NHS
King's College Hospital
NHS Foundation Trust

Sustainable Healthcare for All - a Green Plan for King's

2021-2026

Contents

Foreword

Reaching our country's ambitions under the Paris Climate Change Agreement could see over 5,700 lives saved every year from improved air quality, 38,000 lives saved every year from a more physically active population and over 100,000 lives saved every year from healthier diets. Parliament announced a climate change emergency in 2019 and with the NHS representing more than 5% of the UK's total carbon footprint, NHS England have recently released a report setting out the ambitious targets of net zero for its NHS Carbon Footprint and its NHS Carbon Footprint Plus by 2040 and 2045 respectively.

As the country collectively pushes towards a carbon neutral economy, the Trust is working to reduce its carbon emissions, waste and pollution. By reducing our impact on the environment, we can expect to see significant improvements in our healthcare services as well as the health of the population. The NHS has an effect on every individual in this country, and therefore the NHS needs to be part of the solution, not part of the problem – its impact on the environment cannot be ignored. The Trust will review its activities to ensure that our healthcare services are provided in a sustainable manner.

The Trust has seen the benefits of a number of carbon and energy reduction projects through an £8 million energy performance contract and the roll out LED lighting across all our sites, which will reduce our site electricity consumption by 5%. These short-term actions have been combined with the development of a carbon roadmap that will detail routes to achieve our net zero ambitions by 2040 and additionally help improve the Trust's understanding and decision making with upcoming changes to the energy and carbon marketplace.

Additionally, King's has taken significant steps to improving the sustainability of our services and reducing our resource use. This encompasses training, engagement and various waste segregation improvement initiatives, such as crisp packet recycling, reusable cups and offensive waste segregation.

Sustainability is defined as meeting our owns needs today without compromising the ability of future generations to meet their needs. This is not restricted to the use of natural resources as social and economic resources are also important. As we move towards sustainable operations, not only will we prevent the devastating effects of climate change but will also reap the social and economic rewards that can be reinvested to further our sustainability agenda.

This will be a calculated approach, where accurate monitoring and reporting of different activities will help us focus on the main issues as we draw up innovative solutions to minimise our pollution and waste. This plan is not final as we will see continual adaptation and improvement in line with future changes. Our priority remains the efficient care and safety of our patients and staff and by embedding sustainability throughout the Trust, we will improve and enhance our healthcare delivery now and for the future.

Lorcan Woods
Chief Financial Officer & Executive sponsor

"In line with King's new strategy, and our BOLD vision for the future, the Board and I are wholly committed to deliver Sustainable Healthcare for All via this Green Plan for King's. We need to take a holistic approach to sustainability, examining and reducing every aspect of our environmental footprint. I give my personal commitment to lead this huge effort and would ask each and every person and organisation connected to us to bring all the energy and commitment they can to bear. Where there is a will, there is a way."

1 Introduction

This document focuses on environmental sustainability. The most significant aspect of the Trust's environmental impact is its contribution to climate change, caused by the organisation's carbon emissions i.e. its carbon footprint. This document therefore focuses on carbon emissions – but also considers other environmental aspects including local air pollution and social impacts such as health and wellbeing.

This Green Plan has been designed in line with Greener NHS guidance and has been designed to be as concise as possible whilst complying with NHS Net Zero requirements.

Net zero refers to achieving a balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere. Net zero is important as it's the best way we can tackle climate change by reducing global warming.

This document specifically addresses the five-year period 2021/22 to 2025/26, within the context of longer-term sustainability objectives over the next 20+ years.

This Green Plan quantifies the Trust's carbon footprint and carbon reduction targets. The Green Plan is split into several sections that discuss the different aspects of sustainability. For each of these the Green Plan considers:

Where are we now → Where do we want to be (targets) → How we will get there (actions)
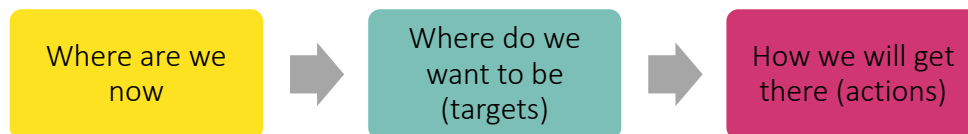
Governance arrangements are also outlined, these describe how the Green Plan will be implemented and monitored to ensure delivery.

Who is this document for?

- The Public
- All Staff
- Sustainability Steering Group
- Care Group and Corporate Leadership
- Trust Board and Executives

Interface with Existing Policy

The following documents interface with this Green Plan. The guidance within them has been taken into account when creating this document and they will be updated accordingly as we progress our plans:

- Waste Management Policy
- Transport Policy
- Travel Plan (draft)
- Water Safety Policy

Further development of this Green Plan

In many cases these plans and targets are centred around better understanding the wider impacts the Trust has. The future plan is for this document to be updated, improved and expanded as we better understand our environmental impacts and how to reduce them.

2 King's as an anchor institution

As an anchor institution - a longstanding local organisation with the opportunity and means to positively impact and uplift our community - we will use our impact and influence to positively contribute to our local area through:

Collaborating with our partners to realise a shared vision to deliver sustainable healthcare services and achieve net zero carbon.

Reducing our environmental impact and helping those around us to also improve their own, to be more sustainable and reduce associated health inequalities.

Improving local air quality to reduce the risk of poor air quality-related illnesses and respiratory diseases.

Supporting local businesses through the goods and services we purchase and through the infrastructure we provide our communities.

Building healthier communities – impacting wider factors that benefit public health and wellbeing.
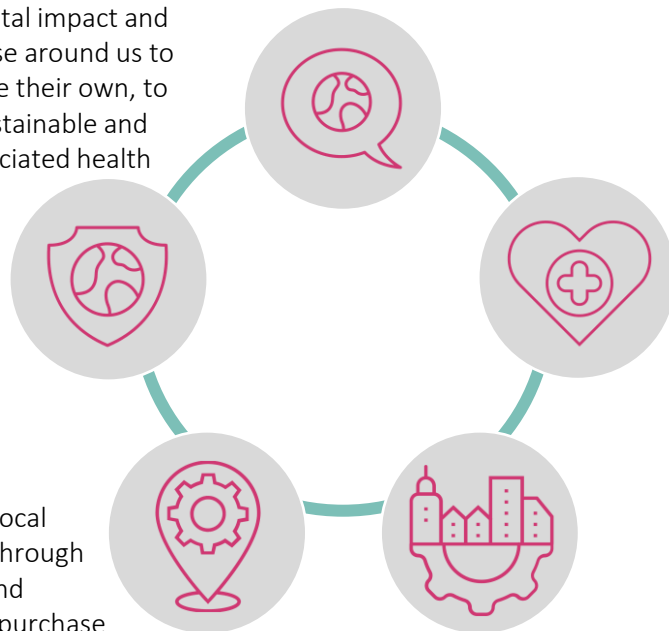
Our role

- Build a strong foundation to deliver net zero
- Enable delivery of sustainable healthcare
- Learn and share challenges and success
- Lead the way among NHS Trusts
- Establish leadership
- Develop a shared vision with partners
- Maintain momentum for change

3 Why are we doing this?

Green Plan importance

Increasing emissions has led to the announcement of a climate emergency by Parliament in 2019 and radical changes are sought to minimise emissions and reverse the impact of our activity on the environment.

Climate change and the adverse weather events associated with it, bring new challenges to public life as well as businesses. More intense storms and floods, more frequent heatwaves and the spread of infectious disease from climate change threaten to undermine years of health gains. Action on climate change will bring direct improvements for public health. Reaching our country's ambitions under the Paris Climate Change Agreement could see over 5,700 lives saved every year from improved air quality, 38,000 lives saved every year from a more physically active population and over 100,000 lives saved every year from healthier diets. Parliament announced a climate change emergency in 2019 and with the NHS representing more than 5% of the UK's total carbon footprint, NHS England have recently released a report setting out the ambitious targets of net zero for its NHS Carbon Footprint and its NHS Carbon Footprint Plus by 2040 and 2045 respectively.

This Green Plan breaks down the components of the Trust's carbon footprint, measures and benchmarks the Trust's current energy and carbon performance, sets key interim targets and lists the steps required to achieve those targets.

It is our moral obligation to ensure that our impact as a Trust is controlled in the short term as we lay the foundational blocks required to achieve our more ambitious long-term goal; operating as a sustainable and efficient organisation. Positive steps have been taken to improve our environmental performance over the last few years and this Green Plan will build on and accelerate that progress. This work will also reduce the strain on our services and improve the quality of care that we are able to provide to our patients.

Legislation and drivers

There are several legislative requirements which the NHS need to adhere to relating to climate change and sustainability. The key legislation and regulation relating to sustainable development in healthcare includes:

Greener NHS Campaign[1]: Delivering a Net Zero NHS report 2020, outlining the roadmap to net zero carbon to tackle the climate health emergency. Document includes actions which have been incorporated into the Green Plan.

NHS Standard Forms Contract[2]: Mandated by NHS England which contains a requirement for NHS providers to maintain a Green Plan demonstrating how progress will be made.

NHS Long Term Plan[3]: Sets out a number of actions committed to leading the public sector in the field of sustainability by setting an interim target of 60% reduction in carbon footprint by 2030.

Climate Change Act 2008[4]: Legally binding UK Government targets for the reduction of carbon emissions. The NHS has a duty to respond to meet these targets which are enshrined in law.

Civil Contingencies Act 2004[5]: Requires all NHS organisations to prepare for adverse events and incidents and demonstrate they have undertaken risk assessments and that carbon reduction plans are in place.

Public Services (Social Value) Act 2012[6]: All commissioners of public services to consider social and environmental value, when buying goods and services. Social value is defined as the collective gain to the community from commissioning/procurement.

The National Adaptation Programme 2018-2023[7]: Sets out the actions that the government and organisations need to take within 5 years (2018-2023) to respond to the risks identified in the Climate Change Risk Assessment. Forms part of the five-yearly cycle of requirements laid down in the Climate Change Act 2008.

London Plan (draft, 2019)[8]: Requires a minimum of 35% reduction in carbon savings for all major non-residential developments with any shortfall being offset at a certain price.

1. NHS England *For a greener NHS*; 2. NHS England. *2019/20 NHS Standard Contract*, 2020; 3. NHS England. *The NHS Long Term Plan*, 2019; 4. Climate Change Act 2008; 5. Civil Contingencies Act 2004; 6. Public Services (Social Value) Act 2012; 7. Department for Environment Food & Rural Affairs *The National Adaptation Programme and the third strategy for climate adaptation reporting*, 2018; 8. Mayor of London. *Draft London Plan* 2019.

3 Why are we doing this?

Carbon emissions

The Trust's emissions can be categorised into two main groups: NHS Carbon Footprint and NHS Carbon Footprint Plus (Figure 1).

The NHS Carbon Footprint is the main focus of this report, action plan and work of the Sustainability Steering Group, as it contains activities that are in the Trust's control. This contains both direct emissions, which are those that we create ourselves, as well as indirect emissions which result from products or services we purchase.

