# Shetland Islands Council

# Climate Change Progress Report 2023/24

**Public Bodies Report on Compliance with Climate Change Duties 2023/24**

# Contents

# Executive Summary

The 2023/24 SIC Annual Climate Change Report is the first progress report following the development and approval of the Council's Net Zero Route Map, Climate Change Strategy and Action Plan. It details how we have progressed towards our climate targets set within our Net Zero Route Map, and how we have progressed activity set out in the action plan, within the report year. It also sets out our priority areas for climate related activity for the following report year, 2024/25.

## Emissions

In 2023/24, annual greenhouse gas emissions have reduced by 2987 tonnes, which is 4.33%, from our 2019/20 baseline. This falls short of the 7.79% emissions reduction target set for the Council in our Net Zero Route Map for 2023/24.

### Progress on our 2023/24 target

| | **2019/20 Baseline ($tCO_2e$)** | **2023/24 Target ($tCO_2e$)** | **2023/24 Actual ($tCO_2e$)** | **Target % Reduction on Baseline** | **Actual % Reduction on Baseline** |
|---|---|---|---|---|---|
| Domestic | 19,375 | 17,209 | 19,226 | 11.18 | 0.77 |
| Non-Domestic | 8,764 | 7,449 | 8,219 | 15.00 | 6.21 |
| Transport | 18,981 | 18,260 | 16,891 | 3.80 | 11.01 |
| Infrastructure | 21,933 | 20,757 | 21,729 | 5.36 | 0.93 |
| **TOTAL** | **69,053** | **63,675** | **66,065** | **7.79** | **4.33** |
| | | | | | |

Since our baseline year of 2019/20, emissions have reduced across all areas of the Council, although in some areas by more than others. Significant reductions have been made within transport. Within the categories of buildings (domestic and non-domestic) and infrastructure we still see emissions reductions, however these are short of targets set.

A summary of each sector is provided below.

### Transport

Significant reductions can be seen in our transport emissions, with reductions occurring at a higher rate than our emissions pathways. This is largely due to

service and behaviour changes adopted during the response to Covid-19. A sharp drop in transport emissions was seen in 2020, however emissions from transport are starting to rise again as we have returned to 'the new normal'.

It is essential to retain some of the behavioural changes adopted, such as reduced business travel and reduced commuting, to ensure we remain in line with pathway emissions set for transport. In addition to retaining the behavioural changes, a fleet transition plan (all vehicles, ferries, vessels and aircraft), including the appropriate funding and investment, must be developed and implemented as a priority in order to see the emissions reductions needed.

There are a number of pieces of work currently ongoing, which would inform a fleet transition plan. These include:

- Inter-Island Transport Connectivity Programme
- Public Transport Connectivity Review
- Rural Energy Hub Project - Transport Connectivity Review
- Rural Energy Hub Project - Electric Bus Trial
- Greening of the Fleet Project
- EV Charging Infrastructure – Strategy and Roll Out
- Active Travel Projects
- Alternative Fuel Trials - HVO

## Domestic Buildings

For our domestic buildings (Council housing) data is taken from the Home Analytics Database (HAD), which is largely based on available EPC information. It is the only tool currently available to establish figures for domestic energy consumption across the stock, as we do not have access to property energy bills, therefore it should be noted that this is not accurate information, more of an indication. Emissions from domestic buildings have reduced each year from 2019/20 to 2022/23, but there has been an increase in emissions from 2022/23 to 2023/24. The heating figures taken from HAD include an increase in the average use for properties on storage heating between 2022/23 and 2023/24. This dataset shows an increase in energy use and an increase in associated emissions for our houses because a large proportion of the housing stock has storage heating installed.

The Council's housing stock is predominantly electrically heated with 90.33% of all heat sources electrically powered. This includes a mix of storage heating, air source and ground source. 7.48% of housing is heated by district heating, and only 2.19% is heated from fossil fuel sources. Once Shetland is connected to the UK electricity network, emissions from our housing stock will significantly decrease.

At this point 97.81% of the Council housing stock is heated by zero carbon energy sources, which puts us in a very strong position to meet our target of 100% of housing being net zero by 2030.

