NHS Borders

ANNUAL CLIMATE EMERGENCY & SUSTAINABILITY REPORT 2021/22

Our NHS Our People Our Planet

NHS BORDERS - ANNUAL CLIMATE EMERGENCY AND SUSTAINABILITY REPORT 2021/22

Introduction

The planet is facing a triple crisis of climate change, biodiversity loss and pollution as a result of human activities breaking the planet's environmental limits.

The World Health Organisation recognises that climate change is the single biggest health threat facing humanity. Health organisations have a duty to cut their greenhouse gas emissions, the cause of climate change, and influence wider society to take the action needed to both limit climate change and adapt to its impacts.

This is NHS Borders' first annual Climate Emergency and Sustainability Report. It fulfils an NHS Scotland policy commitment made in 2021 following the COP26 Climate Change conference held in Glasgow in October of that year. The purpose of the report is to inform our staff and the communities we serve of the actions we are taking to meet our responsibilities in relation to this agenda.

NHS Borders is responsible for the commissioning and delivery of health care services for the population of the Scottish Borders, a rural area in south east Scotland covering over 1,800 square miles and with an estimated population of 116,000 people. We directly employ over 3,000 people and commission and procure goods and services from across the globe.

We recognise that as a public sector organisation, and as an anchor institution for our local population, we have a role to play in demonstrating our commitment to the delivery of Scotland's response to the Climate Emergency. We are currently developing our Climate Change Action Plan and expect to approve this plan at our Board meeting in June 2023.

In August 2022 NHS Scotland published its Climate Emergency and Sustainability Strategy 2022-2026. This strategy, together with the accompanying policy directions issued to NHS Boards by Scottish Government, sets out a framework for how the NHS in Scotland will address its responsibilities towards the delivery of net zero carbon targets and additional commitments in relation to sustainable development.

The report includes information covering the twelve months to March 2022, together with some historic information provided for comparative purposes. As we develop and implement actions aligned to the strategy we will continue to report on progress through future reports.

More information on the profound and growing threat of climate change to health can be found here:

www.who.int/news-room/fact-sheets/detail/climate-change-and-health

Leadership and Governance

NHS Borders recognises the importance of Leadership and governance in ensuring that we deliver the progress that will be required.

We also recognise that whilst the strategy was published in August 2022, the NHS has long standing commitments in this area. As a small board we have often found it challenging to ensure that we give sufficient focus to all of the priorities we seek to meet. We know that improving our commitment and ensuring that we deliver against the actions set out in the strategy will be essential if we are to provide responsible stewardship to our land and buildings, and to the communities we serve.

In June 2022 we appointed Harriet Campbell, a non-executive member of our Board, as our Sustainability Champion. Harriet joins Andrew Bone, Director of Finance and Executive Lead with responsibility for delivery of the strategy.

NHS Borders has dedicated both Board development time and Executive Leadership time to discuss this important agenda. A number of the Executive team will lead key projects within their areas of expertise to support the Board's overall Net Zero ambitions.

A new Climate Change & Sustainability Group was established towards the end of 2022. This group has the responsibility for developing and implementing the Board's action plan for tackling climate change and becoming environmentally sustainable.

Greenhouse gas emissions

NHS Borders aims to become a net-zero organisation by 2040. The table below sets out the amount of greenhouse gas produced annually by NHS Borders. Our future plans will seek to reduce these emissions as far as possible and where this is not possible we will identity mitigating actions which aim to fully offset our greenhouse gas production.

