



Net Zero Strategy

Contents

Chief Executive Foreword	4	6 Overview of delivery roadmap	25
1 Welcome	5	7 Pathway to net zero by 2040	27
2 Who we are and what we do	7	7.1 Introduction	28
2.1 Introduction	8	7.2 Scope 1 and 2 emissions	29
2.2 Commitment to net zero	8	7.3 Scope 3 emissions	30
3 How we developed this Net Zero Strategy methodology	14	8 Implementing the Strategy	31
4 How the Net Zero Strategy aligns with our strategic ambition	17	Technical Appendices	33
5 Priority actions	19	Appendix A – Methodology	34
5.1 The Net Zero Strategy Action Plan	20	Appendix B – Net Zero Oversight Board Membership	36
5.2 Estates and Facilities Decarbonisation Plan	22	Appendix C – Carbon Footprint Baseline	37
5.3 Transport and Logistics Decarbonisation Plan	22	Appendix C – Carbon Footprint Baseline (continued)	39
5.4 Staff engagement and culture	22	Appendix D – Action Plan (including Targets and Responsibilities)	50
5.5 Procurement and sustainable, low-carbon supply chain	23	Appendix E – Engagement during development of the Net Zero Strategy	51
5.6 Innovation and technology enablers	23	Appendix F – Draft Reporting and Governance Organisational Chart	52
5.7 Regulation and quality	23	Appendix G – Draft Net Zero Financial Governance Model	53
5.8 Monitoring, reporting and verification	23		
5.9 Risks, dependencies and opportunities	24		
5.10 Implementation timeline and governance	24		

Table of figures

Figure 1 – Mapping carbon across operations	6
Figure 2 – NHSBT Organisational Strategy and Transformation	9
Figure 3 – NHSBT Carbon Reduction Pathway (Thousand tCO ₂ e)	10
Figure 4 – Five Year Budget Forecasts – Average Annual Spend	11
Figure 5 – Five Year Budget Forecasts by Focus Area	11
Figure 6 – Annual Carbon Reduction by Activity against Investment	12
Figure 7 – Stakeholder engagement levels and actions	15
Figure 8 – Stakeholder mapping	16
Figure 9 – Implementation considerations and process	16
Figure 10 – Carbon reduction hierarchy	20
Figure 11 – Structure of actions	20
Figure 12 – Priorities implementation matrix	21
Figure 13 – Emerging themes	22
Figure 14 – Carbon Reduction Pathway for Net Zero by 2040	28
Figure 15 – Carbon Reduction Pathway Options	29
Figure 16 – Scope 1 and 2 Emissions: Annual Carbon Targets	29
Figure 17 – Scope 1,2 and 3 Emissions: Annual Carbon Targets	30
Figure 18 – Scope 1,2 and 3 Emissions: Five-year Carbon Targets	30
Figure 19 – Total Baseline Emissions NHSBT	37
Figure 20 – Scope 1 Emissions by category	37
Figure 21 – Scope 2 Emissions	38
Figure 22 – Scope 3 Emissions by category	38

Chief Executive Foreword:

As an NHS organisation, we have a responsibility not only to provide high-quality care and services today, but also to safeguard the health and wellbeing of future generations. Climate change is one of the most significant challenges facing society and poses a direct threat to public health. By taking meaningful action to reduce our environmental impact, we can help create healthier communities while strengthening the resilience and sustainability of our services.

This strategy demonstrates our commitment to supporting the wider NHS ambition to achieve Net Zero and to meeting the national targets that have been set. It outlines a clear and practical approach to reducing our carbon footprint, improving efficiency and embedding sustainability into our decision-making and day-to-day operations.

The progress we make will depend on the collective efforts of our staff, partners and stakeholders. I would like to thank everyone who has contributed to the development of this strategy and encourage everyone to play their part in delivering its objectives.

Together, we can ensure that our organisation continues to provide value for our communities while contributing to a more sustainable NHS and a healthier future for all.

Frances O'Callaghan
Chief Executive Officer



Head of Net Zero:

As Head of Net Zero, I am proud to introduce our 2026 Net Zero Strategy. This document sets out our continued commitment to reducing our environmental impact and supporting the NHS's ambition to become the world's first net zero national health service.

Climate change remains one of the greatest threats to public health, and the NHS has a vital role to play in responding to this challenge. Through this strategy, we reaffirm our commitment to achieving both our local sustainability objectives and the national NHS Net Zero targets, ensuring that we play our part in delivering a healthier future for our patients, staff and communities.

While significant progress has already been made, achieving our ambitions will require collaboration, innovation and collective action across every part of our organisation. This strategy provides a clear framework for reducing carbon emissions, improving resource efficiency and embedding sustainability into everything we do.

By working together with our staff, partners and the wider NHS, we can create lasting environmental, social and financial benefits, leaving a positive legacy for future generations.

Kevin Cartwright
Head of Net Zero

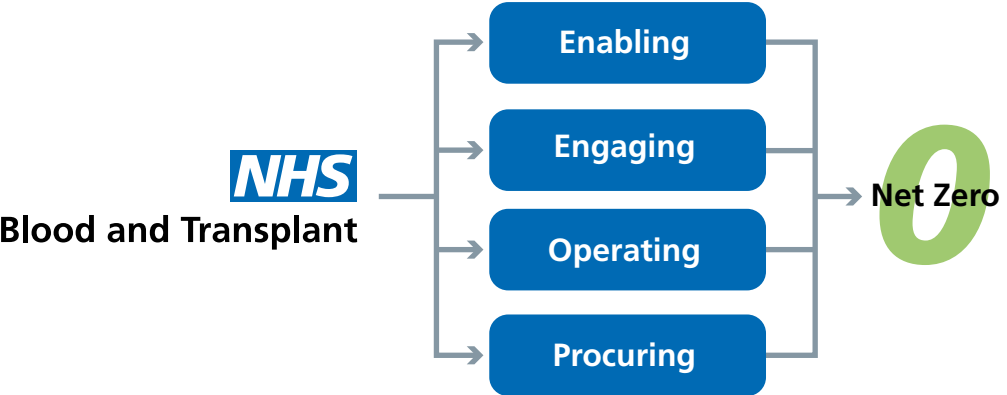




1 Welcome

The climate emergency poses significant health risks and NHS Blood and Transplant (NHSBT) is committed to playing our part managing our emissions to collectively mitigate human impacts on climate and the world around us. We are delighted to present our NHSBT **Net Zero Strategy** outlining our commitment to achieving net zero carbon emissions across our operations and supply chain by 2040 and detailing the actions we will be taking to make this commitment a reality.

Figure 1 – Mapping carbon across operations



This strategy builds upon our previous net zero strategy which ran from 2015-2025.

The purpose of this strategy is to establish a clear roadmap for NHSBT to reduce carbon across our direct operational emissions from buildings and fleet vehicles (Scope 1), purchased electricity and heat (Scope 2), and indirect emissions from goods, services, logistics, and staff travel (Scope 3).

This strategy proposes that we continue the commitments from the previous NHSBT Net Zero Strategy (2021-2025), to achieve net zero carbon Scope 1, 2 and 3 emissions by 2040, with minimal offset as this approach minimises aggregate carbon emissions. The strategy sets out how NHSBT will deliver our commitment, recognising that achieving net zero will require investment and are focused on implementing carbon reduction measures that also deliver cost savings and improve the efficiency of our work to save lives.

Our staff are amazing, and we want to thank all those that contributed to the development of this Strategy, and supported our consultants, Archus Square Gain, to identify where we have the best opportunities for improvements in carbon and cost performance.

The primary audience for this document is our NHSBT staff and supply chain, who can play a part in helping us to achieve our ambitions. We also recognise that climate change affects everyone, including our donors, healthcare partners and patients, who may also be interested to understand our commitment to net zero, the actions we will take and our progress in reducing carbon emissions.

This strategy supports our NHSBT ambition of saving and improving even more lives and aligns with all five of our NHSBT priorities:

- Grow and diversify our donor base
- Modernise our operations
- Drive innovation
- Collaborate with partners
- Invest in people and culture.

Further details can be found in Section 4.

This strategy aligns with the NHS England net zero targets for Scope 1 and 2 emissions by 2040 and our target to achieve net zero Scope 3 emissions by 2040 is in advance of the NHS England target of 2045. The strategy aligns with NHS England’s Greener NHS framework and contributes to the collective goal of delivering a sustainable health service.

By successfully implementing this strategy, NHSBT will become a more efficient and resilient organisation, strengthening already strong relations with key stakeholders including our staff, donors, research partners, supply chain and wider society.

The implementation of this strategy will be overseen by the recently formed Net Zero Oversight Board, that consists of senior decision makers within NHSBT, who will monitor progress against action plan targets and report progress periodically to the NHSBT Executive Team and Board.

2 Who we are and what we do



2.1 Introduction

NHS Blood and Transplant (NHSBT) is responsible for the supply of blood, organs, tissues, and stem cells to hospitals and patients across the United Kingdom. The organisation operates a complex network of donor centres, testing laboratories, processing facilities, and logistics fleets that ensure the safe and timely delivery of life-saving materials. An overview is shown in Figure 2 overleaf.

These activities are energy-intensive and require stringent temperature controls, reliable transport, and continuous service availability throughout the UK and around the clock every day of the year, all of which contribute to NHSBT's carbon emissions footprint.

In a recent staff survey 88% of NHSBT staff voiced concern about climate change, with 76% feeling that their day to day life has already been impacted by the changing climate. This aligns with recent UK Government statistics ([DESNZ Public Attitudes Tracker, July 2024](#)) which found 80% of people to be very or fairly concerned about climate change.

2.2 Commitment to net zero

As a public body NHSBT has an obligation to support the Government's Net Zero Strategy. Our approach is informed by the NHS England NZ strategy but we our obligation is primarily determined by the wider Government requirements.

NHSBT's vision is to become a net zero carbon organisation while maintaining the highest standards of service, safety, and innovation.

This Net Zero Strategy is aligned with the wider NHS England 2040 target for net zero direct emissions, and our 2040 target is ahead of the NHS England's target of 2045 for net zero supply chain emissions. Our NHSBT strategy is aligned with the Greener NHS programme and the UK Government's commitment to achieve net zero by 2050. It draws on national policy frameworks such as the NHS Long Term Plan, the UK Industrial Decarbonisation Strategy, and the Public Services (Social Value) Act. The strategy also complements NHS England's 'Delivering a Net Zero National Health Service' report and the NHS Net Zero Building Standard, ensuring coherence across the health system.

The strategy sets out the ambition for achieving Scopes 1, 2 and 3 net zero by 2040. 90% of are carbon creation is in the Scope 3 category, which is the source of carbon that we can only influence rather than control.

For our direct carbon emissions, (Scope 1 and 2), our baseline year is 2024-25 with 11,055 tonnes of carbon equivalent (TCO₂e). We aim to significantly improve efficiencies of our operations, and to continue our journey towards full electrification with a focus on energy efficiency, renewable power procurement, and low-carbon heating systems. For indirect (Scope 3) emissions our baseline year is 2024-25 with 100,782 TCO₂e and our actions target procurement practices, logistics optimisation, and staff travel behaviours.

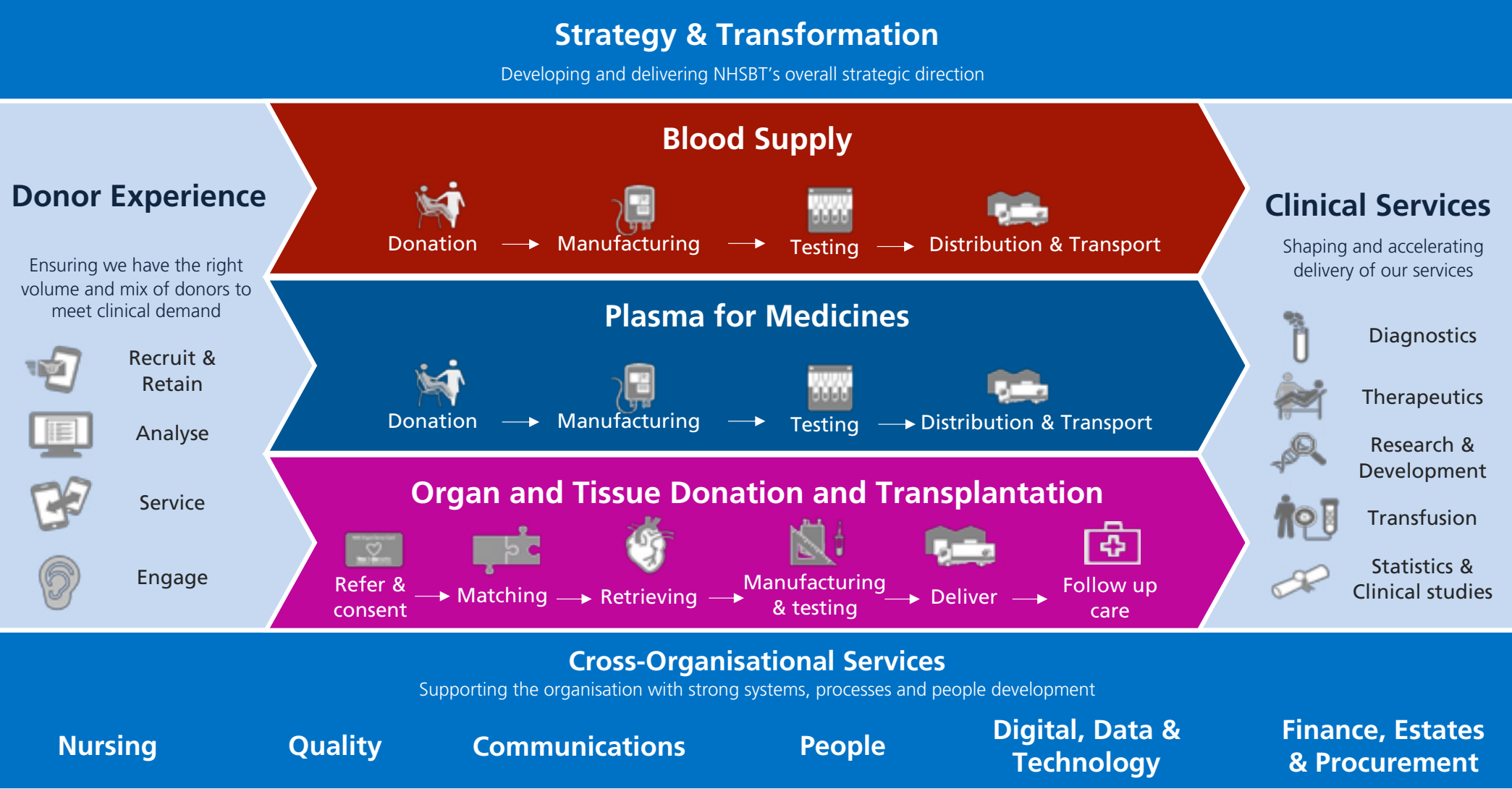
At a very high level our approach to delivering Net Zero is as follows:

- Modernisation of our estate. Driving down the need for heating and cooling. Where we can, we will transition to electricity from a net zero source, including solar generation.
- De-carbonising our logistics. A significant element of which will be to move to electric vehicles.
- Promoting a Net Zero Culture. This is focused on raising awareness, engagement and ensuring staff behaviours support Net Zero.
- Reducing our Scope 3 emissions. We will review our procurement approaches to give weight to carbon production, and we will support our suppliers to develop net zero plans.

