

NHS Forth Valley Annual Climate Emergency and Sustainability Report 2023/24

1. Background

It has been widely recognised that the climate crisis is a health crisis and many of the drivers of climate change are drivers of ill health and health inequalities. Updated climate change and sustainability policy/strategy documents have been issued to NHS Scotland by the Scottish Government (SG):

- The Policy for NHS Scotland on the Climate Emergency and Sustainable Development (DL (2021) 38) can be accessed [here](#).
- The NHS Scotland Climate Emergency and Sustainability Strategy 2022 – 2026 can be accessed [here](#).

These documents set out the significant challenges that lie ahead. Priority areas for action have been identified:

- Sustainable Buildings & Land
- Sustainable Travel
- Sustainable Goods & Services
- Sustainable Care
- Sustainable Communities

NHS Forth Valley has acknowledged that significant and long-term changes to the way care is delivered will be required to ensure this NHS Board makes an effective contribution to the national/global drive to limit the impacts of climate change.

The NHS Forth Valley Climate Emergency & Sustainability Strategy and Action Plan 2023 – 2026 was approved by the Board's Executive Leadership Team in June 2023 and adopted by the NHS Board in July 2023 and can be accessed [here](#).

The Board submits two climate change reports to the Scottish Government annually: the statutory Public Bodies Climate Change Duties (PBCCD) submission, and this, the Climate Change & Sustainability Report which provides an update on progress against the requirements within DL (2021) 38, the Policy for NHS Scotland on the Climate Emergency and Sustainable Development.

It should be noted that this Board is monitoring performance against two emissions baselines: the original baseline that was set when the PBCCD's came into force, and a revised baseline that was established to include additional emissions sources that NHS Scotland Boards are required to monitor, manage and report following the introduction of DL (2021) 38.

The PBCCD baseline was set in 2014/15 and the DL38 baseline was set in 2022/23. For context, reference to the Board's performance against both baselines have been summarised in this update.

2. Introduction

This is NHS Forth Valley's third Annual Climate Emergency and Sustainability Report, covering Financial Year 2023/24. It provides details of the actions taken by the Board to initiate an effective climate emergency response. Each section within the report summarises what was done in 2023/24, together with an overview where appropriate of what the Board aims to deliver in 2024/25.

In the reporting year (2023/24) NHS Forth Valley employed 6,565 FTE's and provided a range of community based and acute hospital services for more than 300,000 people living in the Forth Valley area. The operational property portfolio (owned and leased) consists of 104 properties based at 55 individual sites with a floor area totalling 190,528m². Of the total NHS Forth Valley estate, 41% is owned, 1% is leased and 57% is Public/Private Partnership property.

The size of the Board's properties ranges from small properties that are less than 500m² to Forth Valley Royal Hospital which extends to approximately 96,500m². Over 50% (by number of properties) of NHS Forth Valley's properties are less than 500m². This includes medium-sized and small health centres, hospital-based buildings, stores, offices and residential accommodation.

Forth Valley Royal Hospital (FVRH) is the key facility in NHS Forth Valley's drive to deliver high quality, sustainable, cost-effective healthcare for residents in the Forth Valley area. FVRH is a PPP/PFI site located in Larbert, the hospital opened in 2010 and is one of the most modern and well-equipped hospitals in Europe. At present, the hospital has 25 wards, 16 operating theatres and 4000 rooms with 860 beds/day care spaces.

3. Leadership and governance

An NHS Forth Valley Climate Emergency and Sustainability Board has been established to oversee the Board's response to the climate emergency. The Climate Emergency & Sustainability Board is chaired by the Chief Executive. Membership includes, but is not limited to:

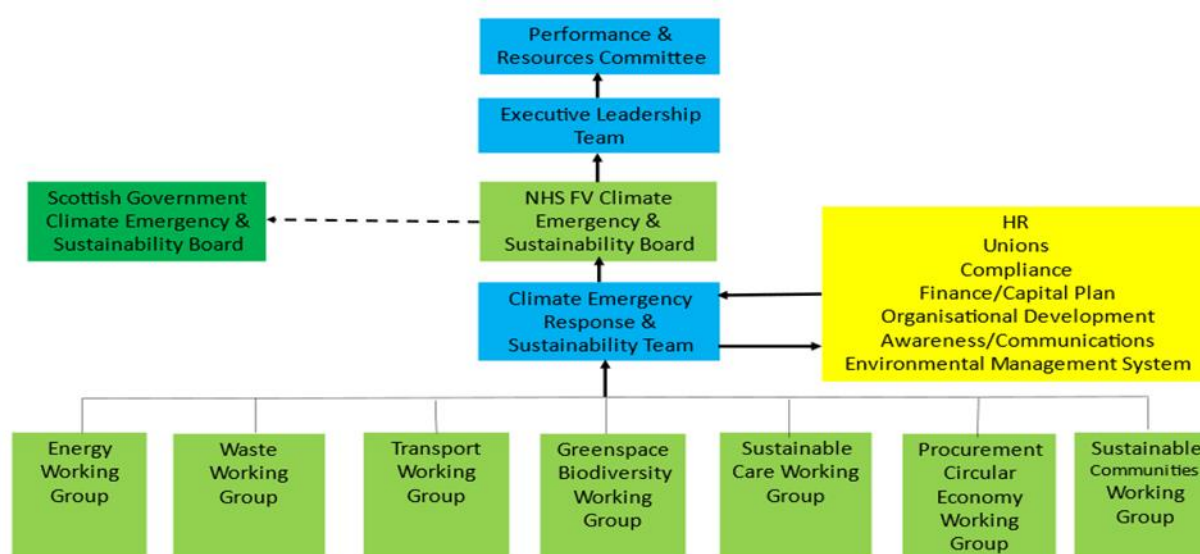
- Chief Executive
- Director of Facilities & Infrastructure (Executive Lead for Sustainability)
- Director of Finance
- Director of Pharmacy
- Director of Public Health & Strategic Planning (Board-level Sustainability Champion)
- Medical Director
- Employee Director
- Representatives from Health & Social Care Partnerships
- Associate Director of Facilities & Infrastructure
- Director of Acute Services
- Director of Corporate Portfolio Management Office, Women & Children's Directorate, Chief Midwife
- Representatives from the Health & Social Care Partnerships have subsequently been invited to join the Board.

