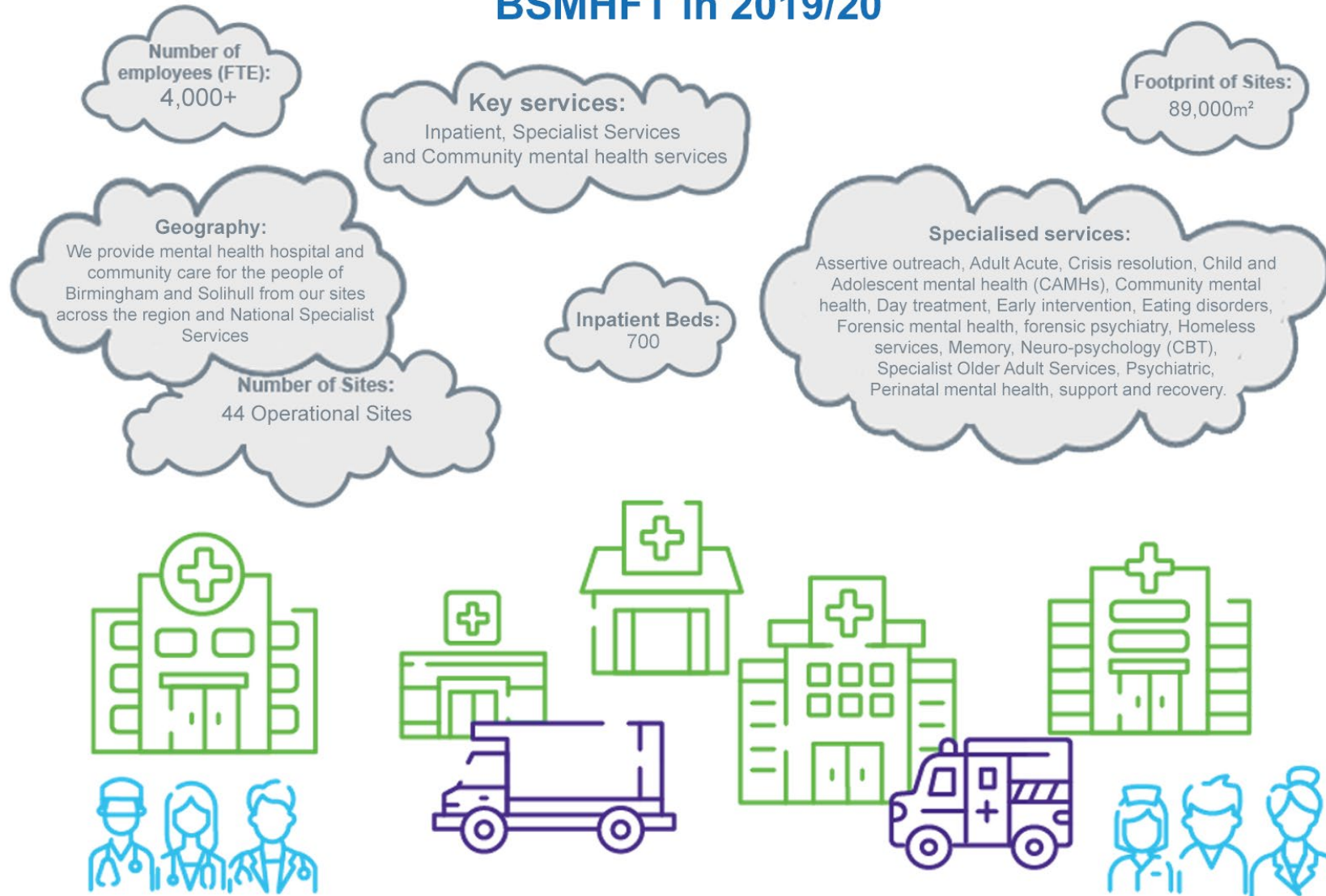
BSMHFT in 2019/20

Number of employees (FTE):
4,000+

Key services:
Inpatient, Specialist Services and Community mental health services

Footprint of Sites:
89,000m²

Geography:
We provide mental health hospital and community care for the people of Birmingham and Solihull from our sites across the region and National Specialist Services

Specialised services:
Assertive outreach, Adult Acute, Crisis resolution, Child and Adolescent mental health (CAMHs), Community mental health, Day treatment, Early intervention, Eating disorders, Forensic mental health, forensic psychiatry, Homeless services, Memory, Neuro-psychology (CBT), Specialist Older Adult Services, Psychiatric, Perinatal mental health, support and recovery.

Number of Sites:
44 Operational Sites

Inpatient Beds:
700

Figure 1 BSMHFT description of services and estate in 2019/20

Organisational Vision

The Green Plan adds further environmental and social dimensions to the Trust's vision and key themes, especially in terms of the widely accepted climate and ecological crisis.

Green Plan Vision

Net Zero: resource consumption and Greenhouse Gas (GHG) emission reductions that align with NHS net zero targets and mitigate against climate change.

Climate Resilience: adaptation strategies that strengthen the Trust's ability to maintain quality care and provide a basis for us to become a climate change resilient organisation.

Social Value: actions that influence the collective social wellbeing of patients, staff and surrounding community.

The Green Plan has nine Areas of Focus that appraise the Trust's status and set actions to be achieved within the next three years:

1. Workforce and Systems Leadership
2. Sustainable Models of Care
3. Digital Transformation
4. Travel and Transport
5. Estates and Facilities
6. Medicines
7. Supply Chain and Procurement
8. Food and Nutrition
9. Adaptation

Drivers for Change

BSMHFT is committed to deliver the NHS Long Term Plan, NHS Standard Contract, the recommendations in the Priorities and Operational Planning Guidance and '*Delivering a Net Zero NHS*' report, which have all informed this Green Plan and shape the Trust's Vision.

Delivering a Net Zero NHS

The NHS is the first National Health system committed to become Net Zero. It has adopted a multiyear plan "*Delivering a 'Net Zero' National Health Service*", that has clear deliverables and milestones and two key targets:

- NHS Carbon Footprint (emissions under its direct control) to be net zero by 2040 with an ambition for an interim 80% reduction being achieved by 2028 to 2032, and
- NHS Carbon Footprint 'Plus' (emissions which the NHS can influence, including its supply chain) to be net zero by 2045 with an ambition for an interim 80% reduction by 2036 to 2039.

NB the above NHS targets are measured against a 1990 baseline as per the "Delivering a Net Zero National Health Service".

The recent Health and Care Act 2022, enshrines NHS England's commitment to achieve Net Zero in law; fulfilling its obligations relating to the Environment Act 2021 and Climate Change Act 2008 (as amended).

It should be recognised that the NHS has already made considerable progress in reducing its carbon footprint with an estimated 62% reduction in emissions achieved – well exceeding the 37% requirement for 2020 as outlined in the Climate Change Act 2008, as delivered against a 1990 baseline.

The Net Zero commitment recognises that once actions have been taken to minimise resource use and GHG emissions, there will still be residual GHG emissions associated with the operation of buildings, travel, waste, and supply chain.

These emissions will be addressed in the future through carbon offsetting, which refers to the financial investment in carbon sequestration schemes, such as tree planting and the restoration and preservation of wetlands. NHS Trusts will need to plan for and accrue for this commitment going forwards.

"*Delivering a 'Net Zero' National Health Service*" is an iterative and adaptive approach, periodically reviewed, that aims to increase the level of ambition over time. The report identifies eight interventions the NHS is required to implement to meet its Carbon Footprint targets:

1. **Our care:** By developing a framework to evaluate carbon reduction associated with new models of care being considered and implemented as part of the NHS Long Term Plan.
2. **Our medicines and supply chain:** By working with our suppliers to ensure that all of them meet or exceed our commitment on net zero emissions before the end of the decade.
3. **Our transport and travel:** By working towards road-testing for what would be the world's first zero-emission ambulance by 2022, with a shift to zero emission vehicles by 2032 feasible for the rest of the fleet.
4. **Our innovation:** By ensuring the digital transformation agenda aligns with our ambition to be a net zero health service and implementing a net zero horizon scanning function to identify future pipeline innovations.
5. **Our hospitals:** By supporting the construction of 40 new 'net zero hospitals' as part of the government's Health

Infrastructure Plan with a new Net Zero Carbon Hospital Standard.

6. **Our heating and lighting:** By completing a £50 million LED lighting replacement programme, which, expanded across the entire NHS, would improve patient comfort and save over £3 billion during the coming three decades.

7. **Our adaptation efforts:** By building resilience and adaptation into the heart of our net zero agenda, and vice versa, with the third Health and Social Care Sector Climate Change Adaptation Report in the coming months.

8. **Our values and our governance:** By supporting an update to the NHS Constitution to include the response to climate change, launching a new national programme for a greener NHS, and ensuring that every NHS organisation has a board-level net zero lead, making it clear that this is a key responsibility for all our staff.

Greener NHS Programme

The Greener NHS Programme supports NHS Trusts and Integrated Care Systems deliver NHS Net Zero commitments.

This Programme recognises that COVID-19 led to resources being diverted away from greener NHS work, but also correlates improvements to air quality due to reduced commuting and travel.

NHS Trusts are encouraged to learn from their experiences of working as partnerships and collaborations in response to COVID-19 and translate these into their Green Plans.

In addition to our Net Zero commitments, BSMHFT will review and participate in regional partnerships and strategies related to sustainable development, wherever appropriate.

Priority	Link to our Green Plan
NHS NHS Long Term Plan (LTP)	**2.18** Take action on healthy NHS premises. **2.21** Reduce air pollution from all sources. **2.24** Take a systematic approach to reduce health inequalities. **2.3** Improve preventative care. **2.37** Commission, partner with and champion local charities, social enterprises and community interest companies. **4.38** Make the NHS a consistently great place to work – promoting flexibility, wellbeing and career development. **4.42** Place respect, equality and diversity at the heart of workforce plans. **16** Play a wider role in influencing the shape of local communities. **17** Lead by example in sustainable development and in reducing use of natural resources and the carbon footprint of health and social care **18** Create social value in local communities as an anchor institution.
NHS NHS Standard Contract 21/22 SC18	**18.1** Take all reasonable steps to minimise adverse impact on the environment. **18.2** Maintain and deliver a Green Plan, approved by the Governing Body, in accordance with Green Plan Guidance.
NHS Planning Guidance 21/22 PG	**C1** Where outpatient attendances are clinically necessary, at least 25% should be delivered remotely by telephone or video consultation
NHS Estates 'Net Zero' Carbon Delivery Plan NZCDP	**1.** Making every kWh count: Investing in no-regrets energy saving measures **2.** Preparing buildings for electricity-led heating: Upgrading building fabric **3.** Switching to non-fossil fuel heating: Investing in innovative new energy sources **4.** Increasing on-site renewables: Investing in on-site generation
NHS Greener NHS / Net Zero Plan	Net zero by **2040** for the NHS Carbon Footprint, with 80% reduction by 2028 to 2032. Net zero by **2045** for the NHS Carbon Footprint '*Plus*', with an ambition for an 80% reduction by 2036 to 2039.

Figure 2 NHS Environmental Drivers

Legislative Drivers	UK Guidance
Civil Contingencies Act 2004	National Policy and Planning Framework 2012
Climate Change Act 2008 (as amended)	Department of Environment, Food and Rural Affairs (DEFRA) The Economics of Climate Resilience 2013
Health and Care Act 2022	Delivering a 'Net Zero' National Health Service (as amended in July 2022)
Environment Act 2021	Net Zero Supplier Roadmap
Public Services (Social Values) Act 2012	Department for Environment, Food and Rural Affairs (DEFRA) Government Buying Standards for Sustainable Procurement 2016
Mandatory; those mandated within the NHS	The Stern Review 2006; the Economics of Climate Change
Standard Form Contract requirements	Health Protection Agency (HPA) Health Effects of Climate Change 2012
HM Treasury's Sustainability Reporting Framework	The National Adaptation Programme 2013; Making the country resilient to the changing climate
Public Health Outcomes Framework	Department of Environment, Food and Rural Affairs (DEFRA) 25 Year Plan
International	Health Specific Requirements
Intergovernmental Panel on Climate Change (IPCC) AR5 2013	Delivering a Net Zero National Health Service 2020 and Greener NHS guidance
UN Sustainable Development Goals (SDGs) 2016	Five Year Forward View 2014
World Health Organisation (WHO) toward environmentally sustainable health systems 2016	Sustainable Development Strategy for the Health and Social Care System 2014-2020
World Health Organisation (WHO) Health 2020	Adaptation Report for the Healthcare System 2015
The Global Climate and Health Alliance. Mitigation and Co-benefits of Climate Change	The Carter Review 2016
	National Institute for Clinical Excellence (NICE) Physical Activity; walking and cycling 2012
	Health Technical Memoranda (HTM) and Health Building Notes (HBN)
	Sustainable Transformation Partnerships (STP) Plans

Figure 3 Legislative Drivers with UK Guidance

The UN Sustainable Development Goals

The Trust is working meaningfully towards the United Nations (UN) Sustainable Development Goals (SDGs) through the Green Plan, which have been aligned to relevant SDG targets.

The SDGs underpin a global action framework to 2030, adopted by every UN member country to address the biggest challenges facing humanity.

Each goal has targets and indicators to help nations and organisations prioritise and manage responses to key social, economic and environmental issues.

"The NHS belongs to all of us" *

Established on 5th July 1948, the UK's National Health Service is the world's first modern fully universal healthcare system, free at the point of use, and celebrating its 75th year in 2023.

The NHS and its people contribute to multiple SDGs through the delivery of its core functions, for example, target 3.8, to achieve universal health coverage.

* Constitution of NHS England

1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

Linking the Green Plan to NHS Net Zero

Contributing to around 4% of the country's carbon emissions, and over 7% of the economy, the NHS has an essential role to play in meeting the net zero targets set under the Climate Change Act.

Two clear and feasible net zero targets for NHS England are outlined in the ['Delivering a 'Net Zero' National Health Service'](#) report (aka NHS Net Zero Report):

- o **The NHS Carbon Footprint** for the emissions under direct *control*, net zero by **2040**
- o **The NHS Carbon Footprint 'Plus'** for the emissions under *influence*, net zero by **2045**.

All NHS trusts are to align their Green Plans with NHS England's net zero ambitions. Those emissions have been calculated from all the sources listed in the NHS Net Zero Report should be reduced by approximately 4% year-on-year (akin to Science Based Targets) until each of the relevant target dates.

Greenhouse Gas Emissions

Greenhouse gas emissions are conventionally classified into one of three 'scopes', dependent on what the emission source is and the level of control an organisation has over the emission source. They are reported in 'tonnes of carbon dioxide equivalent' (tCO_2e).

The emission sources and their 'scopes' are shown in the infographic (Figure 4).

