NHS
West Hertfordshire
Teaching Hospitals
NHS Trust

Our Green Plan 2022-2025

West Hertfordshire Teaching Hospitals NHS Trust

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Our ambition

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West Hertfordshire Teaching Hospitals NHS Trust

Our ambition is to become one of the greenest Trusts in the NHS.

Helen Brown

Deputy Chief Executive and Net Zero Champion

Now

We have a lot of work to do to catch up with (and overtake) colleagues who have given this more attention over recent years, but we are committed to driving the necessary change at pace, giving this the focus it deserves and harnessing the commitment and enthusiasm of our staff.

we are here!

Technology and.....

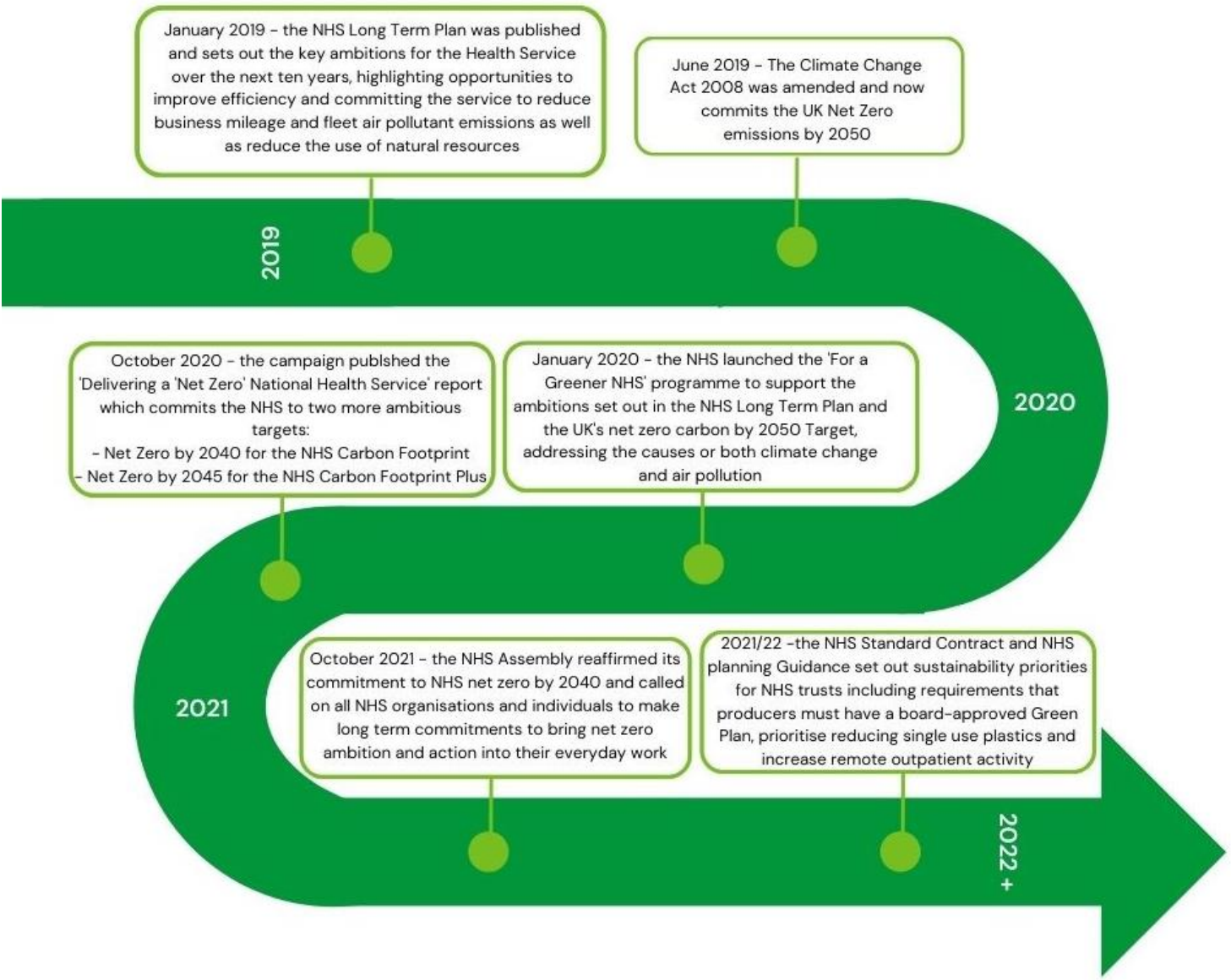
In the longer term, as part of the national New Hospital Programme our redevelopment plans give us a fantastic opportunity to upgrade our estate, utilising best in class technology and building materials to deliver a net zero estate.

...Hearts and Minds

But whilst technology can help, being Greener is about people and behaviours - it's a state of mind that requires us all to think differently about how we deliver care and use resources in the best possible way to deliver great care in a more sustainable way.

West Hertfordshire Teaching Hospitals NHS Trust

The national context



This Green Plan aligns with the ambitions and targets of national guidance.

The NHS is one of the largest employers in Britain and is responsible for ~4% of the nation's carbon emissions. As an NHS Trust, we recognise our responsibility to reduce our emissions and our environmental impact and deliver high quality and sustainable care to the communities we serve.

For the emissions we control directly we will go net zero by 2040, with an ambition to reach an 80% reduction by 2028 to 2032.

For the emissions we can influence (our NHS Carbon Footprint Plus) we will go net zero by 2045, with an ambition to reach an 80% reduction by 2036 to 2039.

West Hertfordshire Teaching Hospitals NHS Trust

The national context

To achieve a net zero health service, all areas of the NHS will need to act to mitigate emissions to the greatest extent. The greatest areas of both opportunity and challenge are in the NHS supply chain, estates and facilities, pharmaceuticals and medical services and travel.

The 'Delivering a 'Net Zero' National Health Service' report sets out the early interventions required by the NHS as a whole to deliver net zero and includes the following national initiatives:

- Our care - developing a framework to evaluate carbon reduction associated with new models of care.
- Our medicines and supply chain – working with suppliers to ensure that they meet the NHS commitment on net zero emissions.
- Our transport and travel – working towards the world's first zero-emission ambulance by 2022 and a shift to zero emission vehicles by 2032.
- Our innovation – ensuring the digital transformation agenda aligns with the net zero health service ambition.
- Our hospitals – supporting the construction of new net zero hospitals and considering how building assets are configured, used and perform.
- Our heating and lighting – expanding the LED lighting replacement programme and beginning the transition in the decarbonisation of heat via heat pumps.
- Our adaptation efforts – building resilience and adaption into the heart of the net zero agenda
- Our values and our governance – including the response to climate change within the NHS Constitution

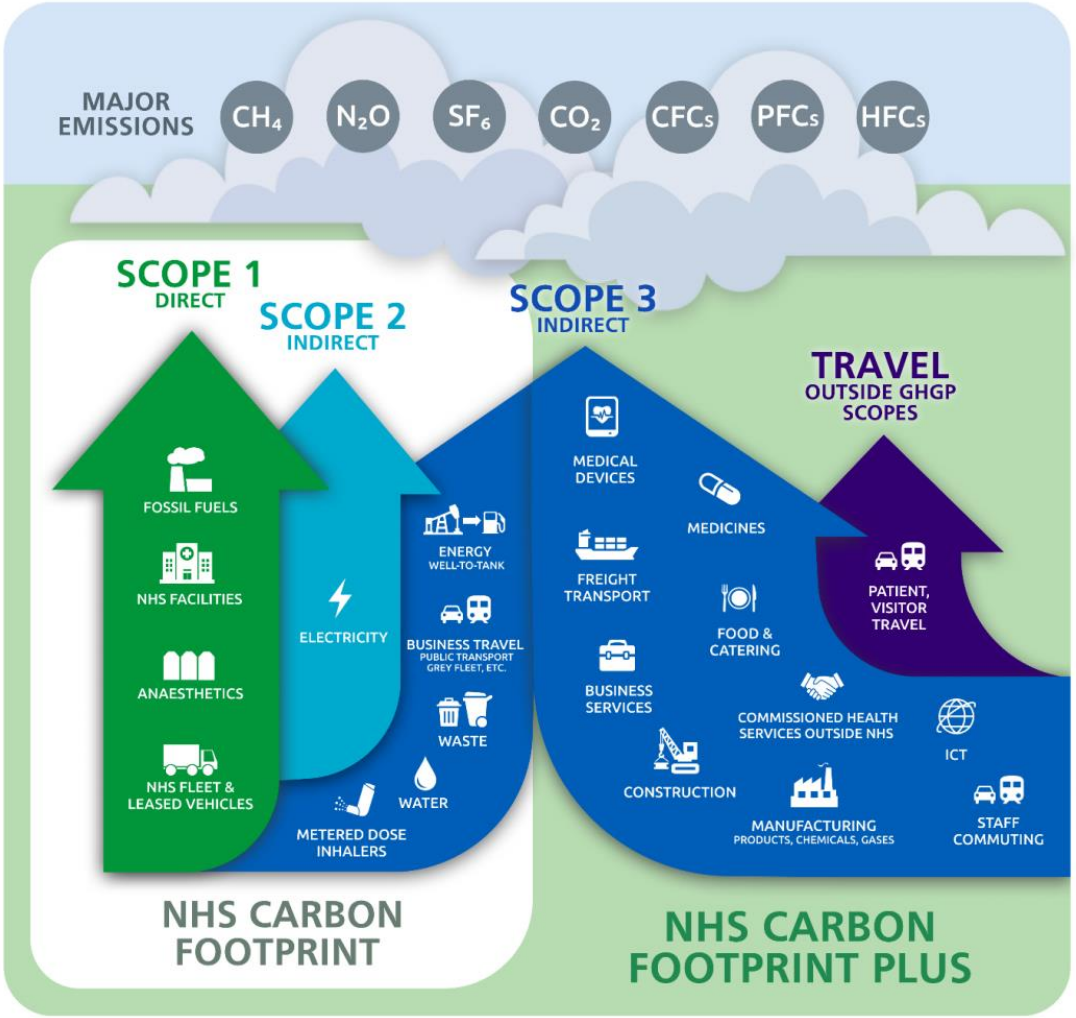
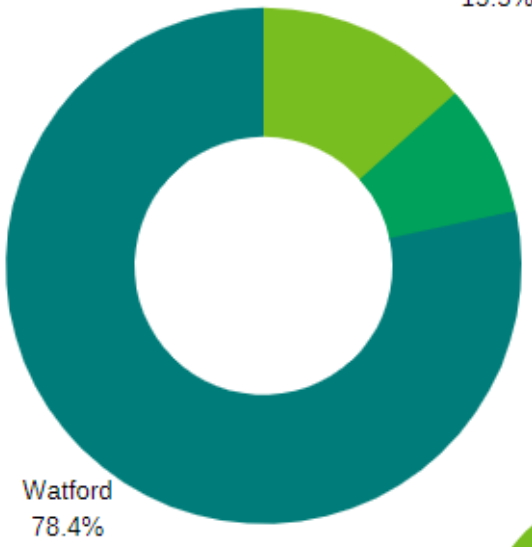


Figure 1: Greenhouse Gas Protocol scopes in the context of the NHS from the 'Delivering a 'Net Zero' National Health Service' report

Our survey results

In December 2021 we asked our staff to complete our first Green survey. We asked staff 'how Green are we now?' and for their ideas on how we could become 'greener'. We plan to repeat the survey on an annual basis to help us track our progress.

315 Responses across 3 sites



65% of staff believe sustainability isn't yet embedded into the Trusts culture

Our staff agree...

- Sustainability training would be of help
- Improving energy efficiency through behaviour change training is important
- Identiication of hotspots is key to reducing carbon emissions
- There should be more green spaces for staff on site

and identified these areas as a priority:

- Increasing recycling
- Engaging staff
- Working from home
- Prioritising plastic reduction
- Increasing the use of electric cars
- Using only LED lights

Our progress to date

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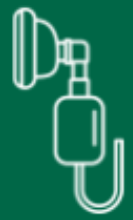
Our progress to date

The Respiratory team was awarded BMJ 'Respiratory Team of the Year' for their virtual hospital that saved 3,000 bed days and prevented 2,400 admissions

We're saving over 180tCO2e per year through LED lighting upgrades

We're adding over 120 new electric vehicle charging points in the new multi storey car park at WGH

In the past 3 years we have reduced desflurane use (one of the most environmentally damaging anaesthetic gases) by almost 90%



Introduced a cycle to work scheme and promoted Watford's 'Beryl Bikes' initiative to encourage active travel alternatives to car journeys

We are a 'zero waste to landfill' organisation. Our food waste is used as fuel in an anaerobic digestor to produce electricity.