The NHS FV Climate Emergency & Sustainability Board has both a governance and a strategic role and, in line with requirements within DL (2021) 38, is responsible for reporting progress to the Scottish Government's Climate Emergency & Sustainability Board. Further, the NHS FV Executive Lead for Sustainability is the Director of Facilities. Additional members may be invited to join the group and contribute as appropriate (e.g. The newly appointed Board-level Sustainability Champion and Co-Chair of the NHS FV Climate Emergency & Sustainability Board is Councillor Hamilton from Clackmannanshire Council).

A Climate Emergency Response & Sustainability Team has been established to oversee delivery of outcomes within the Board’s Climate Emergency & Sustainability Action Plan. The Response Team has both a strategic and an operational role in NHS FV’s response to the climate emergency. It is responsible for reporting progress to the NHS Forth Valley Climate Emergency & Sustainability Board and coordinates output of the strategic Working Groups that have been established to address the requirements within DL38.

Figure 1 below summarises the internal governance and operational structure that has been established to respond to the climate emergency.

Figure 1: NHS Forth Valley climate emergency response governance and operational structure



In addition, outwith the reporting period, representatives from IT, Medical Devices and Facilities Management Partners have been invited to join the working group arrangements.

As summarised above, leadership, governance and operational structures are robust, and NHS FV is well placed to build on these arrangements to respond effectively to the climate emergency: in 2024/25, the NHS Board also strengthened its commitment to tackling the climate emergency in the Corporate Objectives (<https://nhsforthvalley.com/wp-content/uploads/2024/07/NHS-Forth-Valley-Board-Meeting-Papers-30-July-2024.pdf>). A Sustainability Section/Declaration has also been added to the Board/Committee papers and the local business case templates.

The information presented in this report is a summary of the extensive work carried out by the Working Groups shown above in Figure 1.

4. Summary of impacts

NHS Forth Valley aims to become a net-zero organisation by 2040 for the sources of greenhouse gas emissions in the table below. Table 1 below sets out the carbon emissions produced annually by NHS Forth Valley.

Table 1: NHS Forth Valley Greenhouse gas emissions 2022-2023 & 2023-2024 (tonnes CO2 equivalent - tCO2e)

Greenhouse gas emissions 2022-2023 & 2023-2024, tonnes CO2 equivalent (tCO2e)						
Source	2022/23 emissions (tCO2e)	2023/24 emissions (tCO2e)	Percentage change – 2022/23 to 2023/24	2023/24 – target emissions	Percentage difference between actual and target emissions – 2023/24	NHS FV commentary

Building energy	14,104.2	13,775.9	-2.3%	NHS FV target is associated with consumption not emissions		<p>Note - Electricity used in buildings now includes EV charging.</p> <p>Note - Electricity consumption reduced by 589,017 kWh in the reporting period, but this is not reflected in carbon savings due to an increase in the conversion factor (the first increase since PBCCD came into force). This reduction in kWh's used is despite electricity to charge electric vehicles now also being included in the overall consumption figure.</p> <p>Note - Gas consumed by the Board reduced by 3,028,670 kWh's in the reporting period.</p>
Non-medical F-gas	-	-	-	-	-	Note - It is not currently possible to report fugitive F-Gas emissions. At present, the F-Gas registers for affected sites only include data for the total gas charge (capacity) of the unit.
Medical gases	1,380	746.8	-45.8%		Target exceeded	Note – emissions associated with nitrous, Entonox and sevoflurane
Metered dose inhaler propellant	4,057.5	5,273	29.9%		Increased	Note – NHS FV has a plan in place to tackle emissions associated with inhalers.
NHS fleet travel	401.1	272.5	-32%	NHS FV targets are associated with number of EVs added to fleet and reduction in diesel		Note – Diesel and petrol fleet vehicles, including hired and leased– EV fleet emissions accounted for in buildings electricity consumption

				and petrol usage, not emissions		
Waste	208	189.9	-4.37%	NHS FV target is associated with tonnage not emissions		
Water	54.3	50.5	-6.99%	NHS FV target is associated with consumption not emissions		
Business travel	484	512	5.7%		Increased	Emissions associated with business travel (by car) have increased (1,790,405 business miles claimed in 2022/23 increased to 1,974,173 in 2023/24). This suggests that business travel by car is returning to pre-covid levels.
Total emissions	20,689.1	20,820.6	0.6%	As noted above, NHS FV targets are not currently associated with emissions reductions.		Note – most emissions have reduced. Emissions associated with inhalers and business travel have increased.
Carbon sequestration	n/a	n/a	n/a			
Greenhouse gas emissions minus carbon sequestration	n/a	n/a	n/a			

Table 2 below summarises the key resources used by NHS FV over the last two years (resources associated with carbon management).

