Rotherham Doncaster and South Humber NHS Foundation Trust

Green Sustainability Plan

The Road to Carbon Net Zero

2022 to 2027

February 2022

RDaSH leading the way with care

Contents

GLOSSARY OF TERMS

Air Pollution - the presence and introduction into the air of a substance which is harmful to human health

Carbon Intensity - a means of calculating the amount of carbon generated for a specific energy source (e.g. electricity)

Carbon Net-Zero - a state in which an organisation emits no carbon emissions from its activities. Or a state in which all carbon emissions are offset

CO_2e (Carbon dioxide equivalent) - a unit used to express total greenhouse gas emissions. There are multiple GHGs, each with a different impact on climate change. CO_2e equates all GHGs to the impact of carbon dioxide. CO_2e is used to report all GHG emissions

Greenhouse Gas (GHG) - a gas that contributes to the greenhouse effect, leading to climate change (e.g. CO_2)

kWh - a unit of measurement for energy usage (e.g. gas and electricity)

Direct emissions - CO_2e emissions from sources which are owned or controlled by the Trust

Indirect emissions - CO_2e emissions from sources which are not owned or controlled by the Trust, but are generated due to the Trust's activities (e.g. purchase of electricity, procurement, waste disposal)

Scope 1 emissions - direct emissions from owned or controlled sources (e.g. on-site fuel combustion, company vehicles, anaesthetic gases)

Scope 2 emissions - indirect emissions from the generation of purchased electricity, steam, heating, and cooling

Scope 3 emissions - all other indirect emissions that occur in an organisation's supply chain (e.g. purchased goods, employee commuting, waste disposal

1.0 FOREWORD

RDaSH recognises the enormous challenge in becoming a net zero carbon organisation by 2040 but we are passionate as an organisation in continuing our journey towards net zero carbon and it gives me pleasure in presenting this milestone document, to both celebrate what we have done so far, to strive for further improvements and plan ahead for the future.

The Trust has been successful in reducing its carbon emissions by over 50% in the last 10 years. This success has been largely down to improvements in the Trusts estate efficiency, reduced dependency on fossil fuels and carbon reduction of the national grid. We recognise that more can be done across all departments and by encouraging sustainable development in all forms, the Trust can continue to take positive steps to mitigate the effects of its activities on the environment.

The NHS is a large influencer and largest employer in the UK and as such has a responsibility to lead the way forward with our green plan. The NHS has set a target to achieve a net zero position from its directly controlled activities by 2040.

We seek to operate in the RDaSH Way and I firmly believe that making the Trust as environmental and socially sustainable as possible helps us to fulfil this aim. Implementing the actions in this Green Plan will help to ensure the Trust is creating the best environment for our staff and patients

Reducing carbon has positive health benefits by reducing atmospheric pollution, and specifically as a provider of mental health services RDaSH also places high emphasis on quality green space and social responsibility.

We need to embed sustainability within our organisation and must work with our partners across the region to improve sustainability.

Ian Currell
Director of Finance and Performance (Board Net-zero Lead)

2.0 INTRODUCTION

2.1 Our Commitment to Sustainability

At Rotherham Doncaster and South Humber NHS Foundation Trust, we are committed to ensuring that environmental management and sustainability are embedded throughout our organisation. As an NHS Trust we recognise the significant threat that climate change poses both to our environment, and to the health and wellbeing of our communities. As a healthcare provider, we have a responsibility to reduce our carbon emissions, air pollution and waste to produce positive health outcomes in our region. We acknowledge that our environment is a social asset, and we will continue to protect and enhance it to provide health and wellbeing benefits for the communities we serve.

This Green Plan will build upon our Environmental Policy and serve as the central sustainability strategy for the Trust over the next 5 years. The Plan will act as a framework which will enable us to achieve our targets and objectives and improve our environmental, social, and financial sustainability to become a more holistically sustainable organisation. The Green Plan will highlight our successes to date and outline our ambitions for the future as well as set out the actions we will take as we move towards becoming a carbon net-zero organisation.

2.2 Sustainability at National Level

A report released by the Intergovernmental Panel on Climate Change in August continued to solidify our understanding that climate change poses a significant threat to both our environment and human health. Climate change is now considered as the greatest environmental threat to global health of the 21st century by many organisations including the World Health Organisation, British Medical Association, the Royal College of Nursing, and the Royal College of Physicians.

Aligned with the Climate Change Act 2008, the UK has set a mandatory target to reduce carbon emissions to net-zero by 2050. As the UK's largest public sector employer, the NHS contributes approximately 4-5% of the nation's carbon emissions and therefore plays a large role in supporting this national target. The NHS has set two net-zero targets:

- To achieve net-zero by 2040 for the NHS Carbon Footprint (those elements under the Trust's direct control)
- To achieve net-zero by 2045 for the NHS Carbon Footprint Plus (elements the Trust can have influence over)

Figure 1 (below) details the scope of these two carbon footprints.

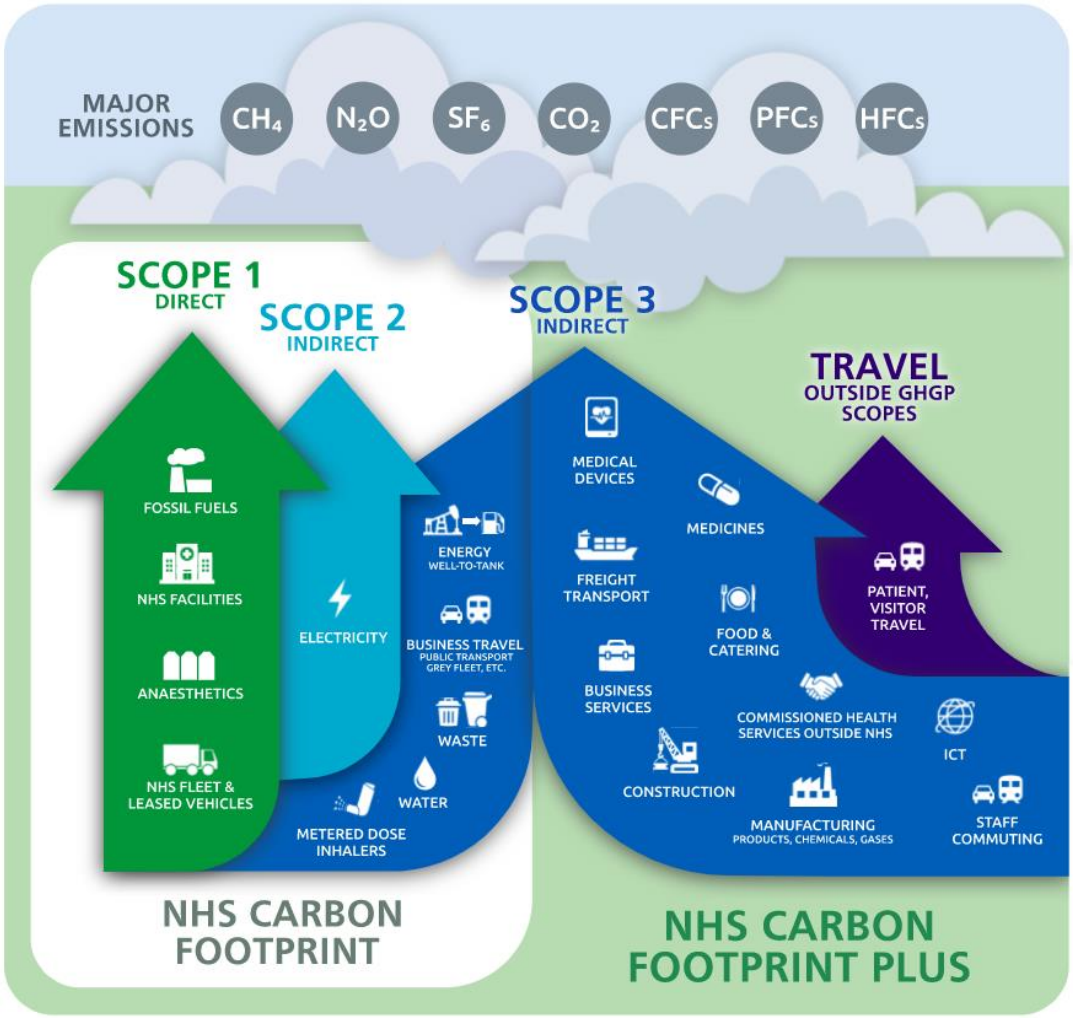
MAJOR EMISSIONS
CH_4
N_2O
SF_6
CO_2
CFCs
PFCs
HFCs
SCOPE 1
DIRECT
SCOPE 2
INDIRECT
SCOPE 3
INDIRECT
TRAVEL
OUTSIDE GHGP SCOPES
FOSSIL FUELS
NHS FACILITIES
ANAESTHETICS
NHS FLEET & LEASED VEHICLES
ELECTRICITY
ENERGY
WELL-TO-TANK
BUSINESS TRAVEL
PUBLIC TRANSPORT
GREY FLEET, ETC.
WASTE
WATER
METERED DOSE INHALERS
MEDICAL DEVICES
MEDICINES
FREIGHT TRANSPORT
FOOD & CATERING
BUSINESS SERVICES
COMMISSIONED HEALTH SERVICES OUTSIDE NHS
ICT
CONSTRUCTION
MANUFACTURING
PRODUCTS, CHEMICALS, GASES
STAFF COMMUTING
PATIENT, VISITOR TRAVEL
NHS CARBON FOOTPRINT
NHS CARBON FOOTPRINT PLUS

Figure 1 - NHS Carbon Footprint and NHS Carbon Footprint Plus with scope classifications

In 2020, the CEO of NHS England announced the “For a Greener NHS Campaign”. This aims to provide top-down support to assist NHS Trusts in reducing their impact on the environment and improving health. The campaign builds upon the substantial progress already made by the NHS to improve sustainability and provides high-level backing to ensure the NHS can achieve net-zero. To become a net-zero health service, reduce air pollution, and reduce waste the NHS requires the dedication of all Trusts, staff, and partners. The Greener NHS has formed an expert panel to map the best path for the NHS to become carbon net-zero, the findings of which shall be continually reviewed by the Trust and used to update this plan as required.