There is still the need to improve the energy efficiency of our housing stock to create a comfortable environment and alleviate fuel poverty for our tenants. A Housing Energy Efficiency Strategy and Plan should be developed and implemented as a priority, including funding and investment. It is recognised an update is due from Scottish Government on the Social Housing Net Zero Standard, which will shape the strategy for delivering the new standard across our housing stock. Careful consideration is required around funding and investment of housing energy efficiency so as not to increase rent poverty whilst attempting to reduce fuel poverty.

## Non-Domestic Buildings

For our non-domestic buildings, emissions reduced in 2020/21 due to changes in the use of the estate implemented in response to Covid-19. Our offices and schools, in particular, were not fully occupied for a significant period of time. From 2021/22 onwards emissions from buildings have risen and now remain relatively static.

Our estate is broad ranging in terms of efficiency, age and building type. It is currently unsustainable. There are inconsistencies and gaps in the data and the metrics we use to measure energy use and efficiencies in buildings. An estate decarbonisation plan, including the appropriate funding and investment, is required, and must be implemented as a priority, in order to see the emissions reductions needed. Inconsistencies and gaps in data add additional challenge in developing this plan, so works are currently ongoing to build a comprehensive and consistent base of data on which the estate decarbonisation plan will be based.

There are strategies in place and a number of pieces of work currently ongoing, which inform and feed into an estate decabonisation plan. These include:

- The initiation of the Estate Decarbonisation Project
- Property Asset Management Strategy
- Asset Investment Plan
- Building Maintenance Plan
- Rural Energy Hub Project – Hub Building Project
- Rural Energy Hub Project – Brae District Heating Feasibility
- Development of Local Heat and Energy Efficiency Strategy (LHEES)
- Roll out of Energy Efficiency Grants Schemes: Area Based Scheme, Warmer Homes and EcoFlex
- Alternative fuel trials - HVO

## Infrastructure

Our Infrastructure emissions are made up of the Energy Recovery Plant (ERP), landfill, recycling, Rova Head, Scord Quarry, Street Lighting,

Navigation Lights and Radar Station (Toft). Emissions here dropped during 2020/21, and have since risen back up almost in line with our 2019/20 baseline emissions. This section of emissions contains a range of inputs, which require an effort to gain a detailed understanding of how to reduce emissions appropriately, then to develop and implement plans, including the required funding and investment, to achieve this.

There are a number of pieces of work currently ongoing, which would inform and feed into an estate decabonisation plan. These include:

- The Road Asset Management Plan (RAMP)
- Development of a Shetland Waste and Resource Use Strategy
- Investigation into ERP emissions carbon capture

Projects and works have been initiated in each of these areas to review current practices, develop plans and put in place action to accelerate emissions reductions. This is laid out in Appendix B – A Closer Look at Progress and Future Plans. The development of the SIC Climate Change Strategy and Action Plan, and setting up of the management and governance, outlined in Appendix C, puts the Council in the best possible position to navigate challenges and make progress.

## Key Performance Indicators

Key Performance Indicators (KPI) have been established to provide a mechanism for showing progress on the Council's transition to clean energy, and on raising awareness of climate change, alongside emissions reductions.

## Emissions Factors

A Shetland grid electricity emissions factor has been used within this report year, derived from Shetland's diesel fired power station. From 2025/26, we will report electricity emissions using the UK grid emissions factor, and so will see a significant drop in emissions associated with grid electricity use. Once we start to report UK grid electricity emissions factor, we will see an annual drop in electricity emissions as the national grid decarbonises from the addition of renewable energy, with the pathway to be net zero by 2030.

## Adaptation

Adaptation is about responding to and preparing for changes in climate. Even if we cut greenhouse gas emissions today, historical emissions mean the climate is changing, and will continue to do so for decades to come. We therefore need to

understand and prepare for potential impacts from changes to Shetland's climate to reduce the negative effects of climate change.

Climate Change is already impacting people and places in Shetland, with a number of recent extreme weather events occurring. This will continue to intensify over the coming decades. Taking early action to adapt will help to increase resilience and reduce risks and impacts of events.

Emissions reduction is where the majority of climate focus has been from the Council so far. Adaptation goes hand-in-hand with mitigation, as reducing greenhouse gas emissions globally will reduce the effects of climate change. It is important we understand the risks associated with climate change locally, on our estate and operations, and also on the community going forward, so that we can appropriately plan for, and mitigate impacts. To achieve this, a review to gain an understanding and map the risks should be undertaken and a plan developed, including appropriate funding and investment, for climate resilience across the Council estate and operations.