Table 2: NHS FV Consumption of key resources

Source	2022/23 Use	2023/24 Use	Percentage change – 2022/23 to 2023/24	NHS FV Commentary
Building energy (kWh)	75,844,078	72,226,391	-4.7%	Note - Electricity consumption reduced by 589,017 kWh's in the reporting period Note - Gas consumed by the Board reduced by 3,028,670 kWh's in the reporting period.
NHS fleet travel (km travelled)	2,038,345	1,387,265	-31.9%	Note – Diesel and petrol fleet vehicles, including hired and leased– EV fleet emissions are accounted for in buildings electricity consumption
Waste (tonnes)	1,933	1,970	1.91%	Note – whilst tonnage of waste has increased, the associated emissions have reduced as more waste is being disposed of sustainably i.e. more recycling
Water (cubic metres)	193,624	180,127	-6.9%	
Business travel (km travelled)	2,881,377	3,177,049	10%	Note – business travel vehicle claims (car). Business travel by car is returning to pre-pandemic levels

5. Performance against targets

NHS Forth Valley currently has two baselines for its carbon footprint: the original baseline that was set when the PBCCD's came into force and a revised baseline that was established to include additional emissions sources that NHS Scotland Boards are required to

monitor, manage and report following the introduction of DL (2021) 38. The PBCCD baseline was set in 2014/15 and the DL38 baseline was set in 2022/23.

For context, the Board will continue to report progress against both baselines, as this provides a clearer representation of the progress that is being made.

Table 3 below provides a summary of the progress that is being made against the Board’s original baseline (PBCCD baseline set in 2014/15).

Table3: NHS FV performance against the original PBCCD baseline

PBCCD	Baseline 2014/15	2021/22	2022/23	2023/24	Percentage change 2014/15 to 2023/24	NHS FV Commentary
tCO ₂ e	25,192	16,103	15,169	14,722	-41%	This is a comparison of the emissions sources that were include in the original PBCCD 2014/15 baseline, which shows that the downward trajectory has continued.

The PBCCD baseline does not include emissions sources that were introduced when DL (2021) 38 came into force. The Board’s carbon emissions baseline was reset in 2022/23 due to the addition of other emissions sources e.g. medical gases, respiratory medicines (inhalers) etc. Tables 4 and 5 below set out progress against the Board’s revised baseline (DL38 baseline set in 2022/23).

Table4: NHS FV performance against the revised DL38 baseline

DL38	Baseline 2022/23	2023/24	Percentage change 2014/15 to 2023/24	NHS FV Commentary
tCO ₂ e	21,714	21,639	-0.345%	2022/23 was effectively a re-baselining of the Board's carbon footprint which introduced additional emissions sources mandated through DL38 (and not included in the original 2014/15 PBCCD baseline shown in Table 3 above).

With context in mind, Table 5 below sets out progress in terms of DL38 emissions but excluding Respiratory Medicine (Inhalers) emissions, given the significant rise in these emissions between 2022/23 and 2023/24.

Table5: NHS FV performance against the revised DL38 baseline – excluding emissions associated with inhalers

DL38 (excluding Inhalers)	Baseline 2022/23	2023/24	Percentage change 2014/15 to 2023/24	NHS FV Commentary
tCO ₂ e	17,657	16,238	-8%	By removing emissions associated with Inhalers from the DL38 baseline, it is clear that good progress is still being made. Inhaler emissions in 2022/23 were 4,057 tCO ₂ e and increased to 5,401 tCO ₂ e in 2023/24.

The Inhalers data is provided by the SG and it may be that data-collection has improved within the reporting period which explains this increase to some extent. Notwithstanding this, further details regarding the Board's plans to tackle carbon emissions associated with inhalers is included in section 7.3 below, and recent data suggests these emissions are reducing in 2024/25.

Excluding emissions associated with inhalers, it is clear that good progress is being made against the revised (DL38) baseline, and good progress continues to be made against the original (PBCCD) baseline.

6. Climate change adaptation

The requirement to respond effectively to the climate emergency is included in the Board's Corporate Risk Register: robust monitoring arrangements are in place to ensure this risk is managed and controlled.

In terms of developing an adaptation plan, due to resourcing issues, progress in the reporting period has been limited. However, the Board has taken steps to understand the impacts of climate change and the implications for healthcare delivery.

The NHS Scotland Climate Change Risk Assessment (CCRA) Toolkit has been used by the Board to assess risks. Colleagues from a range of departments and services attended an initial workshop to inform the NHS FV CCRA and identify the key risks. This was followed up by another workshop attended by representatives from the Board's Risk Management, Resilience and Contingency Teams – the risks initially identified were revisited and the scores etc reassessed/verified.

It was agreed following the second workshop that, whilst the NHS Scotland CCRA Tool had been useful in getting the board to this point, it was important to align this process with existing Corporate Risk Assessment and scoring arrangements. Next steps will include utilising the Board's scoring methodology and then interpreting percentage effectiveness when implementing controls to provide a more structured way of mitigating the risk in question.

Most risks identified sit within the Board's Estates/Procurement functions, but some may be jointly owned and/or could be linked with national resilience arrangements e.g. power supply. Roads and access issues would be a Local Resilience Partnership issue which would enact a multi-agency response as the NHS would not be the only service affected by this.

The Board's Business Impact Assessment has been amended to include extreme heat and extreme cold. This would then feed into the business continuity planning processes. Financial Implications have been removed from the Business Impact Assessments as it is not possible to quantify the loss of a building or service to a community.

A high-level/interim Infrastructure Failure Plan was approved, which focused on setting up a structure to manage loss of a service. Whilst this is not a site-specific plan at this stage, the aim is to develop building-specific plans for infrastructure failure.