2.3 About Us

Rotherham, Doncaster and South Humber NHS Foundation Trust (RDaSH) provides a broad and diverse range of services for patients of all ages across Mental Health, Physical Health, Learning Disability and Drug and Alcohol services.

We currently provide services across the large geographical footprint of Doncaster, Rotherham and North Lincolnshire, with coverage of over 650 square miles in total, and serve a population of around 735,000 people. We employ around 3,400 people with an active volunteer base of around 150 people, many of whom are recruited from the local area.

Our partnerships are an important aspect of our Trust. We actively work across two wider systems defined as Humber Coast and Vale Integrated Care System and South Yorkshire and Bassetlaw Integrated Care System.

2.4 What is Sustainability?

Sustainability has been defined by the United Nations Brundtland Report (1987) as:

“…development that meets the needs of the present without compromising the ability of future generations to meet their own needs...”

Sustainability focuses on maintaining three distinct, yet interdependent issues, the environment, the economy and social considerations. These three considerations are often referred to as the ‘three pillars of sustainability’. To achieve a sustainable health and care system, all three of these fundamental ‘pillars’ must be addressed. An intervention which solely addresses environmental issues but does not consider the economic and social aspects cannot be considered sustainable. Therefore, this Green Plan integrates all three pillars of sustainability to enable us to carry out our vision to

provide high quality care, drive innovation and deliver the best possible outcomes for our patients.

A sustainable health and care system can be achieved by delivering high quality care and improved public health without excessively depleting natural resources, costing too much or negatively impacting the health and wellbeing of staff and patients (see Figure 2).

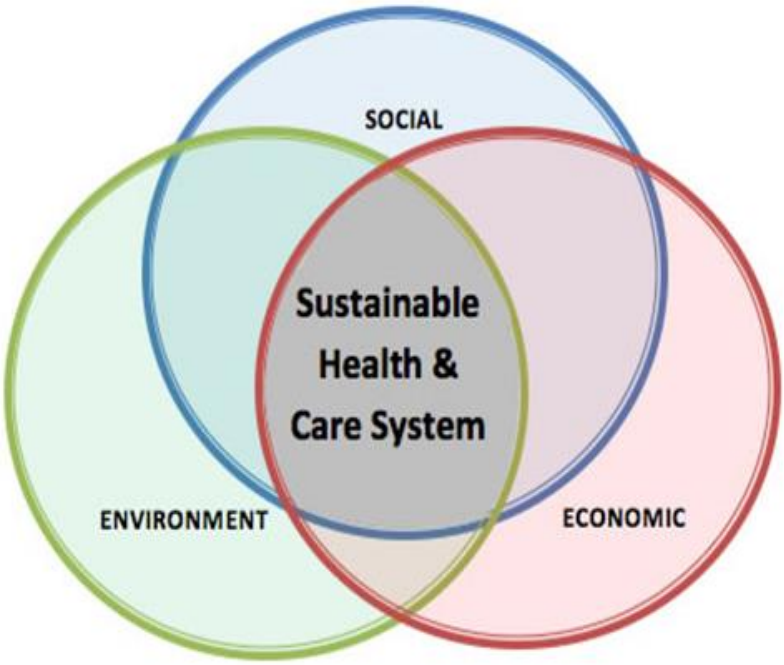

Figure 2 - A model of sustainability for the health and care sector

2.5 Carbon Net-Zero

'Carbon net-zero', otherwise referred to as 'carbon neutral', is defined as the state in which an organisation avoids emitting greenhouse gases (GHGs) through its generation and use of energy, travel, waste, medicines and supply chain. Achieving net-zero carbon emissions, or carbon neutrality, is a core aim of national and local policy and a key driver of this Green Plan.

To achieve net-zero, the NHS must be powered solely by zero-carbon energy and not produce any carbon emissions from other sources such as from waste, medicines, supply chain or travel. In some instances, the generation of carbon emissions will be unavoidable. As such, the residual emissions remaining, once the NHS has implemented all possible reduction measures, must be reduced to zero by carbon offsetting through investments into pursuits such as bio-sequestration and technology-based carbon capture and storage.

2.5.1 Format of the Green Plan

The key areas of focus for this plan were derived from the national strategies and guidance which drive the Green Plan (detailed in section 3.0 *Drivers and Targets*).

Section 4.0 *Our Carbon Footprint* shows the development of our carbon baseline and the changes that have been observed in our total carbon emissions since 2009-10. This section also details the actions that have already been successfully implemented throughout the Trust and the associated reductions in emissions.

Section 5.0 *The Road to Carbon Net-Zero* then highlights the local and national schemes that may contribute to helping the Trust to reduce our residual emissions and reach net-zero carbon emissions by 2040.

Our Sustainable Action Plan is set out in Section 6.0. This final section will provide an overview of the specific actions, set out in the Sustainable Action Plan which accompanies this document, that the Trust will implement over the next 5 years to achieve our sustainability objectives.

3.0 DRIVERS AND TARGETS

This section provides an overview of both the UK legislation and health sector specific policy by which sustainable development is driven across the NHS. It also exhibits the national, local, and NHS targets to be adopted by the Trust.

3.1 National Drivers

Aligned with the Climate Change Act 2008, the UK Government has established a mandatory national target to reduce carbon emissions to net-zero by 2050. In acknowledgement of this, and their notable contribution towards the nation's greenhouse gas emissions, the NHS has set two net-zero targets – to achieve net-zero by 2040 for the NHS Carbon Footprint and by 2045 for the NHS Carbon Footprint Plus. Figure 1 encompasses the scope of these two carbon footprints.

Considerable progress towards this target has been made throughout the NHS. Between 1990 and 2020 the NHS achieved a 62% reduction in its carbon footprint. This has primarily been achieved due to grid decarbonisation and has been supported by strategies to reduce carbon dioxide equivalent emissions (CO_2e), air pollution emissions and improve waste management.

The drivers for sustainable development in the NHS are established in four key NHS specific documents:

- NHS Long Term Plan
- NHS Standard Service Contract 2021/22
- NHS Operational Planning and Contracting Guidance
- Delivering a Net Zero National Health Service

The *NHS Long Term Plan* sets out how the NHS will develop until 2030 and includes sustainability-related considerations such as new models of care. The *NHS Standard Service Contract* highlights several targets and objectives pertaining to sustainability within the NHS. The *NHS Operational Planning and Contracting Guidance* provides advice on the actions required to assist the NHS in achieving the national carbon reduction targets, and to improve the organisation's resilience.

The *Delivering a Net Zero National Healthcare Service* report explains the modelling and analytics that have been used to determine the NHS carbon footprint and future projections, and details actions that will be implemented by the organisation to reduce emissions. Outlined in the report are the immediate actions the NHS must take to meet the 2040 carbon net-zero target. This report will be continuously reviewed to ensure the NHS is on track to meet its long-term commitments and retains the ambition it requires to achieve them.

The documents above set out the following targets:

- For carbon emissions controlled directly by the NHS (the NHS Carbon Footprint), achieve net zero by 2040, with an ambition to reach an 80% reduction from the baseline year by 2028 to 2032.

- For carbon emissions the NHS can influence (the NHS Carbon Footprint Plus), achieve net zero by 2045, with an ambition to reach 80% reduction from the baseline year by 2036 to 2039.
- Transition to zero-emissions vehicles by 2032.
- Adopt the single use plastics pledge.

3.2 Local Drivers

The authorities in the South Yorkshire region in which the Trust operates have also responded to the increasing pressure for action on climate change. In 2019, Rotherham Metropolitan Borough Council and Doncaster Borough Council formally declared a climate emergency. Both have also set a target to achieve net-zero carbon emissions in their respective areas by 2040. North Lincolnshire Council is currently creating a prospectus with similar commitments.

Achieving the targets established within the above local authority areas will require a sustained effort from all sectors, but there is a clear commitment to reducing carbon emissions to net-zero throughout the region. The Trust will take a collaborative approach to reducing emissions and will continue to work with local organisations to help achieve net zero in the region by 2040.