In November 2021 we switched from paper records to a new electronic patient record – significantly reducing our paper use and promoting more efficient care

We provide access to Trust IT systems to support more staff to work from home and reduce journeys to work

Micro-fibre cleaning technology has been introduced, reducing chemical and water usage by an estimated 85%

In April 2021 we switched to purchasing 100% renewable electricity

In 2020, our Outpatient Transformation Programme avoided over 42,000 physical appointments and therefore saved over 825,000 patient travel miles!

17% reduction in the use of high carbon emitting pressurised meter dose inhalers (asthma 'puffers')

Our impact

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Our impact

NHS Carbon Footprint and Carbon Footprint Plus

Using the scopes defined within the NHS 'Delivering a 'Net Zero' Health Service' report, we have calculated our organisational emissions footprint using data from the last three years. More than 85% of our total carbon footprint is generated via indirect emissions from our supply chain, with only about 15% relating to our direct carbon footprint. Despite a reduction of 7.5% in our carbon footprint over this period, our total carbon footprint increased by more than 30 tCO2e, largely driven by increased construction spend in 2020 / 2021 due to refurbishment and development works across our sites.

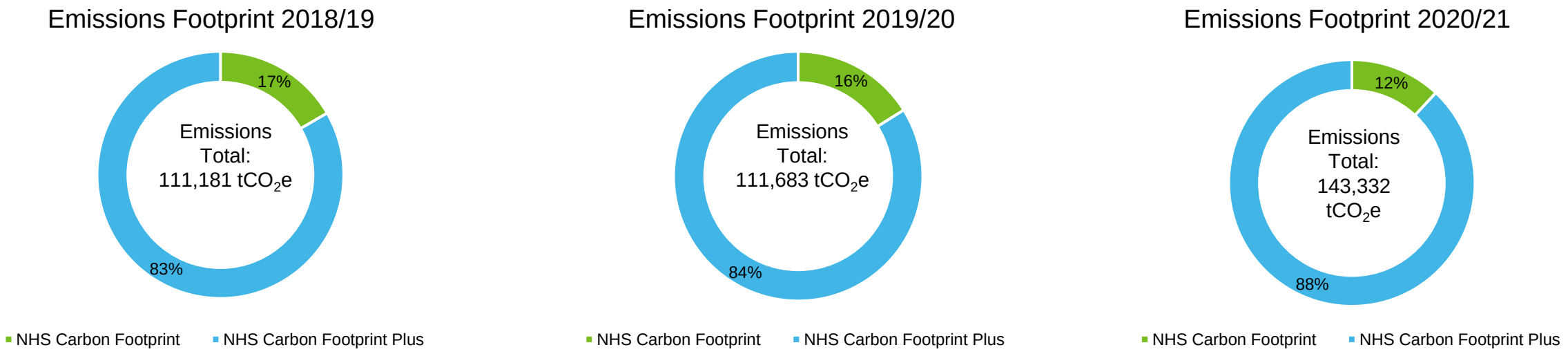


Figure 1: A breakdown of West Herts emissions baseline (tCO_2e) across three years (excluding travel emissions)

Each year, the UK government updates its guidance for measuring and reporting greenhouse gas (GHG) emissions, including methodologies and conversion factors. In order to report the greenhouse gas emissions associated with our activities we must convert 'activity data' such as distance travelled, litres of fuel used, or tonnes of waste disposed of into carbon emissions. Emission conversion factors are used for this purpose, and we have utilised the DEFRA emission factors for respective reporting years. We used ETL's carbon calculator tool to make these calculations and estimate our carbon footprint. Our methodologies align with the Greener NHS 'Delivering a 'Net Zero' NHS' report published in 2020.

Our impact

NHS Carbon Footprint and Carbon Footprint Plus

West Hertfordshire Teaching Hospitals NHS Trust

Table 1 shows the breakdown of our emissions baseline by our NHS Carbon Footprint emissions and our NHS Carbon Footprint Plus emissions in 2020/2021.

Carbon Footprint: approximately 15% of our emissions are tied to carbon footprint categories. Fossil fuels are responsible for 58% of these and just under 7% of our total emissions footprint. Transitioning away from the use of fossil fuels as part of our estate redevelopment plans is therefore fundamental to achieving a net zero carbon footprint and represents an important opportunity in the medium term.

Carbon Footprint Plus: the majority of our carbon emissions are tied to NHS Carbon Footprint Plus emissions categories. The largest proportion of these emissions comes from construction which accounts for 39% of our NHS Carbon Footprint Plus emissions and 34% of our overall carbon footprint. Other procurements, pharmaceuticals as well as medical instruments and equipment are also noticeably high emissions categories. We will identify opportunities to minimise the associated emissions tied to these categories through increasingly sustainable procurement methods and the employment of a reduce, reuse, recycle scheme.

This baseline **lacks accurate data on emissions tied to business travel**, as well as patient and staff travel, however, plans to develop a Trust-wide Green Travel Plan will help us to collect this data accurately in the future.

This baseline provides West Hertfordshire Teaching Hospitals NHS Trust with a departure point on our journey to become an exemplar as an environmentally sustainable NHS Trust. It allows us to shape targets and monitor the progress of our proposed actions. These actions are laid out over the following pages.

Scope	Emissions Category	Emissions (tCO_2e)	% of Respective Footprint
NHS Carbon Footprint	Fossil fuels	9,913	58%
	Electricity (location-based)	2,879	17%
	Electricity (market-based)	0	0%
	Well to tank (inc. transmission & distribution)	2,002	12%
	Anaesthetics	1,496	12%
	Metered dose inhalers	133	1%
	Water	65	0.4%
	Business travel	65	0.4%
	Waste	36	0.2%
	Fleet & leased vehicles	1.6	0.01%
NHS Carbon Footprint Plus	Construction	48,588	39%
	Other Procurements	19,383	15%
	Medical Instruments/Equipment	15,051	12%
	Pharmaceuticals	14,610	12%
	Office and Other Equipment	12,828	10%
	Business Services	6,389	5%
	Other Manufactured / Processed Products	3859.8	3%
	Food and Catering	1810	1%
	Wood and Paper Products	1514	1%
	NHS Travel	968	1%
	Manufactured Fuels/Chemicals/Gases	824	0.7%
	Metals and metal products	376	0.3%

Table 1: Numerical breakdown of the Trust's emissions baseline (2020/21)

Our impact

NHS Carbon Footprint

Figure 2 provides a breakdown of the emissions that have contributed to our NHS Carbon Footprint over the past three years. The graph below shows that the majority of these reductions have come from significant reductions in anaesthetic gas related emissions as well as reductions in electricity related emissions (largely due to decarbonisation of the national energy supply) and the closely associated Well-to-Tank (WTT) emissions.

A large proportion of our NHS Carbon Footprint is tied to fossil fuel emissions with consumption increasing between April 2019 and March 2021 (it is not clear to what extent this may have been related to the Covid pandemic). Reducing fossil fuel use is a key area of opportunity for the Trust and a core part of our ambitious hospital redevelopment plans that will see new 'net zero' emergency and specialist care hospital facilities at Watford and significant improvements to our hospitals at Hemel Hempstead and St Albans.

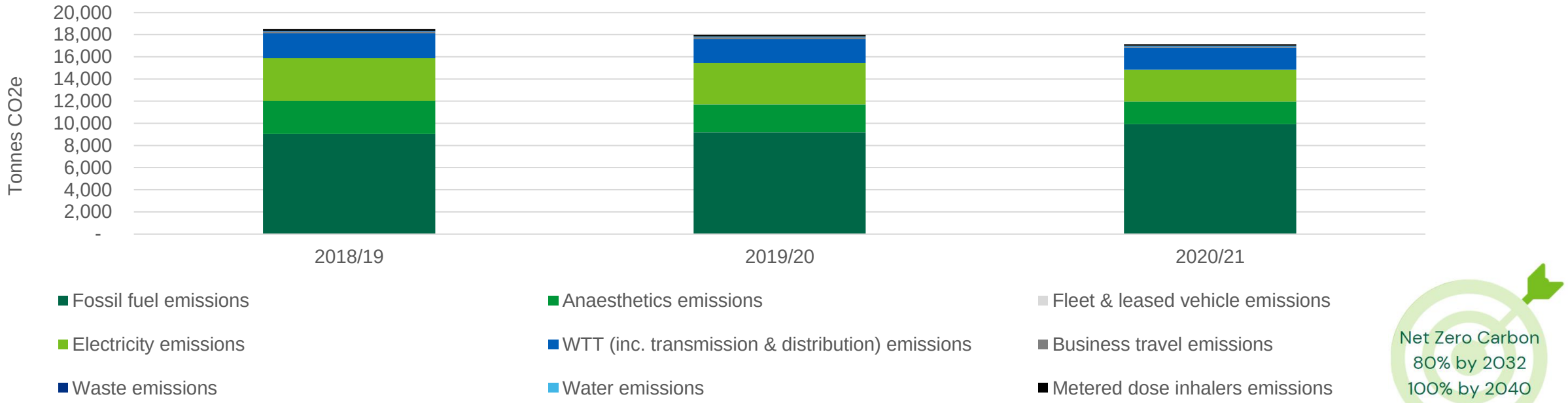


Figure 2: Breakdown of the Trust's NHS Carbon Footprint emissions baseline

Our impact

NHS Carbon Footprint Plus

Figure 3 provides a breakdown of the emissions that contribute towards our NHS Carbon Footprint Plus. Our NHS Carbon Footprint Plus emissions have increased by 36% since 2018/19 with a large proportion of these emissions coming from construction. Construction related emissions will increase even more significantly in 2021/2021 due to major spend on our new multi-storey car park and on implementation of our electronic patient record.

And, although we will work to minimise the environmental impact through carbon offsetting, we should expect our construction related carbon footprint plus emissions to further increase as we implement our major hospital redevelopment programme over the coming years. Our ambition is for all three of our hospitals to be net zero when our redevelopment work is completed, delivering a major reduction in our (scope 1 & 2) emissions from 2029, well ahead of the 2039 national target.

