The ROYAL MARSDEN
Our Green Plan

Our Green Plan

2021/22 – 2023/24

NHS

About us

The Royal Marsden is a world-leading cancer centre, specialising in cancer diagnosis, treatment, research and education. Together with its academic partner, The Institute of Cancer Research (ICR), The Royal Marsden is one of the largest comprehensive cancer centres in Europe and an NIHR Biomedical Research Centre for Cancer, contributing to vital research in improving the survival of all those affected by cancer.

Seeing and treating 60,000 patients every year, The Royal Marsden is a centre of excellence with an international reputation for groundbreaking research and pioneering the very latest in cancer treatments and technologies.

The Royal Marsden has two hospitals: one in Chelsea, London and another in Sutton, Surrey. Also in Surrey, the Trust has a chemotherapy medical day care unit at Kingston Hospital.

The Trust is part of the South West London Integrated Care System, whose priorities include prevention of cancer.

Contents


ROYAL MARSDEN HOS
FOUNDED IN 1851 BY
WILLIAM MARSDEN MD

Executive summary

The Royal Marsden Green Plan 2021/22–2023/24 aims to support the delivery of the best, most efficient and forward-thinking healthcare. It outlines the specific aims of the Trust's sustainability strategy and the objectives that will need to be achieved in order to meet the targets. It considers how to minimise negative environmental impacts and maximise opportunities to support the local economy and community wellbeing.

In 2020, the NHS set more ambitious targets than the UK Climate Change Act[1] net zero emissions 2050 target, with the aim of becoming the world's first net zero national health service.

The two targets are:

- For the emissions we control directly (the NHS Carbon Footprint), we will reach net zero by 2040, with an ambition to reach an 80 per cent reduction by 2028 to 2032.
- For the emissions we can influence (our NHS Carbon Footprint Plus), we will reach net zero by 2045, with an ambition to reach an 80 per cent reduction by 2036 to 2039.

The challenge is substantial – the health sector's carbon footprint accounts for approximately four per cent of UK carbon emissions.[2]

Carbon reduction is just one element of delivering sustainable healthcare; developing and delivering services in a sustainable manner also requires improving our natural environment and enhancing wellbeing, while limiting environmental impacts and reducing inequalities.

1 NHS England, 'Greener NHS campaign to tackle climate "health emergency"', January 2020
2 NHS England, Delivering a 'Net Zero' National Health Service

The Royal Marsden NHS Foundation Trust is committed to delivering sustainable healthcare and achieving the emission reduction targets set by the NHS

The Trust has already taken steps to embed sustainability into its operations, including the installation of energy efficiency measures such as the combined heat and power (CHP) engine at Sutton, setting up 'Green Matters', a Trust environmental improvement focus group, and implementing a travel plan.

The Royal Marsden has partnered with Globechain, a reuse marketplace, to give items to charity and small businesses instead of them being thrown away as waste. Globechain is an environmental, social and corporate governance reuse marketplace that connects enterprises to charities, small businesses and individuals to redistribute unneeded items.

This Green Plan drives a focused approach to sustainability and pushes the Trust into a position where sustainability is embraced and driven by senior leadership. The Trust acknowledges that staff, patients and visitors are key to delivering sustainable healthcare and we have undertaken engagement exercises to understand stakeholder priorities.

The Trust will continue to report progress made against this plan in the annual report and via a newly established sustainability report.

Achievements	Goals
33 per cent decrease in gross CO_2e emissions between 2009/10 and 2020/21	Carbon targets aligned with Greener NHS campaign targets
Approximately 178,000 people use the station shuttle service a year	On target to achieve 'BREEAM excellent' for the new Oak Cancer Centre
Zero waste to landfill in 2020/21	Green Matters to support staff to initiate, drive and champion positive environmental change

The Trust has aligned its carbon reduction targets with the Greener NHS 2040 and 2045 targets. The Trust has also set utility savings targets based on gross internal area that are aligned with Health Technical Memorandums in order to provide normalised and progressive targets.

The Royal Marsden is committed to achieving these targets and reducing its environmental impact. Consequently, aligned with wider NHS organisation commitments, we have highlighted the top 10 practical actions to make significant progress towards Trust targets.

The Trust has already made significant progress on number of these actions, including switching to 100 per cent renewable electricity, installing LED lighting and solar PV panels on Trust buildings, and reducing emissions from anaesthetics with over 90 per cent of anaesthesia given at the Trust being total intravenous anaesthetics.

We will continue to prioritise progress against these top 10 actions.

Top 10 actions to achieve carbon reduction targets

1. Use our collective NHS voice and declare a Climate and Health Emergency now
2. Shift to 100 per cent renewable electricity
3. Switch to low energy LED lights across our sites
4. Have a plan to halve the amount of patient travel, by delivering high-quality telephone and video clinics in outpatients
5. Reduce emissions from anaesthetics by increasing intravenous anaesthetics
6. Install solar panels across Trust sites
7. Cut plastics and incineration of clinical waste. Ensure processes and facilities are in place to enable proper waste segregation
8. Buy sustainable and green products and services and commit 10 per cent of tender weightings to sustainability procurements
9. Reduce paper use and switch to 100 per cent recycled paper
10. Set an ambition to be net zero carbon by 2040 and produce a detailed road map to get there.

Sustainability in health and social care

Drivers for change

A sustainable health and care system is achieved by delivering high-quality care and improved public health without exhausting natural resources or causing severe ecological damage. There are several factors driving change within the NHS – these are outlined across the following pages.

Financial

The NHS continues to face severe financial pressures. While it was announced in 2018 that funding for the NHS would increase by an average of 3.4 per cent per year by 2023/24, multiple think tanks have said that funding needs to increase by at least four per cent a year in order to meet the NHS's needs.[3] Given this financial pressure and the need to operate as a sustainable healthcare service that does not negatively affect frontline services, we must learn to do more with less.

Additionally, legislative requirements also put financial pressures on the NHS. The Climate Change Levy is a government tax that is charged on the units of energy delivered to non-domestic users – therefore the more an organisation consumes, the more they pay.

The cost of emitting carbon and the use of energy is likely to increase over the coming years. Operating as a sustainable organisation provides the opportunity to make significant financial savings.

In 2015, the NHS was asked to find £22 billion in savings by 2020[4]

Left: Divya Aggarwal with nurse in the Medical Day Unit

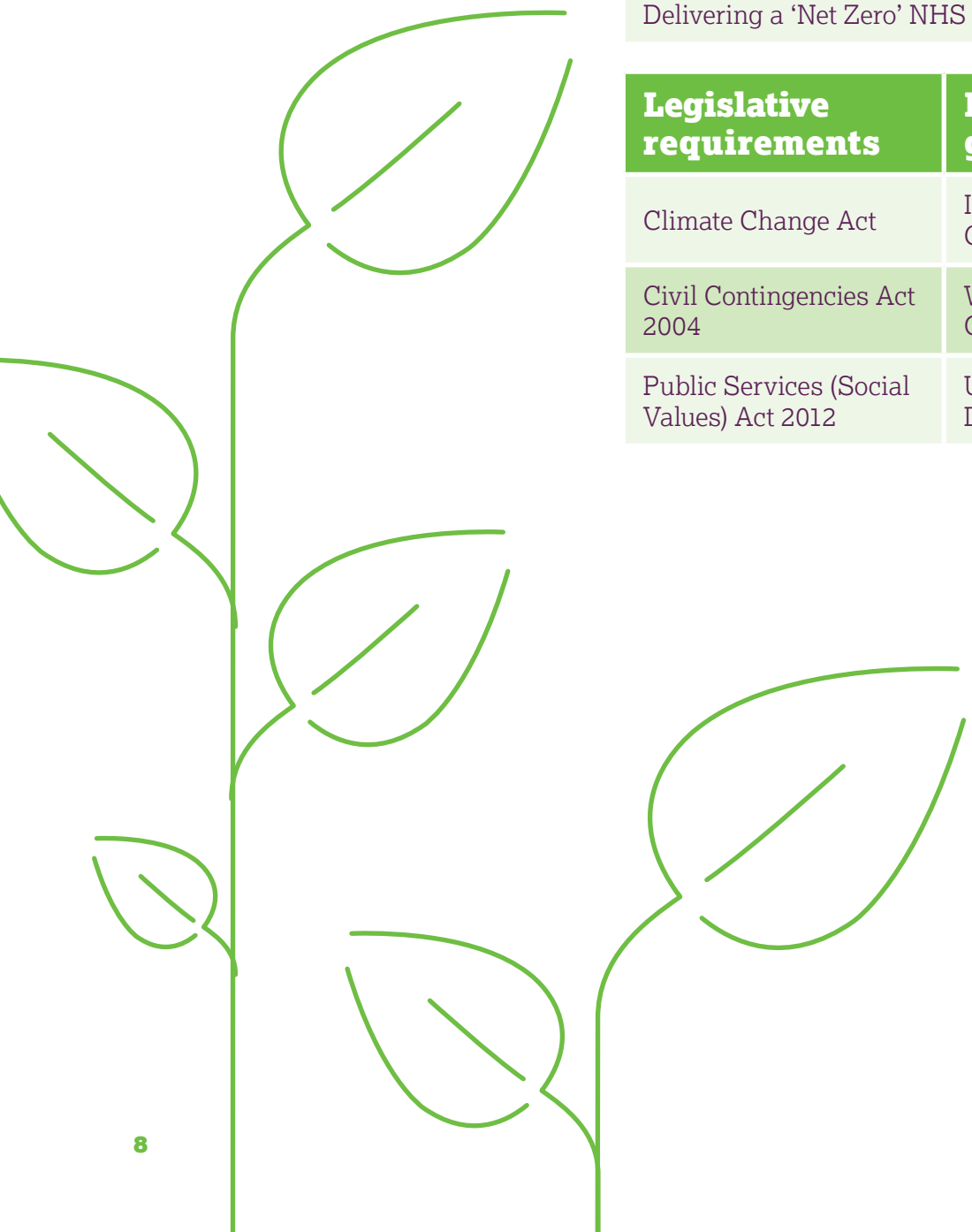
3 BBC, 'NHS funding: Theresa May unveils £20bn boost'
4 Gov.uk, 'Department of Health's settlement at the Spending Review 2015'

Legislation and policy

Sustainable healthcare in the UK is also driven through healthcare-specific requirements from the Department of Health and Social Care and NHS England, national legislative requirements and international guidance. Key policies and legislation are outlined here.

UK healthcare-specific requirements
Greener NHS campaign
NHS Operational Planning Guidance
NHS Long Term Plan
NHS Standard Contract
NHS Carbon Reduction Strategy for England: Delivering a 'Net Zero' NHS

Legislative requirements	International guidance
Climate Change Act	International Panel on Climate Change
Civil Contingencies Act 2004	World Health Organization
Public Services (Social Values) Act 2012	UN Sustainable Development Goals



Environmental

Sustainability supports the health and biocapacity of the environment. By integrating sustainability into practices, we reduce the effects of climate change and help protect the natural environment.

Society relies on natural resources; they are fundamental to human survival. As the population continues to increase, over-consumption and exploitation of natural resources is also increasing. A continued loss of natural resources ultimately threatens human wellbeing and we need to take responsibility to conserve these resources in order to support ecological balance and preserve biodiversity.

In addition to increased exposure to extreme weather events, climate change poses a significant threat to public health. Tackling climate change provides opportunities to improve population health; for example, low carbon lifestyles can improve health and wellbeing by increasing active travel and improving diets.

Effects of climate change on public health

Increased rates of stroke

Increased rates of chronic respiratory diseases

Exacerbation of allergies

Increased spread of infectious diseases

Increased rates of heart disease

Societal

Delivering sustainable healthcare services is now expected by patients, visitors, staff and the local community. With growing environmental awareness and the urgency of climate change, organisations are required to set their own sustainability goals and principles.

Staff specifically place significant value on working in an organisation that demonstrates environmental responsibility. The Sustainable Development Unit (SDU) conducted a survey to understand NHS staff attitudes towards sustainability in December 2017;[5] they found that:

- Nearly all respondents (98 per cent) thought it was important that the health and care system works in a way that supports the environment.
- Only 21 per cent strongly agreed that the NHS actively supports the environment.

Patients, staff and visitors will continue to place strong emphasis on sustainability and the NHS must continue to embrace new initiatives and technologies to meet targets.

