NHS
Manchester University
NHS Foundation Trust

Annual Sustainability Report

2020-2021

Contents

Introduction

1.1. Sustainable Healthcare in 2020/21

The past year has been unlike any other. The continuing impacts and pressures of COVID-19 have remained, whilst major strides have been made nationally to develop the sustainability ambition for the NHS. As we've reconfigured healthcare services to meet the needs of Greater Manchester residents over the course of the pandemic, we've experienced both sustainability opportunities and challenges, some of which are reflected within this year's Annual Sustainability report.

The COVID-19 pandemic has exposed and exacerbated health inequalities, with disproportionate effects on disadvantaged communities. The effects of climate change will similarly affect and disrupt our communities, if action is not taken to reduce our carbon emissions and adapt to an already changing climate.

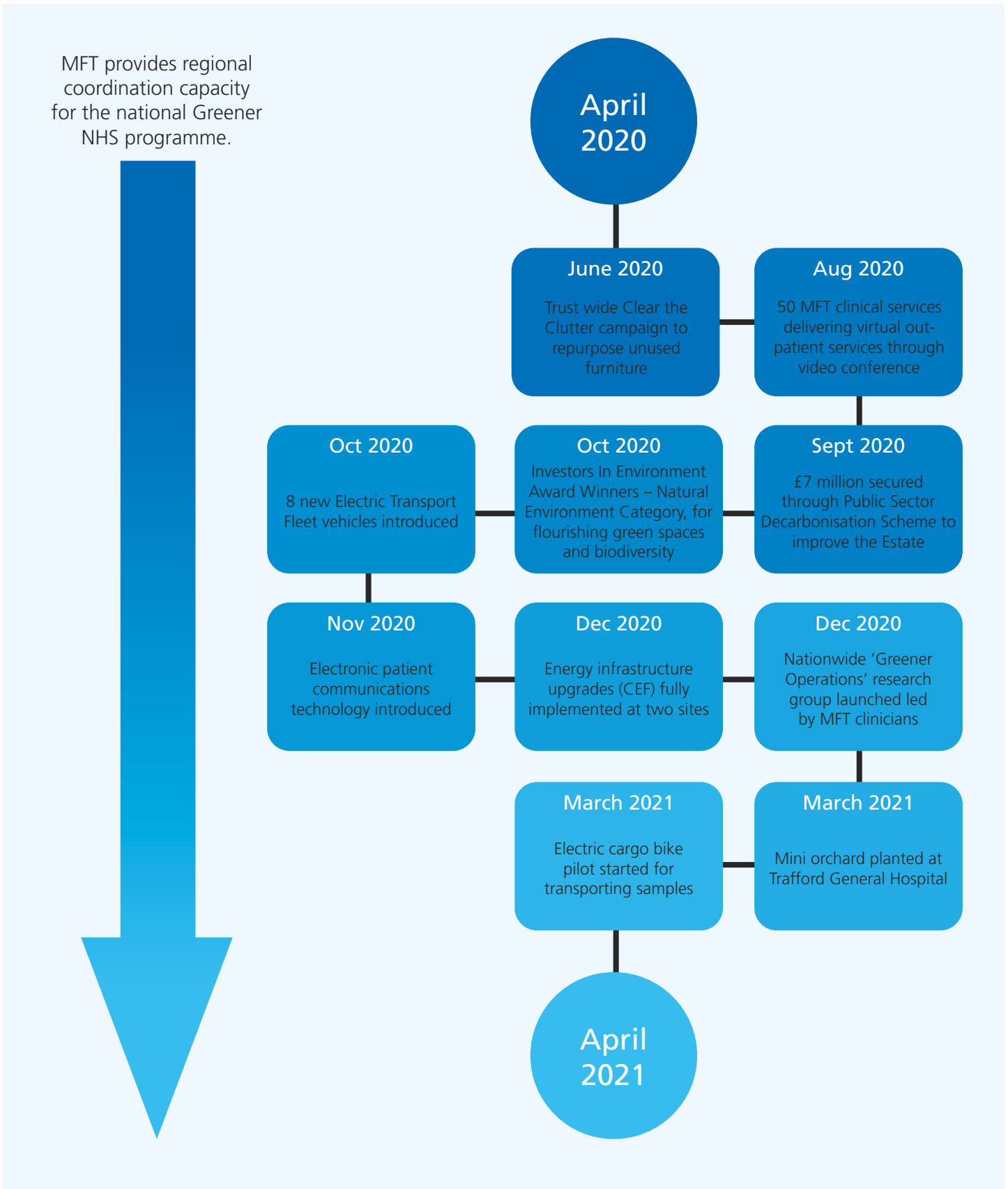
Demands on both frontline and support services staff have been extraordinary. We have worked flexibly, collaboratively and at pace, all of which will be needed for a modern, sustainable healthcare service; however, the ability of staff to consider and reduce the environmental impact of the services they deliver has been affected. Due to the ongoing pressures on staff, Employee Health and Wellbeing has been a major focus for the Trust and this has been reflected within our sustainability programme.

In October 2020 NHS England and NHS Improvement released the Delivering a 'Net Zero' National Health Service report outlining headline targets to reduce system wide carbon emissions within direct control (NHS Carbon Footprint) to net zero by 2040, and wider indirect carbon emissions including the supply chain (NHS Carbon Footprint Plus) by 2045, with interim 80% reduction targets by 2028-2032 and 2036-39 respectively. These are the most ambitious targets of any healthcare system in the world and we have a collective responsibility to address the impact of the sector, and address the climate and health emergency. The ambition set out in the report provides us with a stronger mandate to tackle this challenge head-on in the medium to long term and accelerate the required changes to Trust culture and infrastructure.

A regional Greener NHS programme has now been established, and we are encompassing the aims of this programme within our wider sustainability strategy.

The requirements for MFT will be developed further within a new 'Green Plan' for 2022-2025 which will supersede our existing Sustainable Development Management Plan (SDMP) early in 2022.