Figure 4 Greenhouse gas emission sources, and their 'scopes'
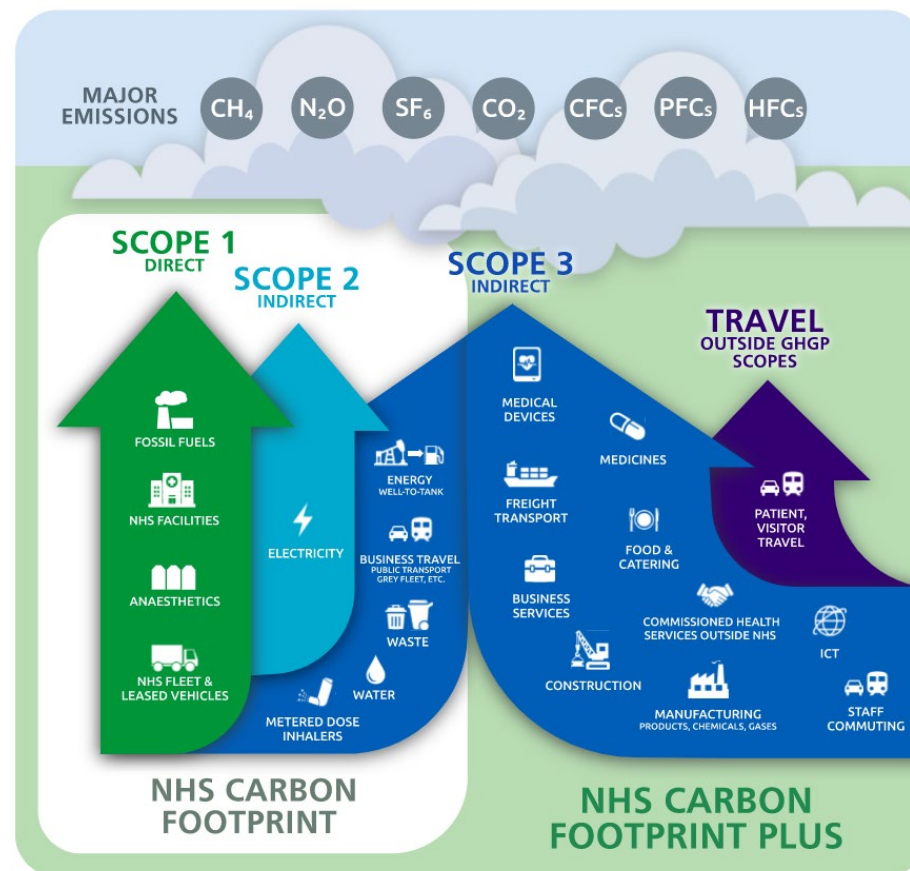
Data and methodology

The accuracy of a Greenhouse Gas (GHG) emission calculation result depends on the data set provided. The more accurate the data, the more accurate the result, which will subsequently allow for better targeting of areas where improvements can be made.

BSMHFT's GHG emissions footprint has been calculated according to the GHG Protocol for Corporate Reporting and aligned with ISO 14064:1, using the appropriate Defra emission factors per emission source (kg CO_2e per kWh, km, m^3, tonne etc.). The correct emission factors are supported by the detailed carbon factors annex in the NHS's "Trust Contributions to the NHS Carbon Footprint Plus" document.

The Trust's carbon footprint has been calculated from 2018/19 to 2021/22 in terms of building energy and delivery of care, travel, and the supply chain, as per the categorisations in the NHS Net Zero report.

The Trust has used the following primary data:
- o resource consumption (electricity, gas, water) data from utility bills
- o waste arisings from data sets from waste contractors
- o fleet vehicle fuel use from fuel reports/receipts
- o business miles travelled (by car) from the expenses system
- o published procurement spend

The Trust has used the NHS Health Outcomes of Travel Tool (HOTT) to estimate emissions from staff commuting, patient and visitor travel and published procurement expenditure to derive spend-based emission values for categories within our supply chain.

The Trust is using 2019/20 as the baseline year to set targets against, as this is the last full financial year before the COVID-19 pandemic. This allows us to capture the impacts of the resulting negated travel and remote appointments in this Plan.

However, in certain instances, due to changes in emission factors or significant changes in operations, we have used a 2020/21 baseline to set emission reduction trajectories against. This includes such examples as emission reductions associated with the use of 'green' electricity and significant changes to the emission factor for water (which was 1.052 $kgCO_2e/m^3$ combined water supply and treatment for 2019 through to 2021 and dropped 60% to 0.421 $kgCO_2e/m^3$ in 2021/22).
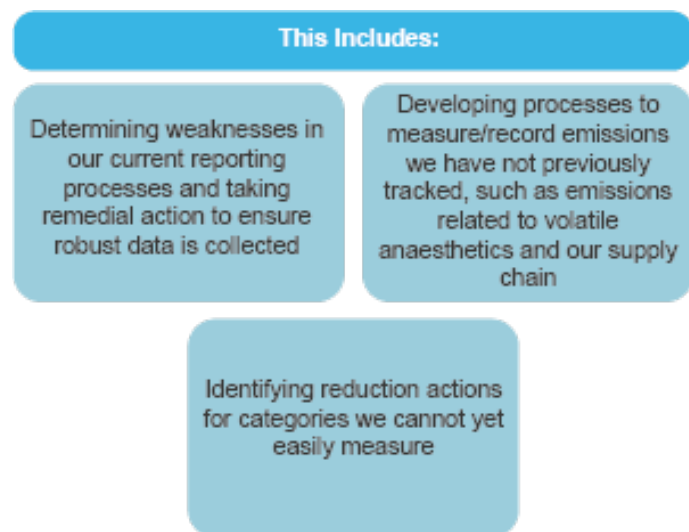
**BSMHFT's Net Zero Ambitions**

BSMHFT fully commits to reducing greenhouse gas emissions to Net Zero to prevent the worst impacts of climate change and meet NHS Net Zero commitments. This Green Plan outlines high-level emissions reductions and actions to achieve them for each area of focus.

BSMHFT needs to act now to reduce our emissions from a variety of direct and indirect sources, from the estates to care delivery and beyond, each year from now until Net Zero is achieved.

The Trust is using this Green Plan to improve Net Zero-related data collation, carbon footprint and reporting capacity over time.

This Includes:

Determining weaknesses in our current reporting processes and taking remedial action to ensure robust data is collected

Developing processes to measure/record emissions we have not previously tracked, such as emissions related to volatile anaesthetics and our supply chain

Identifying reduction actions for categories we cannot yet easily measure

An emissions-reduction trajectory for each emission source has been given in each Area of Focus (if applicable) from 2021/22 until 2025/26. Each Area of Focus lists a series of actions to achieve these emission reductions. There will be residual emissions following both the 2040 and 2045 target dates, which will need to be 'offset' or sequestered (which is not in the scope of this Plan).

10.07m

One tonne of carbon dioxide
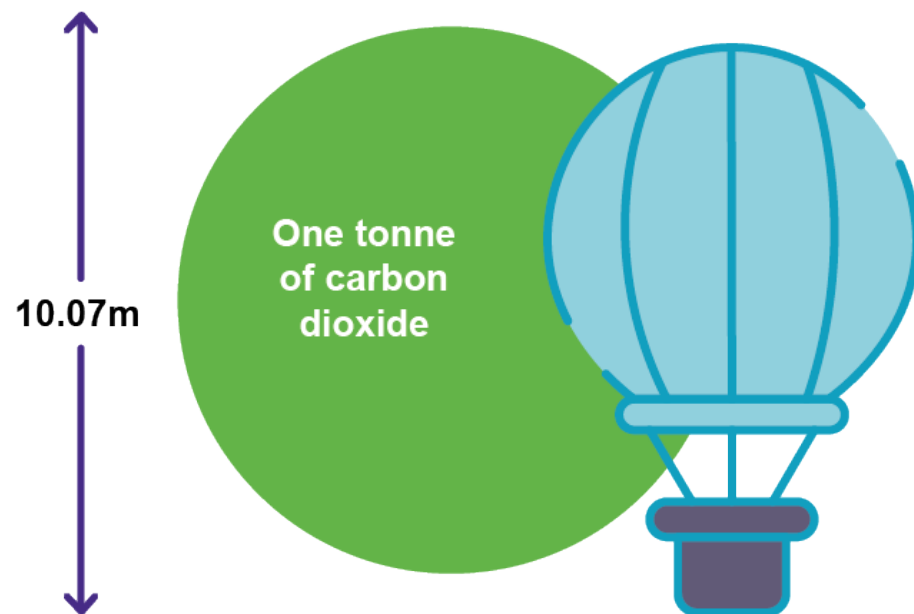
What does 1 tonne of carbon dioxide look like?

One tCO_2e can be visualised as a volume of gas the size of a hot air balloon – a sphere about 10 metres in diameter.

The average 3-bedroom semi-detached home in the Midlands emits around 1 tCO_2e per year from electricity consumption and almost 2 tCO_2e from the use of natural gas for heating and cooking.

The Current Position

The Carbon Footprint for BSMHFT will be established in full and set using the 2019/20 financial year (this representing the last 'normal' year prior to the pandemic. This will be developed following data and metrics to be issued by NHSEI. An in-depth review of full scope 3 emissions (in tCO_2e) is also to be undertaken.

To meet the NHS Net Zero commitments, calculations, and metrics against the NHSEI requirements will be developed up to 2040/45.

The total Carbon Footprint in 2019/20 was **36,187** tCO_2e

To meet the NHS Net Zero commitments, around **900** tCO_2e needs to be avoided from all sources each year until 2040/45.

Carbon Account

As described on P15, the NHS has two Net Zero targets: NHS Carbon Footprint (2040) and NHS Carbon Footprint Plus (2045). The following BSMHFT carbon accounts relate to emissions and emissions sources in the NHS Carbon Footprint and Carbon Footprint Plus respectively.

Emission source	Emissions Scope	2019/20		2020/21		2021/22	
		Consumption	tCO_2e	Consumption	tCO_2e	Consumption	tCO_2e
Natural Gas in *kWh*	1, 3	22,984,359	**4,775**	24,573,531	**5,106**	23,354,799	**5,010**
Electricity - grid supplied (location based) in *kWh*	2, 3	9,850,040	**3,112**	n/a	n/a	n/a	n/a
Electricity - zero / low-carbon (market based) in *kWh*	2, 3	n/a	n/a	9,053,331	**498**	8,506,105	**672**
Water Consumption *m³* (inc. water treatment emissions)	3	96,896	**99**	92,405	**94**	92,821	**38**
Waste Arisings in *tonnes*	3	991	**41**	820	**39**	745	**49**
Fleet Vehicles in *litres of fuel*	1, 3	58,119	**185**	55,091	**172**	57,431	**178**
Business Travel, inc. Grey Fleet in *km*	3	2,455,410	**563**	1,089,634	**236**	1,184,535	**261**
Metered Dose Inhalers in *number prescribed*	3	TBC	**-**	TBC	**-**	TBC	**-**
Anaesthetic Gases in *litres used*	1	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**
TOTAL tCO_2e			**8,776**		**6,145**		**6,208**

Figure 5 BSMHFT Carbon Account aligned to the NHS Carbon Footprint, from 2019/20 to 2021/22.

NB The Scope 3 Electricity well-to-tank emissions factor increased by 72%, and Scope 3 Electricity Transmission and Distribution well-to-tank emissions factor increased by 77% between 2020/21 and 2021/22. This explains why emissions from electricity use increased in 2021/22 compared to 2020/21, despite total electricity consumption decreasing by 6% over the same period.

Conversely, the emissions factors for water supply decreased by 57% and water treatment by 62% between 2020/21 and 2021/22, accounting for the significant drop in water-related emissions seen in 2021/22.

Emission source	Emissions Scope	2019/20		2020/21		2021/22	
		Consumption	tCO$_2$e	Consumption	tCO$_2$e	Consumption	tCO$_2$e
Staff Commuting in *km*	3	22,217,736	**2,323**	22,217,736	**2,236**	22,217,736	**2,182**
Patient and Visitor Travel in *km*	Out of scope	12,235,879	**1,492**	12,235,879	**1,436**	12,235,879	**1,402**
Supply Chain in *£ spent* (spend-based methodology: tCO$_2$e/£)	3	41,812,367	**23,596**	49,267,857	**29,793**	69,928,992	**37,325**
TOTAL tCO$_2$e			**27,411**		**33,465**		**40,909**

Figure 6 BSMHFT Carbon Account aligned to the NHS Carbon Footprint Plus, from 2019/20 to 2021/22. NB Commuting, patient and visitor travel have been determined using the NHS' Health Outcomes of Travel Tool (HOTT). HOTT does not factor the impact of the COVID-19.

The donut chart on the following page (figure 7) is a composite that illustrates the proportion of emissions from *all* emission sources (as detailed above) from both the NHS Carbon Footprint and Carbon Footprint 'Plus'.

Akin to the NHS Net Zero report, most of the emissions (69%) came from sources not under the Trust's direct control: 63% from the supply chain, a further 4% from patient and visitor travel, and 2% from commissioned health services.

The remaining 31% arose from sources that can be controlled or strongly influenced: 22% of the emissions came from the operation of buildings and 9% from transport associated with the delivery of care (including staff commuting).

See Figure 7 for the split of each emission category, as per the NHS Net Zero report categorisation. Data shown relate to emissions in tCO₂e and their relative proportion of the footprint.

Key:

NHS Carbon Footprint
Delivery of Care:

NHS Carbon Footprint Plus
Personal Travel:

Supply Chain:

Commissioned Services

Patient Travel: 311 (0.9%)
Commissioned Services: 705 (2%)
Water & Waste: 137 (0.4%)
Business Travel & NHS Fleet: 749 (2%)
Staff Commute 2,323 (6.4%)
Visitor Travel 1180 (3.3%)
Personal Travel 3,814 (11%)
Other Procurement 9,321 (25.8%)
Building Energy 7,888 (22%)
Delivery of Care 8,774 (24%)
Supply Chain 22,892 (63%)
Business Services 3,508 (9.7%)
Non-Medical Equipment 4,522 (12.5%)
Food & Catering: 468 (1.3%)
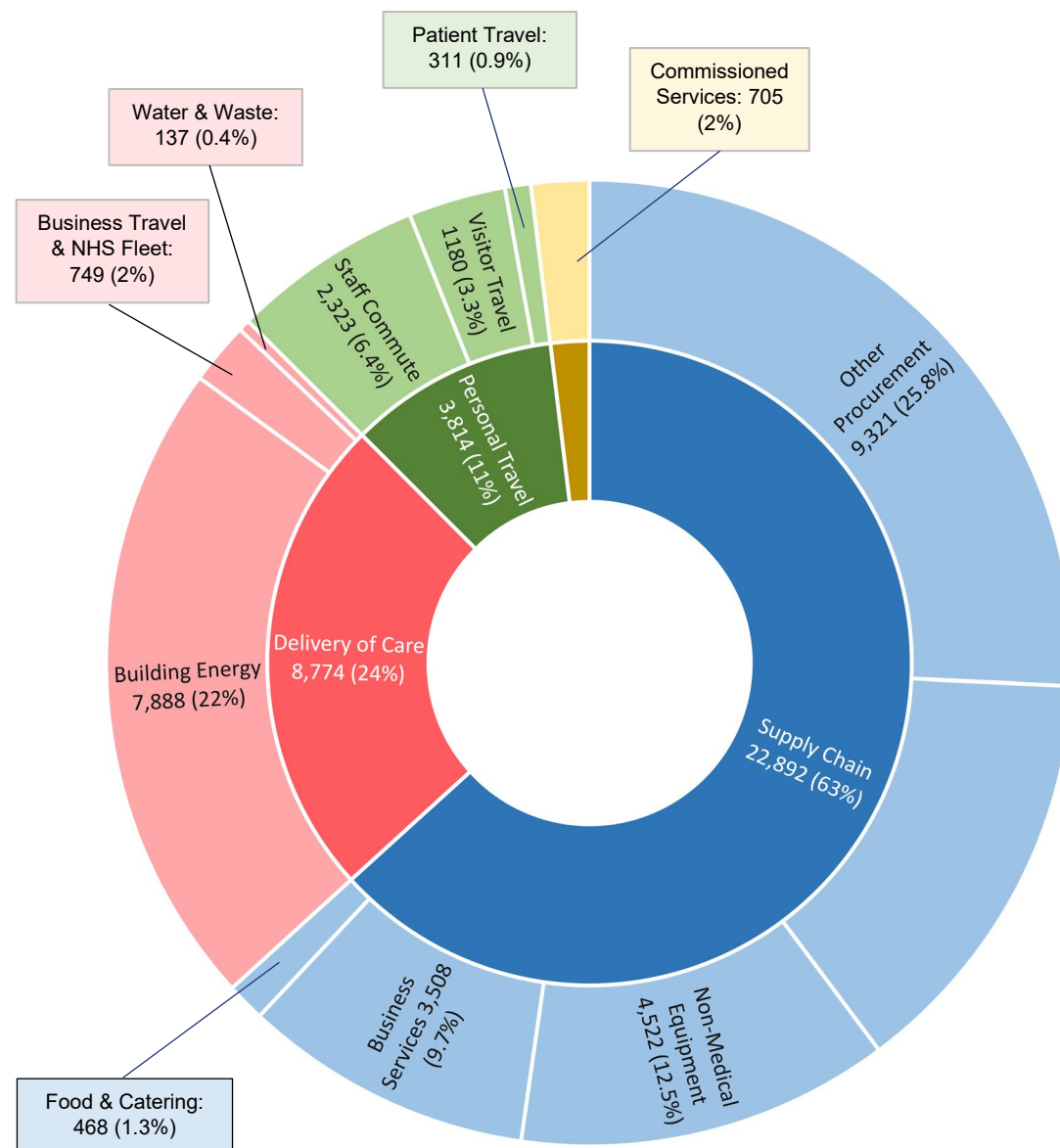
Figure 7 BSMHFT total carbon footprint breakdown in 2019/2

Emissions Reduction Trajectory

Emission sources have been grouped together, as per the NHS' Carbon Footprint, and yearly emission reduction targets have been calculated until 2025/26 (Figure 8).