The emissions under NHS Carbon Footprint Plus are all indirect emissions, which are more difficult to quantify and not in our direct control however we can make informed choices around what products and services we purchase.
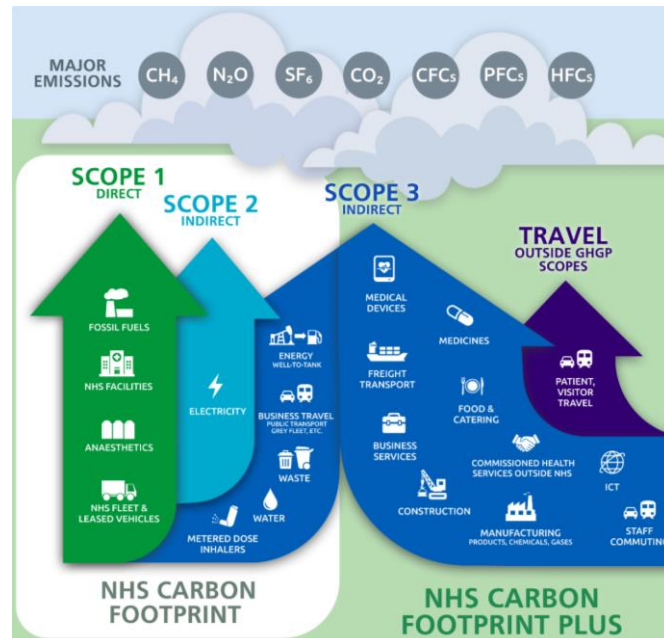
It is critical that we take steps now to ensure the Trust not only meets NHS and legislative targets but is at the forefront of sustainability in the healthcare sector. Based on this we pledge to the following targets (against a baseline of 2014/15):

NHS Carbon Footprint

- 44% carbon reduction by 2026 against a 2019/20 baseline – This reflects our target to the end of this Green Plan
- 80% carbon reduction by 2032
- 100% carbon reduction by 2040

NHS Carbon Footprint Plus

- 40% carbon reduction by 2030
- 80% carbon reduction by 2039
- 100% carbon reduction by 2045

This Green Plan focuses on our NHS Carbon Footprint and calculates the Trust's carbon footprint and targets accordingly. However, the plan also touches on some of the Trust's key emissions from activities categorised in the NHS Carbon Footprint Plus. It is envisaged that this Green Plan will be developed further to include these emissions more fully in future.

Figure 1: GHGP scopes in the context of the NHS

3 Why are we doing this?

NHS requirements

The Greener NHS[1], Long Term Plan[3], NHS Standard Contract[2] and Operational Planning and Contracting Guidance[9] for the NHS set out the following deliverables for environmental sustainability in the NHS. Our action plan sets out our approach to meet the following objectives:

Reduce carbon, waste and water

- Reduce the proportion of desflurane to sevoflurane used in surgery to less than 20% by volume.
- A shift to lower carbon inhalers will deliver a carbon reduction of 4%, with a further 2% delivered through transforming anaesthetic practices.
- Reduce the carbon impact of inhalers by at least 50%.
- Phase out fossil fuels for primary heating and replace them with less polluting alternatives.
- Ensure all new builds and refurbishments are delivered to net zero carbon standards.
- Purchase 100% renewable electricity from energy suppliers by April 2021.
- Recycle 65% of municipal waste and embed circular economy principles.
- Expand existing walking aid refurbishment schemes with 40% of all walking aids refurbished in the next five years.
- Reduce reliance on office paper by 50% across secondary care through increased digitalisation.
- Switch to 100% recycled content paper for all office-based functions.
- The NHS will no longer purchase from suppliers that do not meet our commitment to net zero (2040).

Improve air quality

- Ensure that any car leasing schemes restrict high emission vehicles and promote ultra-low emission vehicles.
- Cut business mileages and fleet air pollutant emissions by 20% by 2023/24.
- At least 90% of the NHS fleet will use low-emissions engines (including 25% Ultra Low Emissions) by 2028.
- All fleet vehicles purchased or leased by the organisation after 1 April 2020 support the transition to low and ultra-low emission (ULEV).
- By 2023/24 every patient in England will be able to access a digital first primary care offer.
- By 2024, secondary care providers in England, including acute, community and mental health care settings, will be fully digitised, including clinical and operational processes across all settings, locations and departments.

Reduce the use of avoidable single-use plastics

- By April 2020, no longer purchase single-use plastic stirrers and straws, except where a person has a specific need, in line with the government consultation.
- By April 2021, no longer purchase single-use plastic cutlery, plates or single-use cups made of expanded polystyrene or oxo-degradable plastics.
- By April 2021, go beyond these commitments in reducing single-use plastic food containers and other plastic cups for beverages – including covers and lids.
- Minimise waste and achieve a 10% reduction in clinical single-use plastics in the short term.

1. NHS England *For a greener NHS*; 2. NHS England. *2019/20 NHS Standard Contract*, 2020; 3. NHS England. *The NHS Long Term Plan*; 9. NHS England *NHS Operational Planning and Contracting Guidance 2020/21*

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Progress to date...

14% carbon reduction since 2014/15

Net Zero Carbon Footprint by 2040

Net Zero Carbon Footprint Plus by 2045
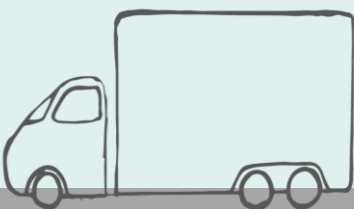
Estates Masterplan
Integrating green design

Switch to paperless
○ Electronic prescribing
○ Purchase-to-pay IT equipment

100% renewable electricity tariff

Minimising delivery miles

6.8/10 staff engagement score in NHS staff survey

Green Travel
○ Travel Plan
○ Dr Bike Cycle Mechanic Sessions – 290 bikes serviced in 2020/21

Delivering Sustainable Healthcare
○ Recovery Programmes
○ Telephone assessments
○ Virtual clinics
○ Emergency care improvement programmes

Staff and Community Programmes
○ BAME, King's Able and LGBTQ+ networks
○ The Healthier King's programme
○ Younger Lives Programme
○ Feel Good Fund
○ #NotATarget Campaign
○ Hebe Foundation

Lambeth GP Food Co-op
Community-led greenspaces for people to socialise, learn and grow food together.

Saving water
• Water loggers
• Leak detection survey
• Water efficiency audits

Energy efficiency improvements
• LED lighting roll out
• Solar PV

Research and Innovation (R&I) 5 Year Strategy

200+ Green Champions

energy kWh savings of 15% since 2014/15

5 Where we are

Carbon emissions

Calculation approach - Tonnes of CO_2 equivalent

Greenhouse gases (GHGs) trap solar heat in our atmosphere which have caused global temperatures to rise, leading to disastrous effects on our health, environment and economy. As we aim to lessen our environmental impact, accurate measurement of GHG emissions is essential to monitor our progress. The primary GHGs for the Trust are CO_2, nitrous oxides and chlorofluorocarbons (CFCs).

Emissions of each greenhouse gas are combined into common units for ease of comparison and expressed as tonnes of CO_2 equivalent (tCO_2e). In this document carbon emissions and tCO_2e are used interchangeably.

Carbon Emissions Breakdown

Using the NHS Carbon Footprint and NHS Carbon Footprint Plus definitions we have produced a detailed breakdown of our own organisational carbon footprint for our last reporting year, 2019/20 (Figure 2).

The emissions we have the most control over, NHS Carbon Footprint, account for 16% of the Trust's total carbon emissions. The largest contributors to the Trust's NHS Carbon Footprint are electricity, fuels (primarily natural gas) and medical gases as shown in Figures 2 and 3. This plan largely focuses on these emissions as they fall directly under the scope of the Trust's activities and services.

From 2014/15 to 2019/20 there has been a reduction of 14% in carbon emissions equivalent to a NHS Carbon Footprint of 34,722 tonnes CO_2 and NHS Carbon Footprint Plus of 189,117 tonnes CO_2 in 2019/20. This is largely due to electrical grid decarbonisation (more renewable electricity and less coal powering the national grid). Additionally, energy optimisation works have led to a reduction in electricity imported from the grid.
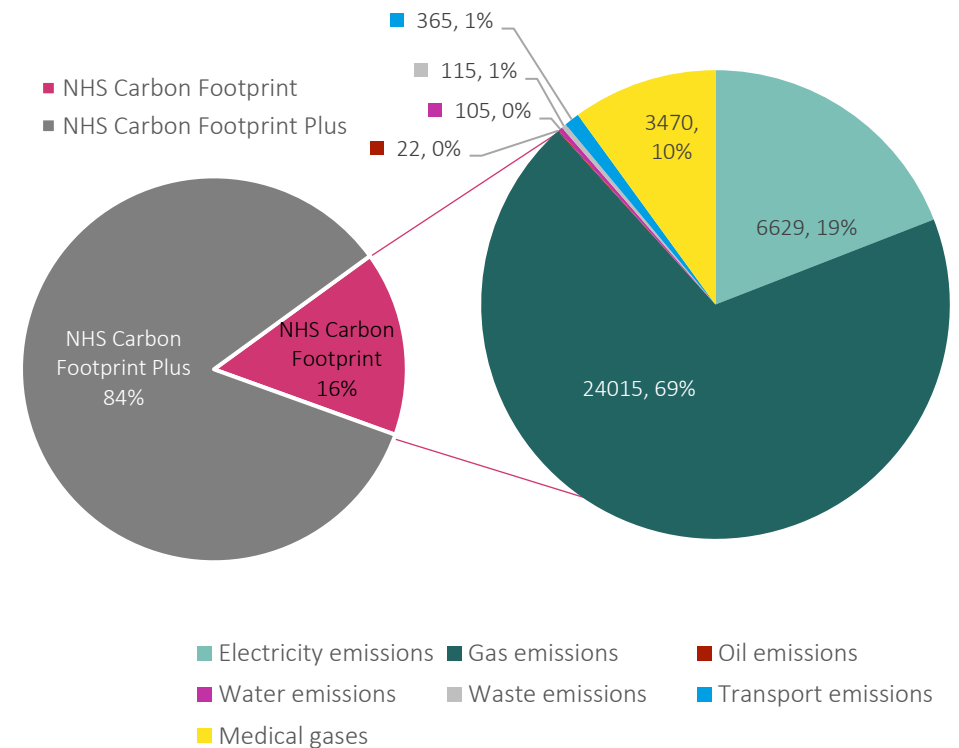