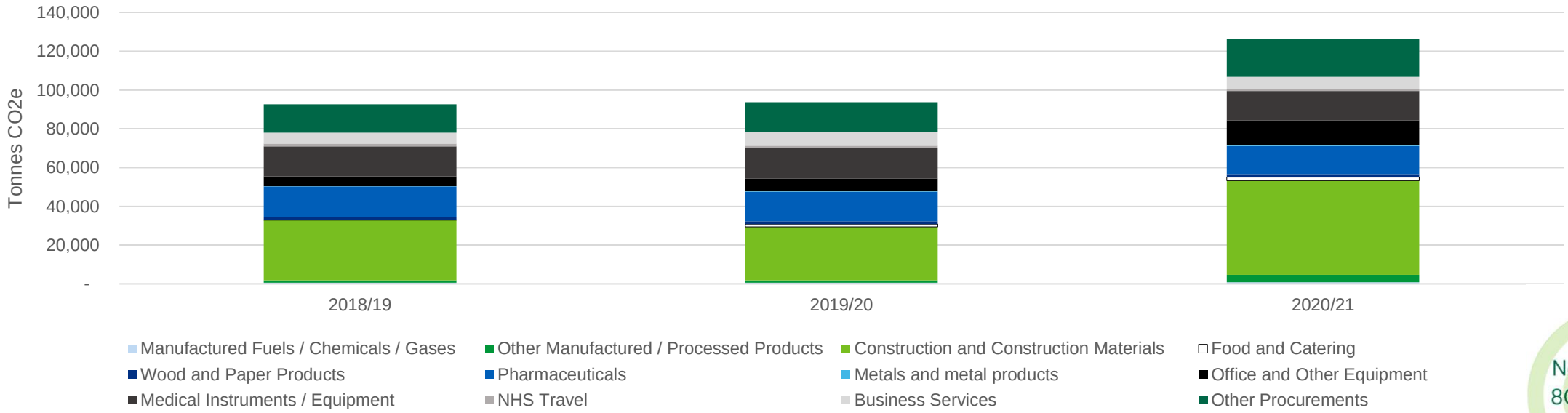


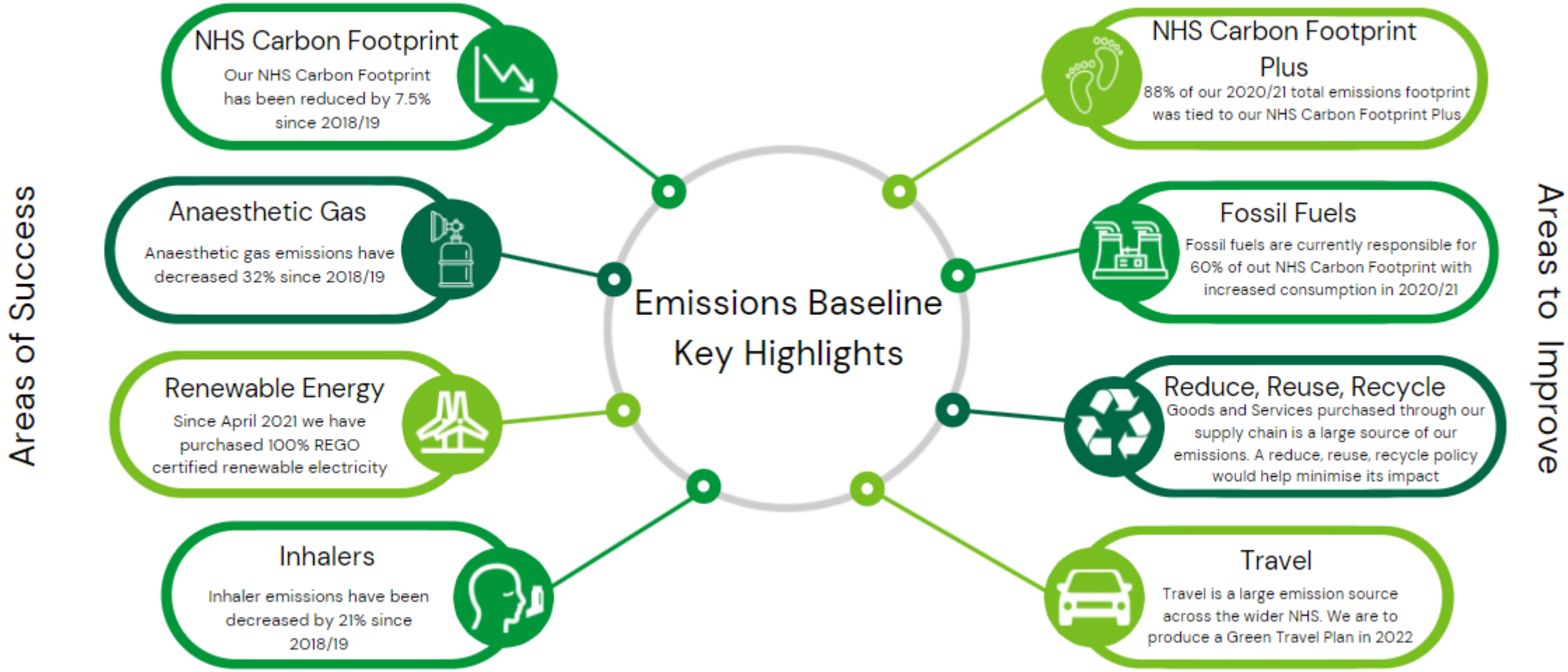
Figure 3: Breakdown of the Trust's NHS Carbon Footprint Plus emissions baseline (2020/21)

Net Zero Plus
80% by 2039
100% by 2045

Our impact

NHS Carbon Footprint and Carbon Footprint Plus

West Hertfordshire Teaching Hospitals NHS Trust



Our impact

Pathway to a Net Zero NHS Carbon Footprint

Figure 4 below provides an estimated trajectory to reach net zero carbon from our 2020/21 emissions baseline. The Trust has considered opportunities across its NHS Carbon Footprint, aligned with the 'Delivering a 'Net Zero' National Health Service' report – we have outlined these opportunities across the next pages. We will continue to consider the emissions reduction impact of additional Trust-specific projects and measure progress against our current pathways. This will support us to revise the programme if there are opportunities to make faster progress or if progress is falling behind current forecasts.

As shown in Figure 4, we have already begun to reduce our Carbon Footprint and will continue to pursue reductions in line with the NHS target of an 80% reduction by 2028-32. The development of a new hospital site at Watford in 2028 will see a sharp decrease in our carbon emissions as the hospital will be built to NHS net zero standards ensuring a significant reduction in fossil fuels.

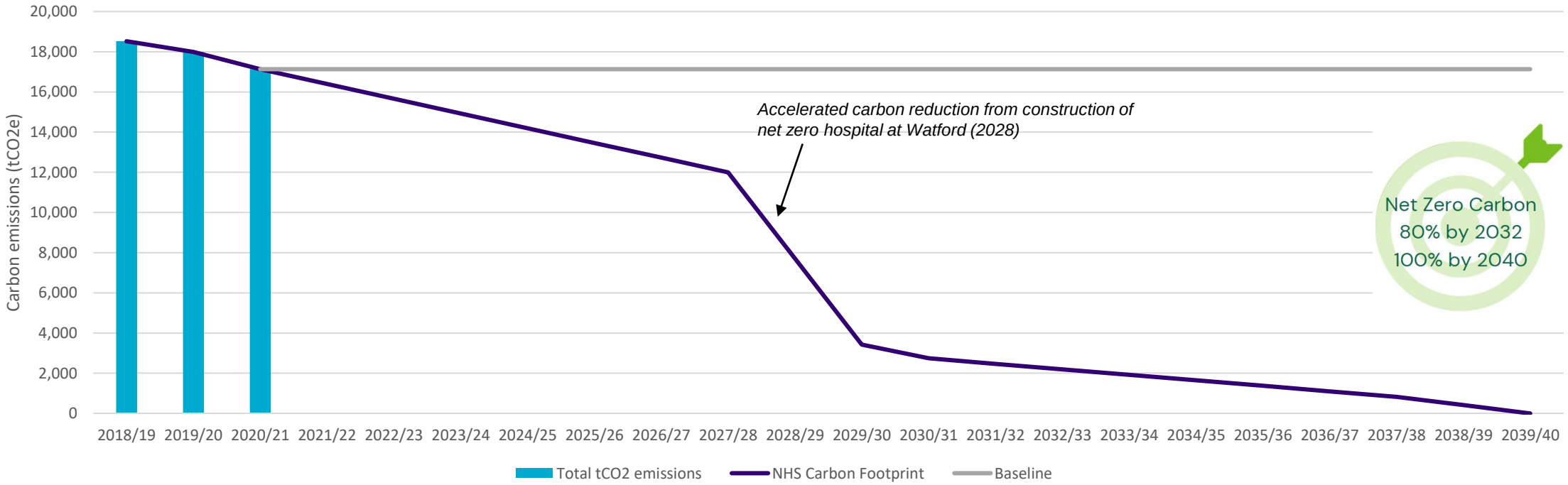


Figure 4: Trajectory for reaching net zero carbon for the Trust's NHS Carbon Footprint

Our impact

Pathway to a Net Zero NHS Carbon Footprint Plus

Figure 5 outlines our estimated trajectory to reach net zero for our NHS Carbon Footprint Plus. As demonstrated in Figure 5, we expect the emissions tied to our NHS Carbon Footprint Plus to rise over the forthcoming years as we continue to expand the quality of our services via refurbishments and new developments. The development of a new hospital site at Watford in 2028 is expected to cause a particular spike in emissions during its construction. However, the associated rise in emissions will lead to a sharp and sustained reduction in emissions as the hospital shall be built to NHS net zero standards.

2028 not only marks the completion of our new hospital site, but also an important progression in the NHSE&I's Sustainable Supplier Framework. As of April 2028, new requirements will be introduced overseeing the provision of carbon footprinting for individual products supplied to the NHS. This shift in methodology for accounting for supply chain emissions will help us continue to isolate areas in which we can minimise our NHS Carbon Footprint Plus in the future. We therefore aim to meet the NHS requirements of an 80% reduction in NHS Carbon Footprint plus by 2036.

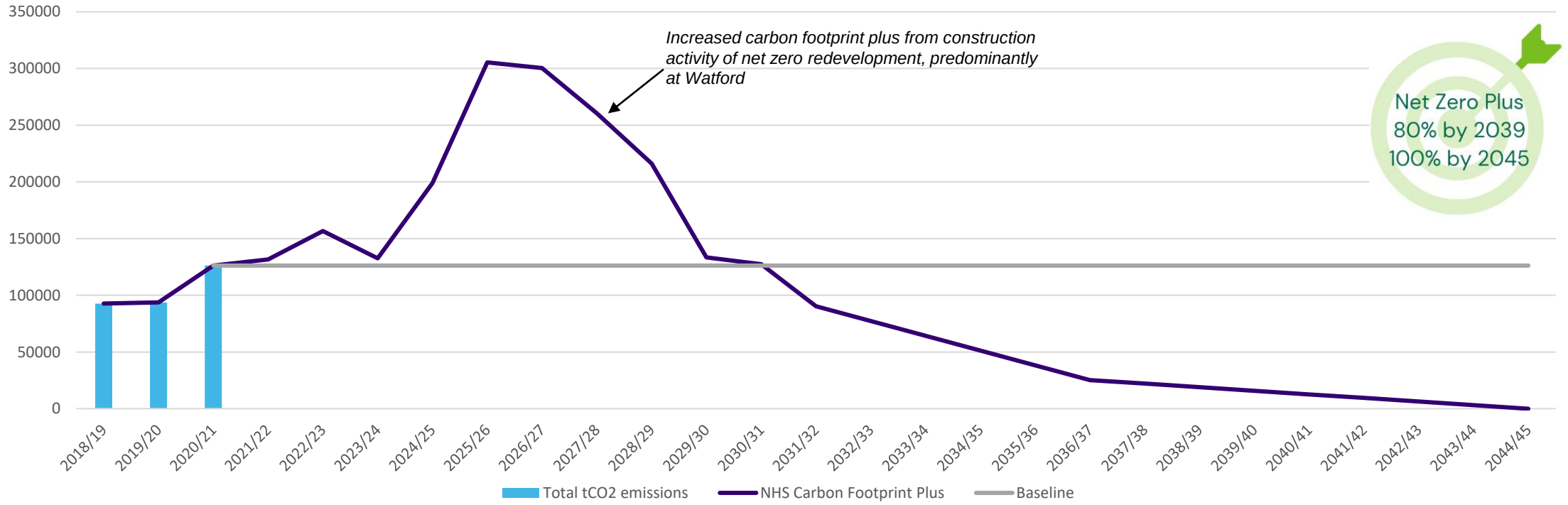


Figure 5: Trajectory for reaching net zero carbon for the Trust's NHS Carbon Footprint Plus

