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Outstanding 



The Newcastle upon Tyne Hospitals
NHS Foundation Trust



Shine

Sustainable Healthcare in Newcastle

Sustainable Healthcare in
Newcastle (SHINE) Report
2019-20

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1. Foreword

There is a global Climate Emergency and I want everyone at Newcastle Hospitals to be part of the solution.

Newcastle Hospitals has a history of pioneering excellence, which puts us in a strong position to increase the pace of action, and end our contribution to the climate crisis before 2040.

The COVID-19 pandemic has reinforced both the imperative and opportunity for us to act. The operational changes we make to enhance climate sustainability make us more resilient and adaptable to periods of intense pressure. For instance, we have seen how virtual appointments can easily substitute for face-to-face, and eliminate the need in many cases for patients to travel to a hospital.

Of course, sustainability isn't just about one or two things; it is considering a number of connected areas. This report shows how we as a Trust are enhancing productivity, eliminating waste and maximising efficiency in a range of ways – though we are aware we still have a long way to go.

The challenges ahead of us should not be underestimated, and we need a Trust wide approach to succeed. Meeting this challenge will fundamentally change how we live and work, but if it is to be successful, this change will not be about giving things up: instead it will be a way to enrich our lives. Many of the solutions will have co-benefits such

as reduced congestion, improved air quality, expansion of green spaces and improved physical and mental health.

It all starts with our people. It is important that they are bringing the best version of themselves to work and that they feel valued for doing so. This drives quality and improvement right across the organisation. The transition we are committed to brings both opportunities and challenges and I believe that early, co-ordinated action can help secure Newcastle Hospital's position as a healthcare leader for decades to come.

It will require collective action across our city and beyond, and we have already begun to have open and meaningful conversations with key players across the region and the wider NHS. I am pleased to be a member of the expert panel tasked with identifying how soon the NHS can transition to net zero carbon, and I'm helping to support James Dixon, our Head of Sustainability, to chair our integrated care system's Climate Action Network. Together we are focusing our efforts on strengthening our approach to decarbonisation in order to improve the lives of people who live and work across the North East and Cumbria, and beyond. I have been incredibly impressed with the passion and ingenuity already

being used across the health sector; we will all benefit from this ambition. I look forward to supporting our cherished NHS to become more sustainable, now and for the future.

Dame Jackie Daniel
Chief Executive

Meeting this challenge will fundamentally change how we live and work, but if it is to be successful, this change will not be about giving things up: instead it will be a way to enrich our lives

2. Introduction

In June 2019 Newcastle Hospitals became the first healthcare organisation in the world to declare a climate emergency, recognising the threat that climate breakdown poses to public health, and committing to becoming carbon neutral by 2040.

Climate change is the greatest threat to health according to the Lancet & University College London Institute for Global Health (2009). Left unabated, climate change will define the health profile of current and future generations and will challenge already overwhelmed health systems. With a moral obligation to 'first do no harm', it was imperative to reduce the harmful effects of carbon emissions resulting from our activities.

There were already targets in place to reduce our emissions by 28% by 2020 from a 2013 baseline, however the ambitious target set as part of the climate emergency declaration was to become a net zero carbon organisation by 2040. This means firstly reducing the carbon emissions resulting from our activity as much as possible, and then balancing any remaining carbon emissions by absorbing an equivalent amount from the atmosphere.

Since making the declaration the Trust has played a pivotal role both regionally and nationally, working in collaboration with civic partners in Newcastle to take individual and collective action. An Integrated Care System-wide climate action group is led by our Chief Executive, Dame Jackie Daniel, and the Trust has also established a Shelford Group of Sustainability Leads. Climate Emergency, carbon and energy efficiency have been embedded into the Trust Strategy for 2019-24.

There has been a lot of interest in our Sustainable Healthcare in Newcastle (Shine) work. Professionals in Trusts around the UK have contacted us to find out how we gained support for this declaration, and how we plan to achieve net zero carbon. We are proud to have inspired many other healthcare organisations to take action on climate breakdown.

This report details what we have achieved in the last year, and what we plan to do in our next steps towards net zero.

OUR CLIMATE EMERGENCY DECLARATION IS:

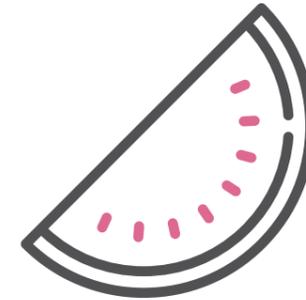
- A public acknowledgement of the climate crisis which threatens population health
- A commitment to fast-tracking the reduction of our carbon emissions
- A commitment to collaborative action with our civic partners to deliver a zero carbon Newcastle

Left unabated, climate change will define the health profile of current and future generations and will challenge already overwhelmed health systems

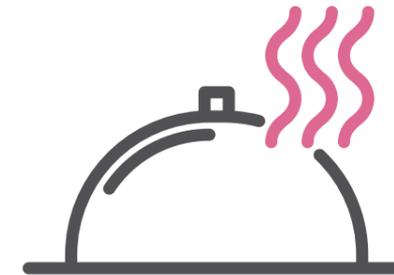


Shine

Sustainable Healthcare in Newcastle



Local greengrocers Passion 4 Fruits **set up a stall at the RVI**



Introduced **Meat Free Mondays**



74.4% of staff are aware of the sustainability work of the Trust



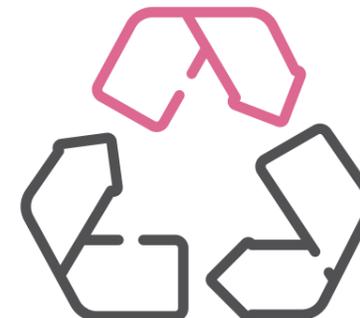
1st NHS Trust to declare a climate emergency



Climate Emergency Executive Oversight Group formed



New Trust Strategy commits to **Carbon Neutrality by 2040**



Recycled 43% of non-clinical waste



Signed the NHS **Plastic Pledge**



Won **2 NHS Sustainability Awards**



5% reduction in direct carbon emissions



600 followers on Twitter @SustainableNUTH



Over **300 Green Champions**



1st Trust to adopt Ecosia as our default search engine



60% of staff use active and sustainable modes of transport as their main mode of transport to work



Banned diesel for fleet and lease vehicles

3. Overall Performance Update

This section covers our three areas of overall performance: our carbon footprint, Sustainable Development Assessment Tool score and our staff survey results. Further detail can be found in each of the key action areas.

This is the last year we will report from a 2013-14 baseline as we have come to the end of our current strategy. We plan to reframe from baseline 2019-20 (the year we declared a Climate Emergency) towards net-zero.