Figure 2: Carbon emissions breakdown for the Trust in 2019/20

5 Where we are

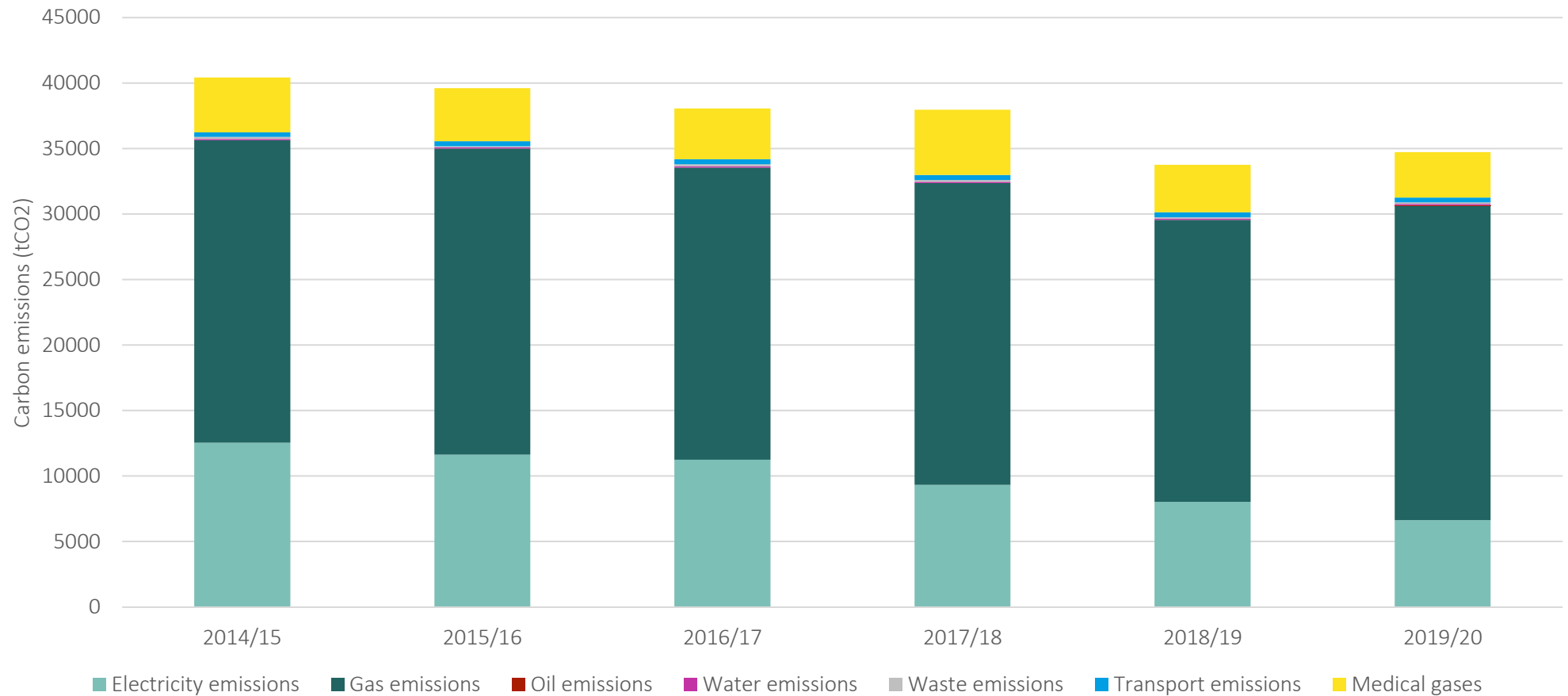## Carbon emissions

King's NHS Carbon Footprint

Figure 3: King's NHS Carbon Footprint since 2014/15

Note: Travel data has adopted mileage data averaged from 2019/20 for the Trust / waste data collected more accurately from 2017/18 onwards.

5 Where we are

Energy

Figure 4 below shows that total energy consumption by the Trust has remained relatively constant in the last few years however total carbon emissions have steadily decreased within the same time period. Since 2014/15, electricity emissions have fallen by 47%. This can be attributed to electric grid decarbonisation. Over the same period, gas emissions have remained constant with an overall increase in emissions of 4%.

Since 1st April 2021, the Trust purchases green electricity for Trust-owned buildings. We recognise the need to explore options for heat decarbonisation, moving away from traditional gas heating systems towards renewable alternatives, such as heat pumps.
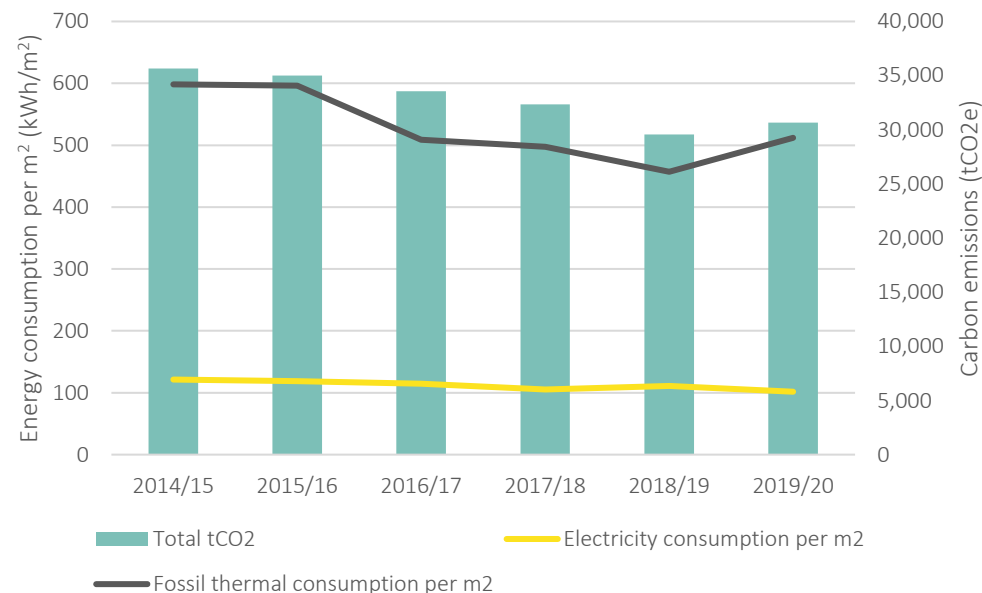

Figure 4: Energy consumption (kWh/m^2) and related emissions since 2014/15.

Water

King's total water consumption has generally increased over time owing to estate expansion and increased patient activity. However, when normalised against area, the water consumption per metres squared has decreased over time, from 1.39 to 1.20 m^3/m^2.

Although our water use only accounts for a minor proportion of our carbon footprint, it is important that we continue to improve the efficiency and conservation of water to reduce the challenges presented by increasing water demand and reduce our impact on water stress in our local area.
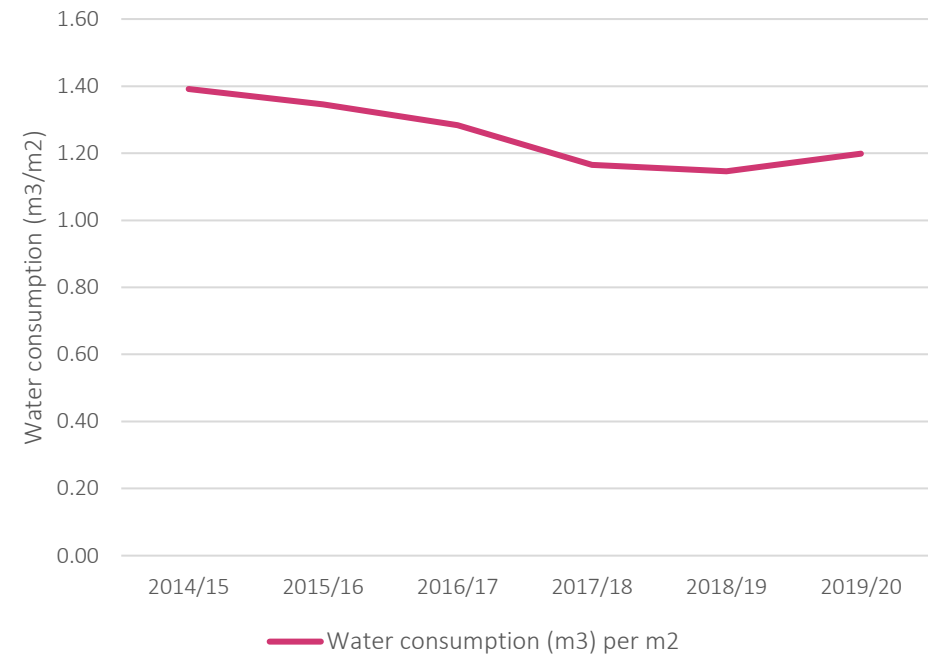

Figure 5: Water consumption normalised against gross internal area (m^3/m^2) since 2014/15

5 Where we are

Waste

Carbon emissions are caused by the processing and treatment of clinical and commercial waste generated by the Trust. Using Estates Returns Information Collection (ERIC) data, the waste steams produced by the Trust in 2019/20 are highlighted in the pie graph below, where each stream will have a different impact on carbon emissions and the environment. The Trust will continue to align waste reporting with the waste streams provided in ERIC. This will allow for comparison against other similar NHS Trusts.

The amount of waste produced by the Trust has remained relatively consistent since 2014/15. The Trust commits to improving recycling rates across the estate by establishing baseline recycling data and performance metrics to monitor recycling rates. A cardboard baler is provided on the Denmark Hill site, but a proposal is in place to incorporate a cardboard baler onto the Orpington Hospital site whilst recycling initiatives are being expanded to all sites.

Owing to the pandemic, PPE is likely to have affected the Trust's recycling performance and waste generation for 2020/21 and should be noted in future environmental reporting.
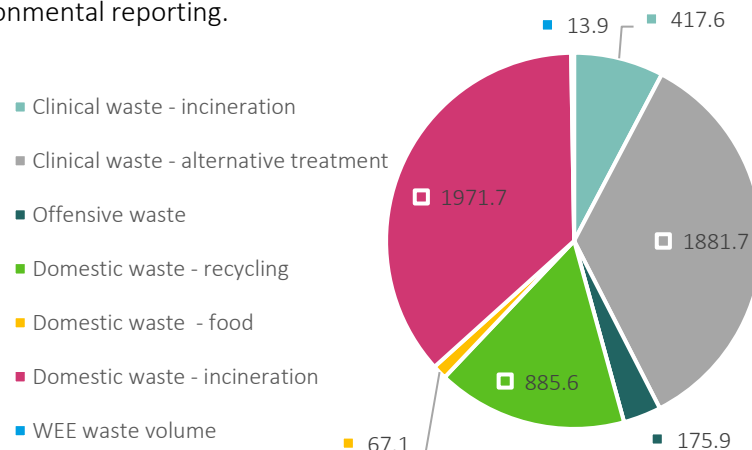
Legend:
- Clinical waste - incineration
- Clinical waste - alternative treatment
- Offensive waste
- Domestic waste - recycling
- Domestic waste - food
- Domestic waste - incineration
- WEE waste volume

Pie values: 13.9, 417.6, 1971.7, 1881.7, 885.6, 67.1, 175.9

Figure 6: Breakdown of waste streams in 2019/20 (tonnes)

Travel

The NHS is responsible for 3.5% of travel in the UK, emphasising the importance in monitoring and reporting our carbon footprint from our transport activities each year.

As seen in Figure 7, patient transportation accounts for the largest proportion of transport emissions at 79% in 2019/20. Our emissions from transport have remained relatively consistent since 2014/15. However, due to data restrictions the Trust has applied a mileage average for patient transportation and Trust fleet vehicles. Going forward, carbon emissions from travel activities will be reported against 2019/20 data to ensure accuracy and measure change over time.
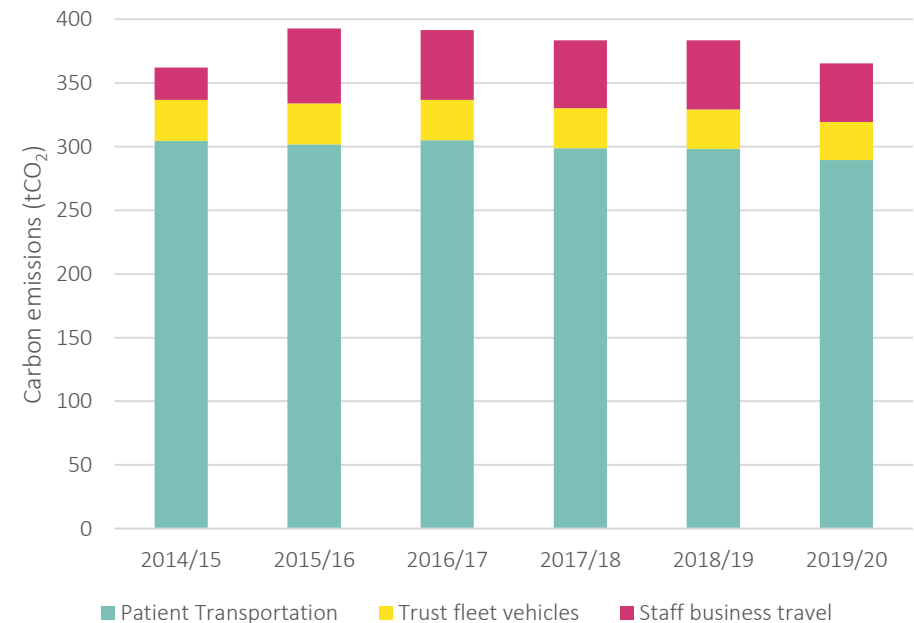
Legend: Patient Transportation · Trust fleet vehicles · Staff business travel