Emissions Reduction Trajectory (tCO_2e)

	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026
Building Energy	7,888	5,604	5,682	5,454	5,236	5,027	4,826
Water Consumption & Treatment	99	94	38	36	35	33	32
Waste Arisings	41	39	49	47	45	44	42
Business Travel	749	408	439	421	405	388	373
Total Emissions:	8,776	6,145	6,208	5,959	5,721	5,492	5,273

Key

Building Energy — Water Consumption & Treatment — Waste Arisings — Business Travel

Figure 8 BSMHFT's Estimated GHG Reduction Target for three years by activity to meet 'Delivering a Net Zero NHS'

Areas of Focus Contents

The following 'Areas of Focus' give an overview of the Trust's current performance and status, each including an Action Plan.

The Action Plans are lists of activities that the Trust will take to achieve our Green Plan goals by 2025/26. Individual actions are to be monitored and evaluated routinely, and progress status changed accordingly.

Indicative costs and emission reductions are given for each action. These are very high-level assumptions. A key is given below.

Indicative cost to achieve:

£ No or low cost (under £10,000)

£ Moderately expensive (£10,000-£30,000)

£ Significantly expensive (over £30,000)

Indicative emissions reduction:

Low reduction

Moderate reduction

Significant reduction

Indirect impact (N/A)

This Green Plan applies to all staff who work for or work within Birmingham and Solihull Mental Health Foundation Trust and its wholly owned subsidiary company, SSL. In addition, the principles of, and many actions within this plan should be shared and owned as necessary with approved contractors and when tendering for works of any kind.

Although the Actions may have target dates. attached to them, the ethos, culture and behaviours that allow the successful delivery of this Green Plan are to take place with immediate effect. In essence this Strategy and Action plan supports an approach of continuous improvement, as sustainability should never be a 'tick box exercise.'

Workforce and Systems Leadership	23	Medicines	56
Sustainable Models of Care	28	Supply Chain and Procurement	59
Digital Transormation	30	Food and Nutrition	66
Travel and Transport	34	Climate Adaptation	70
Estates and Facilities	42		

Workforce and System Leadership

The Trust will build the Green Plan into its strategic planning and governance, including clinical and operational policies and procedures to ensure sustainable development is a part of the Trust's daily work and how we measure success.

The Trust's board-level Net Zero lead will oversee the resourcing and delivery of this Green Plan. Action plans identified by this Green Plan will be reviewed in discussion with Finance and Capital Planning teams to identify suitable budgets. The Trust will seek to identify internal and third-party funding to support the roll-out of Green Plan actions.

This Green Plan is approved by the Trust Board and will be reviewed annually (and revised if necessary). These reviews and progress against the Green Plan actions will be submitted to the Birmingham and Solihull Integrated Care System (BSol).

Partners and Stakeholders

Engagement with stakeholders and partners will be paramount in ensuring change towards a more sustainable future. The need to be sustainable and reduce greenhouse gas emissions is a shared responsibility between our Trust and all whom the Trust (and SSL) work with.

We have existing strategic alliances, formal partnerships, and provider collaboratives to improve services, pathways and service user outcomes, shared expertise and spread of best practice, as shown in the next list:

- Birmingham Care Alliance with Birmingham Community Healthcare NHS Foundation Trust
- Joint working with Birmingham Women's and Children's NHS Foundation Trust
- MERIT partnership with the mental health Trusts across the West Midlands
- Reach Out provider collaborative, and lead provider for adult secure care
- A range of partnerships with the community and voluntary sector

In addition to our existing partnerships, the Trust and SSL will need to work with the following:

- Staff and Service users
- Commissioners (Integrated Care Board)
- Sustainability Transformation Partnership (to include Local Authorities and other NHS Trusts, Strategic Healthcare-related organisations
- The Third Sector
- PFI partners
- Contractors / Suppliers / Supply chain
- Local people
- Regulators

Sustainability Groups

The Trust operates an open Sustainability Steering Group with non-executive, executive, trade union and SSL members.

NHS LTP 2.24, 17

NHS SC 13.9, 13.10, 18.2, 18

NHS NZ 4.2.3

13 CLIMATE ACTION

Target 13.2 Integrate climate change measures into policy and planning

Target 13.3 Build knowledge and capacity to meet climate change
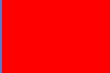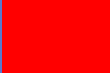
No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	To develop a Sustainable Development Strategy and Action Plan that is Board Approved (Green Plan / Net Zero Plan)	21/22	Green	£	Red ✗	SSL/Trust	**SC** 18.2
02	To have an identified and recorded Board level Sponsor / Lead	21/22	Green	£	Red ✗	SSL/Trust	**SC** 18.2
03	Review and approve the plan at the Board level, monitoring delivery at Board meetings and relevant committees.	Ongoing	Amber	£	Red ✗	Trust Board	**SC** 18.2
04	Nominate and empower a Climate Change Adaptation Lead and keep the Co-ordinating Commissioner informed at all times of the persons holding these positions.	22/23	Amber	£	Red ✗	Trust Board	**LTP** 2.24,17 **SC** 18.2.2
05	Identify budgets for the delivery of each 'area of focus' and the Green Plan as a whole.	22/23	Red	£ (red)	Green cloud	Trust Board	**LTP** 2.24,17
06	Produce an annual granular carbon account in line with HM Treasury's 'Public sector annual reports: sustainability reporting guidance', with the intention of widening its scope and data quality, when possible, along with an annual review of the progress against the Green Plan actions / emission reduction targets	22/23	Red	£	Red cloud	Estates and Facilities	**SC** 18.3
07	Ensure staff are resourced to undertake Green Plan duties and nominate a lead person or department for each Green Plan area of focus to develop and coordinate action through the existing Sustainability Steering Group.	22/23	Red	£ (yellow)	Yellow cloud	Trust Board	**LTP** 2.24,17
08	Ensure the Green Plan delivery is reflected in the corporate risk register.	23/24	Amber	£	Green cloud	Trust Board	**LTP** 2.24,17
09	Review procurement plan at board level to achieve a net zero supply chain. Fulfil the Trust's role as an anchor institution to achieve social value and wider benefits for communities, particularly for the Trust's care groups.	23/24	Red	£	Yellow cloud	Trust Board	**LTP** 2.24,17
10	Identify and action ways to engage patients and community in Green Plan delivery, including links between health inequality and climate action.	23/24	Red	£	Red cloud	HR	**LTP** 2.24,17
11	Identify internal and third-party funding to enable key Green Plan actions.	22/23	Red	£	Green cloud	Estates and Facilities	**LTP** 2.24,17
12	Work in partnership with neighbouring NHS trusts and public authorities to enhance the delivery of the Green Plan and share best practice.	Ongoing	Red	£	Yellow cloud	Trust Board	**LTP** 2.24,17
13	Ensure quarterly Greener NHS Data Collection uploads are made.	Ongoing	Red	£	Red ✗	Estates and Facilities	**NZ** 3.1.1, 3.1.2

Figure 9 Green Plan actions for system leadership

Workforce

All colleagues are needed for the Trust's Green Plan to be successful.

The NHS is the biggest employer in Europe and the world's largest employer of highly skilled professionals. The NHS Long Term Plan aims to ensure it is a rewarding and supportive place to work.

A 2018 national survey of NHS staff showed that 98% of respondents thought it was important that the health and care system works in a way that supports the environment. The BSMHFT will enable our colleagues to lead the way to achieve a greener NHS.

People are at the core of the NHS, and the Trust's Green Plan needs to be embedded within our culture. The Trust already has five sustainability champions, who act as environmentally conscious volunteers to embed the Green Agenda across our organisation. The Trust will empower staff to deliver this Green Plan at all levels of the organisation. To do this, the team will further utilise the Greener NHS "One Year On" Communications Toolkit, currently used for general messaging and press releases.

Communication is key to workforce engagement, and our Trust ensures that projects such as free public transport tasters and salary sacrifice schemes are posted on intranet and promoted through local fliers.

To achieve similar levels of engagement with the Green Plan going forward, there will be monthly intranet posts to share the targets and achievements of the Green Plan with our staff. In addition, we will produce Green Plan posters to promote the Plan across our sites. These communications projects are being developed to ensure greater embedding of the green agenda across our activities.

NHS LTP 4.1, 4.3, 4.39, 4.42, 4.43, 4.7

NHS SC 13.1 through 13.10

NHS NZ 4.2, 4.2.1, 4.2.2

8 DECENT WORK AND ECONOMIC GROWTH — **Target 8.5** Full employment and decent work with equal pay

13 CLIMATE ACTION — **Target 13.3** Build knowledge and capacity to meet climate change

16 PEACE, JUSTICE AND STRONG INSTITUTIONS — **Target 16.B** Promote and enforce non-discriminatory laws and policies

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Design and implement a Green Plan promotional campaign to encourage ongoing staff collaboration.	22/23	🟥	£	❌	People & OD	**N/A**
02	Building on current practice, review policies and processes against NHS aims for ensuring rewarding, flexible and supportive work, positive action on promoting equalities, including through the Workforce Race Equality Standard and new Workforce Disability Equality Standard, and regular reporting against the NHS Model Employer Strategy.	Ongoing	🟧	£	❌	People & OD	**LTP** 4.1, 4.3, 4.39, 4.42 **SC** 13.1 to 13.10
03	Further development of flexible working / homeworking. procedures / policies and resources that support, encourage and / or compensate staff for homeworking.	Ongoing	🟧	£	💭	HR/ICT	N/A
04	Incorporate the Green Plan into the Essential Mandatory Training and Induction policies.	22/23	🟥	£	💭	Education Services	**NZ** 4.2.1
05	Create Green Plan intranet pages for staff access and external webpages for other stakeholders; upload Green Plan content and progress updates accordingly.	22/23	🟥	£	❌	Sustainability Lead	**NZ** 4.2.1

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
06	Encourage staff to actively participate in the Greener NHS community and other forums such as the Greener AHP Hub, Centre for Sustainable Healthcare and related workspaces on the FutureNHS platform.	22/23		£	🌩	Communications & Engagement	**NZ** 4.2.1
07	Provide additional training related to this Green Plan to build capability in all staff, including on the link between climate change and health and practical actions that staff can take to help achieve net zero.	23/24		£	🌩	Training and Development	**NZ** 4.2.1
08	Work with suppliers to ensure that onsite workers are subject to the Real Living Wage, fair working practices and protections against discrimination.	23/24		£	❌	Procurement & People & OD	**LTP** 4.1, 4.3, 4.39, 4.42

Figure 10 Green Plan actions for workforce

Indicative cost:
£ No or low cost
£ Moderately expensive
£ Significantly expensive

Indicative emissions reduction:
🌩 Low or incremental reduction
🌩 Moderate reduction
🌲 Significant reduction
❌ Not applicable

Sustainable Models of Care

The NHS Long Term Plan updates the NHS service model, with a focus on preventative care in communities and tackling health inequalities, now and in the future. This has been linked to emissions reductions and greener activities.

BSMHFT delivers care from 44 sites (in 2021/22) across both regions, including inpatient, community and specialist mental health services. These services include rehabilitation, home treatment, community mental health services, assertive outreach, early intervention, inpatient services, day services and mental health wellbeing services.

The National Patient Safety Improvement Programmes and the Investment Impact Fund indicators (IIF) provide underpinning principles for sustainable models of care, such as preventative care interventions and reducing health inequalities. Staff training and empowerment, as detailed in the previous sections, are critical to enhancing sustainable models of care.

Adhering to the Getting it Right First Time programme (GIRFT) helps to avoid additional hospital bed days as well as patient and visitor travel to clinics, and their associated environmental impacts. Strong interagency partnership working enhances GIRFT, providing a better care package. A GIRFT report is produced quarterly, and the Trust is strengthening the reporting process.

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Build on current efforts (GIRFT, National Safety Improvement Programme and CMPP) to reduce health inequalities and improve early intervention, linking this work to potential emissions reductions.	Ongoing		£	☁	Trust Board and relevant clinical leads	**LTP** 2.26 **SC**13.9.118.4.2.1 **NZ** 4.1.3
02	Use the Embedding Public Health into Clinical Services Programme's toolkit and Sustainability in Quality Improvement (SusQI) Framework to ensure the best possible health outcomes with minimum financial and environmental costs, while adding positive social value at every opportunity.	Ongoing		£	☁	Trust Board and relevant clinical leads	**LTP** 2.26 **SC**13.9.118.4.2.1 **NZ** 4.1.3
03	Continue to collaborate with other trusts and public authorities on the population's health.	Ongoing		£	☁	Trust Board	**LTP** 1.53 **SC** 18.6 **NZ** 4.1.3
04	Appoint a Health Inequalities Lead to coordinate delivery of an updated Health Inequalities Action Plan.	22/23		£	✖	Trust Board	**LTP** 2.26 **SC** 13.9.2, 13.10 **NZ** 4.1.3
05	Work to engage suppliers related to sustainable care in relevant emissions reduction and health equalities activities.	23/24		£	✖	Procurement & service providers	**NZ** 4.1.3
06	Explore new ways of delivering care at or closer to home, meaning fewer patient journeys to hospitals.	Ongoing		£	☁	Clinical divisions	**NZ** 4.1.1

Figure 11 Green Plan actions for Sustainable care models

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
☁ Low or incremental reduction   ☁ Significant reduction
☁ Moderate reduction   ✖ Not applicable

Digital Transformation

The NHS Long Term Plan commits all NHS bodies to focus on digital transformation by establishing a 'digital front door', enabling digital first care. The NHS App is one example of this, providing patients with a simple and secure way to access NHS services on their smartphone.

The NHS Planning Guidance requires that at least 25% of all clinically necessary outpatient appointments should be delivered remotely by telephone or video consultation. Streamlining and digitising administrative functions also reduces paper waste and expedites processes.

As a Global Digital Exemplar (GDE) Trust and as the highest-scoring mental health trust on the Digital Maturity scale, BSMHFT strives to use digital care as a tool to promote inclusion and increase access to quality care across Birmingham and Solihull. We are committed to ensuring that digital services are tailored to meet the needs of the different specific care groups. The Government's Greening ICT and Digital Services Strategy 2020-2025 is also taken into consideration when looking at the improvement of the Trust's digital care services.

The 'What Good Looks Like' framework', designed to guide Trusts towards the successful integration of digital care systems, neatly summarises the Trust's position:

'The pandemic enabled us to achieve a level of digital transformation that might have otherwise taken several years. As we move into the recovery period, it is critical that we build on the progress we've made and ensure that all health and care providers have a strong foundation in digital practice'.

Digital Services

Since the beginning of the pandemic, the number of telephone and video consultations has increased significantly, reducing travel and associated emissions. However, not all consultations can be conducted remotely as it is necessary for face-to-face appointments in some patient groups.

The COVID-19 pandemic has led to a blended working approach, especially for office-based staff – for example, a mixture of office and home-based working. Many staff now Many staff now undertake agile working, and the Trust is exploring how to embed this as a new sustainable way of working.

