

One Gloucestershire  
Integrated Care System (ICS)

# GREEN PLAN

2022/25

This Green Plan was developed in partnership with the sustainability teams at Gloucestershire Hospitals NHS Foundation Trust and Gloucestershire Health and Care NHS Foundation Trust with help from the Centre for Sustainable Healthcare.



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# 1. Introduction

**This three-year Green Plan serves as the central document for the ICS sustainability agenda. It details how we intend to reduce our emissions and support the delivery of our wider sustainability objectives between now and 2025; recognising the long-term net zero targets and working with other NHS providers and system partners to achieve our common goals.**

We have a legal and social responsibility to address climate change and to reduce our carbon emissions, as set out in the UK's Climate Change Act.

Climate Change and human health are inextricably linked<sup>i</sup>, with rising global temperatures and air pollution contributing to the direct and immediate increase in rates of major diseases, including asthma, heart disease, and cancer, and wider health inequalities. Left unabated, climate change threatens to undermine the

foundations of good health, with the potential for floods, storms, and heatwaves that will significantly disrupt healthcare services across the country.

In Gloucestershire, the effects of climate change are happening now – from increased summer temperatures to flooding. These events threaten the physical and mental health of our local population and exacerbate already existing pressures on healthcare services.



## 1.1 United Nations Sustainable Development Goals 2030

The United Nations Sustainable Development Goals are a universal call to action to end poverty, protect the planet, and improve the lives and prospects of everyone everywhere. The 17 Goals were adopted by all UN Member States in 2015, with the intention of achieving the Goals by 2030<sup>ii</sup>.

# SUSTAINABLE DEVELOPMENT GOALS



## 1.2 About us

Gloucestershire is home to approximately 660,000 people across six localities and One Gloucestershire is comprised of partners which position themselves as anchor institutions within the local economy to support the promotion of wider social goals:

- Gloucestershire County Council (GCC),
- Primary Care Providers (PC),
- Gloucestershire Health and Care NHS Foundation Trust (GHC),
- Gloucestershire Hospitals NHS Foundation Trust (GHFT),
- South Western Ambulance Service NHS Foundation Trust (SWAS),
- NHS Gloucestershire Integrated Care Board (GICB)

## 1. ICS Context

652,475 population

Over 10,000 staff

1,500 medical staff

360 GPs / 71 practices

1 Local Authority

1 Acute Hospital Trust (2 sites)

1 Clinical Commissioning Group

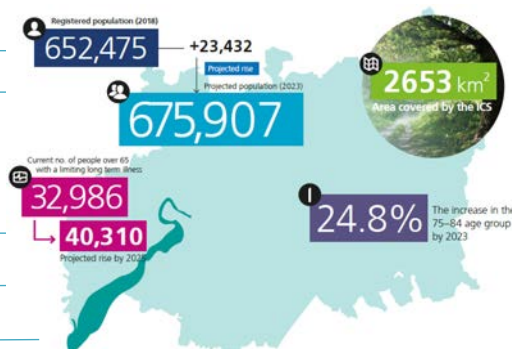
1 Place Based Partnership

1 Mental Health & Community Trust

6 Integrated Locality Partnerships & 15 Primary Care Networks

1 Police & Crime Commissioner and Police Authority

6 District Councils



- Gloucestershire has a population of 652,475 – expected to rise to 675,000 by 2023.
- The proportion of the population aged 75-84 has increased by 20% between 2016 and 2021.
- The number of people over 65 with a long term condition is due to increase to 77,000 by 2030.
- Gloucestershire has a lower proportion of 0-19 year olds and 20-64 year olds and a higher proportion of people aged 65+.
- The county has a net loss of young people with a net movement of over 400 people aged between 18-30 leaving the county each year.
- There are pockets of both urban and rural deprivation.
- Life expectancy is 7.7 years lower for men and 5.4 years lower for women in the most deprived areas of Gloucestershire than in the least deprived areas.

Demand for health and care services in Gloucestershire is very high and growing (exacerbated by the impact of the coronavirus pandemic). Our services are not sustainable without a different approach in how we work together, and a shift in focus away from the treatment of illness to one of prevention and wellbeing, which is reflected in both the strategic objectives of the organisation and within the ICS' Green Plan.

### Scope

- It should also be noted that whilst the Plan is largely focused on NHS related action, local authorities have well established climate change plans and there will be a need, as the ICS develops, to ensure that this Green Plan is aligned with local authorities' own sustainability plans going forward
- This plan does not replace green plans already published by ICS organisations, but is intended to confirm common and collaborative actions and timelines
- A key focus are the actions for year one, 2022-23. The plan will be reviewed throughout 2022/23 to monitor progress to ensure that the plan remains sufficiently ambitious and in line with national targets and to develop an alignment with the Local Authorities within Gloucestershire.





### 1.3 Delivering national net zero NHS targets

The NHS is a significant contributor to climate change and carbon (totalling around 4% of the UK's carbon emissions<sup>iv</sup>) and we use a significant quantity of resources to keep our healthcare services running 24 hours a day, 365 days a year.