		Amount of greenhouse gas (tonnes of CO2 equivalent)			**Percentage change since 2019/20**
Source	**Description**	**2019/20**	**2020/21**	**2021/22**	**2021/22**
Building energy use	Greenhouse gases produced in providing electricity and energy heat for NHS buildings	34,129,574 KWhrs 7,356.7 tCo2e	33,972,190 KWhrs 7,114.3 tCo2e	34,042,707 KWhrs 7,180.9 tCo2e	2.39% Reduction
Non-medical F-gas use[1]	Greenhouse gases used for things like refrigeration and air conditioning	Data not available	Data not available	Data not available	TBC
Medical gases	Greenhouse gases used in anaesthetics - nitrous oxide (N20), Entonox (which contains nitrous oxide), desflurane, sevoflurane and isoflurane	729.2 tCo2e	510.4 tCo2e	563.5 tCo2e	22.72% Reduction
Metered dose inhaler propellant	Greenhouse gases used as a propellant in inhalers used to treat asthma and chronic obstructive pulmonary disorder (COPD)	1,840 tCo2e	1,840 tCo2e	1,903 tCo2e	3.31% Increase
NHS fleet use[2]	Greenhouse gases produced by NHS vehicles	219.737 tCO2e	264.753 tCO2e	248.472 tCO2e	13.08% Increase
Waste	The greenhouse gases produced by the disposal and treatment of waste produced by the NHS	No data available (contingency arrangements in place)	27.317 tCo2e	36.773 tCo2e	34% Increase

[1] We are currently compiling an F-gas register and expect to be able to publish this data in future plans.

[2] Increase to NHS fleet use reflects the introduction of a Patient Transport fleet to replace services previously provided by other NHS Bodies (including NHS Lothian Patient Transport Services).

		Amount of greenhouse gas (tonnes of CO2 equivalent)			Percentage change since 2019/20
Source	**Description**	**2019/20**	**2020/21**	**2021/22**	**2021/22**
Water	The greenhouse gas produced from the use of water and the treatment of waste water	235,139 m[3] 122.6 tCo2e	233,202 m[3] 121.6 tCo2e	171,582 m[3] 35.8 tCo2e[3]	70.79% Reduction[1]
Business travel (Includes Grey Fleet)[4]	Greenhouse gases produced by staff travel for work purposes, not using NHS vehicles.	586.33 tCo2e	358.35 tCO2e	376.05 tCO2e	35% Reduction
Sub-Total		**10,854.6**	**10,236.7**	**10,344.5**	**TBC**
Carbon sequestration[5]	The amount of carbon dioxide captured per by woodland, trees, grassland and shrubs growing on NHS grounds.	Data not available	Data not available	Data not available	TBC
Greenhouse gas emissions minus carbon sequestration		**10,854.6**	**10,236.7**	**10,344.5**	**TBC**

Some of the information reported above is presented as draft. A data validation exercise is currently being undertaken to ensure that this information is as accurate as possible. We will conclude this exercise in March 2023 and should this identify any material errors within the table above an updated version of this report will be published at that time.

Reporting on our emissions data continues to improve and we expect that figures will be adjusted in future reports to reflect the best information available. We have noted where this data is incomplete or subject to review. Our action plans include how we will focus on improving this data for future reports.

[3] Reduction in tCo2e reflects combined impact of both reduction in water usage and shift to lower emission producing electrical source energy.
[4] Business travel data does not record emission vehicle types (diesel, petrol, hybrid, etc). This has been estimated based on expected emissions across all types applied to actual reported mileage.
[5] We do not currently hold this data. We will be commissioning a carbon sequestration survey during 2023/24 in advance of preparing our Greenspace & Biodiversity Plan for March 2024.

National Sustainability Assessment

NHS Scotland has developed a National Sustainability Assessment Tool (NSAT) which all Health Boards use on an annual basis to measure their progress across sixteen different areas of sustainability. These areas consider evidence which demonstrates how embedded sustainability is within an organisation's business processes and strategic plans.

In 2021/22, NHS Borders scored 127 out of a possible score of 840 (15% overall). A score of 40% is reported as a bronze achievement (65% silver, 80% gold, 90% platinum).

Our three highest scoring areas were:

- Awareness
- Adaptation
- Welfare

Our three areas with the most room for improvement were:

- Nature & Biodiversity
- Capital Projects
- Procurement

It is clear we have much work to do to improve our approach and we have set a target to demonstrate significant improvement in our 2022/23 report (minimum score of 25%) and to achieve a bronze score by 2023/24 at the latest. In the next year we will aim to drive improvement by developing actions across all areas with greatest focus on those areas where we report our lowest scores.

Climate Change Adaptation

The climate is changing due to the greenhouse gases already emitted into the atmosphere. While efforts to reduce the rate and scale of climate change continue, we must also adapt to new conditions we are facing.