Greener NHS

In early 2020, the NHS launched the 'For a Greener NHS' campaign to tackle the climate health emergency. It builds on the work already undertaken and aims to help trusts and staff to reduce emissions and is supported by the UK Health Alliance on Climate Change. In October 2020, the campaign released its *Delivering a 'Net Zero' National Health Service* report which sets out a practical route map to enable the NHS to get to net zero emissions. The two targets set by the NHS are:

- For the emissions we control directly (the NHS Carbon Footprint), we will reach net zero by 2040, with an ambition to reach an 80 per cent reduction by 2028 to 2032.
- For the emissions we can influence (our NHS Carbon Footprint Plus), we will reach net zero by 2045, with an ambition to reach an 80 per cent reduction by 2036 to 2039.

NHS Long Term Plan

The NHS Long Term Plan,[6] published in January 2019, sets out key ambitions for the service over the next 10 years. The plan sets out the NHS's intention to reduce its carbon footprint by a third by 2020 compared to 2007 levels, including by improving energy efficiency. The plan also references reducing the use of natural resources by ensuring that all Trusts adhere to best practice efficiency standards and adoption of new innovations as well as improving estate management and modernising and standardising ambulance fleet to help reduce emissions and improve air quality.

5 NHS England, Sustainability and the NHS Staff survey 2017
6 NHS Long Term Plan

Operational productivity and performance in NHS acute hospitals in England: unwarranted variations

Lord Carter's review of NHS efficiency opportunities (2016)[7] estimates that £5 billion can be saved by the NHS through simple efficiencies by 2020/21.

The review identified six high-cost areas and the savings that could be achieved.

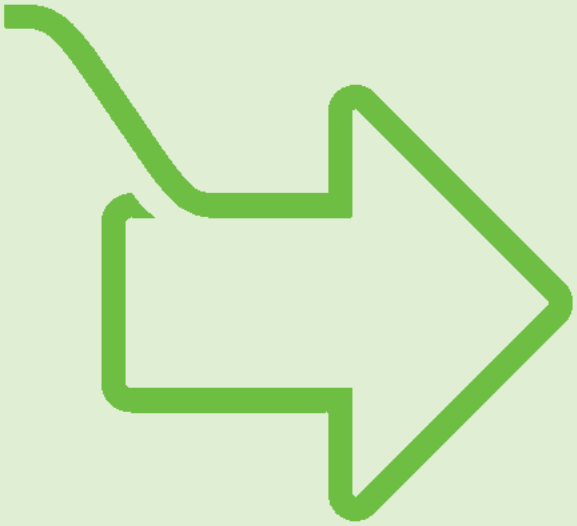
The review goes on to present further findings and recommendations based on the identified high-cost areas. In terms of estates and facilities management, there are significant opportunities for trusts to achieve cost efficiencies by reducing energy consumption by investing in energy saving schemes such as LED lighting and CHP (combined heat and power) units. Regarding procurement, the review recommends that all trusts should focus on the measurement of procurement metrics and embrace the adoption and promotion of NHS Standards of Procurement in order to achieve the savings identified.

High-cost area	Savings identified
Optimised use of clinical workforce	£2bn
Hospital pharmacy and medicines optimisation	£800m
Estates management	£1bn
Diagnostics – pathology and radiology	£200m
Procurement	£700m
Corporate and administration costs	£300m

The Royal Marsden is highlighted as a case study in Lord Carter's review for having made significant savings by installing energy efficient lighting

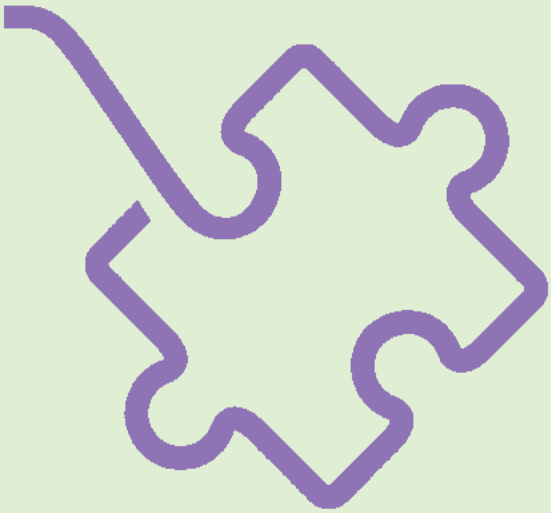
7 Operational productivity and performance in English NHS acute hospitals: Unwarranted variations -An independent report for the Department of Health by Lord Carter of Coles

Pioneering Change

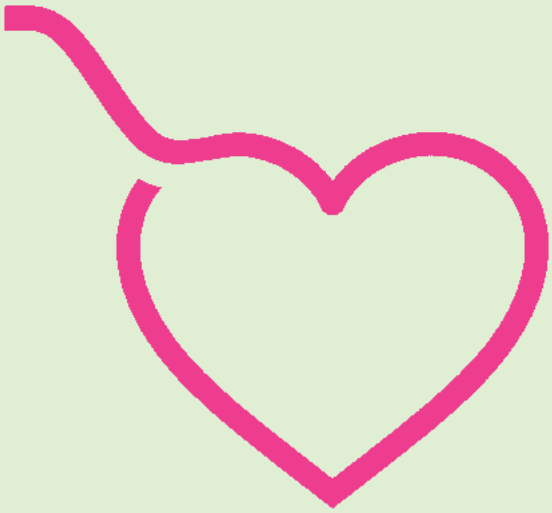


Pursuing Excellence

Working Collaboratively



Showing Kindness



Organisational vision

The Trust's aim is to ensure this Green Plan addresses the issues raised in the Sustainable Development Strategy for the Health and Care System 2014–2020.[8] It describes the vision for a sustainable health and care system by reducing carbon emissions, protecting natural resources, preparing communities for extreme weather events, and promoting healthy lifestyles and environments. The Trust encourages staff to work and live by a set of values that shapes a culture of improvement and collaboration – this is fundamental to achieving the targets set out in our Green Plan.

The Trust's mission is to continue to make a national and global contribution to cancer research and treatment, so that more people are cured and quality of life is improved for those living with cancer.

The Trust is shaped by the following distinct set of values that define who we are and how we behave:

- **Pioneering Change** – we lead the way in cancer research and drive continuous innovation to improve the lives of patients.
- **Pursuing Excellence** – we strive to be experts in our field, working to deliver outstanding quality in all that we do.
- **Working Collaboratively** – we work in an inclusive way, bringing together different expertise, partners and resources to achieve the best possible outcomes.
- **Showing Kindness** – we aspire to create a world class experience where all patients, staff and partners feel valued and respected.

8 Future NHS Collaboration Platform, Sustainable Development Strategy 2014–20 – Greener NHS Knowledge Hub

Highlights to date

Circular economy

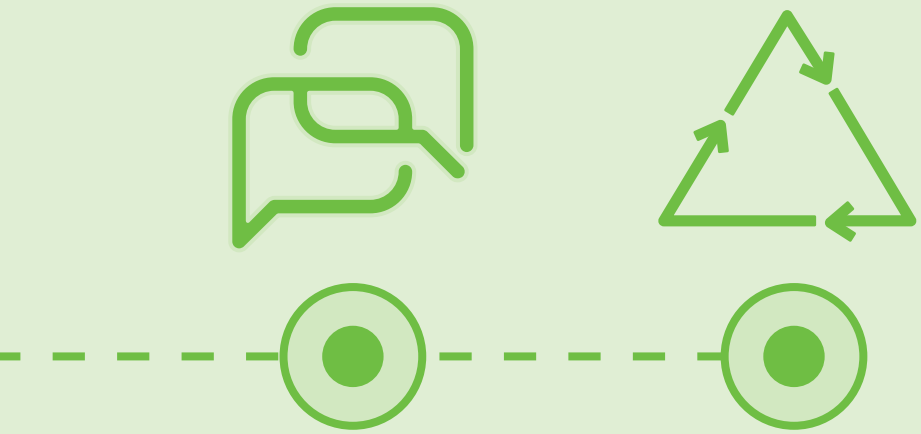
- Half a tonne of unwanted linen, uniforms and curtains were recycled in 2019, with items either re-used or recycled into cleaning wipes.

Capital projects

- Embedding sustainability and auditing performance in major capital projects.

Energy

- Installation of CHP engine at the Sutton site and a comprehensive Building Energy Management System is operational at both sites.
- Installation of energy efficiency measures that is saving 55tCO_2e annually.
- Four electric vehicle charging points installed at the Sutton site.



Engagement

- A newly set up focus group, 'Green Matters', to champion environmental improvement throughout the Trust and share ideas for improving environmental management and sustainability.

Reuse

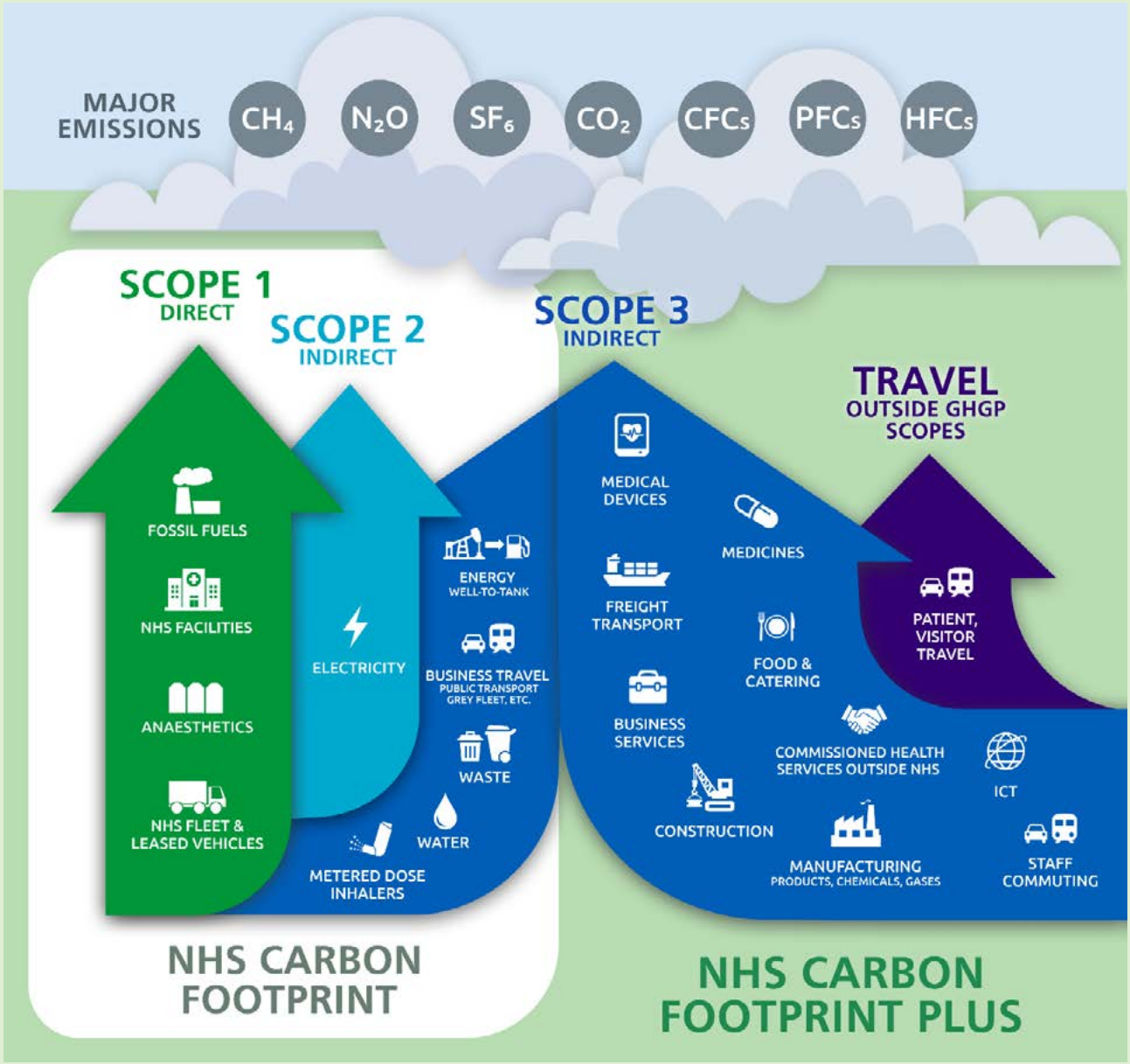
- Bulky items that are no longer serviceable, such as furniture and medical equipment, are deconstructed and component parts recycled; the Trust receives 25 per cent of rebated profits for all metal parts removed from site.

