Calderdale and Huddersfield
NHS Foundation Trust

CHFT Green Plan

February 2021 – February 2026

Commissioned for **CHFT** by Calderdale and Huddersfield Solutions **(CHS)** through consultation with **WRM**

Integrated Facilities Management

Reviewed by the Transformation and Programme Board – Monday 8th March 2021

compassionate care

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1.0 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)

Global Warming Potential- a measurement that enables the comparison of global warming impacts of different greenhouse gases

kWh (kilowatt hours)- 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)

2.0 FOREWORD

At Calderdale and Huddersfield NHS Trust we know that our natural environment is a precious legacy.

This Green Plan sets out how the Trust will contribute to protecting and enhancing the environment for the next generation. The Plan provides a strategic framework that the Trust can use to address the three areas of concern that we will be focussing on:

- Reducing our carbon emissions
- Reducing our contribution to air pollution
- Reducing our generation of waste and improving recycling.

The plan demonstrates our commitment to meeting national NHS and local government targets for reductions in carbon emissions. We have already taken huge strides to reduce our environmental impact, through the establishment of a Green Planning Committee, procuring 100% of our energy from renewable energy tariffs and significantly reducing the amount of waste going to landfill. However, we recognise there is still lots to do and this plan sets out the further actions we will take to deliver on our commitments & targets.

We look forward to working with our colleagues, local partners and stakeholders, patients and visitors as we continue on our journey to develop new ways of working which put sustainability and environmental issues at the heart of everything that we do as a Trust.

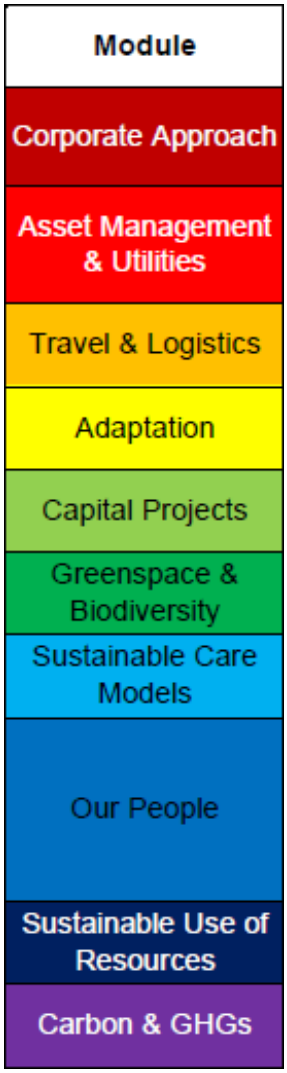
Andy Nelson.
Non-Exec Director, Calderdale & Huddersfield NHS Foundation Trust.

Stuart Sugarman.
Managing Director, Calderdale & Huddersfield Solutions.

3.0 EXECUTIVE SUMMARY

This Green Plan sets out the vision for sustainability across Calderdale and Huddersfield NHS foundation Trust. The strategy supersedes the Trust's existing Sustainable Development Management Plan (SDMP).

The Green Plan has been developed alongside an ambitious Sustainability Action Plan (SAP) that ensures integration with the Trust's corporate objectives. The SAP proposes numerous interventions under ten key themes, which have been outlined in the image below:



Most notably the SAP address the Trust's carbon reduction commitment and adopts proposals from the CHFT Climate Change Plan.

At the CHFT we recognise that the NHS is responsible for over 25% of total public sector emissions. Heating, ventilation, and air conditioning systems alone account for 15-35% of total operational electricity within hospitals. Our plan for carbon & greenhouse gas emissions (GHGs) prioritises the procurement of low / ultra-low emission vehicles and supports the development of an efficient estate and operational environment.

The Trust has approved the following targets for carbon reduction, in line with national commitments:

1. Net zero for the NHS Carbon Footprint (scope 1&2 emissions).
   - 100% reduction of direct carbon emissions by 2040:
   - 80% reduction achieved between 2028-2032 (interim target).

2. Net zero for the NHS Carbons Footprint Plus (scope 3 incl. patient / visitor travel):
   - 100% reduction of indirect / supply chain emissions by 2045:
   - 80% reduction achieved between 2036-2039 (interim target).

We're already progressing towards our targets for carbon neutrality. Our initial carbon baseline calculates emissions between the years 2013 – 2014 and we have determined that within this period our estate emitted 19,855 tonnes CO2e (tCO2e). The two most significant contributors to our emissions during this baseline year were electricity (50%) and gas (44%).

We have calculated that total emissions have decreased by 31% (13,740 tCO_2e) between 2013 and 2018. This reduction is partly achieved by interventions adopted by the Trust and through efforts made to rationalise our estate. However, the main contributing factor has been a reduction in the carbon intensity associated with grid supply to our assets.

Further work is now underway to verify our calculations and to determine an earlier carbon baseline that estimates emissions between 1990 and 2021.

Looking towards the future, the Trust is pursuing public sector funding opportunities which prioritise heat decarbonisation. Additionally, our upcoming capital projects aim to address our commitment to sustainability by targeting BREEAM standards for sustainable design.

Plans for the new Emergency Department at Huddersfield Royal Infirmary include proposals for an air source heat pump system that would generate renewable energy onsite. Sustainable procurement plans are also being developed for both hospitals to encourage low carbon designs and responsible sourcing.

Finally, the Trust has recently approved a Travel Plan that promotes active travel and public transportation. We're presently reviewing our onsite cycling and charging infrastructure for electric vehicles and we have also set ourselves a target to reduce single occupancy staff journeys across the next five years. We're engaged with both local authorities and we're working to make sure that our Green Plan supports the aspiration for sustainability across Halifax and Kirklees.

4.0 INTRODUCTION

4.1 Our Commitment to Sustainability at Calderdale and Huddersfield NHS Trust

At Calderdale and Huddersfield NHS Trust ("CHFT" or "the Trust") we recognise our responsibility to reduce our impact on the environment. This Green Plan establishes our commitment to delivering sustainability and reducing our environmental impacts. We will reduce our impact on the environment by focussing on the three key issues of climate change, air pollution and waste. The Green Plan provides a strategic framework that the Trust can use to address these three areas of concern.

Sustainability is not new a new concept at CHFT. In 2015 we adopted our Sustainable Development Management Plan (SDMP) which has guided our sustainable development throughout the past 5 years. The implementation of the SDMP has enabled the Trust to begin its journey towards becoming a sustainable organisation. However, we recognise that we need to go further if we are to reach carbon net-zero by 2040 and continue to reduce our impact. This Green Plan builds upon the success of the previous 5-years and provides a renewed focus and impetus for further improvement.

This Green Plan builds upon the work already taking place at the Trust and provides a strategic framework that will guide sustainability initiatives at the Trust over the next five years. The plan will act as the central document for the Trust's sustainability agenda and sets out key sustainability targets and objectives and the actions the Trust will take to meet them.

The sustainability agenda at CHFT is led by the Managing Director of Calderdale and Huddersfield Solutions and our Environment Manager, who is charged with managing and delivering our sustainability agenda. Our Environment Manager is supported by colleagues across the organisation, including through our Green Planning Committee which is chaired by one of the Trust's Non-Executive Directors. The purpose of the Green Planning Committee is 'to develop, promote and monitor the delivery of the Trust's Green Plan and accompanying Sustainability Action Plan (SAP)'. In October 2020, a Climate Change Plan was taken to the Board to outline the next steps that should be taken to ensure the Trust remains resilient and is able to achieve the carbon targets set. The Green Plan supersedes the Climate Change Plan and will be governed and managed by the Trust's Transformation Programme Board.

The Trust is well aware that the key issues of climate change, air pollution and waste go far beyond the walls of our estate and are issues that impact everyone in the country. In recognition of this reality, the Trust is committed to a partnership working approach on sustainability with our peer organisation regionally and nationally. The Trust is part of the West Yorkshire and Harrogate Health and Care Partnership and the West Yorkshire Associate of Acute Trusts (WYAAT). Both of these groups have sustainability commitments and workstreams and CHFT are key members of both. We will continue to engage with and support the sustainability agendas of our partner organisations. The Trust operates in two local authorities, Calderdale Council and Kirklees Council. Both of these councils have declared a Climate Emergency and the Trust is aware of the ambition of our local partners to become more sustainable and ultimately carbon net-zero.

4.2 Centralising Sustainability at CHFT

This Green Plan brings together a number of different plans and reports that are currently in use at the Trust, to provide one overarching strategic document governing the sustainability agenda at the Trust.

The Green Plan brings together key actions, targets, and commitments from the following documents:

- Sustainable Development Management Plan (2015-2020)
- Climate Change Paper
- Sustainability Design Brief for Reconfiguration
- Travel Plan

4.3 Sustainability at a National level

Sustainability and climate change are issues of national and international concern. These concerns are particularly prevalent in the health and care sector as climate change and air pollution both present significant threats to public health. The threat of climate change to health is internationally recognised, with the World Health Organisation (WHO) stating that climate change is the greatest threat to global health in the 21st century. Furthermore, NHS England has declared climate change a 'health emergency'. Air pollution is another factor that also impacts public health, with NHS England estimating that it contributes to 36,000 deaths annually in the UK. The NHS is responsible for an estimated 4-5% of the UK's carbon footprint and contributes over 25% of public sector emissions, thus representing a significant cause of climate change and air pollution within the UK.

To address this issue, the UK has committed to a target of becoming carbon net-zero by 2050, with the NHS setting a more ambitious target of becoming carbon net-zero by 2040. The targets set out within this Green Plan are in line with the Climate Change Act 2008 and the national NHS targets.

The *For a Greener NHS* campaign was announced in January 2020 by the CEO of NHS England. The campaign aims to encourage and support Trusts to reduce their impact on the environment and improve health. The campaign will build on the great work already being done in the NHS and will provide high-level backing to ensure the NHS can reach net-zero. An expert panel has been established to chart the best route for the NHS to become carbon net-zero, the Trust shall continually review the findings of the panel and update this plan as required.