This Strategy is underpinned by our. Net Zero Action Plan that was developed in collaboration with senior leaders across the organisation. Delivery of the actions will be owned and led by the relevant directorates. This will be supported by an overarching governance group, that will oversee delivery of the actions, and report progress and issues into the Executive Team. There are existing arrangements in place to report progress to the Board on Net Zero including the performance KPIs and the Annual Report.

Figure 2 below provides an overview of NHSBT Directorates and structure, which it is important to understand to see how this Net Zero Strategy will be embedded across all of our operations.

Figure 2 – NHSBT Organisational Strategy and Transformation



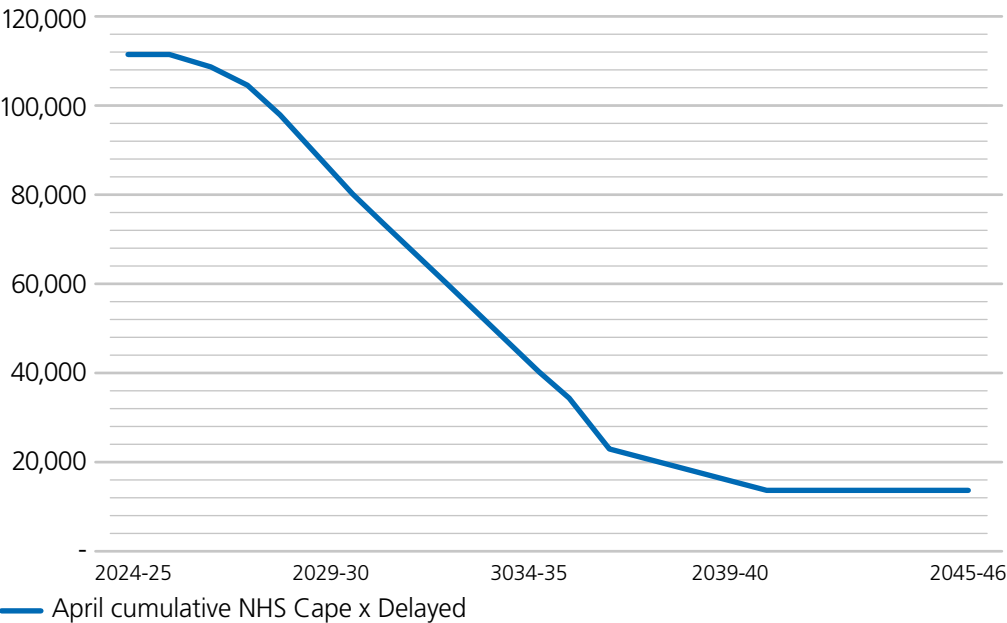
Addressing these areas will be critical to achieving the organisation's net zero objectives with staff awareness and engagement the foundation for the entire strategy.

We recognised that it is important to tackle carbon emissions with a range of initiatives across our operations. Some of our actions will be small-scale but help to raise awareness with staff and other stakeholders. There are four key focus areas that are driving our carbon reductions, which are shown in the table below:

Focus area	Impacted scope (1/2/3)	Indicative carbon reductions (tCO ₂ e)
Sub-metering and HVAC controls across our estate	1 & 2	210
Electrification of transport and heat ¹	1 & 2	2,500
Incorporate net zero into our Business Case requirements	1, 2 & 3	7,500
Incorporate net zero into procurement specifications	3	86,000

An overview of our carbon reduction and net zero pathway that we will achieve by implementing our Net Zero Action Plan can be seen below. This shows our Five-year carbon budgets to achieve net zero and includes our direct carbon emissions (scope 1 and 2) and our indirect carbon emissions such as that found in our supply chain (scope 3).

Figure 3 – NHSBT Carbon Reduction Pathway (Thousand tCO₂e)



A more detailed overview is provided in Section 7 with specific Action Plan details shown in Appendix D. Our approach integrates the Greenhouse Gas Protocol (GHGP) and uses science-based targets to ensure measurable and credible progress.

¹ NHSBT currently procure around 75% of energy from low carbon sources, and are working towards 100%, whilst also working on energy efficiency.

Figure 4 – Five Year Budget Forecasts – Average Annual Spend

5-year budget period	2026-2030	2031-2035	2036-2040
Average annual spend (£m)	£2.6m	<£1m	<£1m

The breakdown of our budget forecast by each of our four key focus areas is shown below, as totals for each of the five year budget periods.

The investment associated with the pathway has been modelled with a focus on early action to minimise NHSBT carbon emissions over the next five years with the aim of early action to maximise aggregate carbon reductions. A range of costs and carbon savings have been estimated based on market rates, available NHSBT data, and implementation feasibility across the NHSBT estate. The financial return on investment of actions to reduce carbon emissions will be calculated following enabling works such as sub-metering installation.

Figure 4 above shows the estimated capex spend from 2026-2040. This is shown as average spend per five year period.

Figure 5 opposite shows the key activities and actions that are driving our carbon reductions:

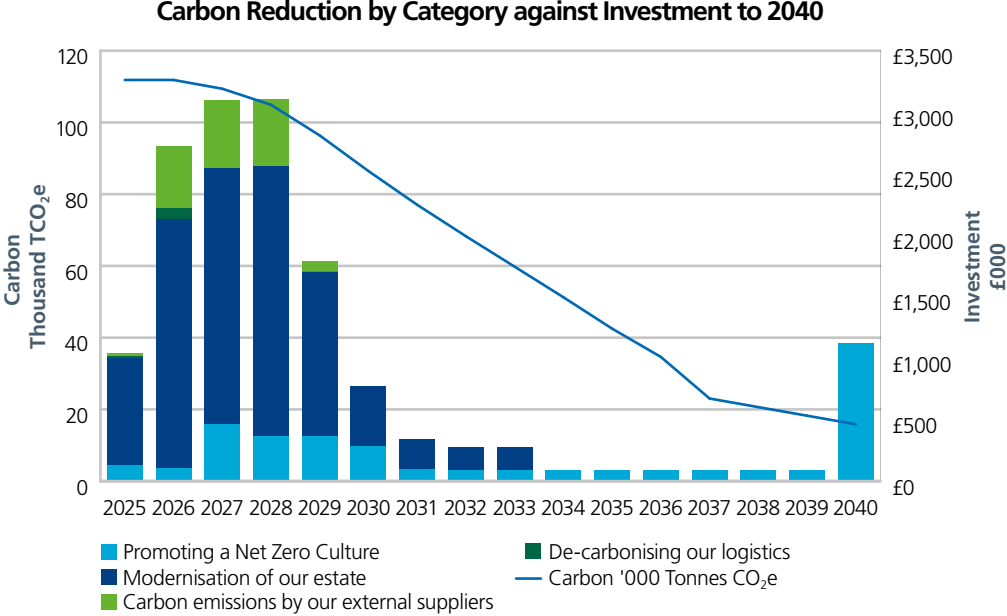
- Modernising our estate, focusing on energy efficiency of our buildings and a move to electrification of heat in our buildings
- Decarbonising our logistics through electrification of vehicles and greater efficiency
- Reducing the carbon emissions of our external suppliers
- Promoting a net zero culture across our organisation.

Figure 5 – Five Year Budget Forecasts by Focus Area

Activity	Description	£m 2026-2030	£m 2031-2040	£m 2041-2045
Modernisation of our estate	To drive down the need for heating and cooling. Where we can, we will transition to electricity from a net zero source, including solar generation. We are currently extending our solar generation significantly, and updating our Estates Strategy.	8.5	1.1	>1
De-carbonising our logistics	A significant element of this will be to move to electric vehicles. We are planning our leasing strategy and have commenced work on EV charging capacity.	1.7	>1	>1
Carbon emissions by our external suppliers	We will review our procurement approaches to give weight to carbon production, and will support our suppliers to develop Net Zero plans.	>1	>1	>1
Promoting a Net Zero Culture	This is focused on raising awareness, engagement and ensuring staff behaviours support Net Zero and will include an active staff network, and small local investment pots.	1.4	>1	1.4

The overlay of cost and carbon reduction is shown in Figure 6 below. This will be updated as a tracking tool as we progress and will include the cost savings generated through efficiency and carbon reduction.

Figure 6 – Annual Carbon Reduction by Activity against Investment



2.2.1 Scope

This strategy is focused on carbon reduction and the transition to net zero. As such it includes wider sustainability issues only in so far that they impact carbon emissions. Climate resilience is not part of the scope of the strategy and is analysed and planned for separately.

NHSBT’s carbon reduction pathways are designed around our operational priorities and carbon hotspots. Our baseline carbon footprint includes emissions from (in no particular order); energy use, vehicle fleets, refrigerants, waste, procurement, and staff travel, with the largest emissions sources being from supply chain procurement.

Analysis of NHSBT’s carbon emissions reveals several key hotspots (see Appendix C for detail):

- procurement of medical equipment and consumables;
- energy consumption in laboratories and storage facilities;
- refrigeration and use of refrigerant gases with high global warming potential;
- logistics and fleet operations, particularly long-distance organ transport, and;
- staff commuting and business travel.

Our most significant direct emissions are from energy use in manufacturing, testing, research laboratories and storage facilities, and our logistics operations.

2.2.2 Challenges

NHSBT operates in tightly controlled environments and is heavily regulated by organisations including the Medicines and Healthcare products Regulatory Agency (MHRA) and Human Tissue Authority. Regulations can restrict our operational ability to drive absolute efficiency. Good Manufacturing Practice (GMP) requirements dictate a lot of our energy usage and certain contingencies are required to enable us to continue delivering our life saving and life enhancing services in all scenarios. Examples include delivery of full heating and ventilation, to all areas of buildings, at all times to allow for 24-hour working, and additional cold storage being left on in case one of the operational units fails.

Regarding decarbonisation of our supply chain, NHSBT operates in a niche supplier environment, where there is little competition of supply. We also support small and medium (SME) organisations that can find it more difficult to invest in carbon and energy saving measures. Both these factors can make it difficult for us to influence the supply chain and makes it important that we provide clear communication on NHSBT’s net zero commitment and how this will influence our procurement choices now and in future.

Our approach when developing this strategy was to engage with operational staff and to seek clarifications to ensure we are as efficient as possible whilst maintaining compliance with Good Manufacturing Practice (GMP) and regulations.

Several challenges have become apparent during interviews with members of staff, during site visits, and in feedback from the Net Zero Staff Survey. Here we summarise these challenges and the actions planned to overcome them.

- There have been initiatives suggested in the past, all are dependent on funding. This funding has not been available in the amounts needed to allow positive progression, for example to fund upgrades to electrical infrastructure to allow fast-charging electric vehicle points, or to install solar panels on all rooftops. This strategy focuses on actions that reduce carbon and cost. The strategy also includes a financial model and governance aiming to overcome these challenges.
- When developing this strategy in discussion with senior decision makers from NHSBT, it was agreed that perceived barriers should be questioned to determine the specific requirements. We can then ensure we find the right approaches and solutions to challenges whilst complying with GMP principles.

2.2.3 Innovation and collaboration

Our aim is to encourage innovation in a way that minimises any associated risks of doing things differently. As such, our Net Zero Strategy sets-out recommended pilot projects, to trial ideas provided through discussion with technical teams and operational staff.

These pilots can be implemented on a small-scale where it is acceptable to trial the implementation of new ideas and in an environment where any failures, or partial successes, can be learnt from without disruption to NHSBT operations. Successful pilots can then be scaled to deliver the associated carbon and cost savings.

Staff from across all NHSBT departments supported the development of this Net Zero Strategy, from **Manufacturing, Testing, Transport and Logistics**, through to **People, Communications, Operations** and **Digital**. Many of the actions within the strategic action plan are owned by one department and supported by several other departments, as we will collaborate across all levels of the organisation, and across multiple departments, to implement the plan and embed net zero.

The implementation of the strategy and accompanying action plan will be overseen by the newly established Net Zero Oversight Board. One of the first agreed actions is to set up groups of Net Zero Champions, with potential technical sub-groups and focus groups to tackle specific challenges.

Results from the Net Zero Staff Survey demonstrates that over 20% of respondents were keen to continue involvement in some way. To ensure any newly formed groups are action-orientated and can implement ideas swiftly, we will ensure that they are linked to finance mechanisms with the appropriate governance.

3 How we developed this Net Zero Strategy methodology



Here we summarise the methodology used to develop our Net Zero Strategy, with further details shown in Appendix A.

The development of this strategy has been overseen by a newly formed Net Zero Oversight Board within NHSBT, consisting of senior Directors across most of our NHSBT departments. Membership can be seen in Appendix B.

The Implementation of this strategy will be overseen by the same group with regular reporting to the Executive Team and NHSBT Board to ensure accountability and transparency, with progress monitored against annual carbon reduction targets.

The strategy Action Plan is shown in Appendix D and is a ‘live’ document overseen by the Net Zero Oversight Board.