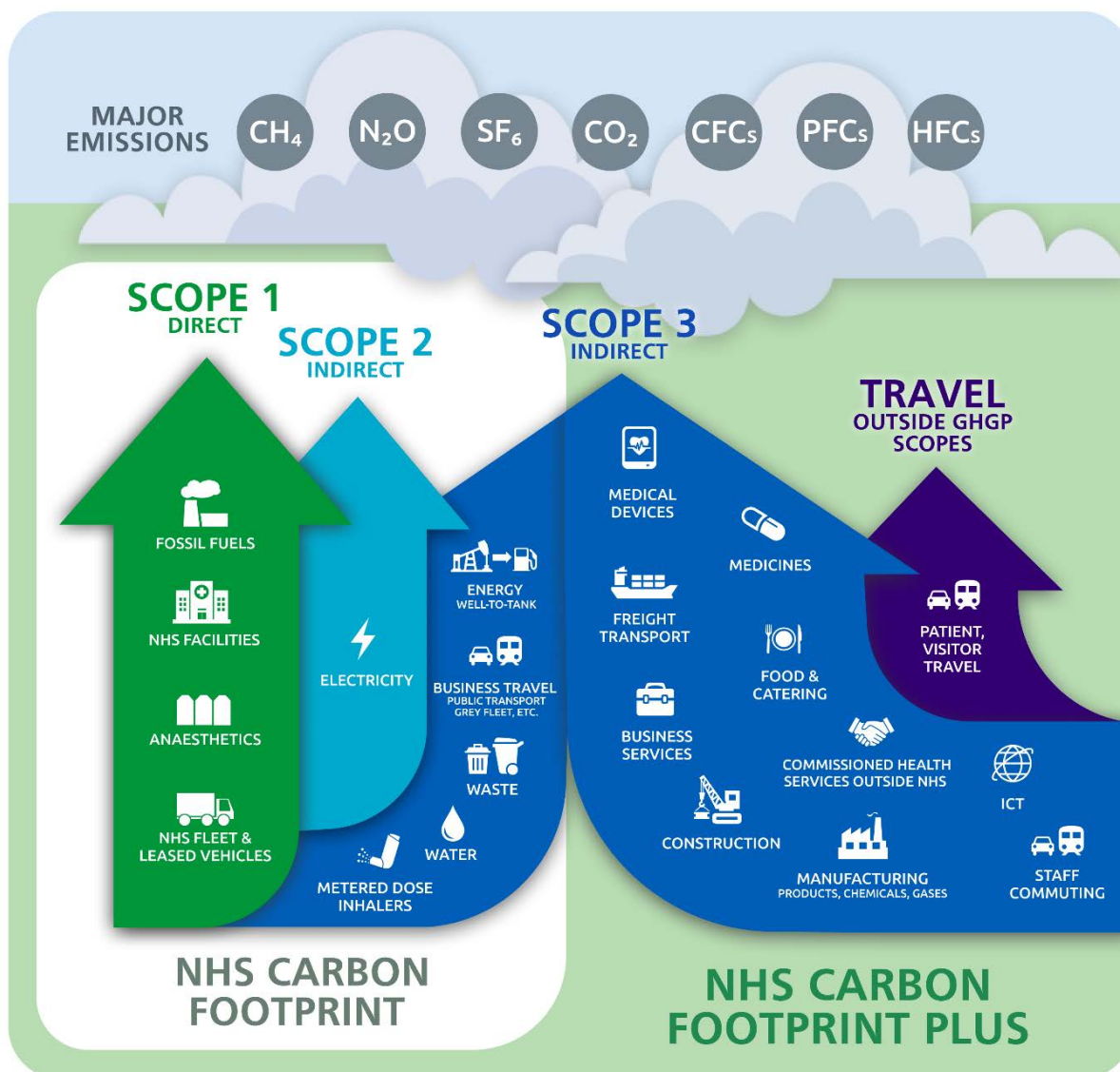


Figure 1: Delivering a net zero NHS



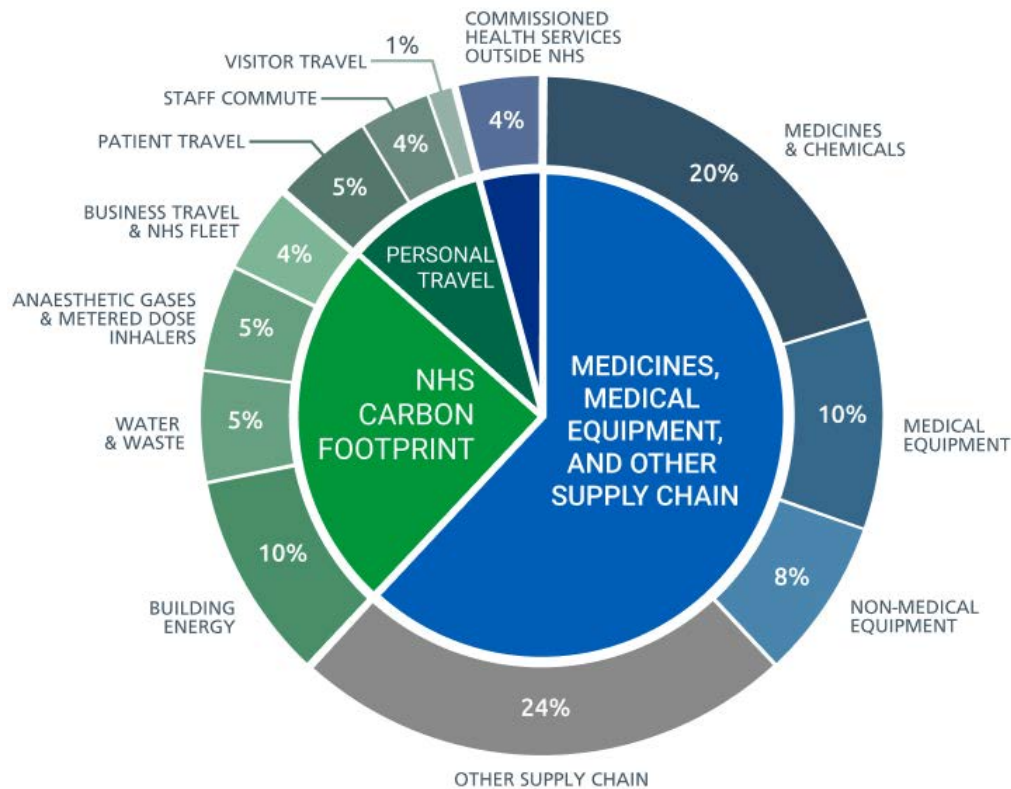


Figure 2: NHS carbon footprint

To reduce the negative impact of health services on climate change, NHS England has declared the ambition to be the world's first net zero carbon healthcare service, with two key targets emerging from this process:

1. **NHS Carbon Footprint** to reach net zero by 2040, with an ambition for an 80% reduction in emissions (compared with a 1990 baseline) between 2028 to 2032
2. **NHS Carbon Footprint Plus** to reach net zero by 2045, with an ambition for an 80% reduction in emissions (compared with a 1990 baseline) between 2036 to 2039

Whilst this strategy focuses on reducing carbon emissions and improving the condition of our environment, it is important to note that we also have wider sustainability ambitions. We consider ourselves 'Anchor Institutions' within the local system both as providers of services and as a commissioner of local health services, we recognise that we can support our

local community's health and wellbeing and help tackle health inequalities, for example, through procurement, training, employment, professional development, buildings and land use. Our Green Plan will touch on many of these aspects and is a key enabler to supporting and influencing the health and wellbeing of communities.

## 2. Our Carbon Footprint

The carbon footprints for each organisation are set out below, the mechanism for measurement will be an area of focus over the coming year to ensure consistency but also remove any double counts. In addition, there are areas where measurement is in progress and this will be brought in future years.

All of our activities have a carbon footprint which are arranged into categories, or scopes. Scope 1 is for emissions produced as a direct result of

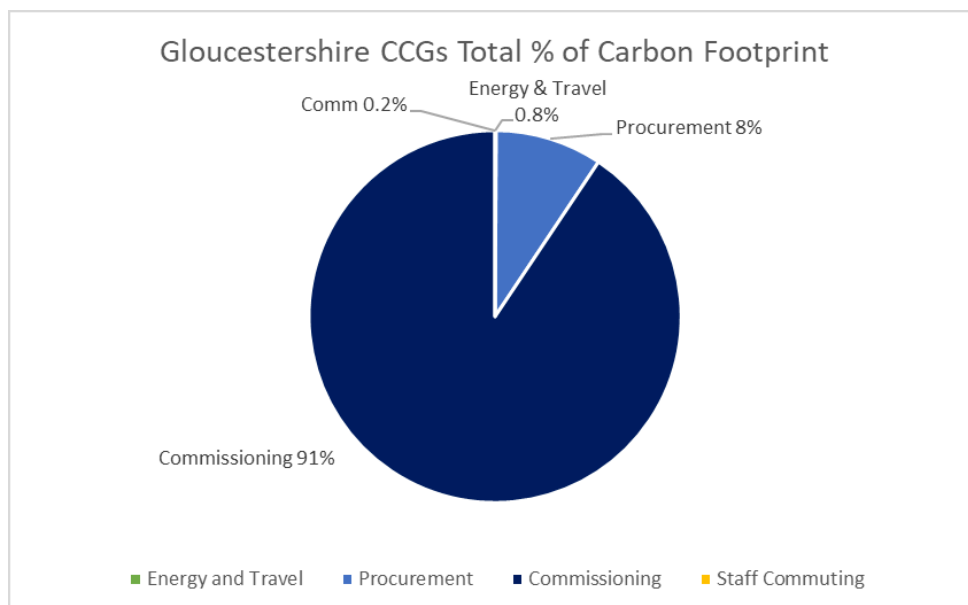
our building operations and travel, scope 2 is the emissions from electricity purchased. Scope 3 is for indirect emissions from operational activities, such as waste production and water usage.

Activities such as commissioning, medicines management and procurement impact our carbon footprint and are considered a key factor within our plans.

### 2.1 Gloucestershire ICB Baseline 2020-21 Carbon Footprint

The carbon footprint for the Gloucestershire ICB has been calculated for 2020-21 from a combination of direct and estimated data sources using the nationally recognised Sustainability Reporting Portal<sup>IV</sup>. This will be replaced by Greener NHS reporting.

Gloucestershire ICB is the successor organisation to Gloucestershire CCG.



The majority of the footprint for the ICB is commissioning. To reduce the carbon footprint of the ICB in terms of Scope 3, the ICB will need to work with the providers it commissions to support them to reduce their carbon emissions. Within the commissioning total above, approximately 74% relates to GHC and GHFT and in calculating the system carbon footprint, these need to be excluded as they are covered by the organisational footprints, in addition, procurement includes prescribing which is also included in primary care.



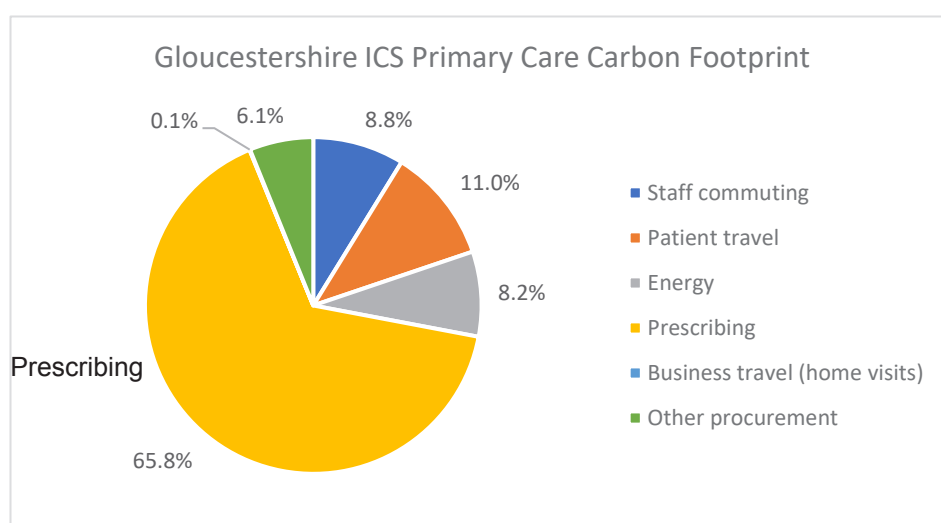
## 2.2 Primary Care (General Practice) carbon footprint

The carbon footprint of General Practice (GP) in Gloucestershire ICS (2020/21) is estimated to be 26,446 tCO<sub>2</sub>e a year, this is equivalent to a single person taking 7,556 return flights from London to Hong Kong. This footprint has been calculated using a combination of direct and estimated data sources using the nationally recognised Sustainability Reporting Portal.

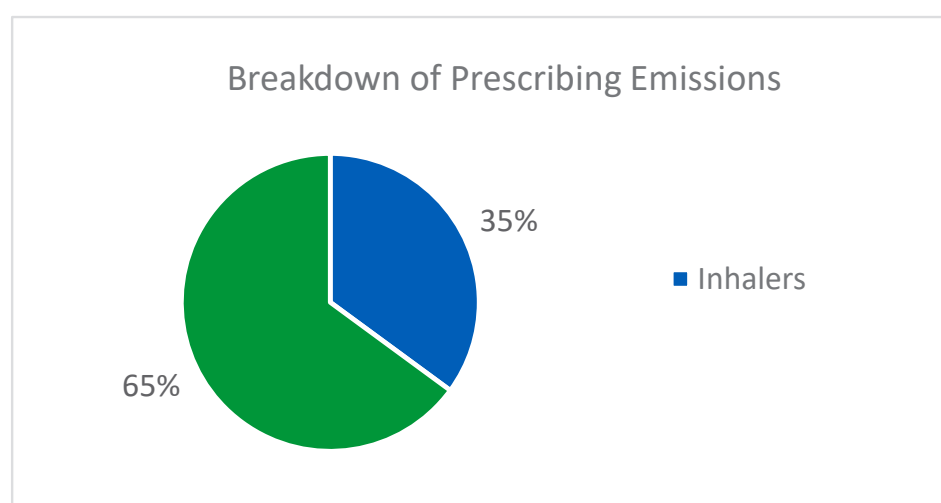
As shown in the Figure below, prescribing is responsible for 66% of the primary care carbon footprint adding 17,409 tCO<sub>2</sub>e. Patient travel contributes 11% adding 2,915 tCO<sub>2</sub>e, staff

commuting adds 2,325 tCO<sub>2</sub>e (9%), energy adds 2,160 tCO<sub>2</sub>e (8%), other procurement adds 1,623 tCO<sub>2</sub>e (6%), and business travel (home visits) contributes 15 tCO<sub>2</sub>e (0.1%).