## Highlights from 23/24

- A lot of work has gone into building strong leadership and governance around climate change for the Council. Corporate Management Team has been established as the Council's Climate Change Board, ensuring senior management oversight.

- The co-development process of the Council Climate Change Strategy and Action Plan resulted in a direction being set that is appropriate and tailored to Council service areas, with a high level of buy-in. A number of inter-service area working groups have been established and are now working through plans and actions.

- A solid monitoring and reporting framework has been established around climate change, with all actions recorded and reported on quarterly through Pentana, the Council's digital performance management system, and an annual report provides detail and recommendations around progress. KPI's have been allocated so as to provide a mechanism of monitoring the impact of various actions along with emissions reductions. Council data across the sectors have at times highlighted inconsistencies and gaps, which is an area of focus to continually improve.

- It is recognised the Council has a significant influence over community decarbonisation, and there are strong links between climate action, reducing inequalities and improving health and wellbeing. It is also recognised there are significant additional challenges with undertaking climate action in rural communities, as a lot of climate policy is built around urban ideology. We have been successful in securing a significant amount of funding for a project to put in place community focused demonstrations and trials that will aid with

decarbonisation while reducing inequalities and improving service provision in a place. Learnings from these demonstrations and trials will be essential in determining which services to implement at a wider scale.

- Raising awareness around climate change, how it will impact our communities, the benefits of climate action and services available to the community are important parts of addressing climate change. The Shetland Climate Festival continues to grow in size and provide a valuable source of information to the public.

## Conclusion

A strong foundation has been set through the process of co-developing the Council's Climate Change Strategy, using Shetland and Council specific data gathered through the Net Zero Route Map project, and national guidance for local authorities.

We have begun the journey to address climate change, and the works undertaken to date have put us in an excellent position to drive forward with the required action. We now know and understand what is required, and what the challenges and opportunities are. We have made connections, built relationships and partnerships (both internally and externally) and put in place the solid leadership, governance and management structure that is required to make changes that are needed.

In some areas inconsistencies and gaps in the data and the metrics we use to measure energy use, efficiencies and emissions have been highlighted. This creates additional challenge in developing decarbonisation plans. Works are currently ongoing to build a comprehensive and consistent base of data for use in decarbonisation plans and for performance improvement.

It should be noted that the decarbonisation journey did not begin with the Net Zero Route Maps, but with the establishment of the SIC Carbon Management Plan in 2006. Working through this has led us to a point where the majority of 'low hanging fruit' have now been implemented and achieved. We must now commit effort and investment to continuing our emissions reductions through the SIC Climate Change Strategy, and working towards climate targets.

Climate action can be a mechanism to work towards Shetland Islands Council's other key priority areas, which is highlighted through the reporting and monitoring framework now in place.

Looking forward, already stretched budgets and finances available for delivering Council services are being further constrained, adding to the challenge of addressing climate change. Whilst much of climate action can deliver economic savings in the longer term, as efficiencies and/or reductions tend to be outcomes, initial investment is required to make the required changes.

The Council's replacement programmes and budgets are currently on a 'like-for like' basis, with very few areas holding the additional investment required in the short term to make effective change. Greening the Fleet is the only area so far that has

identified the additional cost of making the transition in the short to medium term, and highlighted the long term benefit.

It will be important to ensure climate is fully considered during investment prioritisation to maximise on the long term benefits, co-benefits and links to other Council strategic priorities, such as reducing inequalities.

## Recommendations:

A strong foundation has been set through the climate leadership, governance and management that has been put in place. The Council has been working on decarbonisation since the establishment of the Carbon Management Plan in 2006, with the majority of 'low hanging fruit' now achieved. We must now commit effort and investment, from both internal budgets and through seeking of external funding, to accelerate our emissions reductions, and work towards climate targets.

Climate action can deliver economic savings in the long term, but in the short to medium term we need greater investment, both financial and committed resource, to make the change required to reach our goals.