3.1 Carbon Footprint

- There has been a 5% reduction in direct carbon emissions in comparison to 2018-19
- Direct carbon emissions include those over which we have direct control, i.e. building energy use, owned fleet vehicles and anaesthetic gases
- Up until 2017-18 only volatile anaesthetic gases have been included in this data. From 2018-19 onwards the anaesthetic gas data also includes Entonox and nitrous oxide
- Activities which have taken place to achieve this reduction are explored in more detail in the sections that follow

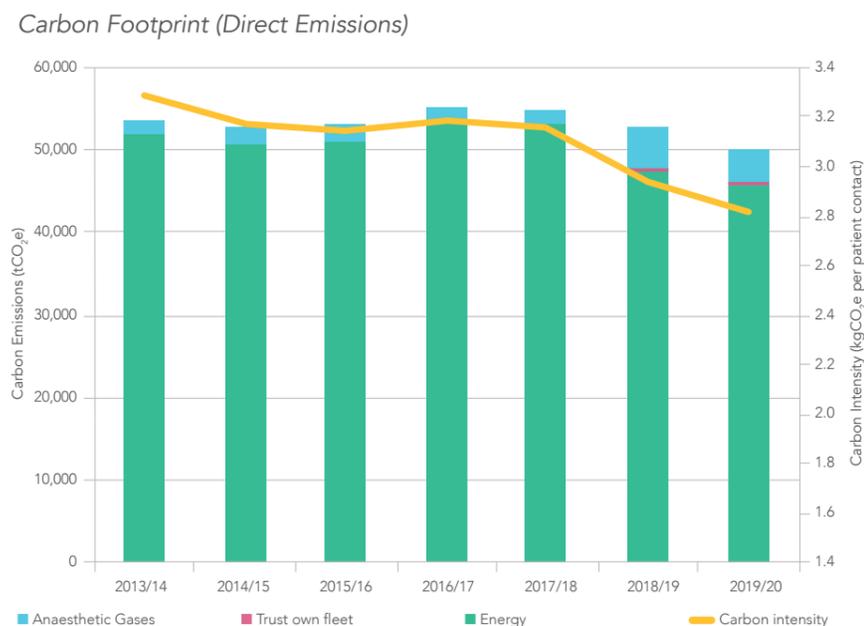


Figure 1: Carbon emissions since 2013-14, including relative carbon intensity based on the number of patient contacts

- When considering both the direct and indirect carbon emissions together, there has been a 9% increase in the Trust's total carbon footprint in comparison to 2018-19
- The largest proportion of our carbon footprint is related to the products and services we procure
 - Directly associated with an increase in spending, there has been an increase in our procurement carbon footprint of 16%
 - This has greatly impacted on our overall carbon footprint
- Calculating indirect healthcare supply chain emissions is difficult and therefore confidence in this data is low. Improving confidence in our supply chain carbon data is going to be a major theme of work over the next 2-5 years
 - This will allow us to both report accurately and also to effectively target our interventions
- Building energy use and travel are the largest sources of carbon emissions after procurement
- Waste and water represents a negligible proportion of our carbon footprint, however activity is still needed within these areas as both present significant sustainability challenges
- Further detailed analysis of this data is provided in the relevant sections

Total Carbon Footprint (Direct and Indirect Emissions)

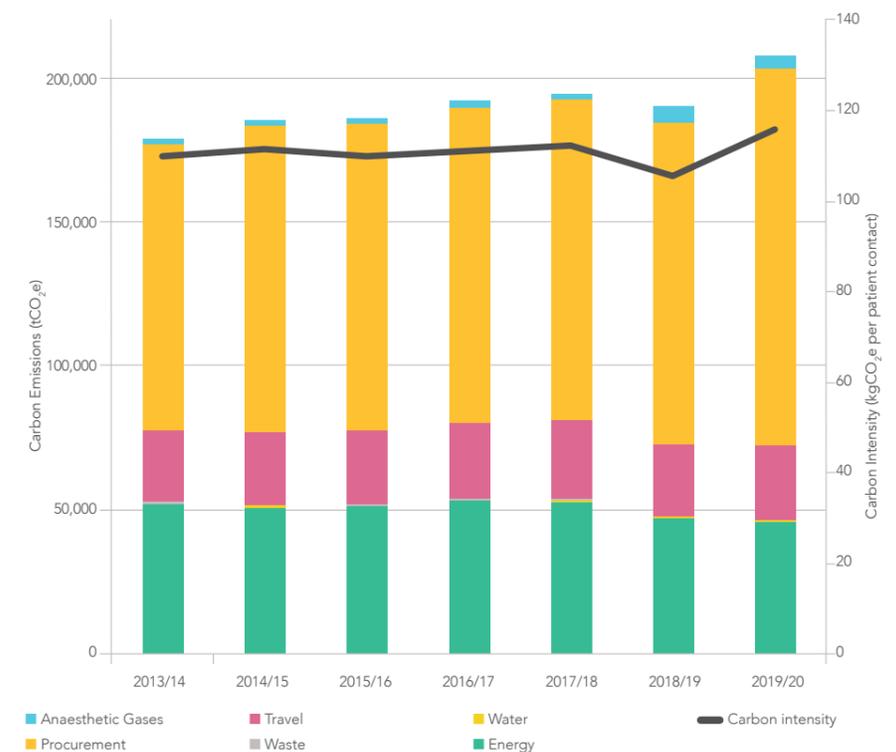


Figure 2: Carbon emissions since 2013-14 (direct and indirect emissions), including relative carbon intensity based on the number of patient contacts

The largest proportion of our carbon footprint is related to the products and services we procure. Directly associated with an increase in spending, there has been an increase in our procurement carbon footprint of 16%. This has greatly impacted on our overall carbon footprint

3.2 Sustainable Development Assessment Tool (SDAT)

The Sustainable Development Assessment Tool (SDAT), developed by the Sustainable Development Unit (SDU), helps healthcare organisations understand and measure their sustainable development progress and plan for the future. We first completed the SDAT in 2017-18, having previously completed the SDAT's predecessor 'Good Corporate Citizenship' since 2013, and can now show where we are making progress, and which areas require us to focus more effort.

Area of Focus	2017/18 Score	2018/19 Score	2019/20 Score	% Change this year compared to 2018/19*
Corporate Approach	48%	57%	67%	+9
Asset Management & Utilities	26%	32%	46%	+15
Travel & Logistics	46%	64%	71%	+7
Adaptation	42%	45%	59%	+14
Capital Projects	38%	24%	45%	+21
Green Space & Biodiversity	23%	19%	25%	+6
Sustainable Care Models	15%	24%	29%	+5
Our People	66%	78%	82%	+3
Sustainable Use of Resources	31%	40%	42%	+1
Carbon / Greenhouse Gases	50%	43%	57%	+14
Total	41%	46%	55%	+9%

*Note: Scores rounded to nearest % which accounts for the discrepancy between % changes

Table 1: Sustainable Development Assessment Tool scores 2017-18 – 2019-20

KEY CHANGES

Capital Projects: This score has increased significantly primarily due to the introduction of a new Capital Manual which incorporates sustainability, and a commitment to Passivhaus standard and BREEAM outstanding in our new builds and major refurbishments.

Asset Management & Utilities: This score has increased as we have improved our utilities monitoring, accessed new areas of funding and absolute carbon emissions from building energy use and water have reduced for the last two years.

SUSTAINABLE DEVELOPMENT GOALS

The SDAT tool also shows how the Trust is supporting progress against the UN Sustainable Development Goals (SDGs) – 17 sustainable development goals which aim to end poverty, protect the planet, and bring prosperity to all by 2030. Contributing to the SDGs requires strong collaboration between partners, which is something we have invested time into in 2019/20.

Based on this year's SDAT submission, the Trust is contributing to these SDGs at a local level:



And the Trust is starting to contribute to these SDGs at a local level:



3.3 Staff Sustainability Survey

Each year we conduct a survey to gain insight into staff opinion and understanding of sustainability at Newcastle Hospitals. This year we also asked staff what they believed our priorities should be from 2020, reflecting our Climate Emergency commitments and the areas of focus detailed in the NHS Long Term Plan.

Are you aware of the sustainability work of the Trust?