NHS Scotland Standards for Organisational Resilience specifies minimum standards and related performance criteria for resilience within Health Boards across Scotland. Section 9 sets out a standard to enable Health Boards to begin to address the effects of climate change. This standard requires Health Boards to develop and implement a framework of actions to assure the continuity of quality healthcare services before, during and after extreme weather events, and includes six key measures (indicators) of the standard. Assurance of compliance with the standards is sought from Health Board Chief Executives by Scottish Government Health Resilience Unit on a six-monthly basis, nominally end September and end March.

To summarise, the Board has:

- Worked with suppliers to improve organisational resilience by developing emergency plans e.g. Utility suppliers in the event of business disruption / major incidents.
- Aligned climate change considerations with Business Continuity plans.
- A better understanding of how current severe weather and climate affects service delivery.
- Used impacts and risk assessments to identify and prioritise threats and opportunities.

7. Building energy

The following section provides more details around the Board's climate emergency response in terms of the key emissions sources.

To summarise regarding energy used in buildings

- In 2023/24, 8937.9 tonnes of CO2 equivalent were produced by NHS Forth Valley's use of energy within buildings. This was a decrease of 5.6% since the year before.
- In 2023/24, NHS Forth Valley used 48,860.4 MWh of energy. This was a decrease of 5.8% since the year before.
- In 2023/24, NHS Forth Valley generated 102 MWh of energy from renewable technologies.

Table 6: NHS FV Building energy emissions, 2015/16, 2022/23 and 2023/24 – tCO₂e

Building energy emissions, 2015/16, 2022/23 and 2023/24 – tCO ₂ e				
	2015/16 energy emissions	2022/23 energy emissions	2023/24 energy emissions	Percentage change 2015/16 to 2023/24
Building fossil fuel emissions (gas)	10575.4	9471.8	8937.9	-15.4%
District heat networks and biomass	n/a	n/a	n/a	n/a
Grid electricity (does not include transmission and distribution emissions)	11,562.4	4632.4	4838.4	-58%
Totals	22,137.8	14104.2	13,776.3	-37.7%

Table 7: NHS FV Building energy use, 2015/16, 2022/23 and 2023/24 – MWh

Building energy use, 2015/16, 2022/23 and 2023/24 – MWh				
	2015/16 energy use	2022/23 energy use	2023/24, energy use	Percentage change 2015/16 to 2023/24

Building fossil fuel use (gas)	57334.7	51889	48860.4	-14.7%
District heat networks and biomass	n/a	n/a	n/a	n/a
Grid electricity (does not include transmission and distribution emissions)	25016.5	23954.9	23365.9	-6.59%
Renewable electricity generated by NHS FV	0	83.6	102	NHS FV was not generating energy in 2015/16. This Board's baseline is 2021/22 = 69.3MWh
* Totals	82351.2	75843.9	72226.3	-12.2%

*** Totals exclude renewable energy generated**

Notable reductions in consumption of electricity and gas in 2023/24 compared with 2022/23 are shown in Table 8 below.

Table 8: NHS FV utility consumption reduction in 2023/24 at key (large) sites

Site	Reduction in electricity consumption in 2023/24 (kWh)	Reduction on gas consumption in 2023/24 (kWh)
Forth Valley Royal Hospital	-260,000	-2,179,075
Clackmannanshire Community Healthcare Centre	-9,000	-318,414
Falkirk Community Hospital	-108,104	-700,000
Stirling Health & Care Village	-156,434	-

In line with requirements within DL38, NHS Forth Valley aims to use renewable heat sources for all buildings owned by 2038.

Projects and initiatives delivered in the reporting period (2023/24) have included:

- Energy efficiency focus at Forth Valley Royal Hospital
- Lifecycle lighting upgrades to LED at Clackmannanshire Community Healthcare Centre
- Recruitment of an Energy & Sustainability Manager to provide a focus on reducing utility use
- Contractor procured to deliver £1.9M GPSEDS-funded energy efficiency project and Energy Performance Contract (which includes independently verified guaranteed savings) developed/agreed
- Developed hybrid heating options to understand the costs and implications of decarbonising heat
- A GPSEDS-funded feasibility study to inform decarbonisation of the Falkirk Community Hospital site was commissioned - recommendations presented include a heat pump based 'Campus Heat Network'

Projects and initiatives that will be delivered in 2024/25:

- Deliver £1.9M GPSEDS-funded energy conservation measures across 14 primary care sites: including PV arrays, glazing and door replacement, insulation, Building Management System upgrades and optimisation, LED lighting, Thermostatic Radiator Valves, electric boiler install (to replace gas)
- Deliver phase 2 of hybrid heating project to fully understand the implications of decarbonising heat (as required in DL38)
- Theatres ventilation – review set-points and run-times to deliver savings (where appropriate)
- PV install at Forth Valley Royal Hospital
- LED lighting upgrade at Forth Valley Royal Hospital
- Ongoing lifecycle lighting upgrades to LED at Clackmannanshire Community Healthcare Centre
- Review energy efficiency options as part of Joint Utility Management Group at Stirling Health & Care Village
- Develop and implement short-term energy efficiency action plan for targeted Primary Care sites

- Estate rationalisation – review options

7.1 Sustainable care

The way care is provided influences environmental impacts and greenhouse gas emissions. NHSScotland has three national priority areas for making care more sustainable – anaesthesia, surgery and respiratory medicine. NHS Forth Valley has participated for several years in delivery of initiatives that fall under the banner of the recently formed National Green Theatres Programme (NGTP). This Board has performed particularly well in several key areas which have been summarised below.