The changing climate is increasing risks for health and health services. More information on these risks in the UK can be found in the UK Climate Change Committee's Health and Social Care Briefing available here: www.ukclimaterisk.org/independent-assessment-ccra3/briefings/

What have we done to better understand the impact of climate change on NHS Borders and the people and places we serve?

We have commenced work internally to help our staff understand the importance of this agenda and how they can contribute to our approach through their own actions and in their own duties and responsibilities.

We are working with our teams to help embed mitigation and adaptation to climate change and delivery of net carbon zero emissions as part of our *business as usual*.

Over the next year we will commence work to engage our communities on how they can help shape our approach.

What are we doing to build resilience and prepare for the increasing risks from climate change to NHS Borders and the people and places we serve?

In 2023 we aim to complete our Climate Adaptation plan and engage with key stakeholders to ensure we build resilience to the risks associated with climate change. In addition we will use this information to help our communication and engagement strategy both internally and externally in the future.

Energy Usage in Our Buildings

NHS Borders has 31 buildings with a mix of uses such as hospitals, health centres and office space. As we shape our approach moving forward we will design the most appropriate mix of energy use based on the nature and purpose of our buildings.

In 2021/22, NHS Borders used 34,042,707 kWh (kilowatt hours) of energy. This was a decrease of 2.9% since the year before. Within this, we used 1581780 kWh from Biomass energy. We also generated 31,000 kWh from renewable technologies.

In 2021/22, 7,180.9 tonnes of CO2 equivalent were produced by NHS Borders' use of energy for buildings. This was a decrease of 2.9% since the year before.

We aim to use renewable heat sources for all of the buildings owned by NHS Borders by 2038.

What did we do last year to reduce emissions from building energy use?

In the last 12 months we have continued to implement a programme of lighting replacement (moving to LED wherever possible). We have upgraded our laundry equipment and kitchen equipment to maximise energy efficiency. In addition we have replaced boilers within some of our community hospitals.

What are we doing this year to reduce emissions from building energy use?

We will continue to implement Passive Infra-Red lights (PIR) and low energy lights wherever possible. We will be continuing to replace laundry equipment for energy efficient equipment.

We will enhance our energy saving education for all employees to ensure that where equipment can be switched off when not in use this guidance is well understood and followed.

We will continue to evaluate how we can reduce water consumption through improved maintenance and engineering, and by increasing awareness to our staff and service users to help individuals understand the direct role they can play in addressing waste.

Sustainable Care

The way we provide care influences our environmental impact and greenhouse gas emissions. NHS Scotland has three national priority areas for making care more sustainable – anaesthesia, surgery and respiratory medicine.

Anaesthesia and surgery

Greenhouse gases are used as anaesthetics and pain killers. These gases are nitrous oxide (laughing gas), Entonox (which contains nitrous oxide) and the "volatile gases" - desflurane, sevoflurane and isoflurane.

NHS Borders emissions from these gases are set out in the table below:

Anaesthetic gas use			
Source	**2018/19 (baseline year) tCO2e**	**2021/22 - tCO2e**	**Percentage change since 2018/19**
Volatile gases			
Desflurane	33	6.3	-81%
Isoflurane	0.3	0.2	-33%
Sevoflurane	15.3	9	-41%
Volatile gas total	48.6	15.5	-68%
Nitrous oxide and Entonox			
Piped Nitrous oxide	241	241	0
Portable Nitrous oxide	12	8	-33%
Piped Entonox	265	217	-18%
Portable Entonox	114	82	-28%
Nitrous oxide and Entonox total	632	548	-13%
Anaesthetic gas total	**680.6**	**563.5**	-17%

What did we do last year to reduce emissions from anaesthetic gases?

We have moved away from using desflurane for volatile anaesthesia and no longer use this in our operating theatres.

In previous years we moved to GE Aisys anaesthetic machines which have technology that makes giving anaesthetics at lower gas flows more straightforward. This reduces the amount of volatile anaesthetic used as well as piped oxygen and air.

What are we doing this year to reduce emissions from anaesthetic gases?

We are in the process of decommissioning our piped nitrous oxide manifold which will save around 240tCO2e per year.

What are we doing this year to make surgery greener?

We have established a 'green theatres' group to deliver on the green theatre project as set out by the *Centre for Sustainable Delivery* (an NHS Scotland organisation). Our current focus is on appropriate waste segregation with many other projects planned.