Scope: Carbon footprint

Sources of carbon emissions include use of energy, water, transport, generation and disposal of waste, as well as the procurement of goods and services. These are categorised into three scopes:

- Scope 1 emissions: direct emissions from owned or controlled resources, e.g. on-site electricity generation, heating, Trust-owned vehicles.
- Scope 2 emissions: indirect emissions from the generation of purchased energy.
- Scope 3 emissions: all other indirect emissions that occur in the Trust's value chain, e.g. waste management, staff commuting, purchasing of goods and services.

The *Delivering a 'Net Zero' National Health Service* report considers the full scope of emissions from the NHS across the three scopes as well as the emissions from patient and visitor travel to and from NHS services and medicines used within the home. The figure on the following page clearly outlines greenhouse gas emissions scopes in the context of the NHS.



Greenhouse Gas Protocol scopes in the context of the NHS, from the 'Delivering a 'Net Zero' National Health Service' report.


The ROYAL MARSDEN
Hayley
Grafton
Practice Educator
Critical Care Unit

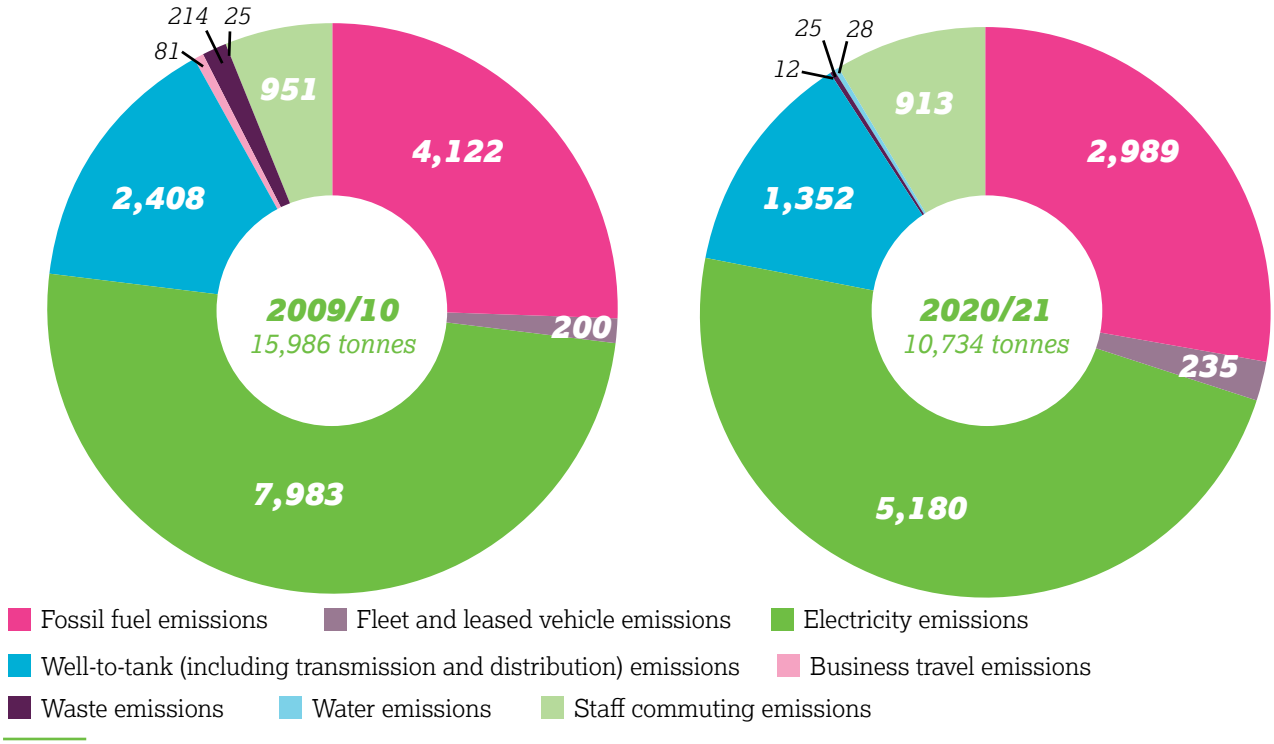
Where we are now

The potential to reduce emissions across our carbon footprint and carbon footprint plus needs to be considered and quantified in order to progress and achieve net zero emissions for the care we provide (the NHS carbon footprint) by 2040, and zero emissions across the entire scope of our emissions (the NHS carbon footprint plus) by 2045.

The NHS has recommended that organisations set targets against a baseline year of 2007/08. However, accurate data for 2007/08 is not available and consequently 2009/10 has been selected by Royal Marsden; the carbon footprint baseline[9] for the Trust is 15,986 tonnes CO_2e based on 2009/10 data.

Carbon emissions increased to a peak value of 17,525 tonnes in 2013/14 and have since decreased to a value of 10,734 in 2020/21, a decrease in gross emissions of 33 per cent against the baseline year. Given the continuous growth of the Trust since 2009/10, this is encouraging.

2009/10 baseline (tonnes) carbon footprint (left) and current 2020/21 carbon footprint (right)



9 We have used 2018/19 transport emissions for the baseline year, to provide an estimate of transport emissions

Left: Hayley Grafton, Practice Educator, in the Critical Care Unit

Utilities

Emissions arising from utilities include the use of electricity, gas, oil and water. The two largest contributors to carbon emissions, electricity and gas, have been plotted below. The CHP engine at Sutton was installed in 2014, which corresponds to the large increase in gas consumption in 2014/15.

Emissions have steadily declined since 2014/15, despite increased gas consumption from the CHP. This is, in part, due to the decarbonisation of the National Grid, which applies to electricity use. As of April 2021, the Trust has switched to a 100 per cent renewable tariff for grid imported electricity which will reduce associated emissions to zero. However, the Trust will need to continue to reduce overall consumption to support a future heat decarbonisation.

Total energy consumption (kWh) vs total carbon emissions

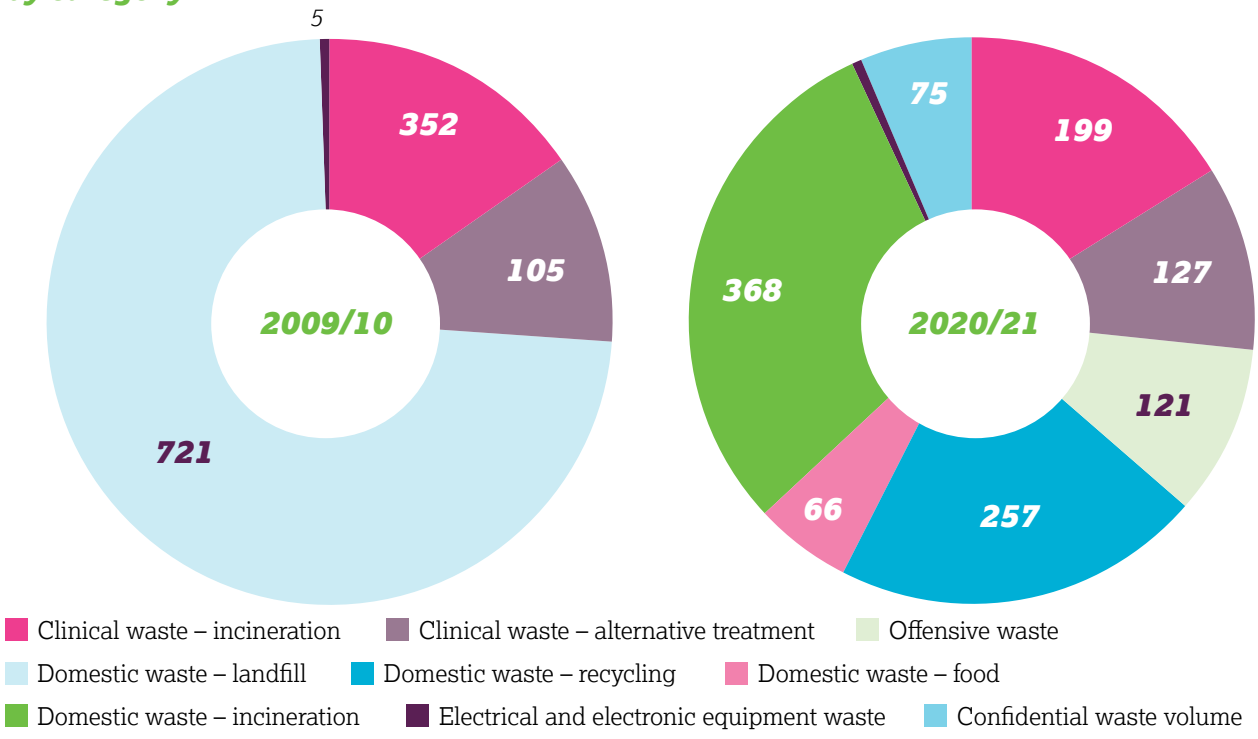
Waste

The Royal Marsden has incorporated new waste streams, including food, mixed recycling and offensive waste, since its baseline year of 2009/10, and achieved a recycling rate of 33 per cent in 2020/21 (42 per cent when food to anaerobic digestion is included). Since 2015/16, zero waste from the Trust has gone to landfill.

The Trust's waste contractor, ISS, has a recycling target of 62.5 per cent for 2020/21. Actions to achieve this target will include the development of a resource and waste management action plan, as well as staff awareness training.

The charts below show the increase in waste segregation between the baseline year and 2020/21. While waste disposal does not significantly contribute to carbon emissions, proper waste segregation is important to protect the environment and the health and safety of the population.

2009/10 baseline (left) against 2020/21 (right) current volumes (tonnes) of waste by category



Transport

Emissions from transport arise from a range of sources, including the use of private cars and public transport for Trust business, hire cars, lease cars, taxis, patient travel, and non-patient travel. At present, emissions arising from transport have been restricted to Trust fleet and leased vehicles, business travel and mileage claimed, and car commute for staff who have parking permits for the Sutton site.

Emissions from transport for the baseline year of 2009/10 have been estimated based on 2018/19 and staff car commute for 2019/20 and 2020/21 are based on the 2018/19 figure (the Trust recognises that the COVID-19 pandemic will have impacted commutes and will seek to understand these changes going forward).

The Trust is actively trying to reduce emissions from transport by providing an inter-site shuttle bus, providing a shuttle bus from Sutton station to the Sutton site, developing a business travel policy that promotes more sustainable travel, providing extensive video conferencing facilities, improving cycle and shower facilities, and undertaking patient transport assessments every 28 days.

12 journeys a day

by the inter-site shuttle bus

Approximately

178,000 people

use the station shuttle service a year

Patient travel assessment

every 28 days

1,160 tonnes

of CO_2e emissions from transport services

Procurement

The Sustainable Development Unit (SDU) estimates that 72 per cent of the NHS's carbon footprint is a result of the procurement of goods and services.

This Green Plan includes a commitment to utilise the SDU's Procuring for Carbon Reduction (P4CR) toolkit to identify and prioritise the environmental improvements of 'carbon hot-spots' and to measure procurement activities. This will provide the Trust with a baseline for the carbon impact of its supply chain and will inform the strategy to reach net zero carbon by 2040.

There is significant commitment and interest from the procurement team at The Royal Marsden to take swift and significant action to reduce the Trust's impact, including commitment to the NHS Plastics Pledge and immediately changing from plastic and polystyrene cups to paper.

To measure impact, the Trust will utilise the P4CR toolkit.

As accurate emissions arising from procurement activities are not generally available, approximate conversion factors in $kgCO_2$/£ spent on procurement categories provides a reasonable assessment (based on factors defined by the former Department for Energy and Climate Change and the Department for Environment, Food and Rural Affairs – this method is used in the SDU's toolkit).

72 per cent

of the NHS's carbon footprint is a result of the procurement of goods and services.