7.2 Anaesthesia and surgery

Gases used as anaesthetics and for pain relief have associated environmental impacts. These gases are nitrous oxide, entonox and the ‘volatile gases’ - desflurane, sevoflurane and isoflurane. Through improvements to anaesthetic technique and the management of medical gas delivery systems, NHS Forth Valley has reduced emissions from these sources.

NHS Forth Valley’s total emissions from these gases in 2023/24 were 703 tCO₂e, a decrease of 47% from the year before.

More detail on these emissions is set out in Tables 9 and 10 below:

Table 9: NHS FV Nitrous oxide and entonox emissions, 2018/19, 2022/23, 2023/24 – tCO₂e

Nitrous oxide and entonox emissions, 2018/19, 2022/23, 2023/24 – tCO ₂ e				
Source	2018/19 (baseline year)	2022/23	2023/24	Percentage change 2018/19 to 2023/24
Piped nitrous oxide	246	472	5	-97%

Portable nitrous oxide	39	30	46	17%
Piped entonox	855	781	605	-29%
Portable entonox	59	56	47	-20%
Total	1199	1339	703	-41%

Table 10: NHS FV Volatile medical gas emissions, 2018/19, 2022/23, 2023/24 – tCO₂e

Volatile medical gas emissions, 2018/19, 2022/23, 2023/24 – tCO ₂ e				
	2018/19 (baseline year)	2022/23	2023/24	Percentage change 2018/19 to 2023/24
Desflurane	365	0	0	-100%
Isoflurane	1	1	0	-100%
Sevoflurane	53	40	39	-26.4%
Total	419	41	39	-90%

In the reporting period, NHS Forth Valley has focused on delivery of NGTP projects and initiatives, including:

- Desflurane – this has been removed from all NHS FV stock lists and has not been used by the Board for more than two years.

- Oral Paracetamol vs intravenous – NHS FV is looking to identify opportunities to reduce associated emissions.
- Anaesthetic Gas Scavenging System (AGSS) – reviewing options to switch the system off out of hours.
- Theatres ventilation system – reviewing options to adjust settings, run-times and set-points to deliver energy savings.
- Nitrous oxide – The manifold for piped nitrous has been decommissioned.
- Surgical fluid system – further consideration required regarding options to roll-out following pilot project.
- Waste segregation/minimisation – initiatives are underway and ongoing. The next area of focus will include non-infectious healthcare plastics and reducing the number of single-use items currently used
- Seeking opportunities to collaborate with NHS FV Pharmacy – the carbon footprint of medicines is significant, and work is underway at national level to understand more fully the environmental impacts associated with medicines by 2028
- The ‘Be Glove Aware’ campaign has been promoted with a view to reducing unnecessary glove use

Work will continue in 2024/25 to support delivery of NGTP projects and, in parallel, the NHS FV Sustainable Care Working Group will identify additional opportunities.

7.3. Respiratory medicine

Greenhouse gases are used as a propellant in metered dose inhalers 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, it is possible (where appropriate) to improve patient care and reduce emissions e.g. dry powder inhalers can be used where clinically appropriate to reduce environmental impacts.

The SG provides data that suggests NHS Forth Valley’s emissions associated with inhalers were 5,401 tonnes of CO₂ equivalent in 2023/24 which is a significant increase on 2022/23 totals. It is worth noting however that NHS FV showed a reduction in CO₂e from inhalers of 13.2% between Jan-Mar 2024 and April to June 2024. The same period in 2023 showed a 12.4% increase. The change is likely due to prescribing behaviour.

Table 11: NHS FV Inhaler propellant emissions, 2018/19, 2022/23, 2023/24 – tCO₂e

Inhaler propellant emissions, 2018/19, 2022/23, 2023/24 – tCO ₂ e				
Source	2018/19 (baseline year)	2022/23	2023/24	Percentage change 2018/19 to 2022/23
Primary care	3420.6	3963.9	5301	54%
Secondary care	91.05	93.63	100	9.8%
Total	3511.65	4057.56	5401	53.8%

NHS Forth Valley is acutely aware of the need to address the increase in emissions associated with respiratory medicine. In the reporting period, the Board:

- Held an education meeting with GPs to discuss CO₂ impact of inhalers, and
- Representatives from pharmacy team and GP met and developed a plan to reach SG climate targets related to inhalers over the next 5 years.
- Sent information leaflets and SABA use slide calculators to all GP practices in Forth Valley.

In 24/25, to improve patient care and reduce emissions from inhalers, the Board has made changes including:

- An alert has been added by pharmacy team to EMIS to remind GPs to consider switching generic salbutamol and/or ventolin to Salamol.
- Practices are being encouraged to reduce SABA overuse by focusing on the percentage of patients being prescribed more than 6 salbutamol inhalers in 1 year.

- The above two actions could see a reduction in inhaler related CO₂e of 43% if SABA overuse reduces by 50%. (Felt to be realistic given SABA use more than 6 inhalers has Scottish average of 30% of patients, FV average of 28% but Ochilview practice down to 14% (from 25% one year previous)).

To raise awareness with staff and patients, including primary care, NHS FV has ensured:

- A Switchscript reminder in EMIS prompts prescribers to change inhaler when safe to do so.
- Nursing teams have had educational sessions and been encouraged to discuss appropriate use of inhalers and the risks of SABA overuse with patients

7.5. Travel and transport

Active travel and public transport

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

In 2023/24, NHS FV carried out the following to reduce the need to travel, improve active travel and improve community transport links:

- Encouraged the use of virtual meetings instead of arranging face to face meetings that would involve travelling.
- Where appropriate, facilitated working from home to reduce the impact of commuting on the transport networks.
- Supported the provision of an e-bike loan scheme for staff.
- Offered the Cycle to Work (salary sacrifice) scheme for staff.
- Maintained and refurbished bus stances at the FVRH site.
- Maintained the bus stances at SHCV and CCHC.