Development of this strategy and accompanying Action Plan involved extensive engagement and consultation with a wide range of stakeholders from across the organisation. These are shown in the diagrams opposite with further detail on the total number of stakeholders shown in Appendix E:

Figure 7 – Stakeholder engagement levels and actions

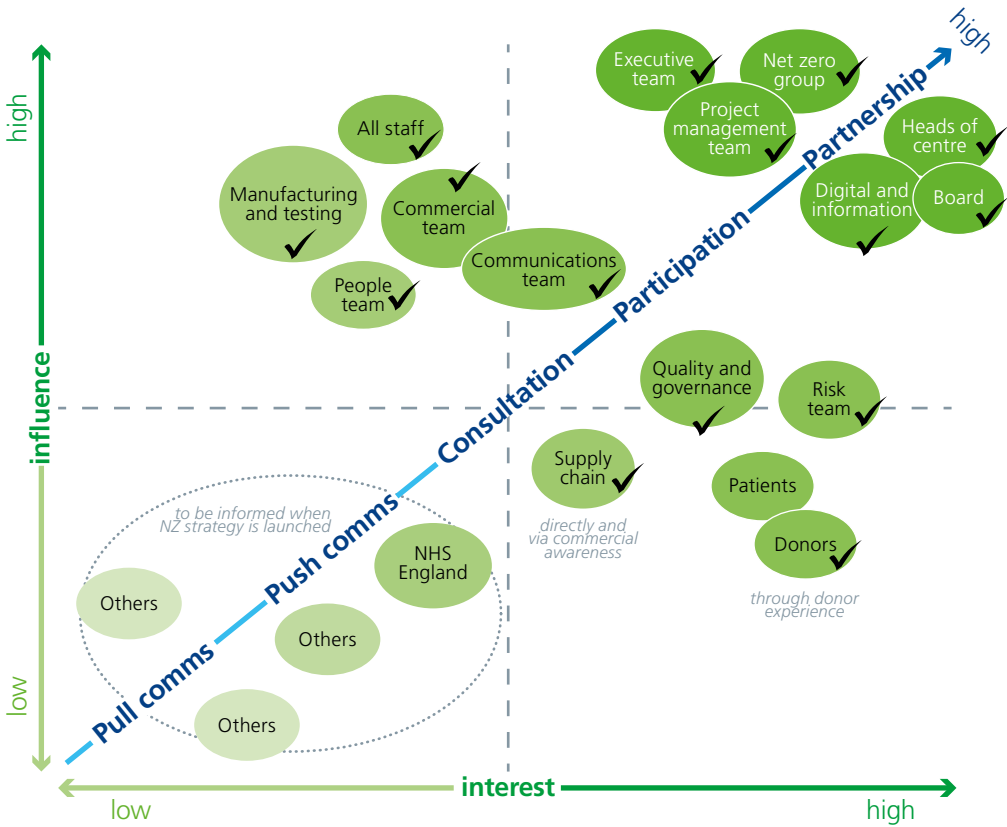
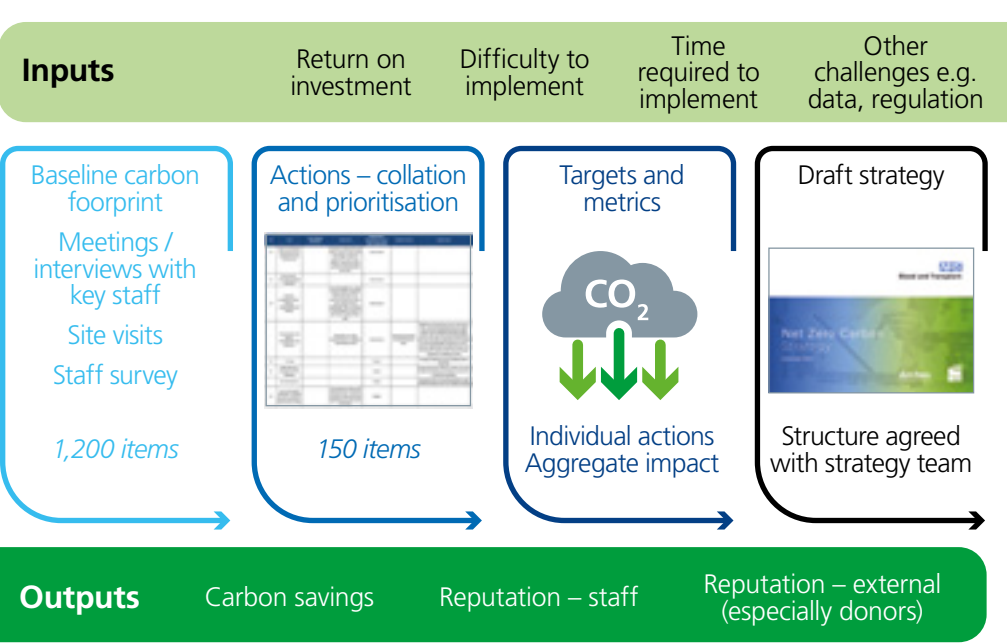


Figure 8 – Stakeholder mapping



- In addition to carbon savings, other considerations for the development of the net zero strategy actions included:
- Capital costs to implement
 - Any return on investment
 - The timeframe for implementation, including any precursors required to enable the action
 - Likely difficulty of implementation
 - Time required for implementation from NHSBT staff
 - Any internal communication benefits or high visibility as part of the NHSBT net zero culture
 - Any external communication benefits or high visibility that demonstrate NHSBT’s actions to other stakeholders, including donors, partners and hospitals.

Figure 9 – Implementation considerations and process





4 How the Net Zero Strategy aligns with our strategic ambition

This strategy considers NHSBT’s organisational and supply-chain carbon emissions focusing on turning this analysis into actionable insights. The strategy considers not only the carbon benefits of action, but also reputational benefits. The recommended actions that form part of the implementation plan consider challenges such as time, cost and complexity.

Strategic Ambitions	Key Groups and Partners		
	Embed net zero culture	Net zero buildings	Net zero transport
People Department and all staff		Operations, Manufacturing, Testing and Research	
Transport & Logistics, Estates & Facilities			
Priorities	To deliver this we will		We'll know we've succeeded ...
Grow and diversify our donor base to meet clinical demand and reduce health inequalities	Engage and communicate with donors on our commitment and progress towards net zero		Donors are aware of our net zero commitments and progress towards our specific actions and targets
Modernise our operations to improve safety, resilience and efficiency	Digitise our processes and upgrade our estate and transport		Through a reduction in the energy, carbon and resource intensity of our operations
Invest in people and culture to ensure a high performing, inclusive organisation	Up-skill our staff on net zero and wider sustainability		Our staff are competent in net zero and confident to talk and engage on specific impacts and actions
Drive innovation to improve patient outcomes	Pilot innovative solutions and scale those that are most successful across NHSBT operations		Pilot programmes are successfully initiated and implemented across our operations
Collaborate with partners to develop and scale new services for the NHS	Collaborate across NHSBT departments and with our upstream supply chain, partners, hospitals and wider NHS organisations on how to reduce carbon emissions and improve performance		By again recording collaborative initiatives and monitoring overarching reductions in carbon across Scopes 1,2 and 3

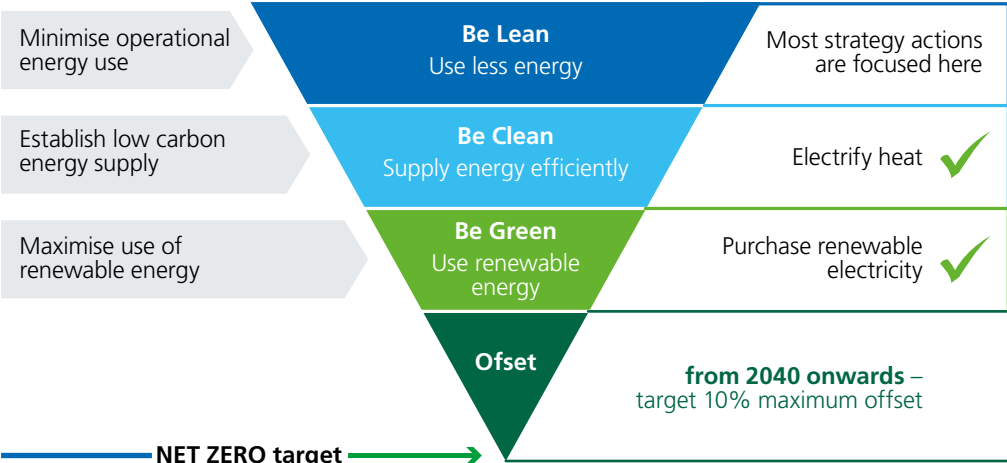


5 Priority actions

5.1 The Net Zero Strategy Action Plan

The Net Zero Strategy Action Plan is shown in Appendix D. The action plan aims to embed net zero across all NHSBT operations, involving all departments. When developing the action plan, we recognised the importance of each department having a focus on a small number of actions that they are leading on, supported as appropriate by other departments.

Figure 10 – Carbon reduction hierarchy



We have focused on initiatives and actions at the top of the carbon hierarchy – to use less energy, as this is the most environmentally sustainable and financially sustainable approach, to deliver carbon and cost savings. Our approach is aligned with science-based targets and by 2040 we aim to have a maximum of 10% residual carbon emissions that will need to be offset in order to achieve net zero.

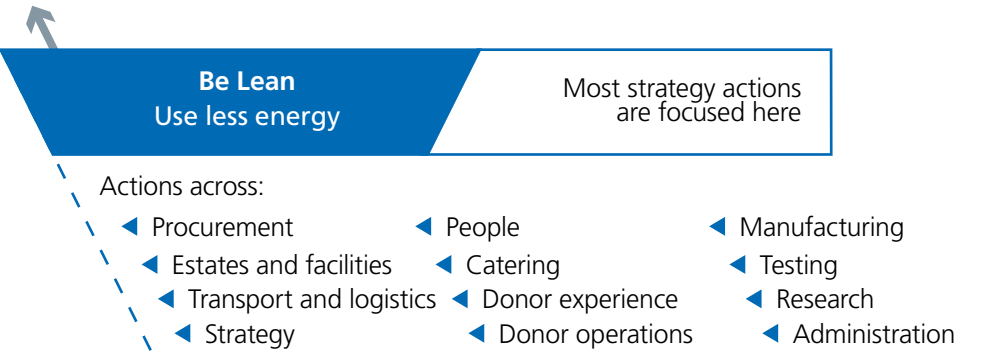
Actions are also structured in the following way:

- **Enabling Net Zero** – the actions we need to take for NHSBT to decarbonise. An example is that we need to understand the electrical grid capacity at our sites, and install electric vehicle charging infrastructure, before we can electrify and decarbonise our fleet vehicles
- **Procuring Net Zero** – the actions we need to take with our supply chain partners to reduce our indirect carbon emissions, including the goods and services we purchase
- **Engaging Net Zero** – how we will involve all staff, and engage wider with donors and others to demonstrate what we are doing on net zero, and how they can help us achieve our goals
- **Operating Net Zero** – how all staff can participate in our net zero journey through their daily operations and work activities.

Figure 11 – Structure of actions

Enabling net zero	Net Zero embedded into Business Case process
Procuring net zero	Net Zero embedded into all procurement specifications
Engaging net zero	Involving all staff and donors – demonstrating our Net Zero approach and how they can help us achieve our goals

Operating net zero	Data	Performance		
		Policy	Process	Behaviour
Cost to implement	££	£	£££	££



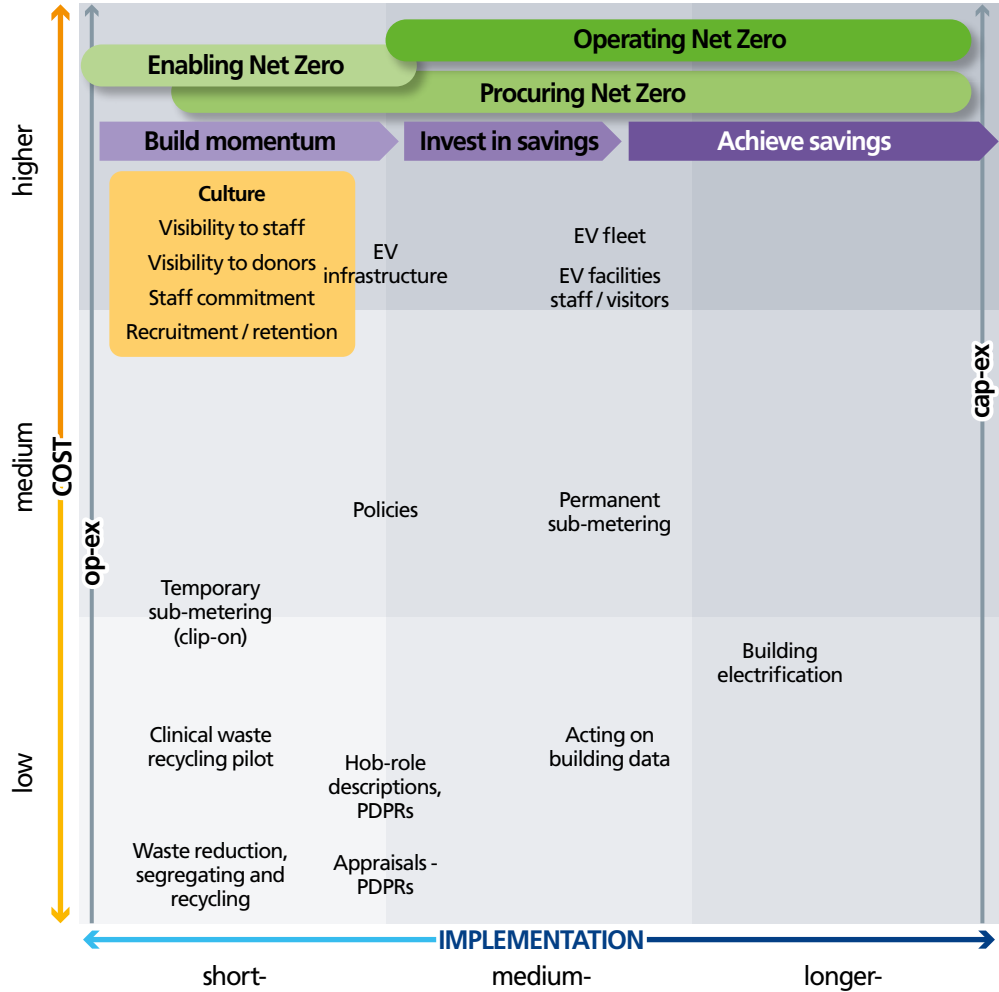
This structure helps to avoid net zero from becoming overwhelming and provides us with a focus, particularly on short-term actions that build and maintain momentum on carbon reduction and cost efficiency as we progress towards our longer-term goal of achieving net zero by 2040.

As noted in Section 2.2 there are four key areas that we will tackle that will save significant carbon emissions:

- Sub-metering and HVAC controls across our estate
- Electrification of transport and heat
- Incorporate net zero into our Business Case requirements
- Incorporate net zero into procurement specifications.

Our Net Zero Action Plan contains over one hundred actions across all our operational departments. The priority actions for specific NHSBT departments are described below highlighting the implementation timeframes and indicative capital expenditure (capex) and operational expenditure (op-ex).

Figure 12 – Priorities implementation matrix



5.2 Estates and Facilities Decarbonisation Plan

Decarbonising the NHSBT estate is a priority as the specific departments and operations within the buildings have limited control individually. Decarbonising our buildings involves improving building energy performance, transitioning to heat pumps and renewable heating, and increasing on-site renewable energy generation.

A priority is to gain granular and timely energy data to enable identification and analysis of energy intensive areas and operations. This action, when combined with improved building controls as a priority for these energy intensive areas should deliver significant carbon reductions and operational efficiencies.

All new and refurbished buildings will meet the NHS Net Zero Building Standard, incorporating passive design, low-carbon materials, and advanced energy management systems. Energy audits across all major sites will identify opportunities for operational improvements, optimising building management systems and controls, and retrofitting.

We are planning an updated NHSBT Estates Strategy in the near future and space utilisation is expected to be a key part of this, which will help ensure right-sized, right-location supporting the efficiency and decarbonisation. A space utilisation survey may be an early action that links with this net zero strategy. Energy efficiency and net zero will be key considerations in our Estates Strategy to help determine asset retention and investment.