3.3 Our Targets

Aligned with national and local drivers, the Trust will adopt the following targets:

3.3.1 Carbon Reduction

- We will achieve a 100% reduction of direct carbon dioxide equivalent (CO_2e) emissions by 2040. An 80% reduction will be achieved by 2032 at the latest.
- We will achieve a 100% reduction of indirect CO_2e emissions by 2045. An 80% reduction will be achieved by 2039 at the latest.

3.3.2 Air Pollution

- We will convert 90% of our fleet to low, ultra-low and zero-emission vehicles by 2028.
- We will cut air pollution emissions from business mileage and fleet by 20% by March 2024.

3.3.3 Waste

- We will sign and adopt the Single-Use Plastic Pledge.
- We will adopt a Zero to Landfill policy by 2021.

4.0 OUR CARBON FOOTPRINT

To monitor the reduction in our carbon emissions against our targets, we have created a Carbon Baseline against which subsequent annual CO_2e emissions shall be compared. This section details the methodology use to develop our Carbon Baseline, the amount of emissions produced from each aspect and an overview of the progress made on reducing our emissions to date.

4.1 Developing Our Carbon Baseline

Our Carbon Baseline has been measured by reporting the annual carbon dioxide equivalent (CO_2e) emissions of our Trust. The NHS net-zero targets are set from a 1990 baseline. The year 2009-10 has been used as our baseline year as it is the earliest year that we have a complete data set and provides an accurate representation of our Trust's emissions. This is the year against which all subsequent years will be compared.

In the years 1990 and 2010 the NHS produced approximately the same amount of carbon emissions, with the greater reductions occurring between 2010 and 2020. For this reason, the selection of a 2009-10 baseline will have no impact on our ability to achieve the net-zero and interim targets set.

We have created our Carbon Baseline by monitoring our consumption of electricity, gas, and water in addition to our waste and travel. Our carbon emissions have then been calculated by multiplying our consumption data (e.g. kWh for electricity) with national carbon conversion factors produced annually by the Department for Business, Energy, and Industrial Strategy (BEIS) for greenhouse gas reporting figures. This provides the annual CO_2e emissions for each aspect we have monitored. We report our annual emissions in tonnes of carbon dioxide equivalent (tCO_2e) emissions.

4.1.1 Scope of the Carbon Baseline

The Trust's carbon baseline has been developed in accordance with the NHS Carbon Baseline. This encompasses the Scope 1 direct emissions and Scope 2 which must be reduced to net zero by 2040 and Scope 3 indirect emissions which must be reduced to net zero by 2045. The scopes of the NHS Carbon Footprint and NHS Carbon Footprint Plus are defined in Figure 1. Above. The following aspects which produce CO_2e emissions are included in our baseline:

- Gas
- Electricity
- Oil
- Water
- Waste
- Business Travel
- Fleet and leased vehicles

4.1.2 Our Carbon Footprint Plus

This carbon baseline excludes most emissions from Scope 3, included in the NHS Carbon Footprint Plus. The NHS has set a target to reduce these emissions to net-zero by 2045. This scope includes emissions from our supply chain such as manufacturing and medicines and other emissions which are outside the Trust's direct control including staff commute.

These emissions are currently more challenging to quantify accurately due to difficulties from obtaining reliable data from third parties and the lack of robust methodologies, amongst other factors. Over the next 5 years we will work with our suppliers and colleagues to collate the appropriate data so that we can begin to quantify our Carbon Footprint Plus. This will be supported by requirements from the Greener NHS for suppliers over a certain threshold to assist Trusts and publish their impacts.

4.2 Our Carbon Baseline

In the baseline year our carbon emissions totalled 7,111 tonnes (Table 1). Throughout this year, the consumption of gas was the largest contributor to our carbon footprint, producing over 48% of emissions. Electricity was also a significant carbon contributor, responsible for over 36% of emissions, whilst business travel accounted for almost 13% of emissions, and oil, water, waste, and fleet and leased vehicles combined were responsible for almost 4% of emissions.

Year	Electricity	Oil	Gas	Water	Waste	Business Travel	Fleet & Leased Vehicles	Total
2009-10	2,596	6	3,408	42	123	822	115	7,111

Table 1 - Carbon Baseline for RDASH (all data in tCO_2e)

4.2.1 Our Progress Against the Baseline

As displayed in Figure 3, our total annual carbon emissions have been reduced significantly since the baseline year. In the eleven years since the carbon baseline year, the Trust has achieved a 51% reduction in total carbon emissions, with the total annual emissions decreasing by 2,938 tCO_2e from 7,111 tCO_2e to 3,533 tCO_2e annually.

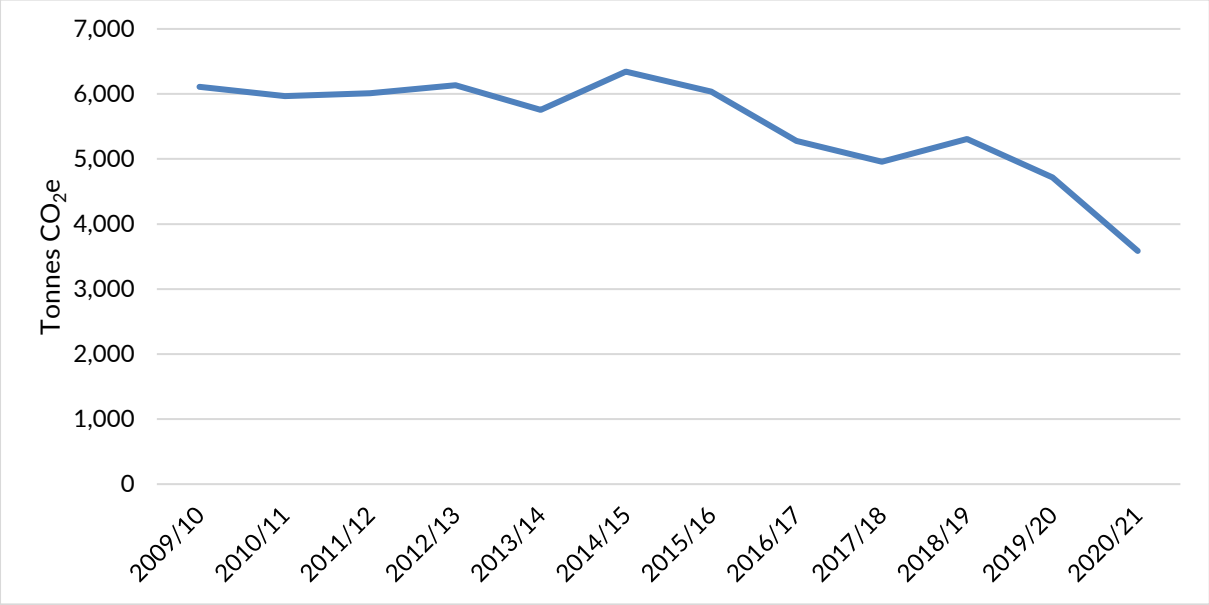

Figure 3 – Total Annual CO_2e Emissions from the Trust

This reduction in emissions has been achieved through gains in efficiency across several aspects of the Trust. As seen in Table 2, emissions have reduced continually in every aspect since 2009-10. Most significantly, a 1,583 tCO_2e (61%) reduction in emissions was achieved from electricity consumption, and a 1,527 tCO_2e (43%) reduction in emissions was achieved from gas consumption. Elsewhere, emissions from oil, water, waste, and fleet and leased vehicles combined were reduced by 528 tCO_2e (60%). An overview of how these reductions were achieved for each aspect is provided in section 4.4.

To make progress on the interim target of an 80% reduction in CO_2e emissions by 2032, the Trust must continue to work to reduce emissions by a further 2,111 tonnes, to 1,422 tCO_2e annually. Following this, the Trust will then work to reduce our emissions to net-zero by 2040 by removing or offsetting the remaining tCO_2e. Our plan for achieving this target, including the implementation of our own actions and the use of national support, is outlined in Section 5 The Road to Carbon Net Zero.

Year	Electricity	Oil	Gas	Water	Waste	Business Travel	Fleet & Leased Vehicles	Total
2009-10	2,596	6	3,408	42	123	822	115	7,111
2020-21	1,013	4	1,944	14	18	508	36	3,533
Change	-1,583	-2	-1,464	-28	-105	-314	-79	-3,578

Table 2 - Comparison of CO_2e emissions in the baseline year and most recent year

4.3 Key Aspects

The section below provides an emissions profile for each of the Trust's key aspects and explains how and why the CO_2e emissions have changed for each aspect.

4.3.1 Electricity

As shown in Figure 4, the Trust has achieved a 61% reduction in emissions from electricity since the baseline year, this has been achieved by improvements in efficiency and a reduction in the carbon intensity of imported electricity. This has been achieved despite a significant increase in emissions due to the Trust absorbing staff and buildings in 2013 as part of the merger of community services following the breakup of the PCTs. The spike in emissions shown in 2014/15 is partly due to the merger with the PCT, taking on buildings and staff but also partly due to a rise in emission factors that year.