- Provided bus timetable information for travel to and from FVRH.
- Maintained funding of the H1/H2 bus service between Clackmannanshire and FVRH.

The Board has worked in partnership with Recyke-a-bike (RaB) and Forth Environment Link (FEL) to deliver the following:

- Number of staff that have 'borrowed' an e-bike: 21
- The number of miles cycled by staff on a 'borrowed' e-bike = 850. This equates to an estimated reduction in emissions (e-bike instead of car) = 351kg CO2
- Number of staff accessing the 'Dr Bike' sessions provided at FVRH and SHCV = 110

In 2024/25, the Board will:

- Continue all activities listed above, and
- Seek to increase the current certificate level of the Cycle 2 Work scheme from £2,500 to £4,000
- Consider options regarding the parking permit allocation process for FVRH.
- Engage closely with Regional Transport Partnerships – Sustranran and Tactran.
- Explore the use of 3rd Sector transport providers for defined patient groups such as Renal Dialysis Patients.

Fleet operations

NHS Forth Valley is in the process of implementing its Electric Vehicle strategy that will see all petrol and diesel fuelled cars removed from the fleet by 2025. Table 12 sets out how many renewable powered and fossil fuel vehicles were in the fleet at the end of March 2023 and to date:

Table 12: Electric Vehicles in the NHS FV fleet

	March 2023		March 2024		
	Total vehicles	Fossil Fuel/Hybrid vehicles	Total vehicles	Fossil Fuel/Hybrid vehicles	Difference in % zero tailpipe emissions vehicles
Cars	59	39	58	6	89.65% of the Board's car fleet are now EV's
Light commercial vehicles	63	55	62	3	95.3% of the Board's light commercial fleet are now EV's

Table 13 below shows the distance travelled by NHS FV fleet vehicles (cars and vans) in 2023/24 compared with previous years. The significant increase in km's/miles covered by EVs reflects the increased numbers of EVs in the fleet. Miles covered by non-electric vehicles is reducing as would be expected.

Table 13: Distance travelled by NHS FV fleet – the SG template requires this data in kilometres, miles covered have been included for context.

Distance travelled	2020/21	2022/23	2023/24	%age change 2020/21 to 2023/24

	Miles	km	Miles	km	Miles	km	
Electric	19,549	31,461	226,062	363,811	491,139	790,411	+2412% (increase in EV mileage)
Petrol	194,964	313,764	173,889	279,847	156,991	252,652	-19.4%
Diesel	1,096,446	1,764,558	459,615	739,678	315,203	507,270	-71%
Hired	215,012	346,028	375,895	604,944	163,260	262,741	-24%
Total	1,525,971	2,455,811	1,235,461	1,988,280	1,126,593	1,813,074	-26%

Business travel (Grey Fleet)

Business travel is staff travelling as part of their work in their own vehicles (grey fleet). It covers travel costs which are reimbursable and doesn't cover commuting to and from work. Table 14 below shows NHS FV business travel mileage and emissions from claims submitted in the reporting period (this data was provided by NHS Assure).

Table 14: NHS FV business travel – grey fleet

* Business travel Grey Fleet	Cars mileage	Cars tCO2e
2022/23	1,790,405	484.8
2023/24	1,974,173	512.4

* Public transport emissions have been excluded from the data collection exercise for 2023/24 by NHS Assure. Origin/destination information is not a field within eExpenses and we rely on users to include this information. Without it, there are too many assumptions for an accurate carbon figure to be calculated. This is an area of focus for us in the future.

Business travel (Leased Fleet)

Table 15 shows mileage and emissions associated with business travel carried out in leased vehicles.

Table 15: NHS FV business travel leased vehicles

Business travel leased vehicles	Cars mileage	Cars tCO2e
2022/23	257,170	68.26
2023/24	226,553	60.75

8. Greenspace and biodiversity

A significant sum of SG funding was invested at the Stirling Health & Care Village (SHCV) site to improve the greenspaces to make them more user-friendly and to encourage biodiversity. Over 40 organisations were involved in the consultation process that saw wildflowers planted to create wildlife corridors forming connected areas of green space. Wildlife habitats have been created and protected and plants that support pollinators have been utilised in growing spaces. Nature-based accessible educational installations

(shelters and seating) have been placed around the site. This was a collaborative project with the third sector and the community that delivered on both therapeutic and land management aspects of greenspace and biodiversity. Staff wellbeing facilities were prioritised within the project along with a strong focus on incorporating the vision of partners for use of therapeutic spaces and sustainable community involvement. There has been a marked difference in the numbers of staff, visitors and patients using the outdoor space for personal use. Services including Adult Mental Health, CAMHS, Keep Well, Bellfield and adult psychology within the SHCV site have engaged in various green health activities. Regular green health workshops are offered on site through 3rd sector partnerships. The enhanced outdoor environment has been utilised as a health improvement enabler through various green social prescribing opportunities.

A comprehensive greenspace mapping exercise (commissioned by NHS Assure) is in progress to identify opportunities to improve use of NHS Scotland green spaces, and identify options for collaborative working e.g. wildlife corridor development in partnership with other public sector bodies

A small gardening space is being created at Stenhousemuir Health Centre – this is the Community Benefits aspect of the GPSEDS-funded energy efficiency project referred to in the Energy section above. In addition to the works being delivered by the energy contractor, a small sum of additional funding was secured to contribute towards this project (to purchase equipment).