1.2 2020/21 Sustainability Highlights



2020/2021 Progress

2.1 Goal One – Carbon Targets

To reduce our carbon emissions by 33% by 2023/24 against the 2017/18 baseline, working within our carbon budget for the period of this plan, and influence reductions in carbon emissions from our supply chain and community.

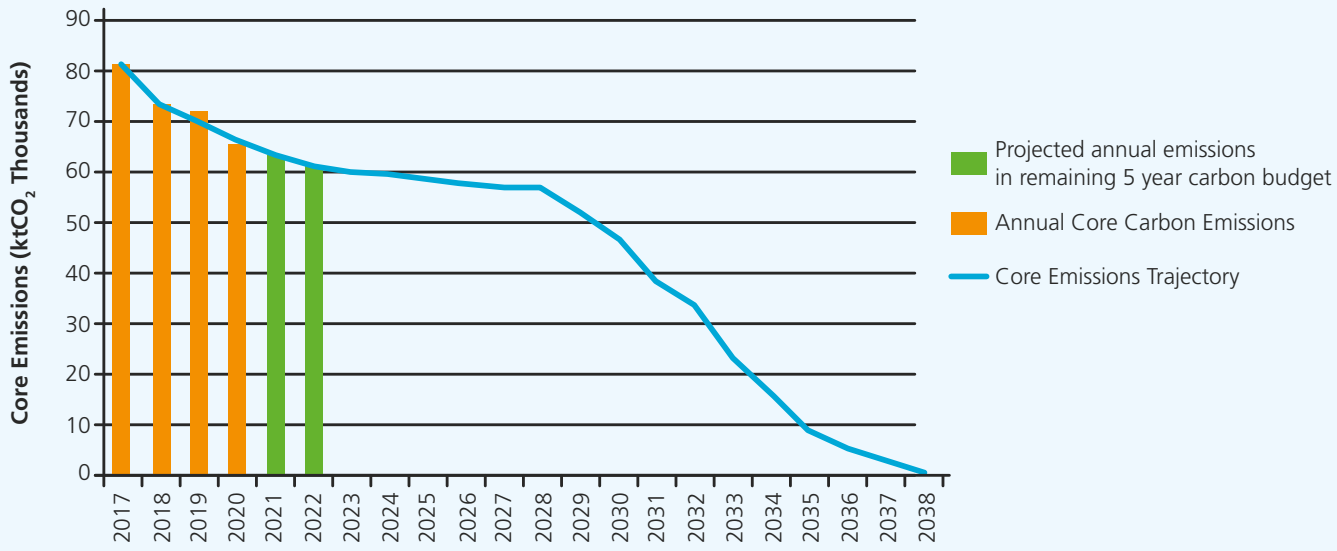
To meet our 2023/24 target, the annual carbon budget for 2020/21 was 67,066 tonnes CO_2e. Actual emissions for the year were 66,515 tonnes CO_2e, staying within budget by 551 tonnes CO_2e (0.8% ahead of our target). This focuses on our core emissions only (those we can directly control) and equates to an 8% carbon[1] reduction from our 2019/20 footprint, and an 18% reduction against the 17/18 baseline. This can be attributed to a combination of the completion of numerous on-site energy infrastructure upgrades, reduced and disrupted clinical activity due to the COVID-19 pandemic, as well as continuing decarbonisation of the grid.

The reduction in core carbon emissions in 2020/21 is the equivalent of 2,350 heart bypass operations or carbon emissions from 1,880 return flights from Manchester to Hong Kong.

The changes to ways of working and surgical activity can noticeably be seen through the reduced carbon from anaesthetic gas consumption and business travel, as elective surgeries were postponed, and much greater use was made of video conferencing for staff meetings and patient appointments. Energy consumption reduced slightly (by 1%), attributable to the changes in planned activities conducted over the year, with even greater energy carbon savings (8%) due to the national increase in renewable grid electricity generation.

The carbon emitted over the duration of our SDMP has been in line with projected reductions, however as we look to redevelop the new Green Plan covering 2022/23 – 2024/25 we will revisit the carbon emissions trajectory, and re-baseline to incorporate North Manchester General Hospital.

Core Carbon Emissions Trajectory

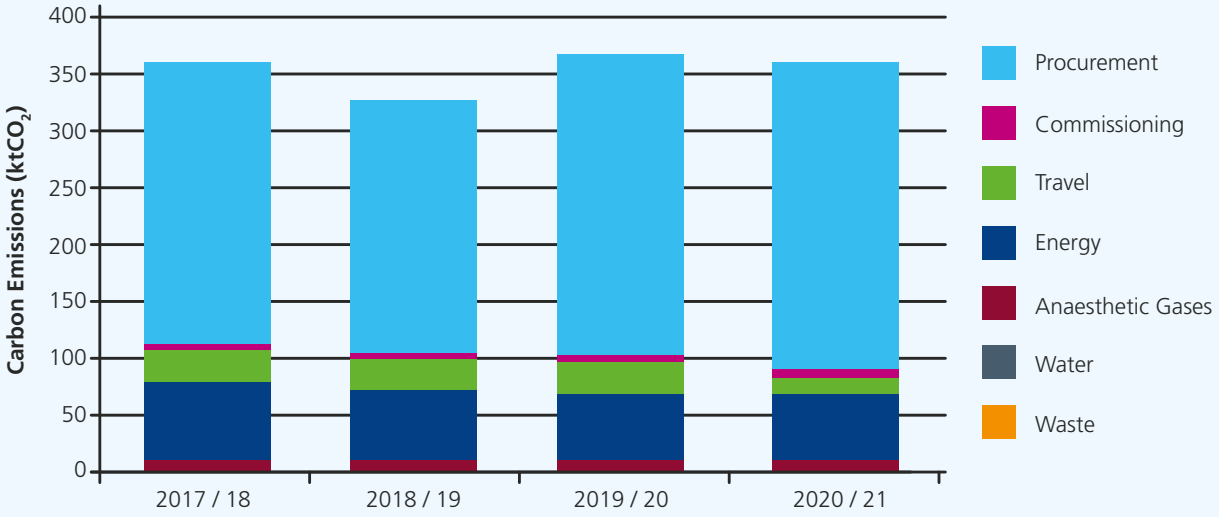


1. This is updated from the stated 67,185 TCO_2e and 7% within the Trust Annual Report to update estimated utility consumption at the time of reporting.