Figure 7: Transport emissions by activity since 2014/15

5 Where we are

Medical gases

Anaesthetic gases

The Trust has achieved a 21% carbon reduction in anaesthetic gas from 2014/15 levels as well as significant reductions in high global warming potential (GWP) volatiles; 59% reduction in desflurane since 2014/15. We aim to further reduce emissions in this area which will involve working closely with the clinical teams to ensure that health and safety standards are not compromised.
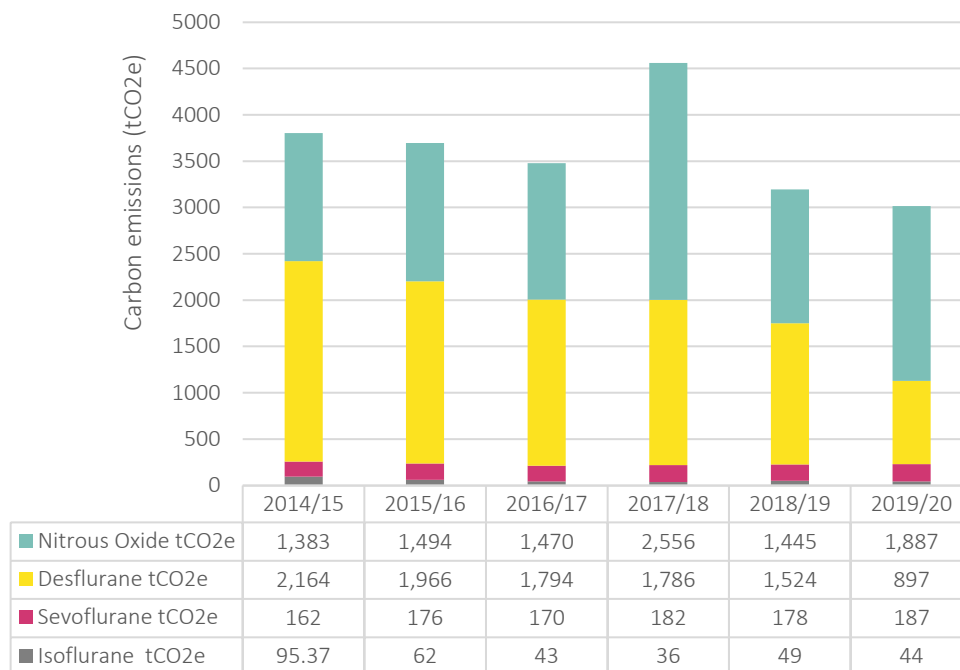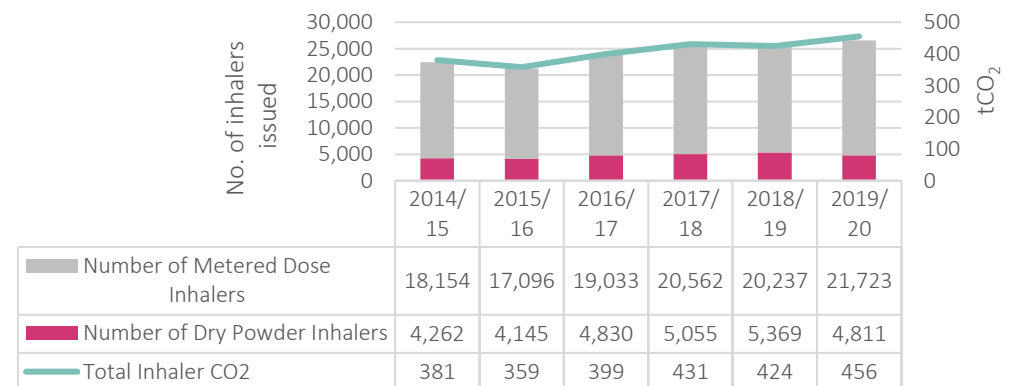

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Nitrous Oxide tCO2e	1,383	1,494	1,470	2,556	1,445	1,887
Desflurane tCO2e	2,164	1,966	1,794	1,786	1,524	897
Sevoflurane tCO2e	162	176	170	182	178	187
Isoflurane tCO2e	95.37	62	43	36	49	44

Figure 8: Carbon footprint of anaesthetic gases since 2014/15

Inhalers

Metered Dose Inhalers (MDIs) use a hydrofluorocarbon (HFC) propellant to deliver the medicine from the inhaler to the patient, which is then released into the atmosphere. We aim to reduce emissions in this area by educating staff and empowering patients to make the switch to dry powder inhalers (DPIs) where possible as these do not release greenhouse gas emissions. The lifecycle carbon footprint of DPIs is around 24 times lower than a propellant-based inhaler for one month's treatment. We are working with partners in primary and secondary care across South East London to ensure there is a unified approach.

In this financial year, 18% of the total number of inhalers issued were low carbon DPIs. The total carbon emissions from inhalers has increased from 2014/15 levels, mostly due to an 18% increase in inhalers issued. There are many factors to consider in relation to changing practice around inhalers. A reduced demand from reliever inhalers comes from better long-term management of airways disease. Our pharmacy teams are working alongside Respiratory medicine and Acute medicine to tackle this.

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Number of Metered Dose Inhalers	18,154	17,096	19,033	20,562	20,237	21,723
Number of Dry Powder Inhalers	4,262	4,145	4,830	5,055	5,369	4,811
Total Inhaler CO2	381	359	399	431	424	456

Note: unofficial carbon factors used from various scientific reports, figures for carbon emissions should only be used as an indication[10]

Figure 9: Use of DPIs versus MDIs and total emissions from inhalers since 2014/15

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10. A. Wilkinson et al. 2019. Costs of switching to low global warming potential inhalers. An economic and carbon footprint analysis of NHS prescription data in England

5 Where we are

Refrigerant gases

Refrigerant gases are used within refrigeration systems such as chillers and air conditioning units. Over time, the gases within these units leak to atmosphere. Some types of refrigerant gases have high global warming potential, and the Trust acknowledges it needs to move away from these to more environmentally friendly refrigerant gases.

The majority of F-gases emitted by the Trust are R407c followed by R410a, both of which have very similar carbon factors. The 2020/21 reporting year is the only year where the Trust has been able to collect reliable data for F-gases. This data will be used as a baseline to monitor our future performance. We will work closely with contractors find solutions that enable the Trust to minimise its carbon footprint.
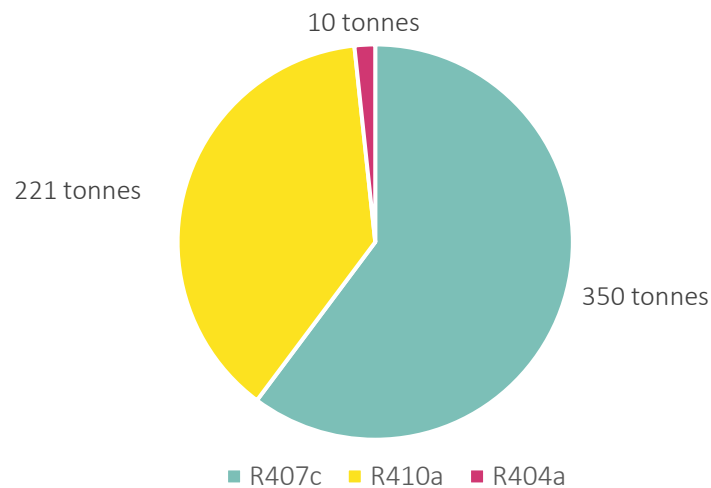

Figure 10: Carbon Emissions from F-gases in 2019/20 (tCO$_2$e)

5 Where we are

NHS Carbon Footprint Plus

Procurement can make a real difference when cutting carbon emissions as carbon is associated with the assembly, packaging, transport, storage and handling of products and materials which can account for a significant proportion of an organisation's carbon footprint. Although many of these emissions fall outside of the Trust's direct control, we aim to influence and encourage suppliers to provide more socially and environmentally sustainable products and services.

The Trust currently has systems aimed at reducing the carbon and social impact of procurement. Through the use of NHS SDU tools, we aim to quantitatively understand the carbon footprint associated with procurement so that integrated environmental solutions are measurable in the following areas:

- Agricultural Products
- Manufactured Fuels / Chemicals / Gases
- Other Manufactured / Processed Products
- Construction and Construction Materials
- Food and Catering
- Wood and Paper Products
- Pharmaceuticals
- Metals and Metal Products
- Office and Other Equipment
- Medical Instruments / Equipment
- NHS Travel
- Heating / Hot Water and Electricity
- Business Services
- Other Procurements

We plan to consider the social impact of our procurement and where possible look to support the local economy and ensure that we procure ethically. King's Facilities Management (KFM) seeks to identify and deliver a cost improvement programme through procurement and supply chain, which it operates across all Trust sites. Additionally within the pharmacy department, best practice procedures have been implemented in minimising waste stock such as promoting the pharmacy returns project, raising awareness of the need to transfer pharmaceuticals between wards correctly and adopting electronic transfer of prescriptions.

We also look to understand and monitor our emissions from travel with regards to patient transport and staff commuting. Active travel will be encouraged by the Trust to improve the health and wellbeing of both staff and patients. An example of this will be to increase secure cycle storage space to encourage cycling to site. This will also have the added benefit of reducing emissions associated with travel.

We will continue to explore opportunities to adopt and support projects with sustainable objectives as we also aim to review existing policy procedures, to ensure that sustainability is a key factor in procurement decisions in line with SDU guidance which will hopefully provide more clarity on accurately categorising our activities in accordance with the groups in the NHS Carbon Footprint Plus.
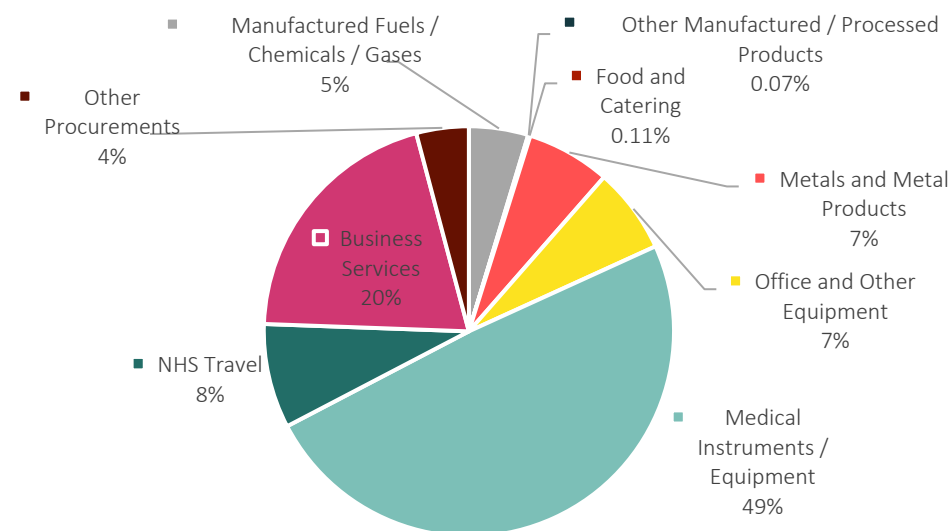

Figure 11: King's NHS Carbon Footprint Plus 2019/20 (tCO$_2$e)

5 Where we are

The Trust has a long-term target to become carbon neutral by 2040 across specific activities that fall under NHS Carbon Footprint.