Pharmaceuticals associated with GP prescribing have been shown in the breakdown of both the ICB carbon footprint and the primary care carbon footprint. We wanted to highlight that, as well as an important area of focus for commissioning, this is a carbon hotspot for GPs and the importance of working with GPs to reduce this significant contribution to emissions



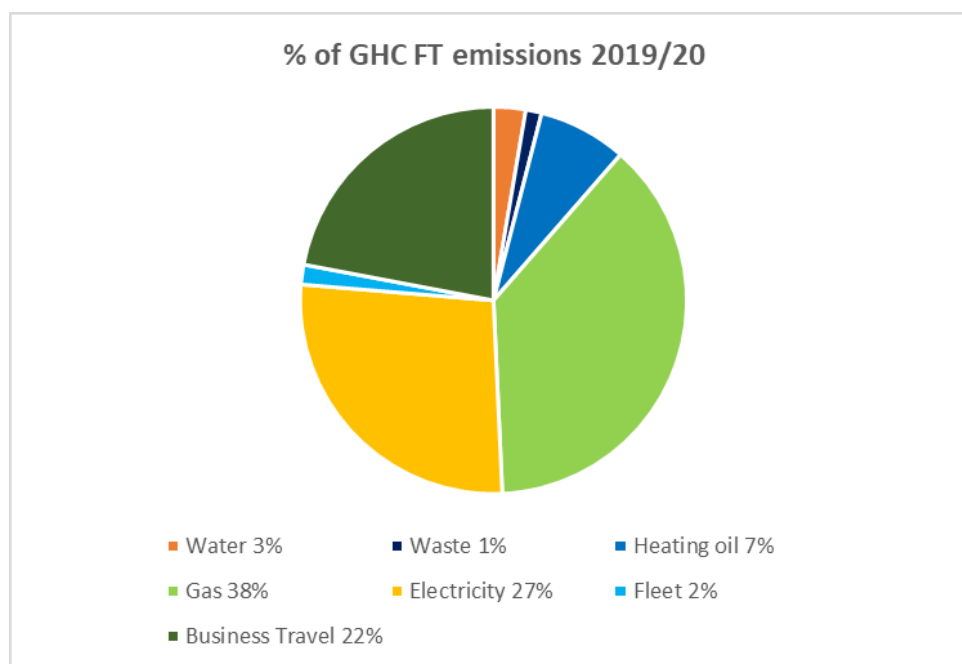
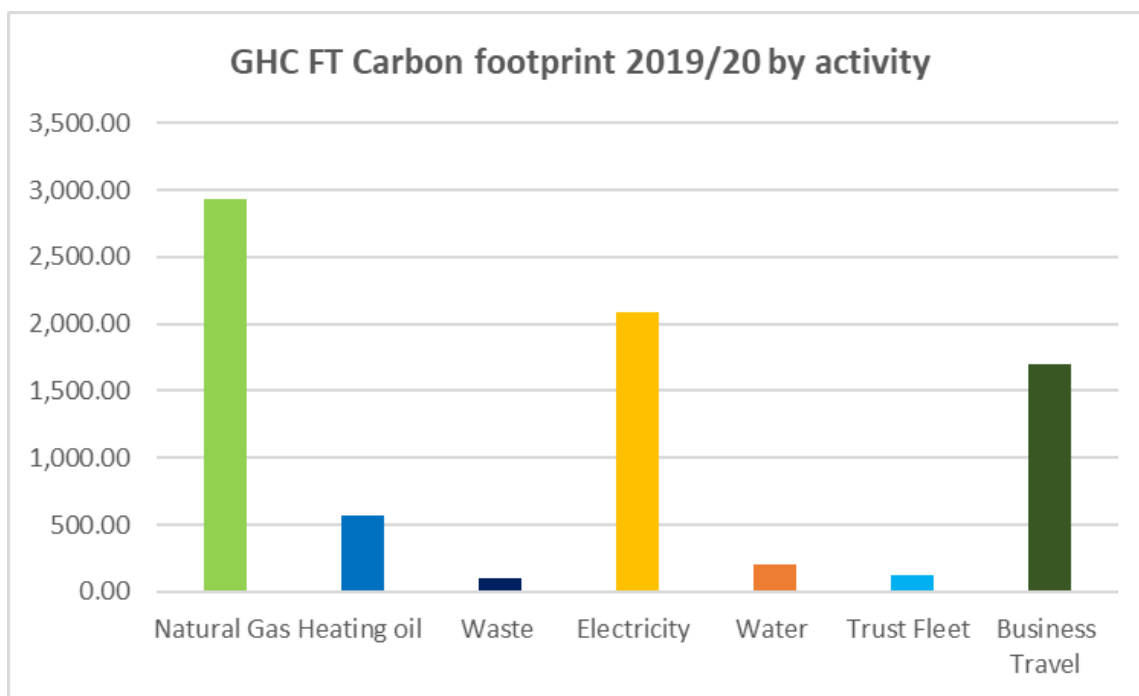
As shown in Figure 2, 65% (11,303 tCO<sub>2</sub>e) of primary care prescribing emissions comes from non-inhaler pharmaceuticals and 35% (6,106 tCO<sub>2</sub>e) comes from inhalers.



The carbon footprint of primary care in Gloucestershire will be higher than estimated here as this is based on general practice only and excludes other primary care services such as opticians, pharmacists and dentists.

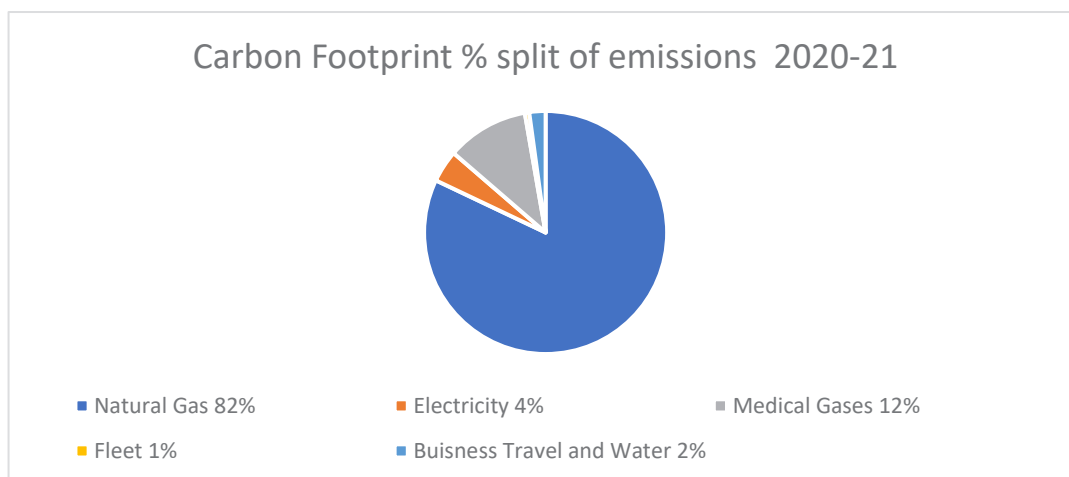
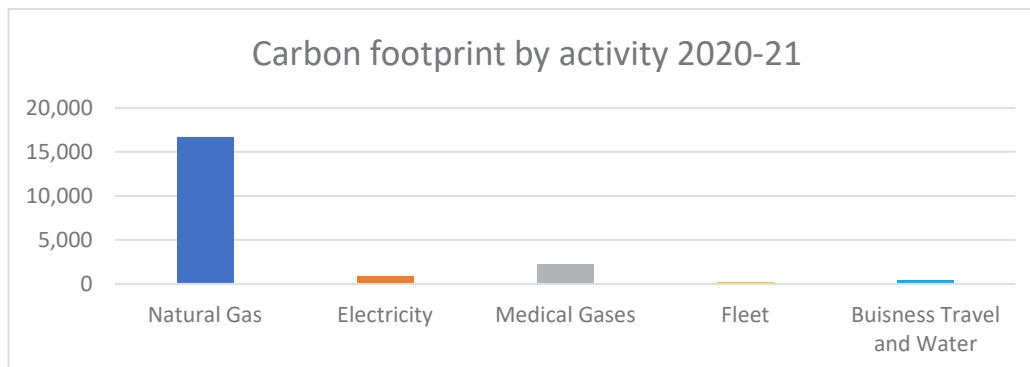
## 2.3 Gloucestershire Health and Care NHS FT Baseline 2019-20 Carbon Footprint

Gloucestershire Health and Care NHS FT (GHC) calculated the carbon footprint as a newly merged organisation from a combination of accurate and estimated data sources using the nationally recognised Sustainability Reporting Portal which is being superseded by the Greener NHS reporting in 2021-22. There are elements of the baseline which still need to be measured and the Trust is working on including these in the coming year.



## 2.4 Gloucestershire Hospitals NHS FT 2020-21 Carbon Footprint

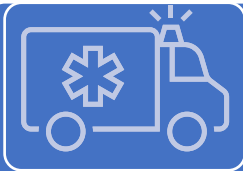
There are elements of the baseline which still need to be measured and the Trust is working on including these in the coming year.





# 3. Sustainability Priorities

Our sustainability priorities will ensure that we deliver our wider sustainability and carbon reduction commitments. These priorities are formed from the main drivers of change and sources of carbon emissions and will enable us to deliver our Green Plan.