4.4 Sustainability at a Local and Regional level

The Trust is split across two local authorities, with Huddersfield Royal Infirmary in Kirklees Council and Calderdale Royal Hospital in Calderdale Council. Both Kirklees and Calderdale councils have set a target to become carbon net-zero by 2038. Furthermore, both councils have signalled their commitment to sustainability by declaring "Climate Emergencies". The Trust works closely with both councils and as such, their commitments to sustainability, climate change, air pollution and resource efficiency provide additional drivers to improve the level of sustainability at CHFT.

4.5 Key Areas of Focus

This Green Plan aims to drive standard for sustainability across the Trust. The strategy will deliver on the NHS Long Term Plan and support the Trust's ambition for financial resilience and legislative compliance. The plan will be valid for 5 years and will focus on three key areas:

- Reducing our carbon emissions
- Reducing our contribution to air pollution
- Reducing our generation of waste and improving recycling

4.6 Carbon Net-Zero

One of the principal aims of national and local policy and a principal aim of this Green Plan is to become carbon net-zero. Carbon net-zero (sometimes referred to as Carbon Neutral) is a state in which an organisation avoids emitting greenhouse gases (GHGs) though its generation and use of energy. In this state, the organisation is powered by 100% renewable energy and achieves a level of operational performance in line with national climate targets. In circumstances where emissions cannot be fully reduced then carbon offsetting can be sought through investment into natural carbon sinks such as oceans and forests.

4.7 Format of the Green Plan

The three national policies which have guided the areas of focus for this Green Plan are outlined in Section 5.0 *Drivers and Targets.* Section 3 also establishes our objectives and targets for this plan.

Whilst climate change, air pollution and waste are our key areas of focus, the Green Plan will also address wider sustainability issues. As detailed in Section 8.0, the Trust will work towards the UN Sustainable Development Goals.

Section 6.0 *Progress to Date* details the actions that have already been taken at the Trust to reduce environmental impacts.

Section 7.0 *A Pathway to Net Zero* describes the measures that will be taken both within the Trust and at a regional and national level to help the Trust to become carbon net-zero.

Finally, Section 8.0 *Our Sustainable Action Plan* outlines the actions we have set out for the next 5 years.

5.0 DRIVERS AND TARGETS

This section establishes the UK legislation and health sector specific policy that drives sustainable development within the NHS. The section also outlines the national and NHS targets which the Trust will adopt to help achieve national objectives.

5.1 Sustainability Drivers

The UK Government has set itself a legal commitment to be carbon net-zero by 2050, through the Climate Change Act 2008. In recognition of this target, and the NHS's role in UK emissions, the NHS has set its own target to become carbon net-zero by 2040.

The NHS has already made considerable progress in implementing sustainability. Between 1990 and 2020 the NHS has achieved a 62% reduction in its carbon footprint. This has been achieved by reducing carbon dioxide equivalent (CO_2e) and air pollution emissions, whilst also improving waste management

There are four key NHS specific documents that establish sustainability drivers for the Trust;

- NHS Long Term Plan
- NHS Standard Service Contract 2020/21
- NHS Operational Planning and Contracting Guidance
- Delivering a Net Zero National Health Service

The *NHS Long Term Plan* establishes how the NHS will transform and improve over the next 10 years and includes considerations pertaining to sustainability. The *NHS Standard Service Contract* contains a series of targets and objectives pertaining to sustainability. In order to achieve the environmental targets, set by the government, and sustain the NHS in the future the *NHS Operational Planning and Contracting Guidance* provides guidance on the actions required.

Delivering a Net Zero National Healthcare Service report outlines the immediate actions the NHS will take to reduce emissions. The report details the modelling and analytics used to establish the NHS carbon footprint and future projections as well as the actions required 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 the level of ambition will be increased over time.

The *For a Greener NHS* campaign which launched in January 2020, has been developed to help to address the NHS' impact on climate change, air pollution and waste and deliver the NHS's commitment of reaching net zero carbon emissions by 2040. In order for the campaign to be a success it will require the commitment of NHS staff, Trusts and partners throughout the UK to build on the achievements already made and take further action.

The Climate Change Act 2008 set out a legislative requirement for the UK to achieve net zero carbon emissions by 2050. This is the primary legislative driver for carbon reduction in the UK and has established a mandate for UK organisations to manage and reduce their carbon emissions. The Act outlines a clear framework to guide the UK in reducing emissions and adapting to climate change. Having recognised the urgency to make greater carbon reductions, the UK's legally binding carbon reduction targets as required by the Climate Change Act were increased to net zero in 2019. The government have now established a target to reduce the UK's emissions by at least 68% by 2030, compared to 1990 levels.

The following targets and objectives are established in the above documents:

- 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 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 by 2036 to 2039.
- Deliver a 4% reduction (in carbon emissions) by shifting to lower carbon inhalers
- Deliver a 2% reduction (in carbon emissions) by transforming anaesthetic practices
- Purchase 100% renewable electricity at all NHS organisations by April 2021
- Transition to zero-emissions vehicles by 2032
- Adopt the single use plastics pledge

5.2 Our Commitment and Targets

In consideration of the national and local sustainability drivers, the Trust will adopt the following targets.
In addition to the targets, the Trust will commit to developing a governance structure to deliver on these targets.

5.2.1 Carbon Reduction

The Trust will achieve an 100% reduction of direct (scope 1) carbon dioxide equivalent (CO_2e) emissions by 2040. An 80% reduction will be achieved by 2032 at the latest.

The Trust will achieve an 100% reduction of indirect (scope 2&3) CO_2e emissions by 2045. An 80% reduction will be achieved by 2039 at the latest.

The Trust will purchase 100% renewable electricity by April 2021.

Nb. Refer to glossary for definition of Scope 1,2 &3 Greenhouse Gas Emissions.

5.2.2 Air Pollution

The Trust will convert 90% of our fleet to low, ultra-low and zero-emission vehicles by 2028.

The Trust will cut air pollution emissions from business mileage and our fleet by 20% by March 2024.

5.2.3 Waste

The Trust will achieve a minimum recycling target of 40% for non-clinical waste streams.

The Trust will sign and adopt the Single-Use Plastic Pledge.

The Trust will adopt a Zero to Landfill policy- sending no waste to landfill by 2021.

5.2.4 Governance

The Trust will manage and deliver the Green Plan through the nomination of relevant leads and through management groups.

Key personnel include the Trust's sustainability lead, with overall accountability for the sustainability agenda, who is the Managing Director of Calderdale and Huddersfield Solutions. A non-executive director has also been nominated as a Board level sustainability leader. The Trust's Environment Manager will coordinate and manage the delivery of the Green Plan.
Key groups for managing the delivery of the Green Plan include the Green Planning Committee, which will be chaired by the non-executive director and which reports to the Transformation Programme Board.

5.2.5 Sustainable travel

A Travel Plan has been drawn up for the Trust to support the planning procedure for upcoming capital projects. This strategy targets a 5% reduction in single occupancy vehicle use by employees over a five-year period. Based on the staff travel survey from November 2020 this would mean a reducing single occupancy vehicle use at HRI to 58% and at CRH to 61%.

The Travel Plan also identifies a range of travel related interventions which will increase Active Transport by patients, staff and visitors, whilst also improving access to our assets by public transport. In addition, the plan promotes the use of low / ultra-low emission vehicles through fleet transportation and visitor travel.

Biannual surveys and continuous consultation with staff, patients and visitors will ensure that the perceived benefits of active travel are collected and recorded.

5.2.6 Sustainable procurement

The Trust will carry out an assessment of its supply chain to ensure that ethical procurement standards are implemented. Supply chain survey will be developed and distributed to key contractors. A sustainable procurement plan will be developed for future capitals works, which promotes ethical sourcing and local investment.

5.3 Achievements to date

Our achievements so far include the following:

- Development of a Sustainable Action Plan;
- Our service providers at CRH have reduced plastic reliance within the hospital's canteen and the CHS is working to increase recycling provisions across the Trust.
- Establishment of a Green Planning Committee;
- Securement of public sector funding towards our LED lighting programme at HRI and CRH. Aiming to reduce energy consumption by more than 3 megawatts at both sites;
    - 64% of existing fittings at HRI have now been replaced with energy efficient LED)
- The Trust also procures 100% of its electricity from renewable energy tariffs;
- The CHS Managing Director is also appointed as the Climate and Sustainability Lead for the Trust;
- We are fully engaged in the climate/sustainability agenda, attending groups through West Yorkshire and Harrogate Health & Care Partnership and the West Yorkshire Combined Authority;
- CHFT is also signed up to the WYATT sustainable procurement policy.
- Upcoming capital projects are working towards BREEAM standards.

6.0 OUR CARBON FOOTPRINT

In order to meet our carbon reduction targets, it is vital that we know our starting position and are able to monitor and track changes in our CO_2e emissions. This section of the report presents our carbon footprint and also provides commentary on our progress to date.

6.1 Developing our Carbon Baseline

Our Carbon Baseline has been developed using multiple sources of data. The main source data has been obtained form is the Estates Return Information Collection (ERIC). ERIC data is reported on annual basis to NHS England/Improvement and provides information on electricity and gas consumption in addition to waste and water consumption. The carbon emissions are calculated by multiplying consumption data (e.g., kWh for gas) by a carbon conversion factor. The carbon conversion factors, except for anaesthetic gases and waste, are sourced from the Department for Business, Energy, and Industrial Strategy (BEIS) greenhouse gas reporting figures.

The Trust's Carbon Baseline is measured using annual emissions of carbon dioxide equivalent emissions (CO_2e). Our baseline begins in 2013. This year has been chosen as a start date because of NHS Sustainable Development Unit (SDU) guidance, which allows for baselines to begin from either 1990 or 2013. Given the quality and availability of data, 2013 has been adopted as our baseline year and will be the year against which all subsequent years will be compared. The Green Plan reports carbon emissions from 2013 – 2018. Data for gas and electricity consumption (the two main carbon emitting aspects) for the years 2019-20 was not available at the time of developing this Green Plan.