Targets

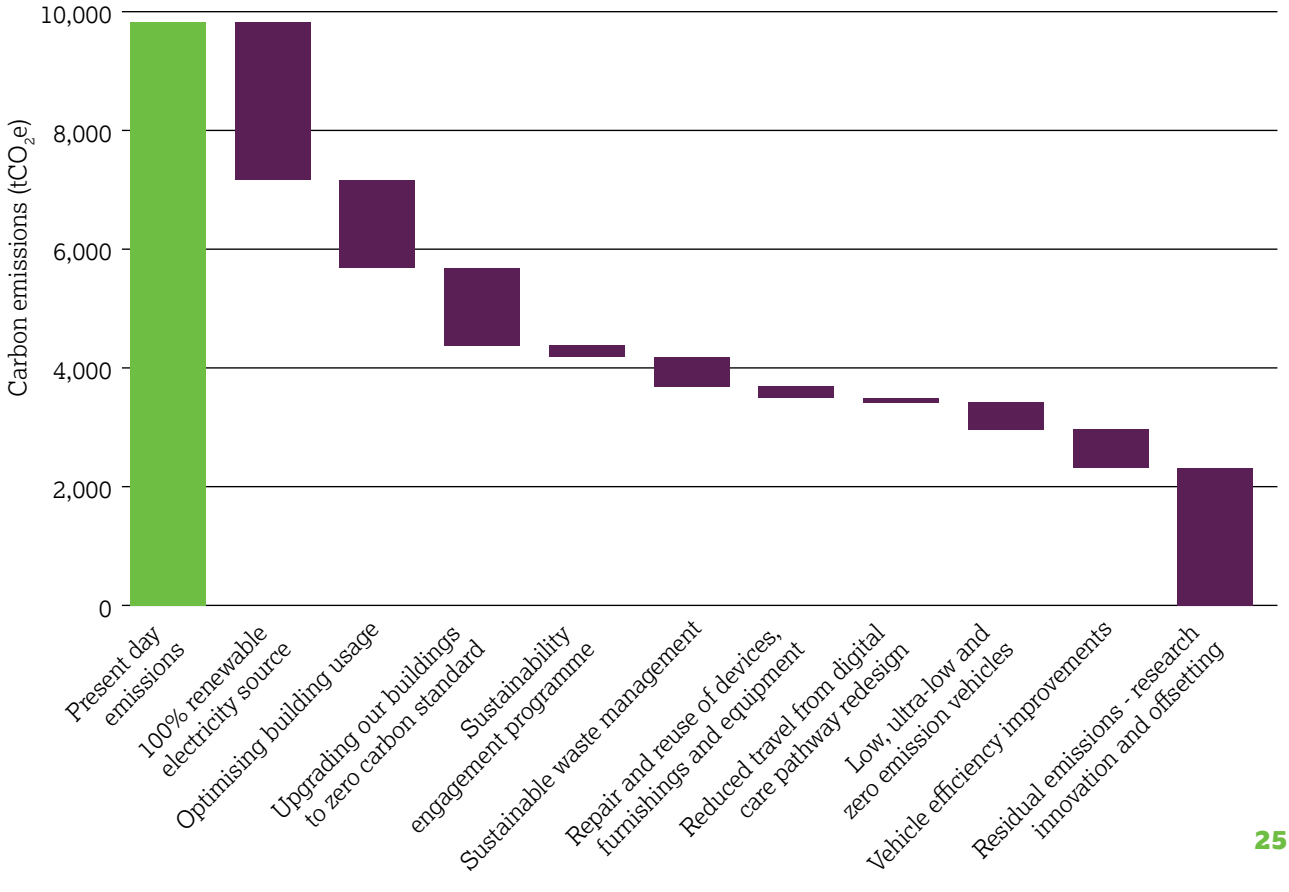
NHS carbon footprint reductions

The Trust has set both short and long-term carbon reduction targets in order to make the shift towards net zero carbon healthcare. Our targets are aligned with the *Delivering a 'Net Zero' National Health Service* report. Below we have outlined interventions required across our carbon footprint to meet the net zero by 2040 target. The Trust recognises the need to develop a carbon footprint plus baseline and to set out the associated interventions required to meet net zero carbon by 2045.

We will monitor progress to ensure that we revise the programme if there are opportunities to make the actions more ambitious or if progress is falling behind expectations.

As outlined on page 20, the Trust switched to a 100 per cent renewable tariff for grid imported electricity which will reduce associated emissions to zero. The Trust uses the CRC Energy Efficiency Scheme methodology to report emissions from gas and electricity, which accounts for the emissions from onsite electricity, these are not classified as 100 per cent renewable as they come from our CHP plant.

Interventions to reduce the Trust's carbon footprint to meet the net zero target



Left: Professor Sanjay Popat, Consultant Medical Oncologist, and Claire Vocat, Neuro-oncology CNS

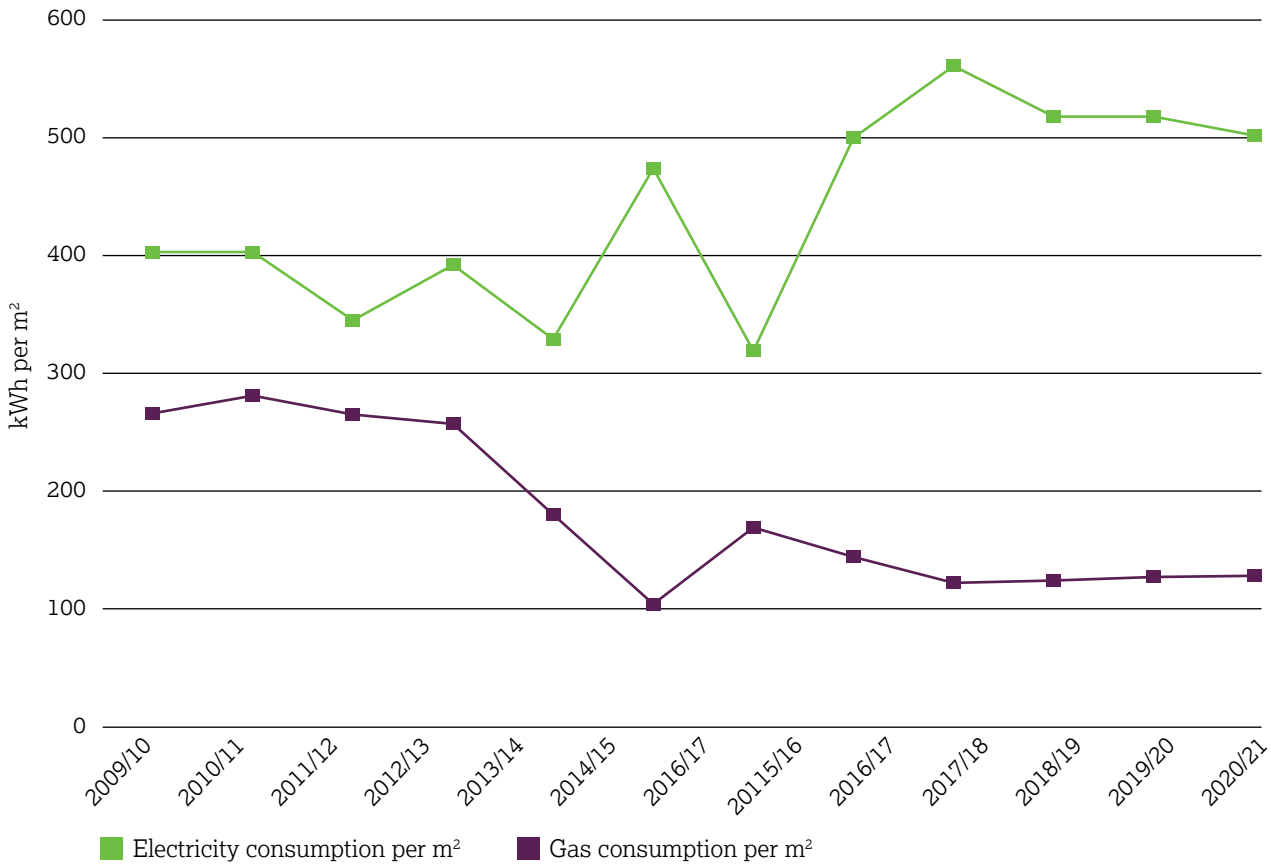
Utility savings

The Trust has also set energy, water reduction and waste recycling targets as part of the Green Plan. The Trust's reduction targets against a 2009/10 baseline are provided in the table on the following page. The Trust will work with staff and onsite facilities management (FM) providers to achieve these targets. The figure below shows energy consumption per m^2.

The peak fossil thermal (gas and oil) consumption in 2014/15 is associated with the installation of the CHP engine at the Sutton site. Fossil thermal consumption is expected to increase in 2021/22 as a new CHP engine will be installed at the Chelsea site; however, the Trust will continue to work to reduce consumption in other areas.

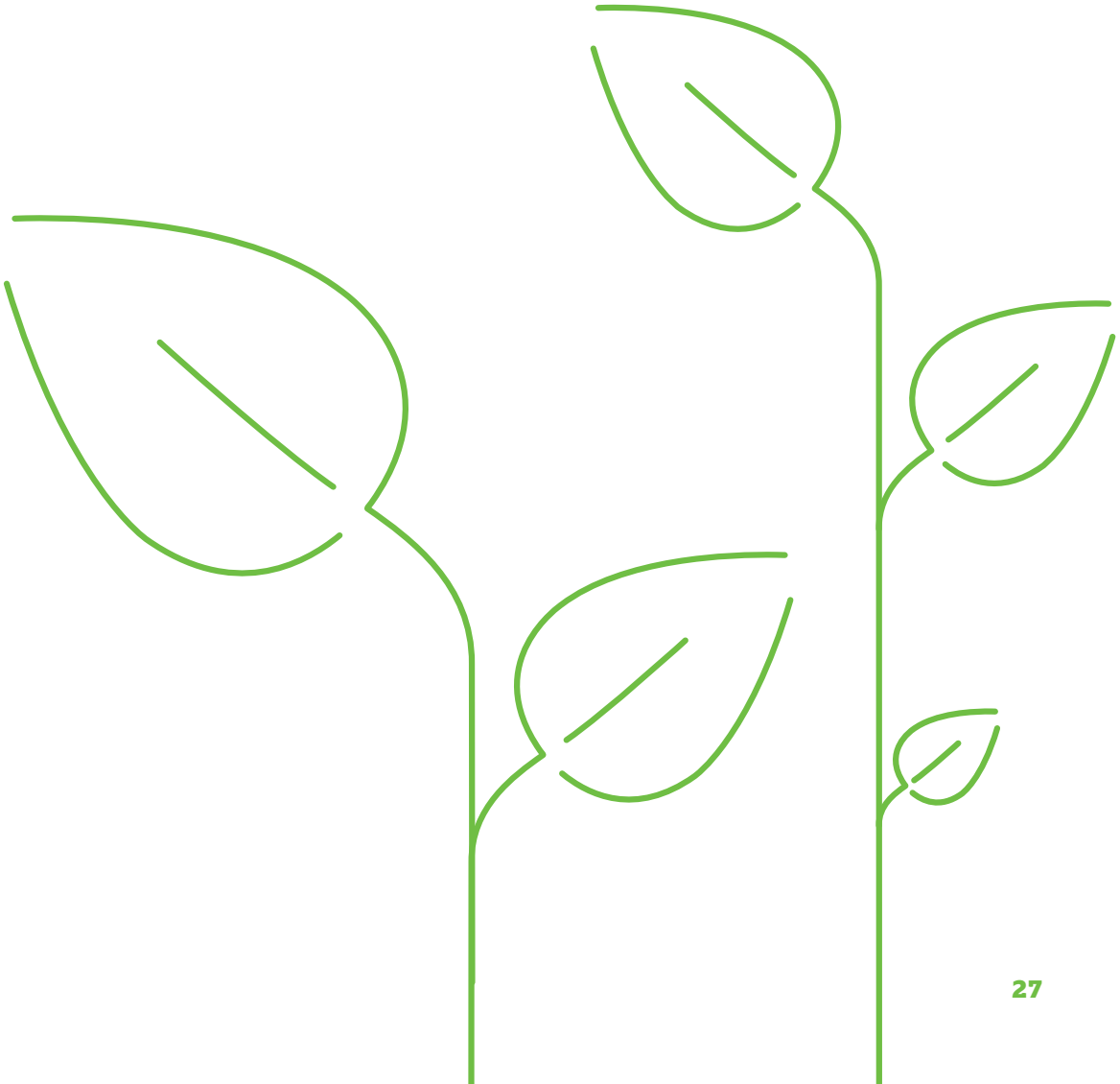
The targets set out are aligned with the Health Technical Memorandum 07-02: EnCO_2de 2015 – making energy work in healthcare.[10]

Energy consumption per m²



10 Health Technical Memorandum 07-02: EnCO_2de 2015 – making energy work in healthcare

Year	Electricity reduction (kWh per m²)	Fossil thermal reduction (kWh per m²)	Water reduction target (m³ per m²)	Trust recycling rate (%)
2020/21	128	502	0.91	42%
2021/22	111	490	0.88	48%
2022/23	104	465	0.86	52%
2023/24	97	445	0.84	58%