2.1 Goal One – Carbon Targets

Our total carbon footprint (Carbon Footprint Plus) encompasses emissions outside of our direct control such as staff commuting, patient and visitor travel and supply chain. Whilst the staff, patient and visitor travel components reduced (by 42%), indirect emissions have remained similar due to increased carbon intensity in the supply chain. Our supply chain continues to form the largest element of our overall carbon footprint, however we will actively seek opportunities to engage with key suppliers and work collaboratively across the sector to address this. Considering the 8% reduction in our core footprint and no overall change in the indirect carbon emissions, our total 'Carbon Footprint Plus' has reduced by 1.8% compared to 2019/20.

Our Carbon Footprint Journey



N.B. The carbon contribution from waste and water is less than 1% of the total footprint and as such is negligible on the graph above.

Core emissions: Those aspects of our carbon footprint over which we have direct control including greenhouse gases generated from energy consumption, waste, business travel and anaesthetic gases.

CO_2e: Carbon dioxide equivalent is used as the standard unit of measure and encompasses the global warming potential of all greenhouse gases emitted.

2.2 Goal Two – Qualitative Sustainability Performance & Goal Three – Embedding the UN Sustainable Development Goals

Our second and third SDMP headline goals relate to broader sustainability performance as calculated using the Sustainable Development Assessment Tool (SDAT), a central resource owned by NHS England and NHS Improvement. Whilst we remain focussed on the breadth of activities outlined in the tool, the new vision outlined in 'Delivering a Net Zero National Health Service,' is currently being integrated to a new resource due for launch in Autumn 2021. As the tool is currently unavailable and is undergoing revision, we are unable to report on our SDAT score this year.

As we continue to widen our approach to sustainability, our actions are contributing to the majority of the UN Sustainable Development Goals, influencing positive change not just in the environmental realm, but also benefitting wider society and the economy. The projects, policies and initiatives being implemented by departments across the Trust are supporting the targets of the following goals.

2020/21

Areas of Focus

3.1 Corporate Approach

Despite the significant challenges of 2020/21, the NHS became the first health system in the world to publicly declare its commitment to reach net zero and published the accompanying report in October 2020. This has helped to strengthen the leadership and mandate for the sectors response to the sustainability agenda, across the wider health and care system as well as at MFT.

Undoubtably, the year's operational pressures significantly impacted planned programmes of work, and focus had to shift to local projects rather than organisation-wide transformation. Additionally, preparation for the merger with North Manchester General Hospital in April 2021 was a major priority. Establishment of the planned MFT Climate Strategy Board was rolled over to 2021/22, however we have maintained our strong approach to strategic partnership working, sharing our expertise across the system, and facilitating learning from others.

Aim: To ensure that sustainability is embedded within organisational strategy and processes, and that we deliver, monitor, and report on progress supported by a nominated board-level sustainability lead.

What took place over the past 12 months:

- Continued to provide sustainability leadership capacity to the Greater Manchester Health and Social Care Partnership (GMHSCP), facilitating workstreams including Estates Decarbonisation, Travel and Transport and Greenspace.
- Leadership capacity was also provided to support the Northwest Greener NHS programme, developing networks and supporting sustainability colleagues across the region to implement the Greener NHS requirements.

What will we achieve in the next 12 months?

- Continue to collaborate across the healthcare system in Greater Manchester and the Northwest to support innovative new projects and approaches which are best led at system or regional level.
- Expand our sustainability programme to encompass North Manchester General Hospital, ensuring staff across the organisation have the same ability to contribute to the agenda.
- Finalise and launch a Sustainability Impact Assessment (SIA) for major business cases.

3.1 Corporate Approach

New for 2021/22:

- Establish the Climate Strategy Board to provide senior strategic oversight and governance in response to the NHS Net Zero report and Climate Emergency declaration.
- Significantly update and refresh the Trust's Green Plan to incorporate North Manchester General Hospital, and to reflect the new national Greener NHS strategy and other policy updates.
- Host an MFT Sustainable Healthcare conference, engaging senior staff and key partners to inform and inspire sustainability action to support our new Green Plan.

3.2 Our People

Social distancing requirements throughout the year have impacted the opportunities for sustainability staff engagement, however we have retained this as a core component of our programmes of work, adapting to online promotions and campaigns.

Following a pause to our planned projects in spring 2020 at the start of the pandemic, engagement resumed as we settled into the 'new normal', working closely with Employee Health and Wellbeing colleagues to cross promote key priorities to support staff wellbeing and morale. Our established sustainability recognition and reward programmes continue to be the cornerstone of our engagement work and we have explored new ways of delivery, facilitating staff led learning.

Aim: To support staff to integrate sustainability at work and home and empower them to make sustainable choices in their everyday lives.

What took place over the past 12 months:

- Celebrated the first full year of Green Rewards; our individual staff engagement programme. Over 1,300 staff are now signed up, completing over 42,000 actions throughout 20/21, and raising over £500 for MFT charities. Activities within the scheme were refreshed to support continued behaviour change as well as sign posting to wider health and wellbeing opportunities such as the promotion of the flu jab in winter 2020.
- Launched the 7th cycle of our team-based accreditation scheme Green Impact in September 2020; revamping the programme to align more closely to our net-zero carbon aims. This year focus has particularly been on developing peer-to-peer learning with online monthly Green Impact facilitated sessions, nurturing relationships across the MFT sustainability community.
- Continued our monthly staff sustainability newsletter with over 7,500 reads throughout the year, refining the content to highlight staff sustainability leaders, learning and development opportunities and sharing accessible updates on changing sustainability policy and processes.
- The Trust supported the health and wellbeing of staff by providing free weekly fruit boxes for teams across all our hospitals during the third wave of the pandemic, encouraging healthy eating habits.