## Transport & Travel

- Countywide Travel and Transport
- Sustainable and Active Travel



## Estates & Facilities

- One Gloucestershire Estate



## Climate Adaptation



## Sustainable Models of Care

- Social Prescribing
- Digital Transformation
- Green Spaces & Biodiversity



## Medicines and Procurement

- Pharmaceuticals and Medicines
- Single-use Plastics
- Circular Economy and Reuse



## Workforce and System Leadership

- Culture of Sustainability and Action
- Knowledge and Competency

## 4. Travel and Transport



Transport across the county has a carbon impact and also contributes towards poor air quality. Air pollution is the largest risk to public health in the UK as long-term exposure to poor air quality can cause chronic conditions such as cardiovascular and respiratory disease as well as lung cancer<sup>vi</sup>. Short-term exposure can also affect lung function, exacerbate asthma, and give rise to increases in respiratory and cardio-vascular hospital admissions and mortality. As technology and infrastructure improves, we will reduce all unnecessary travel and switch towards sustainable, lower carbon forms of travel.

Staff and patient travel form part of our carbon footprint. Active modes of transport such as walking, cycling, or taking public transport have multiple health and environmental benefits, and link strongly with social prescribing. Organisations

have some influence on staff and patient travel and will prioritise simple but effective approaches such as ensuring we provide secure, covered cycle parking and Cycle to Work schemes for staff, and cycle parking for patients. Collaborative work with local authority active travel agendas will be used to support these goals and the accessibility of practices by walking and cycling.



Organisation	Goals	Objectives and actions
Gloucestershire Health and Care NHS FT	To achieve a net zero carbon Trust Fleet by March 2025  Reduce Trust business mileage by 20% by March 2025 (against a 2019 baseline)	Ensure new vehicles purchased and all new lease vehicles are ultra-low emission vehicles (ULEV's) or zero emission vehicles (ZEV's).  Reduce business travel through the increased use of virtual platforms such as Microsoft Teams and Attend Anywhere
Gloucestershire Hospitals NHS FT	Cut business mileage by 20% by March 2024  Start installing EV charging points on our sites by 2023	New Travel Plan to support colleagues in active travel and use of public transport  Update of all travel related policies to favour sustainable travel options and promote fewer polluting vehicles
All	Work with ICS and local partners to improve air quality and encourage active travel with the associated health benefits  Work across organisations to maximise efficiencies in the transport of goods and services commissioned by the organisation, such as patient transport, courier services and deliveries	Increase the amount of sustainable and active travel facilities across sites to contribute towards improved air quality, and health and wellbeing.  Develop a healthy travel plan (in line with NHS Targets) to increase active and sustainable modes of travel to our sites and within local communities.  Set up a working group to look at coordination of transport of goods and services and deliveries in the county
Gloucestershire ICB	To reduce business mileage by 20% from 2020/21 baseline	Continue to encourage the use of MS Teams by staff, hybrid working and alternative methods of transport
Gloucestershire County Council	Promote and encourage all modes of sustainable travel across the county	Ongoing development and promotion of the GCC Think Travel website

Measures of success:	Travel and Transport
2022/23	All organisations to have a Green Travel Plan
2022/23	Each organisation to have a cycle-to-work lead
2023/24	All organisations to cut business mileage by 20%
2024/25	Salary sacrifice schemes for vehicles allow for the purchase of only ULEVs or ZEVs or bicycles
March 2028	At least 90% of the NHS fleet uses low-emissions engines (including 25% ultra-low emissions)



# 5. Estates and facilities

The NHS Estates and Facilities Net Zero Carbon Delivery Plan published in November 2021<sup>vii</sup> sets out a clear, sequential four-step investment approach to decarbonising NHS sites:

1. Making every kWh count: investing in no-regrets energy-saving measures
2. Preparing buildings for electricity-led heating: upgrading building fabric
3. Switching to non-fossil fuel heating: investing in innovative new energy sources
4. Increasing on-site renewables: investing in on-site generation

Trust estates and primary care will be transformed by incorporating green technologies into new building developments, refurbishment programmes to improve resilience and reduce energy use and switch to renewable energy wherever possible.

Organisation	Goals	Objectives and actions
Gloucestershire Health and Care NHS FT	Reduce emissions from building use by 25% by March 2026  Develop and construct a net zero community hospital in the Forest of Dean by 2024/25	For each of our sites to have carbon reduction plans to identify hotspots and net zero opportunities across our estate
Gloucestershire County Council	Future proof the design of new developments and through retro-fit - improve the efficiency of existing buildings and homes	Develop and implement the Greener Gloucestershire Workplan to reduce carbon footprint from the built environment
Gloucestershire Hospitals NHS FT	Ensure Estates strategy clearly demonstrates our commitment to sustainability 2021/22	Develop an energy policy to promote sustainable use of energy and the introduction of new technologies to the estate
Primary Care	Develop plan for reducing carbon footprint from the Primary Care Estate	Review of the primary care infrastructure plan during 2022/ 23 to set out journey to net zero carbon and the requirements of primary care. Establish carbon footprint and baseline for the primary care estate

Measures of success:	Estates and facilities
2022/23	Each organisation purchases 100% of its electricity from renewable sources
2022/23	Detailed plan on how we will phase out oil for primary heating (coal = n/a)
Sept 23	Detailed plan on how we will reduce waste and water usage through best practice efficiency standards and adoption of new innovations
31 March 23	Review of the primary care infrastructure plan during 2022/ 23 to set out journey to net zero carbon and the requirements of primary care Establish carbon footprint and baseline for the primary care estate

# 6. Climate Adaptation

The risk we face from an ever-changing climate, more frequent extreme weather and rising temperatures have direct implications on our health and pose challenges to the way in which the NHS, public health, and social care systems operate. It is therefore essential to improve the robustness of our healthcare buildings, and the resilience of our services, staff and people that use our services to minimise potential disruptions to patient care and reduce the impact from climate-related events.

## Key areas:

- ▶ **Air pollution:** this is the largest risk to the public in the UK as long-term exposure to poor air quality can cause chronic conditions such as cardiovascular and respiratory disease as well as lung cancer. Short-term exposure can also affect lung function, exacerbate asthma, and give rise to increases in respiratory and cardiovascular hospital admissions and mortality. Air quality is a health inequality issue. Poorer communities experience the worst air quality and worst road casualties.
- ▶ **Extreme temperatures:** climate change is increasingly complex with unpredictable extremes of hot and cold. Over time the UK may experience fewer but more extreme cold spells, which can make some health problems worse and even lead to serious complications.
- ▶ **Drought and Flooding:** Climate change will affect the amount and timing of rainfall and will also impact the demand for water and its quality, as well as the way land is used – all of which will put pressure on water resources. Summers are likely to get hotter and drier, significantly increasing demand for water and winters are likely to get warmer and wetter.
- ▶ **Food security:** Just under half of the food consumed within the UK has been imported<sup>viii</sup>. Whilst this means that the UK is resilient to supply interruptions from specific countries, food supply and food security will be severely jeopardized across the world within a few short years unless climate change is addressed and action to mitigate the negative impacts of climate change is undertaken.



Organisation	Goals	Objectives and actions
Gloucestershire Health and Care NHS FT	To increase our resilience against climate-related severe weather events by March 2026	Carry out a Risk Assessment and ensure climate change and adaptation features on the Trust risk register  Develop a Climate Adaptation Plan to outline the actions and interventions required to mitigate the risks
Gloucestershire Hospitals NHS FT	Develop a Climate Change Adaption Plan outlining interventions and action to mitigate the risks	Undertake a risk assessment to highlight risks to continuity and resilience of supply
Gloucestershire County Council	Mitigate risks from climate change and Improve adaption resilience across the county	Complete adaption risk mapping and work with NHS Trusts on all aspects of Climate Adaption
Gloucestershire ICS	Develop a Climate Change Adaption Plan outlining interventions and action to mitigate the risks by Sept 2023	

Measures of success:	Climate Adaptation
By Sept 2023	Undertake a risk assessment to highlight risks to continuity and resilience of supply
By Sept 2023	Develop a Climate Change Adaption Plan outlining interventions and action to mitigate the risks





# 7. Sustainable Models of Care

Embedding net zero principles across all clinical services is critical. This section considers carbon reduction opportunities in the way care is delivered.

The principles of sustainable healthcare are: 1) prevention of ill health, 2) patient self-care, 3) lean service delivery, 4) low carbon alternatives. There is also a fifth operational principle: efficient resource use—improving use of energy, transport, water, waste, and equipment. Further information can be found on the Royal College of Physicians website<sup>ix</sup>.



NHS commitments to personalise care, reduce overprescribing, empower patients, increase social prescribing, improve prevention and management of long-term conditions, and achieve healthier, connected communities are all essential to providing excellent care, reducing health inequalities, and achieving environmental, economic, and social sustainability in healthcare.

These are core elements of the Gloucestershire Long Term Plan.

Examples include the provision of care closer to home; default preferences for lower-carbon interventions where they are clinically equivalent; and reducing unwarranted variations in care delivery and outcomes that result in unnecessary increases in carbon emission.

## 7.1 Green Space and Biodiversity and Green Social Prescribing

In Gloucestershire, we are privileged to have access to beautiful locations for promoting biodiversity and greenspace.

Urban green spaces, such as parks, can have a positive impact on mental and physical wellbeing by providing relaxation, stimulating social cohesion, encouraging physical activity, and mitigating air pollution, noise, and excessive heat.<sup>xi</sup> The benefits of green space can also be experienced by NHS staff on site. Research at NHS sites found that NHS staff who spent time in their site's green space felt 'relaxed and calm, refreshed and re-energized and experienced a positive effect on their mental and physical wellbeing'<sup>xii</sup> Urban blue spaces, like rivers and lakes, have similar mental and physical health benefits.<sup>xiii</sup>

We have an opportunity to contribute to the improvement and expansion of these green and blue spaces and help to facilitate access for our local communities. Green prescribing and onsite green space projects can increase biodiversity while improving health, whilst new NHS developments will increase biodiversity by 10% as required by the Environment Act 2021.

Our approach will enable us to forge the link between the benefits of the natural world and provide sustainable models of care. Through innovation and creativity, we can also form areas of natural biodiversity or gain access to local greenspaces with the aim to enable community health and wellbeing.