Our action plan

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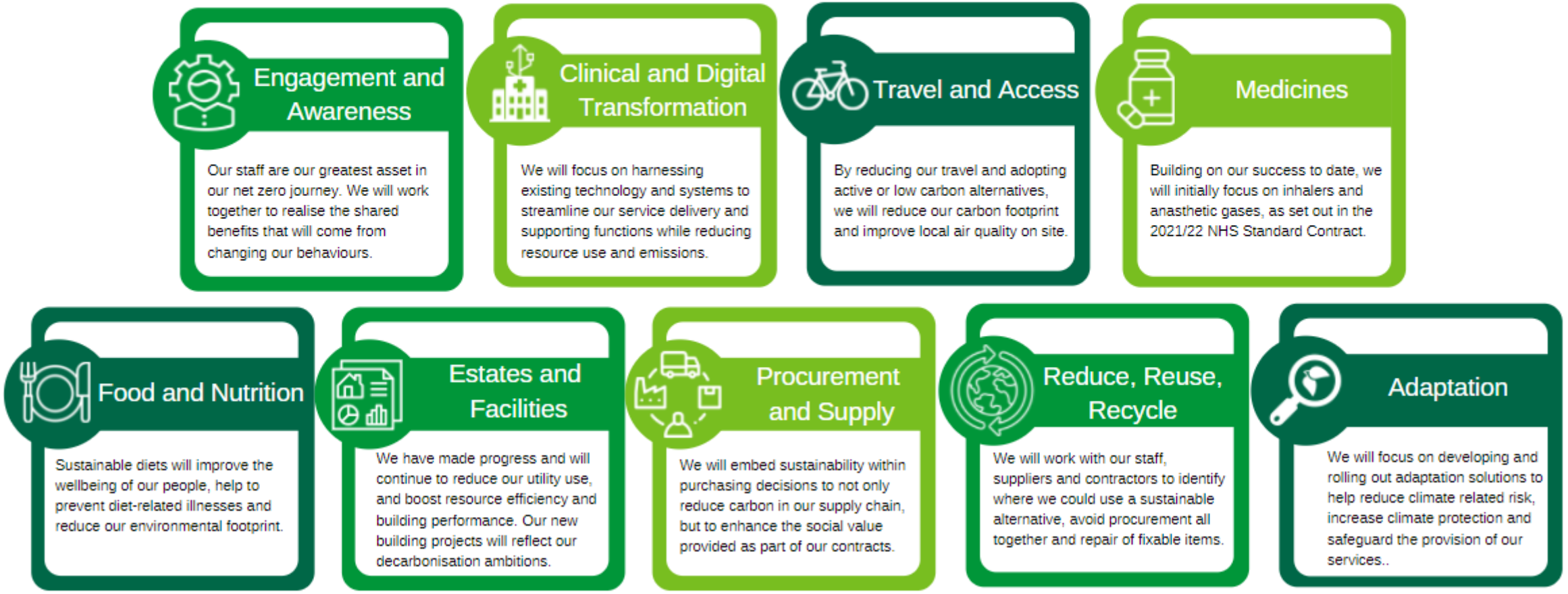
Our themes

We have identified 9 key themes within our net zero action plan to help us deliver on our commitment to become one of the greenest acute hospital Trusts in the NHS. These are our key themes:



West Hertfordshire Teaching Hospitals NHS Trust

Theme One: Engagement and Awareness

Our people are our greatest asset in delivering our Green Plan, and we certainly can't do it without them!

Raising awareness of the environmental impact of our activities, encouraging staff to think differently and to help us 'make it easy to do the right thing'. Whatever their role at the Trust, our people need to know their own responsibilities under the Green Plan and how they can help to deliver our net zero ambitions.

More than 80 people have already volunteered to join our 'Green Champions' network and many have already led successful projects to reduce carbon emissions or reduce waste. Our Green Champions will help us spread the word, build wider engagement and help us develop and deliver green projects across the organisation.

Environmental sustainability needs to be built into our core values as an organisation and embedded into everyday working and decision-making processes within the Trust. We will review our governance arrangements and business processes to embed environmental sustainability into the way we do business and ensure clear accountability and monitoring of delivery of plans to reduce our carbon footprint.

Our priorities

- To put sustainability at the heart of all that we do through its incorporation into our Trust values and embedding it into our business processes
- To create a governance structure that supports the actioning, monitoring, reporting and evolution of the Green Plan
- To increase sustainability awareness - and understanding of the Green Plan amongst our staff.

Measuring Success

- Number of Green Champions
- Engagement Measures TBC (annual sustainability awareness survey)
- Number of staff who have undertaken sustainability training

Action	When	Carbon Footprint	Carbon Footprint +
Incorporate sustainability into the Trust values and business processes	2022	✓	✓
Develop and implement a sustainability engagement plan (and agree engagement metrics)	2022	✓	✓
Annual survey of sustainability awareness and alignment with Trust priorities	annual	✓	✓
Develop a green dashboard to support regular reporting and oversight of progress through Trust governance structures	2022	✓	✓
Develop and implement a carbon literacy / environmental awareness training plan	2022		

West Hertfordshire Teaching Hospitals NHS Trust

Theme Two: Clinical and Digital Transformation

The **NHS Long Term Plan 2019** sets out a vision for how the NHS plans to improve care for patients over the next ten years, reducing inequalities, improving outcomes and improving patients experience of care. The 'Delivering a 'Net Zero' NHS' report (2020) went on to set out how the NHS will work to deliver a commitment to delivering a net zero national health service by 2045.

Local NHS and partner organisations have come together as part of the South and West Hertfordshire Health and Care Partnership (SWHHCP) and set out immediate priorities for joint work to reduce health inequalities, improve health and improve health and care services. At a Trust level our Clinical Strategy and our Digital Vision set out how we plan to transform our services over the next five years, building on the great progress made over the last five years. Our five-year change programme "Better Care, Delivered Differently' sets out in detail all of the changes we plan to make over the next five years.

Over the past three years we have invested in modernising our IT infrastructure and in 2021 we implemented a new, state of the art, electronic patient record. We have ambitious plans to build on these strong foundations to ensure our care models make the best possible use of new technology to improve patient experience and support sustainable models of care (including workforce, financial and environmental sustainability).

With a strong focus on preventative, integrated, streamlined and digitally enabled care, provided 'as close to home as possible' delivery of these plans will support our ambition to provide clinically excellent, great value care in the most environmentally sustainable way possible.

Reducing health inequalities is fundamental to improving health outcomes. Careful consideration will be given to the equalities impacts of new care models, ensuring that we do not inadvertently exacerbate health inequalities.

Our Priorities

For the purpose of this Green Plan we have identified a small number of specific metrics and actions directly related to our net zero ambitions, without seeking to duplicate the work already underway through our Better Care, Delivered Differently programme & the SWHHCP transformation plan.

Measuring Success

- % of outpatient consultations delivered remotely
- Reductions in outpatient consultations linked to new models of care (one stop clinics, advice and guidance, patient-initiated follow-ups etc)
- Virtual hospital activity (avoided admissions and reduced LOS)
- Reduction in paper usage

Further work to identify the environmental sustainability impacts of changes to service models will be undertaken in 2022/2023.

Action	When	Carbon Footprint	Carbon footprint +
Agree a methodology to capture the environmental impact of the Better Care, Delivered Differently programme.	2022	✓	✓
Implementation of patient portal and digitalised patient letters.	2024	✓	✓

Theme Three: Travel and Access

The NHS is responsible for 3.5% of all road travel in England, and travel and transport accounts for 14% of the overall NHS carbon footprint.

Changes to clinical care models, including those enabled by digital transformation, will reduce the number of individual patient and visitor journeys to our hospitals and make an important contribution to reducing overall travel related emissions.

However, we also need to work to reduce the number of car journeys made by patients, visitors and staff when they do need to travel to one of our hospitals, particularly if using an internal combustion engine (ICE), and to promote less carbon intensive modes of travel such as active travel, public transport and electric vehicles. These alternative forms of travel offer a multitude of co-benefits. For example, active travel not only reduces emissions, but also improves physical and mental wellbeing, reduces congestion and improves air quality.

We recognise that the future of UK transport is zero-emissions and have already begun to prepare for this by upgrading our Electric Vehicle infrastructure with over 120 new EV charging spaces at our new multi-storey car park at Watford General Hospital.

We have established a travel and access steering group and are working with local authorities to identify opportunities to promote public transport and active travel. In 2022 we plan to develop a detailed Green Travel Plan, actively engaging our communities and staff in a dialogue about actions we can take to encourage more sustainable forms of travel.

Our Priorities

- To improve the physical and mental wellbeing of patients and staff via the promotion of more sustainable modes of travel such as public transport and active travel
- To improve local air quality and reduce our emissions footprint tied to travel and transport
- To ensure we are prepared for the decarbonisation of travel

Measuring Success

- Number of car journeys to our hospital sites (measured via ANPR data)
- % of staff permits issued to EV cars
- Uptake of cycle to work scheme

Action	When	Carbon Footprint	Carbon Footprint +
Implement ANPR and establish a clear baseline of current car journeys to our hospital sites	2022		✓
Produce a Green Travel Plan outlining aims, targets and actions that prioritise sustainable modes of transport	2022		✓
Decarbonise our existing fleet & review our transport contract to ensure milestones for low emission and no emission fleets are met by the outsourced provider (currently HPFT).	2023	✓	

West Hertfordshire Teaching Hospitals NHS Trust

Theme Four: Medicines

20% of total NHS carbon emissions relate to medicines, with a small number of medicines accounting for a large proportion of these emissions. Pressurised metered dose inhalers (pMDI), contain hydrofluoroalkane (HFA) a potent greenhouse gas, are responsible for nearly 1 million tonnes of CO2 equivalent per year, roughly 3% of the NHS total carbon footprint. Commonly used anaesthetic gases also have a very high carbon impact and account for approximately 2% of NHS carbon emissions.

We have already made fantastic progress in reducing our anaesthetic gas emissions, achieving a 95% reduction in the use of desflurane, one of the most potent anaesthetic gases, over the past three years. Our pMDI use has reduced by 17% in the same period.

Partnership work and strong collaboration with primary care colleagues is essential to drive changes in prescribing practice and medicines optimisation. The Trust is an active partner in the Hertfordshire Medicines Management Committee which will play a key role in driving more environmentally sustainable medicines management practice at system level. Our medicine management committee will oversee the delivery of Trust level medicines-related Green Plan actions.

Our Priorities

- To continue the provision of high-level patient care whilst further reducing the use of environmentally damaging anaesthetic gases
- Continue the provision of high quality patient care whilst further reducing the use of environmentally damaging pMDI and ensuring used inhalers are appropriately recycled.
- To optimise patient medication and reduce medication wastage.

Measuring Success

- % reduction in anaesthetic gas emissions (minimum 40% reduction by 2028).
- % reduction in pMDI inhalers
- Medicines optimisation metrics TBC

Action	When	Carbon Footprint	Carbon Footprint +
Continue to implement changes to anaesthetic practice to further reduce emissions, including exploring options to reduce emissions from nitrous oxide use within maternity services.	2022	✓	
Develop and implement a clinically led programme to reduce utilisation of pMDI inhalers	2022		✓
Review arrangements for disposal of inhalers in an environmentally sustainable way	2022		✓
Develop a methodology to capture the sustainability impact of medicines optimisation schemes and identify further opportunities to reduce the carbon footprint of medicines dispensed by the Trust.	2022		

West Hertfordshire Teaching Hospitals NHS Trust

Theme Five: Food and Nutrition

Food and catering services in the NHS account for approximately 6% of the NHS total emissions footprint. A healthier, more sustainable diet not only has lower associated emissions but also helps to improve the physical wellbeing of staff and patients through the prevention of diet related illness, as well as providing wider social benefits for local communities through the procurement of locally sourced food.

Our food and catering services are outsourced as part of our facilities management contract to MITIE. The contract is due for review and procurement by April 2025 at the latest. The Trust will work with MITIE to implement the new national standards for healthcare food and the recommendations within the 2020 independent review of NHS hospital food report, including recommendations on sustainability and reducing food waste.

Ahead of a full review of the specification and a procurement exercise the Trust will agree appropriate contract variations with MITIE to implement short-term improvements over the next two years. We are particularly interested in investigating the opportunity of using local produce and thereby reducing 'food miles'.

Our Priorities

- Eliminating single use plastics from our catering supply chain
- Promoting the use of reusables (‘bring your own’ incentives for take away meals)
- Promoting sustainable meal options (including vegetarian and vegan meals)
- Reducing food waste
- Investigate the feasibility of reducing food miles

Measuring Success

- Reduction in use of disposables (& eliminating single use plastics)
- Uptake of low carbon meal choices
- Food miles (reduction) (TBC)

Action	When	Carbon Footprint	Carbon Footprint +
Work with MITIE to eliminate single use plastics from food and catering services	2022		✓
Work with MITIE to develop an incentive scheme for reusable / ‘bring your own’ cutlery and lunchboxes	2022		✓
Develop a plan with MITIE to promote low carbon food choices	2022		✓
Work with MITIE to develop a food waste reduction plan	2022		✓
Review food and catering specification as part of the facilities management re-procurement process, including the measurement of food miles	2022		✓

Theme Six: Estates and Facilities

Emissions relating to estates and facilities account for over 60% of the NHS direct carbon footprint, predominantly through emissions tied to energy use. A significant proportion of NHS carbon footprint plus also relates to estates and facilities including food and catering (see theme six), travel, logistics and construction, which has been the largest single contributor to our carbon footprint plus over recent years.