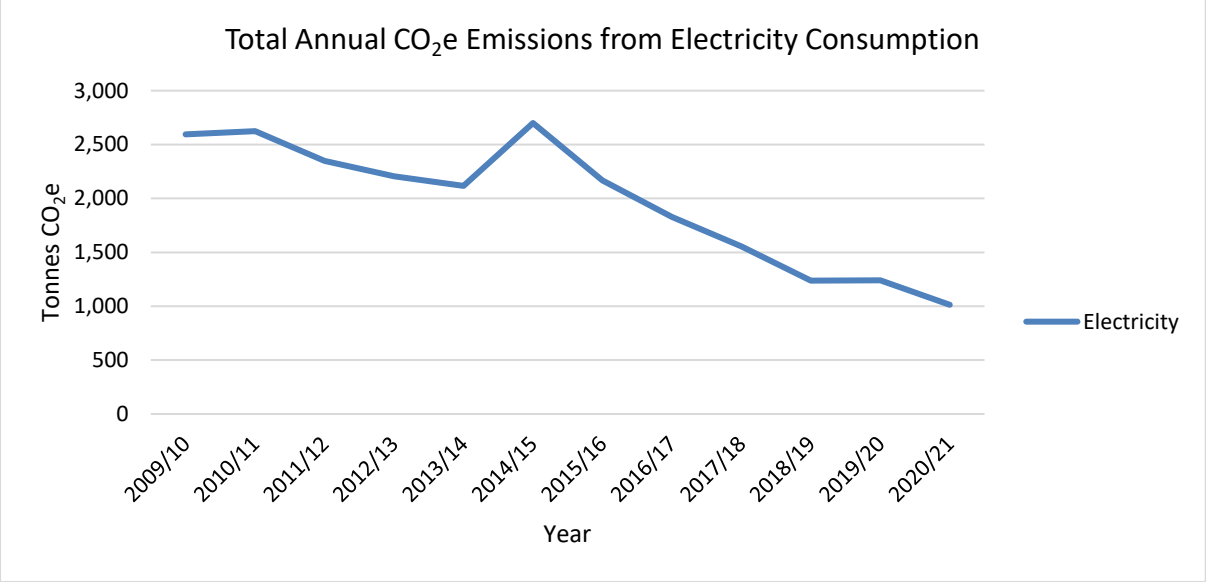

Figure 4– Total CO_2e emissions from electricity consumption at the Trust

Gains in efficiency have been achieved through upgrades made to the Trust's estate. The Trust have been actively involved in the installation of energy efficient equipment such as LED lights across inpatient sites. The Trust has also set up occupancy sensors in many office spaces, and installed solar panels across multiple sites including Woodlands, Swallownest and Great Oaks. These initiatives have led to a reduction in the overall consumption of electricity on our estate.

However, the primary factor which has resulted in the reduction of emissions from electricity is the reduction in the carbon intensity of the electricity imported from the National Grid since the baseline year. The electricity provided by the National Grid is generated through a mix of sources including gas, coal, nuclear and renewable sources like wind power. The proportion of renewable energy sources which contribute towards the UK's energy mix increases each year, reducing the carbon intensity of the

electricity supplied. As shown in Figure 5, the emissions from electricity have decreased at a far greater rate than consumption.

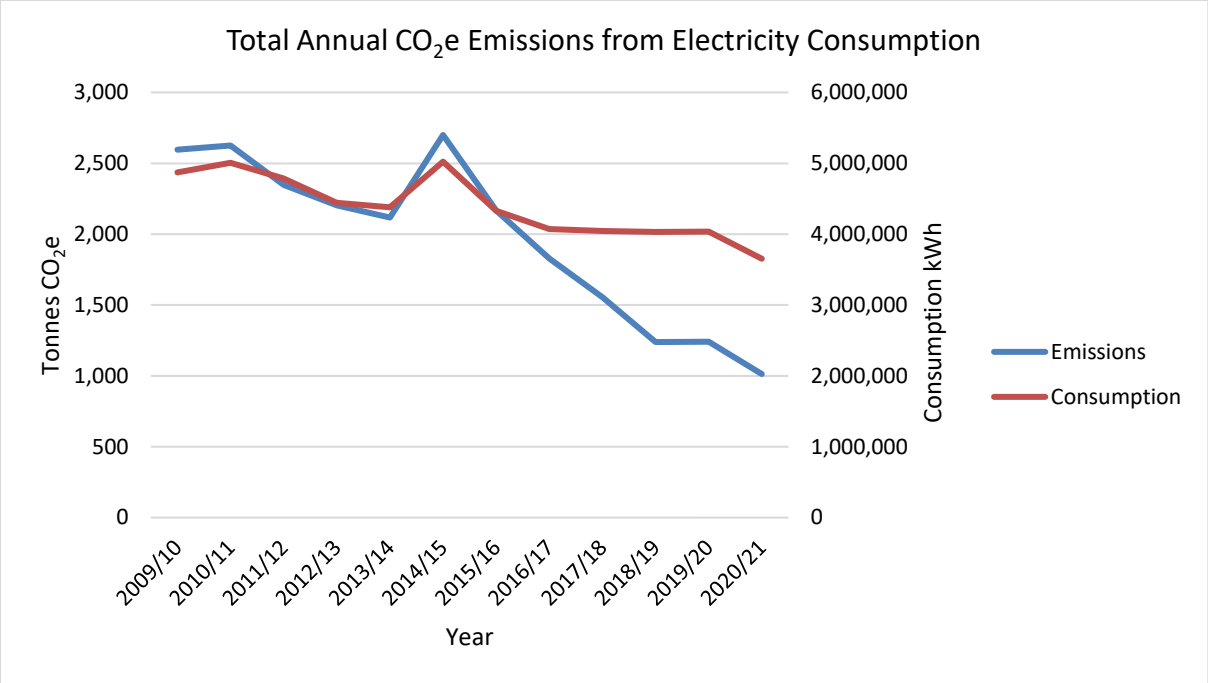

Figure 5 - Total annual electricity consumption compared with total annual electricity emissions

The carbon intensity of electricity is calculated and published by the Department for Business, Energy, and Industrial Strategy (BEIS) on a yearly basis. In the baseline year (2009-10), the carbon intensity was 0.53 kg CO_2e; so, for every kWh of electricity consumed, 0.53 kg of CO_2e was produced. By 2019-20, this carbon intensity equaled 0.28 kg CO_2e, a 47% reduction. The reduction in carbon intensity to produce the UK's electricity results in a reduction in the associated emissions. This has allowed the Trust to achieve an 61% reduction in emissions with only a 25% reduction in electricity consumption. The Trust is now also only purchasing renewable energy certified by renewable energy guarantee of origin (REGO) certificates.

4.3.2 Gas

The Trust is heated by gas-fired boilers. As seen in Figure 6, the Trust has achieved a 43% reduction in emissions from gas since the baseline year. This is primarily due to the savings made from the Trust's transition to condensing boilers. Condensing boilers capture latent heat from exhaust gases and use this heat to preheat water returning from the radiators. This causes the exhaust gases to cool rapidly and condensate into water. This ensures that less heat is lost through the exhaust and reduces the amount of energy required to heat the preheated water to full temperature, therefore improving our efficiency and reducing our carbon footprint.

Other factors which have contributed to the Trust's reduction in gas consumption and associated carbon emissions mainly involve measures implemented to increase energy efficiency. These have included a tightening up of the controls in the Building

Management System and improved insulation brought by double glazing installed across much of the estate.

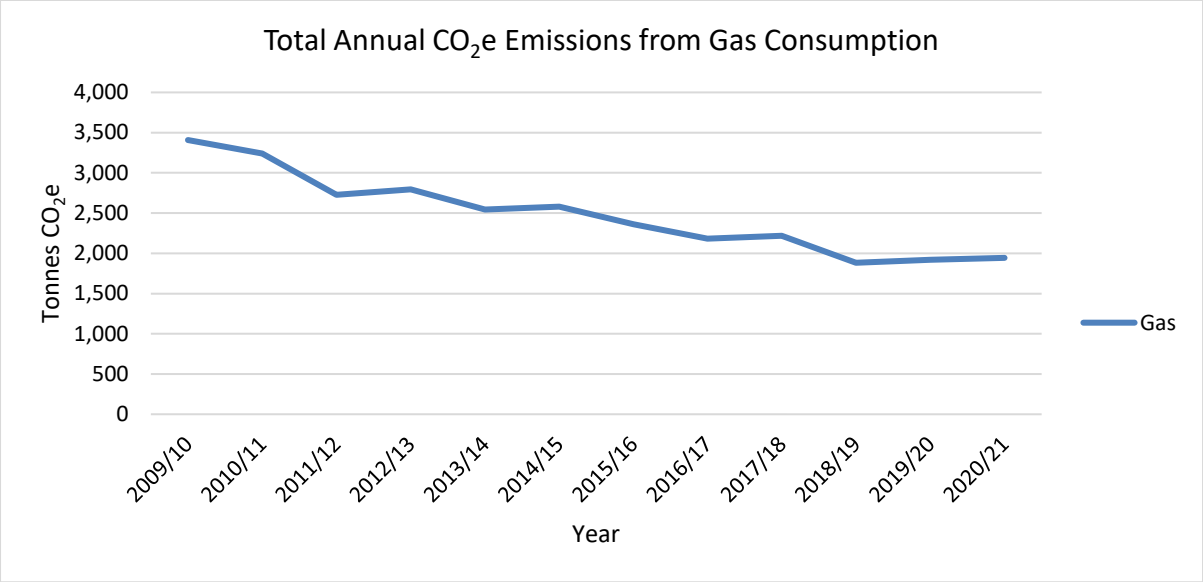

Figure 6 – Total CO_2e emissions from gas consumption at the Trust

4.3.3 Oil

The Trust only consumed 6 tCO_2e of oil in the baseline year, and this has since been reduced to 4 tCO_2e. the reduction in oil consumption is a result of reducing the frequency of testing generators on load from 4 weekly to 6 weekly. Oil is and has not been used as an energy source at the Trust, it is only retained as a backup energy source for electricity generation in case other supplies are disrupted. Having oil as a backup energy source is mandated by the Healthcare Technical Memoranda (HTM).