Respiratory medicine

Greenhouse gases are used as a propellant in metered dose inhalers (MDIs) used to treat asthma and COPD. Most of the emissions from inhalers are from the use of reliever inhalers – Short Acting Beta Agonists (SABAs). By helping people to manage their condition more effectively we can improve patient care and reduce emissions. There are also more environmentally friendly inhalers such as dry powder inhalers which can be used where clinically appropriate.

We estimate that emissions from inhalers in NHS Borders were 1,903 tonnes of CO2equivalent.

NHS Borders Respiratory clinicians follow best practice guidelines in the use of inhalers and this includes adoption of the advice provided by the Scottish Respiratory Pharmacists group which describes the best inhaler as the one that the patient can use most effectively.

The Scottish Respiratory Pharmacy group (SRP-SIG) continue to explore how to best implement changes to inhaler technology which will deliver the greatest reduction to greenhouse gas emissions whilst remaining clinically effective. At the moment there remain concerns regarding a shift to dry powder inhalers and current focus is on reducing over-use of SABA inhalers while new products are expected to become available in the near future which will improve the impact of existing MDI inhaler technology.

What are we doing this year to improve patient care and reduce emissions from inhalers?

Taking part in SRP-SIG discussions, gathering local data and starting preparatory work for individual patient review work required across GP practices to implement planned reductions. It is likely that we will engage a third party review company to support practices to undertake this review.

Other areas

What else did we do last year to make care more sustainable?

There has been ongoing work to improve formulary compliance. Compliance with prescribing formulary guidance will increase progress in reducing use of products such as Diclofenac as well as a greater focus on alternatives to medicines prescribing aligned to the practice of *Realistic Medicine*.

What else are we doing this year to make care more sustainable?

Realistic Medicine will ensure patients are on the most appropriate medicines for the minimum time. Establishing the National Strategy work around Polypharmacy reviews has been a key area of focus for our Pharmacy team.

Travel and Transport

Domestic transport (not including international aviation and shipping) produced 24% of Scotland's greenhouse gas emissions in 2020. Car travel is the type of travel which contributes the most to those emissions.

NHS Scotland is supporting a shift to a healthier and more sustainable transport system where active travel and public transport are prioritised.

Local Factors

We recognise that the geography of the Scottish Borders and the dispersal of our population means that there are challenges in providing accessible public transport services and that car use remains a significant feature within rural communities. We aim to work with other public sector partners to maximise what can be achieved through accessibility and alternative low-carbon vehicle transport options.

What did we do last year to reduce the need to travel?

There were no specific actions targeted at reduction of staff travel during 2021/22 however the continued implementation of remote working practices has seen a reduction in our business travel use from pre-pandemic levels. This is demonstrated in the level of emissions recorded against 'grey fleet' (a 35% reduction in past two years). We are presently reviewing how remote working fits into our long term ways of working and business planning.

What did we do last year to improve active travel?

We have taken the first steps to developing an active travel plan, conducting a staff travel survey to gather findings which will form the baseline of future policy.

What did we do last year to improve public and community transport links to NHS sites and services?

We have engaged with the Scottish Borders Council Workforce Mobility Project and Borders Buses consultation to influence access to public transport links.

What are we going to do this year to reduce the need to travel?

We will be reviewing the reasons our staff and patients need to travel and using this to inform changes which reduce emissions whilst avoiding any adverse impact on the delivery of patient care.

What are we going to do this year to improve active travel?

We will utilise the staff travel survey to identify ways we can support active travel. We will look at how we engage people to support this along with considering any infrastructure changes required.

What are we going to do this year to improve public and community transport links to NHS sites and services?

NHS Borders are awaiting the Scottish Borders Council/Borders Buses consultation and Workforce Mobility project outcomes to support our decision making within this area. We are also going to review how we engage staff and patients to ensure we get maximum benefit from existing transport links.

Other Actions

We are working to remove all petrol and diesel fuelled cars from our fleet by 2025. The following table sets out how many renewable powered and fossil fuel vehicles were in NHS Borders fleet at the end of March 2022.