5.3 Transport and Logistics Decarbonisation Plan

NHSBT's logistics operations are critical to the transport of blood, organs, and tissues across the UK. We will progressively replace fossil-fuel vehicles with electric and zero-emission alternatives as we both implement the charging infrastructure, and as suitable vehicles become available to meet our requirements in terms of size and range.

We may also pilot low-carbon fuels such as hydrogenated vegetable oil (HVO) for transitional periods. By 2030, all new fleet vehicles will be zero-emission, with the full fleet transition completed by 2035.

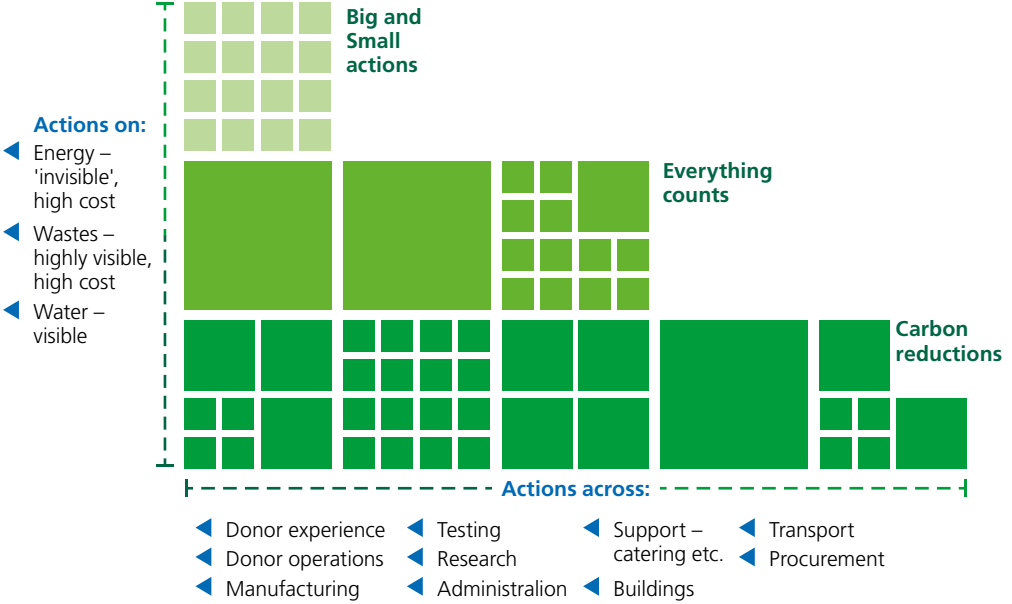
We currently utilise route optimisation software, vehicle management software and driver behaviour software and will continue to use these tools to monitor performance and reward best practice.

5.4 Staff engagement and culture

Delivering net zero requires the active participation of all our NHSBT staff. Mandatory net zero training will be developed and rolled out to build our internal capacity and embed environmental responsibility in everyday decision-making.

Staff will be encouraged to contribute ideas and participate in green initiatives through local sustainability champions that will be established in autumn 2026 and help us to implement improvement actions across our sites. Champions will report progress to the Net Zero Oversight Board, with senior representatives from across the organisation. Figure 11 below illustrates how ideas of all size and topic will be welcomed across all our operations.

Figure 13 – Emerging themes



Net zero will also be integrated into induction training, leadership development programmes and the Professional Development Plan Review (PDPR) process. We will continue to seek further opportunities to embed net zero and to encourage cross-departmental collaboration on net zero as we implement our action plan, which includes formal meetings and informal groups and social networks.

5.5 Procurement and sustainable, low-carbon supply chain

Procurement and supply chain activities account for a significant portion of NHSBT’s carbon footprint. We will implement the NHS Net Zero Supplier Roadmap, requiring suppliers to publish Carbon Reduction Plans and align with NHS net zero goals. We will also analyse our supply chain to identify carbon hotspots within our top suppliers that we will then focus engagement on.

NHSBT will develop net zero specifications to ensure that net zero is integrated to all procurement and we will apply a net zero/ sustainability weighting in all tenders over and above the 10% Social Value allocation, with encouragement and credit given to suppliers demonstrating innovation in emissions reduction, circular economy practices and minimising single-use items.

Partnerships with suppliers will focus on reducing emissions in high-impact categories such as medical consumables, medical equipment, and pharmaceuticals.

5.6 Innovation and technology enablers

Innovation is central to NHSBT’s approach to decarbonisation and resource efficiency. We will invest in digital technologies for real-time energy monitoring, logistics optimisation, and predictive maintenance.

Collaborations with other NHS organisations and supply chain companies will explore emerging technologies such as low-carbon refrigeration, green hydrogen for fleet operations, and AI-assisted supply chain management. Pilot projects will be developed to test scalable solutions across our main donor centres.

5.7 Regulation and quality

How we can drive efficiencies and improvement across NHSBT without compromising quality, safety and reliability. We will establish pilot projects and research projects to investigate where efficiencies may be possible and in which areas improvements can be achieved.

Examples may include reviewing which areas in buildings can have their ventilation, heating or cooling stepped-down when the areas are not in use, which includes clean rooms as well as the utilisation of laboratories, manufacturing and administration space. We will also review which equipment is required to be ‘always on’ to provide operation resilience as a backup to utilised equipment, which may include inter-departmental collaboration and resilience, and operational flexibility.

5.8 Monitoring, reporting and verification

Progress towards net zero will be monitored through a robust performance framework against our net zero action plan and coordinated by the Net Zero Oversight Board. The Net Zero Oversight Board will report on progress periodically to the NHSBT Executive Team and NHSBT Board. Aligned with the NHS England Greener NHS reporting system, we will publish NHSBT’s annual carbon performance detailing Scope 1, 2 and 3 emissions, progress against our action plan targets and carbon reduction milestones.

Data quality will be assured through independent verification and compliance with the Greenhouse Gas Protocol.

5.9 Risks, dependencies and opportunities

The transition to net zero presents both challenges and opportunities for NHSBT. Risks include operational, financial and reputational risks. Not everything is within our control and dependencies exist on national energy infrastructure, supply chain decarbonisation, and regulatory frameworks. The governance of risks associated with implementing the programme, and risks associated with failing to implement the programme, form part of the responsibilities of the Net Zero Oversight Board. The management of risks will be in accordance with our Risk Management System.

There are also opportunities, which include improved operational efficiency, cost savings through energy reduction, enhanced resilience, and reputational benefits as a sustainability leader in healthcare.

5.10 Implementation timeline and governance

Implementation will occur in phased stages: short-term (2026-2027), medium-term (2027-2030), and longer-term (2030 onwards). The current net zero action plan is focused on the short-term to establish the enabling elements such as links to finance, to build momentum and to engage across the organisation with NHSBT staff and our supply chain.

Each stage of our action plan implementation will include specific actions for estates, logistics, procurement, and staff. Governance will be led by the NHSBT Net Zero Oversight Board, reporting to the Executive Team and Board, an organisational chart is shown in Appendix F. Progress will be reviewed annually and adjusted as necessary to maintain trajectory toward our 2040 targets for Scope 1, 2 and 3 carbon emissions.

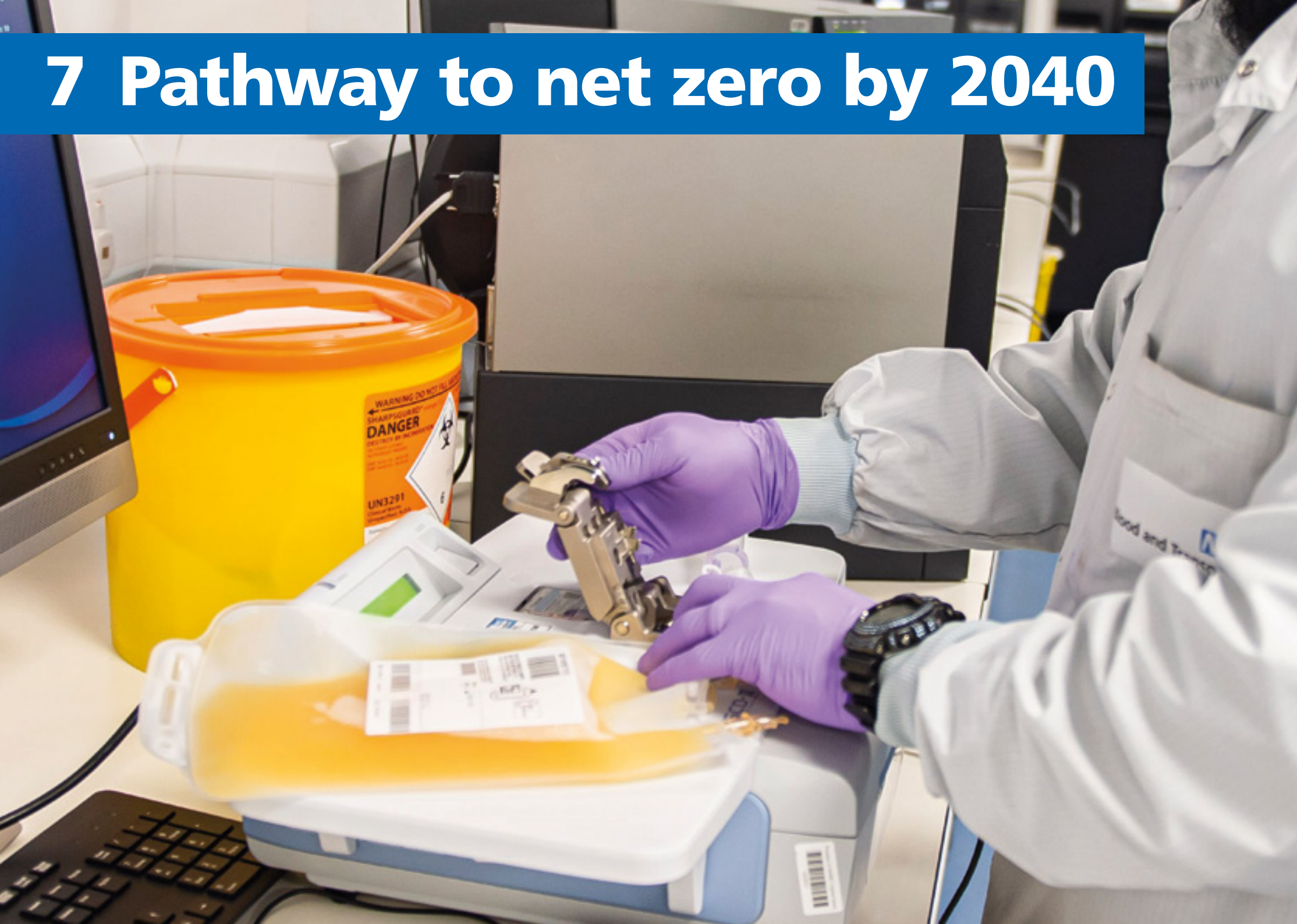
6 Overview of delivery roadmap



The table below provides a brief summary of actions aligned to the NHSBT Strategy that will be undertaken over the next five years. A full list of actions planned in the short, medium and longer-term is shown in the Net Zero Action Plan (Appendix D)

	2026-27	2027-28	2028-29	2029 >>>
 Grow and diversity our donor base to meet clinical demand and reduce health inequalities	Donor advice on travel and medical issues to pre-screen themselves and avoid wasted journeys.	Digitisation of the signup process for donors.	Digitalisation and self-serve for booking donor appointments.	Reducing donors travel and making donation more accessible.
 Modernise our operations to improve safety, resilience and efficiency	Sub-metering utilities to ensure efficient building operations.	Switching-off/stepping-down areas when not in use.	Building HVAC controls to ensure efficient operation in all seasons.	Improving segregation and treatment of clinical waste.
 Invest in people and culture to ensure high-performing, inclusive organisation	Training and e-learning for staff on net zero.	Role descriptions to include net zero.	Minimised staff travel for training and meetings.	EV options available to all staff on NHSBT business.
 Drive innovation to improve patient outcomes	Incorporation of net zero into all specifications that are identified as carbon hot-spots.	Allocation of a % for net zero in supply chain contract appraisals.	Review the transport of organs and NORS team.	Net zero in all specifications and net zero-aligned choices available via iProcurement.
 Collaborate with partners to develop and scale new services for the NHS	Sharing the NHSBT Net Zero Strategy Externally.	Contract management KPIs - collation, comparability and visibility.	Avoiding unnecessary staff travel between home, hospital and designated bases.	Facilitation of renewable energy for staff at home, in partnership with green energy provider(s).

7 Pathway to net zero by 2040



7.1 Introduction

The below chart shows an overview of the approach to transition to net-zero carbon emissions by 2040.

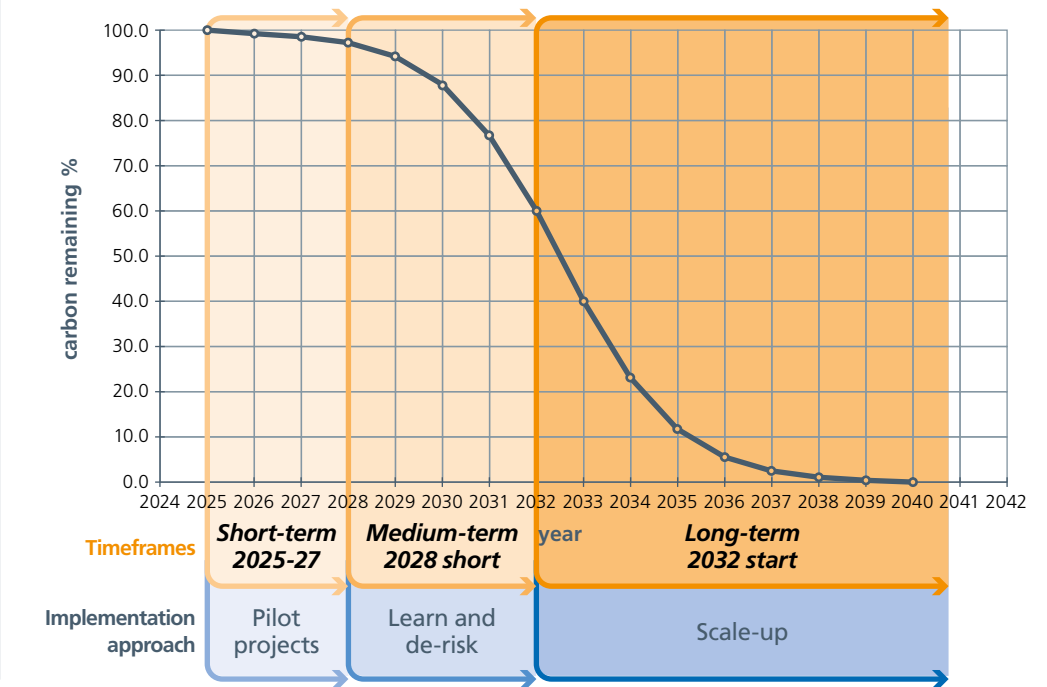
In the short-term, momentum on net zero is building as we undertake enabling works, develop and implement pilot projects, establish Sustainability Champions and engage with staff, supply chain and wider stakeholders on net zero. We aim to continually incorporate ideas and innovation in our Net Zero Action Plan.