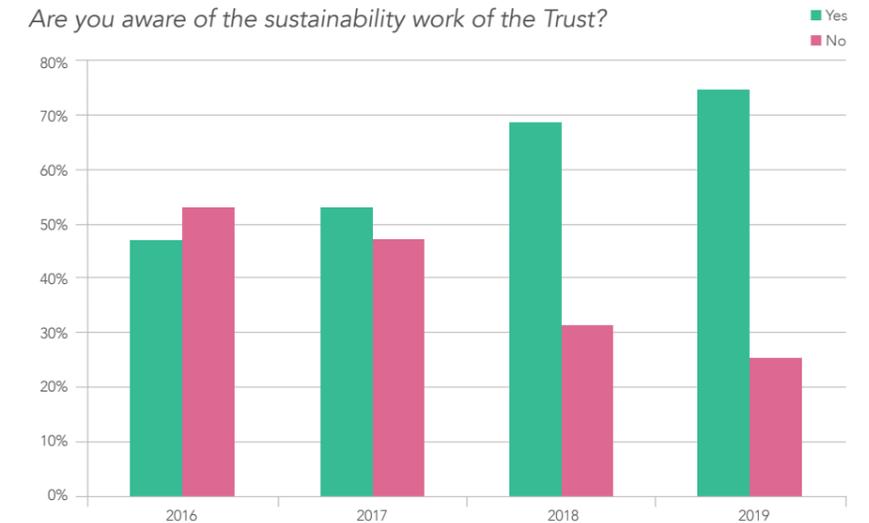
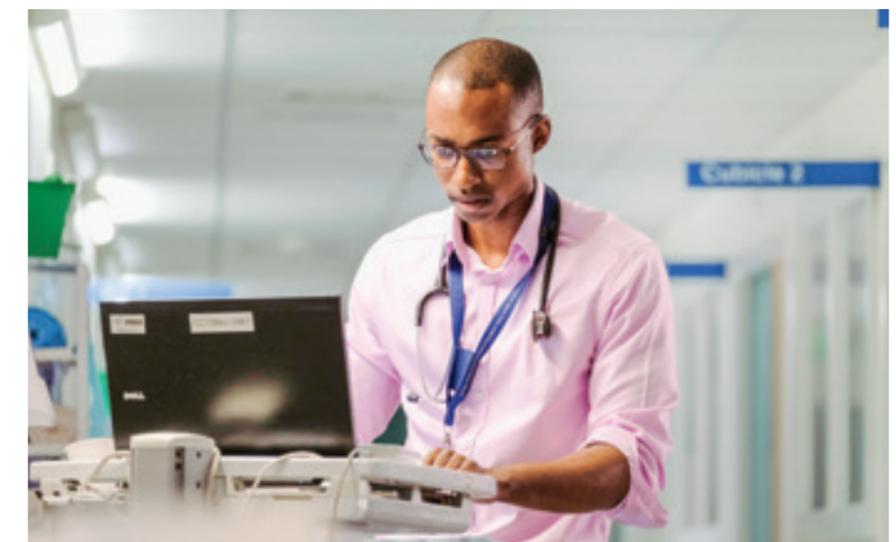


Figure 3: Staff survey results for the question 'Are you aware of the sustainability work of the Trust?' 2016-2019

- 74.4% of staff who responded to the survey this year are aware of the sustainability work of the Trust
- There has been an increase in awareness each year the survey has been completed
- The number of people aware of the sustainability work of the Trust has increased from 47% in 2016
- Our aim is for nearly all staff to be aware of the sustainability work of the Trust

Our aim is for nearly all staff to be aware of the sustainability work of the Trust



- 'Single use plastics' was selected most often as the top priority (33%)
- 'Journeys (including air quality and travel)' was selected by the fewest people as the top priority (8%)
- Overall 'waste and recycling' was the top priority, followed closely by 'single use plastics'
- Overall 'models of care (including inhalers and anaesthetic gases)' was the lowest priority of those who answered the survey
- These staff priorities will be used to help inform our new Climate Emergency Strategy

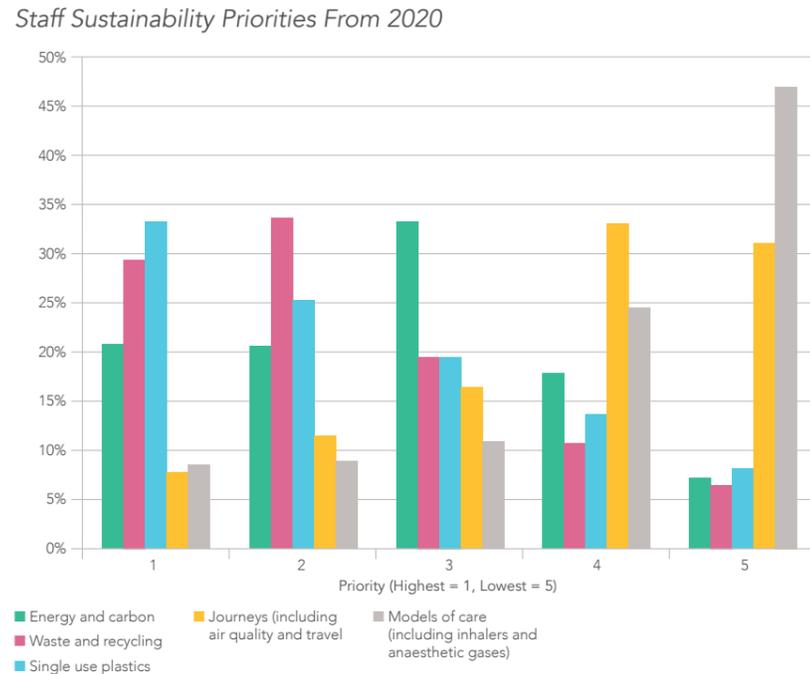
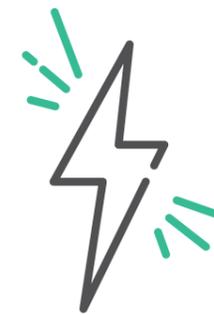


Figure 4: Staff opinion on the areas the Trust should prioritise for sustainability for 2020 and beyond, from the staff survey

'Single use plastics' was selected most often as the top priority (33%) for staff who answered our sustainability survey



4. Key Action Areas



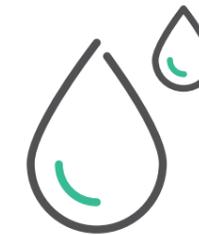
Energy

Using energy more efficiently and transitioning to lower carbon energy sources



Waste

Moving up the waste hierarchy: dispose of less, reuse and recycle more



Water

Eliminating wasteful use of this precious resource



Buildings & Land

Providing healthy and biodiverse spaces for patient and staff wellbeing



Journeys

Encouraging active and sustainable travel for all



Purchasing

Working with our supply chain to deliver ethical and sustainable procurement



Care

Developing low carbon care pathways and adapting our services with climate change in mind



People

Inspiring, empowering and motivating our people to embrace sustainable healthcare



4.1 Energy

AIM

Reduce carbon emissions from building energy use by at least 28% by 2020/21 (compared to 2013/14).