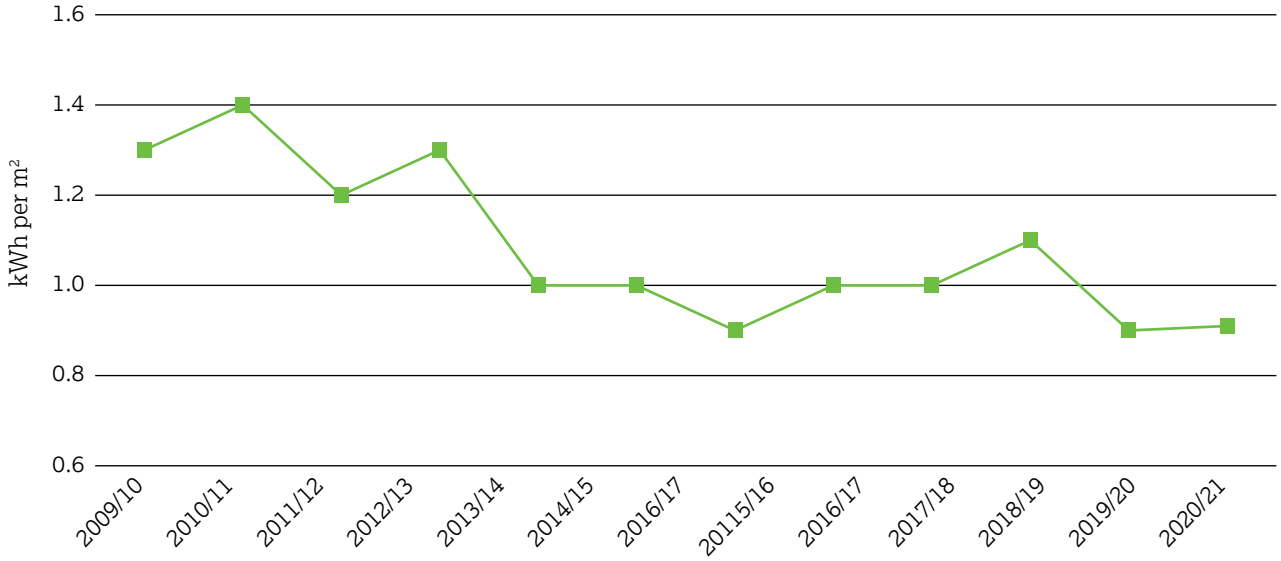
Water

The Trust has been working to reduce the volume of water used, while balancing the need to continually address risk of infection via increased hand washing and flushing in areas of low consumption. We have reduced our water consumption through better leak detection, upgrading pipework and water tanks, and reducing the number of flushes, where possible.

The increase in 2018/19 was due to a meter breakdown under-reporting the site usage in 2017/18 and water leakages.

The Trust is committed to reducing water consumption and will look to develop a water saving programme to achieve the targets. [11]

Water consumption (m^3) per m^2



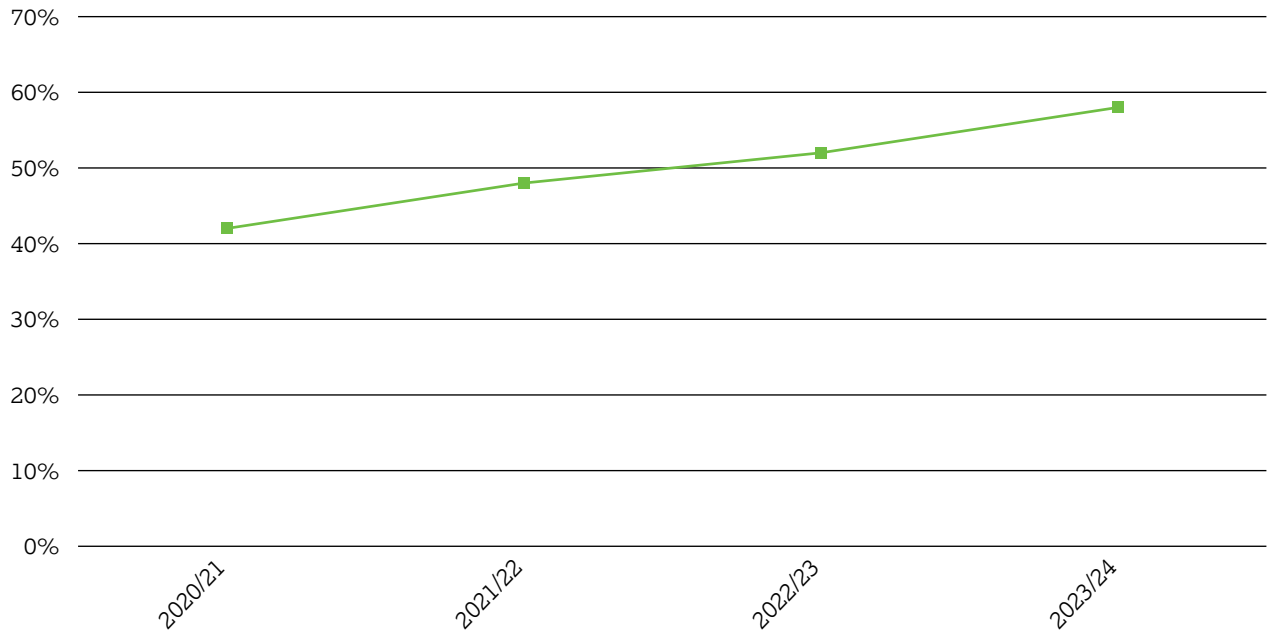
11 Health Technical Memorandum 07-04: Water management and water efficiency –best practice advice for the healthcare sector

Waste

The Trust ensures that waste is stored, transported and disposed of in accordance with waste legislation, regulations and codes of practice. The current waste policy details the Trust's arrangements to minimise waste production and increasing waste recycling by utilising the Waste Hierarchy in line with our zero waste to landfill policy. We are also accredited to the Carbon Trust Standard for Waste and assessed bi-annually.

The Trust's 2020/21 recycling rate is 42 per cent, compared to the target of 62.5 per cent; as such, the Trust must take steps changes to increase the recycling rate to achieve this, as outlined below. The Trust's 2021/22 waste data is expected to see significant improvement towards the 62.5 per cent target.

Recycling rate




NHS
Estates Department
The Royal Marsden
CWS
HTG RETURN

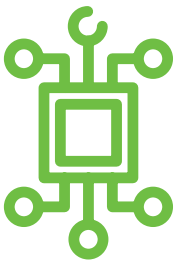
Key areas of focus

The key areas of focus of our Green Plan are set out in this section, together with clear objectives of what should be achieved and the actions which need to be undertaken. Delivering the key objectives will enable the Trust to achieve the carbon reduction and utility reduction targets.

These key areas of focus are aligned with the main drivers of change and sources of carbon emissions across the NHS as outlined in the *Delivering a 'Net Zero' National Health Service* report.

Workforce and system leadership

Sustainable models of care



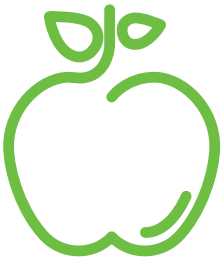
Digital transformation

Travel and transport

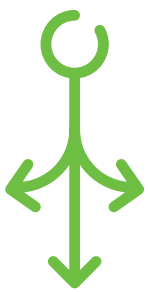
Estates and facilities

Medicines

Supply chain and procurement



Food and nutrition



Adaptation

Left: Colleagues in the Power Plant room

The Trust has undertaken a stakeholder engagement exercise to understand staff, patient and visitor values regarding sustainability. These exercises have helped shape the action plan.

Sixty-three employees took part in a sustainability survey, including those that are part of the Green Matters focus group. As a result of feedback received, the Trust produced sustainability corporate induction slides and maps that highlight sustainable options.

4.4 out of 10

How important staff think the Trust considers sustainability (10 = most important)

Key actions to enable staff to lead a more sustainable lifestyle

Highlight more sustainable options on site

Help to understand how sustainability can fit into my role

Include sustainability in corporate induction

Provide training

Communications and roadshows

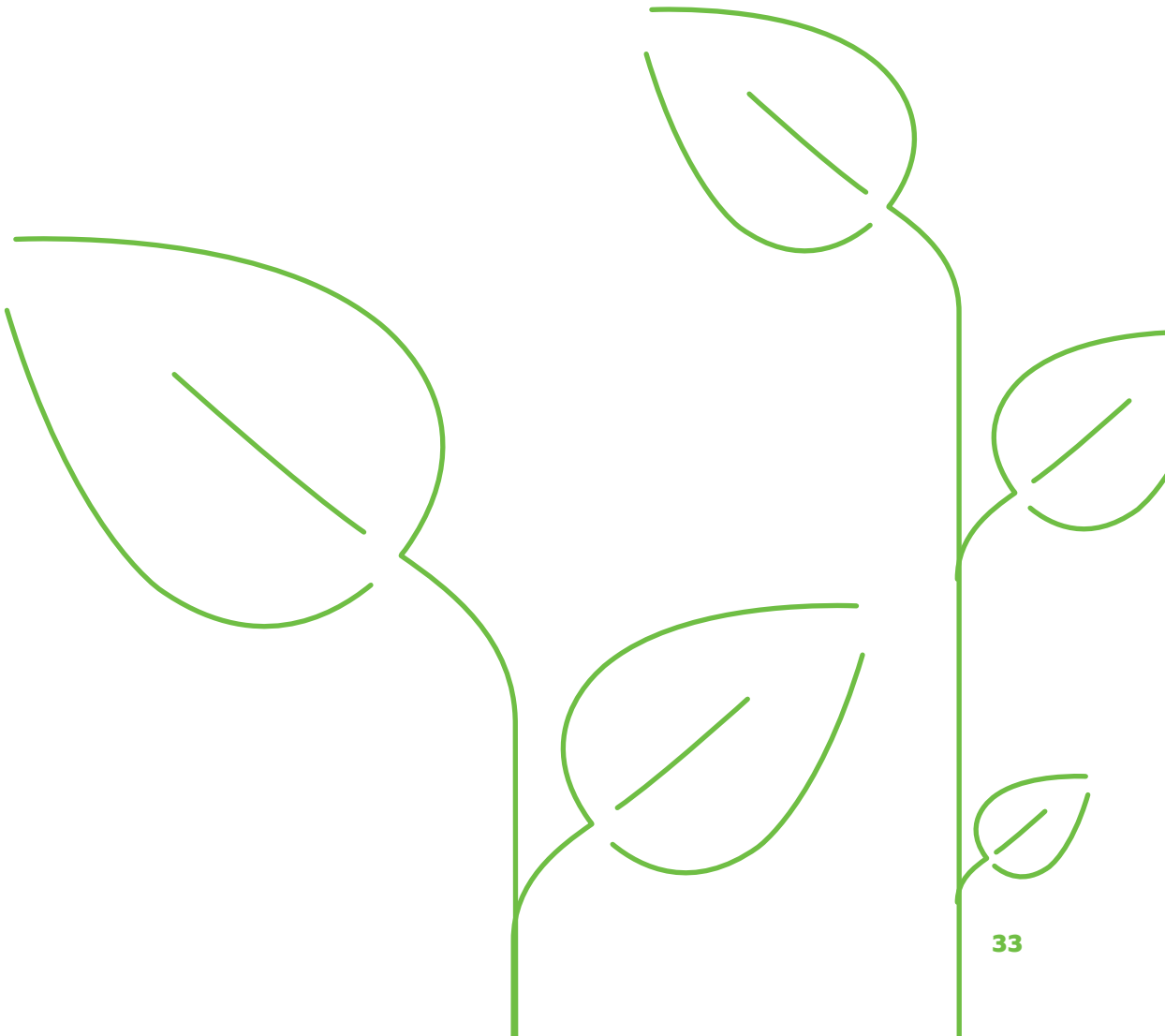
Sustainability survey results

Topics in order of importance for clinical staff

1. Waste and recycling
2. Resource efficiency (water and energy)
3. Climate change adaptation
4. Sustainable procurement
5. Active travel
6. Green spaces
7. Air quality
8. Biodiversity
9. Community programmes

Topics in order of importance for non-clinical staff

1. Waste and recycling
2. Resource efficiency (water and energy)
3. Sustainable procurement
4. Climate change adaptation
5. Active travel
6. Air quality
7. Green spaces
8. Biodiversity
9. Community programmes



Workforce and system leadership

The Royal Marsden recognises the great potential of our organisation and the skilled and caring staff to deliver high-quality and sustainable services. It is vital that staff and senior leadership are engaged and accountable for the delivery of the Green Plan and the policies and procedures that are consequently developed. Staff must be supported to embed sustainable behaviours and by placing people at the heart of our programme we can develop an achievable pathway to sustainable healthcare that is supported by staff, patients and visitors.