Wilding areas have been identified within the grounds of FVRH where existing grass and hedge cutting arrangements could be adapted to protect and encourage biodiversity. There are currently three types of ‘cuts’ being carried out at FVRH – first cut, second cut and wild cut. Serco are in the process of mapping where these types of cuts are being carried out, and what could be done differently to develop wildflower meadows.

A ‘No Mow May’ pilot was successfully carried out at SHCV, this is now being extended to other sites. The Estates Grounds Team have also reduced the frequency of grass cutting at certain sites (where appropriate) and looking to create new wildflower areas at FCH Admin Building and the CADS areas, as well as at Bonnybridge HC.

Following the learning achieved through the partnership working across the SHCV project, a wider multi-disciplinary working group is to be established to formally plan and/or co-ordinate greenspace and biodiversity action across NHS FV.

Areas of action to be considered:

- Staff support and wellbeing
- Increasing and enhancing population health improvement opportunities
- Sustainable Therapeutic Interventions
- Asset Management
- Climate Change Adaptation opportunities
- Supporting Biodiversity

Potential Outcomes include:

- Systems and structures are in place to support effective collaborative working and monitoring of NHS FV greenspace and biodiversity activity.
- NHS FV natural capital assets are being managed through an integrated approach.
- NHS FV Greenspace health improvement activity and therapeutic interventions are mapped, aligned to strategic direction and co-ordinated across acute and community sites.
- NHS FV and HSCP staff have greater awareness of the contribution of nature-based health promotion and interventions to physical and mental health and well-being.
- More people are in contact with nature through NHS FV greenspace.
- Greater public awareness of the benefits & opportunities for contact with nature as part of everyday life.
- More nature-based health promotion and interventions for prevention of ill health, therapeutic treatment and pre/post op care are offered by NHS and HSCPs.
- Nature-based contributions to health are being mainstreamed and funded sustainably.

- Increase in quality NHS FV Greenspace is a valued part of NHS FV, Clackmannanshire and Stirling HSCP and Falkirk HSCP's approach to improving wellbeing.
- Species populations or a particular habitat have been conserved, restored or enhanced.
- The condition of protected areas and sites has been improved.
- Causes of biodiversity loss across Forth Valley have been addressed.

9. Sustainable procurement, circular economy and waste

NHS Forth Valley aims 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.

Much of what needs to be achieved sits at the National Procurement level and there is a significant amount of work ongoing. Areas of focus include:

- Addressing the significant carbon footprint associated with the manufacture and supply of medicines, chemicals, equipment and other materials used by the NHS
- Engaging NHS Scotland's extensive supply chain in the drive for net-zero (NHS Scotland has around 8,000 suppliers)
- Reviewing the forthcoming single use plastics regulations by reviewing the 8,000 items in NDC (National Distribution Centre) to understand what products can be removed and swapped to reusable or more sustainable products
- Developing and piloting a revised national procurement system that incorporates the NHS Scotland net-zero ambitions. The system includes information for each supplier, where the annual spend is greater than £1M, which can be filtered down to individual board level, demonstrating how these suppliers aim to deliver their own net-zero plans between 2025 to 2035.

At the local NHS FV procurement level (NHS FV has 184 local suppliers), the following initiatives are underway:

- Warpit Project Team formed to re-introduce the system within NHS Forth Valley to facilitate reuse of furniture and equipment.
- Community Benefits built into local Tenders. Also reporting any delivered Benefits on local and national contracts.
- CSD Transport/Logistics review underway – this will reduce miles travelled/fuel used and CO₂ emissions.
- Progress the National Telematics system for fleet logistics to understand supplier options and costings. A Business case will be submitted when all the information is available.
- Review and understand local options associated with the new national HPA/PPA Category for Energy (heat and power purchase agreements) – this provides Boards with the option to purchase renewable energy from local wind and solar etc arrays/farms.

Waste management

Whilst the focus in the reporting period has been on ensuring compliance with waste management legislation and regulation, the Board is committed to reducing the amount of waste produced and increasing how much is recycled.

This Board is working towards delivering the waste targets set out in DL38:

- Reduce domestic waste arising by a minimum of 15%, and greater where possible, compared to a financial year 2012/13 baseline.
- Ensure that no more than 5%, and less where possible, of all its domestic waste goes to landfill.
- Reduce the food waste it produces by 33% against a financial year 2015/16 baseline.
- Ensure that 70% of all domestic waste is recycled or composted.
- Reduce the volume of healthcare waste produced through measures including greater use of reusable items, improvements to waste segregation and increased recycling of recyclable materials (directly linked to the circular economy).

Table 16 below sets out information on the waste produced by NHS Forth Valley over the last three years:

Table 16: NHS FV waste management performance

Type	2021/22 (tonnes)	2022/23 (tonnes)	2023/24 (tonnes)	Percentage change – 2021/22 to 2023/24	NHS FV commentary
Waste to incineration	575	444	353	-38%	
Recycled waste (mixed, WEEE, paper & board, cans and metal)	588	687	865	47%	Recycling rates are increasing
Food waste	73	137	158	116%	Reflects better data collection and increased patient numbers
Clinical waste (orange, yellow and red)	1366	665	594	-56%	

Progress towards achieving the DL38 targets is shown in Table 16 above, the activities that have contributed towards the progress that has been made is summarised below:

- Ongoing dialogue with Serco (FM provider) regarding source segregation at FVRH to improve recycling.
- A review of chemical waste disposal processes and procedures across the non-clinical/medical 'Estate' including Hard FM services, Soft FM services is ongoing.