PERFORMANCE

- Carbon emissions from building energy use have reduced for the third consecutive year, culminating in 2019/20 emissions being 12% lower than the baseline year 2013/14
- Improvements in heating efficiency has reduced year on year demand for heat since 2016/17, delivering savings of 1,526 tCO₂e (25% of the overall reduction)
- Projects to reduce electricity demand and lower carbon intensity of electricity generation (from the national grid and new combined heat and power engines onsite) have delivered a saving of 4,554 tCO₂e (75% of the overall reduction)

Carbon Footprint from Building Energy Use



Figure 5: Carbon emissions from building energy use 2013-14 – 2019-20

ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- Improved automatic metering, to enable analysis of energy consumption by half-hourly periods
- Maintenance improvements have delivered a 16% reduction in heat demand at the Freeman Hospital and a 4% reduction at the RVI
- The Sustainability Team has led Net Zero engagement workshops with key teams in the Estates directorate, and ongoing working groups have been set up to identify and implement energy saving projects
- Freeman Hospital was selected as one of the sites of the government's Modern Energy Partner's programme, receiving external funding for sub-metering and automatic data collection
- Ongoing purchase of 100% renewable electricity from the national grid (continuing this commitment since 2016)
- The new Trust Strategy (2019-2024) commits to being energy efficient in all that we do and to achieve our target of being carbon neutral by 2040
- Strengthened our links with our city partners to model carbon emission pathways, share best practice and work together on a joint funding bid to accelerate carbon reduction efforts across Newcastle



PLANS FOR THE NEXT YEAR

- Develop a roadmap to set out how the Trust can get to Net Zero Carbon by 2040, establishing carbon budgets for emissions from building energy use
- Deliver data management improvements to increase the amount of automatic data collection and analysis, to help identify opportunities to optimise energy use and improve energy and carbon performance reporting
- Building on the Net Zero Carbon workshops, continue to engage with colleagues across Estates (and beyond) to identify and deliver energy efficiency opportunities
- Seek additional funding for carbon reduction programmes, working in collaboration with city partners

CASE STUDY: Air Handling Unit Time Clock Review

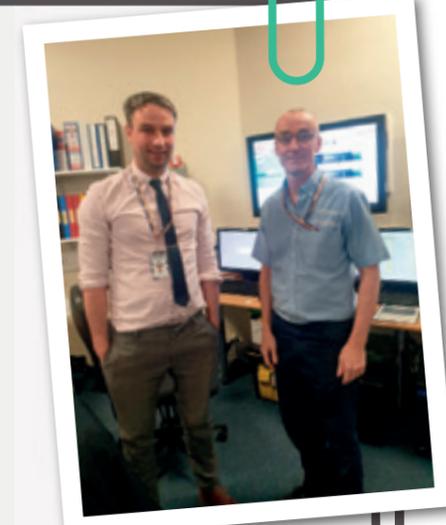
The RVI has 106 air handling units (AHUs) which consume large quantities of energy. AHUs are used to regulate and circulate air as part of the heating, ventilation and air conditioning system.

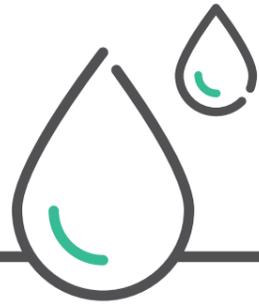
Following some net-zero workshops for Estates Engineering Officers, Neil Stenhouse, a Specialist Engineering Supervisor within Estates, came forward with an idea to save energy. His idea was that a significant number of AHUs could safely have their running times adjusted, especially as there was an imminent bank holiday during which large parts of the hospital site would be empty of staff.

Working together, Energy Support Officer Tom Wright and Neil identified the non-critical AHUs which could have their start and finish times reviewed and adjusted (29 out of the 106) and the total potential cost and carbon emissions were calculated.

The project will result in a saving of 379 tonnes of CO₂ and £32,551 per year. This is 0.8% of the total carbon footprint related to building energy consumption, from just one project with no upfront costs or resources needed. It is also interesting to note that 379 tonnes CO₂ is more than the annual carbon footprint related to our waste disposal, or business travel by air and rail.

The next steps will be to follow up all of the identified time clock adjustments and ensure they are all made to maximise the potential carbon and cost saving. There is also the potential to replicate the methodology on other equipment that is linked to the Building Management System (BMS).





4.2 Water

AIM

To reduce water use per m² of occupied floor area (compared to 2013/14).

PERFORMANCE

- Carbon Emissions from Trust water use and associated sewerage treatment have reduced by 3% since the baseline year 2013/14
- The increasing water use in earlier trend to 2017/18 has changed course, achieving reductions in the last two consecutive years
- Reducing water use by occupied floor area has not yet been achieved compared to the baseline year 2013/14, with 2019/20 intensity almost the same as the previous year

Water Use: Carbon Emissions and Intensity

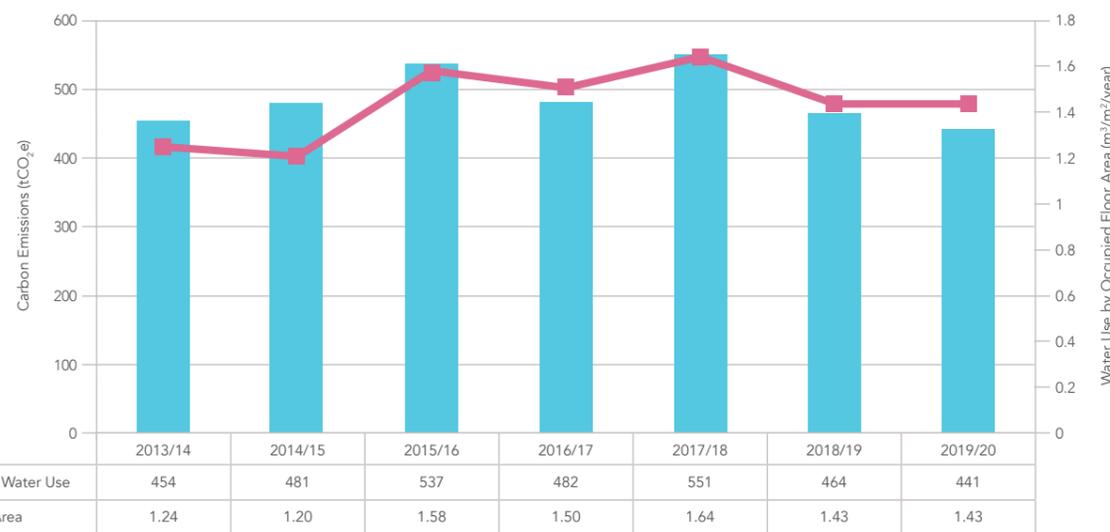


Figure 6: Carbon emissions and intensity from water use 2013-14 – 2019-20

ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- Significant progress on collecting half-hourly data for our water supplies with automatic data feeds into our utilities monitoring and targeting system
- Sub-meter locations identified to deliver building level sub-metering in 2020/21

PLANS FOR THE NEXT YEAR

- Further develop automatic monitoring of water use, helping to identify leaks and track impact of any water interventions
- Embed water efficiency best practice in capital projects, starting with new buildings at design stage



4.3 Waste

AIM

Achieve the NUTH 2020 Vision for Waste (35% Reused/Recycled, 45% Energy Recovery, 20% Hazardous).