In the medium term we achieve significant carbon and cost savings and successful pilot programmes are scaled-up, and implemented across the organisation, enabled by our short-term actions. Net Zero is now embedded within our NHSBT culture.

In the longer term as we approach our net zero target of 2040, we recognise that there will be hard to abate carbon emissions and that, although cumulatively we are still achieving significant carbon reductions, annual improvements and progress are likely to slow down.

This approach is shown on Figure 11 below.

Figure 14 – Carbon Reduction Pathway for Net Zero by 2040

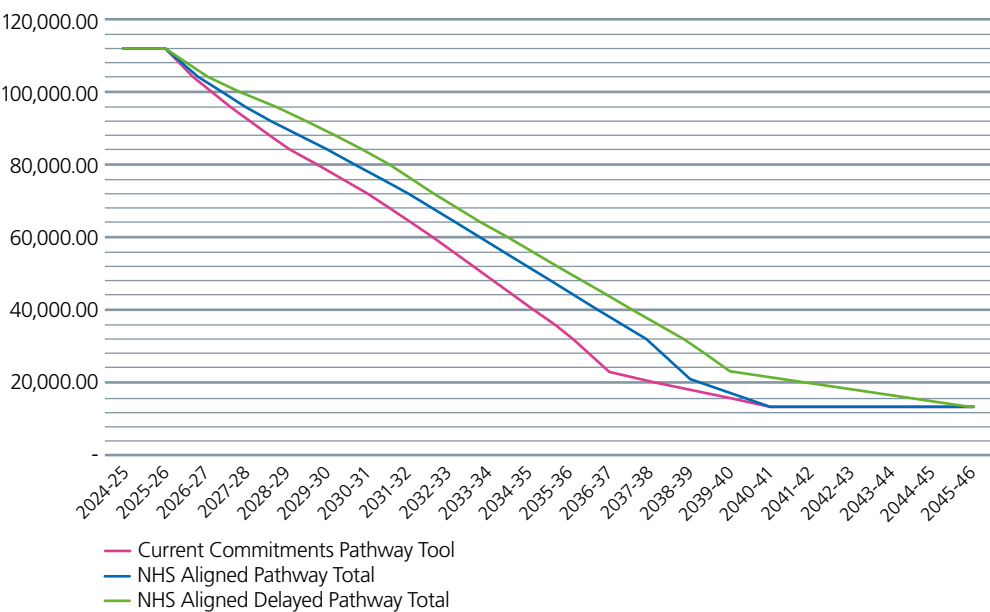


There are also different implementation rates that demonstrate how we may decarbonise. There are:

- A. Current NHSBT commitments pathway (shown in pink)
- B. NHS England Aligned pathway (blue)
- C. NHS England Aligned-Delayed pathway (green)²

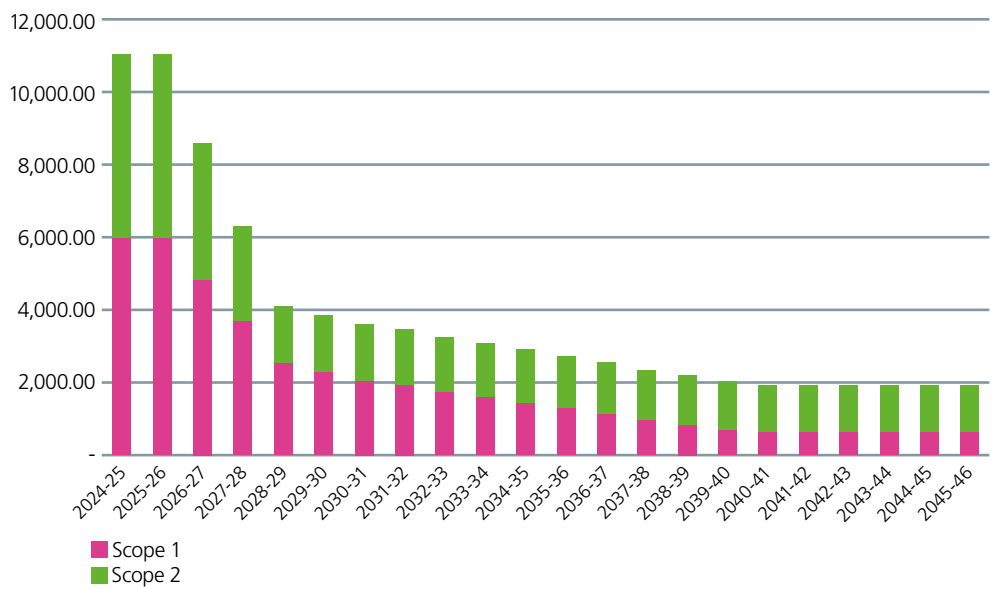
We are focused on our current NHSBT commitments, which are aligned with NHS England on scope 1 and 2 emissions and are in advance by five years on scope 3 emissions.

Figure 15 – Carbon Reduction Pathway Options



7.2 Scope 1 and 2 emissions

Figure 16 – Scope 1 and 2 Emissions: Annual Carbon Targets

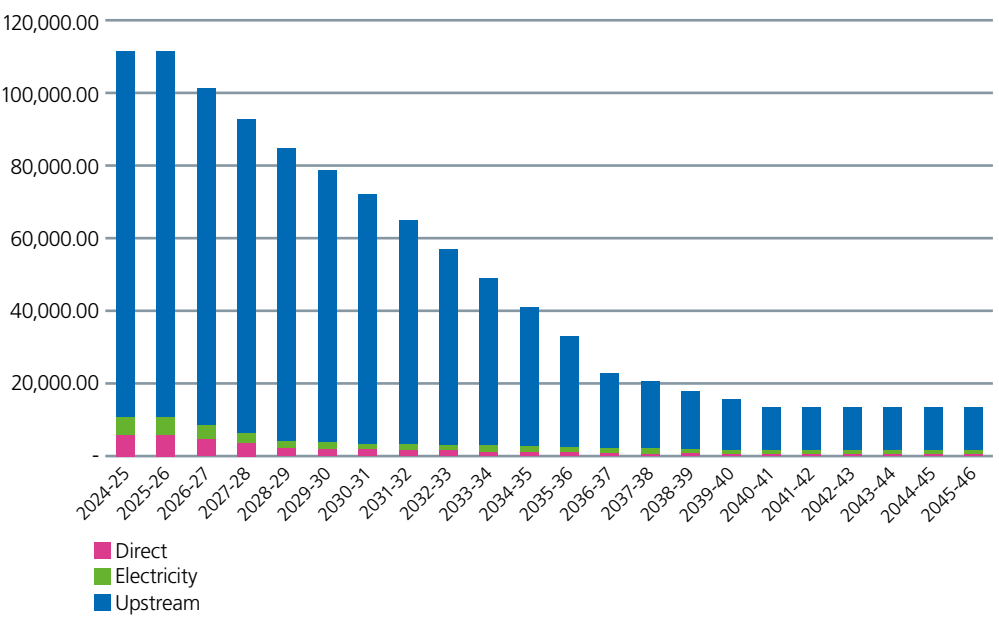


7.3 Scope 3 emissions

Although we can only influence scope 3 emissions, they are significant and we can reduce carbon by working with our supply chain, incorporating net zero into our specifications, evaluating the carbon impact of services and encouraging and rewarding positive action from suppliers or goods and services.

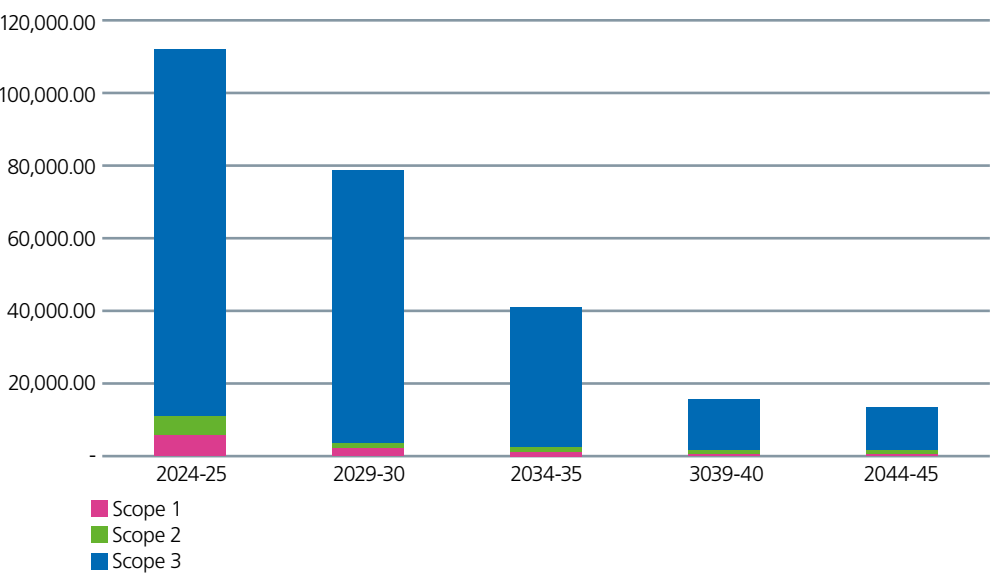
Our target for scope 3 emissions is to achieve net zero by 2040, aligned with our target for scope 1 and 2 emissions.

Figure 17 – Scope 1,2 and 3 Emissions: Annual Carbon Targets



Below we have converted this into five year periods to simplify the trajectory and create the 'carbon budgets' in a similar way to the UK's overarching five year carbon budgets.

Figure 18 – Scope 1,2 and 3 Emissions: Five-year Carbon Targets



From our baseline of 2024-25, our target carbon reductions are:

- 2025-30 A 31% reduction of 35,000 tonnes CO₂e, leaving a residual of 77,000 tonnes CO₂e
- 2030-35 A 35% reduction of 40,000 tonnes CO₂e, leaving a residual of 38,000 tonnes CO₂e
- 2035-40 A 24% reduction of 26,000 tonnes CO₂e, leaving a residual of 11,000 tonnes CO₂e

² This aligns with the end date of the range set by NHSE for carbon reduction commitments

8 Implementing the Strategy



Our staff are our greatest asset and staff from across all NHSBT departments will be involved in the implementation of this Net Zero Strategy.

The Strategy will be implemented through the accompanying Net Zero Action Plan, which includes responsibility and accountability, communications and engagement, access to finance and the governance arrangements.

Each of the actions within the strategic action plan are owned by a member of our NHSBT Senior Leadership Team and may be supported by several other departments. Details of the specific actions, SMART targets, the action owner, the leading department, and supporting departments are incorporated in the Net Zero Action Plan, alongside relevant carbon savings, implementation timeframe and budget.

A recent staff survey highlighted a significant interest in net zero from staff across all of our departments and functions. One of the first actions to be implemented in the Net Zero Action Plan will be to establish Net Zero Champions locally around our operational sites, who will feed ideas and initiatives into the Net Zero Oversight Board.

The Action Plan includes that a Communications Plan will be developed for the first 12 months of implementation, to ensure all our staff are aware of the reasons behind our net zero commitment and our progress on key actions.

Also included is a financial governance model to enable ideas and initiatives be turned into reality as swiftly as possible with the appropriate checks and balances in place. Our Net Zero Financial Governance Model is shown in Appendix G.

Guidance on how to use the Net Zero Action Plan tool is incorporated in the NHSBT training package.



Technical Appendices

Appendix A – Methodology

The methodology used to develop this NHSBT Net Zero Strategy included the following key areas:

1. Carbon Footprint Baseline

- Establishing a robust carbon baseline conforming to ISO14064 and the Greenhouse Gas Protocol (GHGP) standards.
- Reviewing the original NHSBT calculation of Scope 1, 2, and 3 emissions.

2. Net Zero Strategy Development

- Creating a detailed Net Zero Strategy and Action Plan, including SMART targets aligned with science based targets.
- Identification of operational strategies for net zero alignment.
- Development of a comprehensive Net Zero Pathway.

3. Stakeholder Engagement

- Engaging with key internal and external stakeholders to ensure alignment and support for the Net Zero objectives.
- Development and implementation of an internal stakeholder engagement plan.

4. Implementation Guidance

- Provide guidance for the implementation of the Net Zero Strategy, including project management, risk management, and regular progress reporting.
- Create a staff-facing output to raise awareness of NHSBT's Net Zero initiatives.
- Develop and deliver training for internal stakeholders.

5. Cost and Carbon Savings

- Identify cost and carbon-saving measures across various operational areas.
- Assess financial benefits / paybacks of proposed measures.

6. Risk Management

- Develop and maintain a project risk register to identify, assess, and mitigate risks.
- Address potential risks posed by economic downturns and other external factors.

1. Mobilisation and Engagement
- Kick-off meeting: Conduct a kick-off meeting to align stakeholders on project objectives, timelines, and expectations. - Stakeholder Engagement Plan: Develop and implement a stakeholder engagement plan that defines the approach and methodology for effective communication and collaboration. - Project Initiation Document (PID): Produce the PID, including project scope, objectives, deliverables, timeline, governance, and risk management.
2. Carbon Footprint Baseline
- Data collection: Identify and collect required data for Scope 1, 2, and 3 emissions, including estates, transport, and supply chain data. - Carbon Baseline Report: Develop a robust carbon baseline conforming to ISO14064 and the Greenhouse Gas Protocol (GHGP) standards. - Materiality assessment: Conduct a materiality assessment and calculate the full set of 15 Scope 3 emission categories.
3. Development of Operational Strategies
- Review: Identify and review existing operational strategies for net zero alignment. - Draft: Develop draft operational strategies for net zero alignment and engage with key stakeholders for feedback. - Final Operational Strategies: Finalise operational strategies based on stakeholder feedback and NHSBT review.
4. SMART Targets (SBTI)
- Review current targets: Assess current targets for alignment with SMART and SBTI principles. - Develop SMART targets: Develop SMART targets for Scope 1, 2, and 3 emissions, aligned with NHS targets and SBTI principles. - Net Zero pathway modelling: Finalise SMART targets and model the Net Zero Pathway.