6.1.1 Scope of the Carbon Baseline

Our Carbon Baseline covers the following aspects of the Trust's operations which are significant contributors to our carbon dioxide equivalent (CO_2e) emissions:

- Electricity consumption
- Gas consumption
- Oil consumption
- Water consumption
- Waste arisings and disposal
- Anaesthetic Gases

6.2 Our Overall Carbon Baseline

As shown in Table 1, in the year 2013-14 the Trust emitted 19,855 tonnes CO_2e (tCO_2e). This figure will be used as the carbon baseline, against which all subsequent years will be compared. In the baseline year, approximately 50% of emissions were from electricity and a further 44% from gas. These two aspects are the most significant contributors to emissions at the Trust.

Table 1 - Carbon Baseline for CHFT based on data from 2013 in tCO_2e

Year	Electricity	Gas	Oil	Water	Waste Arisings	Anaesthetic Gas	Total
2013	10,095	8,751	232	227	549	n/a	19,855

Table 2 shows a significant reduction in the Trust's annual carbon emissions from the baseline. Between 2013 and 2018, our total emissions have reduced by 31%, from 19,855 tCO_2e to 13,740 tCO_2e. We have successfully exceeded the Climate Change Act 2008 target of reducing our annual carbon footprint by 28% by the year 2020, compared to the 2013 baseline. This is only an interim target and we will continue to work to reduce our emissions in line with the carbon net-zero 2040 target.

At Calderdale Royal Hospital, emissions have been reduced by 31% and at Huddersfield Royal Infirmary, by 33% since 2013. As shown in Table 2, in 2014 there was a small increase in emissions at CRH, whereas HRI have achieved a reduction in emissions each year since the baseline. A 61% rection in emissions from the baseline has been achieved at the Trust's community sites, however these sites make up only 3.7% of the baseline emissions.

Table 2 - Annual carbon emissions for the Trust's key sites in tCO_2e

Year	CRH	HRI	Community Sites	Total
2013	9,488	9,633	734	**19,855**
2014	9,863	7,992	830	**19,338**
2015	9,249	7,597	846	**18,221**
2016	8,246	7,166	644	**16,607**
2017	7,713	6,602	450	**15,302**
2018	6,546	6,382	286	**13,740**
2019	3362	5702	435	**9932**

As shown in Figure 1, there has been a continual reduction in total carbon emissions at across all sites at the Trust. Emissions at Calderdale Royal Hospital (CRH) and Huddersfield Royal Infirmary (HRI) and the Community Sites have all fallen since the baseline year.

As of 2018, annual emissions for the entire Trust had been reduced to 13,740 tCO_2e. Therefore, the Trust still has significant amount of CO_2e emissions that will need to be eliminated or offset, in order to become carbon net-zero by 2040.

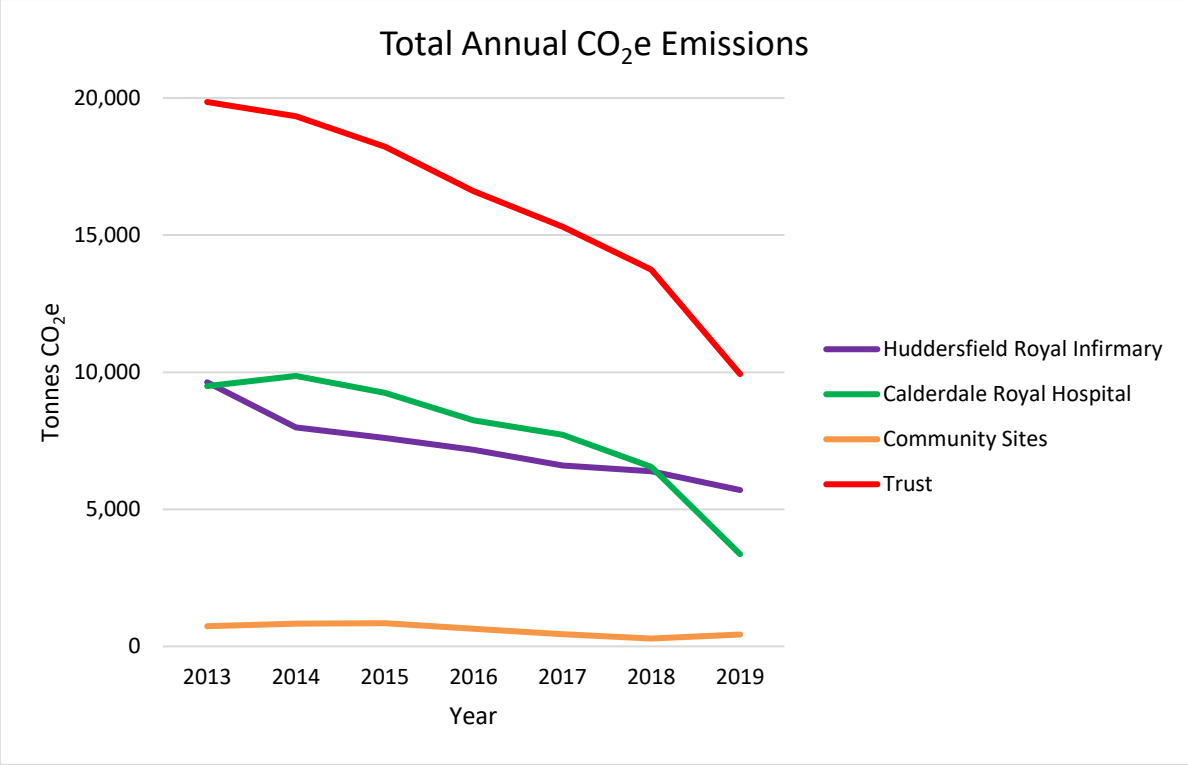


Figure 1 - Total annual CO_2e emissions at the Trust

Reductions in carbon emissions were achieved across all aspects of the Trust's operations, excluding waste arisings (Table 3). Electricity and gas now only contribute 89% of emissions compared to 94% in the baseline year. The largest reduction achieved was in emissions from electricity which has been reduced by 3,360 tCO_2e from the baseline year. The largest reduction relative to the baseline was in emissions from water, where at 38% reduction was achieved. The specific reductions made in each aspect and how they have been achieved are detailed in section 4.3.

Table 3 - Comparison of emissions between the baseline year and most recent year with a complete data set (tCO_2e)

Year	Electricity	Gas	Oil	Water	Waste Arisings	Anaesthetic Gas	Total
Baseline	10,095	8,751	232	227	549	653	19,855
2018	6,735	5,582	1	140	757	526	13,740
Reduction	3,360	3,170	231	87	-208	127	6,115

6.3 Key Aspects

The following sub-sections provide a detailed explanation of the Trust has been able to reduce our CO_2e emissions over the previous seven years, broken down into the key aspects.

6.3.1 Electricity

Electricity consumption is one of the key causes of carbon dioxide equivalent (CO_2e) at the Trust. Between 2013 and 2019, emissions from electricity consumption at the Trust have decreased considerably from the baseline year, as illustrated in Figure 2 (below). In total, a 49% reduction in CO_2e emissions from electricity consumption has been achieved at the Trust from the baseline year.

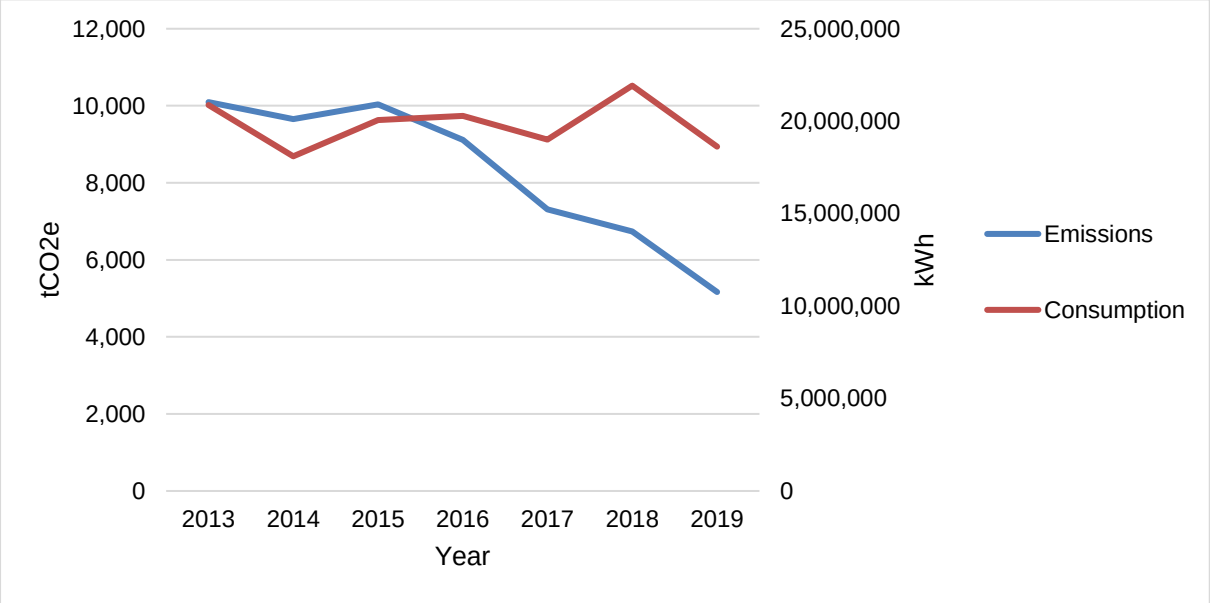


Figure 2 – electricity consumption (kWh) and CO_2e emissions (tCO_2e) from electricity consumption at the Trust

This is in part due to Trust interventions resulting in an 11% reduction in electricity consumption. However, this decrease in emissions is primarily due to the significant reduction in the carbon intensity of imported electricity (Figure 2). Carbon intensities are calculated annual by the Department for Business, Energy, and Industrial Strategy (BEIS). The carbon intensity of electricity is subject to significant variations on annual basis. In 2013-14 (our baseline year) the carbon intensity for electricity was 0.48 $kgCO_2e$. This means that for every kWh of electricity that the Trust used, it emitted 0.48kg of CO_2e.

In 2019-20 the carbon intensity for electricity had decreased to 0.28 $kgCO_2e$ or by 43%.