Gloucestershire has already started some Green Space projects.

Initiative	Aim/Benefit
Gloucestershire Funders - Nature	<p>Gloucestershire Funders (GF) is a collaboration of organisations and foundations that came together in response to the Covid-19 pandemic with the aim of providing funding for charities, groups and activities in Gloucestershire.</p> <p>The ICS supports local Voluntary, Community and Social Enterprise (VCSE) organisations to continue the essential work they do in supporting the health and wellbeing of local citizens and is a part of the panel.</p> <p>The funding will be specifically targeted towards initiatives focussing on environmental sustainability, and nature/natural environment and the benefits this brings to health and wellbeing. Allocation of the funds in response to applications to the GF panel will be overseen by the ICB Healthy Communities and Individuals (HC&amp;I) team.</p>
Social Prescriptions – Nature	<p><b>Aim</b></p> <p>To offer a non-medical 'nature on prescription' programme, through grant funded projects, to support tackling health inequalities in line with the Core20Plus5 NHS strategy, linking to the local ICS identified 'plus' elements. The projects will offer people psychosocial support and link to tackling the wider determinants of health.</p> <p><b>Benefits:</b></p> <p>Sustainable projects across the county linked to Core20Plus5 that link people to nature and have a positive impact on health and wellbeing, as demonstrated by a validated outcome measure. Linked to current social prescribing activities and link workers to ensure maximum benefit/uptake and support for future sustainability.</p>
Nature Highways	<p><b>Aim</b></p> <p>To support the development of a nature highway, to include items such as nature murals, refreshing existing green infrastructure, and creating a network of hanging baskets all along Barton Street to enhance the wellbeing of Barton and Tredworth residents. The programme will work with local people, community groups and social prescribers and link to tackling the wider determinants of health.</p> <p><b>Benefits</b> will include improved air quality on Gloucester's most polluted street in one of our most deprived wards; opportunities for getting physically involved in green infrastructure improvements and maintenance; positive impacts on mental wellbeing. Many studies show that just viewing nature can have a positive impact on our brains, helping reduce anxiety and stress and increasing attention capacity, creativity and our ability to connect with each other.</p> <p>Working with social prescribers, activities along the nature highway will be developed to maximise benefit and ensure sustainability.</p>
Sevenside Nature Development	<p>Several wards in Gloucester do not meet the accessible greenspace standards. The Sevenside site does not currently celebrate its high heritage value, and only four footpaths cross through the waterside meadows. The potential to build this area's reputation as a place to improve health and wellbeing for the people of Gloucester, and to reduce visitor pressures on nearby designated sites, is significant and exciting.</p> <p>Gloucestershire Local Nature Partnership will develop a process for monetising the recreational value of the site. Working with the Integrated Care System, GFirst LEP and Visit Gloucestershire and local planners to develop a methodology for valuing and marketing the benefits generated by enhancing the site's recreational assets.</p>

Organisation	Goals	Objectives and actions
Gloucestershire Health and Care NHS FT	<p>Understand opportunities that biodiversity and, greenspace offer in order to promote a more sustainable model of care</p> <p>Increase the amount of accessible Greenspace across the Trust by March 2025</p>	<ul style="list-style-type: none"> <li>• Development of a Greenspace and Biodiversity Plan to enable us to understand our existing Greenspaces &amp; Biodiversity and make improvements</li> <li>• Support people to get involved in greenspace and other outdoor activities by maintaining current green spaces</li> </ul>
Gloucestershire Hospitals NHS FT	<p>Help and improve physical and mental health and wellbeing of staff, patients and local community through access to greenspace and biodiversity on our sites</p>	<ul style="list-style-type: none"> <li>• We will develop hospital maps highlighting grounds, areas of interest and suggested walking routes. To include interpretation boards at key locations to aid understanding and inclusion of staff, patients and public</li> </ul>
Primary Care	<p>Social prescribers to introduce Green Prescriptions and promote use of local greenspaces</p>	<ul style="list-style-type: none"> <li>• Connect with neighbouring Trusts, system partners and local volunteers to identify availability of local greenspaces</li> </ul>

In 2019 GPs in Gloucestershire referred over 3,500 people to social prescribing through the community and wellbeing hub. The 2016 evaluation of social prescribing in Gloucestershire showed that social prescribing improved patients' wellbeing, reduces hospital emergency admissions and the number of GP appointments including GP home visits and calls to the GP. With a visit to the A and E department and a GP consultation being responsible for 13.8 kgCO<sub>2</sub>e/visit and 1.14 kgCO<sub>2</sub>/visit respectively, social prescribing has the potential to reduce the impact of healthcare on the environment.

Measures of success:	Green Space and Biodiversity
By Sept 2022	For primary care to refer patients to the nature-based prescribing opportunities in conjunction with the VCSE sector
March 2023	Gloucestershire ICS to have planned/put in place evaluation of initiatives with VCSE partners on green space and biodiversity initiatives depending on the timescales for the initiatives
By March 2023	GHFT: Improve the physical and mental wellbeing of staff, patients and the local community through access to green spaces and biodiversity on our sites
By March 2023	GHC: to develop a green/blue space and biodiversity plan
By March 2024	Offer patients and staff the opportunity to access, maintain and improve green space and biodiversity on site



## 7.2 Digital transformation

Digitally enabled care will transform the way in which our services are delivered and improve patient experience whilst systematically reducing waste, resources and carbon emissions. The coronavirus pandemic acted as a catalyst for NHS organisations to implement a number of digital initiatives at speed, in particular, remote consultations, our digital strategy, which is in development is building on this work. Digital support is embedded in a number of ICS transformation programmes supporting new care pathways where there has been a secondary benefit of supporting sustainability (e.g. covid virtual ward, children's mental health pathway)

Organisation	Goals	Objectives and actions
Gloucestershire Health and Care NHS FT	Conduct outpatient & other appointments remotely where clinically appropriate, taking account of patient preferences, aiming for 25% to be delivered remotely overall	Develop a digitalised pathway to become paperless organisations where clinically possible
Gloucestershire Hospitals NHS FT		Embed digital technology to reduce face-to-face appointments for clinical activities in line with NHS Targets
Primary Care		Introduce digitalised meal ordering system to reduce hospital food waste
ICS	New models of care to include digital solutions where there is proven benefit	Collaborate to ensure identification, design and delivery of transformation programmes and clinical networks that have a positive impact on sustainability are identified as potential options in the overall solution design by March 2024  Digital literacy programme jointly with GCC to enable better access to digital services by a wider range of the population
Virtual Wards	Enable a greater number of individuals to receive care at home with remote monitoring	Virtual ward programme of work to identify areas of greatest benefit to patients and the NHS through care at home with virtual monitoring

Measures of success:	Digital Transformation
2022/23	Where attendances are clinically necessary, at least 25% should be delivered remotely by telephone or video consultation
March 2024	Reduce paper use to absolute minimum
March 2024	Develop a plan and start implementation of digital meal ordering systems
March 2023	Digital literacy programme jointly with GCC to enable better access to digital services by a wider range of the population
March 2024	Ensure identification, design and delivery of transformation programmes and clinical networks that have a positive impact on sustainability are identified as potential options in the overall solution design by March 2024
March 2025	Further rollout virtual wards in line with planning guidance

# 8. Medicines & Procurement

## 8.1 Pharmaceuticals & Medicine

Medicines are used by people that use our services and they are a large proportion of our carbon footprint: more than the buildings.

The prescribing of medicines, inhalers and the use of anaesthetic drugs has a high environmental cost in terms of the packaging used, production processes, infiltration of surface waters during the manufacturing process, unused drugs being disposed of into public water supplies and landfills, and emissions into the atmosphere.

The Primary Care Network (PCN) Directly Enhanced Service (DES) specification for structured medication reviews and medicines optimisation makes a requirement of PCNs to “actively work with their ICB to optimise the quality of prescribing of metered dose inhalers, where a low carbon alternative may be appropriate”. The specification states that the NHS has committed to reducing the carbon impact of inhalers used in the treatment of respiratory conditions by 50%.

Modern anaesthetic gases equate to 2% of the carbon footprint for all acute NHS organisations: almost a quarter of this is from use of volatile

agents (desflurane, sevoflurane and isoflurane), and over three-quarters from nitrous oxide (NO<sub>2</sub>). Desflurane is a greenhouse gas with a twenty-year global warming potential (GWP<sub>20</sub>) of 3714, meaning that every tonne of desflurane is equivalent to 3714 tonnes of carbon dioxide in the atmosphere. Gloucestershire Hospitals NHS FT have made significant progress on this objective with reductions year on year and no desflurane in use in 2021/22:

- 2017-18 = 1,182 tCO<sub>2</sub>,
- 2019-20 = 158 tCO<sub>2</sub>,
- 21-22 = 81 tCO<sub>2</sub> (sevoflurane only)

By improving the way medicines are used and prescribed including a patient-centred approach with shared decision making – we can minimise medicine wastage and reduce emissions by prescribing lower carbon alternatives. The plan shows how Gloucestershire healthcare organisations may use their individual or collective purchasing power and decisions to reduce carbon embedded in their supply chains.