What will we achieve in the next 12 months?

- Promote NHS wide sustainability activities in celebration of the 1st year of the Greener NHS programme, leading up to the COP 26 climate change conference in autumn 2021.
- Launch a tailored sustainable travel behaviour change campaign to engage staff groups with the least confidence in cycling and facilitating links with more experienced cyclists.
- Update our behaviour change approach to align with the new Green Plan, create a sustainability engagement strategy and action plan to develop our existing engagement channels including newsletter, social media, and campaigns to help achieve our net-zero carbon goals.

3.3 Capital Projects

The redevelopment of North Manchester General Hospital into a healthy living campus has taken shape over the past year with the approval of the strategic regeneration framework. Wythenshawe Hospital's plans to become a sustainable health village are also well underway. Both schemes have committed to net zero carbon and will deliver a wide range of other sustainability benefits both for the Trust and local community.

In parallel with these large-scale projects, other site redevelopment schemes and refurbishments are formally building sustainability considerations and principles into their design and delivery.

Aim: To reduce the environmental impact of building works during design, refurbishment, construction, operation, and decommissioning stages.

What took place over the past 12 months:

- Increased integration of sustainability considerations into development consultations.
- Initiated the development of a Sustainability Design Guide to facilitate greater incorporation of sustainability principles into projects from the design phase.
- Developed sustainability frameworks for the North Manchester and Wythenshawe campus redevelopments.

What will we achieve in the next 12 months?

- Launch and implement the Sustainable Design Guide.
- Continue to develop the sustainability frameworks and input for the two campus redevelopments.

Architects impression of future Wythenshawe Hospital site.

3.4 Asset Management & Utilities

MFT's large Estate requires careful management of utilities to ensure minimal wastage of resources, cost and carbon. Our varied sites across Greater Manchester present many opportunities for innovative carbon reduction solutions, and as such there are several projects ongoing and planned that will contribute to our net zero carbon goal. Efficient management of utilities not only helps towards lowering our carbon emissions, but also improves staff and patient experience and lowers costs.

Aim: To embed energy and water efficient technologies and practices throughout our Estate and services to deliver year-on-year reductions in consumption.

What took place over the past 12 months:

- Trust-wide energy emissions have reduced by 7.9% compared to 2019/20. This is predominantly due to a significant reduction in electricity consumption (down 12.8%) and the decarbonisation of the grid leading to an electricity emission reduction of 20.5%.
- All electricity imported by MFT from the grid is now guaranteed to be sourced from renewables, with a Renewable Energy Guaranteed Origin (REGO) certification for all grid electricity from April 2020.
- In autumn 2020, the major upgrades of the Carbon and Energy Fund (CEF) were completed at Wythenshawe Hospital and Withington Community Hospital, with all new technology installed and commissioned whilst old infrastructure was removed, achieving energy savings and increasing our energy resilience.

Case Study:

MFT completed a major energy upgrade scheme at Wythenshawe Hospital and Withington Community Hospital in 2020/2021 which was shortlisted for the Public Building Energy Project of the Year by the Energy Awards. Using an £11 million investment fund, and in partnership with Centrica Business Solutions, state of the art combined heat and power (CHP) units were installed at both sites, as well as new high efficiency boilers, an updated building management system, and the installation of 10,000 LED lights. Despite the challenging landscape of the COVID-19 crisis resulting in delays to installation work, the project was completed in autumn 2020, and has since led to average monthly grid electricity consumption dropping by more than 70% at the two sites.

Across the two sites, savings of £1,059,984 and 1,840 tonnes CO_2e have been made from electricity and gas use between 20/21 and 19/20, which is in part resultant from the CHP installations.

Furthermore, because of the project, staff have reported better working conditions at the sites, with an improved quality of light from the LEDs and the smart technology allowing for greater use of natural daylight, which is linked to faster recovery for patients.

With the future in mind, the infrastructure installed during this project is adaptable to newer technologies such as hydrogen fuel cells, allowing the infrastructure to be adapted to align with our net carbon zero emissions.

3.4 Asset Management & Utilities

What will we achieve in the next 12 months?

- MFT has secured £7 million through the Public Sector Decarbonisation Scheme to fund a variety of technologies across the Estate including air source heat pumps, solar PV installations, improved glazing, lighting and heating controls across sites. As part of a COVID recovery initiative all works are to be completed by 30th September 2021.
- MFT's renewable energy capacity is being expanded, with suitable sites around the Trust being identified for solar PV arrays and installation booked in.
- A detailed Estate decarbonisation plan is due for completion in late 2021, which will guide the long-term actions of the Trust to ensure utilities become net carbon zero.

New for 2021/22:

- Energy data quality improvements are being pursued, with automated meter readings being implemented across the Trust.
- Trafford General Hospital, the birthplace of the NHS, is planned to become one of the first grid independent hospitals in the NHS, continuing its legacy as a healthcare pioneer. This is to be funded under a Department of Business, Energy and Industrial Strategy (BEIS) NHS pilot scheme.

3.5 Carbon and Greenhouse Gases (GHGs)

MFT is experienced in carbon reporting, and this has become invaluable to measure the impacts of our activities to guide us towards our net zero carbon future.

We have closely monitored how the COVID-19 response has affected our carbon footprint, and there was an overall reduction in carbon emissions, notably through the reduced need for travel as well as a reduction in anaesthetic gas use because of postponed elective surgery.

As we further refine and advance our carbon footprinting methodology we have aligned our carbon calculations to mirror the approach and factors adopted by the Greener NHS team. Whilst this has improved the accuracy and consistency of our approach, this has in effect increased the carbon intensity of waste and supply chain activities which particually counteracts savings made elsewhere.

Aim: To measure our carbon emissions, identify hotspots and, take targeted action to reduce emissions year-on-year.