The changes in carbon intensity for electricity are due to changes in how the National Grid creates electricity. For example, a decrease in coal generation and an increase in renewables generation in the UK will lead to a reduction in carbon intensity. The comparison between consumption of electricity and the associated emissions can be seen in Figure 2. This indicates that further reductions in emissions could be made through interventions to reduce electricity consumption at the Trust.

The Trust now procures 100% renewable electricity ahead of the April 2021 NHS target this will help reduce the Trust's emissions from electricity. The Trust have secured funding to begin an LED lighting programme across HRI and CRH which will replace inefficient light fittings with

more efficient LED lights. So far, the scheme at HRI has saved approximately £11,000, 97,000 kWh in electricity and 24.5 tonnes of CO_2e. This project is expected to reduce electricity consumption by more than 3 megawatts at both sites, saving approximately £460,000 and 985 tonnes of CO_2e.

6.3.2 Gas

There has been a significant decrease in gas consumption across the Trust, with the Trust consuming 27.4 million kWh less gas in 2018-19 than in 2013-14. This equates to a 36.2% reduction in CO_2e emissions from gas consumption in the six years since the baseline year (Figure 3). This reduction exceeds the 28% reduction that was required to achieve the 2020 target despite a short-term increase in consumption between 2016-17. The reduction in emissions has been achieved at both major Trust sites Calderdale Royal Hospital and Huddersfield Royal Infirmary, as well as across the peripheral Trust sites.

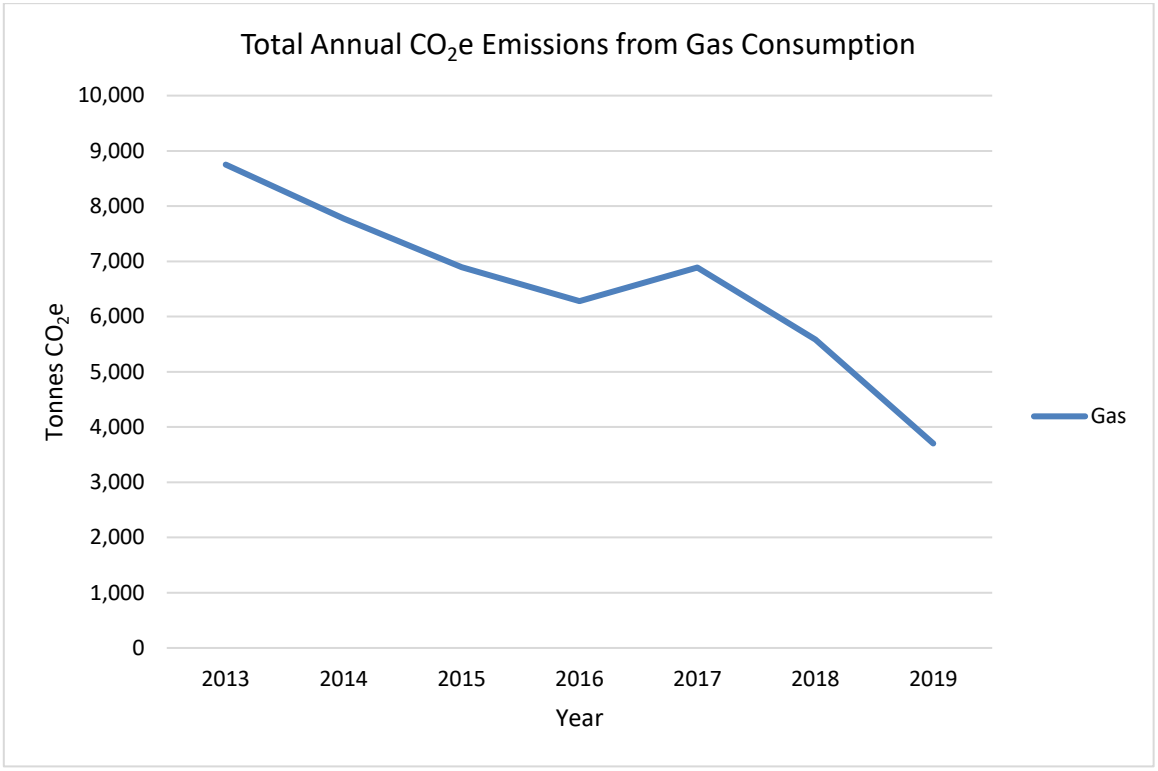


Figure 3 - CO_2e emissions from gas consumption at the Trust

These savings in heating have been achieved by estate rationalisation at the Trust. The total heated volume of the Trust site has been decreased by 83,835 m^3 from the baseline year, a reduction of 23%. As seen in Figure 4, the gas consumption per m^3 of the Trust estate has fluctuated, therefore the reduction in gas consumption can primarily be attributed to the estate rationalisation and not due to efficiency improvements within the Trust. As with electricity consumption at the Trust, this highlights that there is still scope to reduce emissions resulting from gas use. This can be achieved by a range of interventions, such as behaviour change campaigns and upgrade to our current means of heating the estate. These measures from a key component of actions that we will take as part of this Green Plan to move towards carbon net-zero.

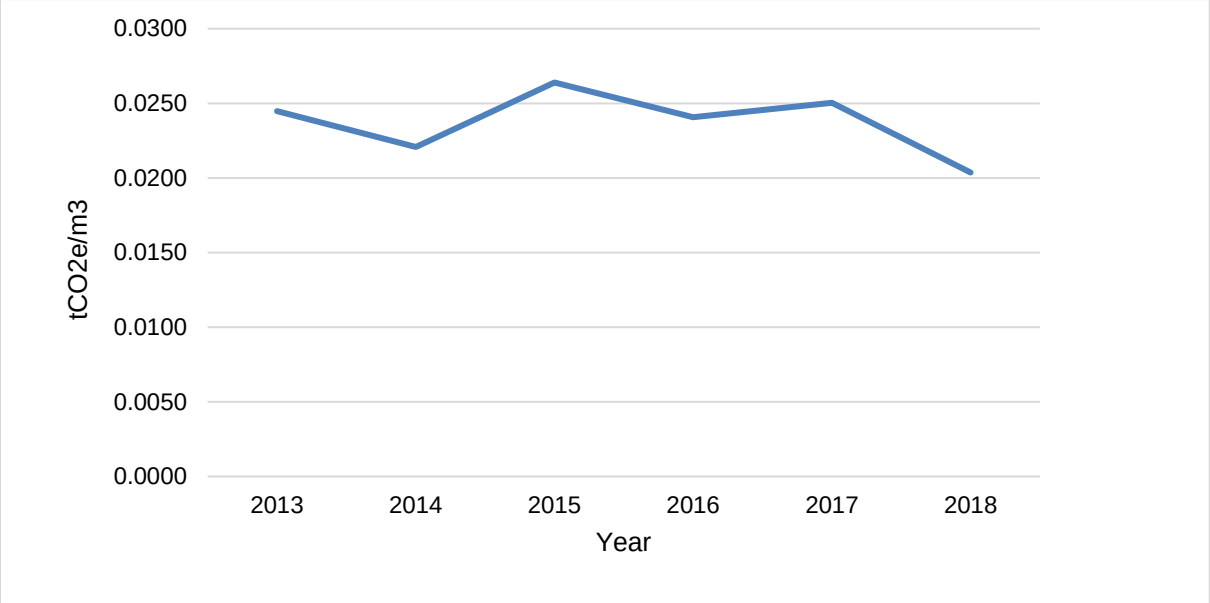


Figure 4 - CO_2e emissions per m^3 of site heated at the Trust

6.4 Oil

Oil is used at the Trust as a secondary energy source, in the event that there is disruption to the electricity and or gas supply. The use of oil as a back up energy source is mandated by Healthcare Technical Memoranda (HTM). The Trust only use oil in emergency situations and try to minimise its use through the effective maintenance and upkeep of its primary energy sources. Oil produces 1.4 times as much CO_2e/kWh than gas, therefore, having a much more significant impact on the environment. This is a primary reason why oil use is avoided.

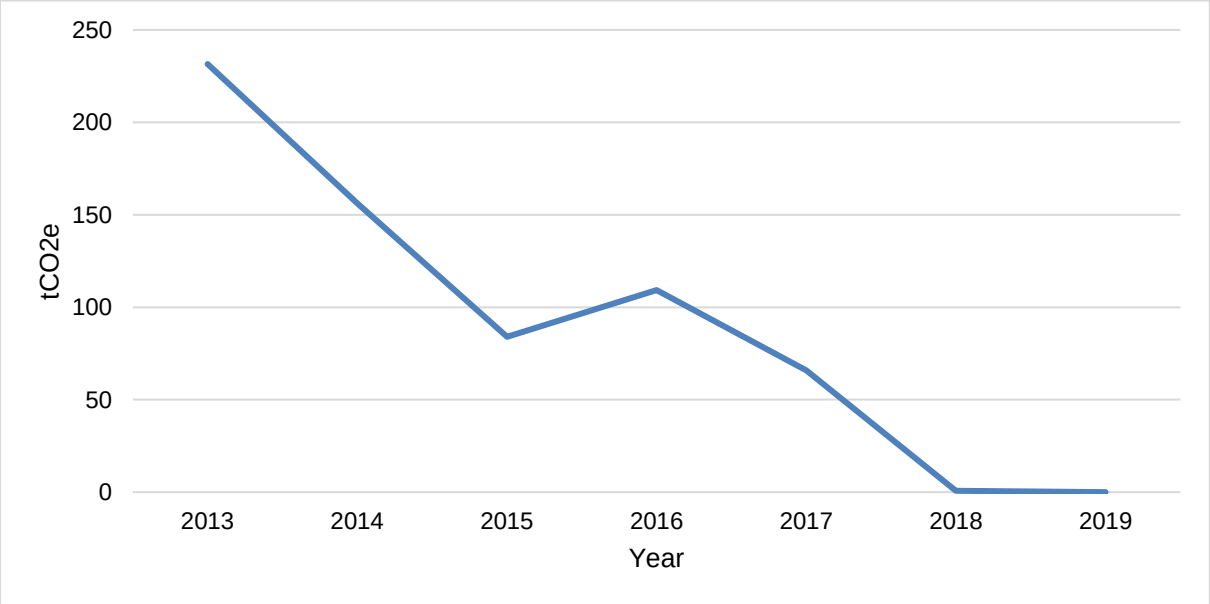


Figure 5 - CO_2e emissions from oil consumption at the Trust

6.5 Water

The total carbon emissions from water use at the Trust have been reduced from the baseline year, despite an increase in 2018-19. In 2013-14 CO_2e emissions from water totalled 227 tCO_2e per annum this was reduced by 21% to 180 tCO_2e per annum in 2018-19 as shown in Figure 6.