5. Strategy and Net Zero Plan
- Draft version: Develop a draft Net Zero Strategy and Action Plan, including cost assessments and paybacks for all savings measures. - Final version: Finalise the Strategy and Net Zero Plan based on NHSBT review and feedback.
6. Net Zero Awareness – Communications
Communications: Create a staff-facing output to raise awareness of NHSBT’s Net Zero initiatives, aiming to improve understanding and encourage engagement. This will include messaging to address current gaps in knowledge around sustainable procurement practices.
7. Project Management Support
- Project management: Provide project management support, including bi-weekly project management team meetings and monthly steering committee meetings. - Risk management: Develop and maintain a project risk register to identify, assess, and mitigate risks. - Training and handover: Conduct training sessions and handover to internal stakeholders to guide successful implementation and sustainability of the Net Zero Strategy.
8. Cost and Carbon Savings
- Identify savings opportunities: Identify cost and carbon-saving measures (with a focus on emissions) across various operational areas. - Cost assessment: Assess costs and paybacks for all savings measures.

Appendix B – Net Zero Oversight Board Membership

Name	Role
Carl Vincent	Chief Financial Officer (Chair)
Kevin Cartwright	Head of Estates Transformation and Net Zero (Assistant Chair)
Jim Barker	Head of Strategy, Strategy and Transformation Directorate
Kyle Bennett	Assistant Director, Tissue and Eye Services
Silena Dominy	Company Secretary
Sara Fontanive	Head of Commercial Operations
Helen Gillan	Director of Quality
Jasmine Huddleson	Senior Internal Communications Campaigns Officer
Martin Hunt	Assistant Director, Estates, Facilities and Net Zero
Suzannah Marsh	Internal Communications Manager
Julie Pinder	Chief People Officer
Neil Powell	Environmental and Net Zero Manager
Kevin Price	Assistant Director of Operations
Richard Rackham	Assistant Director, Governance and Resilience
Paul Taylor	Assistant Director for Logistics
Stephen Thomas	Clinical Lead on Sustainability
Marian Zelman	Digital, Data and Technology Lead – Plasma

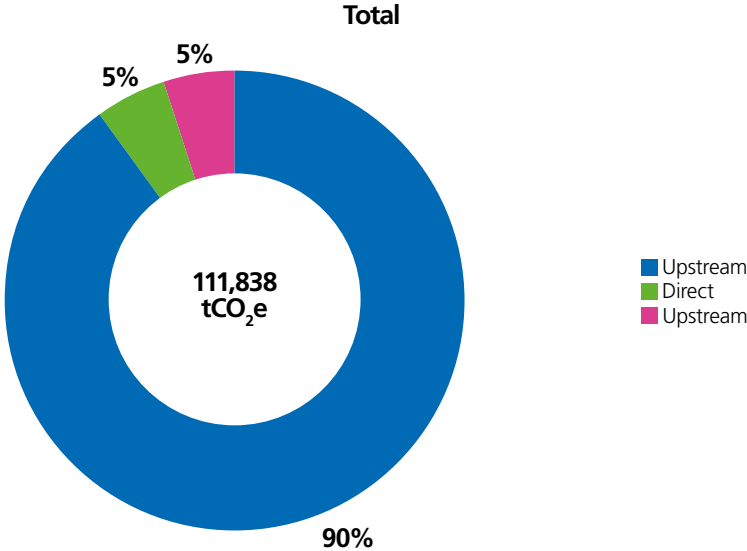
As we implement this strategy, further Executive Team members will join the Net Zero Oversight Board as detailed in the group’s Terms of Reference.

Appendix C – Carbon Footprint Baseline

Total emissions

The organisations Total baseline emissions have been calculated as detailed in Appendix C as 111,838 tCO₂e. 90% of these emissions are from our upstream Scope 3 categories.

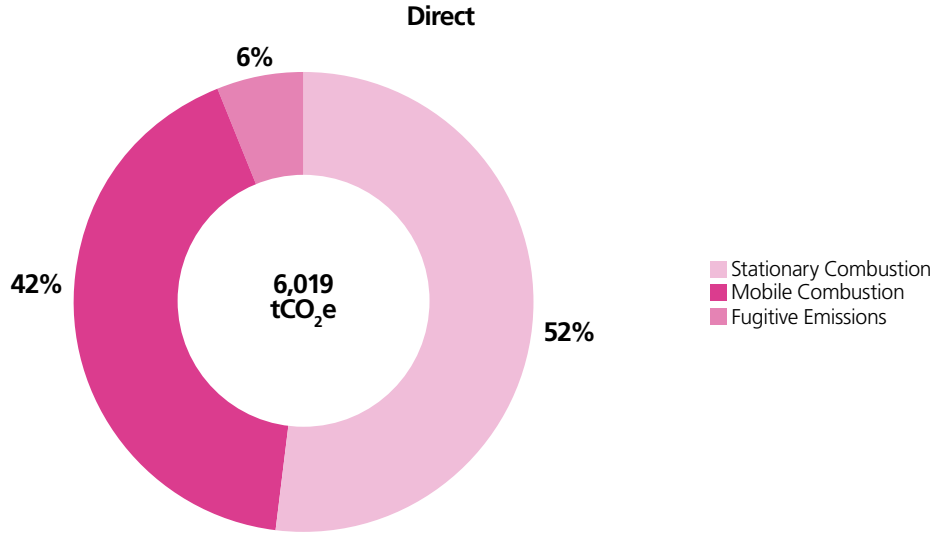
Figure 19 – Total Baseline Emissions NHSBT



Direct emissions

The Direct (Scope 1) emissions are 6,019 tCO₂e with 52% being Stationary combustion (heating), 42% mobile combustion (transport) and 6% being fugitive emissions.

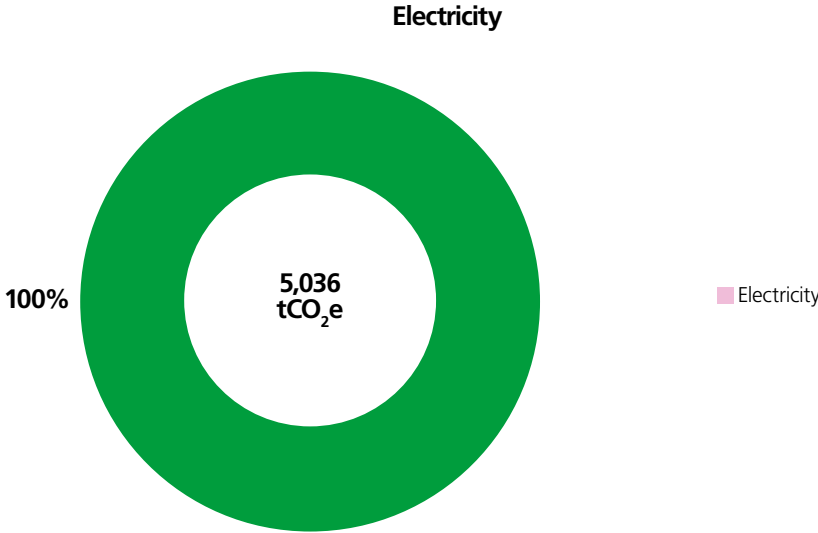
Figure 20 – Scope 1 Emissions by category



Electricity emissions

The Electricity (Scope 2) emissions are 5,036 tCO₂e, the grid has decarbonised over time and will continue to do so.

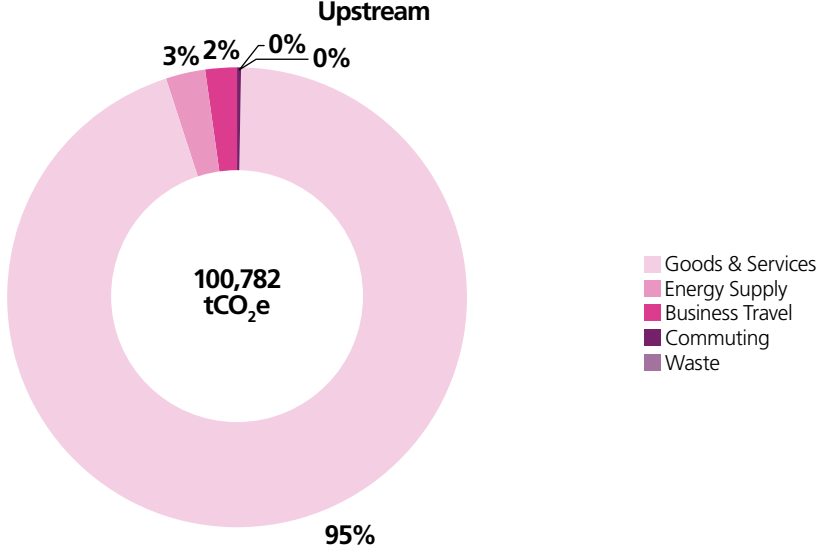
Figure 21 – Scope 2 Emissions



Upstream emissions

The organisations baseline Scope 3 emissions as detailed in Appendix C are 100,782 tCO₂e. This is dominated by the Goods and Services that we procure with 96,216 tCO₂e. Energy supply accounts for 2,797 tCO₂e, business travel 1,506 tCO₂e, commuting 254 tCO₂e and waste 8 tCO₂e.

Figure 22 – Scope 3 Emissions by category



Appendix C – Carbon Footprint Baseline (continued)

Greenhouse Gas Emissions Inventory Report

Greenhouse Gas Protocol NHS Bloods and Transplant April 2024-March 2025



1. Introduction

1.1. About This Report

This report contains the carbon footprint of the organisation NHS Blood and Transplant for the reporting period Y2024-25: 01/04/2024 to 31/03/2025.

The purpose of this report is to disseminate the inventory of greenhouse gas (GHG) emissions with great attention to the accounting principles of relevance, accuracy, consistency, completeness and transparency.

This report is intended for all stakeholders interested in the GHG emissions inventory and the associated reporting structure and explanations.

This report:

- Covers the footprint of the entire organisation: NHS Blood and Transplant.
- Has been prepared in accordance with the requirements of the Greenhouse Gas Protocol reporting standards (Corporate Accounting and Reporting Standard, 2004; Corporate Value Chain Accounting and Reporting Standard, 2011).
- Has been aligned with the Greenhouse Gas Protocol’s Land Sector and Removals Guidance where applicable.
- Endeavours to use primary data wherever possible but especially surrounding all major emissions sources. Where primary data is not available, a consistent and conservative approach to calculation is applied.
- Excludes specific targets or forecasts as well as reports on GHG removals and offsets.

The reporting period covered in this document is 1st April 2024 to 31st March 2025. The period of the next iteration of this footprint is expected to be of the same length, starting from the first day following this reporting period. Any deviation from this will be mentioned in communication at the time of publication.

1.2. Contact Information

Organisation Details	
Organisation Name	NHS Blood and Transplant
Consultancy Contact Info	info@squaregain.co

2. Methodology

This assessment of GHG emissions is compliant with the Greenhouse Gas Protocol, a globally recognised standard jointly developed by the World Resources Institute and the World Business Council for Sustainable Development. The Greenhouse Gas Protocol provides comprehensive, standardised frameworks for quantifying and managing GHG emissions across private and public sector operations, value chains, and mitigation efforts.

Five key accounting principles are central to the Greenhouse Gas Protocol methodology:

Relevance Ensure that the GHG data collection accurately records and presents all relevant emissions from the organisation.

Completeness The calculation captures all emitted GHGs. If any emission sources are omitted, clear and detailed justifications are given.

Consistency The calculations are based on uniform methods. Any changes in data sources, calculation boundaries, or emission factors are always reported.

Transparency All collected data is clearly and coherently reported, preferably through an accurate audit scheme. All assumptions on methods, approximations and emission factors are well documented.

Accuracy The quantification of GHG emissions is without systematic overestimation or underestimation, it is tried to reduce uncertainties as much as possible wherever possible.

Following the guidelines of the Greenhouse Gas Protocol, the emissions inventory encompasses seven primary (groups of) GHGs: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

Additionally, carbon dioxide of biogenic origin (BioCO₂) and methane of biogenic origin (BioCH₄) are also considered and included in the non-fossil accounting categories. Finally, separate from the main totals are other out-of-scope greenhouse gases not covered by the Kyoto Protocol but with a well established greenhouse warming effect.

The Greenhouse Gas Protocol classifies emissions into 3 scopes and 21 categories:

Scope 1 Direct GHG emissions originate from sources owned or controlled by the organisation.

Scope 2 Indirect GHG emissions result from purchased electricity and other energy carriers.

Scope 3 Other indirect GHG emissions beyond those covered by Scope 2 that happen elsewhere in the value chain, both upstream and downstream.

These scopes are further subdivided into distinct activity categories. Scope 1 encompassed 4 categories, Scope 2 encompasses 2 categories, and Scope 3 emissions are split into 15 categories, across upstream and downstream. See Figure 1 for a visual summary of this classification across the value chain.

To assess the global warming impact of emissions, the GHGs are evaluated using the Global Warming Potential (GWP) over a 100-year timeframe.

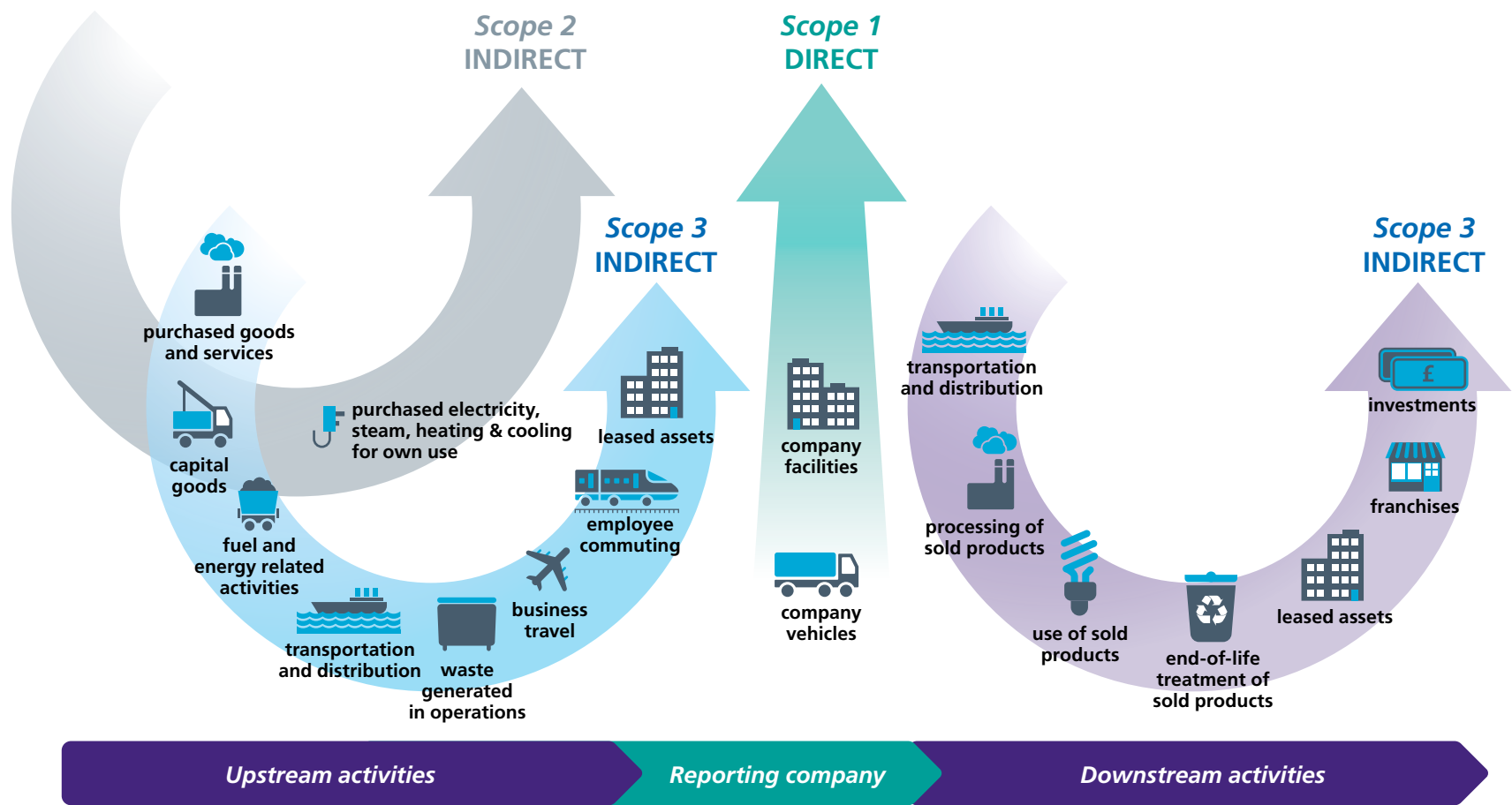
In the subsequent sections, activity categories may be customised in terms of naming, order, and further subdivision to enhance transparency and comparability within the organisation; in accordance with the Greenhouse Gas Protocol accounting principles. However, to ensure standardisation and analysis across industries, each activity category remains directly linked to one of the standard Greenhouse Gas Protocol activity category types. Detailed descriptions of each activity category and their corresponding Greenhouse Gas Protocol references can be found in Section 4.