Microsoft Teams is used across the Trust. It has massively impacted the way staff groups communicate, with a knock-on effect on the use of space and resource efficiency across our estate.
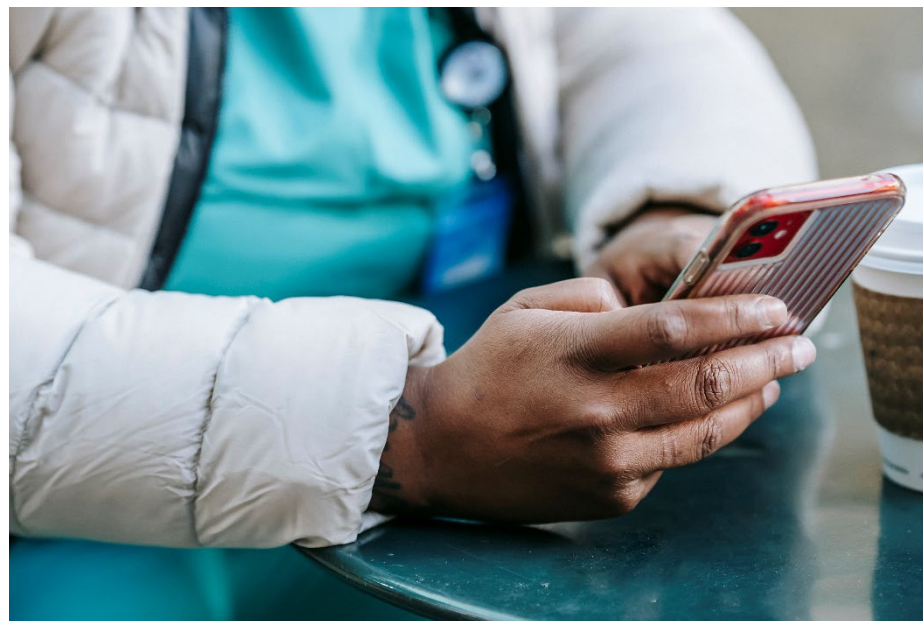
To facilitate this transition, there has been a roll-out of devices to allow for agile working which increases efficiency, reduces travel and the need for dedicated desk space.

The Trust has been driven towards the digitalisation of patient records in recent years. It is essential to communicate the importance of digitalisation to all our workforce to assure uptake of new technological platforms.

Appointment and result letters have been digitised where possible, in addition to a complete digitalisation of expense claims. SMS messages are used for appointment reminders and 90-100% of community-based and peripatetic workers, such as district nurses, have access to mobile digital services.

Going forward, the Trust endeavours to build on the opportunities that arose from our rapid rollout of digital solutions and

technology during the COVID-19 pandemic. This includes taking part in new digital research to adopt digital forms of service delivery which are underpinned by research and service evaluation. We also aim to develop share care records and systems, and a technology roadmap to determine how we can implement opportunities identified in our Trust Strategy.

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Increase capacity and effectiveness of ICT and communications devices to allow for TEAMs / ZOOM and equivalent meetings, reducing reliance on buildings / space and travel	Ongoing	🟩	£	💭	ICT	**PG** C1
02	Utilise our Global Digital Exemplar status to engage with digital research.	Ongoing	🟩	£	❌	ICT	**PG C1**
03	Ensure our staff are digitally literate by providing training sessions.	Ongoing	🟩	£	❌	ICT	**PG C1**
04	Work with neighbouring Trusts and Birmingham and Solihull ICS to develop a shared care record.	22/23	🟨	£	❌	ICT	**PG C1**
05	Develop a technology roadmap to determine how we can implement the opportunities identified in this plan and previous strategies.	22/23	🟨	£	❌	ICT & Sustainability manager	**PG C1**
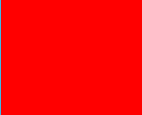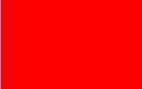
No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
06	Build on current practice and current online patient guidance, participate in delivery of the Long-Term Plan commitments for digital first primary care and an NHS digital front door, linking this to potential emissions reductions.	Ongoing	🟩	£	❌	ICT	**LTP** 1.43, 1.44, 5 **NZ** 4.1.4
07	Offer more digital and remote appointments to staff and patients.	22/23	🟨	£	🌫️	Care Groups	**PG** C1
08	Use the What Good Looks Like Framework, the Greening Government: ICT and Digital Services Strategy 2020-25 and The Technology Code of Practice as guides to ensure the Trust has robust ICT systems in place to deliver on digital transformation.	23/24	🟥	£	🌫️	ICT	**NZ** 4.1.4
09	Planned migration of data systems to cloud-based systems. Adoption of staff and patient portals. Continued cyclical replacement programme of IT hardware, including the provision of smart phones to all front-line staff.	23/24	🟥	£	🌫️	ICT& Business & Value	**LTP** 1.43, 1.44, 5

Figure 12 Green Plan actions for digital transformation

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
🌫️ Low or incremental reduction   🌫️ Significant reduction
🌫️ Moderate reduction   ❌ Not applicable

Travel and Transport

The Trust is committed to developing a Green Travel Plan, which outlines the aims and objectives related to reducing congestion, single occupancy travel, and Greenhouse Gas (GHG) emissions. We will explore how to promote active travel to staff and visitors and produce site-specific plans to focus on the individual challenges of each hospital.

Emissions associated with the Trust's business travel (fleet vehicles, staff mileage reimbursements and public transport) was 749 tCO$_2$e in 2019/20.

Using the NHS' Health Outcomes Travel Tool (HOTT), most transport-related emissions (3,814 tCO$_2$e) can be linked to staff commuting and patient/visitor travel.

BSMHFT Fleet Vehicles

The Trust operates a fleet of 72 vehicles, which are used for a variety of purposes. These include non-emergency patient transport, PPE distribution, estates team usage, portering, facilities and general transport services. The Trust leases all its official vehicles, meaning a modern fleet and circa of 35% hybrid or electric vehicles.

In 2019/20, these vehicles travelled just over 1,000,000 km, emitting 185 tCO$_2$e (see Figure 13). Note the drop in distance travelled in 2020/21 due to the COVID-19 pandemic.

In 2021/22, we operated 7 fully electric vehicles – 1 car and 6 small vans, used by our estates team and for transporting post, food and medical supplies. These electric vehicles travelled over 47,000 km and emitted only 0.5 tCO$_2$e using 'carbon-free' electricity (emissions associated with electric vehicles using 'carbon-free'

electricity are due to transmission and distribution losses in the national grid).
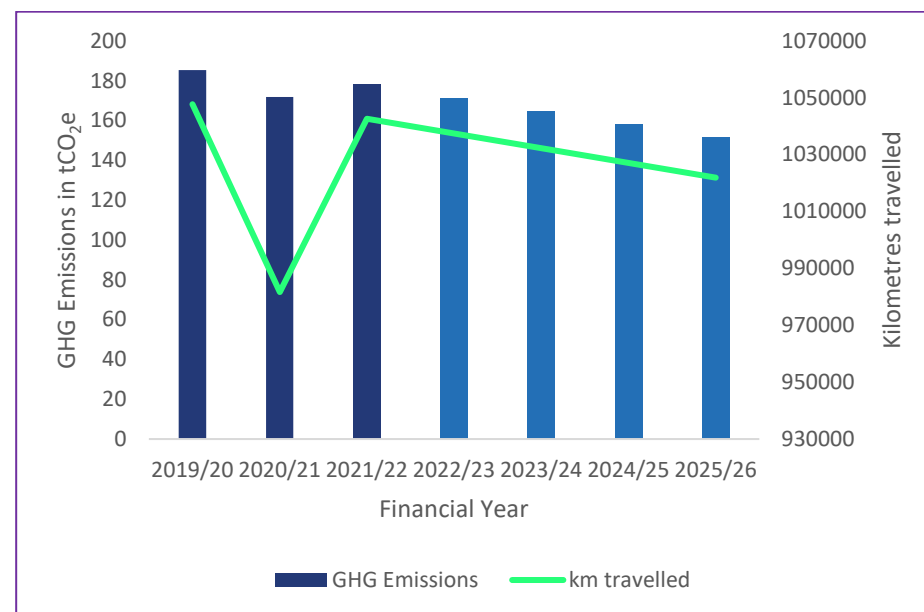
Figure 13 Distance travelled and GHG emissions from our fleet vehicles from 2019/20 to 2021/22, with forecast emissions reductions to 2025/26

The new NHS Non-Emergency Patient Transport Services (NEPTS) target is to have:

- From 2023, **50%** of all fleet vehicles to be of the latest emissions standards, Ultra-low Emission Vehicles (ULEVs, such as plug-in electric hybrid), or Zero Emission Vehicles (ZEVs, such as electric cars)
- From 2025, **75%** of all fleet vehicles to be of the latest emissions standards, ULEVs or ZEVs
- From 2030, **100%** of all fleet vehicles to be ULEVs or ZEVs, including a minimum of 20% ZEVs.

At present, ULEV and ZEV large vans are limited, though more will be coming onto the market.

ULEV and ZEV small vans and cars are becoming commonplace and affordable, with many options available, reflected in our recent purchases on electric Nissan ENV200 vans.

BSMHFT needs to undertake a fleet review to see how our cars, vans and large vans are being used, and whether suitable ULEVs and ZEVs are available. Additionally, the Trust must review the choice of company cars on offer and change the specifications to reflect the targets within the NEPTS.

If the Trust changed all the fleet vehicles to ZEVs, based on 2019/20 data and using 100% renewable/'carbon-free' electricity, there would be a likely 86% drop in emissions (emissions arise from transmission and distribution losses in the national grid). This would result in total emissions dropping to around 9 tCO_2e per year, with the added benefit of no tail pipe emissions.

Aside from the electrification of transport, better route planning could result in incremental falls to distances travelled. However, the Trust needs to reduce emissions from the fleet by 34 tCO_2e by 2025/26, equating to just over 11 tCO_2e per year.

Other Lease Vehicles

Staff have the option to lease personal vehicles through the NHS Fleet Solutions Salary Sacrifice Scheme.

Emissions from these vehicles (for staff personal use) are outside of the scope of this report (although they do impact on emissions arising from commuting somewhat). However, as a Trust, the availability of vehicles on offer can be limited based on their engine size and emissions.

Furthermore, the Trust can incentivise staff to choose Ultra Low Emission Vehicles (plugin hybrid cars) or Zero Emission Vehicles (electric cars).

Grey Fleet

The Trust has a 'grey fleet', which refers to employees' own vehicles and/or hire cars used for business purposes. As a Trust that provides care in the community, emissions associated with the grey fleet are sizeable.

BSMHFT reimburses staff and bank staff for the fuel used in line with their duties through an expenses system. In 2019/20, grey fleet mileage returns totalled over 1,500,000 miles, emitting 546 tCO_2e.

It is worth noting that in 2020/21, with the working styles affected by the pandemic, grey fleet mileage dropped to 677,000 miles, emitting 235 tCO_2e (as shown in Figure 14).

Although mileage from business meetings and travel into offices fell, travel for care in the community continued. To further reduce greenhouse gas emissions, the changes in working practice associated with travel negation should continue.

As the electrification of transport continues, the emissions will reduce accordingly, with a projected decrease of 328 tCO_2e by 2025/26. This also brings forth the issue of providing additional electric vehicle charge points in the future.
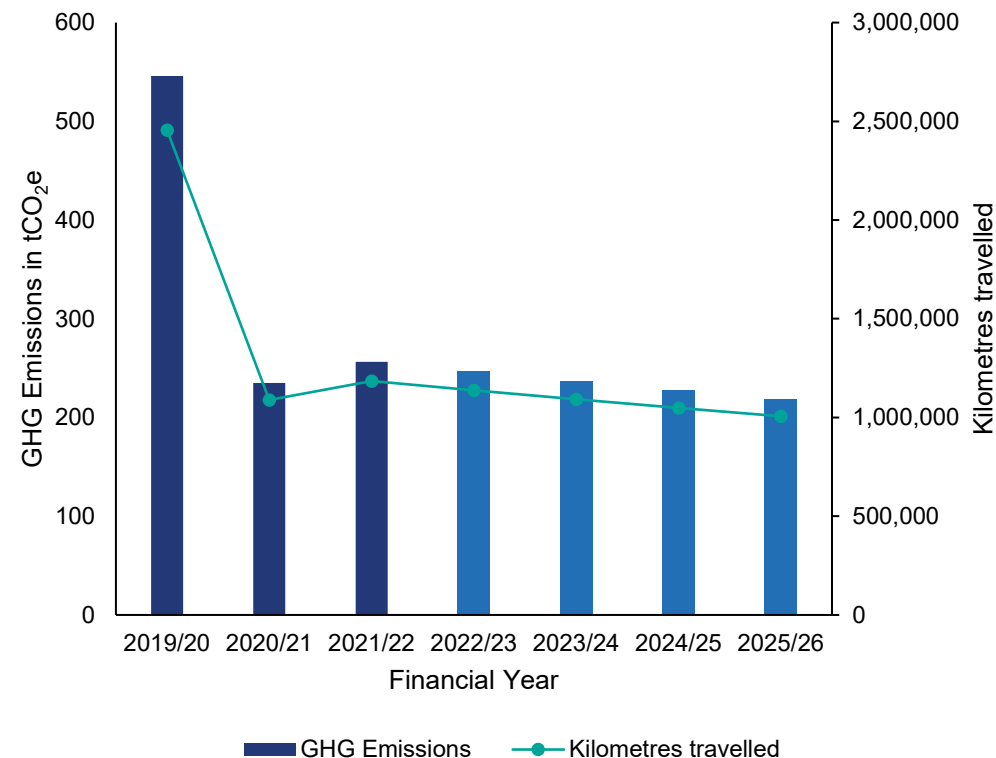
Figure 14 GHG Emissions and kilometres travelled by our grey fleet from 2019/20 to 2021/22, with reduction trajectory to 2025/26

Electric Vehicle Charging Infrastructure

At the time of writing, we are in the process of installing EV charging points at 10 of our sites, for use by Trust fleet vehicles only. We will look to invest in publicly accessible charging points going forward to further encourage EV uptake.

Business Travel (public transport)

The Trust also reimburses staff for business travel through the expenses system. In 2019/20, emissions from business travel by air, rail, bus and taxi was 20 tCO$_2$e.

Due to the lack of granular data, we have used a spend-based methodology to calculate the emissions per transport type (kgCO$_2$e per £ spent). In future reporting, we hope to have distance travelled per mode of transport, which will give us more accurate emission figures.

As with fleet and grey fleet, the COVID-19 pandemic saw emissions drop to 1.5 tCO$_2$e in 2020/21, with a slight uplift in 2021/22 to 4 tCO$_2$e.

Due to the change in working styles, we have used 2021/22 as the baseline to set the emissions reduction trajectory against, as seen in Figure 15.
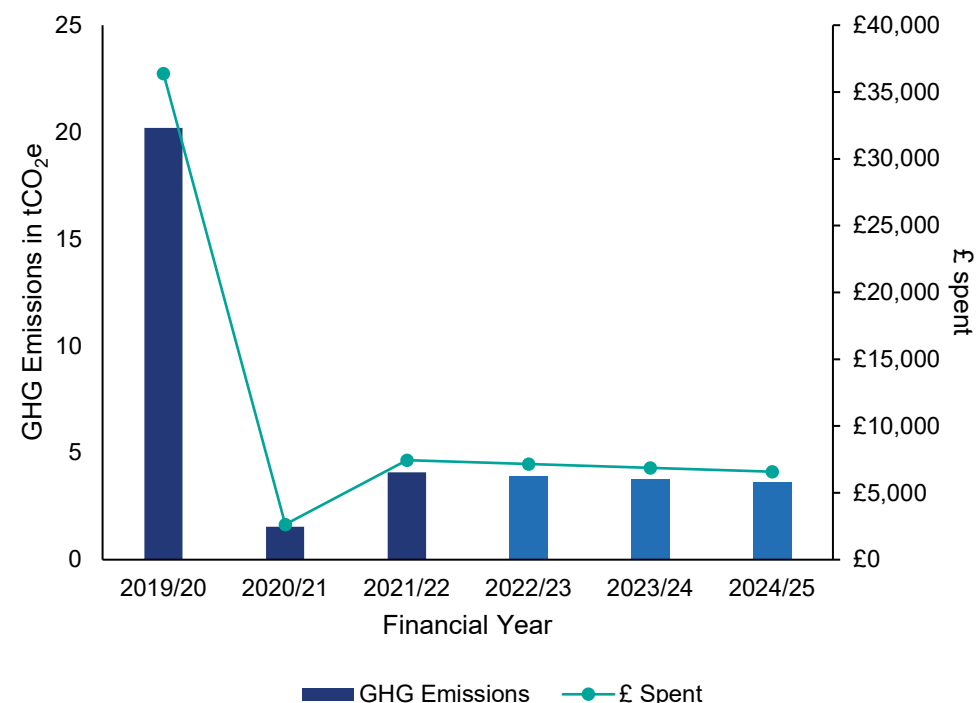
Figure 15 GHG emissions and £ spent for business travel from 2019/20 to 2021/22 and reduction trajectory to 2025/26

37

Commuting, Visitor/Patient Travel

The Trust operates a salary sacrifice cycle to work scheme with cycle parking facilities available at most of our sites.