The previous edition of the Trust sustainable development management plan (SDMP), approved in 2012 by the Trust Board, has formed the basis of all sustainability-related reporting over the last seven years. Additionally, the Environmental Management Policy and Strategy has applied to all of the Trust's activities in both owned and managed properties; it outlines the Trust's responsibilities towards environmental management and engagement.

Recently, a focus group comprised of staff, 'Green Matters', was set up to champion environmental improvement throughout the Trust.

Left: Rose Asoro, Private Care Matron, and nursing colleagues in Granard House

Goal: To put structures in place to embed sustainability and share responsibility for the implementation, monitoring and reporting on the progress of this plan.

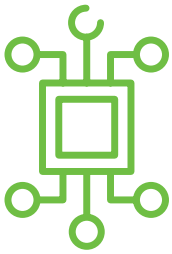
Trust actions	Timeframe
Benchmark the performance of The Royal Marsden against other similar organisations, including Royal Brompton and Harefield Hospitals	Annually
Continue to hold bi-monthly Green Matters meetings and progress ideas and initiatives that arise	Annually
Develop and implement a sustainability communications and engagement plan	2021/22
Introduce sustainability into corporate staff induction	2021/22
Include sustainability in all staff personal development objectives	2021/22
Undertake a sustainability survey with staff and patients	Annually
Include sustainability questionnaire in Board papers to understand the impact of proposals on resource use	2021/22
Establish a dedicated operational sustainability lead	2021/22
Develop and implement an engagement campaign that encourages healthy, sustainable lifestyles	2021/22

Sustainable models of care

Current and future models of care must be environmentally, socially and economically sustainable. Sustainability is a core and measurable dimension that underpins quality. The design of more integrated care services provides an opportunity for developing services in a way that also delivers wider societal and environmental benefits. Clinical pathways are one of the greatest areas of opportunity for improvement within the health service and the Trust will work to ensure sustainability principles are considered when deciding what is right for patients.

Goal: To continue to make a national and global contribution to cancer research and treatment while considering the environment, social and economic impact

Trust actions	Timeframe
Educate patients about the importance of a balanced nutritional diet	2021/22
Embed the principle of getting it right the first time via the national clinical improvement programme on applicable specialties	2022/23
Embed prevention in the development of all models of care	2022/23
Sustainable use of resources to be embedded as a decision criterion in the development of care models	2021/22
Calculate the environmental and carbon impact of Trust care models	2021/22
Include sustainability principles in all service planning, commissioning, patient safety and quality improvement programmes	2021/22
Calculate the environmental and carbon impact of Trust care models through the use of the net zero framework	2023/24



Digital transformation

The Trust recognises that we have opportunities to harness existing digital technology and systems to streamline our service delivery and supporting functions. These efforts will support us to reduce resource use and associated carbon emissions. As noted on page 38, the Trust shifted to delivering care remotely during COVID-19 and we will continue to embrace digitisation of services, where beneficial. We will also continue to explore the use of digital systems to reduce our use of paper and printing.

Goal: To continue to digitally enable care across our services and support care closer to home

Trust actions	Timeframe
Ensure staff are aware of and trained on how to use IT remote conferencing facilities such as Zoom and Microsoft Teams, and continue to consider new technologies to enhance this offering	2023/24
Offer flexible and remote working to accommodate specific personal needs of all staff	2021/22
Continue to assess and implement move to digital appointments/engagement, where appropriate	2022/23
Increase digitisation of services and administration, e.g. electronic payslips	Ongoing

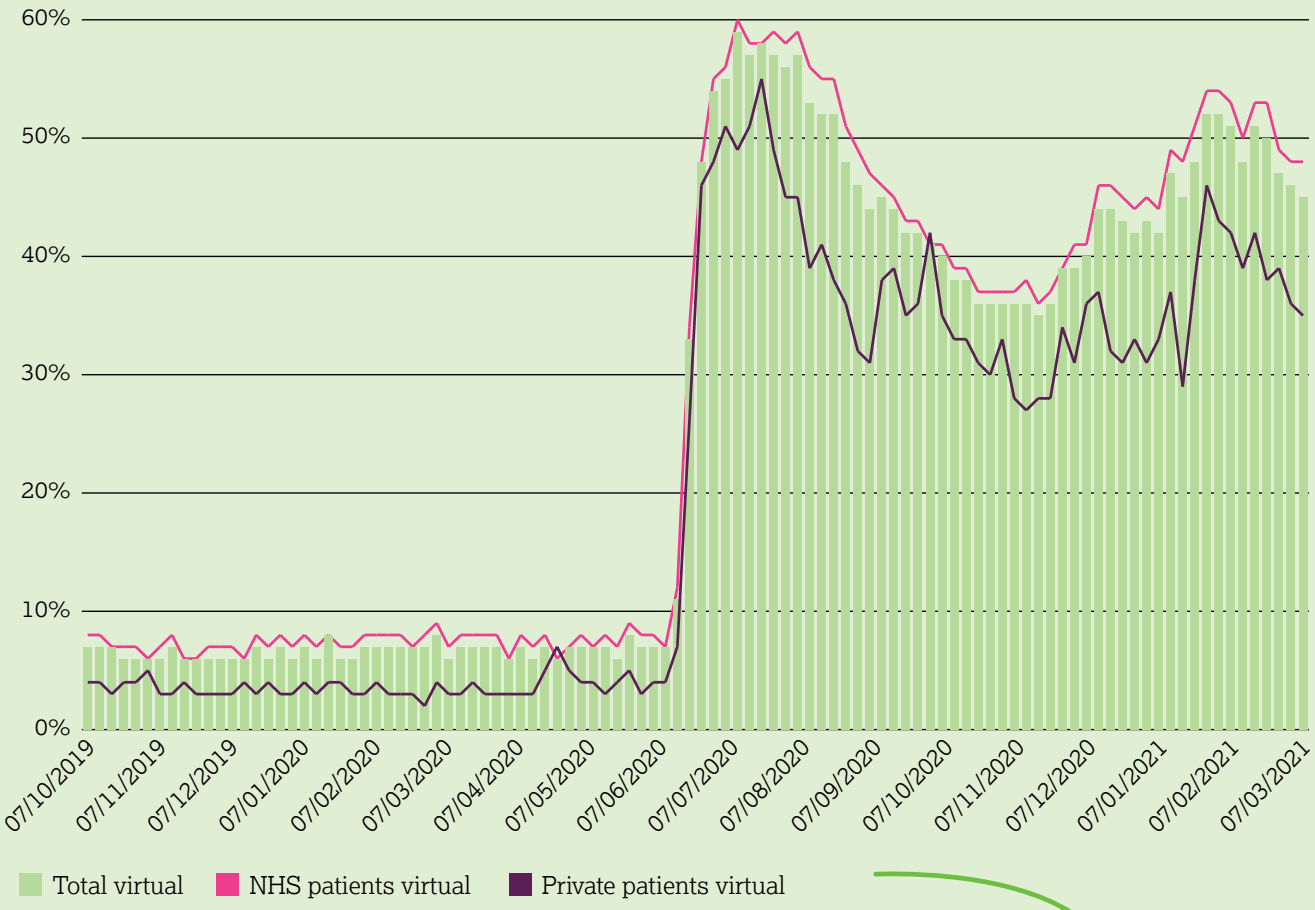
Left: Dr Julia Murray, Consultant Clinical Oncologist, using virtual consultation platform

Virtual clinics – the impact of COVID-19

The COVID-19 pandemic has forced us all to rapidly adapt to new ways of working. Some of these behavioural changes and service delivery alternatives will be maintained as we transition back towards a new normal. We have replaced some of our services with digital alternatives, including virtual consultations, which has reduced carbon emissions.

While the percentage of virtual consultations versus face-to-face is unlikely to stay at the same level, the Trust expects a maintained increase in virtual consultations compared to pre-COVID percentages. The graph on the following page shows the percentage of attendances delivered virtually across both private and NHS patients from October 2019 to March 2021. This reflects the shift in behaviours as a result of the pandemic and the Trust will continue to embrace digitisation of services, where beneficial.

Hospital attendances delivered virtually



Travel and transport

Managing transport and encouraging sustainable travel provides opportunities to make savings and create health benefits for staff, patients and visitors. Additionally, active travel reduces road traffic and helps improve local air quality. The Trust already has a travel plan that is reviewed annually. This travel plan delivers on key issues including improving access for patients, staff and visitors at both sites, and bringing transport and travel policies together in a coordinated way.

The Trust has installed electric vehicle charging points – there are four on the Sutton site.

The Trust's Cycle To Work scheme has raised the cycle value to £3,000 so staff can purchase electric bikes on the scheme. Additionally, the Trust has committed to reducing the number of staff parking permits issued by amending the car parking permit eligibility criteria. The local council will help to monitor progress. This will assist in reducing emissions from staff commutes.

The Trust will continue to work with key stakeholders including Transport for London, WestTrans, Royal Borough of Kensington and Chelsea, and London Borough of Sutton to encourage active travel.

Goal: To promote sustainable transport facilities and encourage more active travel as well as reduce our organisation's impact on air quality

Trust actions	Timeframe
Install electric vehicle charging points across the site – aim to install two charging points every year. Encourage uptake of the Cycle To Work scheme	Annually
Assess the feasibility of relaunching the car sharing scheme and implement relaunch as necessary	2021/22
Convert fleet and pool vehicles to fully electric	2023/24
Update the business travel policy to consider additional sustainability initiatives including advice on travel blending, planning ahead and fuel-efficient driving	2021/22
Update the Trust's sustainable travel plan	2021/22
Undertake an annual staff travel survey	Annually
Offer additional incentives to staff to encourage active travel, including the development of Bicycle Users Group, Dr Bike Sessions, guided walks and steps challenges	2021/22

Estates and facilities

The Trust is committed to reducing the impact of our operational assets and infrastructure on the environment. Our activities are particularly energy intensive and our utilities present a substantial cost to the organisation. By measuring consumption, we can prioritise actions to reduce it and ensure we minimise our environmental impact.

The Trust has been undertaking energy reduction schemes for many years, including installing LED lighting, a CHP engine at Sutton, solar PV panels and replacing Building Energy Management system control panels. The Trust has also been upgrading ventilation systems and plant and boiler upgrades.