3. Organisational Boundaries

The organisational boundaries for this report were set using the operational control approach for consolidation. Under this approach, the organisation accounts for 100% of the GHG emissions from operations and the value chain over which it has operational control. Operational control applies when the organisation or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation.

This consolidation approach applies to all units and subunits.

This report contains the footprint of the sub-unit: NHSBT.



4. Operational Boundaries

Details on the description of the activity categories, as well as their rationale to include and their respective Greenhouse Gas Protocol references, can be found in the tables below.

Direct		
Stationary Combustion	Description	Emissions resulting from combustion of fuels in stationary sources
	Rationale to Include	Directly related to the organisation's operations
	GHG Protocol Reference	1.1 Stationary combustion
Mobile Combustion	Description	Emissions resulting from the combustion of fuels in company owned/controlled mobile combustion sources
	Rationale to Include	Directly related to the organisation's operations
	GHG Protocol Reference	1.2 Mobile combustion
Process Emissions	Description	Emissions resulting from the release of greenhouse gasses in production processes
	Rationale to Include	Directly related to the organisation's production process
	GHG Protocol Reference	1.3 Process emissions
Electricity		
Electricity	Description	Emissions resulting from the generation of electricity, purchased by the company
	Rationale to Include	Major source of indirect emissions
	GHG Protocol Reference	2.1 Purchased electricity

Upstream		
Goods & Services	Description	Embedded emissions in purchased goods and services
	Rationale to Include	Important overview of major indirect emissions sources in the supply chain
	GHG Protocol Reference	3.1 Purchased goods and services
Capital Goods	Description	Embedded emissions in capital goods like buildings, cars, ICT and machinery
	Rationale to Include	Important overview of major indirect emissions sources from long-term assets
	GHG Protocol Reference	3.2 Capital goods
Energy Supply	Description	Embedded emissions in the purchase of fuels and energy in other activity categories
	Rationale to Include	Reflects important upstream emissions coupled with the organisations fuel and energy use
	GHG Protocol Reference	3.3 Fuel – and energy-related activities
Transport Upstream	Description	Emissions related to the transport of goods upstream of the production process or any transport purchased by the company
	Rationale to Include	Reflects the indirect carbon footprint of logistics in the value chain
	GHG Protocol Reference	3.4 Upstream transportation and distribution

Upstream		
Waste	Description	Emissions related to the disposal and processing of waste generated in operations
	Rationale to Include	Important indicator for impact of waste streams
	GHG Protocol Reference	3.5 Waste generated in operations
Business Travel	Description	Emissions related to transportation of employees for business related activities
	Rationale to Include	Important for understanding and managing travel-related emissions
	GHG Protocol Reference	3.6 Business travel
Commuting	Description	Emissions related to commutes of employees in vehicles not under control of the company
	Rationale to Include	Important for understanding and managing employee commuting emissions
	GHG Protocol Reference	3.7 Employee commuting

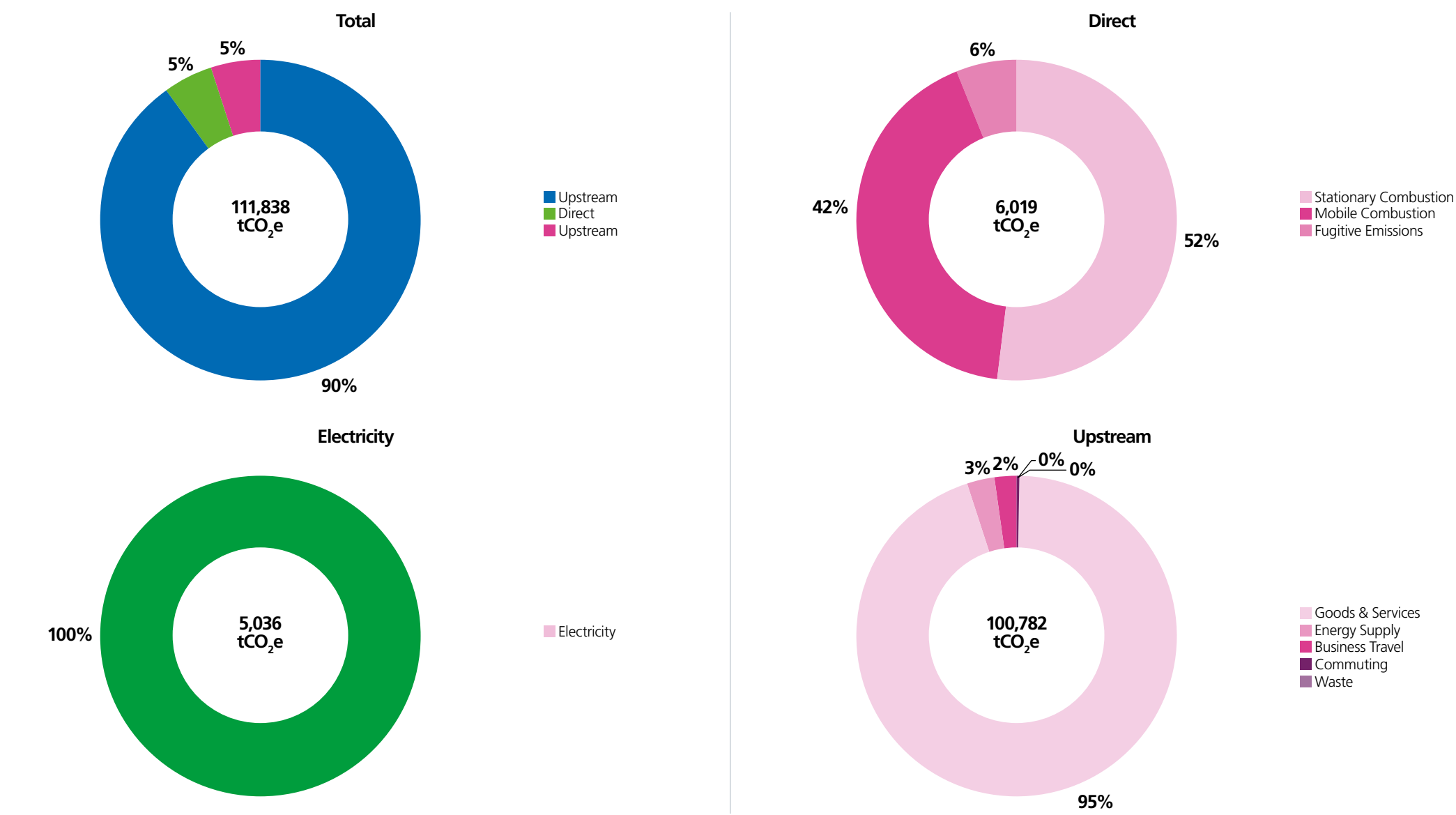
In the table below you can find details on the activity categories that were excluded from this report; the description of each of these, the rationale to exclude and their respective Greenhouse Gas Protocol references.

Excluded Activities		
Steam, Heat, Cooling	Description	Emissions resulting from the generation of steam, heating or cooling, purchased by the company
	Rationale to Include	Emissions category not applicable
	GHG Protocol Reference	2.2 Purchased steam, heat, cooling
Leased Assets as Lessee	Description	Emissions related to the operation of assets leased by the reporting company
	Rationale to Include	Not relevant for in the applied consolidation approach
	GHG Protocol Reference	3.8 Upstream leased assets (as lessee)
Processing of Product	Description	Emissions related to further processing of the sold product
	Rationale to Include	The organisation's influence on the emission source is too limited
	GHG Protocol Reference	3.10 Processing of sold products
Leased Assets as Lessor	Description	Emissions related to the operation of assets owned by the reporting company
	Rationale to Include	Emissions category not applicable
	GHG Protocol Reference	3.13 Downstream leased assets (as lessor)
Franchises	Description	Emissions related to the operation of franchises
	Rationale to Include	Emissions category not applicable
	GHG Protocol Reference	3.14 Franchises

Excluded Activities		
	Description	Emissions related to the transport of goods downstream of the production process not paid for by the company
	Rationale to Include	Outside the control of the organisation
	GHG Protocol Reference	3.9 Downstream transportation and distribution
Use of Product	Description	Emissions related to energy use of the product during its planned lifetime
	Rationale to Include	Outside the control of the organisation
	GHG Protocol Reference	3.11 Use of sold products
End-of-life of Product	Description	Emissions related to the disposal of the sold product at the end of its planned lifetime
	Rationale to Include	Outside the control of the organisation
	GHG Protocol Reference	3.12 End-of-life treatment of sold products
Investments	Description	Emissions related to the operation of investments
	Rationale to Include	Emissions category not applicable
	GHG Protocol Reference	3.15 Investments

5. GHG Fossil Emissions Inventory

In the reporting period Y24-25 the total fossil emissions for the reporting organisation add up to 111,837.65 tCO₂e. With a per-activity breakdown as follows:



Activity Category	Fossil Emissions	Certainty	Share of Total
	tCO ₂ e	(95% Confidence)	Fossil Emissions
Direct	6,019.17	−4% to +5%	5.4 %
Stationary Combustion	3,145.36	−2% to +2%	2.8 %
Mobile Combustion	2,518.31	−2% to +2%	2.3 %
Process Emissions	-	-	− %
Fugitive Emissions	355.50	−53% to +112%	0.3 %
Electricity	5,036.11	−6% to +6%	4.5 %
Electricity market-based	5,036.11	−6% to +6%	4.5 %
Electricity location-based	5,036.11	-	− %
Upstream	100,782.36	−28% to +40%	90.1 %
Goods & Services	96,216.48	−30% to +42%	86.0 %
Capital Goods	-	-	− %
Energy Supply	2,796.87	−3% to +3%	2.5 %
Transport Upstream	-	-	− %
Waste	8.27	−7% to +8%	0.0 %
Business Travel	1,506.69	−7% to +7%	1.3 %
Commuting	254.05	−26% to +36%	0.2 %
Downstream	-	-	− %
Transport Downstream	-	-	− %
Use of Product	-	-	− %
End-of-life of Product	-	-	− %
Investments	-	-	− %
Total Fossil GHG missions	111,837.65	−26% to +35%	100.0 %

Total fossil emissions in this table include electricity emissions using the market-based method.

I Methodological Details

The GHG emissions inventory reflects the consolidation of emissions data according to the Greenhouse Gas Protocol reporting standards. These being the Corporate Accounting and Reporting Standard (2004), the Corporate Value Chain Accounting and Reporting Standard (2011), the Land Sector and Removals Guidance (LSRG), and all associated guidance documents.

I.1 GHG Classification Structure

In Section 5, the reported GHG emissions are organised and aggregated into their respective activity categories and activity category groups. Each activity category is associated with a Greenhouse Gas Protocol category (1.1 to 3.15). Additional breakdowns for the accounting category Land Emissions, Land Removals, and Gross Biogenic Emission and Removals in are available on request.

Carbon offsets are not reported in this report nor have they been subtracted from the total.

I.2 Global Warming Potential

The following GHGs are included in the analysis: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

Emissions from these GHGs are expressed in CO₂-equivalent (CO₂e) based on their global warming potential over a time horizon of 100 years (GWP100). The Global Warming Potential values are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth, Fifth or Sixth Assessment Report (AR4, AR5 or AR6), in accordance with the methodological choices of the emission factor publishers used in this report.

Activities for which a further split in GHGs is not known, are reported under the CO₂e*-column.

I.3 Additional Radiative Forcing Effects

The emission factors for aviation were extended to include the additional effects of radiative forcing through the emission of gases and aerosols and changing cloud abundance. For this a central estimate for a multiplier to the GWP100 Ngure is used. This estimate tries to reflect the additional effect based on the best available scientiNc evidence, while being consistent with UNFCCC reporting convention.

I.4 Dual Reporting in Scope 2

The total emissions in this report include electricity emissions using the market-based method. Taking into account contractual instruments and other market-based mechanisms to allocate electricity emissions to consumers.

I.5 Approach to Emission Factors

For each activity the most relevant and localised emission factor possible has been selected, at the discretion of the reporter. The key considerations in emission factor selection were locality and relevancy, as well as the availability of emission factors and consistency of methodologies throughout each emission factor source.

A full list of emission factor publications used in this report can be found in the table below:

Publisher	Publication Version	Publication Date	URL	Usage ³
UK.gov GHG Reporting Factors	v2024 1.1	30/10/2024	link	99.8%
NHSBT	Library of Emission Factors	-	-	0.2%

3 Usage is defined as the number of data points in the inventory using a certain emission factor publication. The size of the data points is not taken into account. Usage is different from the relative share of total emissions.
4 In case the application period of the activity overlaps with the validity period of more than one emission factor, the median data of the application period is used to determine which factor to use (e.g. if an activity stretches from August.
5 To July 2022, the median date is 29/01/2022)

Each emission factor used in the calculation has an assigned validity period overlapping or partially overlapping with the application period of the reported activity. The validity period of emission factors is determined by its publication document^{4,5}.