- Discussions are ongoing with Cireco (a company that handles difficult to recycle materials) regarding options to recycle materials from theatres at FVRH. NHS Assure is providing support and advice as there is an opportunity to roll this approach out across NHS Scotland (if appropriate).

10. 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 environmental goals through consistent review, evaluation, and improvement of environmental performance.

Implementation of an EMS is a key component that will underpin the Board's climate emergency response. It will, however, be challenging to implement across all areas of healthcare delivery and will have staff and financial resource implications.

It was hoped that the Board's core sustainability team would increase from 3 to 5 FTE's in the reporting period, however, this was not possible in the current financial climate. Consequently, it has not been possible to progress implementation of an EMS due to limited staff resources. However, implementation will commence in 2024/25.

11. Sustainable construction

No large construction projects were commissioned by the Board in the reporting period.

12. Sustainable communities

The NHS touches every community in Scotland and has a responsibility to use its 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 communities’ health in every way possible.

In response to the climate emergency NHS FV has aligned its role as an anchor institution with the drive for net-zero. A wide range of actions are being driven forward by the NHS FV Anchor Springboard.

The Sustainable Communities Working Group feeds into the Anchor Springboard and has the following ongoing:

- A framework has been developed using a logic model to fully understand the requirements around establishing a collaborative approach to delivery of this area of work (with a particular focus on linking the Sustainable Communities activity with development of greenspace and Public Health).
- An excellent example of the collaborative approach required to successfully deliver shared outcomes is the Greenspace development project at SHCV. Standout learning points include - the challenges and opportunities for inclusion of anchor organisation and community development approaches and aligning NHS FV finance and procurement processes to support community and third sector inclusion.
- The Local Policy innovation partnership (LPip) - rebranded as ForthH2O - secured £5 million funding for research into water-related opportunities in the Forth river basin area, with NHS FV being one of the key partners. The programme of work is being delivered over the next three years. NHS FVB will maximise opportunities to bid for funding/research opportunities for local projects.
- A Public Health Action Team, with a focus on sustainability, has been set up to develop a framework for climate emergency adaptation. The Public Health Directorate priorities/workplan will be communicated across NHS FV

Update on actions for Sustainable Communities:

- Ensure that there are good connections with structures and processes already in place, i.e. the Anchor Springboard and Greenspace/Biodiversity Working Group
- Begin a process of engagement with all 3 Community Planning Partnerships and Sustainability leads for the 3 Councils e.g. Falkirk Council have recently created and appointed to a Lead Climate Change Officer post and the Falkirk Locality and Place Group have had a presentation on climate adaptation
- Develop the partnership approach to sustainable communities e.g. ongoing work with Forth Environment Link Climate Hub
- Review the National Planning Framework - considering metrics, system dynamic modelling e.g. through ongoing engagement with Public Health Scotland to provide an opportunity to include a systems approach to climate adaptation, incorporating emergency planning and embedding learning from the recent GALLANT (Glasgow as a Living Lab Accelerating Novel Transformation) workshop on applied systems thinking.
- Develop a Sustainable Communities communications plan (inc. engagement and involvement)
- Implement NICE guidelines on energy advice etc. in the NHS
- Undertake an attitudes survey - consideration of a literature review as a preparatory phase – potentially in conjunction with Public Health Scotland

13. Conclusion

The Board's drive to reduce carbon emissions started in earnest in 2014/15, when the PBCCD's became a statutory requirement, and good progress has been made. A comparison between emissions included in the original baseline set in 2014/15 compared with 2023/24 shows a 41% reduction.

A revised suite of emissions sources, with a focus on NHS activities and environmental impacts associated with healthcare, was introduced in 2021 when DL (2021) 38 came into force; this resulted in a revised baseline. NHS Forth Valley is still making progress

against the revised DL38 baseline and, by excluding inhaler emissions, it is possible to show that an 8% reduction in emissions has been achieved between 2022/23 and 2023/24. However, the increase in emissions associated with Respiratory Medicine (inhalers) cannot be ignored, and the Board has a plan in place to tackle these,

DL38 also introduced a target for the NHS in Scotland to be a net-zero organisation by 2040. The process to shift onto a net-zero trajectory is underway at NHS Forth Valley and the DL38 targets have been adopted at Board level. Nevertheless, the current financial constraints will affect the Board's ability to respond to the climate emergency. Installation of renewable and decarbonisation technologies has been challenging as NHS Forth Valley's capital budget is fully utilised every year and prioritisation is given to essential maintenance, refurbishments and upgrades required to support safe service delivery.

The Green Public Sector Estate Decarbonisation Scheme (GPSEDS) fund is fundamental to NHS Forth Valley's future proactive decarbonisation investment in order to support implementation of the Climate Change Emergency & Sustainability Strategy and Action Plan, and whilst the Board secured significant funding in the reporting period, this funding source is now significantly over-subscribed and opportunities to secure ongoing funding will be limited.

The existing Sustainability Team will continue to support decarbonisation activities as far as can be managed within revenue and capital budget constraints, mostly focusing on opportunities to increase the efficiency of assets on lifecycle replacement at the end of their useful economic life.

The NHS Forth Valley Climate Emergency & Sustainability Report for 2023/24 has set out the good progress that is being made. The efforts of the key people who form the Board's Climate Emergency Response & Sustainability Team (the Working Group Leads) must be acknowledged in this regard; many of these people are delivering sustainability outcomes that do not form part of their core remit, and the results reported in this update would not have been possible without their dedication and drive.

This report has been compiled based on information provided by the NHS Forth Valley Climate Emergency Response & Sustainability Team. Final approval for the report was provided by the NHS Forth Valley Climate Emergency & Sustainability Board.