This reduction in water consumption and associated CO_2e emissions, has been achieved by implementing monitoring of water use across key Trust sites. Through monitoring water consumption closely, the Trust has been able to identify leaks that would otherwise have gone unnoticed and limit the amount of water wasted. This scheme has proven successful, with water use reduced by up to 66% at some sites.

Carbon emissions associated with water are significantly lower than that of electricity and gas and made up only 1.1% of the Trust's baseline emissions. Comparatively, electricity and gas contributed to 95% of the baseline emissions. In terms of reducing our emissions to carbon net-zero, reducing emissions from water will have a relatively minor impact. However, it is still important that we reduce our water consumption to preserve resources and reduce costs.

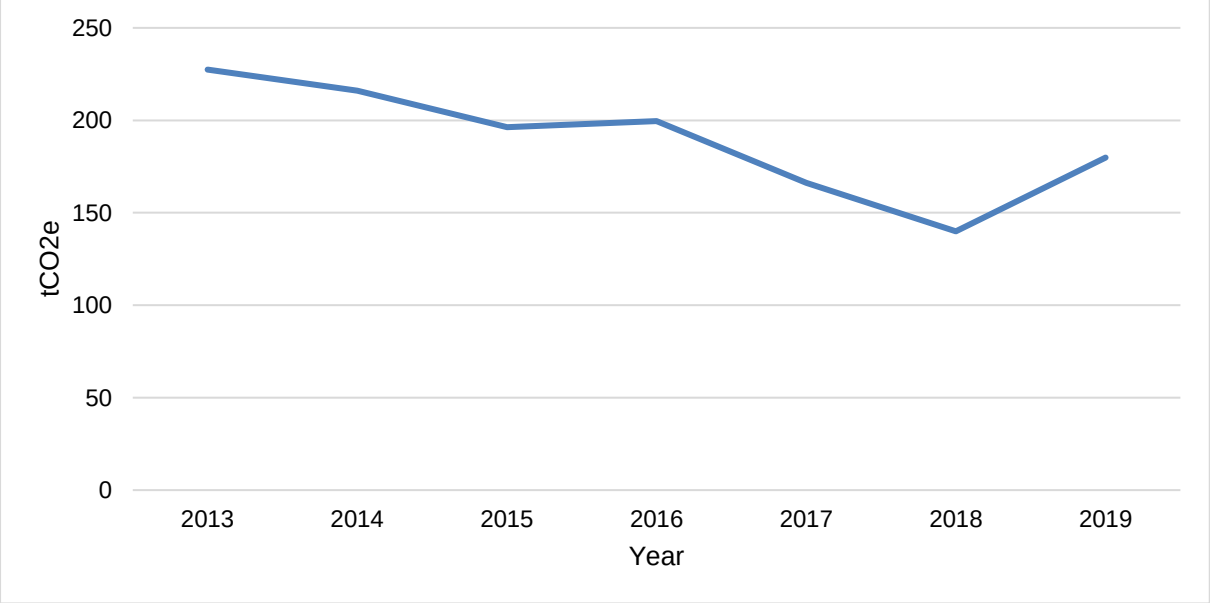


Figure 6 - CO_2e emissions from water consumption at the Trust

6.6 Waste

Carbon emissions from waste at the Trust have fluctuated significantly, from 549 tCO_2e per annum in the baseline year to 451 tCO_2e per annum in 2019, as seen in Figure 7. This gives a total reduction from the baseline year of approximately 17%. The Trust have implemented several measures to reduce clinical and non-clinical waste. The Trust, alongside other Trusts in the region, were placed into contingency measures for waste in September 2018 due to issues between our waste contractor and the Environment Agency. These contingency measures lead to an increase in CO_2e emissions from waste management. CO_2e emissions have begun to reduce as the Trust adopts new waste management processes.

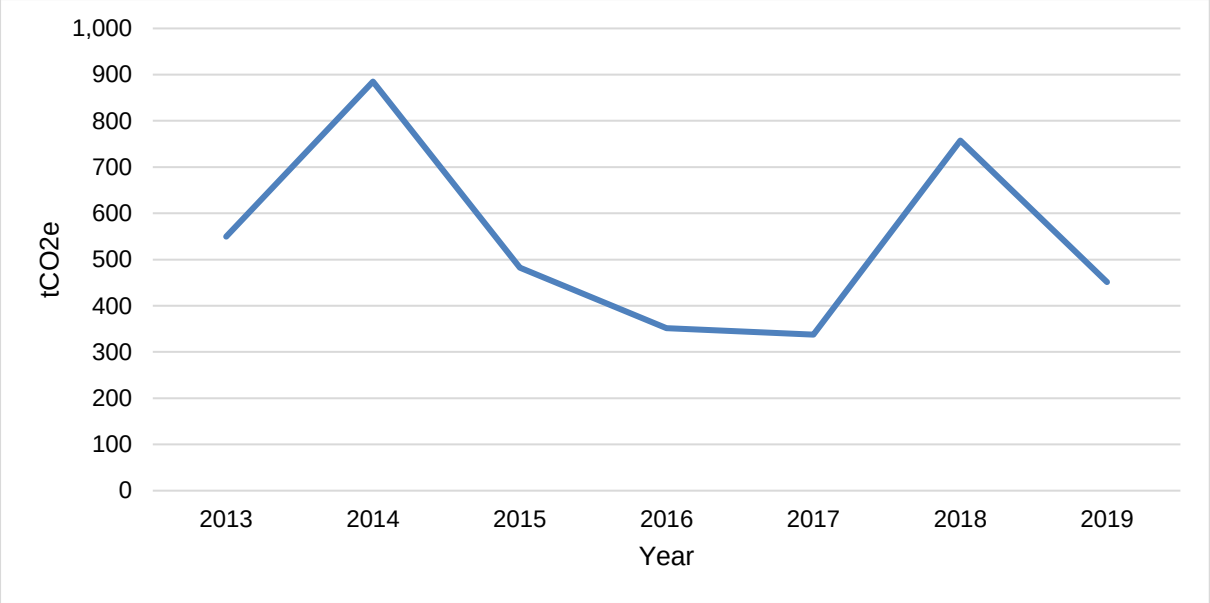


Figure 7 - carbon emissions from waste processed

In clinical areas the Trust have increased waste segregation and increased the amount sent for incineration instead of landfill. Sending waste to landfill generated 2.4 times more CO_2e per tonne of waste processed than incineration. Some of the waste incinerated is processed using waste to energy technology which also saves carbon and generates energy for the local area.

The Trust have also signed new waste contracts which ensure that clinical waste is now dealt with locally to reduce the CO_2e emissions and air pollution associated with transportation.

In non-clinical areas individual bins under desks will be removed and replaced with a single centralised bin and recycling bin per office. The Trust has worked to increase the provision of recycling facilities at the Trust and has recently ordered 150 recycling bins to be used across the Trust. The rollout of these bins will be accompanied with information for staff on what can and cannot be recycled to increase the correct use of the bins. A 40% recycling target for non-clinical waste will be achieved by the end of Financial Year 2021. This would help to reduce the carbon impact of waste at the Trust as sending waste to landfill or incineration creates 27 and 11 times more carbon emissions, respectively, than recycling. The Trust also plans to increase the repair and reuse of equipment such as crutches and walking frames to limit the amount of waste created.

6.7 Anaesthetic Gases

The Trust carries out many medical procedures which require patients to be anaesthetised using volatile agents, most commonly Desflurane, Sevoflurane and Isoflurane. In 2014 653 tCO_2e were created from anaesthetic gas used at the Trust. By 2019-20 these emissions had been reduced by 33.7% to 433 tonnes CO_2e per annum (Figure 8). This reduction in anaesthetic gas emissions has been achieved by encouraging anaesthetists to use Sevoflurane instead of Desflurane, where clinically appropriate. Desflurane has a GWP of 6,810, compared to Sevoflurane which has a Global Warming Potential (GWP) of only 440. Therefore, the environmental impact of using Sevoflurane is approximately 15 times less than that of using Desflurane. The Trust have provided training materials for clinical staff to educate them on the environmental impacts of anaesthetic gases

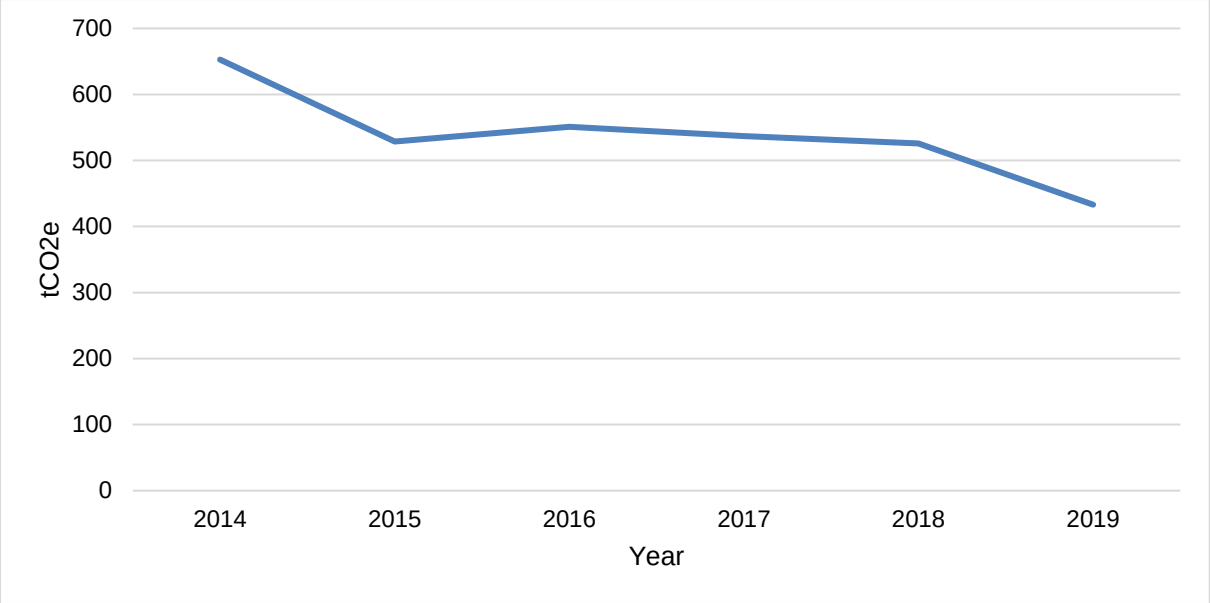


Figure 8 - CO_2e emissions from anaesthetic gases at the Trust[1]

The use of anaesthetic gases at the Trust is unavoidable and therefore we will not be able to reduce these gas emissions to zero. However, the Trust can reduce these emissions further by increasing the use of Sevoflurane in favour of Desflurane. The Trust have partnered with other local Trusts including Airedale NHS Foundation Trust as part of this reduction scheme to share best practice to further increase the CO_2e emissions from anaesthetic gases.