I.6 Approach to Base Year Reporting

The reporting period Y-2024-2025 is the Nrst GHG reporting period for NHSBT, and counts as the base year for the current and future reporting cycles.

There are no changes in methodology in the reporting between the base year and this report.

Recalculation of the base year will be implemented in case it is necessary to maintain an effective base year comparison.

Reasons for this might include:

- changes to the organisational boundaries such as mergers or acquisitions
- changes to the reporting boundaries such as revisions of the excluded categories
- significant changes to the calculation methodologies
- significant changes to data sourcing strategy
- significant changes to emission factor selection

There is no change to the base year calculation in this reporting period.

I.7 Uncertainty Assessment

To assess the uncertainty involved with the emissions calculations in this report, we applied the Greenhouse Gas Protocol’s Quantitative Uncertainty Guidance to the inventory data. Using a system with discrete levels of uncertainty, a point estimate for each data point was obtained, which then was propagated across the entire inventory to result in a general quantified uncertainty estimation.

The first step in this process is separating the activity data uncertainty from the emission factor uncertainty. Activity data uncertainty (or volume uncertainty) reflects the reliability, completeness, and temporal, geographical and technical representativeness of the numerical value used into the emissions calculation (e.g. the uncertainty on “1,000 kg of product A”). The emission factor uncertainty on the other hand, reflects the reliability, completeness and representativeness of the numerical value of the estimated emission intensity (e.g. the uncertainty on “500 kgCO₂e per kg of product A”).

For both the activity data uncertainty and the emission factor uncertainty, a single parameter uncertainty value is derived. This single parameter reflects the incomplete knowledge of the exact value in a probability distribution, based on qualitative assessments of how the evaluated parameter scores on the aforementioned dimensions (e.g. reliability). The numerical link between the qualitative assessment (very good, good, fair, poor) and the probability distribution is given by a pedigree matrix, provided by the Greenhouse Gas Protocol in the Quantitative Uncertainty Guidance (link).

Once the single parameter uncertainty of both activity data and emission factor is established for each entry, this uncertainty is propagated across all entries in the inventory. With this, we can obtain an estimate for the full uncertainty across all measurements. This propagation happens through Taylor series expansion under lognormal distribution assumptions (conform Greenhouse Gas Protocol guidance). It is likely that this leads to a conservative estimate, in other words the total uncertainty is likely an overestimation or an upper-bound of the real uncertainty.

Finally, this propagated uncertainty is aggregated; first on activity category level, and eventually for the total emissions across the entire inventory. The uncertainty is expressed as a 95% confidence interval of the actual value, assuming a lognormal distribution. The “-29% to +40%” uncertainty estimation for a value of 1,000 tCO₂e therefore indicates that with 95% certainty, the real value for this number lies between 710 tCO₂e (1,000 tCO₂e -29%) and 1400 tCO₂e (1000 tCO₂e +40%).

I.8 Land Emissions and Removals

The assessment of land emissions and removals follows the GHG Protocol’s Land Sector and Removals Guidance, ensuring a clear separation of fossil-based emissions and land-based emissions and removals.

Land sector emissions and removals are accounted for under four distinct subcategories: land management, land-use change, land undefined activities and gross biogenic emissions/removals. Total land values represent the sum of all emissions. This ensures consistency and transparency, enabling accurate tracking of net GHG contributions from the land sector within the overall GHG inventory.

Overview Table of Fossil GHG Emissions

	All GHG	Certainty Interval	CO ₂	CH ₄	N ₂ O	SF ₆	NF ₃	HFCs	PFCs	CO ₂ e*	Others
Activity Category	(All gasses, tCO ₂ e)	(95% confidence)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)
Direct	6,019.17	−4% to +5%	5,954.97	5.02	35.53	0.00	0.00	23.66	0.00	0.00	13.91
Stationary Combustion	3,145.36	−2% to +2%	3,138.07	4.73	2.55	-	-	-	-	-	-
Mobile Combustion	2,518.31	−2% to +2%	2,485.05	0.29	32.97	-	-	-	-	-	-
Fugitive Emissions	355.50	−53% to +112%	331.85	0.00	0.00	0.00	0.00	23.66	0.00	0.00	13.91
Electricity	5,036.11	−6% to +6%	4,984.55	21.89	29.67	-	-	-	-	-	-
Electricity market-based	5,036.11	−6% to +6%	4,984.55	21.89	29.67	-	-	-	-	-	-
Electricity location-based	5,036.11	-	4,984.55	21.89	29.67	-	-	-	-	-	-
Upstream	100,782.36	−28% to +40%	1,683.06	3.69	9.89	-	-	-	-	99.085.72	-
Goods & Services	96,216.48	−30% to +42%	-	-	-	-	-	-	-	96.916.48	-
Capital Goods	-	-	-	-	-	-	-	-	-	-	-
Energy Supply	2,796.87	−3% to +3%	440.49	1.95	26.68	-	-	-	-	2.351.76	-
Transport Upstream	-	-	-	-	-	-	-	-	-	-	-
Waste	8.27	−7% to +8%	-	-	-	-	-	-	-	8.27	-
Business Travel	1,506.69	−7% to +7%	1,214.16	1.71	7.05	-	-	-	-	28.78	-
Commuting	254.05	−26% to +36%	28.40	0.04	0.17	-	-	-	-	225.44	-
Downstream	-	-	-	-	-	-	-	-	-	-	-
Total Fossil GHG emissions	111,837.65	−26% to +35%	12,622.57	30.60	75.09	0.00	0.00	23.66	0.00	99.085.72	13.91

The column CO₂e* contains all emissions for which a further split in greenhouse gasses is not known. Other gasses includes all greenhouse gasses and effects not covered by the Kyoto Protocol. These are separated from the total. The total emissions and the subtotal emissions for Scope 2 in this report include electricity emissions using the market-based method.

Appendix D – Action Plan (including Targets and Responsibilities)

To ensure legibility the Action Plan Tool is provided as a separate document in MS Excel format.

The colour coded key represents the indicative quantum of carbon savings delivered by the specific action, with dark green being the most significant savings. The actions that deliver fewer carbon savings deliver other benefits, for example reputational benefits.

Departments are referenced as per the key below.

KEY:

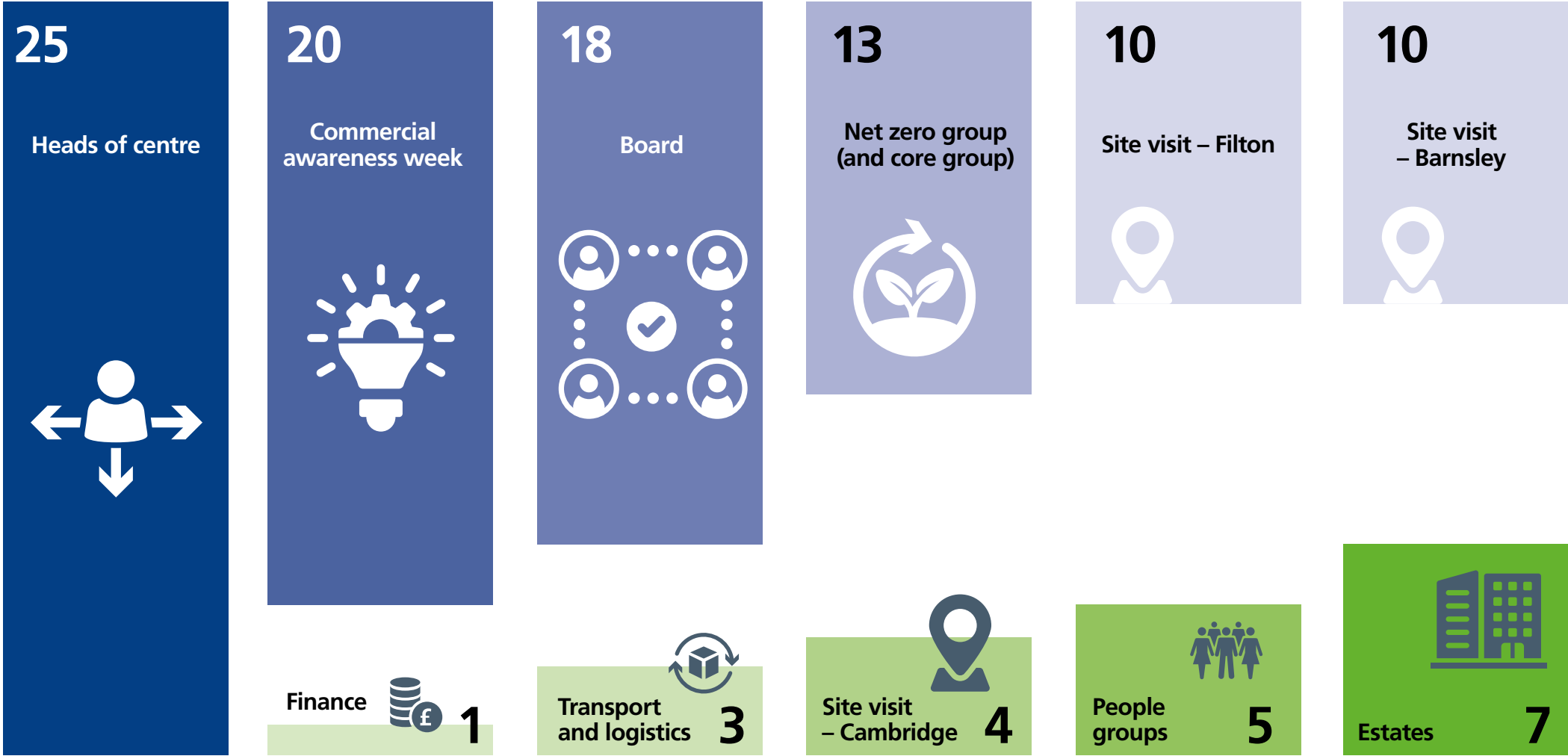
Departments	
C	Commercial
CM	Communications
CS	Clinical Services
D	Digital/IT
DE	Donor Experience
DO	Donor Operations
E	Estates
F	Finance
HS	Hospital Services
NZ	Net Zero
O	Operations
P	People
S	Strategy
T	Transport & Logistics

Structure	
ENZ	Enabling Net Zero
EGNZ	Engaging Net Zero
PNZ	Procuring Net Zero
OPN	Operating Net Zero

Focus Area	
People	
Communications	
Operations	
Transport	

		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
People	People																												
	People																												
Communications	Communications																												
	Communications																												
Operations	Operations																												
	Operations																												
Transport	Transport																												
	Transport																												

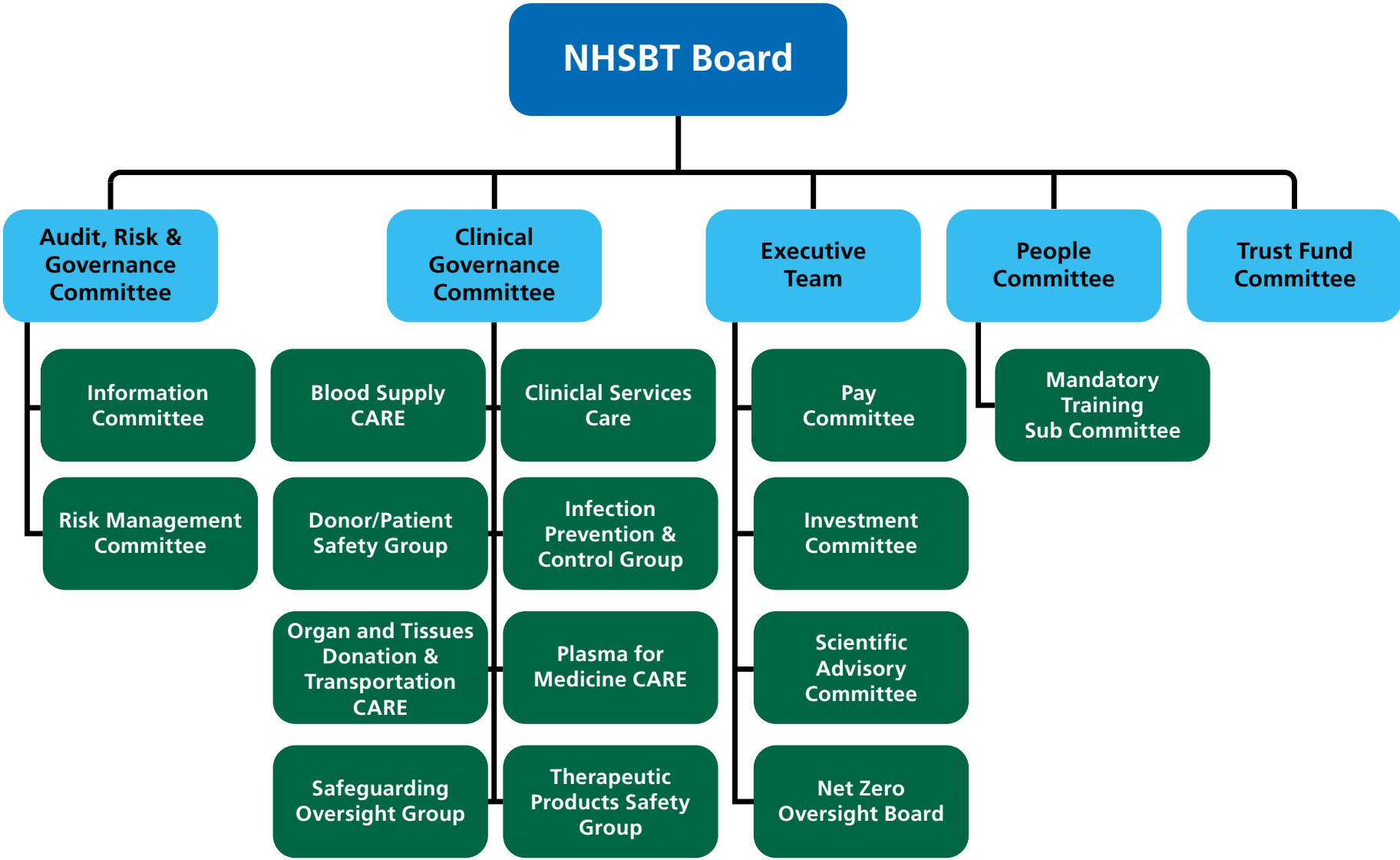
Appendix E – Engagement during development of the Net Zero Strategy



More than 50 meetings undertaken with key staff – above numbers of people, in various departments or during specific events.

Appendix F – Draft Reporting and Governance Organisational Chart

The Net Zero Oversight Board reports into the NHSBT Executive Team, who ultimately report to the NHSBT Board, as shown on the organogram below alongside other NHSBT Groups and Committees.



Appendix G – Draft Net Zero Financial Governance Model

The model illustrates how projects contributing towards net zero will be funded, with each of our NHSBT Directorates allocating funding in their annual budgets, supported by transformation funding.

Aim: to ensure we have appropriate oversight on spending, and that financial decisions are made swiftly.