To make progress towards the long-term target, the key target for the five-year period of this Green Plan is to reduce total NHS Carbon Footprint emissions by 44% by 2025/26 vs a 2019/20 baseline. A 2019/20 baseline has been adopted due to improved accuracy of data compared to previous years.
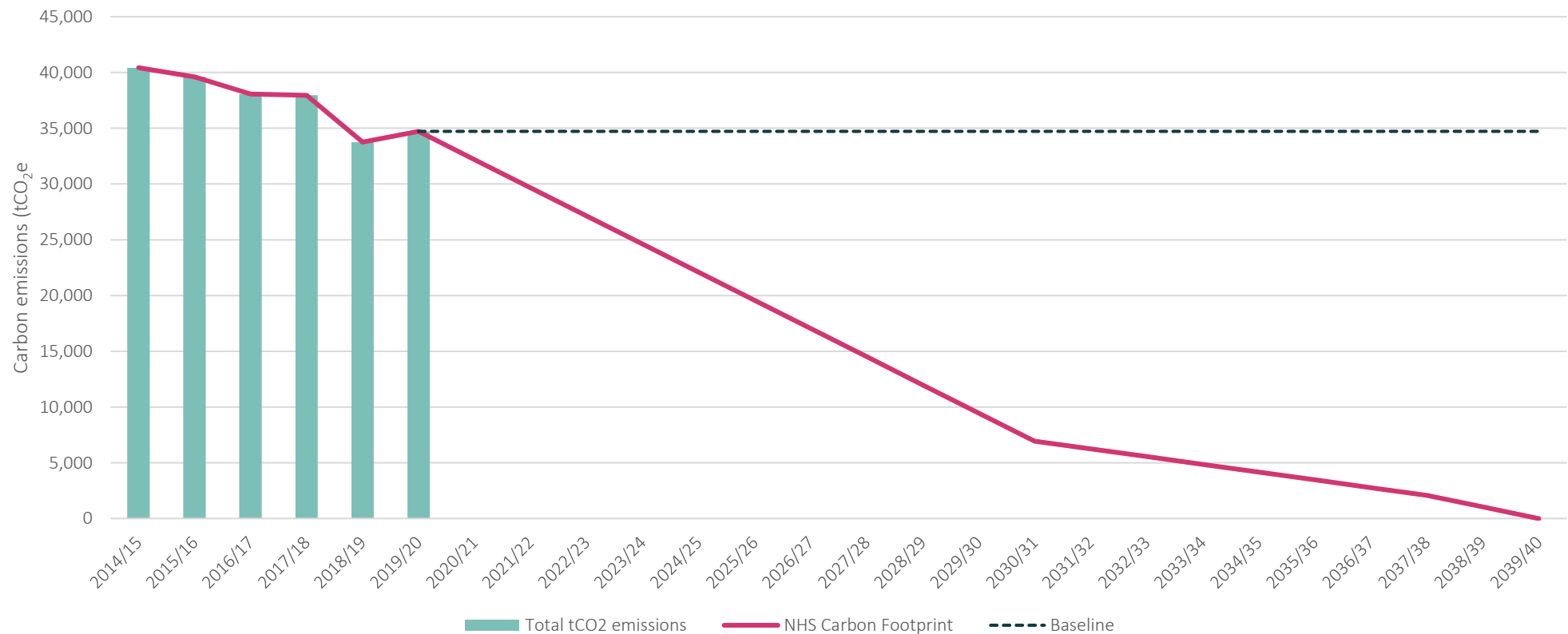
The target glidepath is shown below:

Figure 12: King's NHS Carbon Footprint since 2014/15 and targets for each year of the plan against the baseline year of 2019/20

6 Non-carbon environmental impacts

The primary focus of this Green Plan addresses the Trust's carbon footprint. The Trust's activities cause other forms of environmental damage such as local air pollution. This area is not typically included in the Green plan, however it is important to our local populations and will be an area of focus for the next few years as part of our wider work on sustainable healthcare and reducing health inequalities.

Local air pollution

Air quality is calculated by measuring the concentration of pollutants. The main pollutants which affect human health are fine particulate matter (PM) and nitrogen dioxide (NO_2). The Trust's activities contribute to poor air quality due to emissions which come from fossil fuel combustion from vehicles and industry.

Although the UK meets the 2020 concentration limit for PM, strict targets have been set for NO_x as they aim to reduce emissions by 55% by 2020 from 2005 baseline and 73% by 2030.

These emissions have detrimental health impacts on the local population and on staff. Air pollution not only increases the risk and severity of respiratory disease, but also increases the risk of heart attacks, strokes, dementia, and mortality from diabetes. In addition, pollution has effects in utero and significantly affects children leading to low lung capacity and asthma. Air pollution exacerbates health inequalities.

Quantifying the current situation

Air quality data shows that the concentration of NO_2 is high on roads surrounding the Denmark Hill site. In locations closest to main roads WHO limits are regularly breached. The Trust is likely to be a relatively small contributor to these emissions, with the majority coming from road traffic and industry. We acknowledge our contribution through fleet vehicles and gas boilers, and aspire to make a positive change.

The Trust has completed a project with Cross River Partnership, with staff acting as citizen scientists, to measure air quality around the Denmark Hill site. This data has an important role in informing decision-making to tackle air pollution. The Trust will work with the local council and hopes to join the air quality monitoring network long term. In addition The Trust plans to promote the anti-idling campaign and supports calls for the extension of the Ultra Low Emission Zone across the whole of Lambeth and Southwark.

Targets and Plan for improvement

The Trust plans to measure site NO_2 levels and work with the local authority to reduce hospital emissions. We will take measures to minimise our NO_x emissions such as promoting cycle to work schemes and hosting 'no engine idling' campaigns. All new equipment purchased by the Trust will be screened to ensure that only products with a low NO_x footprint are selected.

Other non-carbon environmental impacts

The Trust has other environmental impacts in the form of noise, odour, light pollution and habitat destruction.

These wider impacts can be quantified in the future and the Trust will be able to consider how wide the scope of the Green Plan should be.

7 Areas of focus

The following section outlines the Trust's approach towards embedding sustainability and net zero carbon within the services and activities across the Trust.

Our areas of focus are aligned with the Greener NHS Sustainable Development Assessment Tool (SDAT), which are linked to the UN Sustainable Development Goals (SDGs).

For each key area, the plan highlights:

1. Where we are now
2. Where we want to get to
3. How we will get there

The following action plan incorporates both our NHS Carbon Footprint and NHS Carbon Footprint Plus, in line with our net zero carbon targets.

1. **Corporate approach** – embed the sustainability and net zero carbon agenda within everything we do.

2. **Asset management and utilities** – continue to improve the efficiency of our practices and utilities by adopting green technologies and improving staff awareness.

3. **Travel and logistics** – encourage low-carbon, active travel and virtual alternatives to reduce our carbon and air quality impact.

4. **Adaptation** – embed climate change awareness across the Trust and prepare for extreme weather events and climate change threats.

5. **Capital projects** – facilitate net zero carbon progress through new builds and refurbishments.

6. **Greenspace and biodiversity** – protect and improve greenspace across our sites.

7. **Sustainable care models** – implement green care pathways to reduce the environmental impact of the care we provide to our community.

8. **Our people** – embed climate awareness and enable our staff, patients and community to live more sustainable lifestyles.

9. **Sustainable use of resources** – adopt innovative solutions to reduce waste and move towards a circular economy approach to the goods we purchase.

10. **Carbon emissions and greenhouse gases** – identify and target our carbon hotspots to reduce our carbon footprint and achieve our carbon reduction targets.

7 Areas of focus

Stakeholder feedback

In March 2021, King's ran a Trust-wide sustainability survey to gather staff priorities, ideas and feedback. The survey received **205** responses across a range of clinical and non-clinical staff. This also resulted in an expansion of our staff sustainability network, with **83** Green Champions sign ups!

Respondents ranked the key themes for the Green Plan in order of importance (Figure 13). Buildings and utilities was ranked the most important theme, with 44.7% of respondents ranking as their first choice. This was followed by supply chain (2nd) and travel and transport (3rd) making up the top 3 themes of focus within the Green Plan.
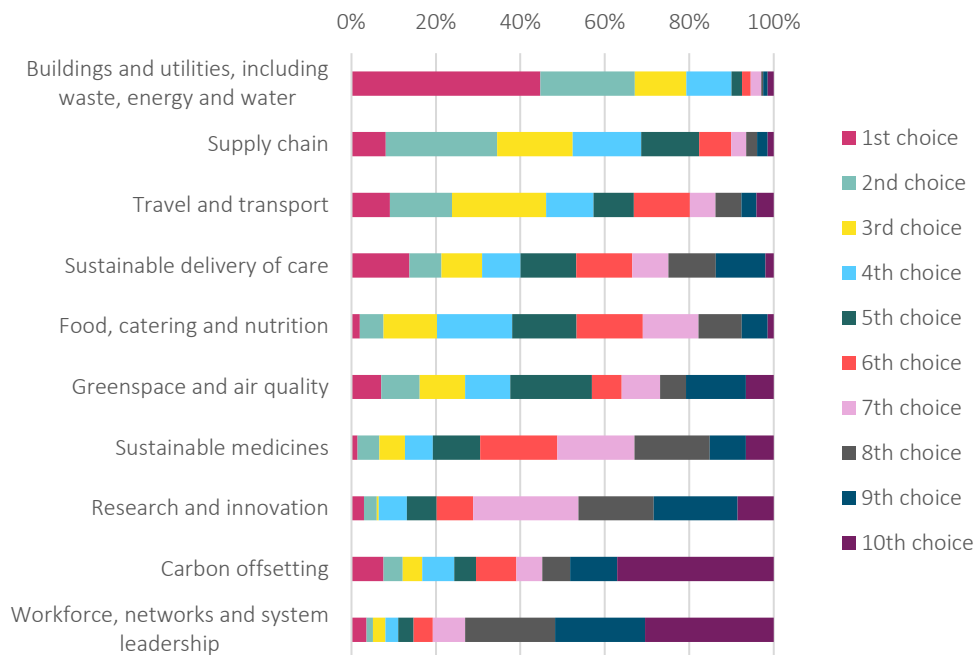

Figure 13: Themes of the green plan ranked in order of importance (1 - most important, 10 - least important).

Top 3 actions for priority

- Increased engagement, training and awareness surrounding sustainability at the Trust
- Sustainable waste management
- Sustainable and low/zero carbon buildings

How can King's help staff be more sustainable?

- Highlight more sustainable options on site (e.g. food options, locations of drinking fountains etc.) – 64%
- Include sustainability in job descriptions and PDR objectives – 46%
- Understand how this can fit into my role – 38%
- Provide a network to share ideas and collaborate with others – 35%
- Share news stories and best practice examples with me – 31%

How important do staff think it is to prioritise sustainability in clinical and corporate settings? (0 - not important at all, 10 - very important)

9.02/10 average score

7 Areas of focus

Corporate approach

Where we are now

In 2019 King's was recognised for excellent sustainability reporting as part of its annual report, receiving a certificate of excellence, awarded by the Sustainable Development Unit (SDU), NHS Improvement and the Healthcare Financial Management Association (HFMA).

King's has successfully operated an Environmental Management System (EMS) accredited to ISO 14001 since October 2012. This covers the activities and responsibilities of the Capital, Estates and Facilities Department on the KCH, PRUH and Orpington Hospital sites which are now audited regularly against the standard.