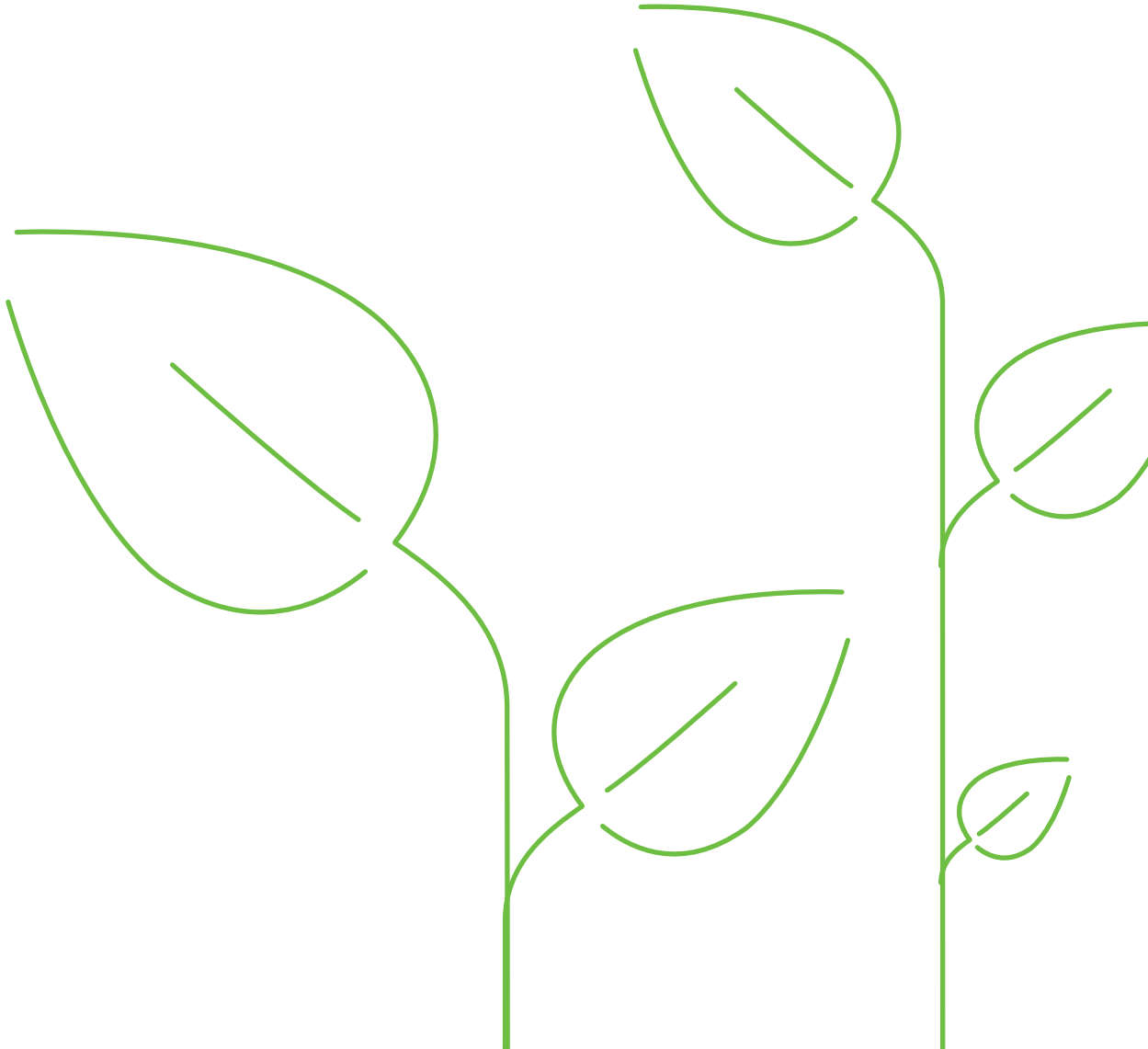
Over the last year, we have installed additional LED lighting and controls as well as upgraded air conditioning units and fans and motors, which is saving over £38k and 55tCO_2e annually.

Additionally, new builds such as the Oak Cancer Centre aim to achieve a 'BREEAM excellent' rating. The Trust will continue to ensure that sustainability is embedded into design briefs for all new capital projects.

Goal: To take action to reduce the cost and environmental impacts from energy, water and waste, and improve health through reducing the impact of the Trust estates

Trust actions	Timeframe
Implement significant sub metering for electricity and water across the Trust sites	2021/22
Undertake annual space utilisation assessments	Annually
Install CHP engine at the Chelsea site	2021/22
Develop and implement energy and water efficiency plans	2021/22
Purchase renewable energy	2021/22
Introduce training programme on sustainability for capital project staff on an annual basis	2021/22
Ensure that climate profiles are used in modelling design for all capital projects and major refurbishments	Ongoing
Achieve ISO14000 series of standards accreditation	2021/22

Trust actions	Timeframe
Develop a list of energy efficiency schemes to be monitored yearly, including more solar PV panels	Annually
New builds will be required to achieve 'BREEAM excellent' and refurbishments 'BREEAM very good'	Ongoing
Apply whole lifecycle costing in the design and construction of capital projects	Ongoing
Prioritise sustainable design and ensure implementation of the BSRIA Soft Landings Protocol in all capital projects by appointing a dedicated soft landings champion	2021/22
Develop and implement a resource and waste management action plan	2021/22



Right: Artist impression of the Oak Cancer Centre in Sutton

Oak Cancer Centre

The Oak Cancer Centre is due to open in 2022 and is designed to place 300 employees and treat 300 outpatients. The Trust is working to achieve a 'BREEAM excellent' rating for the new build and seeks to embrace natural ventilation and daylight among other measures, including:

- Heating will be provided by connecting to the existing CHP engine
- Proposed installation of 200m^2 mounted solar PV panels resulting in approximately 32,000 kWh of output per year
- Installation of high-efficiency LED lighting and lighting controls such as daylight dimming and presence and absence detection
- Incorporation of green roof to promote biodiversity and sustainable drainage
- Infiltration system into ground chalk including installation of infiltration storage tank in the event of a one-in-100-year storm
- The proposed energy strategy for the new build also follows the energy hierarchy to improve energy efficiency
- Thermal modelling of the building has been undertaken and allowances have been made for the heat gains from solar radiation.

The Trust is also working with Transport for London to reroute bus services; this will support the Trust's active travel objectives. It is expected that site load will increase in 2022 when the Oak Cancer Centre opens – this will be considered as we continue to aim to reduce Trust emissions.

Medicines

The Trust understands that anaesthetic gases and inhalers are the largest contributors to emissions from NHS medicines. As outlined on page 45, the majority of anaesthesia given at the Trust is total intravenous anaesthesia (TIVA), significantly reducing associated emissions.

We will continue to monitor the use of anaesthetic gases as well as the impact of other medicines and consider optimising prescriptions, substituting high-carbon products for low-carbon alternatives, and improving production and waste processes with our supply chain.

Goal: To reduce the impact of the buying and prescribing of medicines in line with Greener NHS ambitions

Trust actions	Timeframe
Encourage suppliers to adopt more sustainable packaging practices (e.g. pharmaceuticals and blister packs)	Ongoing
Require carbon emissions reporting from medical devices equipment and pharmaceutical suppliers	2023/24
Identify high-carbon products and services and plan to reduce their impacts, for example by specifying lower carbon alternatives	2021/22
Ensure social prescribing initiatives and lifestyle medicine as an alternative	Ongoing
Incorporate the greenhouse gas impact of medical gases into the Medical Gas Policy	2021/22
Develop and implement a resource and waste management action plan that considers pharmaceuticals, medical devices and anaesthetic gases	2021/22
Reduce unnecessary prescribing and undertake stock management to reduce pharmaceutical waste	2022/23

Total intravenous anaesthesia

The Trust's anaesthetic practice offers a unique patient-focused service that also significantly reduces its impact on the environment.

Total intravenous anaesthesia (TIVA) is a technique of general anaesthesia which uses a combination of agents given exclusively by the intravenous route (administered into a vein) without using inhalation agents. In 2019, 91 per cent of the anaesthesia given at the Trust was TIVA. The other nine per cent was gas or volatile anaesthesia, which is more commonly used worldwide.

Following the use of anaesthetic gases, they are expelled into the atmosphere and therefore contribute to climate change. Volatile gases from anaesthetics contribute almost two per cent of the greenhouse gas emissions from the NHS.[12] Switching to TIVA not only benefits the patient, but also reduces the Trust's carbon footprint.

The Royal Marsden's Anaesthetic Department also teaches other consultants how to use TIVA techniques.

Whilst nine per cent of cases at the Trust use volatile anaesthesia, the Trust has also switched to using sevoflurane over desflurane, which emits less carbon per hour of use; the use of desflurane for one hour equates to driving an average passenger car for approximately 375km, whereas the use of sevoflurane for one hour equates to driving an average passenger car for 28km.[13]

Additionally, the Trust has a scavenging system in place at both sites. This system collects waste gases that have either been exhaled or escaped from the breathing circuit into the theatre and helps avoid theatre pollution.

Benefits of TIVA:

Improved quality of recovery

Minimises post-operative nausea

Reduced carbon emissions

12 NHS England, *Delivering a 'Net Zero' National Health Service*
13 Ryan SM, Nielsen CJ. 'Global warming potential of inhaled anesthetics: application to clinical use'

Supply chain and procurement

The NHS supply chain accounts for approximately 62 per cent of total carbon emissions and is a clear priority area for focus in every Green Plan. NHS organisations should consider how their individual or collective purchasing power and decisions can be used to reduce carbon embedded in their supply chains. Examples may include reducing the use of clinical and non-clinical single-use plastic items; reusing or reprocessing equipment (such as walking aids) where appropriate; and considering lower carbon alternative supplies, such as recycled paper.

The Trust recognises the importance of making better use of our collective resources and responsibly segregating and disposing of waste that is generated. All items that can be reused are reused; unwanted furniture is redistributed within the Trust for use where demand exists or is otherwise donated to the local hospice, St Raphael's. In addition, medical equipment is auctioned with the British Medical Association to minimise waste and maximise environmental and financial benefit. All condemned items are deconstructed and component parts recycled. The Trust recently recycled approximately half a tonne of unwanted linen, uniforms and curtains via a textile recycling company. The Trust is currently on the waiting list to participate in a PVC recycling scheme.

By working with our staff and supply chain we can optimise the use of our resources and progress towards a circular economy.

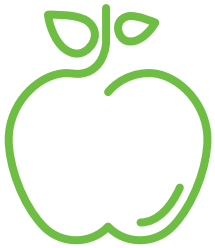
Goal: To take action to reduce the cost and environmental impacts from the goods and services we procure and use

Trust actions	Timeframe
Hold a supplier engagement programme on sustainability	Annually
Develop and implement a sustainable procurement awareness programme	2021/22
Commit to increase spend with small and medium-sized enterprises (SMEs) and social enterprises to £1 in every £3	2021/22
Include energy and water consumption as a factor in whole life costing in the procurement of goods	2021/22
Develop and implement a repair and reuse plan that includes working with the supply chain to maximise repair and reuse onsite of durable products	2021/22

Trust actions	Timeframe
Implement waste to resource processes including: • Furniture re-use scheme • Donation of IT equipment	2021/22
Identify and work with strategic suppliers to reduce overall carbon impacts from our supply chain	Annually
Sign up to the Plastic Pledge to reduce single-use plastics	2021/22
Develop a plan to increase accessibility to sustainable products	2022/23
Ensure suppliers continue to comply with NHS requirements aimed at driving carbon reduction	Ongoing

Over the last year, the Trust has undertaken a number of initiatives to reduce resource use, including the following:

- We have signed up with Globechain's re-use marketplace application for predominantly bulky items in good condition that we can no longer use
- We have replaced all plastic water cooler cups with recyclable paper 'cone' cups and signed the NHS Plastic Pledge
- From April 2020, the Trust no longer purchases single-use plastic straws and stirrers, in line with the government consultation
- From April 2021, the Trust no longer purchases single-use plastic cutlery, plates or single-use cups made of expanded polystyrene or oxodegradable plastics
- After April 2021, the Trust is going beyond these commitments in reducing single-use plastic food containers and other plastic cups for beverages, including covers and lids
- We are currently looking into the viability of recycling all blister packs from our pharmacies in collaboration with Marie Curie and Terracycle
- We have joined the Simply Cups scheme to segregate and recycle disposable PE-lined coffee cups and have dedicated cup bins at both sites to capture these
- Our catering department is liaising with suppliers to review their packaging. Of note is our milk provider, who has reduced bottle weights by around 13 per cent packaging/plastic reduction and there are plans for 30 per cent recycled content in the coming months.

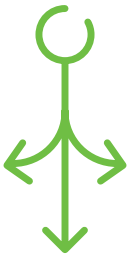


Food and nutrition

The Trust understands that food and catering services in the NHS quates to approximately six per cent of total emissions. While we have not quantified emissions resulting from our food and catering services, we understand the benefits of healthier, locally sourced food and the impact it can have on reducing emissions. We will aim to deliver on the new national standards for healthcare food for patients, staff and visitors and source local suppliers of food, use seasonal produce and enhance efforts to reduce food waste.

Goal: To quantify and subsequently reduce emissions associated with our food and catering services

Trust actions	Timeframe
Track food miles, consumption patterns and disposal of food and drink and develop a plan to minimise the impact of food catering and food	2023/24
Develop targets to increase the amount of healthy and sustainable food choices	2021/22
Catering and food contracts to exceed government guidelines by achieving Government Buying Standards through external accreditation such as Food for Life	2022/23
Engage with staff and patients for onsite food growing and local sustainable food sourcing via a campaign	2022/23
Provide space for the growth and cultivation of food and food banks where appropriate	Ongoing



Adaptation

Climate change is one the biggest challenges the world currently faces – consequences include more frequent and severe weather conditions, increased air pollution, higher wildlife extinction rates and increased sea levels. These effects are causing one of the biggest global health threats of the century in a variety of direct and indirect ways; for example, increased occurrence of heatwaves leading to increased emergency visits and increased pollution leading to increased prevalence of respiratory diseases.