The Trust has chosen to use gas as its primary energy source, as oil creates 1.4 times more CO_2e per kWh than gas. To ensure that oil does not have to be used, the Trust works to maintain our primary energy sources and equipment to prevent gas or electricity failure events.

4.3.4 Water

As shown in Figure 7, the Trust has achieved a 67% reduction in emissions from water consumption since the 2009-10 baseline.

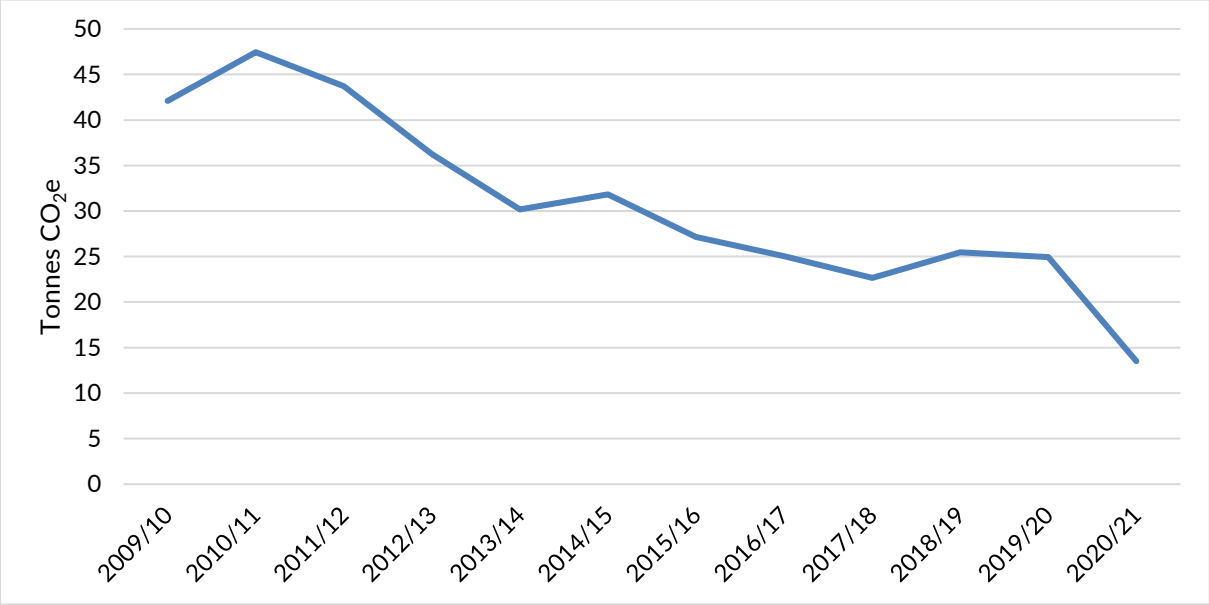

Figure 7 – Total CO_2e emissions from water consumption at the Trust

Water contributes to only a small percentage of our carbon baseline (0.7%); however, it is important that we aim to use water resources efficiently and prevent leaks so that we can save resources and reduce unnecessary cost. Colleagues shall be continually encouraged to turn off taps when not in use and report any identified leaks. Additionally, we will continue to monitor our water consumption to identify any major leaks which may waste water.

4.3.5 Waste

As shown in Figure 8, the annual carbon emissions produced from waste disposal at the Trust have fallen by 74% from the baseline year.

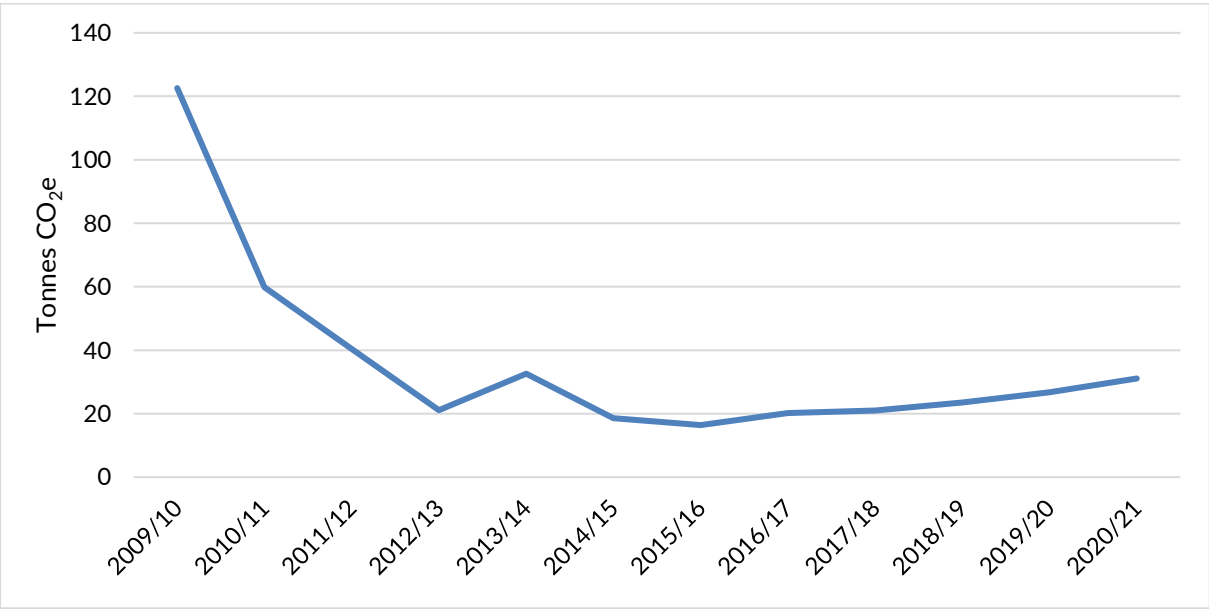

Figure 8 – Total CO_2e emissions from waste disposal at the Trust

This reduction in emissions has primarily been achieved through efforts to ensure that waste is managed as sustainably as possible. The Trust has re-channelled food waste, which equals around 80 tonnes per year, into the local Refood anaerobic digestion plant to recycle it into digestate and biomethane since 2012.

The Trust has increased the provision of dry-mixed recycling (DMR) as a key part of waste management in recent years, with 70-75% of waste including metal cans segregated and sent for recycling. The remainder of general waste is sent for waste-to-energy, allowing us to capture maximum possible value from our resources. We currently incinerate and provide alternative treatment processes for over 60% of our offensive waste stream, and the Trust is now at a stage where almost no waste is sent to landfill.

We aim to manage our waste in line with the waste hierarchy, minimising the production of waste in the first instance, then reusing, recycling and when all other options have been exhausted incinerating waste for energy recovery. We have worked to reduce the amount of unnecessary packaging onsite and excluded plastic straws and cutlery from procurement contracts. We also compost and reuse green waste and wood chippings on site and participate in borough-wide needle exchanges and furniture reuse schemes.

The Trust will continue to ensure that as much of our waste is reduced, re-used, and recycled as possible before the last resort of disposal to reduce associated carbon emissions. We will also continue to monitor our waste management data by identifying, tracking, and minimising the impacts of key sources of waste within the Trust and work closely with our waste contractors to look at any technological advances that will reduce the impact our waste has on the environment.