It is recommend that the following is put in place:

- A review of our base of data related to energy, emissions, efficiencies and climate change across the council. Map the data we collect, how we store it, what systems we use across service areas and how we are using our data. Inconsistencies and gaps should be highlighted. Recommendations should be put forward, and implemented, for how we can build a comprehensive and consistent base of data for use in the decarbonisation plans, outlined below, and in providing data for performance improvement.

- Replacement programmes of work should set out the additional investment needed in the short and medium term to make effective change and emissions reductions within their budget setting, and the long term projected savings from short to medium term additional investment.

- A Fleet Transition Plan (including all vehicles, ferries, vessels and aircraft), should be developed and considered by the Council for implementation, including funding and investment outlined.

- A Housing Energy Efficiency Strategy and Plan should be developed for consideration by the Council for implementation, including funding and investment. It is recognised an update is due from Scottish Government on the Social Housing Net Zero Standard, which is required to shape the strategy for delivering the new standard across our housing stock.

- An Estate Decarbonisation Plan should be developed for consideration by the Council for implementation, including funding and investment outlined.

- There are a range of inputs that contribute to ‘Infrastructure’ emissions, including the ERP, landfill, recycling, Rova Head, Scord Quarry, Street Lighting, Navigation Lights and Radar Station (Toft). Each of these require an effort to gain a detailed understanding of how to reduce emissions appropriately, then to develop and implement plans, including the required funding and investment, to achieve this.

- Adaptation Plan - A review to gain an understanding and map the potential risks should be undertaken and a plan developed, including appropriate funding and investment, for climate resilience across the Council estate and operations.

# Background

## Introduction

Climate change is the long-term shift in global climate patterns, including extreme weather events and rising sea levels, linked directly with the warming of the Earth's atmosphere.

The impacts of climate change are, and will continue to be, significant and wide reaching, with the most vulnerable in society likely to suffer the worst.

With the changing climate, there are numerous risks we are likely to be exposed to in Shetland. These include; increased frequency of extreme weather events, increased rates of flooding, ocean acidification and warming, increased pests, pathogens and invasive species and disrupted supply chains. All of these risks will influence our health and wellbeing, infrastructure, economy, and environment. It is therefore essential that we act to address climate change, through both mitigation and adaptation, to minimise the worst effects and to be prepared for a changing climate.

Scotland has set a target of being net zero by 2045. As a Local Authority, Shetland Islands Council has a statutory duty to reduce greenhouse gas emissions in line with Scotland's national target of 2045, and to demonstrate we are working towards this. This is set out within section 44 of the Climate Change (Scotland) Act 2009.

Shetland Islands Council acknowledged a Climate Emergency in January 2020, prompting the creation of the Climate Change Programme. The Programme has the purpose to minimise the risks of climate change to the Shetland community as far as possible, and to make the transition to net zero as beneficial as possible. At that time, the mandate was also set to establish an appropriate and informed target date for Shetland Islands Council to be net zero as an organisation, and for Shetland to be net zero as an area.

The first step in determining an appropriate target was to develop Net Zero Route Maps, for which consultancy 'Ricardo Energy and Environment' was appointed. The purpose of each route map was to establish a scope and methodology of measuring greenhouse gas (GHG) emissions. That included establishing an emissions baseline and developing pathways for what measures need to be taken for the Council as a singular organisation, and Shetland, as a defined area, to reduce emissions and reach net zero.

Council pathways included measures around decarbonising the fleet, vessels, estate, operations and land holdings. In November 2022, Shetland Islands Council approved the Net Zero Route Maps and set the mandate to develop a Shetland Islands Council Climate Change Strategy and Action Plan. The Plan includes a framework to allocate responsibility for actions and to measure, monitor and report on progress, using data and recommendations gained through the Net Zero Route Map project and report.

The Council's Climate Change Strategy and Action Plan is built upon data, information and insights gained through the Net Zero Route Map project, guidance from relevant government, authorities and bodies and best practice from other public bodies. It was developed in line with the Design Council's framework for innovation design methodology; the 'Double Diamond' design process. Logic modelling was utilised during development of each strategy section to aid in providing focus to work towards achieving the outcomes.

The Climate Change Strategy sits across the entire Council, touching on every service area. It was developed through a systems approach, in collaboration with all service areas. Co-development ensured it was suitable for, and could be aligned to, Council service plans and operations. It also ensured it was fit-for-purpose and had the endorsement of service areas to work towards the objectives. During the development phase, a members' seminar was held to present the strategy and framework and gain feedback to ensure input from political leadership and community interests.