## Pharmaceuticals and Medicines

Organisation	Goals	Objectives and actions
<b>Gloucestershire Hospital NHS Foundation Trust</b>	Ongoing review of volatile gas use	Anaesthetic team will continue to look at ways to minimise use of anaesthetic gases and nitrous oxide
<b>Gloucestershire Health and Care NHS FT</b>	Optimise and reduce the use of pharmaceuticals and harmful medical gases by 2025/26	Reduce harmful volatile medical gases (e.g. Desflurane and nitrous oxide) in exchange for lower-carbon alternatives where clinically appropriate, in line with NHS Targets
<b>Primary Care Gloucestershire Health and Care NHS FT Gloucestershire Hospitals NHS FT</b>	Reduce meter dose inhalers prescribed by 25% by 2025	Increasing the number of low-carbon inhalers consumed where clinically appropriate, in line with NHS Targets.  Have a detailed plan on how to encourage service users to return their inhalers to pharmacies for appropriate disposal (SC)

Measures of success:	Pharmaceuticals & Medicines
<b>March 2023</b>	Providers have met the target of reducing the proportion of desflurane to volatile gases used in surgery to 10%. Reduce target to 5% or less
<b>2022/23</b>	Every ICS to develop plans for clinically appropriate prescribing of lower carbon inhalers
<b>2022/23</b>	Have a detailed plan on how to encourage service users to return their inhalers to pharmacies for appropriate disposal
<b>March 2025</b>	Reduce meter dose inhalers prescribed by 25%







## 8.2 Food and nutrition

We plan to reduce the carbon emissions from the food made, processed or served within our organisations. This includes reducing overall food waste and ensuring the provision of healthier, locally sourced and seasonal menus high in fruits and vegetables, and low in heavily processed foods.

We can also use digitalised menus and reduce single-use plastics and other damaging materials in catering.

Organisation	Goals	Objectives and actions
Gloucestershire Health and Care NHS FT Gloucestershire Hospitals NHS FT	Continue to reduce single-use plastics as part of the NHS Plastics Pledge	Work with catering departments to reduce single-use plastic and packaging supplied in our catering outlets and vending machines.
Gloucestershire Hospitals NHS FT	Reduce single use consumables associated with food and drink	To cease use at the Provider's Premises of single-use plastic cutlery, plates or single-use cups made of expanded polystyrene or oxo degradable plastic (SC) where clinically appropriate

Measures of success:	Food and Nutrition
2022/23	Stop use at ICS premises of single-use plastic cutlery, plates or single-use cups made of expanded polystyrene or oxo degradable plastic (single-use plastics and waste)
2022/23	To buy locally sourced, organic food wherever possible
2024/25	GHFT 100% food waste recycled
Ongoing	GHFT Increase the percentage of catering and food contracts follow Government Buying Standards and ensure food is from sustainable sources e.g. Red Tractor scheme, dolphin friendly, sustainable fish etc.

## 8.3 Supply chain and procurement

In autumn 2021, the NHS England Public Board approved an NHS Net Zero Supplier Roadmap to help suppliers align with the NHS' net zero ambition between publication and 2030. This approach builds on the UK Government's procurement policy and the NHS' Procurement Target Operating Model (PTOM).

As an anchor institution we have the ability to invest in local businesses and create local employment opportunities - reducing the impacts of inequality and improving the health and wellbeing of our communities.

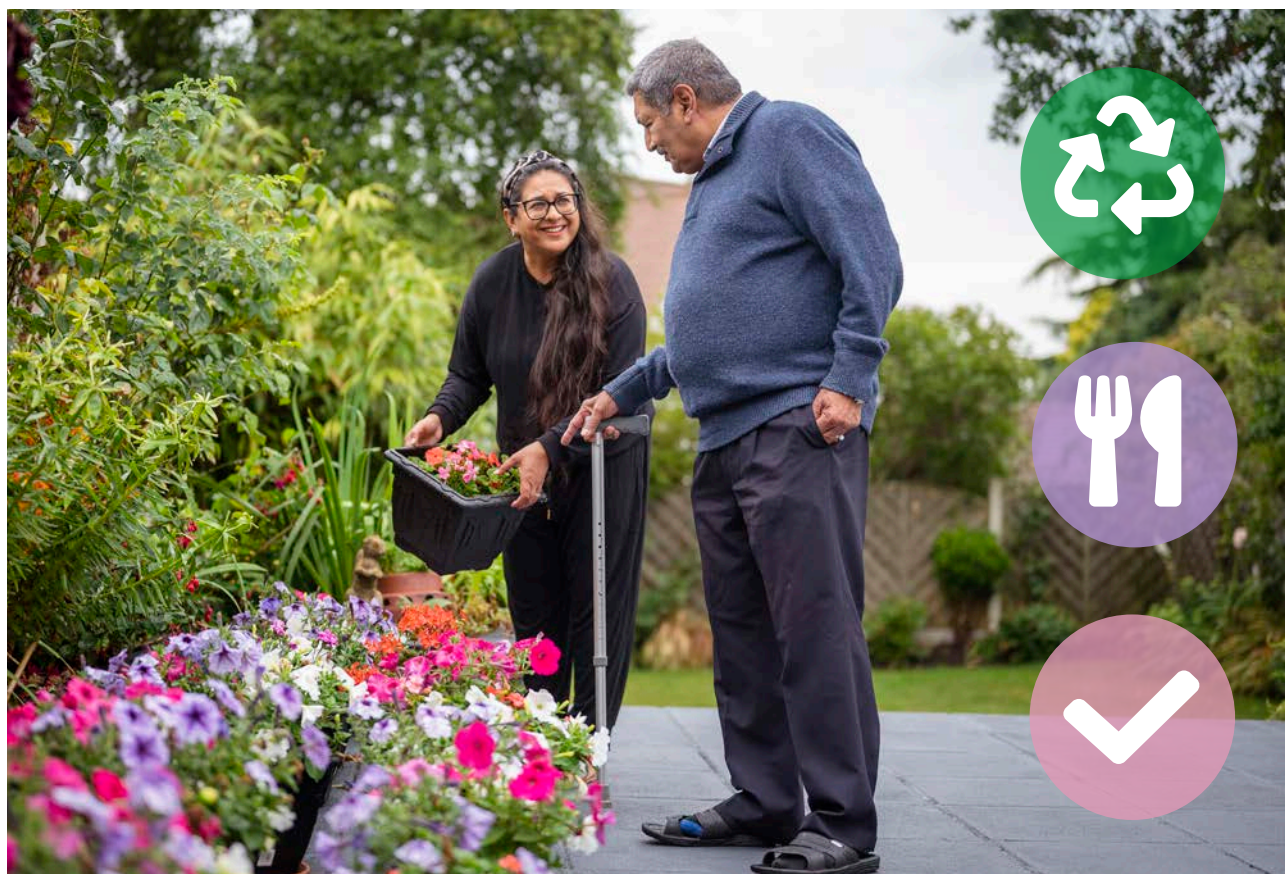
Organisation	Goals	Objectives and actions
<b>Integrated Care Board</b>	Increase local business spends by 10% where financially viable (against the 2022/23 baseline)	<ul style="list-style-type: none"> <li>• Seek to support local businesses through awarding of contracts where feasible.</li> </ul>
<b>Gloucestershire Health and Care NHS FT</b>	Embed a 10% sustainability and social value into the weightings criteria of all procurement contracts by 2022/23	

### Circular Economy and Reuse

We will increase the amount of equipment that is reused and recycled – by embedding a whole-lifecycle approach to our procurement process, we will improve our decision making to decrease the amount of waste disposed.

Organisation	Goals	Objectives and actions
<b>Integrated Care Board</b>	Embed whole lifecycle costing into procurement processes	Embed whole lifecycle and circular economy principles into tendering processes
<b>Gloucestershire Health and Care NHS FT</b>	Deliver annual savings in cost and tonnage of waste produced by standardising what we purchase and use, repairing and sharing equipment	<ul style="list-style-type: none"> <li>• Embed a whole lifecycle and circular economy principles in the tendering of Trust equipment and prioritise suppliers who can fix, refurbish or remanufacture.</li> <li>• Work with clinicians to reduce the amount of unnecessary single-use or disposable items used and replace them with reusable or lower carbon alternatives that are medically appropriate</li> </ul>
<b>Gloucestershire Hospitals NHS FT</b>	Promote whole lifecycle costing into procurement	<ul style="list-style-type: none"> <li>• Part of GHFT new procurement policy for 2022</li> <li>• Introducing Warp It 2022/23</li> </ul>

Measures of success:	Supply chain and procurement
By 2023	All organisations to measure and report annual reductions against 2028-32 targets, reportable annually to the Gloucestershire ICB
2022/23	Stop use at ICS premises of single-use plastic cutlery, plates or single-use cups made of expanded polystyrene or oxo-degradable plastic (single-use plastics and waste)
From April 2022	A minimum weighting of 10% of the total score for social value should be applied in all procurement (PPN 06/20)
2022/23	All organisations signed up to the NHS Plastics Reduction Pledge
2023/24	10% reduction in clinical single-use plastics
2023/24	Procure 100% recycled paper and reduce paper usage by 50%
TBA	require suppliers to publish carbon reduction plans for contracts over £5m and from 2024 for contracts of any value (NZ)
From April 2022	require suppliers to publish carbon reduction plans for contracts over £5m and from 2024 for contracts of any value (NZ)
2023/24	40% of all walking aids refurbished in next 5 years





# 9. Workforce and System Leadership

- Culture of Sustainability and Action
- Knowledge and Competency



**“ Engaging and developing our workforce and system partners in defining and delivering carbon reduction initiatives and broader sustainability goals. ”**

Organisation	Goals	Objectives and actions
<b>Gloucestershire Health and Care NHS FT</b>	<p>To create a culture of sustainability across the organisation by 2024/25</p> <p>Improve the awareness of Sustainability across the organisation by 2023/24 (against a 2021/22 baseline)</p> <p>Embed sustainability into Trust transformational, learning &amp; development and quality improvement programmes of work by March 2024</p>	<p>Develop and deliver sustainability training, communications, events and engagement campaigns to raise the profile of sustainability across the Trust. Specifically:</p> <ul style="list-style-type: none"> <li>• Board level training for senior leadership</li> <li>• Training provided in sustainability at appropriate levels for all staff</li> <li>• Staff provided support to understand how sustainability has co-benefits for health</li> <li>• Include sustainability in induction</li> <li>• Include sustainability on the agenda at all relevant meetings (Transformation, QI, Education, Workforce, Board?)</li> <li>• Develop a Sustainability Impact assessment into all strategic business cases over £250,000</li> <li>• Create an Operational Task and Finish Sustainability Action Group to implement deliverables within this Green Plan</li> <li>• Set up a Green Champions tea</li> </ul>