6.8 Travel

Emissions from travel (both for staff and patients) have not been quantified as part of the carbon baseline, due to lack of data. An action for this Green Plan is to begin quantifying travel emissions to enable effective reporting on this aspect. Whilst Travel emissions have not been quantified, there are measures that the Trust have put in place which will have led to reduced emissions, both in terms of CO_2e and air pollutant emissions.

In early 2020 all relevant staff were given access to Microsoft Teams to enable them to work from home when required. Staff received training to ensure that they were competent using the platform to avoid disruptions to services if staff had to work from home. Throughout the COVID-19 pandemic office-based staff have worked from home where possible. This is expected to have reduced the Trust's scope 3 emissions from employee commuting. Following the pandemic, the Trust will continue to allow staff to work from home and will also encourage the use of teleconferencing software to conduct meetings to save transport costs, emissions, and travel time as part of its Building Back Better scheme.

The Trust has installed electric vehicle charging points, including triple charging points, for fleet vehicles in preparation for the transition from a diesel fleet to an electric fleet. Improving the provision of EV charging points has been incorporated into the Trust's reconfiguration plans, including the new multistorey carpark at Calderdale Royal Hospital which will provide 900 spaces, of which 30% will have charge points and 70% will be enabled for charging points.

[1] Anaesthetic gas data prior to 2014 is unavailable.

7.0 A PATHWAY TO CARBON NET ZERO

The Trust has already achieved interim targets on the pathway towards carbon net-zero through the measures detailed in section 4.0. This section outlines the trajectory that the Trust is required to follow to reach the carbon net-zero by 2040 target.

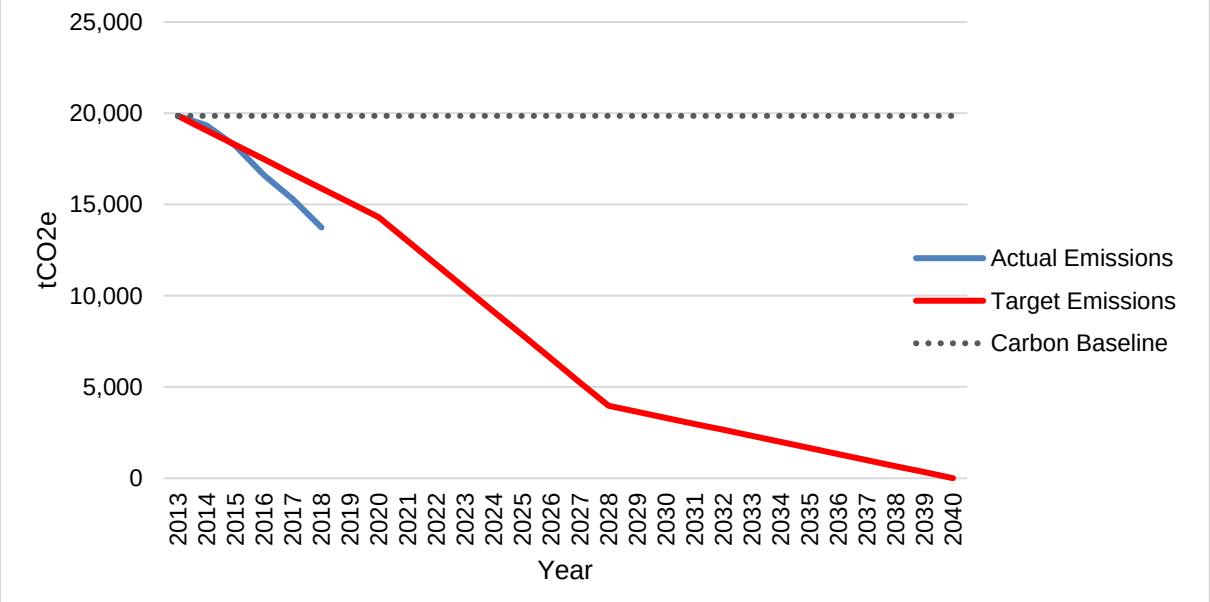


Figure 9 - The Trust's progress against long term CO_2e emissions targets

The trajectory the Trust must follow or exceed to meet the 2040 carbon net-zero emissions target is shown in Figure 9. The figure demonstrates that to date the Trust is ahead of the trajectory and has exceeded the 2020 target of a 28% reduction. The Trust attained a 31% reduction as early as 2018-19, this was achieved through the implementation of the measures detailed in section 6.0 *Progress to Date*. The carbon baseline for actual emissions is only given up to 2018-19 as this is the most recent year with a complete data set.

Table 4 (below), outlines the target emissions set by NHS England in percentage terms and tonnes of CO_2e. The carbon net-zero target was brought forward from 2050 to 2040 in October 2020. The NHS have set an ambition to achieve an 80% reduction with a target year of 2028 or 2032. These targets are not legally binding but have been put in place to ensure that the NHS reaches carbon net-zero in advance of the 2050 national target set by the Climate Change Act 2008. The Trust shall monitor our total carbon emissions performance against the targets and will report this annually.

Table 4 - Target emissions in percentage terms and tCO_2e

Metric	2013 Baseline	2020	2032	2040
Target Emission Reduction (%)	n/a	28	80	100
Target Emissions (tCO_2e)	19,855	14,295	3,970	0

As of 2018, our measured carbon emissions totalled 13,470 tCO_2e. To reach the next interim target of 80% reduction by 2032, the Trust will need to reduce our carbon emissions by 9,770 tCO_2e. This requires an annual reduction of at least 814 tCO_2e for 12 years. This will require a significant commitment from across the Trust. If the Trust is to achieve this ambitious target, it is vital that we achieve commitment and support from colleagues across all areas of the Trust.

Should the Trust be successful in achieving the 2032 interim target, the to reach carbon net-zero by 2040 will require an annual reduction of 496 tCO_2e.

The Trust has made a great start in reducing our carbon emissions and wider environmental impacts in line with the interim emissions targets through the implementation of a range of measures. However, it is important that we remember the scale of the reduction required moving forwards if we are to achieve net-zero emissions by 2040. This challenge will require a huge effort from the Trust to ensure we can reduce our emissions, air pollution and waste whilst not compromising the high standard of care we provide. We will implement our Sustainable Action Plan (Section 6) to reduce our environmental impacts over the next five years but there are several other schemes at the Trust which will contribute to reducing our emissions in the short to medium term including the trust reconfiguration programme, decarbonisation grants and changes to travel.

7.1 Reconfiguration

The Trust is undergoing a significant reconfiguration programme to improve the efficiency of working practices and the Trust estate. The project, which addresses approximately 30% of Trust estate, will involve decommissioning old and inefficient sites to improve efficiency and will also focus on restructuring service delivery across CRH and HRI. A new A&E department will be developed at Huddersfield Royal Infirmary and significant changes will be made to the Calderdale Royal Hospital site, including the addition of a new multi-story carpark.

Sustainability is being incorporated throughout the design stage of the reconfiguration plan and is intrinsic to the programme. All works have been designed to be as sustainable as possible within the available budget. The Trust have committed to designing and constructing the new estate to the BREEAM standard. The BREEAM standard is a sustainability assessment method which is used to address the environmental performance in new constructions and refurbishments. BREEAM can be used to ensure construction projects are designed to maximise sustainability in areas including (but not limited to); energy efficiency, mitigating pollution, waste segregation and recycling. Following the BREEAM standard will allow us to ensure that the reconfiguration project is built in a way that enables us to achieve our sustainability objectives.

The BREEAM standard is split into 10 key modules. The energy, waste and water modules will help assist the Trust in reducing the embodied carbon associated with the project. Aligning the project to the standard will encourage the Trust to consider the land used for the reconfiguration and the materials that will be used throughout the construction, maintenance, and repair of the project to reduce environmental impacts as well as how to limit pollution. Transport is included within the standard to improve access to sustainable means of travel for building users, which will be incorporated into the reconfiguration. BREEAM also has a focus on innovation and management to ensure that sustainability is carried through into the operation of the building.

The Trust have committed to achieving a minimum score of “Very Good” for all new construction works, this includes the new A&E proposed at HRI. Where feasible the Trust will aspire towards a BREEAM rating of “Excellent”.

The reconfiguration programme will deliver carbon reductions through rationalising both the estate and services. Through reducing the total space occupied by the Trust and also optimising use of space, the Trust can expect to reduce gas and electricity emissions. Electricity and gas consumption currently account for over 80% of the Trust's direct carbon emissions. Through rationalising services and encouraging care closer to home to Trust will also be able to reduce scope 3 emissions.

The Trust intends to incorporate low carbon heating provisions into the design, including air source and ground source heat pumps, solar photovoltaic and other technologies. The heating technology chosen for the reconfiguration project will be informed by lessons learnt during the decarbonisation grant projects (see 5.2).