Increasing the number of cycle parking spaces, improving shower/changing facilities, and offering other incentives for active travel will be explored.

Public transport is widely available across the region. However, our Trust has over 40 sites across Birmingham and Solihull and there are certain areas with less availability. Bus travel is promoted to staff through a scheme offering a week of free travel for all new starters in addition to a discounted scheme for all NHS staff through National Express: our intranet portal offers season tickets. Train travel is offered through salary sacrifice.

The previous travel survey was undertaken in 2014, and we endeavour to update this in our next Travel Plan. In lieu of any recent travel plan survey data, which will be collected annually going forward, the NHS HOTT Tool has been used to estimate the emissions associated with staff commuting and patient and visitor travel. The HOTT Tool uses national and regional datasets to generate figures for transport mode, distances, and emissions from a 2019 baseline and projections into the near future (shown in Figure 16).

However, these figures are indicative and need to be bolstered and verified by local travel plan survey data. Hence, the impacts of COVID-19, with less need for commuting, do not fully feature in the results. (The sequentially lower emissions are attributed to improvements in vehicle efficiencies and electrification of transport).
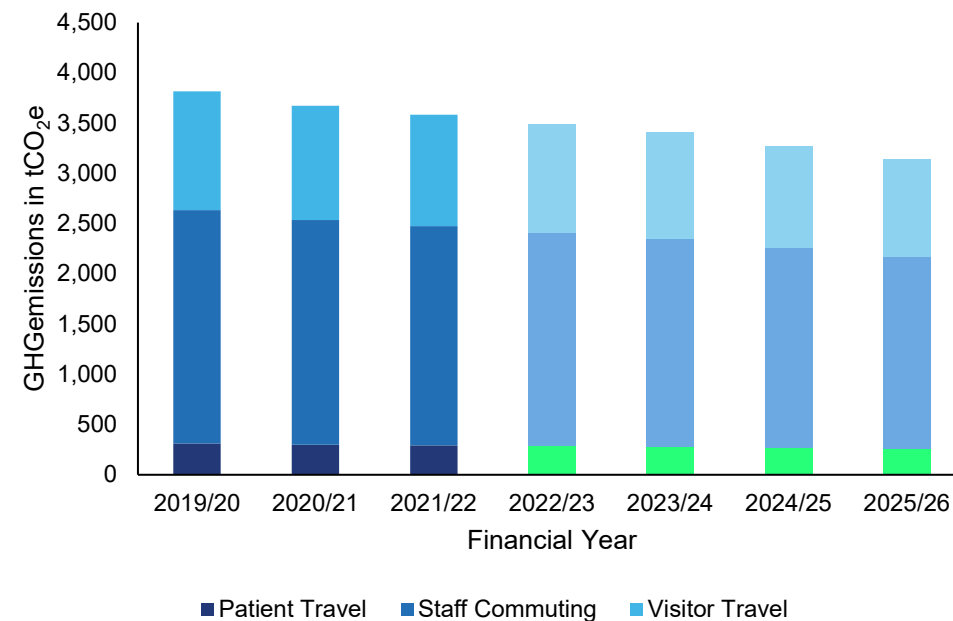
Figure 16 Stacked bar chart to show total emissions from patient, visitor and staff travel and emissions reduction trajectory to 2025/26

Air Quality

Air quality, climate change and health outcomes are highly interconnected, and the NHS Net Zero plan calculates that reaching UK ambitions on emissions reductions in line with Paris Agreement targets could save 38,000 lives with improved air quality.

According to the World Health Organisation (WHO), poor air quality leads to over 7 million deaths globally and that 9 out of 10 people worldwide breathe polluted air.

The topic of air quality is of particular significance in Birmingham as there is a Clean Air Zone (CAZ) that targets older, higher polluting vehicles. The zone imposes a daily levy to enter or pass through a dedicated zone in the city centre.

Travel is a key contributor to air pollution, and with as many as 1 in 20 road journeys in the UK attributable to the NHS, the Trust's activity has enormous potential impact on local communities' air quality. Additionally, the gas-fired boilers that the Trust uses contribute to air pollution, and the decarbonisation of heating will address these pollutants in the future.

The Trust commits to tackling this issue through investment and engagement with staff, patients and partner local authorities. The Trust will give special consideration to the air quality surrounding the estate and opportunities to improve its impacts on care groups.

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Scope the need for and make decisions on whether Trust sites are to be developed to support public electric charging points and to develop appropriate Business Cases, Policy and Procedure.	22/23	🟧	£	❌	SSL	N/A
02	Use location as part of patient caseload planning to ensure effective journeys and routes, reducing time spent travelling.	22/23	🟥	£	❌	Finance	N/A
03	Review and enhance cycling facilities across the estate.	23/24	🟥	£	💨(green)	Estates and Facilities	N/A
04	Develop a car-sharing scheme for staff.	23/24	🟥	£	❌	Estates and Facilities	**NZ** 3.2, 3.2.2
05	Embed an updated sustainable travel plan, with new modal shift targets to be supported by an active travel expenses policy and facilities review.	23/24	🟧	£	💨(red)	Estates and Facilities	**LTP** 2.21, 3.82, 17 **SC** 18.4.1.3 **NZ** 3.2, 3.2.2
06	Conduct annual Travel Plan surveys to quantify staff commuting and visitor travel and verify HOTT Tool outputs.	Annual, ongoing	🟧	£	❌	Estates and Facilities	**NZ** 3.2, 3.2.2

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
07	Undertake a Green Fleet review of the fleet vehicles to ascertain usage and distance travelled, with a view to integrating ULEVs and ZEVs	23/24	🟥	£	🟡	Finance	**NZ** 3.2, 3.2.2
08	Ensure that any new vehicle purchased or leased are ultra-low emission (ULEV) or zero emission (ZEV) from 2023, in line with the latest NHS non-emergency transport guidance.	23/24	🟥	£	🟢	Estates and Facilities	**SC**.18.4.1.1, 18.4.1.4 **NZ** 3.2.1
09	Enhance the staff mileage reimbursement system to collate vehicle type/engine size and fuel type data to allow more accurate emissions foot printing, monitoring and reduction targets.	23/24	🟥	£	❌	Finance	**NZ** 3.2, 3.2.2
10	Enhance the business travel expense system to capture the to- and from-destinations for rail, air, bus and taxi journeys and collate data from expenses.	23/24	🟥	£	❌	Finance	**NZ** 3.2, 3.2.2
11	Improve stores provision and work with suppliers to consolidate goods orders through better planning wherever possible, reducing transport emissions.	23/24	🟥	£	🟢	Procurement	**NZ** 3.2, 3.2.2

Figure 17 Green plan actions for Travel, Logistics and Air Quality

Indicative cost:

£ No or low cost   £ Significantly expensive

£ Moderately expensive

Indicative emissions reduction:

🔴 Low or incremental reduction   🟢 Significant reduction

🟡 Moderate reduction   ❌ Not applicable

Estates and Facilities

As an NHS Trust, the carbon footprint of our built environment is significant. Overall, the health and care system in England is responsible for an estimated 4-5% of the country's carbon emissions.

As the Trust provides critical services 24 hours a day, our energy and resource consumptions are substantial. Therefore, there is a need to optimise energy use in buildings and move away from using fossil fuels to meet NHS Net Zero goals.

The estate comprises several facilities housed in other Trusts' buildings. This presents challenges to retrofitting resource efficiency measures and heating improvements, and BSMHFT will work with other Trusts and the aims of their Green Plans to improve efficiencies at these sites.

The Trust will follow the four-step approach within the NHS' 'Estates 'Net Zero' Carbon Delivery Plan' to address the estate:

1. Making every kWh count: Investing in no-regrets energy saving measures

2. Preparing buildings for electricity-led heating: Upgrading building fabric

3. Switching to non-fossil fuel heating: Investing in innovative new energy sources

4. Increasing on-site renewables: Investing in on-site generation

Estates & Facilities: Energy

- **7,887 tCO$_2$e** emitted from buildings across the estate in **2019/20.**
- The Trust has procured 100% low to 'zero carbon' electricity since April 2020
- BSMHFT needs to reduce energy consumption by over 13,813,000 kWh per year to achieve the emissions reduction target of **4,569 tCO$_2$e** in **2025/26.**

Energy and Emissions

In 2022/23, there were over 40 active sites where BSMHFT was directly responsible for procuring the energy supply contracts (45 in the baseline year of 2019/20). Buildings under the Trust's ownership can be targeted for energy efficiency improvements.

Figure 18 shows the total consumption and emissions liberated from electricity and gas use from 2019/20 to 2021/22. The Trust needs to reduce emissions by 884 tCO₂e by 2025/26 from the 2019/20 baseline (this includes the reduction in emissions from procuring renewable/carbon-free electricity).

The Trust has procured 100% low and 'zero carbon' electricity from April 2020, resulting in an 80% reduction in emissions arising from procured electricity (as shown in the 'dip' of the red line in Figure 18).

Building Management Systems (BMS) are in place to regulate the heating and lighting of buildings across our sites. BMS set points are reviewed as part of Planned Preventive Maintenance (PPM) as necessary at all sites.

However, there needs to be a continual improvement and upgrade of the estate.

Detailed building energy surveys will be needed to provide robust energy efficiency recommendations at each of the Trust's sites, building upon the works already completed.
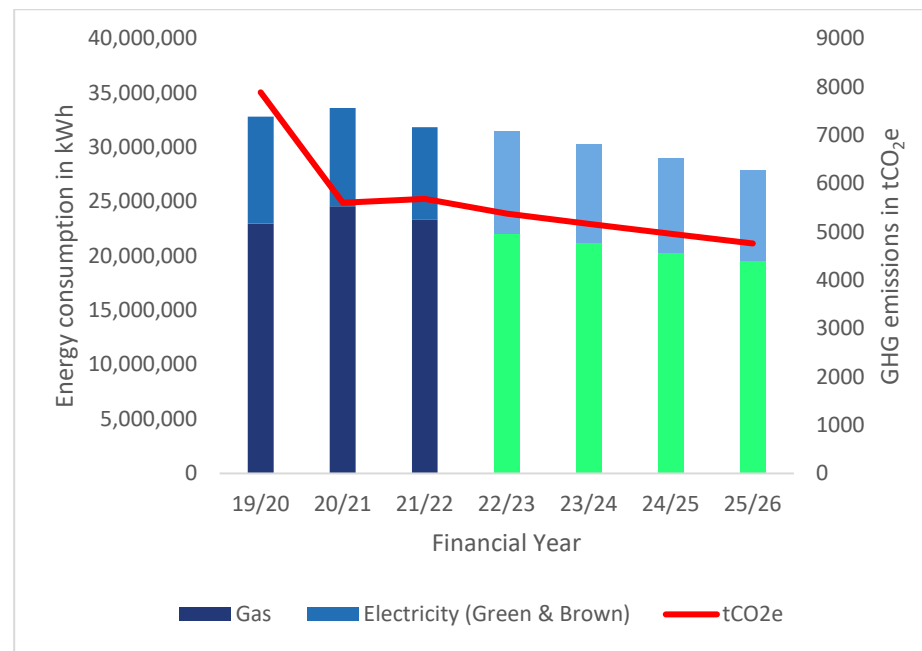
Figure 18 Energy consumption and related emissions from the built environment from 2019/20 to 2021/22 and forecast reductions until 2025/26

The decarbonisation of the Trust's heating systems will become increasingly important to reach net zero emissions. At the time of writing, we have been awarded funding for heat decarbonisation surveys and the development of Heat Decarbonisation Plans.

This transition will inevitably result in much higher electricity consumption, and of particular concern is the viability of increasing the electrical site capacity (load in kilovolt-amps) from the electricity grid.

Extensive on-site renewable energy systems, such as solar photovoltaics and integrated large battery storage technologies, will help mitigate this, and provide additional resilience to power outages, with the potential to negate using the back-up diesel generators.

Additionally, we have determined the energy consumption and emissions from each of our sites. The bubble graph in Figure 18 shows our top 8 highest emitting sites.

In 2019/20. Reaside was the largest consumer of gas and electricity, with the Ardenleigh site having the second highest amount of GHG emissions. Interestingly, Tamarind was the largest consumer of electricity, at over 1 million kWh, but was the third greatest producer of GHG emissions.

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Move away from any coal or oil boilers as a primary heat / energy source	21/22	🟩	£	☁ (green)	Estates and Facilities	N/A
02	Enhance Planned Preventative Maintenance (PPMs) of all facilities and assets to be proactively energy-focused and to identify opportunities to upgrade equipment/plant.	22/23	🟥	£	☁ (red)	Estates and Facilities	**LTP** 17 **SC** 18.4.2.1 **NZ** 3.1.1, 3.1.2
03	The Trust will procure 100% renewable electricity with Renewable Energy Guarantees of Origin (REGO) certificates backed by Npower.	22/23	🟧	£	☁ (green)	Estates and Facilities	**SC** 18.5
04	Follow Estates 'Net Zero' Carbon Delivery Plan guidance on efficiency and decarbonisation protocols for the built environment.	22/23 & ongoing	🟥	£	☁ (green)	Estates and Facilities	**NZCDP** **NZ** 3.1.1, 3.1.2
05	Install solar photovoltaic meters and collate a monthly generation report.	22/23	🟥	£	☁ (amber)	Estates and Facilities	**NZCDP** **NZ** 3.1.1, 3.1.2
06	Conduct a comprehensive review of the chiller and HVAC systems.	22/23	🟥	£	☁ (amber)	Estates and Facilities	**NZ** 3.1.1
07	Develop a Decarbonisation of Heat Plan that focuses on the phase out of existing gas-fired boilers and replacement with low-carbon alternatives, where feasible.	Ongoing	🟥	£	☁ (green)	Trust Board	**LTP** 17 **SC** 18.4.2.1 **NZ** 3.1.1, 3.1.2

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
09	Explore the possibility of creating District Heat Networks with neighbouring partners.	Ongoing	🟥	£	☁	Infrastructure Services	**LTP** 17 **SC** 18.4.2.1 **NZ** 3.1.1, 3.1.2
10	Look to procure 'green gas' through the Green Gas Certification Scheme as and when existing energy contracts are due for renewal.	23/24	🟥	£	☁	Procurement	**SC** 18.5
11	Incorporate energy conservation into staff training and education programmes and deliver behaviour-based energy saving campaigns.	23/24	🟥	£	☁	HR	**NZ** 3.1.1

Figure 19 Green plan action table for Energy and Emissions from the built environment

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
☁ Low or incremental reduction   ☁ Significant reduction
☁ Moderate reduction   ✖ Not applicable

Capital Projects

The Built Environment of the NHS influences both the quality of care and environmental impact.

The Trust's design and construction of buildings will contribute to whether net zero can be achieved.

Buildings have significant environmental impacts in terms of emissions resulting from the use of gas, electricity and water. Improving the energy efficiency of a building is pivotal to reducing these impacts. However, there are embodied carbon emissions within materials, such as cements, steel and glass which are used in the construction of buildings. These indirect 'Scope 3' emissions are generally much greater than emissions caused by the operation of a building.

Cement and concrete production on its own accounts for a huge 8% of all global greenhouse gas emissions from all sources, according to the Dutch Environmental Assessment Agency.

The Trust, furthering a previous commitment to ensure all capital development complies with the 'Excellent' or above rating of the Building Research Establishment Environmental Assessment Method (BREEAM) ensures that the plans will focus on the reduction of building emissions from all sources.

Aside from new builds, rationalisation of the estate has been a key topic surrounding capital projects. BSMHFT works closely with local authorities and NHS Trusts to share property information and to minimise voids.