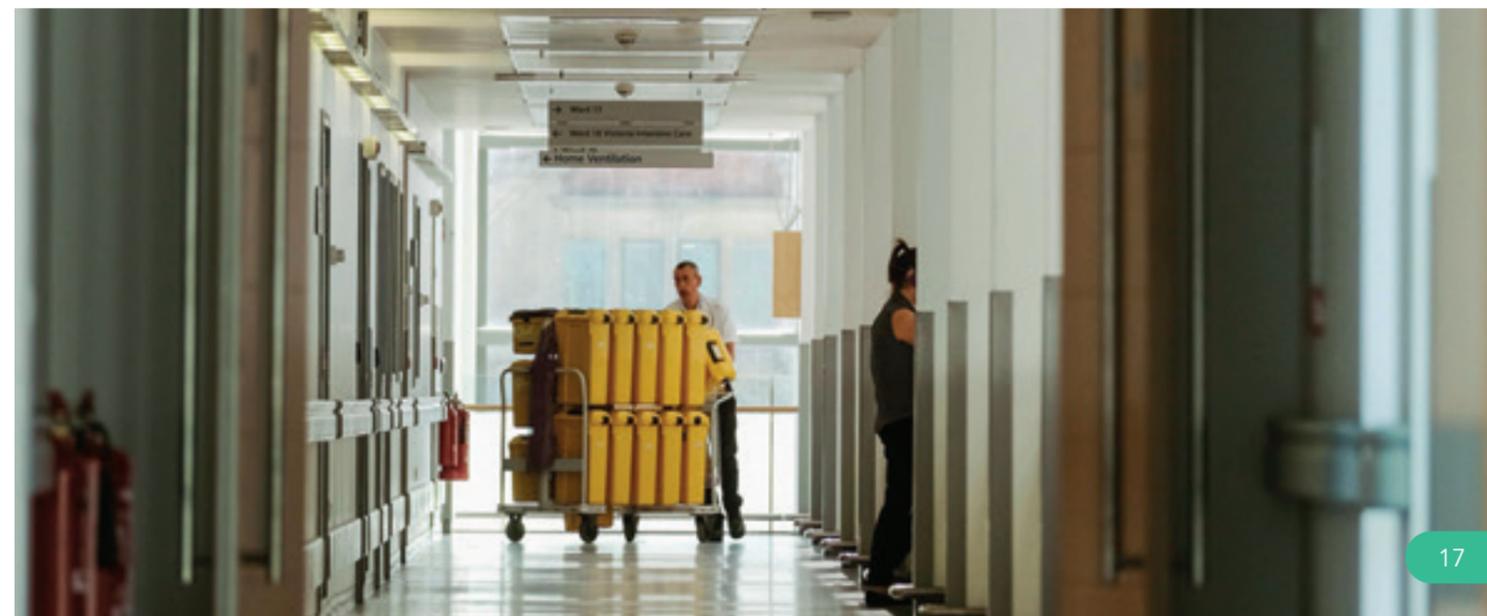
PERFORMANCE

- We have successfully decreased the volume consigned as hazardous clinical waste in the last year to below the target, achieving 15%
 - This has been the first full year after implementing the tiger-bag initiative for non-infectious healthcare waste
 - An alternative outlet for non-hazardous medicinal waste was used in the last 12 months
- Recycling increases continue (now 27% of all waste) although not in line with the target
 - The current state of the international market for recyclable materials and changes to waste processing in the UK resulting from that largely account for this

Waste Disposal Outcomes



Figure 7: Segregation of clinical and nonclinical waste since 2013-14, with the 2020 target

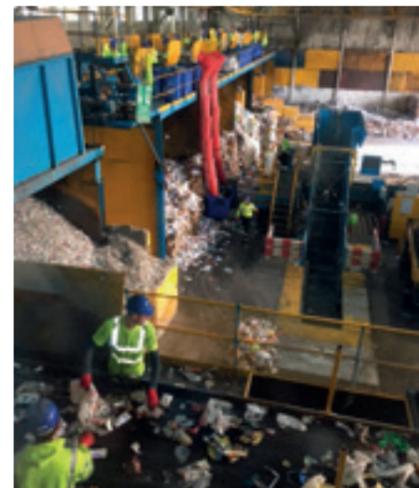




ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- Identified an opportunity to consign non-hazardous medicinal waste to a municipal Energy from Waste (EfW) facility creating electricity from waste
 - This diverted over 10% of healthcare waste from clinical waste incineration
- 43% of non-clinical waste is recycled
- Food waste recycling was introduced at the Freeman Hospital for food waste generated from inpatient wards
- The Waste Manager conducted a series of waste talks to over 200 members of staff for our Waste Awareness Week campaign in 2019 aimed at improving understanding of correct disposal routes, issues around compliance, cost savings and the overall sustainability of our waste disposal
- All wards received newly created waste induction packs; ensuring staff have a good introduction to waste segregation routines at the very beginning of their time with the trust

The Waste Manager conducted a series of waste talks to over 200 members of staff for our Waste Awareness Week campaign in 2019 aimed at improving understanding of correct disposal routes, issues around compliance, cost savings and the overall sustainability of our waste disposal



PLANS FOR THE NEXT YEAR

- Fully implement new auditing process aimed at ensuring we maintain strong waste segregation routines and waste hierarchy movement
- Procure a clinical waste contract that supports the trusts sustainability ambitions; notably less environmentally damaging treatment processes and carbon emissions associated with transport and treatment
- Explore opportunities for the segregation and recycling of metal instruments from theatres
- Introduce a series of waste training videos available for all staff



4.4 Buildings and Land

AIM

Exemplar sustainable healthcare building design and healthy, green, bio-diverse external spaces.

Our Green Spaces Working Group have developed a plan for an edible wellbeing garden at our Freeman Hospital

ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- Our new Board approved Estates Strategy commits us to aim for Passivhaus Standard and BREEAM Outstanding in all our new build projects
- There is active sustainability engagement with the Estates Capital Projects Department to try and ensure all new building and major refurbishment projects are net-zero carbon in operation
- Our capital manual was approved and is now in use, including an assessment of the energy / carbon performance of new buildings in-use to ensure the parameters set in the design process have been achieved
- Our Green Spaces Working Group have developed a plan for an edible wellbeing garden at our Freeman Hospital, open to patients and staff, bringing together input from a number of directorates and patient representatives

PLANS FOR THE NEXT YEAR

- Decentralise heating systems and hand over further buildings and sections of land from the sale of the Campus for Ageing and Vitality to Newcastle University
- Embed Net Zero Carbon ambitions in capital projects, starting with new buildings at design stage
- Map all current green spaces, and means of access, across all sites
- Produce a biodiversity action plan
- Plant more trees across the Trust estate





CASE STUDY: Net Zero Carbon Engagement in Estates

Reducing carbon emission from building energy use to net zero by 2040 is a key part of acting on our Climate Emergency declaration. They account for a quarter of the Trust's overall carbon footprint, and are the emissions that the Trust has the most direct management control over.

Colleagues across the Estates Directorate play a key role in determining how we use energy in our buildings: from strategic decisions about what is built and refurbished, to how the buildings are operated and maintained; from purchasing decisions of medical devices and maintaining effective collaboration with our Private Finance Initiative (PFI) delivery partners, to running responsive support services like our help desk. This makes it especially important that these staff know why the Trust has made a Climate Emergency Declaration and recognise the impact that their decisions and actions have.

In recognition of this, the Sustainability Team ran a series of workshops with each team in the directorate. The sessions set out the climate science context and the link to public health, explaining what the Trust has committed to and how carbon emissions from energy use contribute to the overall carbon footprint.



Looking at Trust performance over the last five years, the scale of the challenge to reach net zero was clear to all. When asked "What could your role be?" "What do other people need to do?" "What is going to stop us?", and "What would help us?" all groups engaged actively, with enthusiasm and insightful discussions. There was general agreement about what would help and hinder success, providing clear areas for our future energy management and wider sustainability work to target.

Using their in-depth knowledge of our estate, colleagues identified immediate quick wins to reduce energy use (see the Air Handling Unit Time Clock Review case study on page 15) and bold ideas for future innovations. The overriding feeling from these sessions was the shared understanding that now is the time to act and acknowledgement that they could each play a positive part in making it happen.



4.5 Journeys

AIM

Lead on influencing a modal shift in travel and transport methods to more active and sustainable methods.