To address the crisis, the Trust must not only work to reduce carbon emissions, but also prepare for the consequences. The Trust recognises the need to respond and prepare for the changes ahead and will continue to work to reduce the impacts on infrastructure, services and resources.

Goal: We will ensure Trust infrastructure, operations and supply chain are resilient to the effects of climate change

Trust actions	Timeframe
Develop and implement a climate change adaptation plan. This includes upgrading drainage and air conditioning systems	2021/22
Introduce workforce training for extreme weather preparedness that is held on an annual basis	2021/22
Embed climate change into the Trust risk register	2021/22
Develop and implement an extreme weather vulnerable communities strategy	2022/23
Undertake impact assessment of adaptation decisions on local communities	Ongoing


The ROYAL MARSDEN
Patricia
Oliveira

Governance, communications, partnerships and finance

Governance and monitoring

The Trust will set up a Green Plan Steering Group (GPSG), chaired by the Chief Operating Officer, to oversee the implementation of the Green Plan. The implementation of the Green Plan will be monitored through bi-annual review and reported to the Audit and Finance Committee on an annual basis and also through the Trust's annual report.

The group will review and report on progress against the requirements of the Trust's Green Plan on a quarterly basis. Green Matters (see page 53) brings together representatives from across the Trust with the aim of ensuring continual focus on opportunities for improvement in sustainable development and carbon reduction. Progress will be provided to the Green Plan Steering Group on a quarterly basis. Green Matters membership is open to all staff showing an interest in environmental improvement.

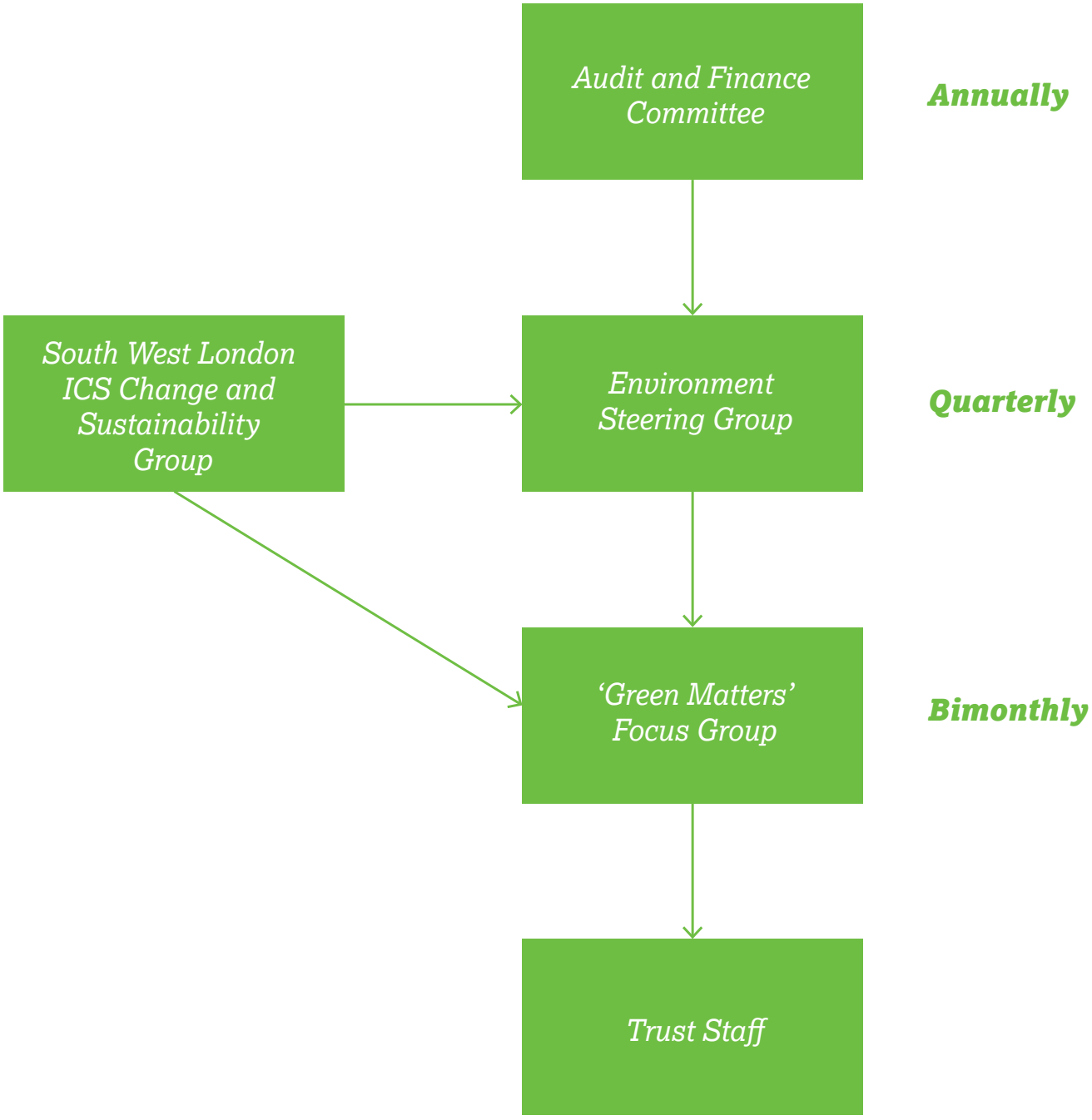
The action plan in this report also recommends that the Trust establishes a dedicated sustainability lead to drive forward the implementation of the Green Plan. This will ensure that efforts to integrate sustainability through projects and daily operations are coordinated and successful.

The dedicated sustainability lead will liaise with the Green Matters focus group and support the Project and Estates team to oversee the forum. This dedicated sustainability lead will also report feedback from the staff engagement programme.

Additionally, the South West London Integrated Care System (ICS) has formed a Change and Sustainability Group that includes a delivery group which meets monthly. A more formal accountable meeting occurs quarterly where progress across the ICS is reported.

Left: Patricia Oliveira, Laila Jamaa and Iah Sy on Wiltshaw Ward

Green Plan reporting structure and frequency of reporting



Green Matters

The focus group, Green Matters, provides a forum for Royal Marsden staff to initiate, drive and champion positive environmental change. It has already supported the Trust in developing its targets contained within this Green Plan.

Green Matters provides an opportunity for members of staff, on behalf of themselves and colleagues, to work with key internal service providers to present and discuss ideas and improvements and be part of championing environmental improvement throughout the organisation, focusing on sustainable procurement, waste reduction management, travel and transport, estate development and maintenance, integrative behavioural change, and biodiversity and environmental management.

Green Matters provides a 'ground up' approach to environmental management, complementing the 'top down' leadership and governance of the Green Plan, and ensures that environmental management becomes a part of day-to-day activity.

Green Matters forums will initially take place every two months and will be video linked between Chelsea and Sutton and, where technology develops and allows, other Trust sites.

Additionally, there will be a Green Plan strategic meeting for directors and senior managers with sustainability responsibility. This steering group will drive forward improvements and sets objectives for service providers and leads and the meetings will be where there are formal updates on Trust performance. The steering group will therefore focus on continuous improvement and maintaining momentum for change in order to ensure the Green Plan remains a living plan.

Green Matters provides a 'ground up' approach to environmental management

Communications and engagement

To drive change across the organisation and achieve the ambitious programme of work set out in this plan, ongoing communication, engagement and feedback is required. The Trust will publish an annual sustainability report that incorporates progress against the Green Plan, feedback from the annual sustainability survey and how the Trust responds to any key issues identified. Key information to communicate progress on sustainability is shown in the table below.

Initiative	Reporting frequency	Method
Progress against the Sustainable Development Assessment Tool	Annually	Trust annual report, Sustainability report
Sustainability survey feedback	Annually	Sustainability report
Carbon emissions	Annually	Trust annual report, Sustainability report
Utilities consumption	Quarterly	Internal communications channels, Trust annual report, Sustainability report, Estates Return Information Collection (ERIC)
Rates of recycling and waste minimisation	Quarterly	Internal communications channels, Trust annual report, Sustainability report, ERIC
Financial savings from Green Plan initiatives	As and when completed	Internal communications channels, Sustainability report

Staff communications and engagement

The Green Matters focus group will work with the Trust Marketing and Communications team to develop a communications and engagement plan; this will encompass regional and national activities such as NHS Sustainability Day and National Clean Air Day. This plan will ensure there is a structure around sustainability communications that provides staff with materials and information that will encourage them to make changes in both the workplace and at home. The plan will utilise the following communications methods and channels:

- 'Green Matters' network
- Trust communication outlets
- Public website
- Social media, including Twitter and Facebook
- Roadshows and face-to-face communication.

The Green Matters focus group will also help spread key messages effectively and educate staff on how they can contribute to sustainable healthcare. Members of the focus group will be committed to championing sustainability in the Trust and they will engage with their teams through actions, including, but not limited to:

- Maintaining a sustainability notice board in their work area
- Including sustainability discussions in team meetings
- Putting up sustainability information posters
- Informing their teams of any new sustainability initiatives the Trust has introduced.

Right: Colleagues in staff meeting

Local partnerships

Collaboration with the community and local partners is also key to ensuring the Trust makes a positive contribution and reduces its impact on the environment.

Additionally, working in partnership with other healthcare organisations will also help drive innovation and make the most effective use of our resources through shared best practice.

The Trust is already working with multiple key partners to deliver the Trust travel plan and the South West London ICS provides an opportunity to continually improve and progress sustainability within our services as well as influence other health organisations.

In addition, we are currently liaising with the Institute of Cancer Research and looking at how we can collaborate jointly on environmental plans, in particular green travel.

The Trust will specifically share experiences and expertise with other providers via sustainability networks, such as the NHS sustainability campaign, to support the delivery of sustainable healthcare within the UK.

Key partners:

- The Royal Borough of Kensington and Chelsea
- Sutton Council
- Transport for London
- Epsom and St Helier University Hospitals NHS Trust (Sutton Hospital)
- The Institute of Cancer Research
- Royal Brompton Hospital
- Chelsea and Westminster Hospital NHS Foundation Trust
- NHS Travel Plan Forum and supporting sub-regional group (via WestTrans)
- Other constitute organisations of the South West London ICS.

Finance and risk

Finance

The Trust monitors the financial implications of energy and water use, waste disposal and business travel. Given the costs associated with utilities and waste disposal are rising, the Trust will continue to work to reduce demand and increase efficiency of resource use.

Whilst many initiatives will not require upfront funding, some actions may need investment to implement. Where required, the Trust will develop robust business cases to provide justification of the spend. The Trust will also look at different of sources of funding where applicable, for example government funding, government grants, Trust capital and The Royal Marsden Cancer Charity.

Risk

Where the Trust identifies any significant risks associated with the delivery of this Green Plan, including financial risks, legislative risks and climate change risks, they will be logged and included in the Trust Risk Register; these risks will be reviewed and updated regularly. Additionally, as outlined in the action plan, climate adaptation risks will also be logged and included in the Trust Risk Register.

Data sources

The Estates Return Information Collection (ERIC) contains information relating to the costs of providing, maintaining and servicing the NHS estate. Government emission conversion factors were used for carbon reporting.

Utilities

- Gas: Trust data from the Estates department, also reported into ERIC
- Electricity: Trust data from the Estates department, also reported into ERIC
- Oil: retrieved from ERIC
- Water: Trust data from the Estates department, also reported into ERIC

Travel

- Patient and visitor transport: only includes patient transportation services provided by Flack, the Trust's service provider
- Staff commute: only includes data for distance travelled to site for staff who park at the Sutton site
- Business travel: includes travel from Trust managed fleet vehicles and business mileage claimed

Waste disposal

- Incineration, alternative treatment, recycling, anaerobic digestion, landfill: all retrieved directly from ERIC

Abbreviations

BSRIA – Building Services Research and Information Association

CHP – Combined heat and power

CO_2 – Carbon dioxide

CO_2e – Carbon dioxide equivalent

ERIC – Estates Returns Information Collection

FM – Facilities management

GPSG – Green Plan Steering Group

ICR – Institute of Cancer Research

ICS – Integrated Care System

LED – Lighting-emitting diode

NIHR – National Institute for Health Research

P4CR – Procuring for Carbon Reduction

PVC – Polyvinyl chloride

SDMP – Sustainable Development Management Plan

SDU – Sustainable Development Unit

SMEs – Small and medium-sized enterprises

TIVA – total intravenous anaesthesia

Radiotherapy and
Chemotherapy Services
F538021 & F538022