

**UHI Shetland  
GHG Emissions Reduction Plan  
Annual Report 2022-2023**

30 January 2024

**1. Introduction**

This is the first annual report of the UHI Shetland Greenhouse Gas (GHG) Emissions Reduction Plan. Its purpose is to assess the GHG emissions of UHI Shetland over the 2022-23 academic year and the progress made toward achieving net zero. It also examines the challenges and opportunities of reducing emissions and sets out priority actions for the year ahead.

The findings of this report, alongside the GHG Emissions Reduction Plan, can be used to inform annual operational plans and budgets of UHI Shetland, and more generally to support climate literacy and climate action throughout UHI Shetland operations and education delivery.

UHI Shetland GHG Emissions Reduction Plan

The UHI Shetland GHG Emission Reduction Plan, approved in June 2023 by the UHI Shetland Board of Management, sets out an ambitious pathway for reducing the direct and indirect GHG emissions that result from the activities and operations of the Lerwick and Scalloway campuses. It describes how UHI Shetland can achieve its commitment to net zero direct emissions by 2040 and establishes interim targets for heat, waste and transportation emissions.<sup>1</sup>

Annual monitoring and reporting of GHG emissions and of the actions taken to implement the plan's recommendations are key to ensuring a successful, whole organisation approach to reducing emissions.