PERFORMANCE

- The largest proportion of the carbon footprint related to travel is related to patient and visitor travel (73%)
- This year the footprint related to business travel and fleet has increased significantly
 - This is because we have changed the way we allocate our carbon emissions
- 'Business Travel and Fleet' now includes taxi use, the staff hopper service, vehicle hire and private ambulance which was previously accounted for within purchasing
 - We now have better reporting from travel providers which will allow us to create a more accurate carbon footprint going forward

60% of respondents were using active and sustainable modes of transport as their main mode of transport to work

Carbon Emissions by Journey Type

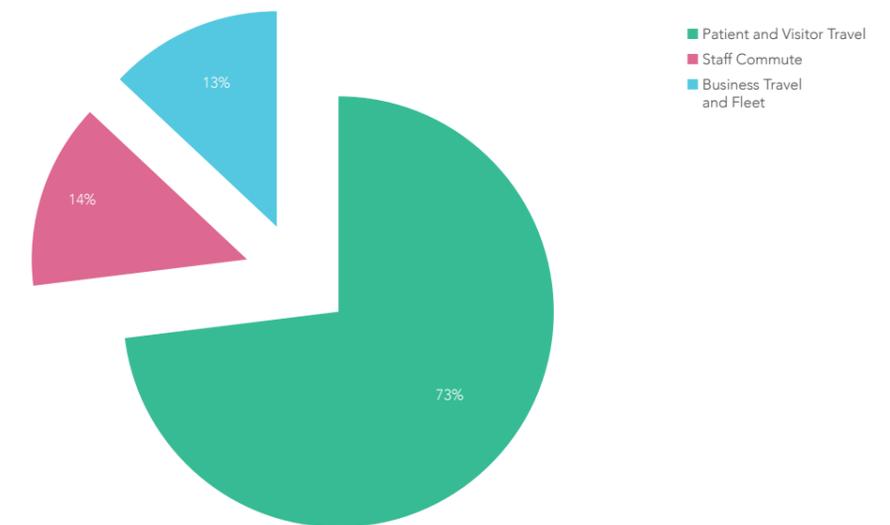


Figure 8: Proportions of carbon emissions by journey type for 2019-20

Main Modes of Travel to Work by Staff

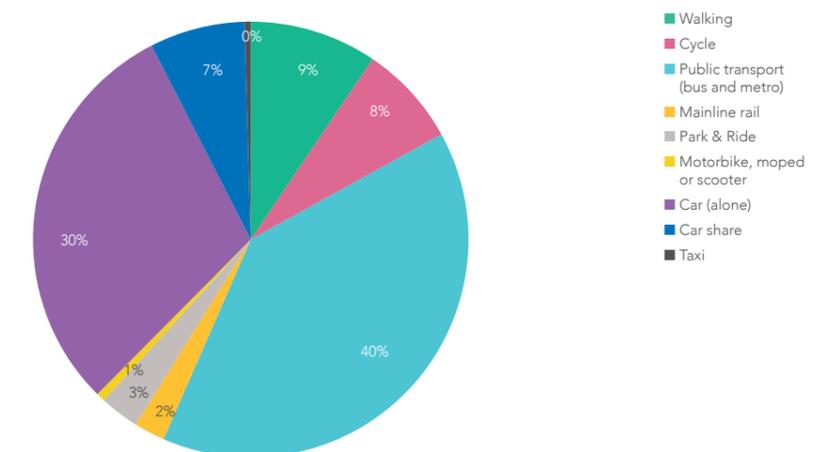


Figure 9: The main way staff travel to work, from 2019 travel survey

- Over 1000 staff responded to a travel survey that was carried out this year
- 60% of respondents were using active and sustainable modes of transport as their main mode of transport to work
- The most common method of traveling to work is by public transport (bus or metro)
- From the survey, approximately 3% of the cars used to travel to work are hybrid or full electric vehicles (EVs)



ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- A number of electric cars were made available to staff through the salary sacrifice scheme
 - 57 members of staff members have an EV on order (70% of cars currently on order)
- Electric vehicle charging points are included in car parking infrastructure developments
- Successful trial with a bicycle courier service (see ZMOVE case study below)
- The Trust has banned diesel engines in all newly procured fleet vehicles, contracted business lease cars, newly contracted personal salary sacrifice cars and hire car rentals
- Installed six additional EV charging points

PLANS FOR THE NEXT YEAR

- Provide consistent information to patients about travelling to hospital. This will need to take in to account government guidance on use of public transport during the Covid-19 pandemic
- Carry out an audit of cycle lockers and make unused lockers available to staff
- Encourage the continued use of videoconferencing and teleconferencing for cross site meetings
- Work with the Clean Air Hospital Framework to improve local air quality at our hospital sites

CASE STUDY: ZMOVE

With the impending creation of a Clean Air Zone across Newcastle city centre, the trust trialled an electric cargo bike courier delivery scheme, to temporarily replace an existing diesel van courier service between two city centre hospital sites. An electric cargo bike service replaced nearly 500 miles of carbon-based transport, for a three month trial period from October to December 2019.

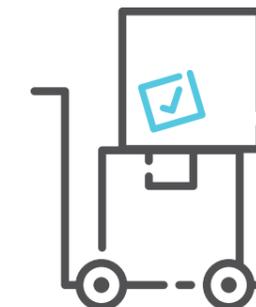
The trial service, operated by Newcastle-based ZMOVE, ran for 20 hours a week, transporting medical specimens (in compliant packaging), laundry and other sundries between NHS services across Newcastle city centre.

Even in the short trial period, the impact of using alternative courier methods generated meaningful impact at multiple levels:

- Environmental: carbon savings over the three month period were estimated at 212kg (a saving of nearly 848kg CO₂e per annum). It is estimated the trial helped combat air pollution by reducing nitrogen oxide emissions by 463g (which would translate to 1.85kg per annum), contributing to the health of the residents of Newcastle.
- Financial: The trial also helped save £6,250 over the three month period (a potential saving of £25K per annum).
- Patient and staff experience: Beyond serving as a visible and tangible 'climate emergency action' service adoption, the bike had the added benefit of occupying little parking space in delivery bays – freeing up space for NHS staff and patients.

Following the trial the scheme has continued, and opportunities to utilise the service for more journeys currently completed by diesel vehicles are being investigated.





4.6 Purchasing

AIM

Fully integrate sustainable and ethical procurement practices into our procurement policy and procedures for goods and services.

PERFORMANCE

- The largest proportion of our carbon footprint from purchasing is Pharmaceuticals, Blood Products & Medical Gases (42%)
- Areas of spend such as 'patients clothing and footwear', and 'gardening and farming' are not displayed on the graph as they represent less than 0.5% of the carbon footprint (i.e. 0% when rounded)
- The carbon footprint is calculated using the carbon conversion averages based on spend categories, and not on the carbon footprint of each item as this data is not available
- The carbon from purchasing represents the largest section of our carbon footprint; combined with the low-confidence data purchasing represents the biggest challenge to our net-zero carbon ambitions

The Trust is one of eight partners in a European project "towards plastic-free healthcare in Europe"

Carbon Emissions from Purchasing by Category of Spend

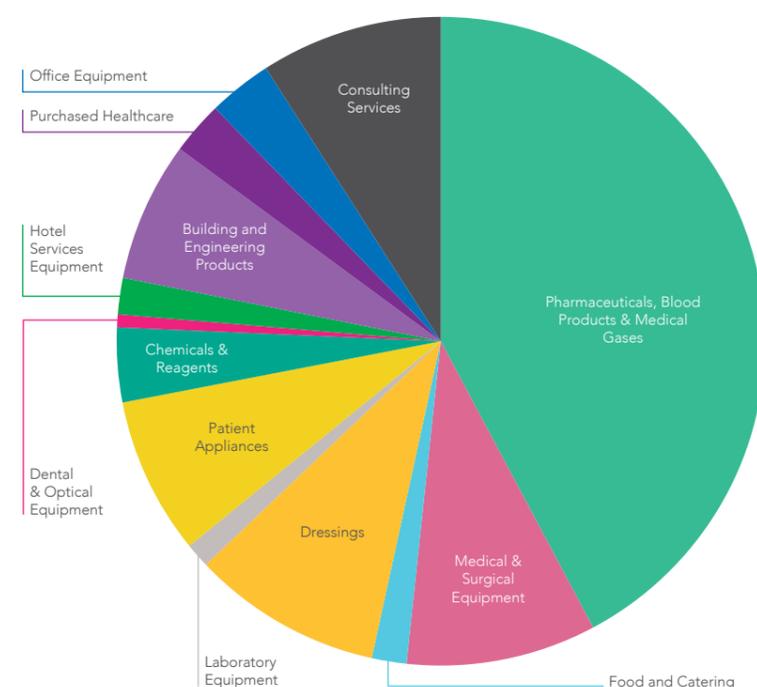


Figure 10: The proportional carbon emissions from purchasing by category of spend

ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- Sustainability has become an identified item for the agenda at our Clinical Procurement Evaluation Group (CPEG), and is more regularly considered in assessment criteria
- Sustainability leads for NHS Supply chain and Royal College of Nursing attended one of our CPEG meetings to improve overall understanding of best practice sustainable procurement in clinical settings
- Signed the NHS plastic pledge
- The Trust is one of eight partners in a European project "towards plastic-free healthcare in Europe"
- Local greengrocers Passion 4 Fruits have set up a stall at the RVI. Having the stall directly outside makes it easier for people with busy schedules to pick up fresh, healthy food on the way to or from the hospital, making healthy eating much easier
- Introduced Meat Free Mondays at the Trust for hot food served in the restaurants

PLANS FOR THE NEXT YEAR

- Continue working with project partners "towards plastic-free healthcare in Europe"
- Remove plastic straws and stirrers from ward order lists (except where there is an identified patient need)
- Adapt our Warp It furniture re-use scheme to fit with changes to our estate
- Develop standard sustainability criteria for NUTH purchased goods and services
- Contact all of our suppliers to explain our climate emergency commitments and invite them on the journey with us
- Commission external expertise to get better measurements for our scope 3 emissions

Sustainability has become an identified item for the agenda at our Clinical Procurement Evaluation Group (CPEG), and is more regularly considered in assessment criteria

CASE STUDY: Meat Free Mondays

Meat Free Monday is all about reducing the amount of meat we consume because of its health and environmental benefits. An easy way to start is to cut meat from meals one day a week.

There are many benefits to eating meat free just one day a week, including:

- Reduced risk of heart failure, heart disease and stroke
- Reduced risk of cancer
- Reduced levels of cholesterol
- Reduced environmental damage
- Reduced risk of obesity

From Monday 1st April 2019 we changed the hot meal provision at the RVI Bistro and Freeman Restaurant during lunchtime to a mix of vegetarian and vegan meals. Patient meals remained the same.

Originally starting as a 3 month trial we have continued to have meat free meals each Monday lunchtime for all of 2019-20. The menu has adapted and changed based on customer feedback in this time to incorporate meals that appeal to meat eaters and vegans alike. Though the introduction of Meat Free Mondays was a challenge to some staff, the income from meals has been unaffected by the menu change and thousands of veggie meals have been served.





4.7 Adaptation

AIM

Ensure sustainability is embedded into Trust business strategies, policy development and investment/business case proposals.

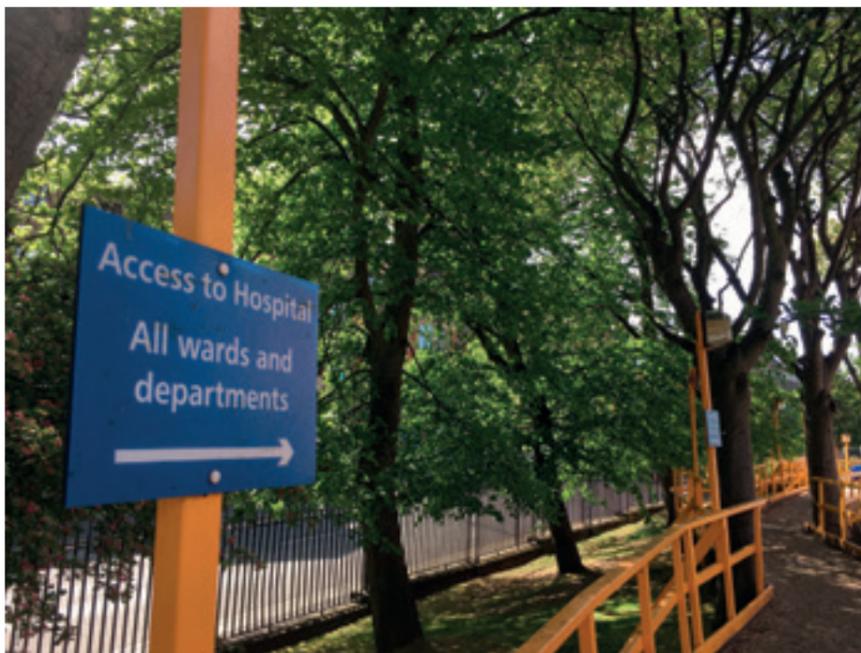
ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- A Sustainability Impact Assessment (SIA) is now included as part of our Business Development Investment approval procedure
- We have developed a Climate Change Risk Assessment (CCRA) to highlight risks to clinical service continuity and resilience of supply, which is reviewed by the Continuity Group
- We work with local stakeholders (including Local Resilience Forum, NHSE and Public Health England North East) to identify and assess specific climate change events, to ensure our adaptation and contingency strategies work together
- Covid-19 has tested the resilience of our supply chains and we have worked to ensure key resources are available for our services to function well, including strengthening links to some of our local suppliers, e.g. Barbour

PLANS FOR THE NEXT YEAR

- Integrate overheating considerations linked to climate change into building design in line with BREEAM commitments (see Buildings and Land section)
- Continue to monitor CCRA action plan
- Continue to raise awareness and understanding of the causes and impacts of climate change amongst staff

We work with local stakeholders (including Local Resilience Forum, NHSE and Public Health England North East) to identify and assess specific climate change events, to ensure our adaptation and contingency strategies work together





4.8 Models of Care

AIM

Develop low carbon care pathways for our patients; improving health outcomes whilst delivering social and environmental benefits.

PERFORMANCE

- The data shows a 21% reduction in the carbon footprint associated with anaesthetic gas use from 2018-19 to 2019-20
- Data on Entonox and nitrous oxide has only been included since 2018-19, and is a significant portion of this part of our carbon footprint

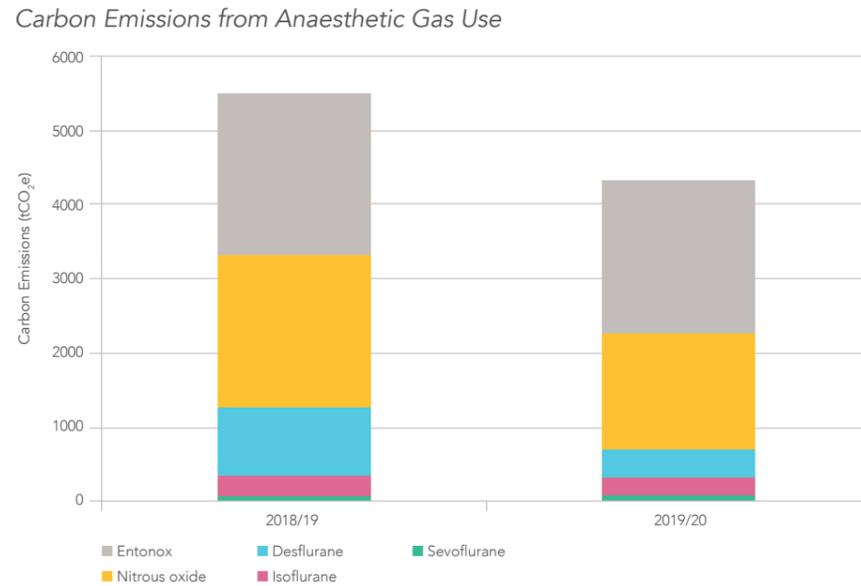


Figure 11: Carbon emissions from anaesthetic gas use for 2018-19 and 2019-20

- When looking at the volatile gases alone, we have achieved a 45% reduction in the carbon footprint from anaesthesia since 2018-19
- We have achieved a 57% reduction in carbon emissions from volatile gases since our baseline year of 2013-14
- This reduction is attributed to:
 - a significant decrease in the use of Desflurane
 - a drive to reduce the flow of anaesthetic agents in general
- Desflurane has the highest carbon intensity of the volatile gases used in anaesthetics; focusing on reducing use of this gas in particular has the largest impact