What took place over the past 12 months:

- Our core emissions (those we most directly impact) fell by 8% in 2020/2021 compared to 2019/2020. This was due to significant reductions in utility, anaesthetic gases and travel emissions. Partially due to activity changes caused by COVID-19 (e.g., less high carbon intensity hospital activity and reduced business travel), this was also supported by innovative energy efficiency projects as well as proactive behavioural change initiatives.
- The total carbon footprint of the Trust (encompassing both core and wider indirect emissions) decreased by 1.8% compared to last year. The largest contributor to our total carbon footprint is our supply chain; these emissions have increased by 4% despite a reduction in expenditure by 3%, demonstrating the overall increasing carbon intensity of our purchases.
- The use of the carbon intensive anaesthetic gas desflurane fell significantly with consumption reduced by 96% since last year, demonstrating the success of clinically sustainability led behaviour change initiatives.
- Community emissions from staff commuting and patient and visitor travel were also vastly reduced (by 42%) given the increase in staff working from home, greater use of active modes of travel such as walking and cycling, reduced patient contacts facilitated by virtual out-patient appointments, and a significant reduction in visitors throughout 2020/21.

3.5 Carbon and Greenhouse Gases (GHGs)

Case Study:

A major development for MFT over the past 12 months has been investment in digital technologies to facilitate widespread use of videoconferencing for out-patient appointments. The site restrictions imposed in 20/21 did not permit visitors and only the most essential care was delivered in person to prevent the further spread of COVID-19. The inevitable consequence of this has been delayed care for patients across the sector, and at MFT this meant the rapid implementation of new digital infrastructure for virtual appointments, supporting the coordinated effort to reduce patient waiting lists.

The 'Attend Anywhere' software rollout was jointly led by MFT's Transformation and Informatics teams, with new equipment installed in over 500 clinical rooms. In collaboration with hospital sites staff were trained to use this new system effectively, supporting patients to feel confident in this new approach.

In 2020/21 over 380,000 appointments were successfully conducted virtually, equating to 31% of all out-patient appointments and achieving estimated carbon savings of 1,053 tonnes of carbon from avoided patient travel. For the first year of implementation this has been a brilliant team effort, and as staff and patients become more familiar with this practice we expect to see even further take up in the future.

What will we achieve in the next 12 months?

- A granular analysis of supply chain spend is planned to identify carbon hotspots and actionable insights in terms of products, suppliers and purchasers. This data will inform engagement with key procurement and clinical stakeholders to develop an action plan and target areas for reducing emissions.
- Improved data flow and more regular monitoring of the Trust's carbon footprint is also planned for next year. This will be achieved through better data collection processes and will help us be more agile in identifying key areas for action.

New for 2021/22:

- As part of the development of the new Green Plan, we will conduct an in-depth analysis of our remaining carbon budget and refinement of our strategic plan to meet net zero carbon.
- A re-baselining exercise of our carbon footprint will be undertaken to incorporate North Manchester General Hospital, ensuring all sites are monitored and every opportunity for improvement is considered.
- A carbon net zero analysis for utilities and transport will be developed, informing how our buildings and infrastructure need to be adapted in the short to medium term to establish our trajectory to net zero carbon by 2038.

3.6 Green Space and Biodiversity

Green spaces have been a crucial resource for staff and patients this year, providing areas of solace and calm which were particularly needed over the past 12 months. Work has continued to formally implement planting schemes to increase the biodiversity of our sites, and locally there is a growing informal community of staff utilising their gardening skills within the workplace.

Major site redevelopment plans for Wythenshawe Hospital and North Manchester General Hospital will provide a significant opportunity to embed more innovative green spaces for staff and community benefit in the medium to long term.

Aim: To maximise the quality and benefits from our green spaces and reduce biodiversity loss by protecting and enhancing natural assets.

What took place over the past 12 months:

- MFT won a national award from Investors in Environment for its work contributing to the natural environment, recognising the breadth of projects taking place across the site engaging staff and patients.
- 86 trees were planted enabled by a donation from the NHS Forest programme. These have supported improvements to the existing Buccleuch Lodge residential garden within the Withington Community Hospital site as well as a new mini orchard at Trafford General Hospital.
- Wildflower areas have been planted by our Sodexo partners at Wythenshawe Hospital as an alternative to grass to provide greater biodiversity.
- 182 staff members across the Trust have recorded green space related activities through the Green Rewards staff engagement programme. This includes contributing to a wildlife survey, planting veg, taking a lunchtime walk or taking an outside break during their working week. These activities support individual wellbeing but also help to develop a connection to nature and encourage further sustainable behaviours.
- Quads, balconies and gardens are being managed by clinical staff to provide additional activities and spaces of interest for patients, facilitating their care and recovery.
- Cobbett House, Trust HQ within our Oxford Road Campus continues to be a rooftop apiary for bees, supporting pollination across local green spaces.

Trafford General Hospital mini orchard

3.6 Green Space and Biodiversity

Case Study:

A number of proactive and resourceful staff members have led garden projects across our Hospital sites, making greater use of green spaces, and providing more welcoming areas for staff and patients to sit, connect with one another or simply take a quiet moment by themselves.

The Manchester Royal Infirmary has a courtyard space which benefits from its own microclimate, enabling a wide range of brightly coloured tropical plants, flowers, and fruits to be planted. Throughout the summer months patients and staff take responsibility for watering the plants and activities in the garden feature as part of patient rehabilitation, for example patients harvesting raspberries to add into their cake during a baking therapy session.

Frank, the green fingered staff member behind the project says "Many of our patients spend a long time on the Stroke-Rehab ward, and as part of their recovery it is great to be able to take them outside so they can enjoy the fresh air, smells and beautiful colours. This makes a huge difference to their overall health and wellbeing, as they really benefit from being in a natural environment away from the ward."

Similarly at Wythenshawe Hospital, Patty an activities and wellbeing coordinator led a collaborative effort to rejuvenate an unused overgrown balcony space within the transplant unit. With improved seating space and new bee friendly planting, the space is much more functional and is enabling new activities such as gardening and themed nature-based activities.