	Renewable powered vehicles	**Fossil fuel vehicles**	**Total vehicles**	**Percentage renewable powered vehicles**
Cars	9	18	18	50%
Light Commercial Vehicles	6	30	36	17%
Heavy vehicles	0	2	2	0%

We do not currently use bicyles and eBikes in our fleet. We are currently in the early stages of consultation to assess where eBikes could be used by our staff.

During 2022/23 we will be actively exploring how we can provide electric vehicle charging for staff and public on our main sites.

Greenspace and Biodiversity

In addition to health benefits for patients and staff, investment in greenspace around hospitals and healthcare centres helps tackle climate change and biodiversity loss.

What did we do last year to improve our greenspace and increase biodiversity?

Over the last 12 months we have been looking into our green spaces so that they can be enhanced to improve the biodiversity within our grounds and gardens at NHS Borders. Our sites have a wide and varied estate consisting of woodland and landscaped grounds. These are significant assets to us and provide an opportunity for social, environmental, visual and recreational use.

Below shows the areas in which have been working on over the past year:

- We have reduced the number of cuts on our large areas of grassland per year from approximately 16 to 10 whilst increasing the height of cut of these areas to 75mm.

- We have increased the number of areas within all NHS Borders grounds that are planted with new pollen rich planting and wildflowers.

- Our grounds & gardens team continue to assist in the “Space to Grow” project at Huntlyburn House. The “Space to Grow” area is used for carrying out workshops that assist in the rehabilitation of our mental health patients.

- We have begun to develop new outdoor spaces for staff members at all our NHS Borders Hospitals by providing areas in *greenspace* which promote improved staff wellbeing. These areas will be planted with pollinator plants and shrubs.

- We are currently assessing how we can minimise the use of pesticides across our estate.

- We are seeking to embed the principles of biodiversity into all of our estate planning and management.

- We recycle green waste whenever possible.

What are we doing this year to improve our greenspace and improve biodiversity?

Over the next 12 months we will be looking to further improve our greenspace and biodiversity by looking at the following options:

- Consideration of the inclusion of wildlife encouragement methods (e.g. bird & bat boxes, more food growing opportunities, wildflower meadow & bank planting, provision of pollen rich species where required.

- Looking to develop a planting guide when planning any new projects which includes species which are nectar/pollen-rich plant species to encourage pollinators.

- Develop signage to inform staff, visitors, patients and volunteers of spaces where wildflowers are growing and areas that have been left to no-mow practices to encourage biodiversity.

- Looking into the possibility of having our own bee hives at our Borders General Hospital estate.

- Research and implement new methods of pest and weed control.

- Update our grounds and gardens equipment to increase the effectiveness and efficiency of estate operations in order to reduce waste and fuel consumption.

- Work with new and existing partners to sustain and enhance our biodiversity in all of our NHS Borders estates.

- Carry out a full survey of our greenspace to accurately record carbon sequestration.

Sustainable Procurement, Circular Economy and Waste

Earth Overshoot Day marks the date when our demand for resources exceeds what Earth can regenerate in that year. In 2020, the Global Earth Overshoot Day was 22nd August. In 2021, it was 29th July. The current global trend shows a concerning picture of over consumption. For the UK, the picture is more worrying. In 2022, the UK's Earth Overshoot Day was 19th May. The current level of consumption of materials is not sustainable, it is the root cause of the triple planetary crises of climate change, biodiversity loss and pollution.

We aim to reduce the impact that our use of resources has on the environment through adopting circular economy principles, fostering a culture of stewardship and working with other UK health services to maximise our contribution to reducing supply chain emissions to net-zero by 2045.

What did we do last year to improve the environmental impact of the goods and services we buy?

The majority of goods used by our services are supplied through national procurement hosted by NHS Scotland. For all of our deliveries, including those ordered locally, we aim to minimise the frequency of deliveries whilst retaining effective supply chain management. National deliveries are scheduled once daily via a single distribution centre. Orders placed directly with suppliers are consolidated across multiple departments in order to limit the number of journeys to a minimum achievable.

We are conscious of the need to recycle effectively and have agreements in place for return of items such as photocopier cartridges for recycling.

What are we doing this year to improve the environmental impact of the goods and services we buy?