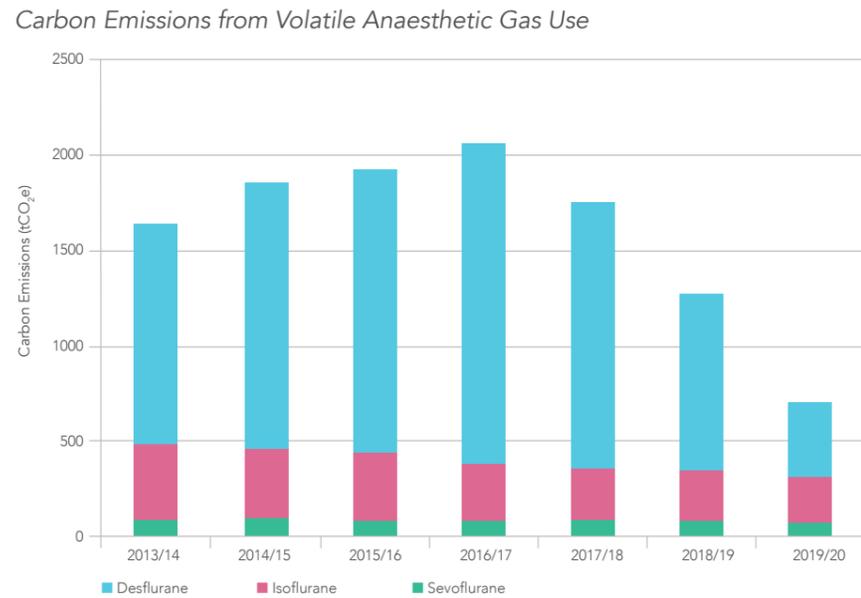


Figure 12: Carbon emissions from volatile anaesthetic gas use since 2013-14

ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- An overall reduction in tonnes of CO₂e associated with anaesthetic gases of 21%
- A 45% reduction in tonnes of CO₂e associated with volatile anaesthetic gases – Sevoflurane, Isoflurane and Desflurane
- Winners in the Clinical category of the NHS Sustainability Day Awards for the KidzMed project (case study on page 31)
- Formation of a group of junior doctors, pharmacists and consultants to address the impact of inhalers on our carbon footprint



One of our plans for next year is to develop a toolkit for clinicians to enable them to deliver more sustainable models of care within their specialism. This will include ways to assess the environmental impact of the specialism and tools to address the most serious aspects identified

PLANS FOR THE NEXT YEAR

- Develop a toolkit for clinicians to enable them to deliver more sustainable models of care within their specialism. This will include ways to assess the environmental impact of the specialism and tools to address the most serious aspects identified
- Accurately measure the impact of inhalers on the carbon footprint of Newcastle Hospitals
- Implement a project to reduce that impact, through increased awareness amongst prescribers and patients



CASE STUDY: Fetal Telemedicine

An example of the alignment between technology and sustainable models of care was shown by a partnership between Newcastle Hospitals and West Cumberland Infirmary (WCH) in Whitehaven. Following the retirement of an Obstetric Consultant, and subsequent difficulty filling the role, expectant mothers were faced with an average 242 minute round trip to the RVI for their appointments with the specialist.

The return journey from Whitehaven to Newcastle is 194 miles and approximately 55kg CO₂e.

In order to resolve this, three sonographers were upskilled in their training at WCH and by utilising StarLeaf are able to hold a virtual consultation live with the specialists at the RVI.

Patients were invited to their appointment at WCH where they were scanned by one of the Sonographers. The image was transmitted to the Consultant working in Newcastle where they were able to make their assessment and provide advice and guidance to the patient via video conference link.

This reduced the average travel time to 29 minutes per patient and both patients and clinicians rated the technology and care provided highly.

"This is a wonderful service. Not only saves time & resources for the patient but makes you feel more comfortable & confident in your care."



CASE STUDY: KidzMed

Yincent Tse, Consultant Paediatric Nephrologist, led a quality improvement project to teach children and young people on long term medication how to take their medicine in a tablet rather than a liquid form.

There were a number of reasons behind this project; tablets are safer, more convenient and considerably cheaper than liquid. Families had frustrations with the liquid medicines, they often have short expiry dates, need refrigeration and are difficult to obtain from local pharmacies, can cause dental decay and many are unpalatable. Liquid medications are difficult to dose and can vary in concentration, making dose errors common.

In addition to these, there are a number of sustainability benefits to a tablet rather than a liquid medication. Producing pharmaceuticals make up the greatest proportion of CO₂ emission in healthcare systems and liquid medicines add an extra layer of production emissions, the need to transport bottles of much heavier liquids, and have increased waste due to short expiry duration.

This project highlights the link between quality improvement and sustainability.





4.9 People

AIM

All staff, patients and the wider community are aware of our commitment to sustainability, the benefits of acting sustainably and the actions they can take to help support us in this goal.



Our annual staff sustainability survey showed a further increase in staff awareness of sustainability work in the Trust, and 89% said that it was “very important” that the Trust act sustainably

ACTIONS AND ACHIEVEMENTS FROM THIS YEAR

- We have explained our climate emergency declaration through a series of activities and events including public information points, public lectures, and an 11 minute teach-in to reflect the 11 years we have remaining to limit the worst effects of global heating on population health
- The Trust’s Flourish programme has had a very successful year with campaigns such as: Mindful May, Let’s Be Sustainable and Personal Health. Since its launch in 2018, #FlourishAtNewcastleHospitals has had a huge impact in supporting health and wellbeing, reward and recognition across the organisation
- We introduced a number of food donation points at our three largest sites to support the running of food banks to meet the needs of our local community
- Teams taking part in our Green Impact employee engagement programme logged 216 sustainable actions completed
- Gained 350 followers on our @SustainableNUTH Twitter account
- We now have over 300 members of staff signed up to our Green Champions network
- The NUTH Green Gym has continued to support a local conservation charity with garden restoration, tree planting and beach cleans
- Our annual staff sustainability survey showed a further increase in staff awareness of sustainability work in the Trust, and 89% said that it was “very important” that the Trust act sustainably
- Won an NHS Sustainability Day Award in the Public Engagement category for our Climate Emergency declaration
- Shortlisted finalist in the environmental category of the BMJ Awards

We plan to make progress on embedding sustainability into staff appraisals and personal leadership behaviours (PLBs)

PLANS FOR THE NEXT YEAR

- Launch a new staff benefits scheme, rewarding staff for completing sustainable actions
- Continue schedule of Green Champions meetings
- Produce training videos covering a variety of sustainability topics for staff
- Have a staff consultation and feedback session on our Climate Emergency strategy
- Introduce a sustainability fund to support staff projects that support the Trust’s sustainability goals
- Make progress on embedding sustainability into staff appraisals and personal leadership behaviours (PLBs)



5. Contact Details

This Annual Report has been produced by the Sustainability Team at Newcastle Hospitals but reflects work taking place across the Trust. All information contained within it is, to the best of our knowledge, accurate at the time of publishing.

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