This Green Plan pledges to put in place a strong governance strategy in order to deliver a step change in performance. To achieve this, we plan to utilise the Sustainable Development Assessment Tool (SDAT) which allows public healthcare organisations to self-assess their level of development against a set of best-practice criteria across 10 key areas. The findings from the SDAT process can be used to further modify and develop this Green Plan.

How we will get there

- Recruit a Sustainability Manager in 2021/22
- Recruit a Recycling and Waste Manager in 2021/22
- Implement process for upkeep and regular review of Green Plan and associated requirements
- Include sustainability KPIs in Annual Report
- Complete SDAT tool to understand baseline
- Expand Green Champions network for sharing ideas and initiatives
- Engage with King's Health Partners in a local sustainability forum
- Introduce sustainability within PDR, job descriptions, staff induction and training

Where we want to get to

Reach SDAT score of 70% by 2026
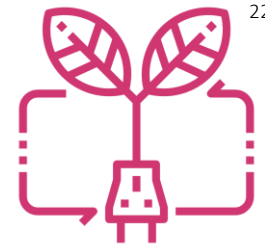
7 Areas of focus
Asset management and utilities

Where we are now

- PRUH Combined Heat and Power – replacement and use of new CHP system in PRUH, will have a negative effect on the Trust's carbon output (planned).
- Utilising absorption chillers in the energy centre at KCH (planned).
- LED Lighting – across all sites (ongoing).
- The majority of planned works involve clearing the maintenance backlog therefore it is vital that the actions listed in this report and supporting action plan are methodically carried out to ensure that our ambitious targets are met (ongoing).
- Installed water meter data loggers across the KCH site.
- Carried out a leak detection survey of KCH, PRUH and Orpington Hospital. The results were very positive as no major leaks were found.
- Water efficiency audits across the three sites to identify any water efficiency opportunities, particularly relating to toilets, showers, urinals and taps. This resulted in three survey reports which recommended the installation of hydrocell urinal control systems to reduce water wastage.
- From April 2021, we purchase 100% renewable guaranteed electricity tariff.
- In 2021, the Trust was awarded £3.2 million grant funding from the Public Sector Decarbonisation Scheme to deliver LED lighting project in the Golden Jubilee PFI and a low carbon heating to the Golden Jubilee PFI (saving around 400 tonnes of carbon emissions annually).

Where we want to get to

- Heat decarbonisation of our estate by 2040
- Electricity consumption benchmark[11] of 90 kWh/m^2 by 2026
- Fossil thermal consumption benchmark[11] of 420 kWh/m^2 by 2026
- Water consumption benchmark[12] of 0.90m^3/m^2 by 2026

How we will get there

Short Term
1. Energy optimisation and water saving awareness campaigns
   - Develop energy awareness e-learning programme
   - Provide information and saving advice and run water saving campaigns

Longer Term
1. On-site Renewable – Green Generation and migration away from CHP, replacing with a zero carbon alternative
2. Green Purchase – PPA / Renewable Origin Certificates (REGO)
3. Carbon Offset – CO_2 offset projects

Other actions
- Embed carbon and energy management across all Trust operational functions
- Ensure accurate data collection across all sites by considering AMR across key sites and identifying areas not currently monitored by aM&T system
- Complete carbon neutral roadmap and identify energy reduction projects
- Optimise BMS and implement intelligent analytics of BMS data
- Implement LED lighting across Trust, replacing with LED during routine maintenance activities
- Incorporate list of actions from energy audit into action plan
- Adopt Green IT measures and decarbonise the digital use from the Trust through data centre efficiency and renewably-charged servers
- Review PRUH site utilities generation and distribution strategy to enable transition to Low Carbon future
- Continue rollout of water data logger to all sites
- Generate and implement monitoring and tracking strategy/system
- Review potential for strategic sub-metering at sites with high water consumption
- Replace water using devices with poor efficiency rating
- Ensure water-saving technology is used during capital development projects
- Identify and fix any leaks (through work with contractors)

11. Health Technical Memorandum 07-02: EnCO2de 2015 – making energy work in healthcare; 12. Health Technical Memorandum 07-04: Water Management and Water Efficiency

7 Areas of focus
Travel and logistics
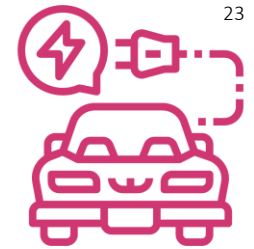
Where we are now

Approximately 3.5% of road traffic is associated with NHS related travel and this is responsible for around 14% of the NHS carbon footprint. Our Travel Plans aim to encourage consistency in provision across the Trust and contribute towards reducing our carbon footprint.

The Trust provides several staff travel schemes however it is estimated that there will be a 20% increase in the number of vehicles as patient numbers increase. Moving towards a low carbon fleet of hybrid or electric vehicles could significantly reduce emissions from our fleet in the long-term.

King's provides free Dr Bike Cycle Mechanic Sessions and has established an Active Travel Group. King's is engaged in various schemes and working with other Trusts to merge patient transport services to benefit overall efficiency and reduce its carbon footprint. To reduce mileage from patient transport, the Trust undertakes patient surveys, postcode mapping programmes and synchronising fleet share.

King's College Hospital has partnered with Cross River Partnership (CRP) on their Clean Air Villages project which is running for its 3rd year. The project is working with 16 'villages' within 12 London boroughs that have been identified by the Greater London Authority as areas of high pollution and high footfall. London Borough of Lambeth chose to involve the health sector for their strand of the Clean Air Villages project – and KCH is proudly one of the first hospitals engaging in the programme. KCH staff have been working with Cross River Partnership on an air quality monitoring programme as well as a vehicle energy efficiency assessment.

Where we want to get to

- 90% of the NHS fleet to use low, ultra-low and zero-emission vehicles by 2028
- In line with the NHS Long Term Plan, cut business mileages and fleet air pollutant emissions by 20% by 2023/24
- All key contracts include CO_2e and/or NO_x reduction KPIs by 2022/23

How we will get there

- Identify sources of emissions and develop emissions tracking plan
- Develop policy for Business Travel and NHS Fleet vehicles
- Develop and implement a Trust-wide Fleet Electrification Programme 2021 – 2026, ensuring all vehicles purchased/leased are low and ultra-low emission in 2021/22 and meet the NHS Long Term Plan commitment for 90% of the NHS fleet to use low, ultra-low and zero-emission vehicles by 2028
- Expand provision of active travel facilities across our sites (showers, lockers, cycle storage etc)
- Encourage sustainable travel through communications e.g. walking maps, incentives and competitions, green car lease scheme etc.
- Continue to provide flexible working options and efficient use of IT we can reduce the need for our staff to travel between sites, although some travel is clearly essential for clinicians
- Employ accurate measuring techniques in the near future to set a baseline against which our progress can be monitored
- Run campaigns and educational training to educate staff and patients on sustainable transport
- Establish strong partnerships with local councils and TFL to increase uptake in active travel

7 Areas of focus

Climate adaptation

Where we are now

King's undertakes an annual Health and Safety audit programme to identify any current or potential risks to our staff and infrastructure. In 2019/20, over 80% Workplace Risk Assessment (WRA) conducted in the Trust. Additionally, the Health and Safety Committee holds six meetings a year and is well attended.

The Trust has undertaken risk assessments and Carbon Reduction Delivery Plans are in place in accordance with emergency preparedness and civil contingency requirements, as based on UK Climate Impacts Programme (UKCIP) 2009 weather projects, to ensure that the Trust's obligations under the Climate Change Act and the Adaptation Reporting requirements are complied with.

From previous incidents, the issue of sewage overflow during floods has been highlighted as an ongoing concern because the sewers are unable to cope with heavy downpours due their age. The CEF is aware and actions will be taken to mitigate this risk in the future.

How we will get there

- Establish climate change adaption working group
- Develop a Climate Change Risk Assessment (CCRA) and Climate Change Adaptation Plan to highlight risks to continuity and resilience of services, which will be reviewed annually or after an event or near miss
- Introduce staff training on extreme weather events
- Evaluate the climate change risks associated with the Trust's local community and establish plans to mitigate against or prepare for theses risks

Where we want to get to

Manage, monitor and report on all public health risks associated with climate change and vulnerable communities.

7 Areas of focus
Capital projects

Where we are now

The Trust believe it is imperative that any new development is designed to low or zero carbon standards to ensure that the Trust's long-term carbon aspirations can be achieved.

King's Critical Care Unit (CCU) was designed to optimise energy performance:

- Integrated blinds with the curtain wall tracking the sun's path

- Well insulated building fabric with low air leakage rates

- High efficiency LED lighting solutions

- Energy efficient building services

- Roof mounted solar photovoltaic
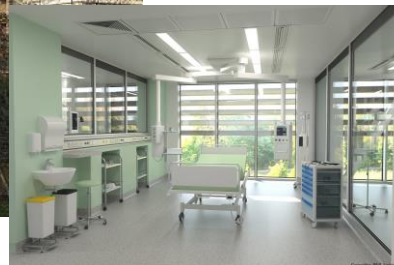
Where we want to get to

- Reach SDAT score of 70% by 2026

- BREEAM Healthcare rating of excellent for new buildings and a very good rating for refurbished buildings

- Sustainability and low carbon design included as clear project objectives for all new builds and refurbishments

How we will get there

- Clearly define organisational responsibility for sustainable capital and refurbishment projects

- Set baseline SDAT score for Capital Projects

- Define a clear set of sustainability aims and objectives that can be scaled and applied to all capital projects and major refurbishments

- Develop and implement Sustainable Design Guidance to comply with the zero carbon standard for buildings to be published in 2021

- Adopt the BSRIA Soft Landings Protocol in all capital projects

- New builds and refurbishments must comply with the new NHS Net Zero Carbon Hospital Standard

- Train capital projects and estates staff in sustainable and net zero carbon buildings

- Utilise local suppliers wherever possible

- Collaborate with supply chain to minimise their environmental footprint within construction processes

7 Areas of focus

Greenspace and biodiversity

Where we are now

The health benefits of green spaces are well recognised and King's will use the natural environment assets available in the Estates Masterplan to maximise benefits to both people and biodiversity.

Building design that incorporate natural features and make the most of surrounding green spaces can increase connectivity to the natural environment and contribute to positive health and wellbeing outcomes for patients, visitors and staff. King's long-term vision and masterplan incorporates biophilic design elements into both new and refurbishment building projects.

For example, at the new Outdoor Critical Care Unit (CCU), fully funded by King's College Hospital Charity, will be open to patients on life-support. A 230 m^2 in area Sedum Blanket system will create a new ecologically valuable habitat similar to brownfield habitat. The garden will be fully accessible to all users, utilising natural and organic forms to create feelings of safety, enclosure, protection and nurture.

Lambeth GP Food Co-op is a patient-led gardening project. The Food Co-op is a co-operative of patients, doctors, nurses and Lambeth residents. It seeks to involve patients with chronic health conditions from nine GP surgeries across Lambeth in growing their own crops, encouraging both healthy eating and the physical exercise gained from gardening.