To reduce travel emissions and improve air quality, the reconfiguration programme will optimise service design to reduce the need for unnecessary travel between sites. A new multi storey car park will also be built at CRH with capacity for EV charging points to be installed in advance of the national transition to electric vehicles. The reconfiguration programme will be supported by a Green Travel Plan, which will guide the Trust in reducing the impacts of Travel.

The Trust shall use new technology and innovation to reduce our environmental impacts and improve our service. We are exploring a variety of digital solutions to reduce the demand for paper use to reduce waste and make our services more efficient. We will also incorporate teleconferencing hardware in the reconfiguration programme to enable the provision of telemedicine and consulting.

Buildings designed as part of the reconfiguration will look to incorporate green spaces. We will aim to protect and enhance our existing green spaces and biodiversity and use them to benefit the wellbeing of our staff and patients.

7.2 Public Sector Decarbonisation Grant

The Public Sector Decarbonisation Scheme (PSDS) provides grants to public sector organisations, such as the Trust, to fund the implementation of heat decarbonisation and energy efficiency measures. The scheme is part of the government's 'Plan for Jobs 2020' which aims to help the economic recovery from COVID-19 and supports the UK's carbon net-zero ambition by encouraging the public sector to move away from gas and oil heating systems.

£1 billion is available as part of the scheme, the Trust are in the process of applying for a grant as part of the Decarbonisation Scheme which will be completed by January 2021. If the application is successful, the Trust will receive funding to be spent on decarbonisation projects by September 2021.

If successful, we will use the funding received to upgrade our estate and decarbonise our gas heating system. New renewable heating technology such as air source and ground source heat pumps will be considered as well as Building Management System (BMS) upgrades and improved insultation. The Trust will also consider implementing solar energy systems, battery storage and efficient cooling systems. The funding will be used separately to the reconfiguration programme due to differing timescales. However, best practice and lessons learnt from the decarbonisation scheme will be used to decide the best ways to heat the new estate constructed as part of the reconfiguration programme.

Emissions from natural gas at the Trust account for around 40% of all Trust emissions, therefore decarbonising the gas heating system would have a significant impact on the Trust's carbon profile and bring us much closer to reaching the 2040 carbon net-zero target.

7.3 Transport

7.3.1 Staff Travel

A staff and patient travel survey was conducted in November 2020. The Trust received 1,487 responses. When asked how they usually travelled to work the most common answer was by single occupancy car at 66% of Trust staff, with a further 8% in a car with other passengers. The us of private cars as the primary form of commuting to the Trust will cause significant levels of CO_2e and air pollutant emissions. Identifying means to reduce the number of staff travelling to site in private cars is a key way in which the Trust can move towards carbon net-zero/

The second most common method of travel was bus at 9% followed by 8% who choose to walk. Convenience was the biggest factor (18%) that determined staff's transport choices, with only 5% considering the environmental impacts of their travel as a deciding factor.

Almost half of the staff surveyed live within 5 miles with 6% living within 1 mile and 43% living between 1 and 5 miles from the Trust. More can be done at the Trust to encourage these local staff to adopt active travel methods such as providing improved facilities for cyclists, car sharing schemes and better information on routes and safety. F or staff who live further than 5 miles options such as car sharing, and shuttle buses could help to reduce the amount of single occupancy vehicles. Of the 232 patients surveyed, 76% usually travel to the Trust by car, 38% in a single occupancy car. This is much higher than staff travel and could be attributed to a larger proportion of patients and visitors having health restrictions which limit their ability to take other methods of transport. As with staff travel, convenience was the largest factor in patients travel choices at 33% however, 21% of patients had no alternative mode of travel and 12% were restricted by health issues.

Around 40% of respondents claimed that nothing would encourage them to cycle to work. However, several measures to improve facilities on site would encourage some staff to cycle including improved shower facilities, secure cycle locks, and improved cycle paths between sites. Staff also highlighted that cycle training and road safety training, as well as discounts for purchase of equipment would enable them to cycle to work. The Trust currently participates in a cycle to work salary sacrifice scheme so promotion of this scheme may be beneficial in increasing the number of staff who cycle to work. Improved lighting and security, safer road crossings, improved shower and changing facilities, onsite lockers and having other people to walk with were measures identified by the survey that would encourage staff to walk to work.

Overall, 7% of staff stated that they already informally car share and a further 15% said that they were would be willing to car share. 32% of staff commented that the only reason they are not willing to car share is due to the pandemic, therefore it is expected that following the pandemic a total of 47% of staff would consider joining a car share scheme. Measures including assistance in finding car share partners, priority parking spaces, reduced parking charges and a guaranteed ride home in the event of an emergency were listed as ways that would encourage staff to join a scheme and would reduce the number of single occupancy vehicles travelling to the Trust.

70% of staff would consider using the shuttle bus service if measures were implemented to provide more frequent, direct, and reliable services. Other measures identified included subsidised fares and up to date travel information. The Trust could also provide shuttle bus

services from train stations to increase the use of trains for those who live further afield and reduce the reliance on vehicles.

The survey showed the 98% of staff who travel to work by car use a petrol or diesel vehicle and only 2% use an electric vehicle. Staff confirmed that measures such as priority parking spaces for EVs, the provision of charging spaces, reduced parking charges and salary sacrifice schemes would encourage them to use an electric car.

Implementing some of these measures would have a significant impact on the number of cars travelling to the Trust. 21% of staff said that parking frequently negatively impacts their experiences of working, with a further 10% claiming it always negatively impacts their working experience. Reducing the number of single occupancy vehicles travelling to the Trust would reduce pressure on the limited car parking facilities. The Trust will also capitalise on the reduction in environmental impacts as a result of the home working during the COVID-19 pandemic. The Trust will seek to remove barriers which prevent agile working and ensure that where possible staff are able to work from home to reduce travel. Promoting greener travel would also reduce carbon emissions and air pollution substantially and allow the Trust to get closer to the carbon net-zero by 2040 target.

7.3.2 Trust Fleet

The Trust's fleet is made up of 47 vehicles, including:

- 24 commercial vehicles;
- 9 private cars;
- 7 minibuses; and
- 7 agricultural vehicles.

The Trust has undergone a review of the fleet and has identified how the fleet will be upgraded to reduce emissions. Of the vehicles that are being replaced, 4 vehicles will be replaced with fully electric vehicles and 10 will be replaced with hybrid vehicles. The Trust are also looking for hybrid alternative to 9 of the commercial vehicles and are looking to replace 5 minibuses with hybrid shuttle buses. If all 28 vehicles are successfully upgraded with hybrid and electric vehicles, then 59% of the fleet will be comprised low, ultra-low and zero emission.

From 2021, new fleet tenders will specify electric and hybrid vehicles as a minimum standard and will promote the use of electric vehicles wherever possible. This in line with the NHS Operational Planning and Contracting Guidance which specifies that all vehicles purchased on leased from April 2020 shall support the transition to low and ultra-low emission. This will be accompanied by the installation of additional electric vehicle charging points at HRI to facilitate the expanding electric fleet and the demand from staff and patients.

The NHS has targeted to cut business mileages and fleet air pollutant emissions by 20% by 2023/24 and requires at least 90% of the NHS fleet to use low-emission engines by 2028.

7.4 National Considerations

Achieving carbon net-zero by 2050 is a national ambition and one that is a priority to the UK Government. Although it is the Trust's responsibility to reduce our environmental impacts as much as possible, once we have reached optimal efficiency on our estate and have implemented all possible actions to reduce our emissions, we will rely on national strategies to reduce the residual emissions to carbon net-zero.

In 2020 the Government set out their Ten Point Plan which set out the framework for a Green Industrial Revolution. The plan aims to generate 250,000 jobs by 2030 to generate green energy and create zero-carbon technologies including offshore wind farms, nuclear plants, hydrogen power technologies and carbon capture. this will be supported by over £5 billion in funding to support the green recovery from the COVID-19 pandemic.

This section will detail some of the key changes that are expected to reduce emissions and air pollution nationally over the next 30 years and assist the Trust in reaching net zero by 2040.

7.4.1 Renewable Energy

The proportion of renewables generation in the UK fuel mix consumed in power stations increases every year, reducing the carbon emissions of the electricity generated. The Government intends to expand renewable energy generation and produce 40 GW energy through offshore wind. This would be combined with the increased use of carbon capture technologies and battery storage so this energy can be utilised effectively. The UK also has plans to increase the number of nuclear power plants. This increase in the amount of renewable energy generated would make a significant difference to the carbon emissions associated with electricity and reduce reliance on fossil fuels. The Trust already procures green electricity at our main sites so this would have the greatest impact on the carbon emissions from sites where we do not have control over the utilities.

7.4.2 Emerging Technologies and Opportunities

Point 2 of the Ten Point Plan Driving the *Growth of Low Carbon Hydrogen* intends to help the UK transition from natural gas heating to hydrogen technologies which will be supported by a £240 million Net Zero Hydrogen Fund. The UK is exploring the use of hydrogen for heating, which would replace fossil fuels such as natural gas and oil with hydrogen blends, converting the gas grid to hydrogen could reduce UK carbon emissions by an estimated 73%. Carbon capture will also be utilised to ensure that hydrogen heating can be generated at scale and costs that can rival the fossil fuels currently used for heating. This will hopefully contribute to reducing heating emissions from the Trust in the long term which is currently one of the largest emissions and will support the heating of the estate in areas where alternative technologies are not viable. The government intends for large village heating trials to be carried out by 2025 in addition to other privately funded schemes such as the H21 City Gate Project which seeks to begin converting the gas grid to enable hydrogen between 2026 and 2029.

Combined Heat and Power (CHP) units utilise natural gas to co-generate heat and power. CHP have traditionally been viewed as a sustainable option for heating and powering a site, especially in comparison to traditional boilers. The Trust have explored installing CHP in the past. However, with the emergence of novel technologies such as Air Source and Ground Source Heat Pumps (ASHPs or GSHPs), CHPs are now no longer considered the most sustainable option. Therefore, the Trust will no longer consider CHPs and will focus on more sustainable means of decarbonise our estate. This example illustrates the changing landscape from a sustainability perspective. Novel technologies continue to emerge, become more cost effective and more efficient. The Trust has approximately two decades to become carbon net-zero and remaining up to date with emerging technologies that are developed is a key means by which we can ensure we continue to decarbonise by 2040.