We want to reduce the amount of waste we produce and increase how much of it is recycled. This includes assessing options for minimising the use of single use items wherever possible, as well as focussing on correct segmentation of waste to ensure that the proportion of waste which is recycled is as high as possible. We will continue to work with national procurement colleagues to seek opportunities to promote the reduction in unnecessary packaging wherever possible. We will also consider what more can be done to ensure that we maximise the number of goods which are sourced locally in order to reduce emissions from supply chain logistics.

The table below provides information on the type of waste we produce.

Type	**2020/21 (tonnes)**	**2021/22 (tonnes)**	**Percentage change**
Waste to landfill	2	2	0
Waste to incineration	31.5	50.9	+39%

Type	2020/21 (tonnes)	2021/22 (tonnes)	Percentage change
Recycled waste	189	189	0
Food waste	No data available[6]		
Clinical waste	262.8	367.3	+39%

There is an increase to waste generated for incineration and against our clinical waste uplift. We are currently assessing the drivers for this increase however it is likely that 2020/21 data reflects lower clinical activity during the pandemic and that we would expect some level of increase as clinical services are remobilised in 2021/22 and beyond this point. This will only emphasise a greater requirement to focus on actions which can mitigate this increase.

What did we do last year to reduce our waste?

We started an internal campaign to improve waste segregation and ran 3 successful pilots to demonstrate the benefits of improved segregation.

What are we doing this year to reduce our waste?

In 2023 we will embed behavioural change in relation to waste segregation. We will review single use items and consider where these can be changed for multiple use items. In addition we will start to educate in the area of circular economy and increase our use of the circular economy.

[6] We are currently evaluating catering management systems which will allow us to record data in relation to consumption and waste in relation to food production.

Environmental stewardship

Environmental stewardship means acting as a steward, or caretaker, of the environment and taking responsibility for the actions which affect our shared environmental quality. This includes any activities which may adversely impact on land, air and water, either through the unsustainable use of resources or the generation of waste and pollution. Having an Environmental Management System (EMS) in place provides a framework that helps to achieve our environmental goals through consistent review, evaluation, and improvement of our environmental performance.

What did we do last year to improve our environmental performance?

We do not currently have an Environmental Management System in place within NHS Borders. As such we do not have any data regarding performance. Activities described elsewhere in this report would be expected to impact on this performance.

What are we doing this year to improve our environmental performance?

We will evaluate the resources required to implement EMS and consider how this can be achieved.

Sustainable Communities

The climate emergency undermines the foundations of good health and deepens inequalities for our most deprived communities. The NHS touches every community in Scotland. We have a responsibility to use our abilities as a large employer, a major buyer, and one of the most recognised brands in the world – an 'anchor' organisation – to protect and support our communities' health in every way that we can.

As we commence our engagement work we will consider how we can protect and support our Communities. Developing this approach is captured within our action plan and will be progressed during 2022/23.

Conclusion

Whilst we can be proud of some of the progress made, we also recognise that we have much to do.

Our NSAT score highlights just how far from 'good' we currently are. We expect the work we have been putting in place towards the end of 2022 will see us improve this score in our next report, reflecting the increased focus on the necessary steps to meet our responsibilities.

We are still missing some key data and improving the information which will help us track our progress and identify areas for improvement will be a key focus in the next year. It is likely that we will see some increase to our reported emissions as we develop and refine our reporting although we would also expect that there will be areas where we can continue to report positive progress.

We also know that we need to enhance our action plans to develop and continue our work in reducing emissions and responding to the climate emergency. We are currently developing our Climate Change Action Plan and expect to approve this plan at our Board meeting in June 2023.

The development of an Active Travel Plan for our workforce will complement the continued progress towards the decarbonisation of our fleet.

In addition to improving our action plans and our reporting, we aim to develop our Climate Change Adaptation Plan and our Biodiversity and Greenspace Plan during the next year.

We also aim to finalise our net carbon reduction strategy. We have been supported by Scottish Government pre-capital grants during the past year and intend to submit a bid for significant capital investment in March 2023. Should this bid be successful we hope to report positive progress in our next report.

We will continue to build on the positive engagement already fostered within our clinical workforce and will seek to support them to make further progress in the reduction of anaesthetic and medical gases emissions, as well as other areas of clinical practice.