The purpose of the strategy is mitigation and adaptation, encompassed by the need for a Just Transition. Central to delivering the strategy is maximising the social, economic and environmental co-benefits to the Council and the community.

The body is comprised of 'Enablers', which provide the drive and framework for climate action, and 'Themes' which will guide Council operations towards decarbonisation sector-by-sector. The 'Enablers' are; Leadership & Governance, Alignment, Money, Empowerment, and Communications. The 'Themes' are; Energy, Buildings, Transport, Resources & Waste, Business & Industry, and Nature-based Solutions.

The Shetland Islands Council Climate Change Strategy and Action Plan was approved by the Council on the 13th December 2023. This is the first SIC Annual Climate Change Report on progress towards the strategy and climate change targets.

The Climate Change Strategy aims are:

- **We are an organisation and community that is resilient to our changing climate.**
- **We are a net zero organisation and community.**
- **Equality and fairness are at the heart of the transition to net zero.**
- **Opportunities to maximise the social, economic and environmental benefit to the community are optimised.**

# Emissions

Emissions from the start of the baseline year to the end of the report year:

| Reference Year | Scope 1 | Scope 2 | Scope 3 | Total |
|---|---|---|---|---|
| **2019/20** | 18,824 | 30,598 | 19,777 | 69,199 |
| **2020/2021** | 16,093 | 29,013 | 18,523 | 63,629 |
| **2021/2022** | 17,340 | 28,763 | 18,114 | 64,217 |
| **2022/2023** | 17,241 | 27,975 | 18,933 | 64,149 |
| **2023/2024** | 17,570 | 29,014 | 19,580 | 66,164 |

Emissions are measured in $tCO_2e$ (unless otherwise stated)

The Greenhouse Gas (GHG) Protocol classifies a company's emissions into three scopes:

- Scope 1 - Direct emissions from sources owned or controlled by the company, such as burning fuel in company vehicles
- Scope 2 - Indirect emissions from the generation of purchased energy, such as electricity, heat, or steam
- Scope 3 - All other indirect emissions that occur in the company's value chain, including emissions from purchased goods and services, business travel, and waste disposal. Within this report we have included business travel, staff commuting and waste disposal.

A full breakdown of emissions is included in Appendix C - Emissions Breakdown.

# Targets

Annual emissions targets have been set for the Council as a part of our Net Zero Route Map process, with milestone years in 2030/31, 2035/36, 2040/41 and 2045/46. The table below shows the progress we have made in working towards our target for 2023/24 and also our milestone targets.

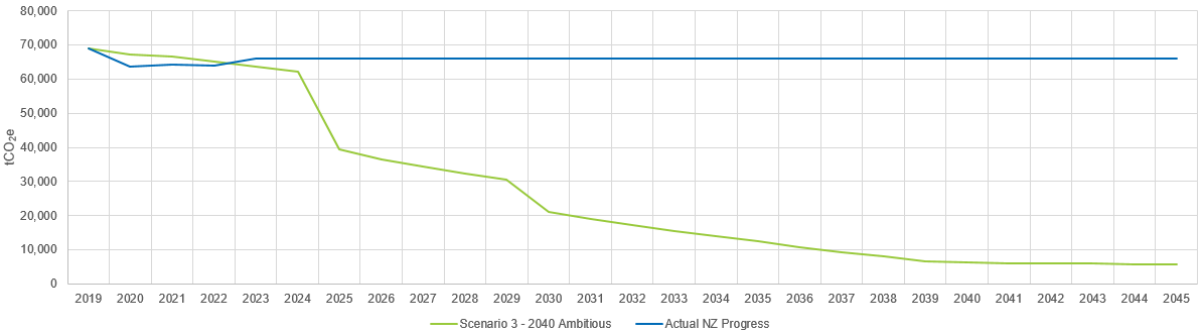
**Progress on our 2023/24 target**

| | 2019/20 Baseline ($tCO_2e$) | 2023/24 Target ($tCO_2e$) | 2023/24 Actual ($tCO_2e$) | Target % Reduction on Baseline | Actual % Reduction on Baseline |
|---|---|---|---|---|---|
| Domestic | 19,375 | 17,209 | 19,226 | 11.18 | 0.77 |
| Non-Domestic | 8,764 | 7,449 | 8,219 | 15.00 | 6.21 |
| Transport | 18,981 | 18,260 | 16,891 | 3.80 | 11.01 |
| Infrastructure | 21,933 | 20,757 | 21,729 | 5.36 | 0.93 |
| **TOTAL** | **69,053** | **63,675** | **66,065** | **7.79** | **4.33** |