Progress has begun on reducing the emissions associated with energy consumption across our existing estate. Since April 2021, 100% of our electricity is now purchased through a REGO-certified 'renewable for business' tariff and 1,248 solar panels are to be installed on the roof of the new multi-storey car park at Watford.

Our hospital redevelopment plans mean that our construction related 'carbon footprint plus' will peak during construction (2024-2028), helping to deliver a reduction in our ongoing estate related 'direct' carbon footprint from 2029 onwards. A detailed 'new hospital' net zero plan is in development to support this, subject to approval of our outline business case in 2022, this will include sophisticated dynamic energy modelling to ensure our new facilities are as energy efficient as possible,

Plans are also being developed to decarbonise estate infrastructure at Hemel Hempstead and St Albans Hospitals where our plans are to retain key parts of our existing estate, with some elements of new build and some upgrading of existing buildings; these will include substantial improvements to building insulation levels and their air-tightness.

Our staff have told us that enhancing the external environment with more and better green spaces is an important priority to promote staff wellbeing and provide an improved environment for patients and visitors, so this is also a priority for the next three years.

Our Priorities:

- Develop net zero strategies to deliver a net zero estate for each of our three hospitals by 2030, linked to our hospital redevelopment plans (and subject to securing the necessary approvals and capital investment).
- Identify shorter term opportunities to reduce the environmental impacts of our estate through reduced energy and water use
- Identify opportunities for installed onsite renewable energy generation
- Provide enhanced green spaces for staff wellbeing at our hospital sites

Measures of success:

- Decreased energy consumption: kWh per m2 (of floor area)
- Decreased water consumption: m3 per m2 (of floor area)
- Decreased utility-related CO2e emissions
- Increased capacity of onsite renewable generation

Action	When	Carbon Footprint
Develop a Net Zero Carbon & Decarbonisation strategy for emergency and specialist care services at Watford as part of our redevelopment outline business case	2022	✓
Develop a Net Zero Carbon & Decarbonisation strategy for planned care services at Hemel Hempstead and St Albans hospitals,	2022	✓
Identify opportunities to reduce the environmental impacts of our estate in the shorter term & agree a phased investment programme (2023 – 2028) to complement major acute redevelopment plans.	2022	✓
Provide enhanced green spaces for patients, visitors and staff on all of our sites	2022	✓

West Hertfordshire Teaching Hospitals NHS Trust

Theme Seven: Supply Chain and Procurement

The vast majority of our total carbon footprint is accounted for via goods and services purchased from an array of suppliers – from electricity and food to medical equipment and personal protective equipment (PPE). Our purchasing decisions are therefore of fundamental importance and 'sustainable supply chain management' to encourage suppliers to improve the environmental sustainability of products offered to the NHS will be essential to delivery of the overall NHS net zero commitment.

The 'net zero supplier roadmap' sets out actions being taken to promote sustainability within the NHS supply chain:

2022 - *launch of the NHS Sustainable Supplier Framework*

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

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

2024- *All suppliers 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*

2027 - All suppliers 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)

2028 - New requirements introduced overseeing the provision of carbon footprinting for individual products supplied to the NHS

2030 - All suppliers required to demonstrate progress in line with the NHS net zero targets

In addition to implementing the roadmap at a local level, our procurement team will play a key role in our 'reduce, reuse recycle' programme, supporting clinical and operational teams to identify carbon hotspots in the supply chain and to develop carbon reduction action plans.

Our priorities:

- Implementing the NHS net zero supplier roadmap actions
- Developing knowledge and skills within both the procurement team and trust teams to leverage purchasing power to support sustainable procurement practices
- Improving operational processes to reduce waste (eg stock management)

Measuring success:

- Annual carbon footprint plus calculation using the NHS Greener calculator *(see also reduce, reuse, recycle measures of success).*

Action	When	Carbon Footprint	Carbon Footprint +
Implement net zero and social value weightings in tender processes	2022		✓
Develop & implement a training and development strategy to support sustainable procurement practice	2022		✓
Build understanding of key contributors to our carbon footprint plus (carbon hotspots) and refine the methodology used to assess our carbon footprint plus.	2023		✓

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Theme Eight: Reduce, Reuse, Recycle

At West Hertfordshire Teaching Hospitals NHS Trust our ambition is to become a role model within the NHS for how we use resources (goods and services) in a way that minimises environmental impact. As shown in our baseline impact analysis, the procurement of goods and services accounts for more than 85% of our emissions footprint.

As well as working with suppliers to reduce emissions, through the NHS supplier roadmap actions set out in theme 7, we plan to establish a 'reduce, reuse, recycle' programme, reviewing key areas of non-pay spend to identify ways in which we can reduce the environmental impact of goods and services. We have already made progress in reducing emissions tied to disposal of our waste as we no longer send waste to landfill, but our ambition is to radically reduce the amount of waste we produce.

We will particularly focus on reducing single use plastics and disposables, considering how we can change our practices to eliminate unnecessary use. We will explore product switches and investigate opportunities to reuse and/or remanufacture medical devices and equipment. Finally, we will improve our segregation of waste to ensure that recyclable materials are all appropriately captured and processed.

Our Priorities

- To reduce use of single use disposable plastics and other single use items
- To maximise opportunities for reuse and remanufacturing
- To maximise recycling through awareness campaigns and improved processes to promote more accurate waste stream management

Measuring Success

- % reduction in disposable items used
- % recycling uptake (increase)
- % waste to incinerator (decrease)
- Develop case studies to demonstrate environmental sustainability benefits from specific product switches

Action	When	Carbon Footprint	Carbon Footprint +
Establish baseline data for single use disposable products	2022		✓
Establish a prioritised programme of opportunities for reducing utilisation of single use products & implement actions to reduced their use: review and update the programme annually	2022		✓
Explore and introduce appropriate remanufacturing of medical devices / instruments (cardiology, surgery)	2023		✓
Develop and implement a programme to drive improved recycling practice within the Trust	2023		✓

West Hertfordshire Teaching Hospitals NHS Trust

Theme Nine: Adaptation

Even with current national and global commitments, we are set to reach 1.5 °C of global warming between 2030 and 2052. The Intergovernmental Panel on Climate Change (IPCC) reports that this warming will lead to increased risks to health, livelihoods, food security, water supply, human security and economic growth. In this context we must build resilience and adaptation into our sustainability programme.

Increased occurrences of extreme weather events will potentially disrupt clinical activity in three key ways: restrictions in the availability of clinical environments during extreme events (overheating or flooding); barriers to business-as-usual continuing for supply chain partners and direct clinical service impacts of severe weather upon staff and the local community, thereby creating system pressures.

The Trust already has a tried and tested Emergency Preparedness, Resilience and Response (EPRR) plan in place. In relation to climate change, the key challenges we have experienced over recent years have related to heat waves as our buildings are currently not well adapted to provide a consistent and comfortable internal temperature.

We will continue to review and update our EPRR plans on a regular basis to ensure that our response to climate related emergencies is robust.

As set out in 'Theme Seven: estates and facilities' our plans for major investment in our estate through our acute redevelopment programme presents a fantastic opportunity to make sure our hospital buildings are fit for purpose and better adapted for a changing climate. State of the art ventilation, thermal monitoring and digital building management technology will all support improved environmental control within our new-build and deep-retrofit clinical facilities.

Our Priorities

- Secure major investment to improve our estate via our acute redevelopment programme and ensure that plans fully address the requirement for climate adaptation in the context of the expected 1.5 °C increase in global temperatures.
- Develop climate adaptation plans that build on our current EPRR plan and consider opportunities to make interim improvements to our estate prior to the redevelopment.

- **Measuring Success**

- % clinical areas covered by thermal monitoring
- Number of overheating events in clinical areas
- Number of rainwater leaks and / or floods in clinical areas arising from weather related incidents

Action	When
Update our EPRR plans, including a review of extreme weather resilience and response plans	2022
Develop a climate adaptation plan for our sites and services that takes account of planned investment via our acute redevelopment and identify short term improvements and / or plans to address residual adaptation risks	2023
Collect baseline date on extreme weather-related incidents / strengthen data collection methodology	2022

Our plan to deliver

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Resource and Delivery

Delivering our Green Plan will need leadership, buy-in, and engagement from all parts of the organisation. Our commitment to become one of the Greenest NHS acute trusts in the country requires us to recognise the importance of environmental sustainability as a key value and to embed 'green thinking' into care delivery models, governance and business processes.

During COP26 the Trust put out a call for volunteers to join a 'green champions' network – with more than 80 people from across the Trust expressing an interest in being a green champion.

Over 300 staff completed our first 'green survey' giving us valuable feedback on our current organisational 'green culture' and lots of great ideas for projects we can take forward to reduce our carbon footprint and environmental impact.

We need to build on this enthusiasm and interest in environmental issues by implementing a structured engagement plan and clear governance and accountability arrangements to deliver the actions set out in this plan

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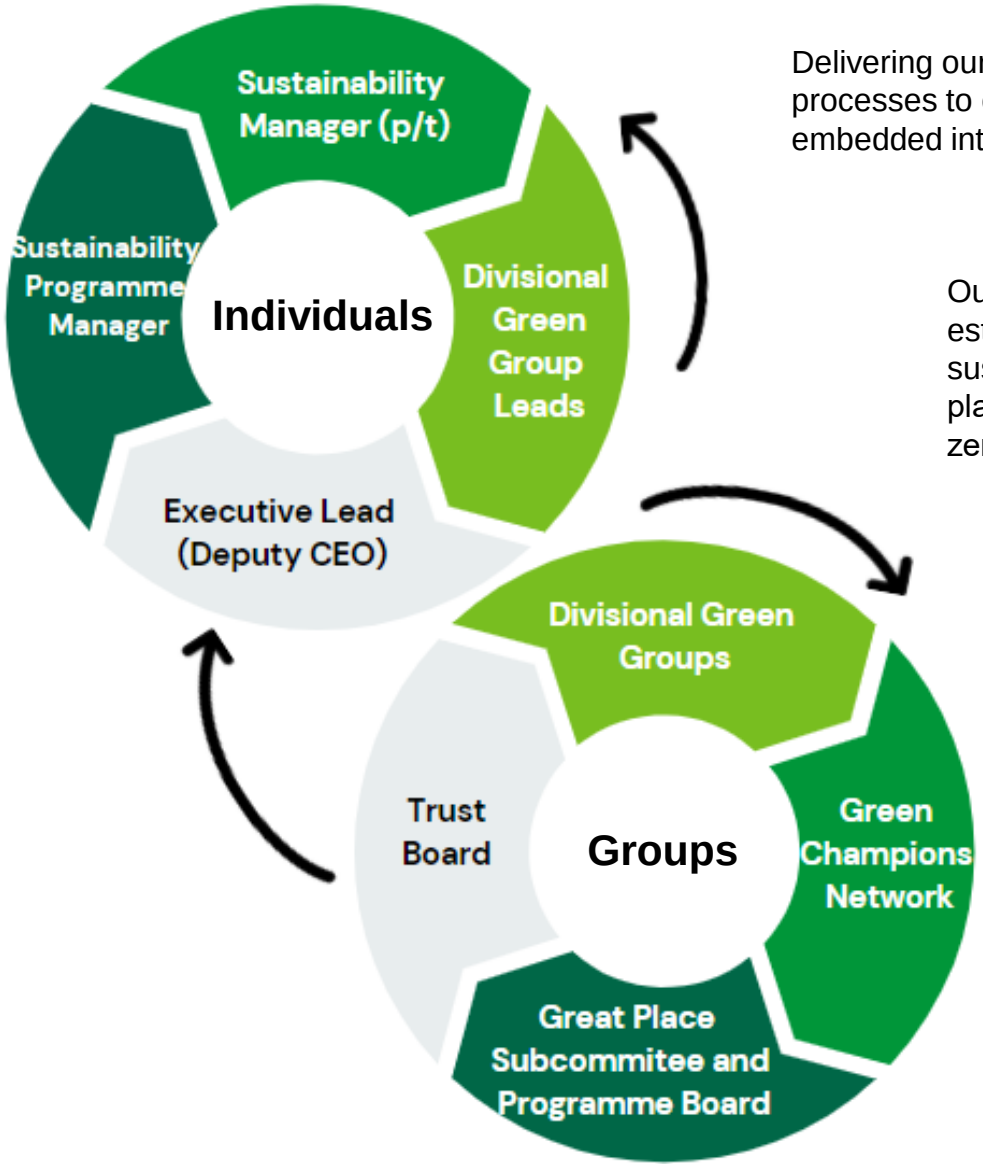
Resource and Delivery



Delivering our Green Plan will take focused leadership effort and resources. We will review our governance processes to ensure environmental sustainability is reflected into the terms of reference of key groups and embedded into our business and decision-making processes.