Where we want to get to

Reach SDAT score of 70% by 2026

Achieve biodiversity net gain in all new builds and refurbishments

How we will get there

- Identify opportunities for local partnerships with nature organisations to improve biodiversity on hospital sites
- Set baseline SDAT score for Green Environment
- Quantify Trust impact on local air quality and produce improvement plan
- Participate in the annual 2@2 tree planting campaign as part of NHS Sustainability Day
- Integrate greenspace and biophilic design principles within new build and refurbishment project briefs e.g. green walls
- Pilot green innovation e.g. growing underground, hydrophonics and vertical gardening
- Communicate greenspace and biodiversity access and opportunities to staff and patients via maps and diagrams
- Explore onsite food cultivation and local sustainable food sourcing options to provide for our canteens and patient meals

Figure 14: Artist illustration of the planned Outdoor CCU at King's Critical Care Unit

7 Areas of focus

Sustainable care models

Where we are now

King's is recognised globally as a world-leading research and innovation centre, and our ambition is to continue developing and delivering world-class research, innovation and education. The Trust R&I Five-year Strategy was published in April 2019 and significant progress has already been made in meeting the three main aims:

Aim 1 – Increase commercial and academic research activity ensuring equity of access for all patients and staff.

Aim 2 – Develop an Advanced Therapies and Biomedical Sciences hub to develop/deliver therapies that are based on cells, genes and small molecules

Aim 3 – Develop a Trust-wide, supportive research culture, including a workforce which appreciates and is skilled in the conduct and use of research and innovation outputs.

Through our Trust vision to provide outstanding care for our patients, we are committed to delivering excellent health outcomes for our patients, ensuring they always feel safe, cared for and listened to. We are proud to deliver a portfolio of services that reflect our strong roots in our communities, and our global reach.

We work closely with system partners to ensure we are delivering the best outcomes for our patients through joined-up care that meets the full range of their health needs. This includes working as part of the South East London integrated care system to develop new joined-up integrated care pathways, with King's Health Partners to develop services that benefit from clinical and academic excellence, and our charity and fundraising partners to benefit our people, our patients, their families and carers.

Where we want to get to

- Reduce carbon footprint from medical gases by 20% by 2026
- Increase the proportion of low carbon DPI's to 15% of inhalers prescribed
- Reduce the carbon footprint associated with anaesthetic gases in line with long term plan commitments
- To reduce the use of desflurane in surgery to less than 10% of its total volatile anaesthetic gas use, by volume
- Where outpatient attendances are clinically necessary, aim for at least 25% of outpatient activity to be delivered remotely, resulting in direct and tangible carbon reductions

How we will get there

- Establish improvement hubs and green pathway forums to develop and pilot sustainable care models
- Introduce IT system changes to reduce administrative burden on staff
- Enhance our offering of social prescribing and lifestyle medicines as alternatives
- Embed prevention and out-of-hospital care models within the development of all green care models
- Calculate the environmental footprint of our care models
- Provide information to patients on the sustainability improvements made to their care, where possible
- Explore anaesthetic gas scavenging systems incorporating gas capture and cracking to mitigate impact
- Switch to gases that have a lower environmental impact such as sevoflurane
- Use of alternative anaesthetics
- Reduction in the atmospheric release from leftover nitrous gas canisters

7 Areas of focus
Our people
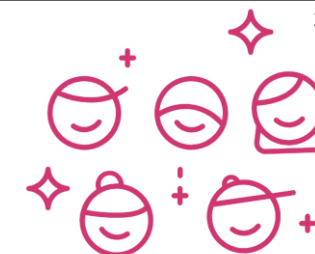
Where we are now

Our Trust strategy[13] sets out our ambition to support everyone across Team King's by creating an environment where everyone can thrive, where we celebrate our rich diversity and maximise our opportunity as an anchor institution, where our leaders are visible, innovative and compassionate, and where our vision and values are embedded in everything we do.

At King's being a Kind, Respectful Team is key to our ways of working, and supports us in strengthening our compassionate, visible leadership, supporting greater staff engagement and communications, and creating stronger communities.

During 2020, we have made demonstrable progress in our commitment to equality, diversity and inclusion through the creation of a new Equality, Diversity and Inclusion Director role reporting directly to the Chief Executive, alongside investment in resources to support the delivery of a sustainable change programme.

Our 2020 NHS staff survey results show that King's rated in the top 20% for 14 of the 40 indicators measured. King's scored above average for 23 out of the 40 indicators.

The Trust's Capital Estates and Facilities team hosted a Junior Apprentice event for the Hebe Foundation. The Hebe Foundation is an organisation that works with all young people aged 13-20 to help them discover and use their talents. It provides young people with a safe environment in which to expand their minds, learn new skills and discover their talents in fun creative ways.

The Trust runs a Green Champions network, with over 200 staff across all sites. Volunteers play a key role within the King's team. Pre-COVID the Trust had 600 volunteers and throughout 2020 we had 377 volunteers contributing 22,000 hours.

Where we want to get to

- Achieve NHS Staff Survey engagement score of greater than or equal to 7/10
- Expand our Green Champions network, with one representative within every department

How we will get there

- Continue support and develop the Green Champions network
- Encourage ideas and innovations from staff and contractors through surveys and meetings
- Undertake a sustainability survey for staff, volunteers, patients and visitors annually
- Expand vegetarian and vegan food options
- Provide the opportunity for staff to undertake carbon literacy or other sustainability training
- Continue to provide incentives for staff to behave more sustainably and be active to improve health and wellbeing
- Introduce sustainability within staff objectives, where possible
- Develop a Sustainability Communications Plan and continue to share information with staff, patients and the wider community on Green Plan progress and sustainability initiatives at King's
- Continue to provide volunteering opportunities that help move forwards with Green Plan initiatives

13. King's Strategy 2021-2026: Strong Roots, Global Reach

7 Areas of focus

Sustainable use of resources

Where we are now

We are investing in digital transformation, and deploying technology wherever possible to reduce our carbon footprint. Our new purchase-to-pay IT procurement system has removed a large number of legacy paper-based processes. We are planning to use the least-cost routing software to ensure delivery miles are minimised.

We are reducing the use of paper by discourage printing unless absolutely necessary, especially for meetings. We have discontinued paper salary slips this year and will be introducing e-signature for documents next year.

When we inherit and redesign legacy NHS services we are doing this in ways which minimise waste and carbon footprint. For example, in 2020 we moved to electronic-only prescribing for the outpatients pharmacy, which we took over in October 2019. Additionally, we are taking a tighter grip on and control of the ordering and management of clinical supplies is reducing waste and avoiding the need to dispose of stock that is past its expiry date and urging suppliers to use less packaging wherever possible. Our contractor partners carry out on-going monitoring and evaluation of waste streams to identify opportunities and deliver year-on-year reduction targets.

Other notable waste reduction projects include reusable cups, crisp packet recycling scheme, the use of 'Sterimelt' technology to recycle hospital polypropylene waste, reuse/recycling furniture scheme, and Dump the Junk scheme to reduce clutter in clinical areas.

Where we want to get to

Increase our recycling to 35% by 2026

Reducing reliance on office paper by 50%, with a switch to 100% recycled content paper for all office-based functions by 2022

Minimise use of single-use plastics and eliminate waste to landfill

How we will get there

- Communicate waste management policy across the Trust
- Undertake waste management projects, such as Vanguard Medical (adopting circular economy through medical devices remanufacturing) and feeding bottle recycling
- Set up a waste oversight group to ensure co-ordinated action on waste minimisation
- Collaborate across Trust to reduce waste at early stages of procurement cycles and capital investments
- Centralise waste volume data from all companies disposing our waste
- Establish process to monitor procured goods against waste
- Increase recycling by separating tins/cans, plastic bottles and glass to be recycled separately
- Investigate innovations to minimise waste such as reverse vending machines and polypropylene recycling technologies
- Poster and digital campaign to reduce food wastage and promote sustainable buying behaviours
- Implement re-usable sharps containers to minimise waste that is incinerated
- Trust pledge to eliminate a number of single-use plastic items by 2026 by signing up to the NHS Plastic Pledge and collaborating with supply chain
- Collaborate with contractors to understand end point of all waste streams
- Upgrade all theatres to have the capability to deliver low flow anaesthesia
- Introduce furniture re-use scheme and donation of IT equipment
- Reduce unnecessary prescribing and undertake stock management to reduce pharmaceutical waste, indicating carbon cost when purchasing prescriptions

7 Areas of focus

Carbon emissions and greenhouse gases

Where we are now

King's has made significant progress in reporting on our carbon footprint each year. By undertaking carbon reporting, we have been able to identify our carbon hotpots and begin to implement a range of sustainability initiatives to generate carbon savings.

Since 2014/15, we have reduced our total NHS Carbon Footprint by 14% and are committed to achieving net zero carbon footprint by 2040 and net zero carbon footprint plus by 2045 in line with Greener NHS ambitions.

By reporting on our performance annually, we are able to continually improve and highlight areas of priority for each year going forward.

Where we want to get to

- Net zero carbon footprint by 2040 and carbon footprint plus by 2045
- Improve carbon reporting across our activities and supply chain

How we will get there

NHS Carbon Footprint

- Incorporate headline carbon reporting in Trust Annual Report
- Identify high carbon products and services and plan to reduce their impacts, for example by specifying lower carbon alternatives
- Sign up to the Clean Air Hospitals Framework
- Develop a system to make carbon emissions visible in key identified high carbon activities where patient and staff choice is available to encourage behaviour change
- Incorporate the greenhouse gas impact of medical gases into the Medical Gas Policy and ensure it is considered by the Medical Gas Committee
- Identify alternative gases and carry out techno-economic analysis
- Keep abreast of policy and technology developments aimed at minimising impact of gases

NHS Carbon Footprint Plus

- Baseline procurement footprint annually using Greener NHS tools
- Undertake basic quantification and develop reduction strategies for our wider carbon impact (e.g. travel, supply chain)
- Identify and work with strategic suppliers to reduce overall carbon impacts
- Suppliers must continue to comply with NHS requirements aimed at driving carbon reduction
- Align offsetting approach with upcoming NHS guidance as well as partners
- Request supply chain report on carbon emissions associated with products and services

8 Plan delivery

Communications and engagement

Successful delivery of the plan relies on clear communication and strong collaboration across every level of the Trust. Below we have outlined our approach to enhancing sustainability awareness across our staff, patients and wider community.

Sustainable Communications Plan

Develop a plan that sets out the key actions to gain engagement and share communications surrounding sustainability to Trust staff, patients and visitors, and the wider community

Engagement and events

Hold events centred around sustainability and the Trust's net zero carbon ambition to spread awareness and gather ideas from our community.

Identity

Establish a sustainability brand that stakeholders can associate with the Green Plan and net zero carbon at King's.

Networks and collaboration

Share best practice initiatives across our community to accelerate carbon reduction, improve awareness and share success.

Sharing success

Communicate Green Plan progress and success stories relating to sustainable development across the Trust, via newsletters, social media, blogs etc.

Priorities for 2021/22

To focus our efforts, each year we will pinpoint our areas for priority. For 2021/22 we have selected 5 priorities as follows:

1 Engage with staff, expanding our Green Champions network and enabling our community to be more sustainable.

2 Collaborate with our strategic partners, stakeholders and supply chain to drive carbon reduction and deliver sustainability improvements.

3 Integrate sustainability across our services and activities, embedding our objectives into planning, processes and communications.