**Milestone Targets**

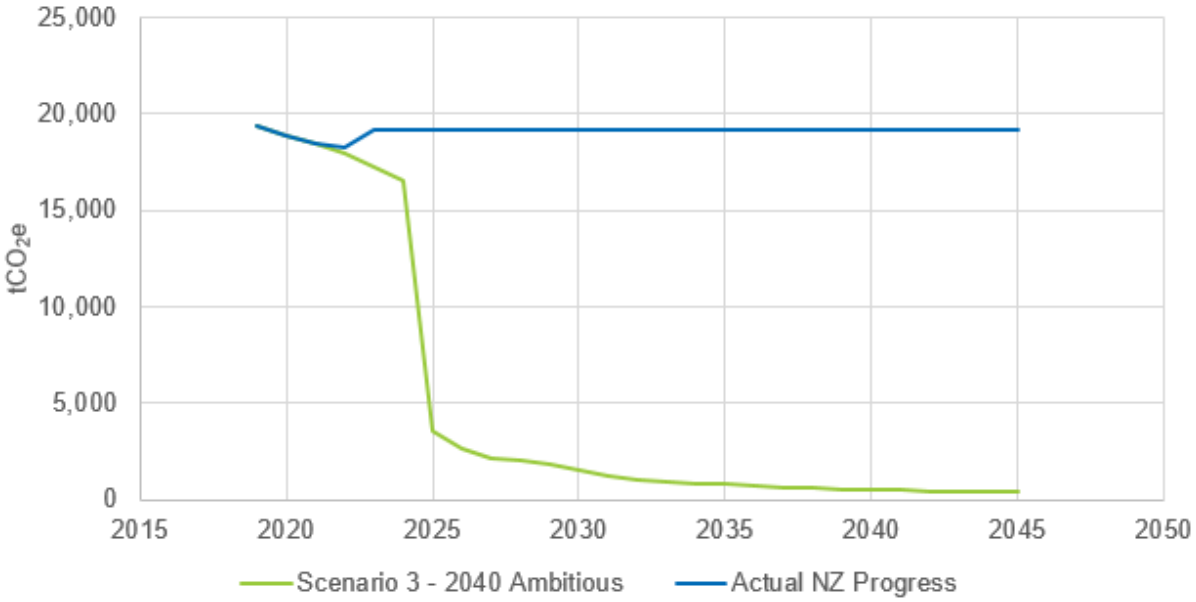
| | Baseline Year | Baseline Figure (tCO2e) | Target Year | Target Figure (tCO2e) | Target % Reduction on Baseline |
|---|---|---|---|---|---|
| **TOTAL** | 2019/20 | 69,052.80 | **2030/31** | 21,120.36 | 69.41 |
| **TOTAL** | 2019/20 | 69,052.80 | **2035/36** | 12,431.15 | 82.00 |
| **TOTAL** | 2019/20 | 69,052.80 | **2040/41** | 6,400.80 | 90.73 |

## Total: Actual Emissions vs Pathway Emissions




- For the year 2023/24, we had a target of reducing our total emissions by 7.79% of our 2019/20 baseline. The actual emissions reduction achieved was 4.33%.
- Emissions reduced slightly more than the modelled pathway in 2020/21, attributed to service and behaviour changes made in response to the Covid-19 crises.
- From 2021/22 onwards emissions have started to rise again and we are now above our modelled pathway and target for working towards net zero by 2045.
- It should be noted that the emissions factor used for grid electricity is currently based on the emissions from Shetlands diesel fired power station. This means that we do not see an annual drop in emissions factor associated with annual emissions reductions in national grid electricity from the addition of renewable energy. From report year 2025/26 onwards, following the interconnector going live, we will report electricity emissions using UK grid electricity emissions factor, and so will see a significant drop in emissions associated with grid electricity use.
- It should be noted that the emissions factor for district heating has been calculated based on emissions from Energy Recovery Plant plus emissions from top up oil fired boilers used across the year by Shetland Heat Energy and Power (SHEAP).
- Whilst we include emissions associated with electricity and district heating, buildings and vehicles which use them are considered to have ‘zero carbon energy sources.’ This is because they have zero direct greenhouse gas emissions associated with the buildings or vehicles; emissions are the responsibility of the point source of energy generation.
- Below data is split into Domestic, Non-Domestic, Transport and Infrastructure for more detailed analysis.