Estates & Facilities: Capital Projects

- Building energy efficiency standards should be considered for new builds and refurbishments. For example, BREEAM 'Excellent' rating, the Zero Carbon Hospital Standard, and implementation of on-site renewables.
- Construction supplier alignment to net zero commitments, such as on-site contractor measures on waste reduction and low emission construction plans.
- Low carbon substitutions and product innovation, such as lower embodied carbon construction materials.

NHS LTP 16

NHS SC 18.4.2.1, 18.4.2.3

NHS NZ 3.1.1, 3.3.1

8 DECENT WORK AND ECONOMIC GROWTH **Target 8.5** Full employment and decent work with equal pay

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE **Target 9.4** Upgrade all industries and infrastructures for sustainability

13 CLIMATE ACTION **Target 13.1** Strengthen resilience and adaptive capacity to climate-related disasters

Target 13.2 Integrate climate change measures into policy and planning

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Implement the upcoming Net Zero Hospital Building Standard in any new builds and BREEAM 'Excellent' for any major refurbishments.	Ongoing	🟧	£	☁️	Estates and Facilities	**LTP** 16 **SC** 18.4.2.1 **NZ** 3.1.1
02	Achieve a target of 35 - 40 or better in GJ/100m^3 energy efficiency performance for the healthcare estate for all new capital developments and major redevelopments and/or refurbishments.	Ongoing	🟥	£	☁️	SSL	**NZ** 3.1.1
03	To install renewable energy / decarbonised heat supply on all significant New Builds / refurbishments	Ongoing	🟥	£	☁️	Estates and Facilities	**NZ** 3.1.1
04	Explore options to achieve emissions reductions in smaller works and projects in the primary and secondary care estate.	22/23	🟩	£	☁️	Estates and Facilities	**NZ** 3.1.1
05	Encourage and measure local subcontractor and supply chain spend as part of the anchor institution approach.	22/23	🟥	£	☁️	Procurement	**NZ** 3.3.1
06	Ensure capital development accounts for risks identified in climate adaptation plans and addresses these in design/delivery.	23/24	🟥	£	❌	Estates and Facilities	**SC** 18.4.2.3
07	Work with the Procurement team to enable specification of low and zero carbon materials and designs, as well as achieving waste reduction and other opportunities through contractor engagement.	23/24	🟥	£	☁️	Procurement	**NZ** 3.3.1
08	Adapting premises and grounds (gardens / green spaces) and service delivery to mitigate risks associated with climate change and severe weather	23/24	🟥	£	☁️	Estates and Facilities	**NZ** 3.1.1

Figure 20 Green plan action table for Capital Projects

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
☁️ Low or incremental reduction   ☁️ Significant reduction
☁️ Moderate reduction   ❌ Not applicable

Water Efficiencies

In 2019/20, the Trust used 96,896m^3 of water.

There are emission impacts associated with the supply of fresh water and treatment of wastewater, equating to 98.5 tCO$_2$e in 2019/20 (see Figure 21).

It is worth noting that the government emission factors for water supply and wastewater dropped by 57% in 2021/22 compared to the previous six years. Water consumption has remained relatively stable since 2019/20, but emissions fell by 56 tCO$_2$e in 2021/22 due the change in emission factors.

Although the emissions are low compared to those produced by energy use, being water efficient is important to prevent and alleviate water stress.

As a water efficiency and leak preventative measure, the Trust will look to collate the data from the Automatic Meter Readers water network. This will help us pinpoint areas of high water usage, understand how and where water is being used, locate leaks and take remedial action.

Details of ongoing water efficiency measures the Trust is taking can be found in the Water Management Action Plan.

Water conservation and sustainable drainage shall also be explored. Rainwater harvesters collect rainwater for non-potable purposes, such as for flushing toilets. They will help reduce water stress and potentially alleviate flooding by attenuating surface water run-off in storm events.
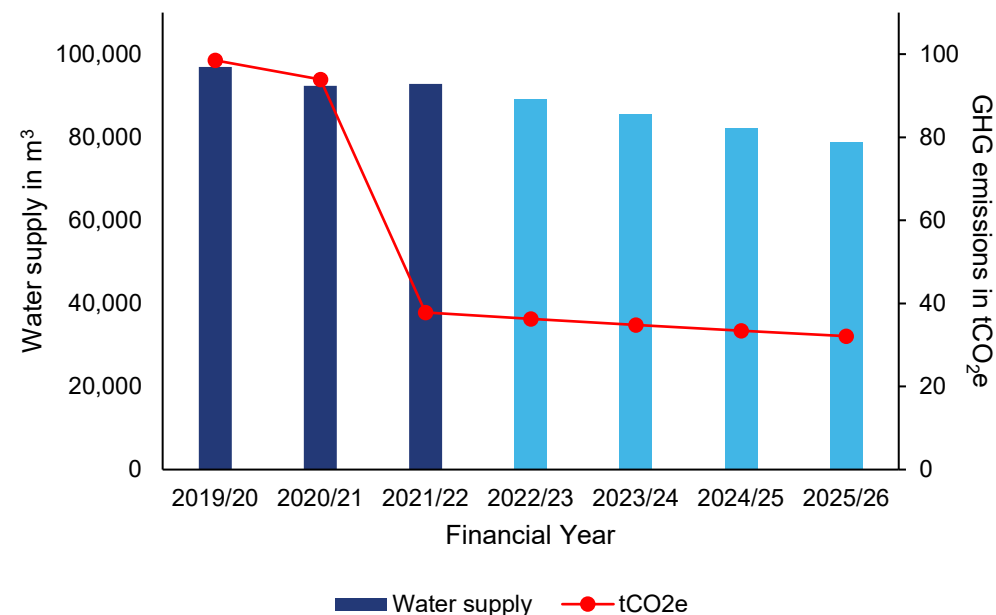
Figure 21 Bar chart to show total water emissions from supply and wastewater treatment, and emissions reduction trajectory to 2025/26

Estates & Facilities: Water

- The Trust used **96,896 m^3** of water in 2019/20 – enough water to fill 37 Olympic-size swimming pools
- **98.5 tCO$_2$e** was attributed to the supply of water and wastewater treatment
- The Trust needs to reduce water consumption by 18,000 m^3 by 2025/26
- Water efficiency and sustainable drainage will become ever more important in the future

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Explore and implement water efficiency targets on areas of the highest impact in the estate and delivery of care.	22/23	Red	£ (green)	Significant reduction	Estates and Facilities	**LTP** 17 **SC** 18.4.3.1 **NZ** 3.1
02	Utilise the most water efficient technologies, such as low flow taps throughout the estate, when replacing equipment and developing new sites	23/24	Red	£ (amber)	Moderate reduction	Estates and Facilities	**NZ** 3.1
03	Explore where rainwater harvesting, and grey water systems can be installed and utilised.	23/24	Red	£ (red)	Moderate reduction	Procurement	**NZ** 3.1
04	Look to consolidate the suppliers across the estate to choose one or two that can provide the service, price, and efficiency the Trust expects.	Ongoing	Red	£ (green)	Not applicable	Procurement	**LTP** 17
05	Work with staff and patients by communicating the importance of water efficiency.	Ongoing	Amber	£ (green)	Not applicable	HR	**NZ** 3.1
06	Incorporate water efficiency measures within climate change adaptation work with the local community.	23/24	Amber	£ (green)	Not applicable	Business Continuity	**NZ** 3.1

Figure 22 Green plan action table for Water

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
Low or incremental reduction   Significant reduction
Moderate reduction   Not applicable

Waste and Recycling

The Trust collects eight main types of waste: general, clinical/offensive, medicines, mattresses, confidential paper, green and food waste, and electrical and electronic equipment (WEEE) waste. There are collections for other waste streams, such as metal, fluorescent lamps and waste cooking oil, though amounts collected are not reported.

- **991 tonnes** of waste were produced, emitting **41.3 tCO₂e** in 2019/20
- **25 tonnes** of waste were landfilled in 2019/20, emitting **2.5 tCO₂e** (the last year we sent waste to landfill)
- Food waste bins and collections will ensure more waste food is used for energy and fertiliser generation

Figure 23 shows the total waste arisings and emissions emanating from the waste streams. We stopped sending waste to landfill in 2019/20, with a corresponding drop in emissions. There has been little difference in total waste arisings in the last two years.

Standard waste is collected in general waste bins. This general waste is further segregated at the waste handling centre, with recyclable materials extracted, and non-recyclables sent for incineration as Refuse Derived Fuel (RDF) at an energy-from-waste centre. The Trust is enacting opt-in dry mixed recycling (DMR) bins for our sites to increase our recycling rates.
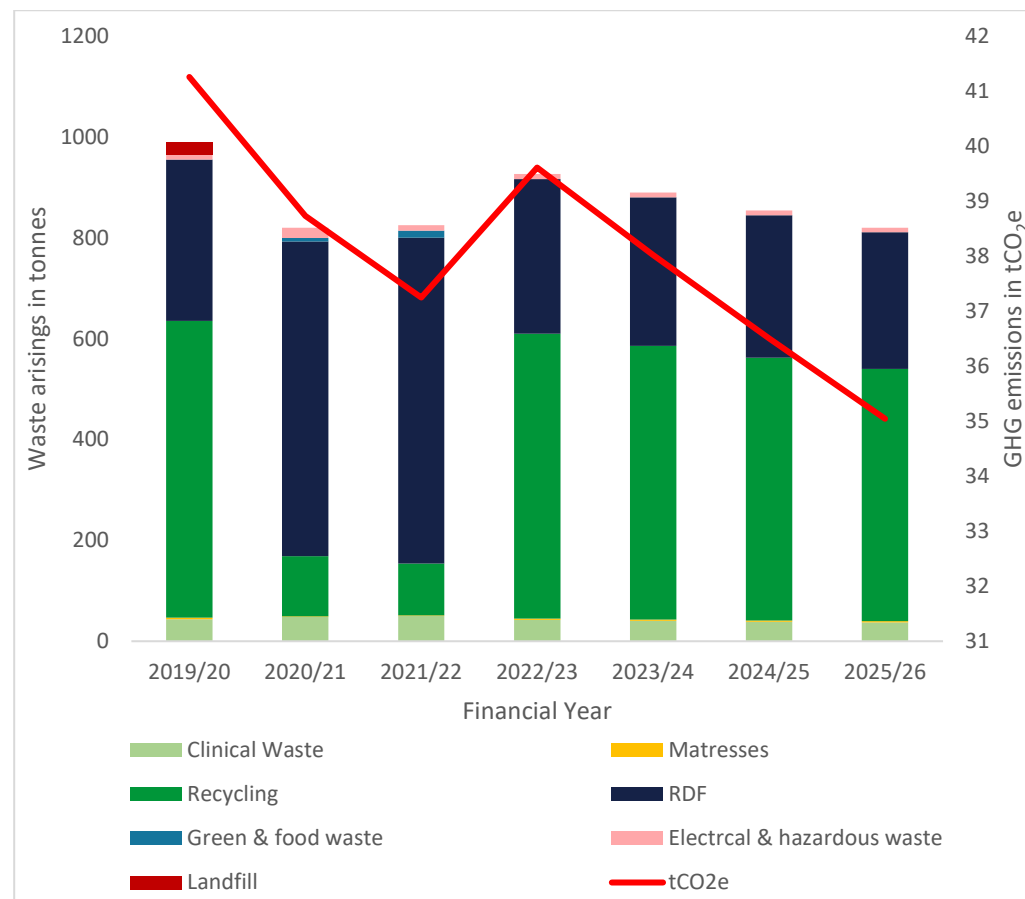
Figure 23 Waste arisings and emissions associated with waste streams and emission reduction trajectory to 2025/26

Black bag waste goes to RDF, whereas green waste is segregated for anaerobic digestion. Offensive waste either goes to deep landfill or high temperature incineration/RDF, depending on what the waste contains; less than 1% of all our waste goes to landfill.

Food waste at patient sites is often minimal, and food waste is only collected at two of our sites at present.

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Clinical waste volumes are also relatively low in mental health but have increased significantly in pandemic due to PPE. Some of the clinical waste is incinerated (sharps, medicines and offensive waste), whilst other types are ultra-high temperature processed (alternative treatment) before being further recycled.

The COVID-19 pandemic has led to an increase in the usage of single-use plastic items; a necessary response to managing the crisis.

The Trust is mindful of the environmental impacts of single-use items throughout their lifecycle, from the crude oil used in their manufacture to the difficulty in recycling them at end-of-use.

Innovations are coming on to the market for reusable Personal Protection Equipment (PPE), such as face masks and aprons, that meet the various clinical safety standards. These alternatives should be explored to help reduce waste arisings.

The waste hierarchy of Reduce, Reuse, Recycle, Recovery (energy from waste) before disposal (landfill) must be embedded to ensure that waste duties of care and circular economic principles are being maintained. Recycling rates need to be improved. Shoring up the waste handling processes will ultimately reduce greenhouse gas emissions from waste treatment, other negative environmental impacts, and disposal costs.
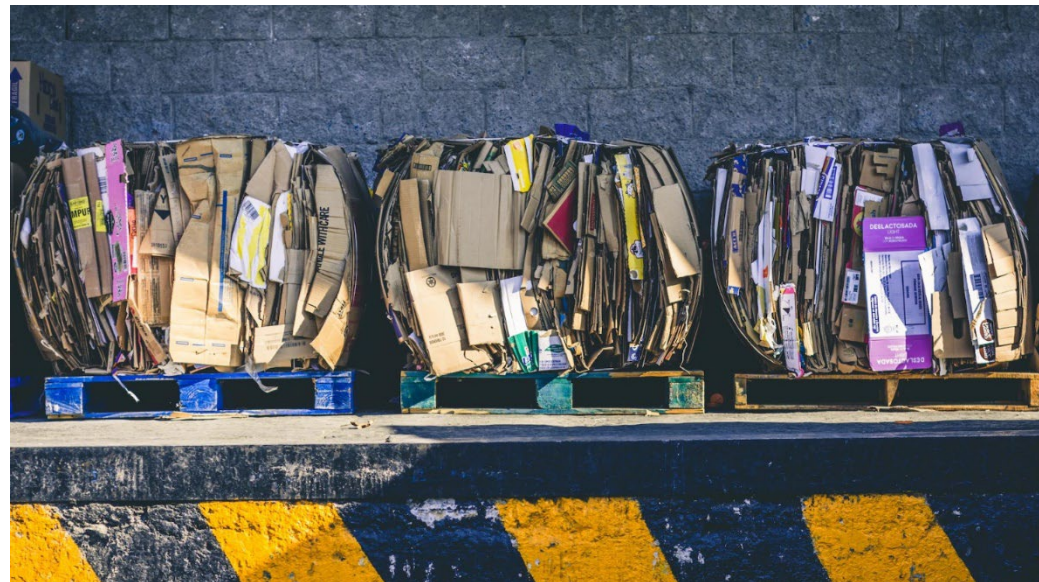
No.	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible Lead/Department	NHS Requirement
01	Collate *all* waste stream data from *all* sites (including sites where the Trust is not responsible for waste collection) and produce monthly reports.	22/23	🟥	£	❌	Estates and Facilities	**NZ** 3.1
02	Ensure that single-use items in catering adhere to current legislation and elect to use sustainable alternatives as listed by NHS Supply Chain.	22/23	🟩	£	☁	Estates and Facilities	**LTP** 17 **SC** 18.4.3.1 **NZ** 3.1
03	Install Dry Mixed Recycling (DMR) bins across all sites and start DMR collections.	23/24	🟥	£	☁	Estates and Facilities	**LTP** 17 **SC** 18.4.3.1 **NZ** 3.1
04	Implement food waste recycling/bins across all sites with production kitchens.	23/24	🟥	£	☁	Estates and Facilities & Catering	**NZ** 3.1
06	Work with staff and patients by communicating the importance of waste segregation.	Ongoing	🟥	£	❌	Estates and Facilities & HR	**NZ** 3.1
07	Explore whether reusable alternatives to single-use PPE items (aprons, wipes, face masks) are clinically appropriate.	23/24	🟥	£	☁	Clinical Teams & Procurement	**NZ** 3.1
08	Explore how the Trust can implement an ISO-14001 Environmental Management System.	23/24	🟥	£	☁	Estates and Facilities & HR	**LTP** 17 **SC** 18.4.3.1 **NZ** 3.1
09	Send zero waste to landfill, and reduce, re-use, recycle and/or recover energy and heat from waste.	23/24	🟥	£	☁	Estates and Facilities	**NZ** 3.1

Figure 24 Green plan action table for Waste

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
☁ Low or incremental reduction   ☁ Significant reduction
☁ Moderate reduction   ❌ Not applicable

Biodiversity and Greenspace

"Access to greenspaces have positive mental and physical health impacts, and these beneficial effects are greatest for those from socioeconomically disadvantaged groups. However, these groups also have the least access to greenspaces." – **Delivering a Net Zero NHS**

The Trust wants to protect biodiversity within the estate and region and reduce any negative impact on biodiversity, both locally and globally.