A patient in the ward said "I've been able to sit out on this beautiful balcony and feel the sunshine on my face after having major surgery. I never thought I'd be sat out on a balcony surrounded by beautiful flowers whilst in hospital; I thought I'd be in my bed all the time or stuck on the ward!"

What will we achieve in the next 12 months?

- Recruitment and training of a larger staff volunteer led beekeeping group to further develop our Trust beekeeping knowledge and capacity.
- Development of further staff accessible garden space to support with staff workforce recovery.
- Creation of a Green Spaces working group to collate and reflect upon the experiences of planning, coordinating and managing successful greenspaces to create an MFT green spaces good practice guide.
- Development of a greenspace and biodiversity plan to facilitate coordinated and strategic use of our green spaces across the Estate.

3.7 Sustainable Use of Resources

The changing requirements of spaces, services and equipment has created new waste and recycling projects and collaborations over the past year. Whilst the Trust has used a significant quantity of PPE and equipment to protect staff and patients[2] over the last year, the pandemic has also increased the focus and priority given to reducing unnecessary use and developing reusable alternatives.

Despite this increased consumption of PPE, waste generation was 2.2% lower than the previous year, offset by the reduction in the other high waste producing activities which were affected during 20/21.

Aim: To take an innovative approach to driving out waste, delivering year on year reductions in cost and volumes.

What took place over the past 12 months:

- Despite the increased PPE utilised by all staff across the Trust, overall total weight of waste generated fell by 2.2%.
- As staff returned to work after lockdown, lots of furniture needed to be removed to facilitate social distancing or office moves. We facilitated a 'Clear the Clutter' campaign helping teams to put over 800 desks, chairs and tables into storage for future use, as well as rehoming items to other departments.
- We worked with the Uni Green Scheme, a specialist reuse and resale company, to pilot a project to divert defunct medical equipment and other potentially high value WEEE waste (e.g. large sterilising units) away from scrap processes to be refurbished and sold instead.
- Where reuse was not an option, we proactively explored sustainable recycling options, with redundant PPE being recycled and reprocessed into other items, rather than being incinerated or landfilled.
- The Royal Manchester Children's Hospital took part in an innovative re-use pilot, engaging with the Manchester Fashion Institute at Manchester Metropolitan University and HM Prison and Probationary Services to repurpose old football shirts to create reusable football shirt gowns for our youngest patients.
- Introduction of a new electronic patient communications programme 'Dr Doctor,' utilising digital systems to send patient appointment letters quickly and efficiently online whilst reducing paper consumption in the process. Since its launch in November 2020 over 70,000 appointments have utilised this new system.

2. Nationally 8,681,133,000 items of PPE have been supplied to the health and social care sector in England, a fourfold rise over an equivalent annual period pre pandemic. Source: Department of Health and Social Care Official Statistics, 23rd Feb 2021

3.7 Sustainable Use of Resources

What will we achieve in the next 12 months?

- Finalise a new waste & resources strategy to align with our new Trust Green Plan.
- Ensure that offensive waste, reusable sharps bins and recycling are fully rolled out across all sites which will save carbon and ensure waste is treated in line with waste hierarchy principles.
- Prohibit the maceration of patient left-over meals at sites where this is still in place and utilise off-site food waste technologies.
- Explore the feasibility of on-site waste treatment technologies, reducing the impact of transport and creating greater resilience for our waste management processes.
- Collaborate with large suppliers to implement new recycling initiatives in clinical settings (e.g. metal recycling in theatres)

Case Study:

Following initial discussions between Manchester City Football Club and Royal Manchester Children's Hospital Charity to explore ways to improve hospital visits and stays for children, an innovative re-use pilot was delivered in 20/21 in collaboration with Manchester Metropolitan University and HM Prison and Probationary Services (HMPPS).

Students, academics and technical staff from the University worked alongside hospital staff and the families of some of the hospital's young patients to research, develop and deliver new designs to see Manchester City shirts repurposed into gowns that are easy to use, more comfortable for patients and meet clinical standards for use in a hospital.

Prototype gowns were developed and tested with the textile teams at HMPPS, who manufactured the gowns for the project, for use with patients at the Royal Manchester Children's Hospital.

Dr Cath Doherty, Consultant Paediatric Anaesthetist at Royal Manchester Children's Hospital, said: "Surgery can be a tough time for a young patient so anything that can help put their mind at ease is welcomed."

This imaginative collaboration has helped to highlight how sustainable solutions, repurposing existing items or materials can not only provide resource use benefits, but also provide creative ways of improving patient care and developing partnerships.

3.8 Sustainable Care Models

Decarbonising care pathways is vital to achieve the targets set out in our SDMP. The greatest opportunity for the sector to reduce carbon is to prevent ill-health from occurring in the first place, and as such there has been a significant scaling up over recent years of out of hospital care. Patients that must be seen in hospital need to be seen promptly without delay, have their care delivered in a resource efficient manner and be discharged quickly, all of which is less carbon intensive and improves the patient experience.

Whilst the COVID-19 pandemic brought significant challenges around capacity to deliver non-urgent care, those changes implemented found to have no adverse impact on patient outcomes now need to be fully embedded and retained.

Clinical staff capacity to support sustainability programmes during 2021/22 was significantly constrained, therefore progress has not been achieved as planned and some of the initiatives will be rolled forward to 2021/22.

Aim: To deliver the best quality of care while being mindful of its social, environmental, and financial impact and take a whole systems approach to the way it is delivered.

What took place over the past 12 months:

- Reduced desflurane consumption by 96% to less than 15 litres across all MFT sites in 2020/21.
- Supported staff to undertake specialist 'Sustainable Quality Improvement' training to begin to integrate sustainability principles into Trust approaches to quality improvement.
- A James Lind Alliance priority setting partnership on 'Greener Operations' has been initiated by two MFT clinicians. The group is taking an innovative approach leading a nationwide consultation to engage with healthcare professionals, patients, carers and members of the public to capture how they think the care before, during and after surgery can be more sustainable. The output of this project will be to provide a prioritised set of research question to inform research funders where further study is required.
- Implemented a collaborative approach with General Practitioners across Greater Manchester to provide specialist clinical guidance during the pandemic.