Our Deputy CEO will take the overall lead for championing delivery of our Green Plan and chair a newly established environmental sustainability steering group. We plan to create a new role of environmental sustainability programme manager who will co-ordinate and support the delivery of actions within this plan. Our energy and sustainability lead will provide expertise and advice and lead our new hospital 'net zero carbon' and adaptation plans.

Capital and revenue investment will be required to support delivery of key initiatives within this plan, many of which will deliver savings in the longer term through reduced resource utilisation. Business cases will be developed to secure the necessary up-front investment required. The pace of progress we can make in delivering this plan will be influenced by how successfully we are able to secure this investment, balanced against a wide range of competing priorities through our annual planning process.

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Governance

Partnership and system working
A Hertfordshire and West Essex Integrated Care System ICS sustainability steering group has been established. We will actively participate in this group to contribute to system wide environmental sustainability initiatives and share best practice.

Board oversight
Our Trust Board will receive an annual report on delivery of the Green Plan. Our Great Place Committee will provide assurance to the Board on progress and receive bi-annual progress updates.

Delivery
An environmental sustainability steering group will be established to oversee delivery of the plan, reporting to the Great Place Committee through the Great Place Programme Board. A range of sub-groups and task and finish groups will be established as required to drive delivery of our nine key themes for action. The Terms of Reference of existing Trust groups will be reviewed to incorporate environmental sustainability as appropriate (eg Medicines Management Committee).

Green Dashboard
A Green dashboard will be developed, bringing key environmental sustainability indicators together to provide visibility on progress.

Calculating our carbon footprint
As part of developing this plan we have undertaken an initial baseline assessment of our environmental impact. This gives us a preliminary, relatively crude, understanding of our current carbon footprint. Further work to refine how we measure the environmental impact of our activities will be needed over the lifetime of this plan. We will learn from best practice and follow guidance from the Greener NHS programme to improve our capability in this area.

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NHS Carbon Footprint Breakdown

Energy Consumption and Associated Emissions – Scope 1 and 2

The graph below depicts West Hertfordshire Teaching Hospitals NHS Trust's annual energy consumption and the carbon emissions attributable to these consumption levels. Energy use was accountable for 77% of the Trust's NHS Carbon Footprint and 9% of the Trust's overall carbon emissions. As shown in Figure 6, total gas and oil consumption increased in 2020/21, however, this was met with decreased electricity consumption. The decarbonisation of the UK's National Grid also contributes to lowering levels of emissions associated with electricity consumption. The combined effect of this led to a very slight decrease in total energy emissions in 2020/21 as depicted by the purple line in Figure 6. The reduction of fossil fuels including gas and oil as well as increasing the efficiency of electricity use will lead to a significant decrease in the Trust's NHS Carbon Footprint.

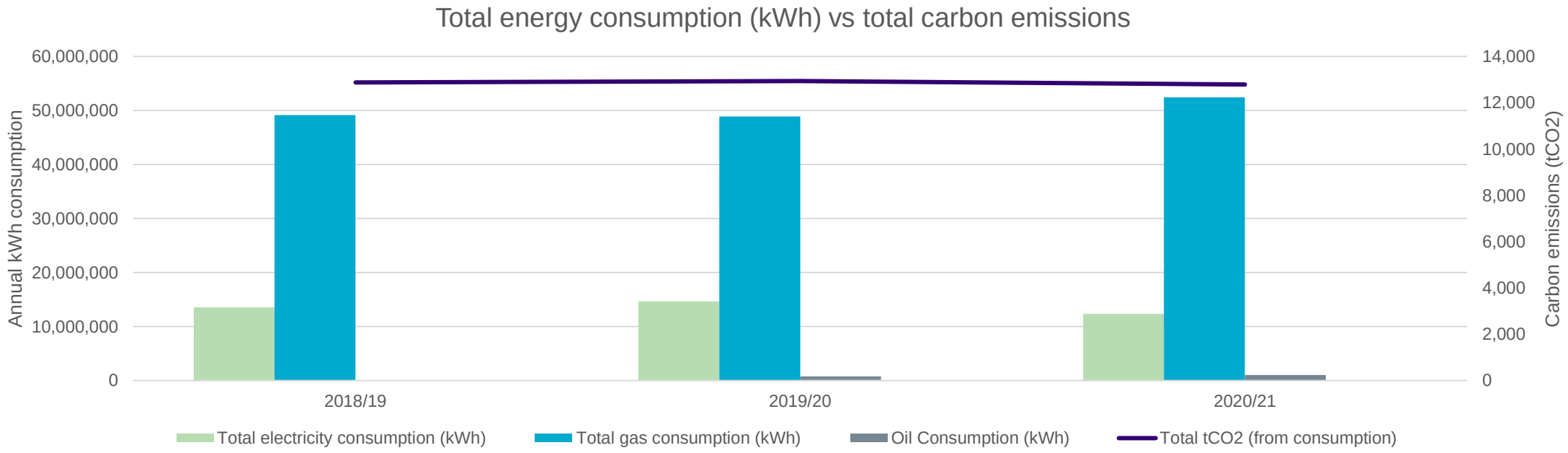

Figure 6: WHTHT's annual energy consumption and relative carbon emissions

West Hertfordshire Teaching Hospitals NHS Trust

NHS Carbon Footprint Breakdown

Well to Tank (WTT) emissions - Scope 3

Well to tank (WTT) emissions are the greenhouse gas emissions tied to the production, processing and transportation of a fuel or energy vector. WTT emissions therefore directly correlate with the Trust's energy use. WTT emission accounted for 1.4% of the Trust's overall emissions footprint. This figure will fall as the Trust reduce energy consumption. A breakdown of 2021's emissions is provided in Figure 7 below:

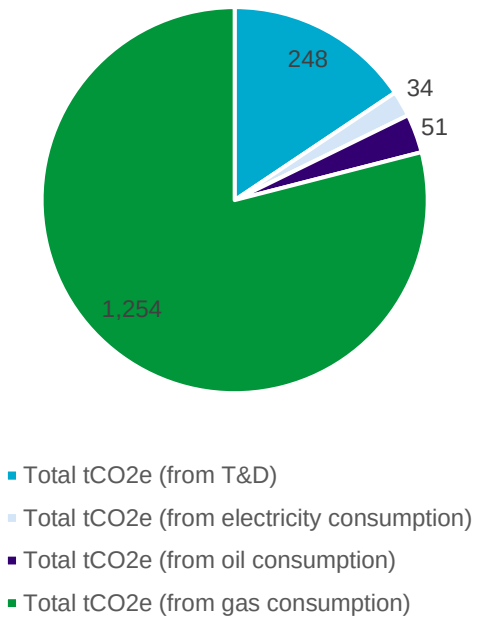

Figure 7: Breakdown of well to tank emissions from energy consumption in 2020/21

Water - Scope 3

The operation of wastewater treatment plants results in the emission of a variety of greenhouses gases such as carbon dioxide, methane and nitrous oxide. The trust's consumption of water therefore has an emissions tail attached to it. As highlighted in Figure 8, the Trust's water consumption has fluctuated across the last five years and so too has it's CO2 equivalent. Targeting ways in which the Trust can maximise water use efficiency will lead to increased reductions of carbon and will provide WHH with a financial gain.

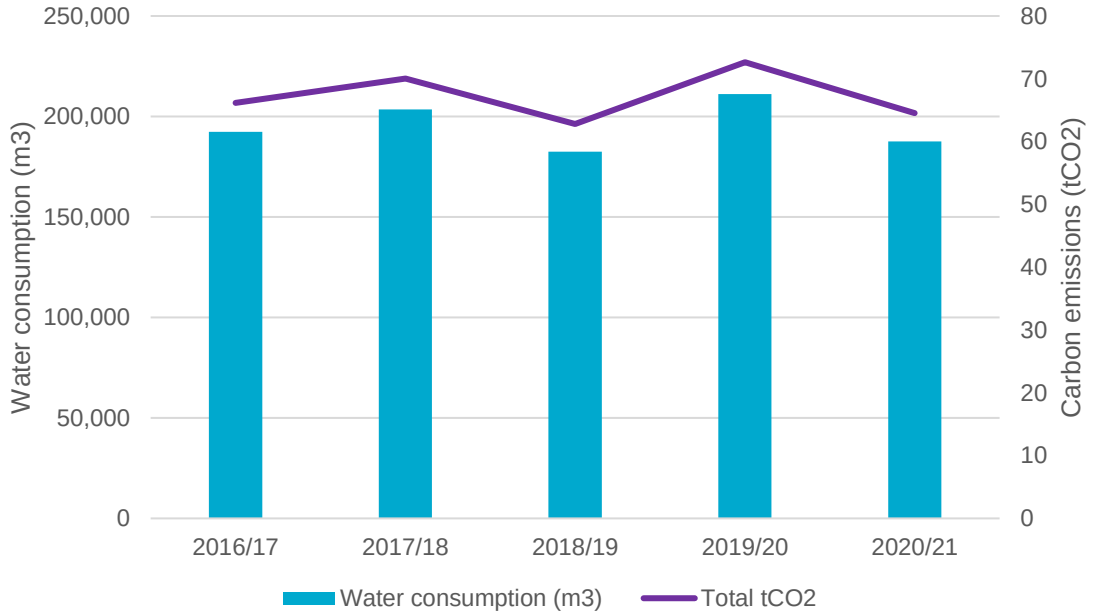

Figure 8: Total emissions generated from Trust's water consumption between 2016/17 and 2020/21

West Hertfordshire Teaching Hospitals NHS Trust

NHS Carbon Footprint Breakdown

Waste - Scope 3

The processing and treatment of waste streams causes carbon emissions to be released into the atmosphere. Estates Returns Information Collection (ERIC) has requested differing returns with regard to waste year on year, making comparisons difficult. However, data from 2020/21 is the most accurate data available and Figure 9 shows the emissions tied to each waste stream. Importantly, WHTHT no longer sends waste to landfills, the most severe source of waste emissions. A reduce, reuse, recycle strategy would further assist the trust to reduce their carbon footprint.