Greenspace and nature are important for the health and wellbeing of patients and colleagues alike. At a global scale, greenspace affects the planet's ability to absorb carbon dioxide.

The Trust will promote access to greenspace, considering areas of operations where this may be lacking.

The Trust will also consider opportunities and risks for biodiversity in its sites, for example priority woodland areas in the region.

As part of the Project Dynamo initiative, there is a Gorgeous Gardens element that has tidied 34 garden spaces across the three sites. The next phase is to begin renovations in a further eight gardens, to make them more inviting. At each of the three sites, there will be a dedicated patient and staff area.

NHS LTP 17

NHS SC 18.4.3, 18.4.3.1 to 18.4.3

NHS NZ 3.1.1, 3.3.2

11 SUSTAINABLE CITIES AND COMMUNITIES
Target 11.6 Reduce the environmental impacts of cities, focusing on air quality and waste

3 GOOD HEALTH AND WELL-BEING
Target 3.9 Reduce illnesses and deaths from hazardous chemicals and pollution

13 CLIMATE ACTION
Target 13.2 Integrate climate change measures into policy and planning

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	Review policies and practices around green space and biodiversity, to ensure that the Trust's impact on these is reduced. Identify opportunities to provide safe and easy access to green space, where appropriate.	23/24		£	❌	Estates and Facilities	**LTP** 17 **SC** 18.1 **NZ** 3.5
02	Engage with regional partners to ensure that adequate green space and identified native species are considered and supported in planning and operations of the estate wherever possible. This includes supporting bees and other pollinators.	23/24		£	☁	Estates and Facilities	**SC** 18.1 **NZ** 2.2, 3.5
03	Work to better understand biodiversity and habitat risks and opportunities in procurement. Where possible, apply evidenced standards or engage with suppliers to address issues, such as food production and provenance of meat, avoiding Palm Oil or limiting to RSCO-certified Palm Oil in food and cleaning products.	23/24		£	☁	Procurement	**SC** 18.1
04	Continue to engage the staff, patients, and communities in green space initiatives (including, for example, allotments)	Ongoing		£	❌	Clinical leads & HR	**NZ** 2.2, 3.5

Figure 25 Green plan action table for Greenspaces

Indicative cost:

£ No or low cost   £ Significantly expensive

£ Moderately expensive

Indicative emissions reduction:

☁ Low or incremental reduction   ☁ Significant reduction

☁ Moderate reduction   ❌ Not applicable

Medicines – Volatile Anaesthetic Gases and Inhalers

In addition to carbon dioxide emissions, the NHS clinical activity and prescriptions, such as using inhalers, nitrous oxide and volatile inhaled anaesthetics like desflurane, contribute to a considerable proportion of the NHS' GHG footprint.

The Long Term Plan commits the NHS to reduce GHG emissions from anaesthetic gases by 40% (which on its own could represent 2% of the overall NHS England carbon footprint reduction target which the NHS must meet under Climate Change Act commitments) and significantly reduce GHG emissions by switching to lower global warming potential (GWP) inhalers.

Nitrous oxide & Anaesthetic gases

BSMHFT is a mental health trust, which means that we only prescribe medicines for related conditions. Volatile anaesthetics are not used at our Trust.

Inhalers

As a mental health trust, we only issue very few inhalers. We do not offer new inhaler prescriptions, rather we continue a patient's GP prescription. This means we have no control of changing the inhaler device, such as prescribing dry powder inhalers. However, the small amount we do issue have an impact on our carbon footprint.

Both Dry-powder (DPI) and Metered Dose Inhalers (MDI) are prescribed. Metered dose inhalers use fluorinated gases as the propellant.

At the time of writing, we could not determine the number of inhalers issued in 2019/20 to 2021/22, and associated emissions. We aim to report the number of MDIs and DPIs issued in future iterations of our Green Plan.

The NHS Standard Contract stipulates that 30% of all inhalers prescribed across NHS England should be DPIs, potentially saving 374 $ktCO_2e$ per year, according to the NHS Net Zero report.

New Impact and Investment Fund (IIF) indicators which have been released provide an additional steer on prescribing lower-carbon inhalers.

Dry-powder inhalers are an appropriate choice for many patients and contain as little as 4% of the GHGs emissions per dose compared with MDIs. Fluorinated gases in MDIs mean that each 10ml to 19ml inhaler cannister has the equivalent emissions of 30 to 80kg of carbon dioxide!

At the end of use, inhalers still contain as much as 20% of high-GWP propellant. Greener disposal of these items, where residual fluorinated gases are captured and destroyed, is therefore another key priority. Lastly, overuse of inhalers leads to 250,000 tonnes of equivalent carbon emissions (250 $ktCO_2e$) annually across the UK, according to a new study.

BSMHFT will work across Trust sites to address disposal and overuse, and work with staff and patients through the NICE Patient decision aid to help increase the uptake of low-carbon inhalers wherever appropriate.

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	To continue to develop systems and controls regarding type and quantity of medications issued, to impact Procurement, Storage, Packaging and Waste	Ongoing		£	❌	Trust / SSL Pharmacy	**LTP** 17
02	To increase the ability to re-use and re-issue oversubscribed medications.	Ongoing		£	🟡	Trust / SSL Pharmacy	**LTP** 17
03	To significantly reduce reliance on less climate-friendly products, such as Inhalers, and seek to use suitable / viable alternates.	Ongoing		£	🟢	Trust / SSL Pharmacy	**LTP** 17
04	Collate inhaler prescribing data.	22/23		£	❌	Clinical Pharmacy Team	**LTP** 17
05	Set a goal to reduce MDIs to 25% of all non-salbutamol inhalers by re-prescribing DPIs and soft mist inhalers, where clinically appropriate.	24/25		£	🟢	Clinical Pharmacy Team	**IIF** ES-01 **LTP** 17
06	Set a goal of reducing the average emissions from salbutamol inhalers to 11.1kg per inhaler, where appropriate.	24/25		£	🟢	Clinical Pharmacy Team	**IIF** ES-02 **LTP** 17

Figure 26 Green plan action table for inhalers

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
🔴 Low or incremental reduction   🟢 Significant reduction
🟡 Moderate reduction   ❌ Not applicable

Supply chain and procurement

The NHS is a major purchaser of goods and services, with NHS England alone procuring around £30 billion of goods and services annually. Procurement has major potential social, economic, and environmental impacts both locally and globally.

This includes the power of using local suppliers, the climate performance of equipment and the estate, and preventing modern slavery in supply chains.

BSMHFT is committed to engage with suppliers to meet the Green Plan targets and support the sustainable procurement objectives of NHS England wherever practicable.

Procurement and Climate Action

Supply chain emissions represent a huge portion of BSMHFT's overall carbon footprint. The Trust has baselined the estimated supply chain emissions from 2018/19 to 2021/22 utilising the GHG Protocol 'Scope 3' spend-based method. Spend-based emissions change yearly with total spend and will not help measure progress initially. However, they will help BSMHFT to identify the carbon hotspots to plan for actions.
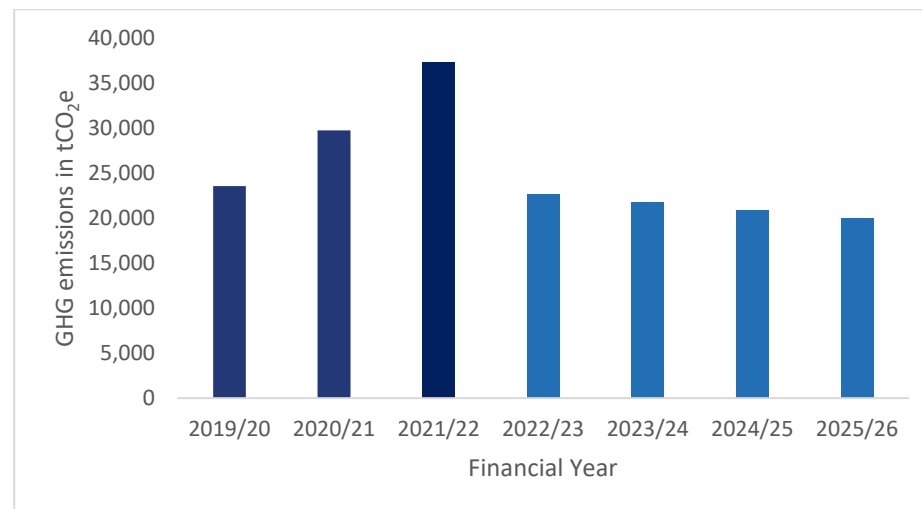
Figure 27 Emissions from the supply chain with reduction trajectory to 2025/26

Supply Chain and Procurement

- Emissions from the supply chain were estimated to be **23,596 tCO₂e** in 2019/20.
- A new NHS Sustainable Supplier Framework launched in January 2022 and will require all suppliers to publish progress reports and continued carbon emissions reporting by 2030.
- An ISO 20400 Sustainable Procurement Strategy would enhance the environmental and social performance of the Trust's supply chain.
- Ensure tenders adopt the new social value procurement note PPN 06/20 and carbon management PPN 06/21 in major contracts in April 2022 and 2023 respectively.
- Reusable items such as face masks and aprons would reduce waste (as per the Waste section).
- Reclaiming mobility aids and other devices from patients will prevent waste and save money.

As a Trust, most items and services are procured through centralised NHS/government frameworks, such as NHS Supply Chain. These centralised frameworks already provide best value through bulk purchasing power and consolidation of orders. The Trust cannot control or influence the sustainability aspects of these routes of procurement and will benefit from the decisions made in how these frameworks operate.

In addition, the Trust is a signatory of the NHS Single Use Plastics Pledge and aims to reduce plastic catering consumables.

The NHS, in line with recent government requirements, is mandated to adopt a new social value and environmental standard in the future. A new Sustainable Supplier Framework was launched in January 2022, and from April 2022, all NHS tenders will include a minimum 10% net zero and social value weighting (as per Policy Procurement Note 06/20).

From April 2023, contracts above £5 million will require suppliers to publish a carbon reduction plan for their direct emissions as a qualifying criterion (as per Policy Procurement Note 06/21).

By 2030, all suppliers will be required to demonstrate progress in-line with the NHS' net zero targets, through published progress reports and continued carbon emissions reporting.

PPN 06/020 & PPN 06/021 are procurement policy notices that relate to Central Government Departments, their Executive Agencies and Non-Departmental Public Bodies. However, BSMHFT as an organisation is not yet directly in scope.

These additional requirements will enable us to determine more accurately the carbon and social impact of the products and services the Trust buys, and ensure suppliers are reducing the emissions associated with their operations and products.

In the interim, BSMHFT will explore ways to reduce single-use plastic items and research how reusable items, such as masks and aprons, can be incorporated into clinical practice.

Jan 2022 — NHSE&I will launch the *Sustainable Supplier Framework*

April 2022 — NHS will adopt PPN 06/20 so that all NHS tenders include a *minimum 10% net zero* and social value weighting

April 2024 — *All suppliers** will be required to publicly report emissions and *publish a carbon reduction plan* aligned to the NHS' net zero target for their direct emissions, irrespective of contract value

April 2023 — NHS will adopt PPN 06/21 so that all contracts *above £5m* will require suppliers* to *publish a carbon reduction plan* for their direct emissions as a qualifying criteria

April 2027 — All suppliers* will be required to publicly report emissions and publish a *carbon reduction plan* aligned to the NHS' net zero target, *for both their direct and indirect emissions* (Scope 1, 2, and 3)

April 2028 — New requirements will be introduced overseeing the provision of *carbon footprinting for individual products* supplied to the NHS

2045 — • **Net Zero Supply Chain** • **Net Zero NHS**

April 2030 — All suppliers will be required to demonstrate progress in-line with the NHS' net zero targets, through *published progress reports* and continued *carbon emissions reporting*
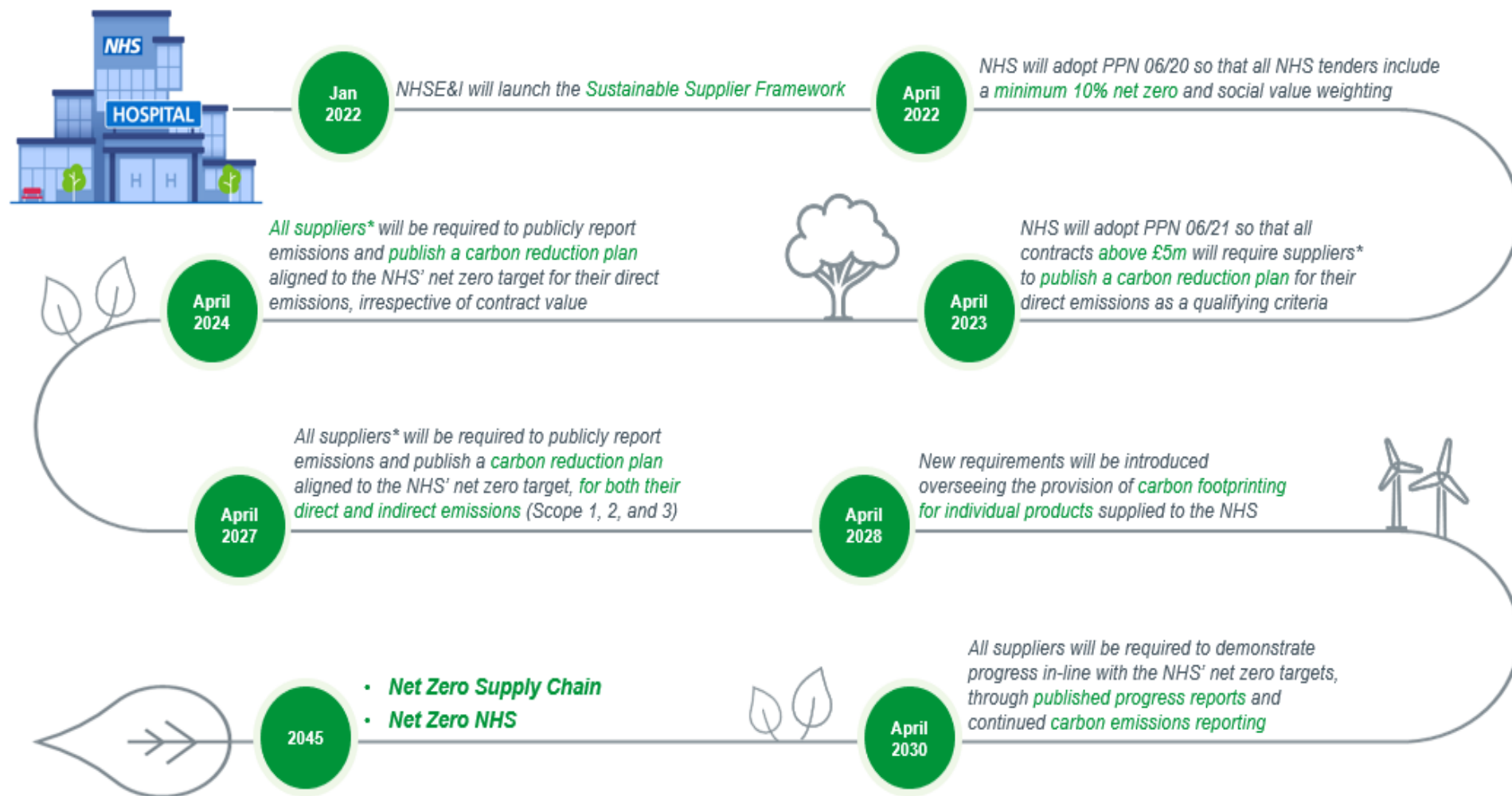
Figure 28 Building net zero into NHS Procurement – shows how NHS England will require all suppliers to provide carbon and social value reporting by 2030

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Product retainment and lifecycle extension

Procuring well, ensuring best value for money and social and environmental benefits will remain a core principle for the wider NHS and the Trust.