3.8 Sustainable Care Models

Case Study:

GP Advice and Guidance programme during COVID-19

In order to manage our spaces safely during the pandemic, hospital visits from patients and family members were restricted thoughout 20/21. This was partially due to postponed appointments and treatments, however a programme of 'GP Advice and Guidance' was also initiated to support our primary care colleagues across Greater Manchester to avoid unnecessary hospital visits all together.

This new process was introduced across 42 MFT services whereby hospital clinicians engage with GPs prior to a hospital referral, providing specialist advice and guidance for specific patient cases to identify the most appropriate next steps for care. Over 4,000 contacts were made with GPs through this programme over the year, of which around 80% resulted in an avoided first appointment.

This approach of 'leaner care pathways' is being explored across our services not only to support the net zero carbon agenda, but also as a mechanism to manage patient demand as we progress through the COVID-19 recovery phase.

What will we achieve in the next 12 months?

- Trial innovative technology for capturing exhaled Entonox within delivery suites.
- Develop and roll out a job description for clinical sustainability leads within services to facilitate further projects across the Trust.
- Establish a process for mapping clinical care pathways and addressing environmental impacts, trailing this with a selection of services.
- Roll out 'Patient Initiated Follow Up' across all suitable specialties to give patients the flexibility to request follow up appointments as they are needed, rather than scheduled check-ins. This approach will not only avoid unnecessary appointments but also supports patient empowerment and choice.
- Continue to host student placements and dissertations and Sustainable Anaesthesia fellows.

3.9 Climate Change Adaptation

Adaptation is predominantly about resilience, ensuring our buildings and infrastructure are protected against the increasingly common extreme weather events as we begin to experience the impacts of climate change. This builds upon our existing risk management processes for service continuity to protect staff and patients in abnormally wet, cold or hot conditions.

Unlike carbon mitigation measures to reduce emissions altogether, adaptation planning is a less developed and understood area of sustainability across the sector, and like many other Trusts MFT is not yet advanced in its approach to this challenge.

The two major MFT developments at Wythenshawe Hospital and North Manchester General Hospital will integrate adaptation design elements from the outset, however work continues to fully explore the priority measures needed within the retained Estate.

Aim: To ensure that our whole organisation is prepared to deal with the effects of climate change, particularly extreme weather events, and continue to invest in adaptation and mitigation measures.

What took place over the past 12 months:

- Supported a healthcare sector study of adaptation plans and projects.
- Reviewed our existing Climate Change Adaptation Plan, scoping out a new approach for future iterations to support greater operational application.

What will we achieve in the next 12 months?

- Renewed Climate Change Adaptation Plan (CCAP) reflective of the enlarged estate with supporting procedures to enable more localised prioritisation of adaptation measures.
- Climate Change risk added to the Trust's Risk Register.

3.10 Travel and Logistics

Travel and logistics has experienced major positive change over the past 12 months, partially through planned projects such as the electrification of the fleet, but more noticeably through the changes in healthcare related travel patterns by staff, patients and visitors.

As explored in previous sections, greater use of digital infrastructure has accelerated changes in how staff can work and deliver care remotely, eliminating unnecessary travel and generating both air pollution and carbon saving benefits. The residual travel requirements however are still significant and major focus has been given to developing targets, strategies and plans to make sustainable travel the preferred choice.

Aim: To encourage sustainable and active travel wherever possible and reduce carbon and air quality impacts of our organisation and supply chain.

What took place over the past 12 months:

- A Trust wide Healthy Travel Strategy has been developed to outline the vision and targets for our staff, patient and business travel needs spanning the duration of our new Green Plan.
- Purchased 8 new electric fleet vehicles for the Trust Transport fleet, displacing older diesel models, installing charging infrastructure and training the drivers.
- Increased the number of staff actively travelling to site by 11%, including a 9% increase in the number of cyclists as identified through our annual Trust travel survey.
- Supported staff cycling during the initial stages of the pandemic with the donation and redistribution of 80 bicycles.
- Subsidised on site bike maintenance services, ran second-hand bike sale events and facilitated 297 staff making use of the cycle to work scheme.
- Accelerated the switch to remote meetings, with staff reporting 97% of meetings now taking place online (compared to 3% prior to COVID-19).
- Implemented an innovative pilot to explore the feasibility of electric cargo bikes for MFT transport business needs.

3.10 Travel and Logistics

Case Study:

Approximately 3.5% (9.5 billion miles) of all road travel in England relates to patient, visitors, staff and suppliers to the NHS. Despite the major changes in travel and transport in 20/21, this continues to make up 5% of MFT's 'Carbon Footprint Plus', therefore we are constantly reviewing opportunities to reduce carbon emissions associated with transport journeys.

To support this ambition the MFT Transport Team started a trial in March 2021, to use an electric cargo bike to move samples between sites. Working with Chorlton Bike Deliveries, a multi-stakeholder co-operative, medical samples are taken from local GP practices to Withington Community Hospital twice a day every weekday, visiting 8 GP practices and covering 15-20 miles per day. Over a year, this initiative would save 1.2 tonnes CO_2e compared to a standard diesel vehicle. The pilot scheme has been exceptionally popular with GPs and Kevin Salter, MFT Transport Services Manager said, "This scheme helps to reduce local congestion and the impact on air pollution, freeing up our electric vehicles to cover any larger jobs."

MFT Transport Services Manager trialling the cargo bike.

What will we achieve in the next 12 months?

- Launch the Trust Healthy Travel Strategy setting our ambitious targets to support low carbon travel.
- Refresh and update localised Travel Plans for the main campuses to support staff in making a more sustainable travel choice.
- Improve on site cycling infrastructure, increasing the number of secure cycle parking spaces available for staff.
- Develop a targeted behaviour change campaign focused on engaging new or under confident staff to cycling.
- Launch an e-bike hire scheme to further expand sustainable travel options for staff.