4.3.6 Business Travel

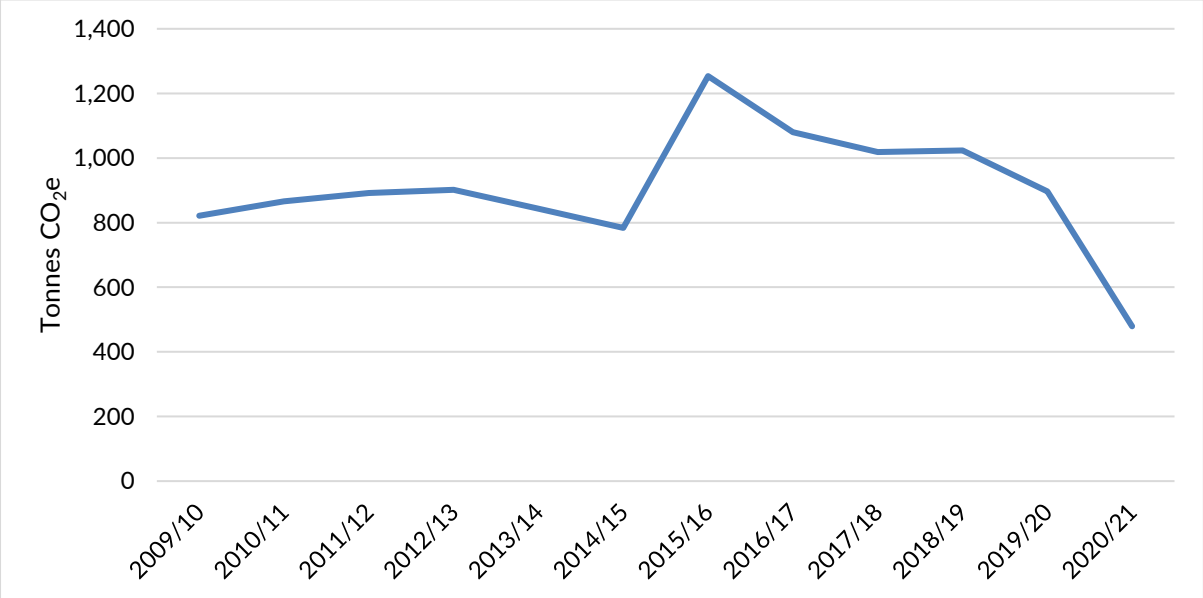

Figure 9 – Total CO_2e emissions from business travel at the Trust

As shown in Figure 9 (above), the Trust has been able to achieve a 40% reduction in business travel emissions from the baseline year. As a health provider set across a wide geographical area, many of our services rely on attending to the needs of our outpatients, who often rely on face-to-face contact made possible only though business travel arrangements.

Our business travel footprint increased in 2014/15 partly as a result the Primary Care Trusts (PCTs) merger into our Trust and partly down to agile working. These changes increased emissions from transport, but the agile working regime that was adopted ensured we were able to dispose of some buildings and so a net gain was achieved in subsequent years. The merger added around 8% to our emissions baseline overall, but as we don't have the relevant data from the PCTs for the baseline year the starting baseline of 7,111 Tonnes has not been adjusted to reflect this.

Because of the 2019 COVID pandemic, many staff were enabled to work from home, operate flexible rotas and conduct interview processes online. Videoconferencing software has been used to conduct meetings, which has significantly reduced the requirement for business travel. Hosting a meeting with ten attendees, who typically travel 10 miles by car, saves 28kg CO_2e per meeting. Working from home and agile rotas also reduced the number of staff commuting to and from Trust sites, as processes such as interviews with nurses and administrative staff mean a significant reduction in emissions was seen in 2020 - 2021 and is expected to continue for 2021-2022 due to decreased mileage.

Although adopted in response to the pandemic, the above changes have led to a reduction in the Trust's carbon emissions and air pollution due to reduced travel. The Trust intends to continue to enable working from home where beneficial to reduce the impacts of commuting. The Trust will also continue to use technology to provide remote services such as providing the option for virtual consultations where appropriate. These changes will enable the Trust to reduce carbon emissions and air pollution whilst providing greater flexibility and resilience in the future without compromising the high level of care we provide.

4.3.7 Fleet & Leased Vehicles

As shown in Figure 10, the Trust has achieved a 65% reduction in emissions from the use of Trust-owned and leased vehicles since the 2009-10 baseline.

This progress is partly attributable to the transition of the Trust's fleet from diesel to electric vehicles, and more significantly from changing the way we deliver goods and services to sites, reducing journeys and vehicles in the fleet. The number of journeys taken by medium and large size diesel vans used by the Trust has fallen from 486,031 miles in 2009-10 to 27,012 miles in 2020-21, whilst the electric van mileage has increased from 14,600 miles to 62,184 miles over the same period.

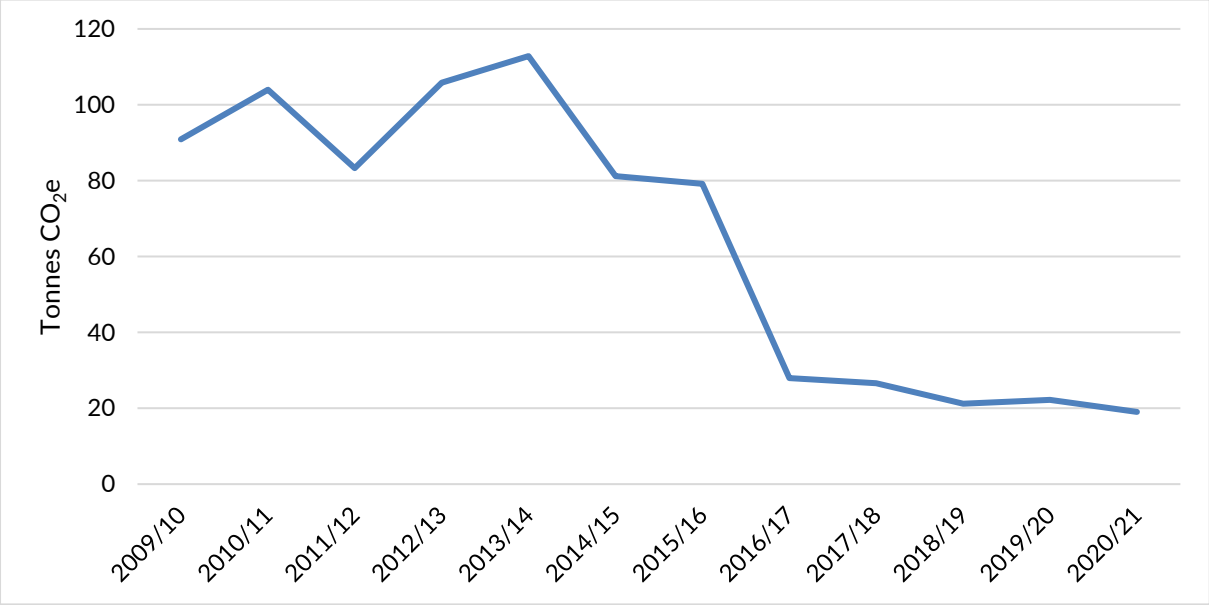

Figure 10 – Total CO_2e emissions from travel at the Trust

To facilitate this transition, the Trust has also worked to improve the electrical infrastructure around our estate. Salary sacrifice schemes for electric cars have also been taken up by numerous staff for personal vehicles. Charging points for electric vehicles are now available across several sites, whilst a dedicated electric vehicle is now used for logistics and blood runs. Going forward, the Trust will continue to support the transition away from polluting diesel vehicles towards a more sustainable travel infrastructure.

This reduction may also have been achieved through the increased uptake in salary sacrifice vehicles. This is not accounted for in the scope of this carbon baseline but will be included in our Carbon Footprint Plus in our 2027 Green Plan.

4.3.8 Greenspace and Biodiversity

As a provider of mental health services and trauma-informed care, greenspace constitutes a core part of sustainability at the Trust. As we are situated on a very green site, with approximately 30 Ha of greenspace, we have historically sought to make our outside spaces more pleasant to increase the quality of care for our patients for whom positive greenspace is vital. Many of our gardens have been made greener and less cultivated, thereby enhancing both patient care and carbon emission reduction.

Parts of our estate have been designated as public open space and are frequently used by our local communities for recreation. We have over 4 Ha of ancient woodland which has been made accessible thanks to the work of The Conservation Volunteers, local residents and staff. In 2010 we also planted 1,000 new trees, contributing to the NHS Forest which are now maturing nicely over a one-acre space.

To maintain biodiversity on our site we have designated a 1 Ha area of open space to naturalise and maintain this area only once a year to encourage wild plants to grow and provide habitats for species.

We actively encourage our staff and patients to get involved with our outdoor projects to promote good health and wellbeing. We also have Flourish Enterprises on site, a not-for-profit Community Interest Company (CIC) who are supported by the Trust. Flourish Enterprises provide opportunities for vocational placements to enable patients to gain skills and confidence as part of care pathways. They have a walled garden which has been restored to a fully working state. This provides a relaxed environment to support patients and provide vocational pathways.

4.3.9 Our People

As our Trust is a central pillar of multiple communities, we have always strived to ensure that our services positively impact our staff and local peoples. We largely recruit our workforce from the areas in which we serve and run several schemes to target the local workforce. We work with education-based partners such as schools and universities to enable young people to get into employment. We also support peer support workers and voluntary staff to transition into fulltime work. To engage with local staff, we operate open days for domestic roles within our Trust and tailor the recruitment process to suit the needs of our potential employees. Supporting employment in our local region reduces the impact of commuting, improves job retention and helps to keep local people in employment.

We also aim to support other organisations and business within our region by procuring locally where possible. We hold many contracts with local businesses particularly for food such as bread, fruit, and vegetables.

5.0 THE ROAD TO CARBON NET ZERO

The Trust has significantly reduced CO_2e emissions from the 2009-10 carbon baseline, but a sustained effort will continue to be required if we are to achieve our target of reducing our emissions to net-zero by 2040. This section will establish our trajectory to meet the 2040 target and will highlight several interventions on both local and national scales which may assist us in reducing our emissions further.