However, keeping products in service for as long as possible, through maintenance and repair, is fundamental to a circular economy and drives down waste.

Mobility aids, such as walking frames, crutches and walking sticks, are given to outpatients where appropriate. Unfortunately, once issued, these items are no longer under the Trust's control. Though many outpatients will use mobility aids for the long term, many are only used for weeks or months, and we can reclaim, clean or refurbish and reissue this equipment.
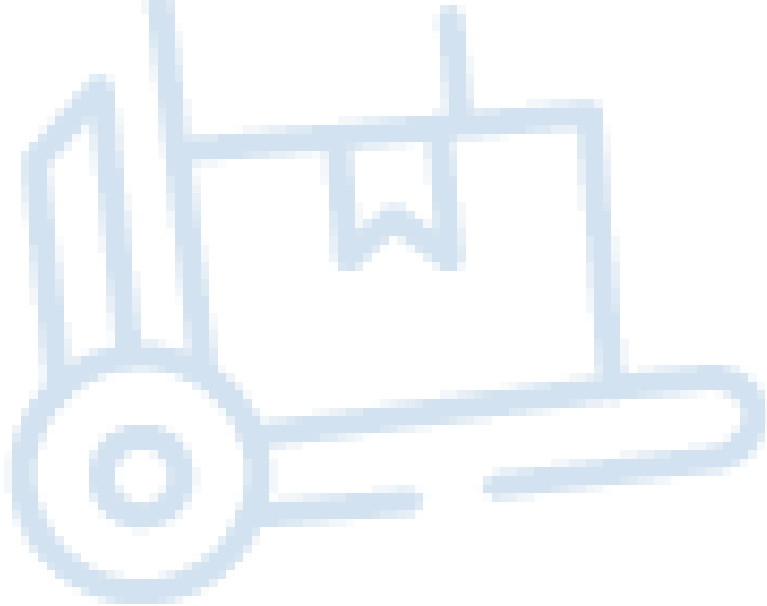
Anchor trust role

This involves identifying opportunities for regional Small and Medium-sized Enterprises (SMEs), and engaging suppliers to ensure wider community benefits are met. Shared warehousing is already in place, with SSL running storage space for use by Black Country Healthcare NHS Foundation Trust and Primary Care Networks (PCN) for PPE during the pandemic.

While the Trust cannot reserve spend locally, proactive steps are being taken to support inclusive growth, including a policy on the payment of the Real Living Wage for service suppliers.

NHS England Sustainable Procurement Objectives		
Net Zero	**Modern Slavery**	**Social Value**
Achieve the NHS Supply Chain Net Zero Targets	Eliminate Modern Slavery in the NHS supply chain both domestically and abroad	Ensure NHS procurement is a force for good helping local economies and improving wider determinants of health

Figure 29 Official NHS Sustainable Procurement Objectives Source: website

NHS LTP 6.17, 17, 18

NHS SC 18.6

NHS NZ 3.3, 3.3.1

8 DECENT WORK AND ECONOMIC GROWTH

Target 8.3 Promote policies to support job creation and growing enterprises

Target 8.7 End modern slavery, trafficking, and child labour

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Target 12.7 Promote sustainable public procurement practices

13 CLIMATE ACTION

Target 13.2 Integrate climate change measures into policy and planning

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/department	NHS Requirement
01	To develop procurement processes and procedures that reduce wastage from the over-ordering / incorrect ordering of goods and or services.	Ongoing		£		Procurement	SC 18.6
02	To reduce all packaging as per the Plastics Pledge to stop using single use plastic items.	Ongoing		£		Procurement	**SC** 18.6
03	Review the sustainable procurement approach to find relevant links that enable the Green Plan and work closely with NHS Supply Chain and NHS Improvement to promote their sustainability programmes.	Ongoing		£	✖	Procurement	**LTP** 6.17, 17
04	Adhere to the requirements of the NHS Sustainable Supplier Framework.	January 2022		£		Procurement	**SC** 18.6
05	Ensure tenders adopt the new social value procurement note PPN 06/20 and carbon management PPN 06/21 in major contracts from April 2022 and 2023 respectively.	April 2022		£		Procurement	**NZ** 3.3, 3.3.1
06	Ensure tenders adopt the carbon management PPN 06/21 in major contracts in April 2023.	April 2023		£		Procurement	**SC** 18.6
07	Ensure the purchase of 100% closed-loop recycled paper.	22/23		£		Procurement	**SC** 18.6
08	To ensure that standard quotation and tender documents ask the right questions re sustainability and carbon reduction, and that this is reflected within the scoring mechanism.	22/23		£	✖	Procurement	**SC** 18.6
09	Create a new system for cataloguing and reclaiming mobility aids and other devices from patients.	23/24		£		Physio and Occupational Therapy	**NZ** 3.3, 3.3.1
10	Engage a key supplier on plans to align their operations and delivery with NHS Net Zero targets over time. Leverage NHS England and NHS Improvement Supplier Engagement Strategy approach for fostering partnerships.	23/24		£	✖	Procurement	**NZ** 3.3, 3.3.1
11	Work with NHS Supply Chain to address Modern Slavery and domestic and international supply chain environmental, and human rights risks, including those linked to PPE.	23/24		£	✖	Procurement	**SC** 18.6

No	BSMHFT Green Plan Actions	Target Year	Progress	Indicative Cost to achieve	Indicative Emissions reduction	Responsible lead/department	NHS Requirement
12	Explore the creation of an ISO 20400 Sustainable Procurement Strategy.	23/24		£	(moderate reduction icon)	Procurement	**SC** 18.6
13	Work to identify impactful future supply chain emissions reductions opportunities and links to climate adaptation and other Green Plan commitments in procurement specifications and through contract delivery	24/25		£	(not applicable icon)	Procurement	**NZ** 3.3, 3.3.1
14	Enable procurement to support Social Value and Anchor Institution NHS aims, e.g., understanding and increasing local, SMEs and social enterprise spend or collaborating with suppliers to promote positive action in equalities or to collaborate on innovation or climate action.	Ongoing		£	(not applicable icon)	Procurement	**LTP** 18

Figure 30 Green plan actions for supply chain management and procurement

Indicative cost:

£ No or low cost   £ Significantly expensive

£ Moderately expensive

Indicative emissions reduction:

(icon) Low or incremental reduction   (icon) Significant reduction

(icon) Moderate reduction   (icon) Not applicable

Food and Nutrition

Food illustrates the links between climate change and public health. The NHS Long Term Plan commits us to promoting plant-forward diets and reducing unhealthy options like sugary drinks on NHS premises.

Food production accounts for up to 26% of global greenhouse gas emissions[1]. Food and livestock production has a huge impact on biodiversity as well, and according to research collected by Our World in Data "of the 28,000 species evaluated to be threatened with extinction on the IUCN Red List, agriculture and aquaculture is listed as a threat for 24,000 of them".[2]

While promoting healthier foods and reducing emissions, the NHS can also source more food from local and regional producers where possible, increasing the positive economic impact for our communities and reducing the emissions associated with food transport.

BSMHFT will work to fulfil Long Term Plan priorities for food provision on the premises, promoting plant-forward diets, higher welfare and more sustainable food options, and supporting regional producers wherever possible.

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[1] https://ourworldindata.org/environmental-impacts-of-food

[2] Source: Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392), 987-992. Via https://ourworldindata.org/environmental-impacts-of-food

From September 2020 until September 2021, the Trust served an average of 800,000 meals (3 meals per day). The Trust offers a wide choice of meals for inpatients, including vegetarian and vegan options and other dietary requirements. There are seasonal and themed menus available at sites, with rolling four-week menus. We use a mixture of cook-chill food from suppliers and fresh food prepared and cooked in production kitchens. Where kitchens are prep kitchens, cook-chill food is ordered a week in advance.

The Trust spent an average of £1,116,000 on food and catering procurement in the year 19/20, with related emissions reaching 471 tonnes of CO_2 equivalent.

We have catering leads and senior management leads responsible for ensuring our catering is in line with all standards and mandatory requirements.

After signing the NHS' Single Use Plastics Pledge, plastics were removed from catering services and replaced by biodegradable equivalents.

NHS LTP 2.18, 17
NHS SC 19.1, 19.2, 19.3
NHS NZ 3.3.2

2 ZERO HUNGER **Target 2.2** End all forms of malnutrition (including obesity)

3 GOOD HEALTH AND WELL-BEING **Target 3.4** Reduce mortality from non-communicable diseases and promote mental health

13 CLIMATE ACTION **Target 13.2** Integrate climate change measures into policy and planning

14 LIFE BELOW WATER **Target 14.4** Sustainable Fishing

No.	BSMHFT Green Plan Actions	Target Year	Pro-gress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/dept.	NHS Req.
01	• To introduce systematic approach to monitoring of both production food waste and in particular plate food waste and reduce accordingly.	Ongoing	🟥	£	❌	Catering Services	**NZ** 3.3.2
02	Review food and catering to explore opportunities to push forward Long Term Plan plans to address obesity, benefit BSMHFT's local area, and reach Net Zero emissions.	Ongoing	🟧	£	❌	Catering Services	**LTP** 2.18, 17 **SC** 19.1, 19.2 **NZ** 3.3.2
03	Explore a digital meal system for at least one NHS site to enable accurate meal planning and reduce food waste.	22/23	🟧	£	☁️	Estates and Facilities & Catering Services	**NZ** 3.3.2
04	Phase in more Plant-forward diets and other updated NHS requirements and explore greater seasonal menu changes.	23/24	🟧	£	☁️	Procurement & Catering Services	**LTP** 2.18

No.	BSMHFT Green Plan Actions	Target Year	Pro-gress	Indicative Cost to Achieve	Indicative Emissions Reduction	Responsible lead/dept.	NHS Req.
05	Limit sugary drinks sales at Trust facilities and fulfil other updated NHS requirements.	23/24		£	🔴	Catering Services	**SC** 19.3
06	Work with NHS Supply Chain to ensure positive impacts from contract management and maintain updates to Government Buying Standards sustainable food criteria.	23/24		£	🟡	Procurement & Catering Services	**SC** 19.3
07	Review internal and NHS strategies for sustainable food procurement, including sustainable fish, elimination of palm oil or limit to RSPC-certified palm oil and Fairtrade items where relevant.	23/24		£	🟡	Procurement	**LTP** 17
08	Continue to work with patients and partners on the link between food, health and obesity, as well as the emissions impact.	Ongoing		£	❌	TBC	**LTP** 2.18 **SC** 19.1, 19.2 **NZ** 3.3.2

Figure 31 Table to show green plan actions for food and nutrition

Indicative cost:
£ No or low cost   £ Significantly expensive
£ Moderately expensive

Indicative emissions reduction:
🔴 Low or incremental reduction   🟢 Significant reduction
🟡 Moderate reduction   ❌ Not applicable

Adaptation

Climate change will make extreme weather, such as heatwaves, droughts and flooding, more prevalent. Sea-level rise and increased risk of Vector Borne Diseases, such as Lyme Disease, may also impact the communities of Birmingham and Solihull.

It is therefore important that the Trust examines the potential risks and ensure that buildings, systems and processes are adapted to cope with the possible impacts of increased flooding, heat waves and storm damage. This process has begun with our Adaptation Plan but will need to be updated going forwards.

The changing climate poses risks for vulnerable populations in the community, but also impacts the Trust's estate, its ability to operate and the supply chain.

The Trust already engages with other public authorities and partners in tackling extreme weather events, such as flooding. BSMHFT will analyse these risks and develop actions for care delivery, estate planning and management, including flood risks across the estate and service area.

Climate change has serious implications for health, wellbeing, livelihoods, and society. Its direct effects result from rising temperatures and changes in the frequency and strength of storms, floods, droughts, and heatwaves — with physical and mental health consequences (The Lancet, 2017)

The NHS Long Term Plan reinforces the requirement to embed resilience and sustainability into the Trust's healthcare services. Climate change adaptation is critical to achieving this. The impacts of climate change on health, services, infrastructure and BSMHFT's ability to cope with extreme weather events will place significant additional demands on services in the future.

Climate change adaptation in the NHS is about organisational resilience and the prevention of avoidable illness, embracing every opportunity to create a sustainable, healthy and resilient healthcare service. Reducing the Trust's impact on the environment may not only help to mitigate climate change, but reduce the organisational running costs, ensure business continuity, and reduce health inequalities. Above all, it's about ensuring that the NHS and the Trust's buildings, services, staff and patients are prepared for what lies ahead.

Birmingham and Solihull Mental Health NHS Foundation Trust will work with partner organisations and other public sector organisations to develop a climate change adaptation plan to mitigate the consequences of climate change in respect of health and service delivery.

"As climate change accelerates globally, in England we are seeing direct and immediate consequences of heat waves and extreme weather on our patients, the public and the NHS. Adaptation is the process of adjusting our systems and infrastructure to continue to operate effectively while the climate changes. It is critical that the NHS can ensure both continuity of essential services, and a safe environment for patients and staff in even the most challenging times." - **Greener NHS**

No	BSMHFT Green Plan Actions	Target Year	Pro-gress	Indicative Cost to Achieve	Responsible lead/dept.	NHS Req.
01	Appoint a Climate Change Adaptation lead and follow the recommendations of the third Health and Social Care Sector Climate Change Adaptation Report.	23/24		£	Trust Board	**LTP** 17 **SC** 18.4.2.3 **NZ** 1
02	Embed Climate Change as a strategic risk within the corporate risk register and manage appropriately	23/24		£	Business Continuity	**SC** 18.4.2.3 **NZ** 1
03	Create an ISO14090 Climate Change Adaptation Plan, including plans for adapting the premises to mitigate climate change and extreme weather risks, using a recognised methodology, that is routinely reviewed considering the changing climate and scientific advancements.	23/24		£	Business Continuity	**SC** 18.4.2.3 **NZ** 1
04	Work with NHS Supply Chain to better understand the climate change risks in the supply chain and proactively seek to make the supply chain 'climate-ready'.	23/24		£	Procurement	**SC** 18.4.2.3 **NZ** 1
05	Embed and adapt existing health-related contingency planning, such as Flooding Plans to reflect predicted climate change impacts.	23/24		£	Business Continuity	**SC** 18.4.2.3 **NZ** 1
06	Incorporate newly emerging climate-related health care risks into contingency planning, such as the increasing prevalence of Vector Borne Diseases.	23/24		£	Business Continuity	**SC** 18.4.2.3 **NZ** 1

Figure 32 Table to show green plan actions for climate adaptation

Conclusion

The purpose of this Green Plan is to set out how our Trust will become more sustainable, reduce our greenhouse gas emissions and ultimately reach net zero emissions by 2040, and net zero plus by 2045. In this document, we have put forward our progress so far and the actions that will be necessary to drive change until 2025/26.

This Green Plan is a living document and will be regularly reviewed for progress against the action plans. As such, actions and targets may be revised where necessary.

Adequate budgets and resources will be allocated to achieve the Trust's goals and deliver sustainable care. The Trust will look to achieve the 'quick wins' first, although significant investment will be required in future years, especially in making BSMHFT's buildings 'climate-ready'.

Climate Change poses many threats to the care population and how care is delivered. This Green Plan will enable us to become an adaptable and resilient organisation. It will help steer the direction of travel with other local anchor institutions, bolstering the Trust's ability to provide a continued critical service.

BSMHFT's dedicated workforce is core to its care provision and delivery of this Green Plan. With the necessary structures in place, it will be the people and service users who will drive the changes to make us a more sustainable organisation. The Trust will continue an open dialogue with all stakeholders to improve the Green Plan and the delivery of care.

For more information, please contact

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This Green Plan was created for Birmingham and Solihull Mental Health NHS Foundation Trust in partnership with Inspired PLC.