7.4.3 Transport

Following on from the drop in emissions seen during 2020 lockdowns, the Government are encouraging the public to increase the share of journeys they take by public transport to reduce emissions and air pollution. Tens of billions of pounds has been promised to improve and renew the UK's rail and bus networks. This will include the electrification of rail lines, integrated bus and rail networks, smart ticketing, and additional bus lanes. In 2021 the first National Bus Strategy will be published which will outline plans to build more zero emission buses and more frequent and cheaper 'superbuses'. These schemes are likely to incentivise more people to travel on public transport and could hopefully reduce the amount of people reliant on cars to travel to the Trust.

Thousands of miles of segregated cycle lines are expected to be built in England to allow people to travel safely by bike. Many staff highlighted in the travel survey that they would be encouraged to cycle if there were designated cycle lanes, a cycle lane is planned between CRH and HRI which would increase the number of staff able to commute by bike and reduce emissions and air pollution. an Active Travel body has been set up to assess local authorities on their performance with active travel and allocate funding. This will also indirectly impact the Trust by encouraging people to be more active and improving air quality and therefore improving the physical and mental health of the population.

In addition to promoting public and active travel the UK is beginning the transition to electric vehicles. From 2030 the sale of new petrol, diesel vehicles will be banned, this has been brought forward by ten years to accelerate the decarbonisation of private vehicles. This will be supported by the development of 'Gigafactories' to produce batteries to accommodate the increase in electric vehicle manufacturing. The Trust are continually increasing the provision of electric charging facilities at the Trust to enable the Trust fleet to transition to electric.

The emissions associated with procurement are considered scope 3 emission and are one of the hardest areas for the Trust to reduce as how our suppliers operate is outside of our control. The shift to electric vehicles and green ships will assist in reducing the impacts of transporting goods to the Trust in the long term which will help us to reduce our scope 3 emissions to carbon net-zero.

8.0 OUR SUSTAINABLE ACTION PLAN

This section provides an overview of the Sustainable Action Plan that has been developed to enable the Trust to meet our carbon, air pollution and waste reduction targets.
The comprehensive Sustainable Action Plan commits the Trust to a list of x actions to be implemented over the next five years which will enable us to achieve our strategic objectives and bring the Trust closer to reaching the 2040 carbon net-zero target.

To ensure that the Green Plan incorporates all elements of sustainability as described by the UN, the Trust have adopted the SDAT format into our action plan. The SDAT tool is a self-assessment tool developed by the Sustainable Development Unit (SDU) to allow NHS organisations to evaluate their progress with sustainable development and was developed in alignment with the 17 UN Sustainable Development Goals (SDGs).

Figure 10- UN Sustainable Development Goals

As guided by the Sustainable Development Assessment Tool (SDAT), the Sustainable Action Plan is separated into 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

8.1 Methodology

The Sustainable Action Plan has been carefully developed to ensure that it is practicable and achievable with the resources available at the Trust. Each action stated has been assigned a

dedicated lead and a timescale for implementation to enable the Trust to easily manage the implementation and monitoring of each action.

The Trust began by conducting staff interviews to understand the level of commitment from colleagues at the Trust, find out what has already been implemented and identify key areas where improvements could be made. The Trust interviewed key colleagues from Estates, Facilities Management, Pharmacy, Procurement, Transport, the reconfiguration programme, and the sustainability lead. Actions within the Corporate Approach section of the Sustainable Action Plan will ensure that the entire Trust is considered, consulted and involved in the Green Plan. The information gathered from these colleagues was then used to complete the SDAT assessment which provided additional actions. A horizon scan of actions that have successfully been implemented at other Trusts was also conducted to identify actions that could be applied at CHFT.

The actions from each of these stages were combined to form a longlist, the Trust then selected the actions from the longlist that would be most impactful and feasible at the Trust to generate the Sustainable Action Plan (SAP).

The delivery of the SAP will be overseen by the Green Planning Committee, which consists of key departments across the Trust and its service partners. Theme leaders have been identified for each of the sections identified in chapter 7.2 who will ensure that progress is made in their relevant areas. The Green Planning Committee will meet monthly and report to the Transformation and Programme Board, who will in turn will ensure that any interventions outlined within the SAP are aligned with future plans for reconfiguration and development projects across the Trust.

8.2 Sections of the Sustainable Action Plan

8.2.1 Corporate Approach

The corporate approach actions focus on securing top-level buy in at the Trust. There are 18 actions within this section. These actions aim to embed sustainability throughout the Trusts policies and services. Senior level staff at the Trust are responsible for monitoring the Trust's progress against the Green Plan to ensure we can successfully reduce our emissions, air pollution and waste. Actions include ensuring that sustainability is considered, reviewed and managed at the highest level of the organisation and partnership working with local government and local peer organisations.

8.2.2 Asset Management and Utilities

Energy consumption is the greatest source of carbon emissions at the Trust. There are 11 actions within this section. It is essential that these emissions are reduced through improved efficiency and utilities management to enable the Trust to achieve our carbon net-zero targets. Actions include exploring funding opportunities to support decarbonisation of our estate and improving the level of sub-metering across our estate to enable a greater targeting of energy savings interventions.

8.2.3 Travel and Logistics

Staff, patient, visitor, and supplier travel at the Trust contributes to carbon emissions and air pollution. There are 21 actions within this section. Reducing the impacts of travel is a key focus of the Trust and is the principal way in which we can reduce our contribution towards air pollution. Actions include working to quantify our air pollution and CO_2e emissions resulting from travel and transport and work to reduce our emissions. Addressing our Trust fleet and moving to low and ultra-low emission vehicles is also a key action.

8.2.4 Adaptation

The Trust recognises that it is well placed as a health and care organisation to address the health-related impacts threatened by climate change. There are 19 actions within this section. Climate change is considered the greatest threat to public health this century, so it is crucial that the Trust is able to adapt to ensure that our services are resilient in the long term.

8.2.5 Capital Projects

Inefficient estate is a large contributor to emissions at the Trust. The Trust will be undergoing a significant reconfiguration project to improve the efficiency of Trust estate and centralise services. The reconfiguration will address approximately 30% of estate and will take place between 2022 and 2026. By refurbishing, decommissioning, and rebuilding inefficient areas of the estate the Trust aims to significantly reduce carbon emissions, air pollution, waste and running costs. There are 14 actions within this section. Actions include ensuring that all new builds achieve a minimum BREEAM rating of “Very Good”, whilst aspiring towards “Excellent”. Additional actions will promote the use of sustainable construction methods and materials, whilst also assessing the impacts of new builds and their proposed heat and power systems.

8.2.6 Greenspace and Biodiversity

Protecting and enhancing greenspace and biodiversity is hugely beneficial for the environment and can positively impact wellbeing. There are 24 actions within this section. By improving greenspace and biodiversity the Trust can help remove some of the carbon emitted and improve local air quality. Actions include maintaining, protecting and improving existing green spaces on our estate and incorporating trees into the design of the reconfiguration of our estate.

8.2.7 Sustainable Care Models

Ingraining sustainability into our clinical care models is a vital consideration if the Trust is to become carbon net-zero. There are 10 actions within this section. Ensuring that our high standards of care do not negatively impact our environmental, social, or economic impacts. Actions include monitoring and managing our use of anaesthetic gases and incorporating the use of telemedicine into our services permanently following the Covid-19 pandemic.

8.2.8 Our People

People are at the heart of our organisation; it is crucial that we provide a positive and inclusive work environment for our staff to protect their wellbeing and ensure we can provide the best care for our patients. There are 15 actions within this section. Actions include providing Carbon Literacy training to our staff and becoming a Carbon Literate organisation and supporting the health and wellbeing of our staff.

8.2.9 Sustainable Use of Resources

A significant amount of waste is produced by the Trust in order to deliver our services. Through improving waste management, the Trust can reduce the amount of waste produced, reduce carbon emissions, and save money. There are 31 actions in this section. Actions include reducing single use plastics across the Trust and improving waste segregation and recycling rates.

8.2.10 Carbon and Greenhouse Gases

Reducing our emissions to carbon net-zero requires effort from all departments at the Trust. There are 28 actions within this section. Actions incorporate those approved by the board in the Climate Change Paper. Actions include improving the reporting and monitoring of our carbon baseline, investing in decarbonisation technologies and becoming working towards our target of becoming carbon-net zero by 2040.

APPENDIX 1- SUSTAINABLE ACTION PLAN ROADMAP

Module	Short-Term (3-12 months)	Medium-Term (1-2 years)	Long-Term (3+ years)
Corporate Approach	CA-1 CA-4 CA-6 CA-7	CA-2 CA-3 CA-5 CA-8	CA-9
Asset Management & Utilities	AM-4 AM-6	AM-3 AM-5	AM-1 AM-2
Travel & Logistics	TL-1 TL-2 TL-8 TL-11	TL-4 TL-5 TL-9 TL-10 TL-12	TL-3 TL-6
Adaptation	AD-5 AD-9 AD-10	AD-3 AD-4 AD-6 AD-11	AD-1 AD-2 AD-7 AD-8
Capital Projects	CP-1 CP-4 CP-5 CP-10	CP-2 CP-6 CP-7 CP-11	CP-3 CP-8 CP-9
Greenspace & Biodiversity	GS-5 GS-6 GS-11 GS-12 GS-13	GS-1 GS-3 GS-4 GS-9 GS-10	GS-2 GS-7 GS-8
Sustainable Care Models	SC-4 SC-5	SC-1 SC-2 SC-6	SC-3 SC-7 SC-8
Our People	OP-2 OP-3	OP-1 OP-4 OP-5	
Sustainable Use of Resources	SU-2 SU-6 SU-9	SU-1 SU-3 SU-8	SU-4 SU-5 SU-7

	SU-12 SU-13 SU-15 SU-16	SU-10 SU-14	SU-11
Carbon & GHGs	CG-2 CG-4 CG-5 CG-14 CG-15	CG-3 CG-6 CG-7 CG-12 CG-13	CG-1 CG-8 CG-9 CG-10 CG-16

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