Organisation	Goals	Objectives and actions
<b>Gloucestershire Hospitals NHSFT</b>	<p>Improve understanding of sustainability across the organisation by 2023/24 (against a 2021/22 baseline)</p> <p>Sustainability to be incorporated into Quality Improvement training</p>	<ul style="list-style-type: none"> <li>• Staff survey to ascertain baseline understanding of sustainability</li> <li>• Board level training for senior leadership</li> <li>• Training provided in sustainability at appropriate levels for all staff</li> <li>• Training in Sustainable QI provided for all staff in QI</li> <li>• Staff provided training to understand how sustainability has co-benefits for health</li> <li>• Secure funding for the Green Ward programme (Centre for Sustainable Healthcare)</li> </ul>
<b>Integrated Care Board</b>	Sustainability to be embedded across the organisation	<ul style="list-style-type: none"> <li>• Delivered through e-learning, recognised training frameworks and regional sustainability workshops</li> </ul>
<b>Primary Care</b>	<p>Increase awareness of £ savings from sustainable actions</p> <p>All 72 GP Practices to sign up to the Green Impact Award Scheme by 2022</p>	<ul style="list-style-type: none"> <li>• Develop communication and engagement plan</li> <li>• Campaign for wider recruitment of Green Champions within GP practices</li> <li>• Undertake and report on actions within the Green Impact toolkit</li> </ul>

Measures of success:	Workforce and Systems Leadership
<b>April 2022</b>	Every Trust and the ICS to ensure a board member is responsible for their net zero targets and their Green Plan (SC)
<b>2023/24</b>	Communication approach in place to ensure all staff understand the importance of sustainability for the future of health
<b>2023/24</b>	All staff understand that acting sustainably brings co-benefits to health
<b>Sept 2022</b>	<p>All GP Practices to</p> <ul style="list-style-type: none"> <li>- sign up to the Green Impact Award Scheme</li> <li>- nominate a Green Champion</li> <li>- implement 2 schemes from the Green Impact for Health toolkit</li> </ul>
<b>2023/24</b>	Include sustainability in induction for all staff
<b>March 2023</b>	Develop a Sustainability Impact assessment into all strategic business cases over £250,000
<b>Sept 2024</b>	Senior staff using principles of sustainability to underpin strategies and to collaborate across the ICS

# 10. Governance and Reporting

Sustainability is central to the work of One Gloucestershire and will be integrated into all appropriate governance and reporting structures. Collaboration across organisations will be enabled by working groups with membership/representation from all organisations.

Precise lines of accountability and management will be finalised once the new ICB structures are in place.





# 11. Next Steps

This plan has been produced through a collaboration of the NHS organisations within the NHS in Gloucestershire, however, we cannot deliver these sustainability aims alone. We plan to work closely with Local Authorities and other public bodies to align our plans and actively collaborate with them to achieve our ambitions.

We know that our services face significant challenges and opportunities in the coming years, and these include maximising the value of our services to benefit the health and well-being of our community while minimising their environmental impact.





Our Green Plan is underpinned by strong core values and includes key areas of focus. We know it will help us to make a positive difference and achieve the ICS vision.

We will update this Green Plan annually, as data improve our understanding of the issues and research, collaborations and technology help us to find new solutions.

***Thank you for taking the time to read our plan.***

## Appendix 1: Our Sustainability Journey

Before the development of this three-year Green Plan, as part of our ongoing commitment towards sustainability, the following achievements were made across the NHS organisations within the ICS.

 <p><b>Energy</b></p>	<p><b>Between 2015-21 the ICB has reduced carbon emissions from electricity use by 59%</b></p> <p><b>Electric vehicle charging is available to staff at various locations</b></p>
 <p><b>Travel</b></p>	<p><b>Trust cycle-to-work schemes offered to incentivise active travel</b></p> <p><b>New home working policy reduced commuting emissions for ICB staff by 87%</b></p> <p><b>Virtual meetings reduced ICB's business miles by 50%</b></p>
 <p><b>Digital Enabled Care</b></p>	<p><b>We have digitally enabled 55 of our services with Attend Anywhere to support the delivery of care</b></p>
 <p><b>Sustainable Care</b></p>	<p><b>ICB implemented over 60,000 energy saving measures from Gloucestershire's Warm and Well Scheme</b></p> <p><b>Primary Care introduced a COPD Greener Inhaler guide to inform clinical practice and raise awareness of lower carbon care</b></p> <p><b>Since 2019 Primary Care GPs have referred over 3,500 patients to social prescribing</b></p>

## Appendix 2: Primary Care (General Practice) carbon footprint:

Gloucestershire ICS has 71 registered GP practices, with over 670,000 registered patients. In February 2022 there were 1,662 FTE staff, with 414 GPs, 212 Nurses, 212 other direct patient care (DPC) and 824 admin.

Table 1 shows the top 3 emitting high dose inhaled corticosteroids and SABA inhalers prescribed by Gloucestershire ICS GPs in quarter ending January 2022.

Inhaler GHG emission estimation includes high dose inhaled corticosteroids and Short Acting Beta Agonist (SABA) inhalers. The top 3 most prescribed SABA inhalers in the quarter ending January 2022 were all metered-dose inhalers (MDIs), whereas only the top prescribed high dose inhaled corticosteroid was an MDI with the second and third most prescribed being dry-powdered inhalers (DPIs). MDIs contain propellants such as hydrofluorocarbons which are potent greenhouse gases.

Table 1: Top 3 types of SABA and high dose inhaled corticosteroid inhalers prescribed by Gloucestershire ICS in quarter ending January 2022

Inhaler type		Quantity prescribed per quarter	GHG emissions per quarter (kg CO2e)	Annual GHG emissions (kgCO2e)
SABA	Salbutamol 100 micrograms/dose inhaler CFC free (generic)	31,309	790,239	3,160,956
	Ventolin 100 micrograms/dose Evohaler	15,653	438,284	1,753,136
	Salamol 100 micrograms/dose inhaler CFC free	6,793	81,176	324,705
High dose inhaled corticosteroids	Fostair 200micrograms/ dose/6micrograms/ dose inhaler	3854	54,542	218,167
	Flutiform 250micrograms/ dose/10micrograms/ dose inhaler	726	26,499	105,996
	Sereflo 25 micrograms/ dose/250 micrograms/dose inhaler	710	25,915	103,660

Table 2: Number and types of GP appointments attended annually across Gloucestershire ICS  
(Source NHS Digital)

Appointment type	Number of attended appointments	Proportion of all appointments (%)
F2F	2,350,622	64.6%
Virtual (telephone/ video/online)	1,126,257	30.9%
Unknown	153,597	4.2%
Home visit	10,606	0.3%
<b>Total</b>	<b>3,641,082</b>	

## Other procurement

GHG emissions associated with other procurement contributes 1,623 tCO<sub>2</sub>e to the total ICS primary care carbon footprint. Information and communication technology goods and services are responsible for 84% of these emissions (1,368 tCO<sub>2</sub>e). Medical and surgical equipment contribute 11% (181 tCO<sub>2</sub>e), business services (e.g., consultancy and professional fees) contribute 2% (40 tCO<sub>2</sub>e) and 2% is due to office equipment (33 tCO<sub>2</sub>e).

### Patient travel

Patient travel is the second largest contributor to the Gloucestershire ICS primary care carbon footprint with 2,350,622 attended face-to-face (F2F) appointments generating 2,915 tCO<sub>2</sub>e. Table 2 shows the total attended GP appointments for the most recent annual data period of March 2021 to February 2022.

### Staff commuting

Staff commuting is responsible for 9% of Gloucestershire ICS primary care carbon footprint adding 2,325 tCO<sub>2</sub>e. No data was available on the breakdown of modes of transport used for commuting, instead data from the National Transport Survey was used to estimate mode of transport.

### Energy

Practice building energy is responsible for 2,160 tCO<sub>2</sub>e, with natural gas contributing 62% and electricity 38% of energy GHG emissions.

### Business travel (Home visits)

GHG emissions associated with business travel are relatively small. This estimation includes home visits only, which make up 0.3% of all GP appointments. Additional business travel such as travelling for meetings, training or conferences has been excluded due to lack of data.





## Appendix 3: ICB Carbon Footprint

### Procurement

There has been a rise of 9.28% in greenhouse gas emissions associated with the ICB's overall procurement – from **191,727 tCO<sub>2</sub>e** in 2019-20 to **215,650 tCO<sub>2</sub>e** in 2020-21.

Within procurement, pharmaceuticals are the highest contributor of greenhouse gas emissions, currently at 19,531 tCO<sub>2</sub>e in comparison to last year at 18,199 tCO<sub>2</sub>e, meaning that the carbon footprint of the ICB's pharmaceuticals has increased by 7.31% for 2020-21.

2020-21 saw an increase of 39.96% in greenhouse gas emissions associated with information and technology, this increase resulted from purchasing IT equipment so that staff could work from home during Covid-19.

### ICB Carbon Footprint excluding commissioning 2020-21

	Carbon footprint (tCO <sub>2</sub> e)		
Category	2019/20	2020/21	Increase/ decrease
Water use	1.24	0.66	-46.77%
Waste products	0.35	0.16	-54.29%
Business mileage	134	65.93	-50.80%
Gas	20.6	24.11	17.04%
Staff Commuting	105.00	12.00	-88.57%
Electricity	134.00	123.10	-8.13%
<b>Total core</b>	<b>395.19</b>	<b>225.96</b>	<b>-42.82%</b>

### Staff commuting

Pre-covid figures reported that staff commuting contributed 105 tCO<sub>2</sub>e to the ICB's carbon footprint in 2019-20, this level of emissions was reduced to just 12 tCO<sub>2</sub>e (-87.63%) in 2020-21. The reduction comes as a result of the new homeworking policy with most staff working at home since the outbreak of Covid-19.