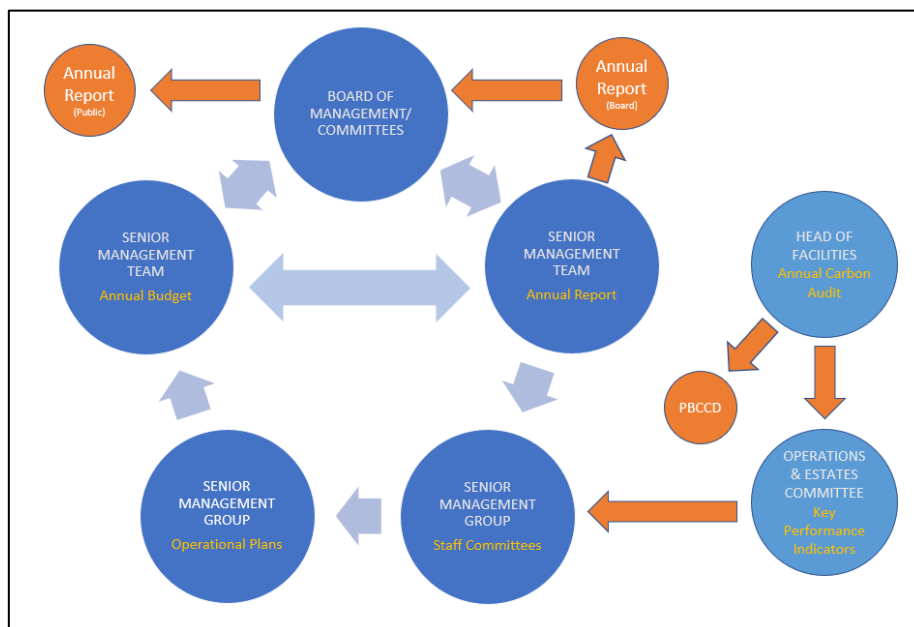


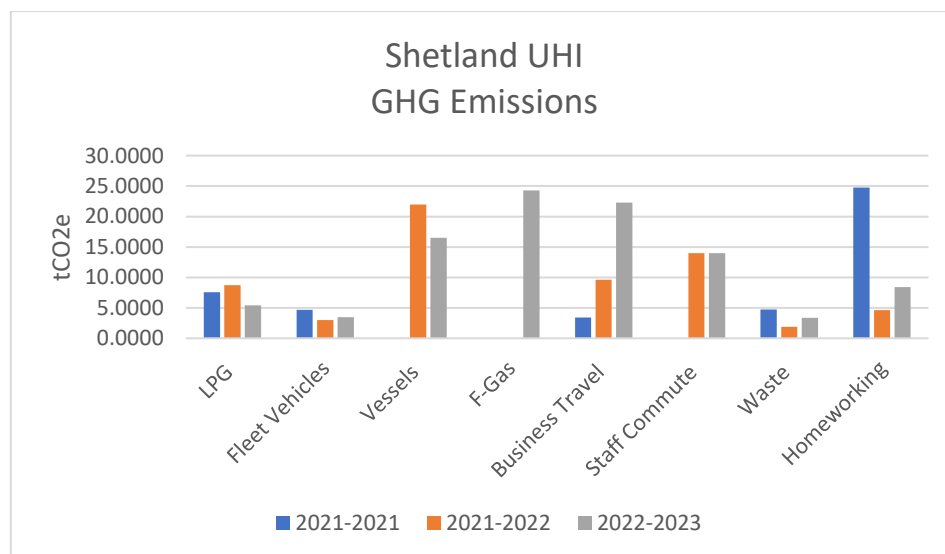
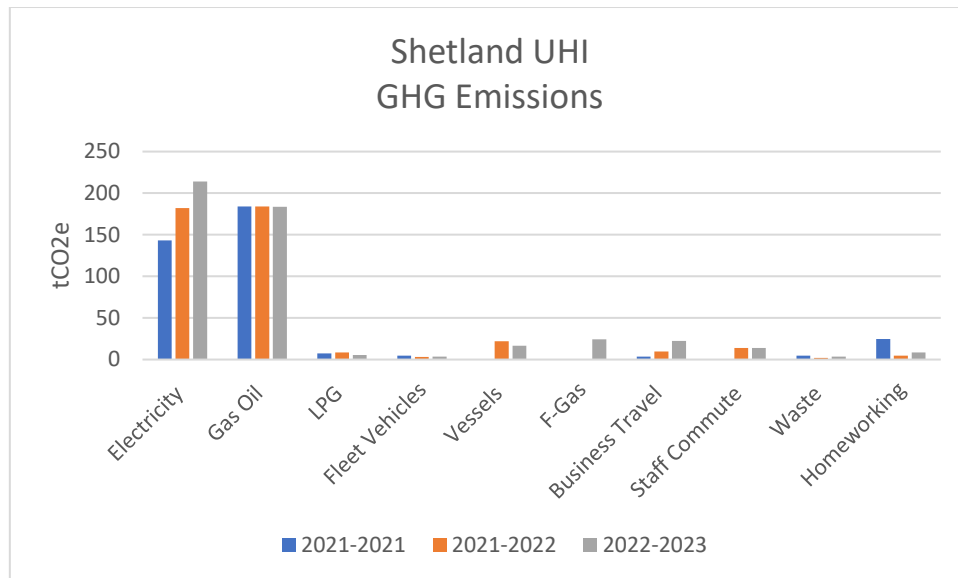
Figure 1: Annual GHG emissions reporting is embedded in governance structures and processes at UHI Shetland

<sup>1</sup> In pledging to achieve net zero by 2045, the Scottish Government set an ambitious agenda for climate action and agreed to legally binding legislation to reduce emissions. A directive issued to University and College Chairs and Principals in 2022 obliges sector leadership on the climate emergency and requires educational institutions to develop carbon reduction targets and plans for which spending and resources are aligned.