Tracking Progress

4.1 KPI Dashboard

		2016/17	2017/18	2018/19	2019/20	2020/21	Trend (vs.2019/20)
Carbon	Core footprint / tCO_2e	85,848	81,077	73,451	72,521	66,515	DOWN
	Community footprint / tCO_2e	27,659	27,496	26,330	26,937	15,688	DOWN
	Supply chain footprint footprint / tCO_2e	157,900	252,495	228,594	268,084	278,757	UP
	Scope 1 / tCO_2	35,756	37,293	37,226	40,148	38,973	DOWN
	Scope 2 / tCO_2	35,240	29,564	24,066	21,198	16,865	DOWN
	Scope 3 / tCO_2	200,410	294,211	267,082	306,195	305,121	DOWN
	Total / tCO_2	271,406	361,068	328,375	367,542	360,960	DOWN
Utilities	Electricity / kWh	85,522,611	84,092,708	85,018,408	82,936,082	72,339,673	DOWN
	Gas / kWh	138,439,513	147,313,215	142,232,066	149,147,939	154,639,640	UP
	Water / m^3	634,448	620,335	627,097	622,979	516,383	DOWN
Renewables	Onsite electricity from renewables / kWh	–	70,905	80,477	99,799	86,559	DOWN
Waste	Recycling / tonnes	1,590	1,889	1,960	1,171	1,483	UP
	Recovery / tonnes	2,505	2,648	2,599	4,598	3,544	DOWN
	Landfill / tonnes	1,289	1,350	1,250	265	863	UP
	Incineration / tonnes	772	745	705	791	652	DOWN

Carbon

- National supply chain carbon factors were updated in 20/21, resulting in an average increase in carbon intensity across all sectors of 23%. For MFT this has made the most significant impact for construction (now 37% of the supply chain footprint), as well as medical instruments and equipment (reduced expenditure by 7%, but increased carbon impact by 5%).

Waste

- There was a slight reduction in overall waste produced in 20/21 due to the changes across MFT caused by the COVID-19 pandemic.
- An increase in infectious waste generated at MFT (of 8%), as well as other NHS organisations, caused stresses on treatment facilities, and an increased amount of infectious waste was sent to landfill rather than energy recovery after it had been heat-treated.
- Cardboard and paper recycling was almost 50% higher this year due to donations to MFT packaged in cardboard, vaccine document waste and COVID-19 testing activity, as well as multiple office clear outs and moves.

Utilities

- A reduction in water consumption resulted from 29% fewer bed days across our hospitals.
- The variety of large and small energy infrastructure and efficiency improvements has achieved a 1% reduction in energy demand compared to 19/20, although it is unclear to what extent the postponement of planned surgeries may also have contributed to this.
- The increasing renewable contribution to the national grid is continuing to make electricity less carbon intensive (9% lower compared to 19/20), supporting MFT to stay within its annual core carbon budget.

4.2 Challenges and Risks

As we look to the year ahead, there are a number of key challenges and risks that exist alongside our planned sustainability programmes and ambitions.

We have identified five key risks for 2021/22 which we must work creatively and collaboratively to overcome:

Staff Health and Wellbeing

- The relentless workload on both clinical and non-clinical staff throughout the pandemic has inevitably impacted staff health and wellbeing. Priority must be given to support staff to look after themselves and one another, and as such we must be mindful of the capacity of staff to engage in sustainability initiatives in the short term.

Patient Demand

- As we enter the recovery phase of the pandemic the organisation will shift its attention to managing the backlog of care which has built up over the course of the year. This will not only be a strategic priority, with which sustainability must align itself, but the increase in provision has the potential to significantly increase resource use and resultant carbon emissions across the organisation.

Reporting Requirements

- To inform the national progress of the Greener NHS vision, a more varied and frequent sustainability reporting schedule will be required for all Trusts. For a complex multi-site Trust like MFT, this will require a gear shift in bringing together new data sets on a more regular basis, requiring new relationships to be developed so that we fully reflect our performance.

3-year Strategic Timeframe

- National guidance now stipulates that Trust Green Plans must cover a 3-year period. This will require MFT's new Green Plan to have more focus than ever before, with greater strategic prominence to bring together diverse teams and implement innovation at pace.

Access to Finance

- Decarbonisation at the pace and scale required will require substantial investment, although many initiatives have an associated payback period. Access to the right finance and funding will be absolutely key in ensuring this is achieved. The major campus redevelopment schemes will be particularly challenging to deliver net zero within the cost envelope.

Conclusion

We are immensely proud of our staff for their commitment, bravery and innovation throughout this unpredictable and challenging year. A small insight of this journey can be seen in the MFT 'Our Story' video with staff sharing their candid experiences. Whilst the environmental agenda has at times not been able to be considered (such as in the rapid update of single use PPE), we have also seen major progress in many other areas such as digital and sustainable models of care. This broadening appreciation for sustainability, moving well beyond traditional estates-based programmes will be one of the legacies of the year, and we hope this appetite for greater innovation will continue.

We're reassured by the scale of our annual core carbon savings, keeping us on track within our 5-year budget, however with renewed emphasis on the net zero pathway for our supply chain this will be a significant challenge as this accounts for 77% of our 'carbon footprint plus'. We must place more pressure on our suppliers to align with this agenda, and there are major benefits to us working collaboratively across the region and system to positively engage our supply chain partners.

The next chapter for sustainability at MFT will be an exciting one, and as we plan the development of our new 3-year Green Plan, this will be an opportunity to consolidate and refine our vision and ambition to bring along our 28,000 staff with us. Our new Climate Strategy Board will be a major driver to inspire leaders across the organisation, working to engage all our 10 hospitals to explore their unique sustainability challenges and opportunities.

Contact Details

If you have any questions, or would like to find out more about the work that we are doing please contact us via email: ECOteam@mft.nhs.uk

This document was produced by the Energy & Sustainability Team at Manchester University NHS Foundation Trust:

MFT Estates and Facilities
International House
Ledson Road
Manchester
M23 9GP