**Domestic: Actual Emissions vs Pathway Emissions**

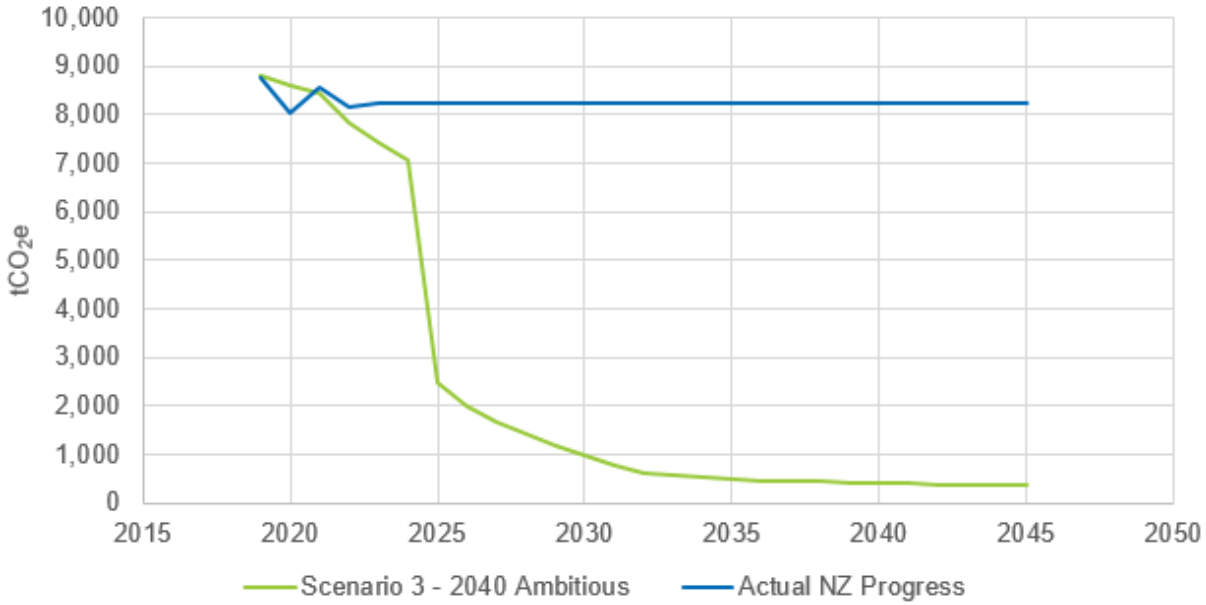



- Emissions from domestic buildings for 2023/24 are 0.77% below our emissions baseline from 2019/20. Our Net Zero Route Map set a target reduction of 11.18% from our baseline emissions.

- This data is taken from the Home Analytics Database (HAD) which is largely based on available EPC information and after that best information available. It is the only tool we have to establish figures for domestic energy consumption across the stock at the current time. The heating figures taken from HAD show an increase in the average use for properties on storage heating between 2022/23 and 2023/24. Emissions from domestic buildings have reduced each year from 2019/20 to 2022/23, but there has been an increase in emissions from 2022/23 to 2023/24. As a large proportion of the housing stock has storage heating installed this shows an increase in energy use and so an increase in associated emissions.

- The Council's housing stock is predominantly electrically heated with 90.33% of all heat sources electrically powered. This includes a mix of storage heating, air source and ground source. 7.48% of housing is heated by district heating, and only 2.19% is heated from fossil fuel sources. Once Shetland is connected to the UK electricity network, emissions from our housing stock will significantly decrease.

**Non-Domestic: Actual Emissions vs Pathway Emissions**




- Emissions from our non-domestic buildings for 2023/24 are 6.21% below our emissions baseline from 2019/20. Our Net Zero Route Map set a target reduction of 15% from our baseline emissions.