## 2. Understanding our emissions and tracking our progress

### Greenhouse Gas Emissions Profile

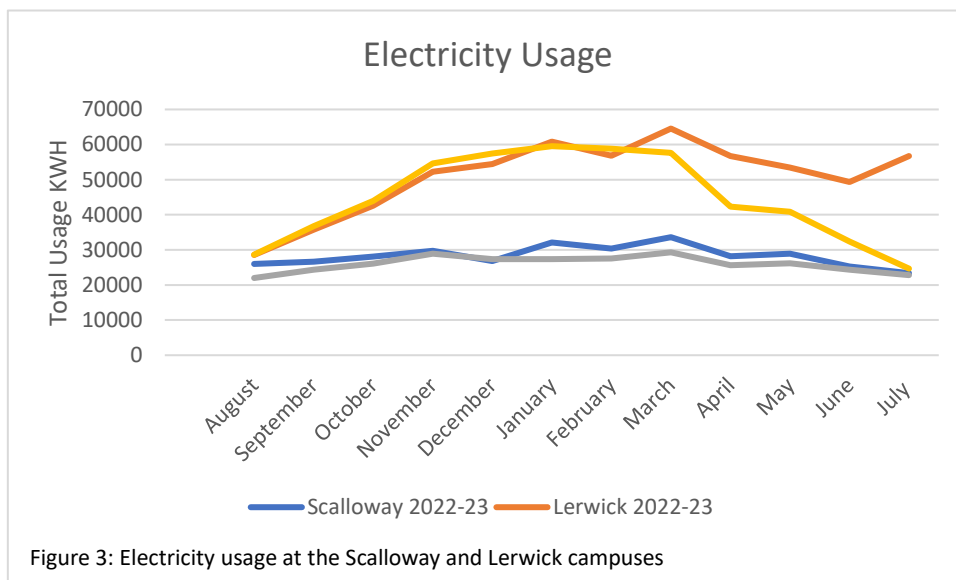
Greenhouse gasses emitted from the activities and operations of the Lerwick and Scalloway campuses are calculated annually by UHI Shetland as a statutory requirement of all public bodies in Scotland.<sup>2</sup> Three years of emissions data have been compiled and published, following the emissions factors set out in the annual Public Body Climate Change Duties (PBCCD) reporting templates,<sup>3</sup> since UHI Shetland was founded in 2021.



<sup>2</sup> All public bodies listed in Schedule 1 of the 'Climate Change (Duties of Public Bodies; Reporting Requirements) (Scotland) Order 2015' as amended by the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020, are required to report annually on compliance with climate change duties established under S44 of the Climate Change (Scotland) Act 2009 and in accordance with Schedule 2 of the 2015 Order.

<sup>3</sup> <https://sustainableScotlandNetwork.org/reports>

- Total emissions are relatively unchanged over 3 years, reflecting business as usual with no projects to reduce emissions implemented over this reporting period.
- The single largest source of GHG emissions is the heating system at the Scalloway campus, which burns more than 66,000 litres of gas oil/year and represents over 80% of UHI Shetland’s Scope 1 emissions.
- F-gas (fugitive refrigerant gas) emissions in 2022-23 are attributable to repairs to the Lerwick heating system and the required input of gasses to recharge the system. These gases will be measured annually and are expected to show very little leakage in future years.
- The increase in electricity usage over 3 years may reflect the return to campus following COVID shutdowns. The growth in 2022-23 is partially attributable to an increase in demand at the Lerwick campus, 13.8%, over the latter part of the academic year, compared to an increase of only 8.6% at the Scalloway campus (which includes the additional load created when Port Arthur House reopened). Without localised monitoring of power usage, it is challenging to understand why the electrical load at the Lerwick campus did not follow the heating season curve as in the year previous. Increased use of air conditioning could account for the rise during hot weather, exacerbated by the outbreak of flies at Gremista that made natural ventilation difficult.



- Staff commuting and homeworking emissions are extrapolated from a voluntary travel survey undertaken in 2022. The change in homeworking emissions is due to different calculation methodologies rather than a change in the number of people working from home.<sup>4</sup>
- The 2022-23 academic year shows a sharp increase in business travel over the two previous years. This is likely indicative of a return to pre-pandemic travel emissions.