The NHS has established an interim target for an 80% reduction in scope 1 emissions by 2028 to 2032 to guide Trusts towards the 2040 net-zero target. Key targets are provided in Section 4 Drivers and Targets. These targets are not legally-binding but resemble a national commitment by NHS England to encourage the NHS to reach net-zero emissions as soon as practicable and to ensure that the mandatory national net-zero target of 2050 is met.

The reductions in emissions the Trust must achieve to reach these targets are shown in Table 3. We will continue to monitor our emissions against these targets and publish our progress annually.

Year	Baseline	2020	2032	2040
Target Emission Reduction (%)	n/a	28	80	100
Target Emissions (tCO_2e)	7,111	5,120	1,422	0

Table 3 – NHS carbon emissions targets in percentage terms and tCO_2e

Figure 11 shows the Trust's carbon emissions since the 2009-10 baseline against the NHS's CO_2e targets. As seen, the Trust has exceeded the NHS's target of a 28% reduction by 2020 and is well on track to meeting the 80% reduction by 2032. Nevertheless, The Trust acknowledges that carbon savings will become more difficult to achieve as the 2040 deadline approaches.

To reduce our emissions to 1,221 tCO_2e per year by 2032, a continual Trust-wide effort will be required. To reduce carbon emissions, we will focus on improving efficiency and tackling our key aspects. To do this, we will implement our Sustainable Action Plan, as outlined in Section 6.0 below. This Sustainable Action Plan will be used as the framework to guide the implementation of actions over the next 5 years to reduce carbon emissions, air pollution and waste in line with our targets. The Action Plan will also enable us to monitor the progress of our actions over this timeframe.

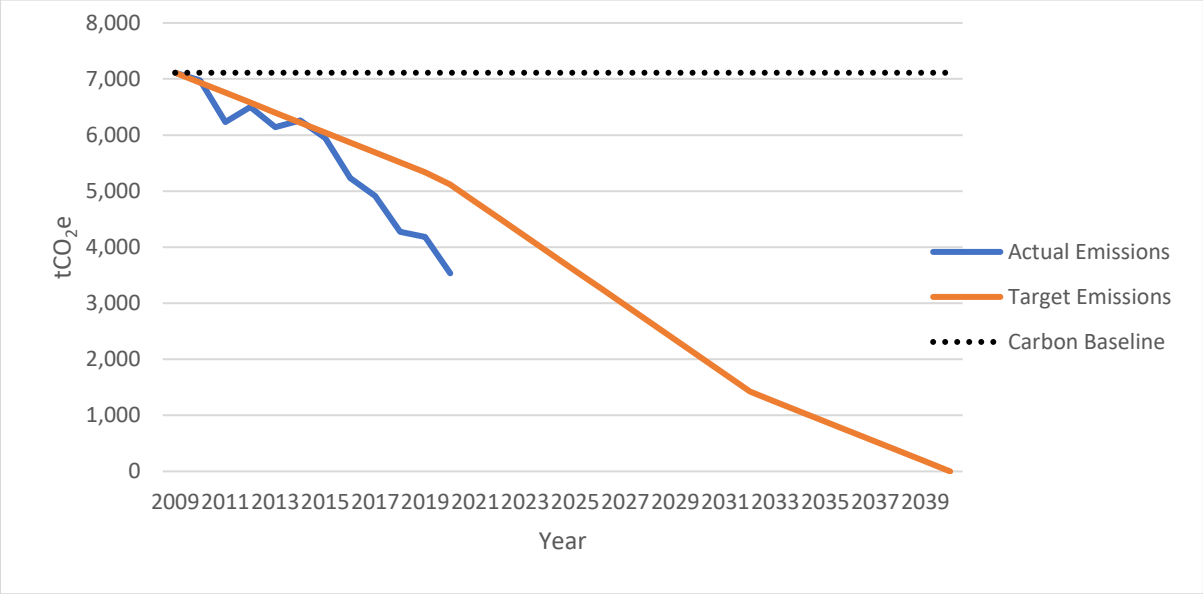

Figure 11 – Total CO_2e emissions at the Trust against NHS Targets

Making the transition towards net-zero carbon emissions will require significant financial resources and the commitment of colleagues across all areas of the Trust. These financial costs can be weighed up against the finical cost and risk of taking no action. At the time of publication, the UK is experiencing significant increases in the price of grid supplied gas and electricity. The volatility of the energy market is set to continue. Decarbonising our estate over the next 18 years, although costly, will help to increase our resilience against fluctuations in the rising cost of fuel. We will continue to capitalise on funding schemes to support the decarbonisation of our estate and fleet where possible.

5.1 National Considerations

Upon successful implementation of all possible actions and having reduced emissions as far as possible, the Trust will then require national-level actions to reduce our final residual emissions to achieve the net-zero target by 2040. This section will establish the key national schemes that have the potential to reduce CO_2e emissions and air pollution over the next 30 years and which could assist the Trust in achieving net-zero.

The UK Government's Ten Point Plan outlines their commitment to achieving net-zero by 2050. More recently, the Government published their Net-Zero Strategy: Build Back Greener, which builds upon the Plan by establishing clear policies and proposals to ensure the UK economy becomes fully decarbonised by 2050. Both documents will act as frameworks to guide the nation's transition towards a net-zero economy by 2050 and will be supported by £5 billion to kickstart the UK's Green Industrial Revolution. The Government hopes to support a green recovery from the COVID-19 pandemic by creating 250,000 new jobs by 2030 in green energy and zero-carbon technologies including offshore wind farms, nuclear plants, hydrogen power and carbon capture and storage technologies.

5.1.1 Renewable Energy

The percentage of the UK's energy mix generated from renewable sources increases annually, thereby decreasing the carbon intensity of the electricity consumed in the UK, reducing carbon emissions. To achieve net-zero emissions, the UK must completely decarbonise the national grid. The Government plans for the entire of the UK to be powered by clean electricity by 2035 through an increase to the amount of renewable energy generated by additional offshore wind farms, which are expected to generate 40 GW of energy. This will be enough to power every home in the UK and will be coupled with carbon capture technology and battery storage so this renewable energy can be utilised to meet demands.

The increasing availability of electricity created from renewable energy sources will significantly reduce the carbon emissions our Trust emits from electricity imported from the grid, one of our largest sources of emissions.

5.1.2 Emerging Technologies and Opportunities

The Government's Strategy further outlines how it intends to decarbonise heating through the transition to low-carbon hydrogen. The Government intend to create 5GW of low-carbon hydrogen production capacity by 2030 which would be used for heating, whilst halving emissions from fossil fuels such as natural gas and oil. Converting the gas grid to hydrogen has been estimated to reduce UK carbon emissions by 73%.

This transition to hydrogen technologies will be supported by the Net Zero Hydrogen Fund which will provide £240 million of capital co-investment by 2024/25. These technologies will be trialled on a large scale within the next few years, with large village heating trials to be carried out by 2025 and a potential Hydrogen Town by 2030. Privately funded schemes such as the H21 City Gate Project will additionally seeks to begin converting the gas grid to hydrogen across a shorter timeframe.

The Government are currently consulting on 'hydrogen ready appliances' in preparation for the potential conversion of the gas grid and, subject to trial outcomes, will rework the Health and Safety Executive to enable up to 20% hydrogen blending in the gas grid by 2023.

Carbon capture will be used in conjunction with hydrogen heating to enable hydrogen to be rolled out across the gas grid at prices that can compete with natural gas costs but without the associated CO_2e emissions. The successful transition from natural gas to hydrogen would enable to UK and the Trust to significantly reduce emissions associated with heating, which is our largest source of emissions.

Further opportunities may be garnered from the Government's plans to support the net-zero transition with a series of enabling actions. An additional £1.5 billion of funding will be made available to support net zero innovation projects, whilst the UK Infrastructure Bank (UKIB) will be used to leverage over £40 billion of investment for the upscaling and maturity of low carbon technologies.

The Trust will continue to monitor new and emerging technologies and funding opportunities which could support the decarbonisation of our operations towards achieving net-zero CO_2e emissions over the next two decades.

5.1.3 Transport

A core element of the Government's Net-Zero Strategy is the potential for public transport and active travel to reduce carbon emissions and air pollution. The Government aims to continue reducing transport-related emissions due to the positive impacts observed throughout the COVID-19 pandemic. This will be pursued through the provision of additional funding for public transport, infrastructure, and active travel schemes.

£2 billion will help enable half of journeys in towns and cities across the UK to be cycled or walked by 2030. Funding of £620 million will be made available for zero emission vehicle grants and electric vehicle infrastructure, with a focus on creating more charging points across the country. £350 million of a total £1 billion from the Automotive Transformation Fund (ATF) will also be allocated to support the electrification of UK vehicles and supply chains.

Funding will also be made available to improve country-wide rail and bus networks. More rail lines will be electrified with an ambition to remove all diesel-only trains by 2040 and have a net-zero rail network by 2050. Meanwhile, bus and rail networks will be integrated and introduce smart ticketing to make travelling on public transport an easier and more convenient experience. A National Bus Strategy has also been published which details plans to create 4000 zero-emission buses and complimentary infrastructure which will provide a cheaper, more frequent, and reliable bus network. This will be supported by a £3 billion investment into the bus sector. The successful implementation of these schemes would enable easier travel by public transport and reduce reliance on cars.