4 Explore carbon reduction opportunities across our estate, with a focus on low/zero carbon heating.

5 Reduce single use plastics and adopt repair, reuse and recycling schemes to minimise waste.
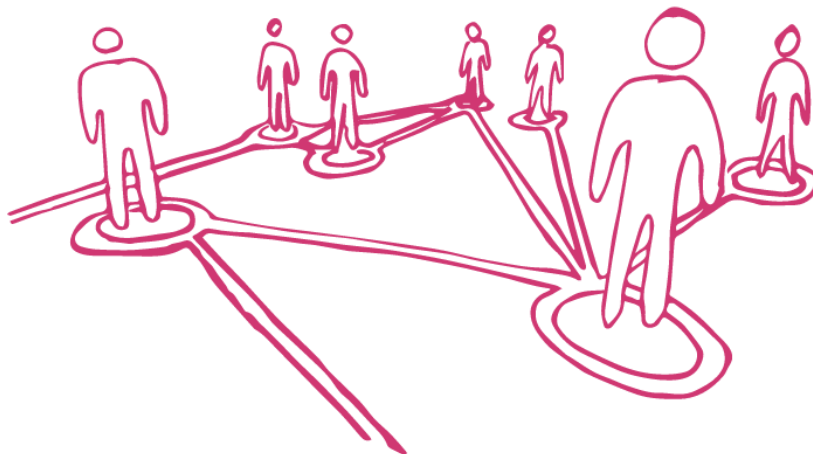
8 Plan delivery

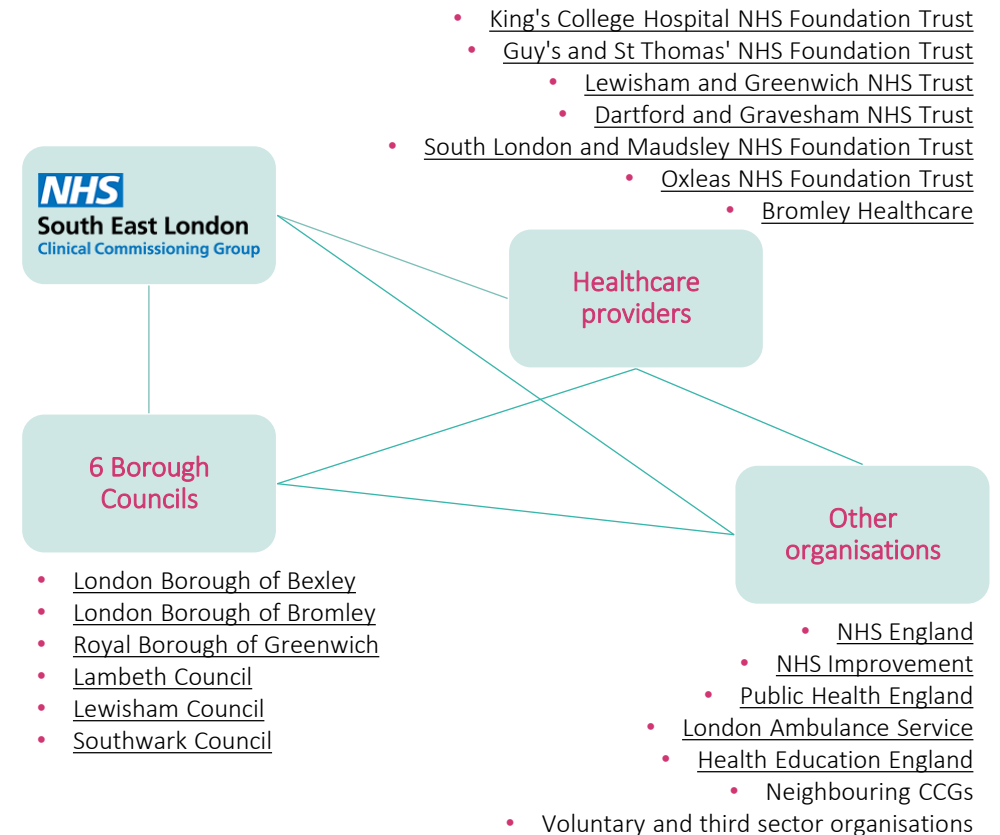## Working as an Integrated Care System

Our Healthier South East London (OHSEL), the South East London integrated care system (ICS), brings together local health and care organisations and local councils to design care and improve population health, through shared leadership and collective action. Together, we aim to address the issue of climate change through adopting a joined-up approach to sustainable development.

We will work with our partners to align our plan and priorities across the ICS and wider region. We are committed to working with the wider NHS system, sharing resources and undertaking collective action to reduce our carbon footprint and improve the health and wellbeing of our communities.

Working across the 6 Boroughs together, we can learn from each other and achieve more. At the heart of the programme is improving the offer to our people. A more immediate action for change to reduce the health inequalities across our communities and mitigate against the threats posed by climate change. We will strengthen the connections between the health system and wider public sector services, the voluntary sector and community to embed sustainable behaviours and impacts across our services and communities.

Our Healthier South East London Integrated Care System

Healthcare providers

- King's College Hospital NHS Foundation Trust
- Guy's and St Thomas' NHS Foundation Trust
- Lewisham and Greenwich NHS Trust
- Dartford and Gravesham NHS Trust
- South London and Maudsley NHS Foundation Trust
- Oxleas NHS Foundation Trust
- Bromley Healthcare

NHS South East London Clinical Commissioning Group

6 Borough Councils

- London Borough of Bexley
- London Borough of Bromley
- Royal Borough of Greenwich
- Lambeth Council
- Lewisham Council
- Southwark Council

Other organisations

- NHS England
- NHS Improvement
- Public Health England
- London Ambulance Service
- Health Education England
- Neighbouring CCGs
- Voluntary and third sector organisations

9 Governance and reporting

Trust governance

Strong leadership and support from decision makers will be required to embed sustainability across the organisation. Sustainable organisations are better positioned to anticipate and react to economic, social, environmental, and regulatory changes as they arise. The Trust's sustainability governance is shown below:

Financial, Commercial and Sustainability Committee
Board Sustainability Lead, *Chief Financial Officer*

↔ **Council of Governors**

↑

King's Executive

↑

Sustainability Steering Group
- Clinical
- Capital, Estates and Facilities
- Supply and Resources
- People and Resources
- Adaptation and Preparedness
- Sustainability Manager

↔ **Local Councils' Sustainability Leads**

↔ **South East London ICS Sustainability Leads**

↑

Green Champions Network

↑

Sustainability Working Groups

↑

Trust staff

Roles and groups

The Trust has a dedicated Board level sustainability lead to monitor the implementation of this Green Plan and to lead the agenda from the Directorate. A Sustainability Steering Group will be engaged to deliver sustainable actions, meeting quarterly to progress actions and complete an Annual Report. The Annual Report will be reported to the FSC Committee of the Board by the lead Director and will detail progress of the Green Plan. A summary of the Annual Report will also be shared internally to ensure the Trust's commitment to sustainability is communicated as widely as possible to ensure workforce engagement.

The Sustainability Manager and Energy and Environmental Manager, supported by the Estates team, are responsible for keeping up to date with the latest policy and legislative changes affecting healthcare services. Any policy changes will be reported and incorporated into the Green Plan at the review stage.

King's Executive: The King's Executive and Board has overall responsibility on behalf of the Trust for ensuring compliance and that the requirements specified within this policy are resourced and implemented within the Trust.

Sustainability Manager: The sustainability lead will oversee the development, implementation and monitoring of the action plan and support the communication.

Workstream Leads: The leads identified for each of the workstreams are responsible for implementing the actions laid out in the action plan and reporting progress against these actions on an annual basis.

Our People: All staff have a responsibility to work in a way that supports the objectives identified in this document and ensure that compliance with legislation is maintained .

9 Governance and reporting

Reporting

This Green Plan is approved by the Trust's Board and reported by the Site Director of Estates and Facilities - Denmark Hill.

The actions are implemented through an action plan overseen by the Sustainability Steering Group. The action plan will be reviewed and updated annually to record progress against agreed targets and agree plans for the year ahead.

The Green Plan will be reviewed every five years, to review baseline monitoring targets and ensure that new changes in policy can be incorporated and met.

Progress will be communicated via the Trust's Annual Report, the findings of which will be shared during staff engagement activities. Furthermore, King's reports on the progress of sustainability initiatives and the performance of key indicators in a section of the Annual Trust Report. The Trust also provides data annually via the Estates Return Information Collection (ERIC).

Annual	ERIC data collection Green Plan Review and update actions Completion of SDAT or similar benchmarking tool
Half-year	Green Plan Progress update Summary of KPI and action progress
Month	Data collection and tracking of sustainability KPIs

What you can do to help

Everyone's contribution is required in order to meet our goals set out in this Green Plan, however it is important that our people are empowered to be able to take action. A number of tools will be developed to support our staff and encourage simple actions that collectively can make a big difference. Other channels will exist for everyone to directly contribute to projects that directly impacts the Trust's environmental performance. These channels have been summarised below:

Green Champions – staff take part in a network chat group that actively updates with the latest news on sustainability as well as hold meetings to discuss the next actions

Project suggestions – staff are encouraged to suggest any projects that will directly impact our environmental performance

Training – sustainability training is available for everyone to develop a greater understanding of sustainability within the NHS

Kch-tr.greenchampions@nhs.net

Get in touch to become a Green Champion for King's.

10 References

1. NHS England *For a greener NHS*

2. NHS England. *2019/20 NHS Standard Contract*, 2020

3. NHS England. *The NHS Long Term Plan*, 2019

4. Climate Change Act 2008

5. Civil Contingencies Act 2004

6. Public Services (Social Value) Act 2012

7. Department for Environment Food & Rural Affairs *The National Adaptation Programme and the third strategy for climate adaptation reporting*, 2018

8. Mayor of London. *Draft London Plan* 2019.

9. NHS England *NHS Operational Planning and Contracting Guidance 2020/21*

10. A. Wilkinson et al. 2019. Costs of switching to low global warming potential inhalers. An economic and carbon footprint analysis of NHS prescription data in England

11. *Health Technical Memorandum 07-02: EnCO2de 2015 – making energy work in healthcare*

12. *Health Technical Memorandum 07-04: Water Management and Water Efficiency*

13. *King's Strategy 2021-2026: Strong Roots, Global Reach*

11 Glossary

aM&T	Automatic monitoring and targeting	LGBTQ+	Stands for lesbian, gay, bisexual, transgender and queer (or questioning) and others.
BAME	Black, Asian, and minority ethnic		
BREEAM	Building Research Establishment Environmental Assessment Method	MDI	Metered Dose Inhalers
		NHS	National Health Service
CCRA	Climate Change Risk Assessment	NO2	Nitrogen dioxide
CCU	Critical Care Unit	NOx	Nitrogen oxides
CEF	Capital Estates and Facilities (CEF) department	OH	Orpington Hospital
CHP	Combined Heat and Power Plant	PM	Particulate matter
CO2	Carbon Dioxide	PDR	Performance and development review
CO2e	Carbon Dioxide and equivalent Green House Gases	PPA	Power purchase agreement
CRP	Cross River Partnership	Procurement	The process used to purchase goods and services
DECs	Display Energy Certificates	PRUH	Princess University Royal Hospital
DPI	Dry Powder Inhalers	R&I	Research and Innovation
EMS	Environmental Management System	REGO	Renewable Energy Guarantees of Origin
ERIC	Hospital Estates and Facilities Statistics	SDAT	Sustainable Development Adaptation Tool
F-gases	Fluorinated greenhouse gases	SDGs	United Nations Sustainable Development Goals
GP	General Practice	SDU	NHS Sustainable Development Unit
HFMA	Healthcare Financial Management Association	Solar PV	Solar Photovoltaic cells
KCH	King's College Hospital site, Denmark Hill	tCO2	Tonnes of carbon dioxide
KFM	King's Facilities Management	UKCIP	UK Climate Impacts Programme
KPI	Key Performance Indicator	WEE	Waste Electrical and Electronic Equipment recycling
kWh	Kilowatt hours	WRA	Workplace Risk Assessment
LED	Light-emitting diode	WTE	Whole time equivalent employee