## Key Performance Indicators

	2020 2021	2021 2022	2022 2023
Total GHG Emissions (tCO <sub>2</sub> e)	394	551	514
Scope 1 (tCO <sub>2</sub> e)	218	218	232
Gas Oil	184	184	182
LPG	8	9	5
Scope 2 Emissions - Grid Electricity (tCO <sub>2</sub> e)	132	167	183
Scope 3 Emissions (tCO <sub>2</sub> e)	45	151	85
% of Waste Recycled (percentage by mass of total waste)	23	-	24

## Performance Measures

Targets	Performance Measure	2020 2021	2021 2022	2022 2023
<b>Direct Emissions</b>				
<b>Target:</b> We will achieve zero direct emissions from heat by 2030	Quantity of heating oil used at the Scalloway campus (litre)	66,700	66,700	66,578
	Quantity of propane used at the Lerwick campus (litre)	-	5,609	3,475
<b>Target:</b> We will achieve zero direct emissions from road transportation by 2035	Quantity of diesel used in fleet vehicles (litre)	-	1,164	1,086
	Number of kilometres driven by fleet vehicles <sup>5</sup>	10,950	13,341	16,512
<b>Indirect Emissions</b>				
<b>Target:</b> We will achieve Building Energy Performance ratings of C or higher for all campus buildings	Lerwick (2019) - D (49)	Unchanged		
	Scalloway Main Bldg (2021) - D (57)			
	John Goodlad (2021) - C (36)			
	Port Arthur House (2022) - E (80)			
	Renewable energy generation capacity	0	0	0
<b>Target:</b> We will improve the energy efficiency of campus operations to reduce energy consumption	Number of inefficient appliances and equipment replaced with high efficiency alternatives	Currently no data to assess this performance measure.		
	Number of initiatives/communications delivered to staff and students to encourage energy efficient behaviour	Currently no data to assess this performance measure.		
	Number of students engaged in energy efficiency actions and messaging	Currently no data to assess this performance measure.		
<b>Target:</b> We will apply the principles of a circular economy to reduce waste and send no biodegradable waste to landfill by 2025 and send zero waste to landfill by 2030	Total mass of waste delivered to the landfill (tonne)	5	1	2
	Number of food items purchased from local producers	Currently no data to assess this performance measure.		
	Amount of paper used (per person)	Currently no data to assess this performance measure.		

<sup>5</sup> Dates do not correspond with academic year

<b>Target:</b> By 2030, achieve a 20% reduction in Scope 3 transportation emissions from 2021 levels	Percentage of total kilometres driven by staff to and from work in single occupancy vehicles	-	65	65
	Percentage of total commuting trips kilometres using public or active transportation, or zero emission vehicles	-	17	17
	Number of kilometres claimed by staff use of own vehicles	-	14,510	19,365

Climate Change Action Tool

The Climate Change Action Tool (CCAT) is used by Scottish Public Sector organisations to self-evaluate their performance under the *Climate Change (Scotland) Act*. The tool assists organisations to identify key priority areas and actions for improvement in reducing emissions and meeting reporting requirements.

UHI Shetland ran the CCAT in December 2022 and again in January 2024. Comparative results show UHI Shetland is still in the early or emerging stage of its climate action journey with an organisational score of only 22% in 2022 and 46% in 2024. Year over year improvements in the organisational score reflect the progress made in sustainability planning – completion of the GHG Emissions Reduction Plan (which includes a governance structure for climate action accountability) and progress in climate adaptation planning.