The Government will also promote active travel, with plans to build thousands of miles of segregated cycle lanes across England to facilitate safer cycling. A dedicated Active Travel body has been established to monitor the progress of these schemes and distribute funding accordingly. Encouraging active travel across the country will have many benefits for the Trust, by supporting the reduction in the Trust's emissions, improving air quality, and improving the health and wellbeing of local people which could ultimately lead to a reduction in the number of patients requiring our services.

In addition, the strategy seeks to reduce emissions from petrol and diesel vehicles. The sale of all new petrol and diesel vehicles will be banned from 2030, followed by a ban on hybrid models by 2035. This ban has been brought forward by 10 years to accelerate the transition to electric vehicles. The Government has committed to the development of 'Gigafactories' to produce batteries to accommodate the expected increase in electric vehicle manufacturing and support this transition to electric vehicles. The provision of electric vehicle charging points will subsequently be increased. The development of alternative fuels is also ongoing and may provide a greener solution to petrol and diesel vehicles where electric vehicles are not feasible.

It is expected that the transformation created by these schemes will assist the Trust in reducing Scope 3 emissions. Scope 3 emissions are difficult for the Trust to quantify and reduce as they lie beyond the Trust's direct control. The increased provision of public transport methods and active travel schemes will help to reduce staff and patient travel emissions and improve air quality. The transition towards electric vehicles will

then assist the Trust in reducing transport emissions including commuting, business travel, and emissions associated with transportation of goods.

6.0 OUR SUSTAINABLE ACTION PLAN

To reduce carbon emissions, air pollution and waste in line with our targets, we have developed a Sustainable Action Plan (SAP) containing 112 actions that the Trust will implement over the next 5 years. The implementation of our SAP will help us achieve our 2040 net-zero emissions target and deliver our strategic objectives. The SAP does not resemble a finalised list of possible actions, so we will continue to develop future actions under these headings as and when required over the next 5 years.

To ensure that the SAP considers all aspects of sustainability, as defined by the United Nations, the Trust has developed the Action Plan in line with the Sustainable Development Action Tool (SDAT) previously published by the NHS Sustainable Development Unit (SDU). The SDAT tool allows NHS organisations to continually assess their sustainability performance and was developed in line with the UN Sustainable Development Goals (SDGs) shown in Figure 12 which include goals to ensure good health and wellbeing and take climate action amongst other goals.

To align with the SDAT, our SAP is composed of the following 10 sections:

- Corporate Approach
- Asset Management and Utilities
- Travel and Logistics
- Adaptation
- Capital Projects
- Greenspace and Biodiversity
- Sustainable Care Models
- Our People
- Sustainable Use of Resources
- Carbon and Greenhouse Gases

6.1 Methodology

We have developed our SAP in a way which ensures the actions are ambitious, but also practicable and achievable with the resources available to the Trust. A dedicated and accountable lead will be assigned to each action to ensure that they can be successfully implemented. Each action will also have a recommended timescale for implementation to enable their progress to be monitored easily.

The SAP has been created through the utilisation of multiple methods. The Trust conducted a series of interviews with key stakeholders from several departments across the Trust. The interviews involved colleagues from departments including:

- Estates and Facilities
- Finance and Procurement
- Human Resources
- Energy
- Medical and Nursing
- Waste
- Strategy

- Pharmacy
- Communications
- Information Technology

The interviews were used to collect data regarding the actions and initiatives that have already been successfully implemented at the Trust, to identify key areas for improvement, and to determine the level of resource available to drive the implementation of this SAP. Using the information gathered, the SDAT was then completed to identify any additional actions that the Trust could implement to become a more sustainable organisation. As well as the actions identified by colleagues, the Trust conducted a scan of actions which have been successfully implemented at other Trusts that have improved their sustainability performance. The Trust also reached out to staff in an engagement campaign to recruit Trust-wide contributions for the SAP.

6.2 Sustainable Action Plan

6.2.1 Corporate Approach

This Green Plan will only be successfully implemented if driven by support from staff working together 'from Board to Ward'. Commitment and discussions pertaining to the progress made on sustainability are required from senior figures to ensure that sustainability becomes embedded in working practices. Sustainability criteria will be integrated into the strategic processes and policies of our organisation. We will also work with our partner organisations and the residents whom we serve to make a more meaningful sustainability impact in the local area. These actions will hold the Trust accountable for meeting the targets established in this Green Plan.

6.2.2 Asset Management & Utilities

The Trust recognises that to achieve net-zero by 2040, we must decarbonise our energy and manage our utilities sustainably, particularly as gas and electricity are the largest sources of our carbon emissions. We will therefore continue to work to increase the efficiency of our estate through measures such as staff engagement, BMS optimisation and estate rationalisation. We will also look to utilise new innovations and explore low or zero carbon technologies to provide future heat and power.

6.2.3 Travel & Logistics

As a mental health service provider working in our estate and in the homes of our numerous outpatients, emissions from travel make up a significant yet unavoidable proportion of our carbon footprint. The Trust therefore recognises that any actions taken must involve changes in the travel methods of staff, patients, visitors, and suppliers. Reducing the negative impacts of travel will be achieved through several strategies such as the launch of an Active Travel Plan. In line with our ambition to upscale the use of digital technology for healthcare delivery, the Trust will also continue to support agile and remote working arrangements. Teleconferencing capabilities brought by the Covid-19 pandemic will continue to be used for those

workers and patients whom it suits, whilst we remain conscious of those people who are not 'digitally enabled' and at risk from social isolation.

6.2.4 Adaptation

The Trust acknowledges that in addition to attempts to mitigate the effects of climate change, its potential impacts must also be adapted to. Climate change is regarded as the greatest environmental threat to health of the 21st century, and as such we must take actions to enhance the resilience of our organisation to the increased dangers of aspects such as flooding and disease. Our adaptation actions involve risk assessing potential scenarios created by climate change, creating coordinated adaptation strategies and contingency measures to ensure that we can continue to deliver a level of high-quality care.

6.2.5 Capital Projects

The Trust has been making headway with the introduction of energy-efficient infrastructure such as solar panels and LED lighting. We will continue to modernise and rationalise our estate to ensure that it meets the needs of its users, improves efficiency, and offers a positive place to work and receive care for our staff and patients. This may include new buildings to enable us to decommission older less efficient buildings and provide a better environment for patients, staff and visitors.

6.2.6 Greenspace & Biodiversity

The Covid-19 pandemic has exacerbated mental health problems in our communities. Through an improvement to air quality and carbon capture, greenspace both positively impacts the environment and biodiversity and has proven to benefit our physical and mental wellbeing. The Trust therefore considers the actions in this section to be an integral part of our future service. The Trust has committed to working towards creating a local environment that promotes and encourages inclusion and a healthier lifestyle by creating quality outdoor space for service users and the wider community whilst reducing its carbon footprint. Incorporating green space across new and existing areas across the estate will aid the delivery of our care services.

6.2.7 Sustainable Care Models

Our Trust focuses on delivering seamless, patient-centred, integrated care and support with the help of partners, patients, carers, and colleagues. To ensure that our service is delivered in a way which creates environmental benefits alongside positive social and economic impacts, the Trust recognises the need to adopt sustainable models of care. We will explore how technology can be integrated into our services to improve ease of access for patients. Actions such as the education and quantification of sustainability co-benefits will help reduce carbon emissions, maximise the quality of care provided by our staff, and ensure heightened patient satisfaction levels.

6.2.8 Our People

The Trust recognises that enabling our people to lead healthy lives goes in tandem with acknowledging the value of the environment as a social asset. Environmental

sustainability objectives must be achieved whilst protecting natural resources and strengthening social systems. We will work to empower, engage, and increase the awareness, knowledge, and skills amongst our workforce, patients, and residents as part of an effort to engender a behavioural and cultural shift towards sustainability in our organisation. We recognise the need to take stock of the progress we have made on our carbon emissions thus far and feed this back to our workforce with a motivational and educational purpose, as doing so will create environmental benefits, better quality care, and increased job satisfaction, leading to employee retention.

6.2.9 Sustainable Use of Resources

We acknowledge that we can go further to reduce waste, air pollution, carbon emissions and reduce costs through the sustainable use of resources. To achieve this, the Trust will minimise the production of waste at its source and utilise the most sustainable disposal methods in line with the waste hierarchy approach. We will also encourage more sustainable choices to be taken amongst our staff and work collaboratively with our supply chain to reduce waste and improve resource procurement and management measures.

6.2.10 Carbon & GHGs

The Trust acknowledges that the achievement of net-zero by 2040 will demand a concerted effort. Every department in the Trust can have an impact on our carbon emissions, and thus a Trust-wide approach will be taken to reduce emissions. Our actions will involve the continuous monitoring and improvement of data, evaluating our supply chain networks, working with local partner agencies, developing a communications plan, and introducing carbon targets for all to work towards.