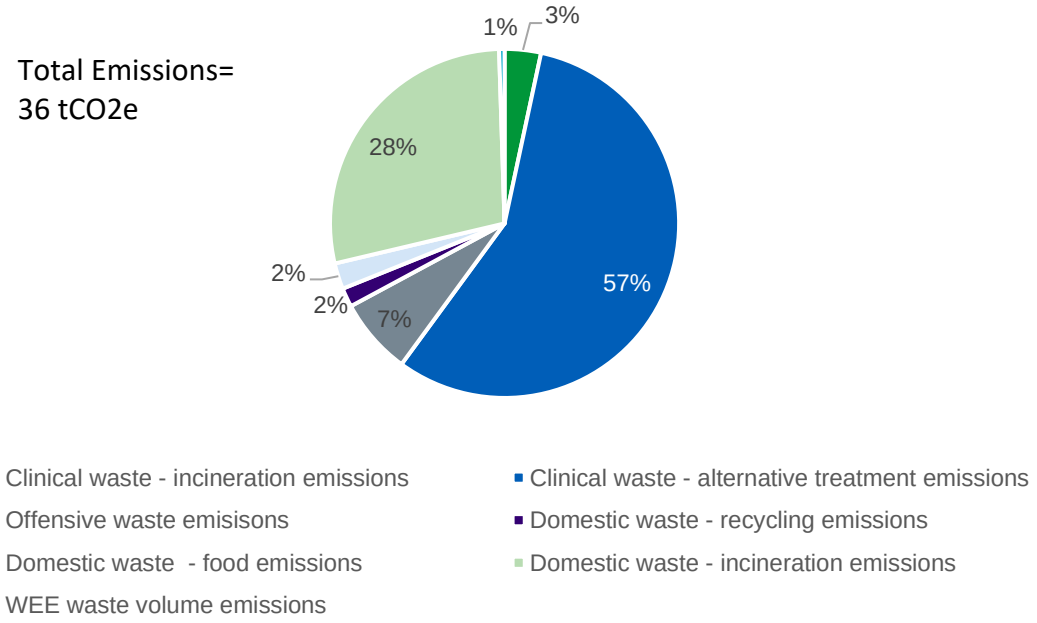

Figure 9: Breakdown of waste emissions for 2020/21

Fleet Emissions and Business Travel - Scopes 1 and 3

Travel is responsible for 14% of the total NHS carbon emissions. Whilst the Trust does not currently collect staff commute or visitor travel data, preliminary data has been collated on the Trust's fleet and staff business travel emissions. As portrayed in Figure 10, emissions attributable to fleet and leased vehicles are very low due to the small size of our fleet. Staff business travel has drastically fallen in 2020/21 however this is attributable to the ongoing Covid-19 pandemic. The Trust will advance the extent of travel data collected when our Green Travel Plan is written in 2022.

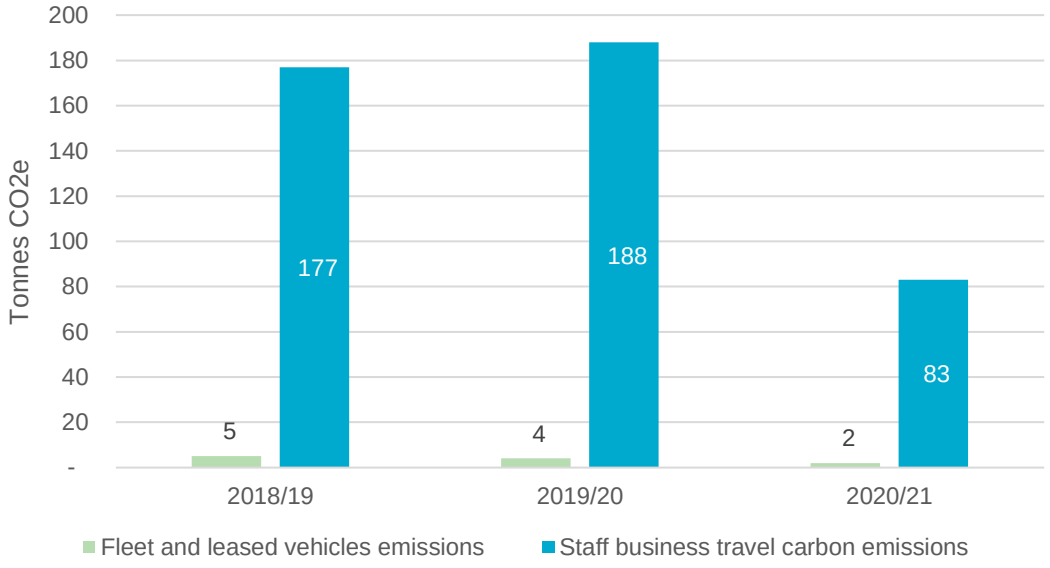

Figure 10: Breakdown of emissions generated from the Trust's fleet and staff business travel between 2018/19 and 2020/21

West Hertfordshire Teaching Hospitals NHS Trust

NHS Carbon Footprint Breakdown

Inhalers - Scope 1

Metered Dose Inhalers are used to treat patients with a variety of respiratory conditions. However, Metered Dose Inhalers contain liquefied compressed hydrofluoroalkanes (HFA), a significant greenhouse gas that equates to a significant emissions footprint. In fact, inhalers are accountable for 3% of the NHS entire carbon footprint. Since 2018/19, WHTHT has reduced its use of Metered Dose Inhalers by just over 20%. By switching to alternative, less environmentally damaging inhalers such as dry powder inhalers, the Trust could make further reductions to its carbon emissions.

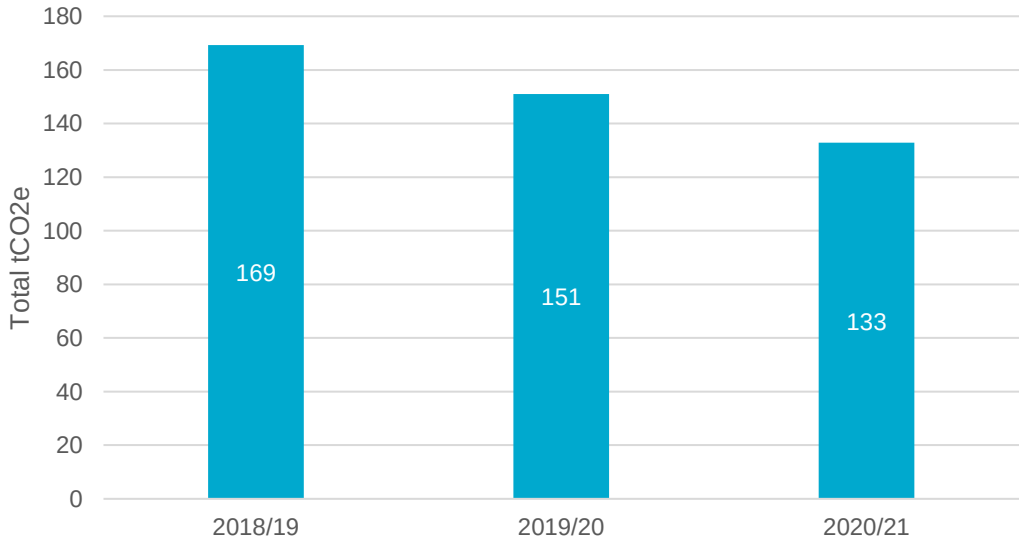

Figure 11: Breakdown of emissions generated from Trust's use of Metered Dose Inhalers between 2018/19 and 2020/21

Anaesthetics - Scope 1

Anaesthetic gases are accountable for 2% of the NHS overall carbon footprint mostly due to the harmful effects of desflurane and nitrous oxide. Targets have therefore been laid out in the NHS Long Term Plan to reduce the carbon impact of anaesthetic gases by at least 40% by 2028. As shown in the Figure 12, West Herts is on track to achieve this having already achieved a 32% decrease in anaesthetic gases by significantly reducing the use of desflurane. Further progress could be made by reducing emissions associated with nitrous oxide (NO_2) through decreasing its wastage – it is estimated that 30% of nitrous oxide is left in canisters after use. Exploring alternatives to NO_2 such as total intravenous anaesthetics would also help to decrease the anaesthetic footprint of the Trust.

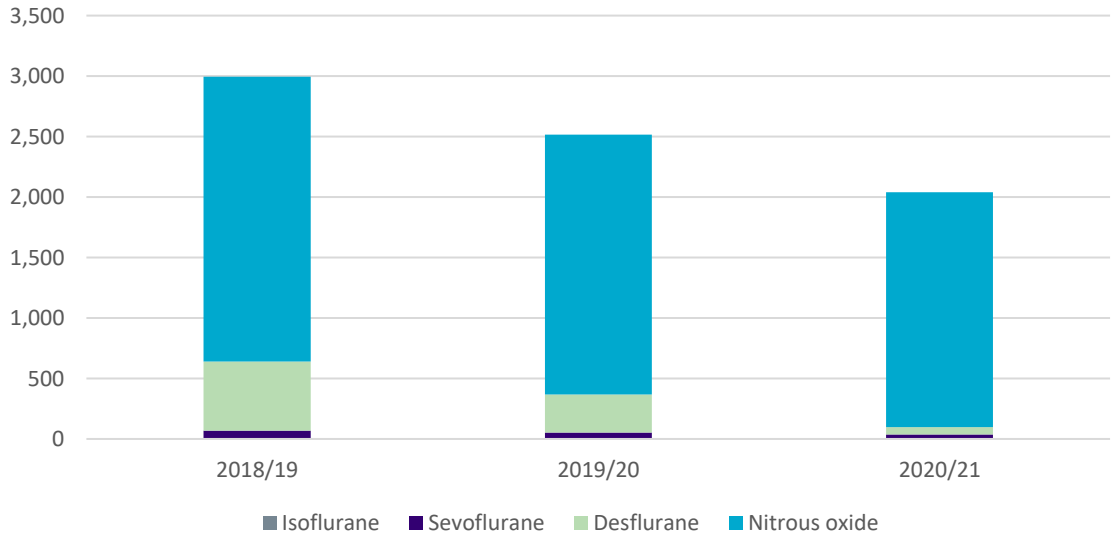

Figure 12: Total emissions generated from Trust's water consumption between 2016/17 and 2020/21

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Additional Comments and Survey Results

During November 2021 an appeal for Trust Green Champions was made. Following engagement from over 80 staff members, two sessions were held in order to collate ideas for actions to include in the Green Plan. At both sessions, real-time polling was used in order to gather the thoughts of the Champions. The results and responses from engagement sessions produced the following insights:

West Hertfordshire Teaching Hospitals NHS Trust

Additional Comments and Survey Results

Evaluation of focus areas for decarbonisation

Session One

1. Estates and Facilities
2. Workforce and leadership
3. Travel and Transport
4. Sustainable models of care
5. Food and nutrition
6. Adaptation
7. Medicines
8. Digital Transformation
9. Supply chain and procurement

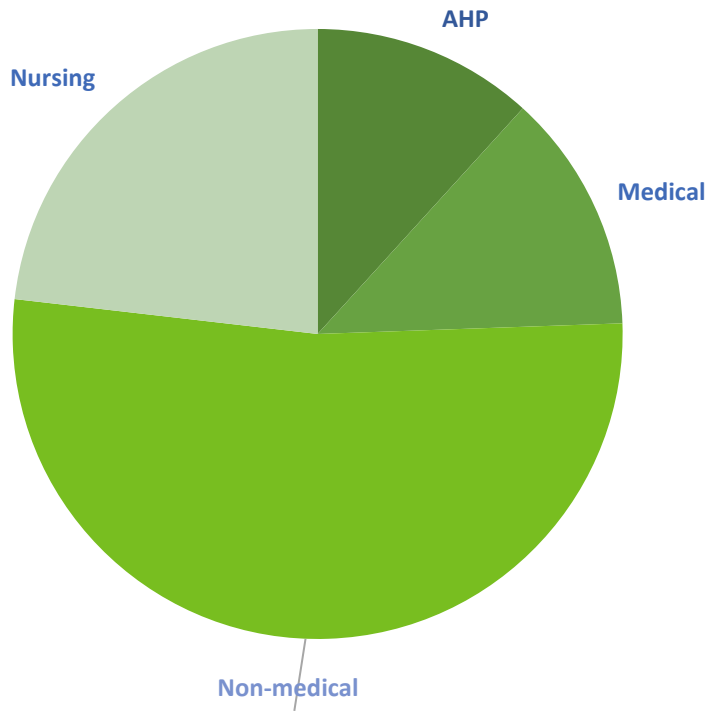
Session Two

Additional Comments and Survey Results

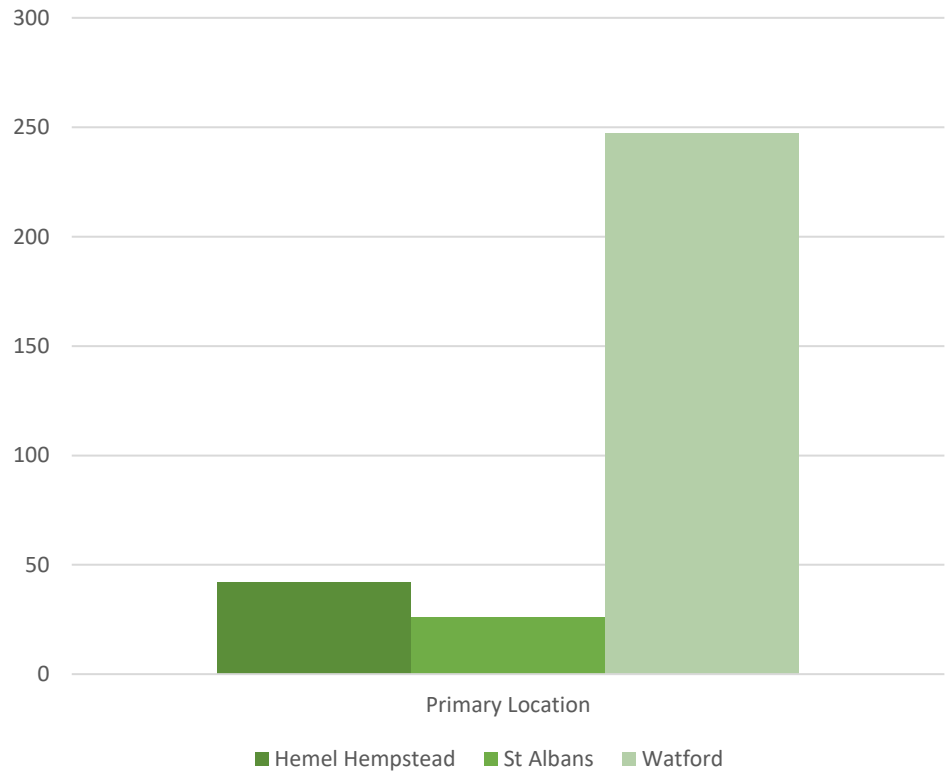
The Trust ran a sustainability survey during late 2021 which had 315 respondents. The charts below and on the following pages show that respondents believe that significant opportunity remains for WHTHT to improve our sustainability credentials. Areas of key focus were identified as: recycling, awareness training and sustainable travel.