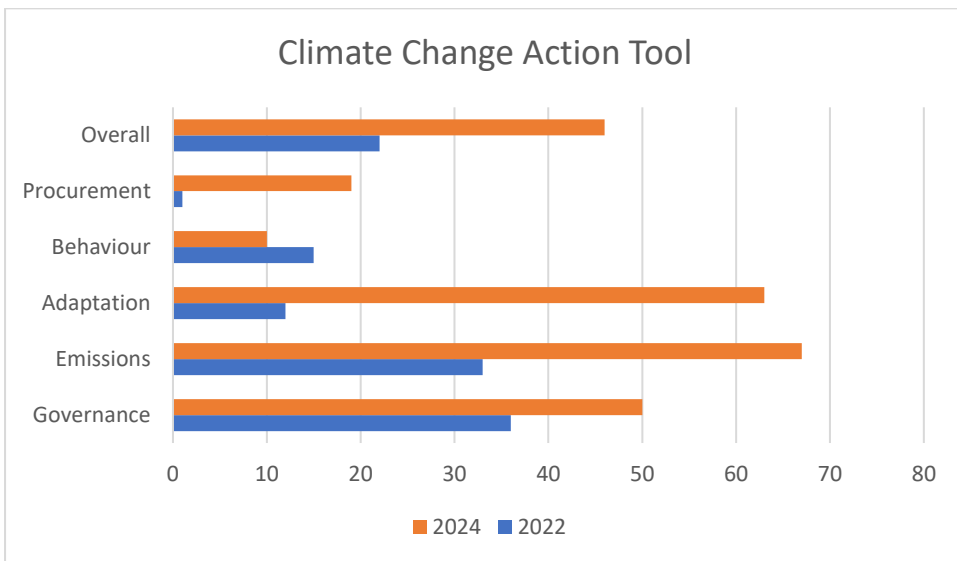


Figure 4: Comparative Results of the CCAT

**3. The year in review: achievements, opportunities and challenges**

UHI Shetland is at the **early stages of developing the capacity and knowledge** to address sustainability and emission reductions. The focus over the past year was primarily on **improving our understanding of GHG emissions and defining responsibilities of climate action within existing governance structures**. A working group was established and tasked with preparing the **GHG Emissions Reduction Plan** in keeping with PBCCD responsibilities and the strategic priorities of UHI. With the plan approved in June 2023, work continues in the development of a **sustainability strategy** which encompasses climate mitigation and adaptation, as well as biodiversity and learning for sustainability.

The creation of a new staff role, **Net Zero Knowledge Exchange Coordinator**,<sup>6</sup> was instrumental in seeing this work advance, along with the support and guidance of the greater UHI network.

**Funding remains the single largest challenge to reducing emissions.** External funding support is needed to decarbonise heat, the main source of Scope 1 emissions. UHI Shetland faces a significant disadvantage in reducing its heating emissions as it is currently not eligible for funding under the Scottish Central Government's Energy Efficiency Grant Scheme or the Scotland's Public Sector Heat Decarbonisation Fund.

#### 4. Looking ahead

##### GHG Emissions Data Collection and Reporting

With only 3 years' experience in GHG data collection and reporting, the **methodology and accuracy of data collected by UHI Shetland is still developing and improves each year**. There remain a few areas where **data is lacking** (Scope 3 emissions associated with procurement and student commute to campus) or the **confidence in existing data is very poor** (waste emissions). In its 2022-23 PBCCD report, UHI Shetland did not include emissions associated with apprentice travel as it was determined they are **out of scope** (and more appropriately belong to the employer or the college where the apprentice is registered). They had been included in the 2021-22 assessment.

Efforts to improve the efficiency of emissions data collection are underway with proposed changes to the **documentation of fuel consumption in the Finance Department** and by shifting the **responsibility for calculating and recording business travel emissions to the individuals who are travelling**.

##### Reducing GHG Emissions

###### Heat and Building Efficiency

- Funding remains the single largest barrier to undertaking capital improvement projects to reduce emissions, with decarbonising the heating system on the Scalloway campus being the highest priority and most effective pathway for reducing emissions.
- Funding is being sought for energy efficiency assessments of both campuses, the preliminary stage in preparing a business case for building improvements and the installation of renewable energy.
- Direct discussions with Shetland Heat Energy and Power are underway regarding the technical and financial feasibility of connecting the Lerwick campus to the Lerwick district heating scheme.

###### Behaviour Change

- The easiest, albeit the smallest, wins in emission reductions can be realised in widespread and sustained behaviour change, by staff and students. Immediate areas for improvement include the proper disposal of recyclables, closing windows, turning down the heat, and turning off lights, computer monitors and other equipment when not in use.
- A focus on behaviour change in the years ahead is needed to shift the corporate ethos of UHI Shetland to one that recognises and prioritises climate action and the UN Sustainable Development Goals as set out in the commitments to environmental sustainability made in the UHI Shetland Strategic Plan 2030 and the UHI Environmental Sustainability Strategy.

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<sup>6</sup> External funding for the Net Zero Knowledge Exchange Coordinator runs to July 2024.