Other incentives in place to reduce commuting emissions include a car share and a Bike to Work scheme. Gloucestershire Health and Care NHS Foundation Trust have also introduced 4 electric vehicle charge points at the nearby Edward Jenner Court for staff use.

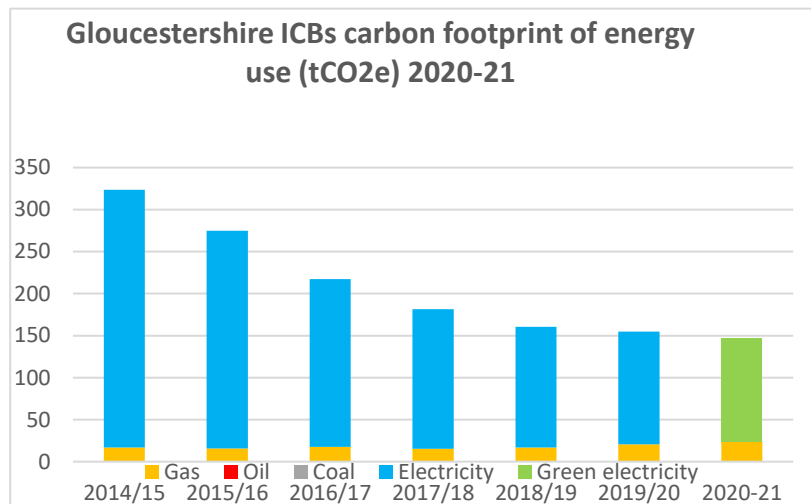
### Business Mileage

Pre-covid figures reported that business mileage contributed 134 tCO<sub>2</sub>e to the commissioners' carbon footprint in 2019-20. After the introduction of the new homeworking policy and MS Teams for meeting virtually, the emissions reduced to 65.93 tCO<sub>2</sub>e (-50.80%) in 2020-21.

### Energy

Electricity provides the main energy source for both heating and cooling which means that emissions from gas are significantly lower than many organisations. Furthermore, as of April 2021 all of the electricity purchased is "Green" and comes from renewable sources of energy such as wind, solar and hydroelectricity. This benefits from the UK's national effort to cut carbon emissions from source by decarbonising the grid and from the increase in the number of renewable suppliers.





## Appendix 4: Gloucestershire Health and Care NHS FT Baseline 2019-20 Carbon Footprint

### Energy

In 2019-20 GHC emissions from energy use was 2,090 tCO<sub>2</sub>e from electricity and 2,936 tCO<sub>2</sub>e from natural gas. Gas is the main source of energy used to heat Trust buildings with the exception of the Dilke Hospital which uses heating oil. During this period the carbon emissions from heating oil was 573 tCO<sub>2</sub>e.

In 2020-21 the Trust was successful in its application for £683,000 from the Public Sector Decarbonisation Scheme (PSDS) which was invested in upgrading lighting at Charlton Lane and Wotton Lawn Hospitals to energy efficient LED. Roof-mounted solar PV was also installed at Charlton Lane to enable on-site generation of electricity. Since the initial installation, the solar PV has generated 14.74MWh of electricity since installation in June 2021.

In 2021-22 the Trust have also committed funds to upgrade lighting to LED at Community Hospitals for Cirencester and Stroud, and at mental health sites Laurel House, Honeybourne and Brownhills. The energy use and reduction in carbon emissions will be available once the Trust next receive calculations for their carbon footprint in 2022-23.

Since 2021, all electricity procured by the Trust is sourced from 100% Green Renewable Energy.

### Travel and Transport

In 2019-20 GHC emissions from fleet was recorded at 128 tCO<sub>2</sub>e. The fleet is used for activities such as district nursing, transporting goods and undertaking estates maintenance activities. In 2020-21 the Trust invested £102,000 in 18 x electric vehicle charging points which have been installed at 5 different locations across Gloucestershire county. In 2022-23, the Trust introduced 2 electric vehicles to the fleet. These are currently being piloted and tested by staff before more EVs are introduced to the Trust's fleet. Business mileage from staff's use of their own vehicles was 1,703 tCO<sub>2</sub>e in 2019-20, however, in 2020-21 the Trust was pleased to see a 27% reduction in business mileage from the introduction of remote working i.e. by working and meeting virtually using MS Teams.

The Trust has a number of active travel facilities in place to support people who cycle to and from our sites and there also is a cycle-to-work scheme in place to incentivise staff.

### Total Carbon Footprint 2019-20

The total carbon footprint for Gloucestershire Health and Care NHS FT in 2019-20 was 7,730 tCO<sub>2</sub>e. This footprint encompasses emissions from energy use, waste materials and Trust travel.

Carbon footprint	2019/20
Natural Gas Scope 1	2,926
Heating oil Scope 1	573
Waste Scope 3	103
Electricity Scope 1	2,090
Water Scope 3	207
Trust Fleet Scope 1	128
Business Travel Scope 3	1,703
<b>Total</b>	<b>7,730</b>

## Appendix 5: Gloucestershire Hospitals NHS FT Information

### Energy

In 2020-21 the Gloucestershire Hospitals Trust's emissions from energy use was 16,641 tCO<sub>2</sub>e from natural gas. Gas is the Trust's primary energy source and is used to heat the hospital buildings and also serves as a fuel source for the combined heat and power (CHP plant) which provides energy to both the main hospital buildings at Gloucestershire Royal and Cheltenham Hospitals. This means that the amount of electricity drawn from the grid is minimised and therefore emissions from electricity for the Trust in 2021 were only 867 tCO<sub>2</sub>e.

In 2021 the Hospitals Trust was successful in its application for £12.3m, awarded by the Public Sector Decarbonisation Scheme (PSDS) and invested in a variety of projects at the hospital sites.

Total Project Breakdown	Capital Value
Transformers and voltage optimisation at sub-stations	£2.6m
Electric fan retro-fit to air handling plant	£0.5m
Solar PV electricity generation	£0.4m
LED lighting upgrades	£1.0m
Building Management System Upgrades	£0.25m
Pipework insulation to steam distribution plant and secondary systems	£0.07m
Plate heat exchangers for hot water systems	£1.6m
Replaced steam generated heat with plate heat exchangers	£0.42m
Energy battery storage	£5.1m
<b>Total investment</b>	<b>£12.3m</b>



## Travel and transport

The electrical infrastructure at Gloucestershire Royal Hospital is being upgraded. This will provide adequate capacity for installing EV chargers to start transitioning the fleet to EV by 2025. Saba Parking UK (parking contractor) are seeking to introduce EV chargers for the public in GRH multi-storey car park and there is also potential for the same at Cheltenham General Hospital in 2022/3. The Hospitals Trust will send out a 2022 travel survey to staff to inform of the future staff parking policy and next steps on active travel promotion. The Trust also have adequate active travel facilities in place to incentivise people who cycle to and from the main hospital sites.

## Medical gases

Medical gases accounted for 2,215 tCO<sub>2</sub>e which is 12% of the Trust's carbon footprint. Use of volatile medical gases such as desflurane reduced and in 2021/22 no desflurane was used within the Trust leaving only a small amount of sevoflurane in annual use. The anaesthetic team will also seek ways to reduce administration of other medical gases such as nitrous oxide, which is used for pain relief.

Carbon footprint	2020/21
Natural Gas 82%	16,641
Electricity 4%	867
Medical Gases 12%	2,215
Fleet 1%	118
Business Travel and Water 2%	439
<b>Total</b>	<b>20,280</b>



## 1 Climate change and health

<https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>

## 2 UN Sustainability Goals

<https://sdgs.un.org/goals#goals>

## 3 One Gloucestershire Vision and Values

<https://www.nhsglos.nhs.uk/about-us/who-we-are-and-what-we-do/our-visions-and-values/>

## 4 NHS Contributions to carbon emissions

<https://www.england.nhs.uk/2020/10/nhs-becomes-the-worlds-national-health-system-to-commit-to-become-carbon-net-zero-backed-by-clear-deliverables-and-milestones/#:~:text=%E2%80%9CThe%20NHS%20has%20already%20made,major%20part%20of%20the%20solution.%E2%80%9D>

## 5 Sustainability Reporting Portal

<https://srp.digital/>

## 6 Air Quality

<https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution#:~:text=Poor%20air%20quality%20is%20the,leading%20to%20reduced%20life%20expectancy.>

## 7 Net Zero Plan

<https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf>

## 8 Food Statistics In Your Pocket

<https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket#global-and-uk-supply>

## 9 Sustainability in quality improvement: redefining value

[https://www.rcpjournals.org/content/futurehosp/5/2/88#:~:text=The%20principles%20are%20numbered%20in,environmental%20impact%20\(Fig%205\).](https://www.rcpjournals.org/content/futurehosp/5/2/88#:~:text=The%20principles%20are%20numbered%20in,environmental%20impact%20(Fig%205).)

## 10 Over Prescribing Review

<https://www.gov.uk/government/publications/national-overprescribing-review-report>

## 11 World Health Organisation (2016). Urban green spaces and health - a review of evidence.

## 12 The Centre for Sustainable Healthcare (2020). Space to Breathe.

## 13 Environment Agency (2021). Blue Space – the final frontier.

<https://environmentagency.blog.gov.uk/2021/08/04/blue-space-the-final-frontier/>

# Glossary

## Organisation

### Anchor Institution

Anchor institutions refers to large, typically non-profit, public sector organisations whose long-term sustainability is tied to the wellbeing of the populations they serve.

Anchors get their name because they are unlikely to relocate, given their connection to the local population, and have a significant influence on the health and wellbeing of communities.

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Gloucester GL3 4FE