Overview of respondents

Current role within WHTHT



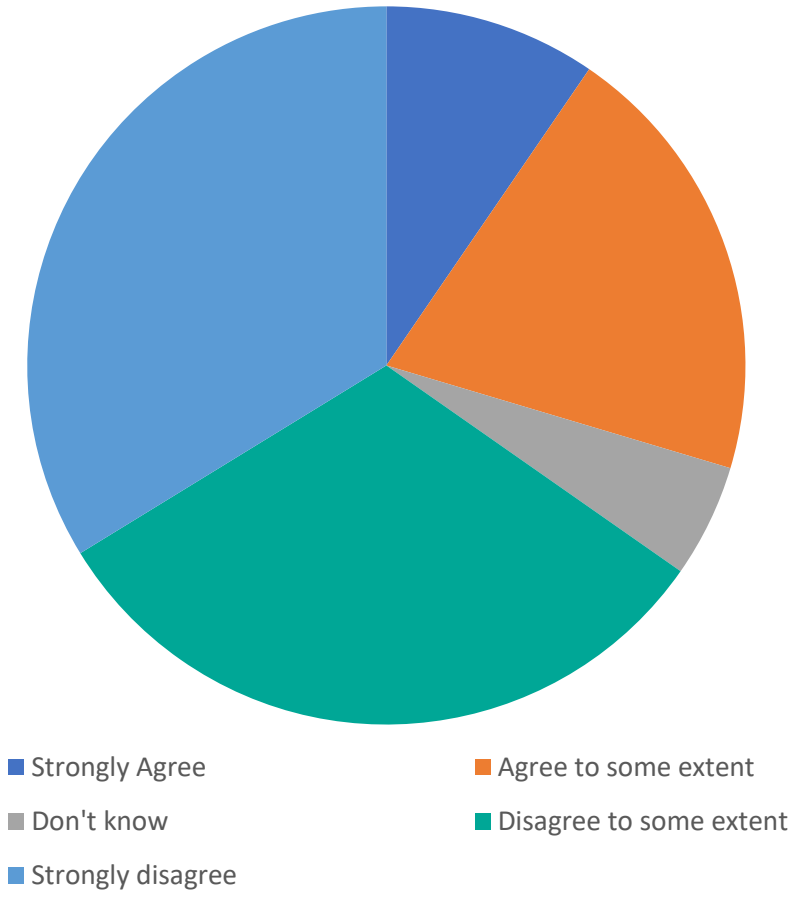
Primary Location of Work



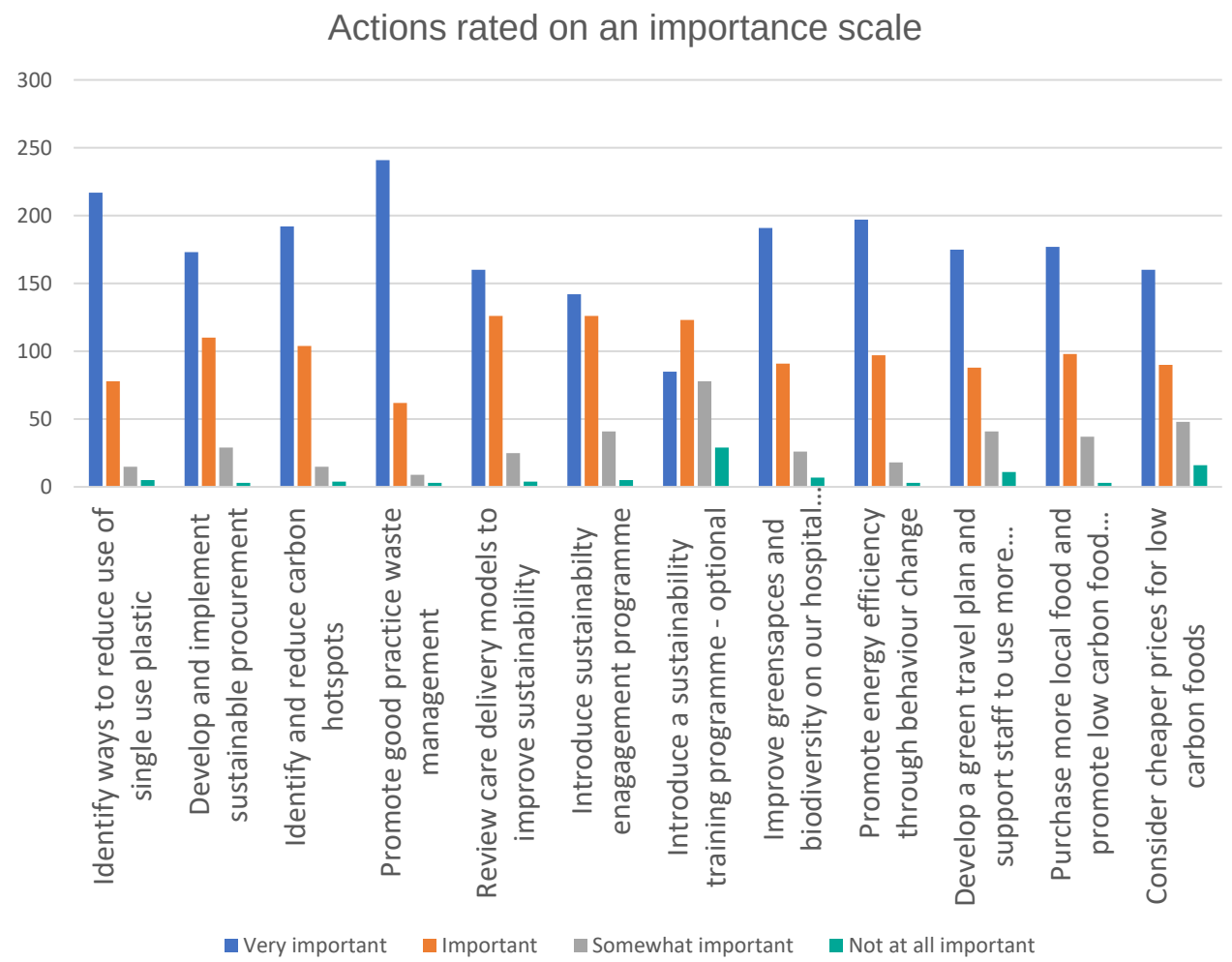
Additional Comments and Survey Results

West Hertfordshire Teaching Hospitals NHS Trust

Do staff agree sustainability is embedded in WHTHT workplace culture?



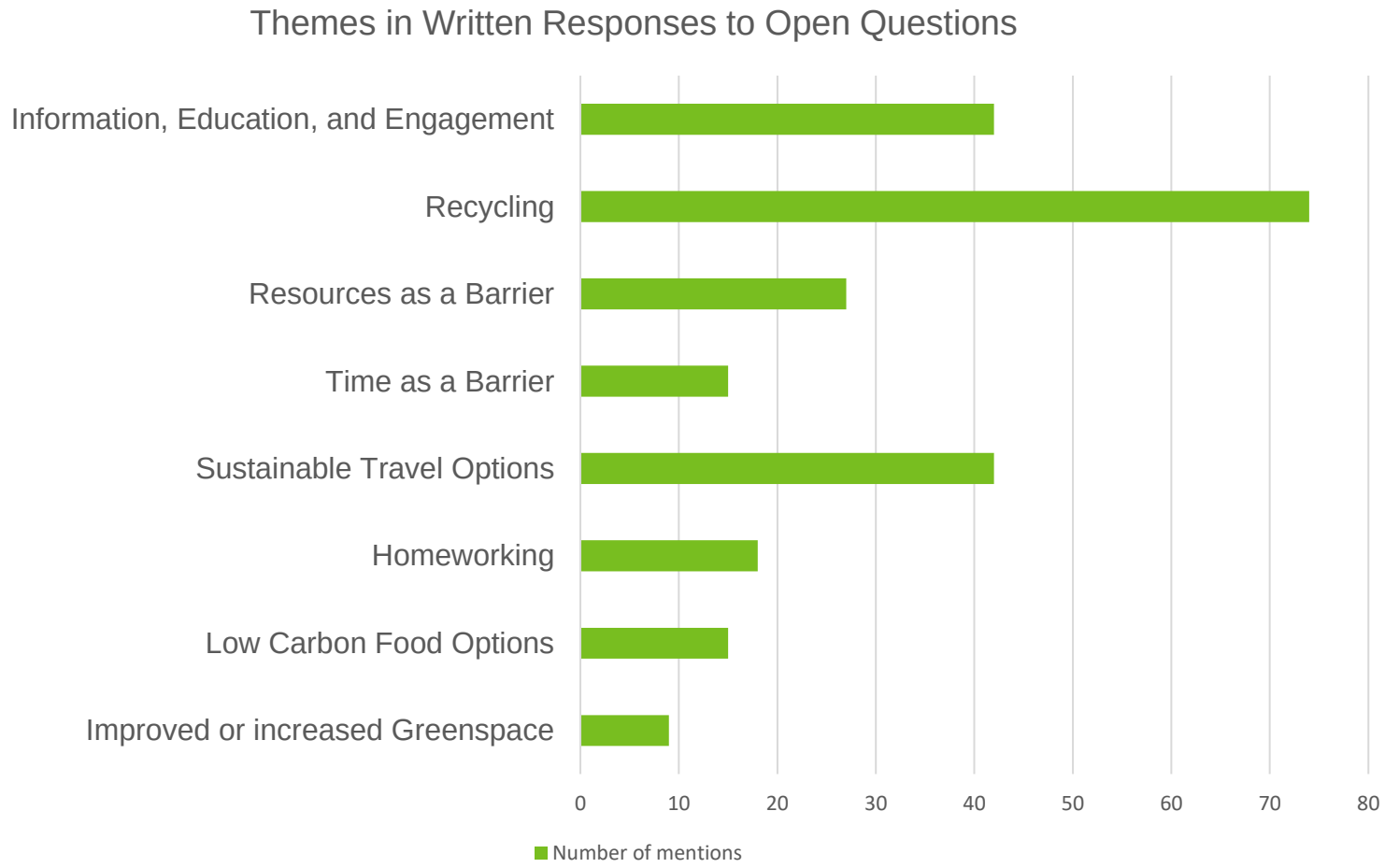
What actions do WHTHT see as important for Sustainability?



Additional Comments and Survey Results

West Hertfordshire Teaching Hospitals NHS Trust

Themes from written responses



These answers were given in response to open ended questions asking what staff thought were barriers or possible actions to take to improve sustainability.