- Non-domestic buildings includes all Council occupied buildings, such as offices, schools, care homes and depots.

- A decrease in emissions between 2019/2020 and 2020/2021 is shown, and can be attributed to the working from home measures implemented in Covid-19. Our offices and schools in particular were not fully occupied for a significant period of time. There was a subsequent increase in emissions from buildings in 2021/22

- Grid Electricity - Grid electricity use in our non-domestic estate dropped significantly in 2020/21, due to Covid, and then came back up to almost pre-Covid levels in 2021/22. There was another slight drop in electricity use in 2022/23, and an increase again in 2023/24. The increase in 2023/24 can partly be attributed to contractor's use of electricity both at the old Anderson High School as part of the demolition process, and also Toft Ferry Terminal where there was work taking place at the pier.

- District Heating - In 2021/22 there were significant increase in use at the new Anderson High School and also Bells Brae. This was a result of technical issues with the old Bells Brae heat exchanger, which required increased running hours to keep the building heated. We are also working closer with Robertson FM with regards control in the new AHS and this has led to some changes in programming as well as technical fixes. Parts of the old AHS site remained in use but this dropped off pre-demolition. However, with the connection of the old Anderson Institute building and the impending connection of the old Janet Courtney Hostel, consumption at this site is likely to increase again. Latterly the Independent Living Centre was converted from

oil to district heating in 2023/24 which is the main reason for consumption rise in the past year.

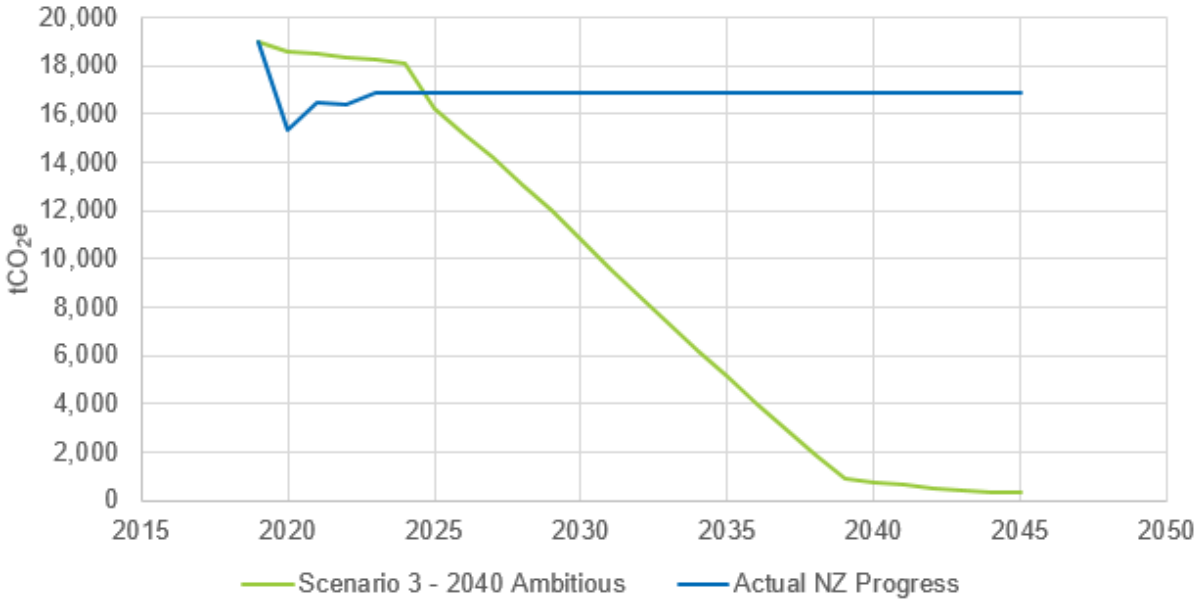
- LPG - Our use of LPG increased significantly in 2020/21 as the Council took over the Scatsta Airport site in 2020, which is heated by LPG. It is the only building in the non-domestic portfolio that is heated by LPG. To maintain the fabric of the buildings on the site the heating has been running at a setback level.

- There was an increase in biomass use in 2021/22 and 2023/24, partly down to less oil use at Scalloway Primary compared with 2022/23. Oil boilers provide backup at Scalloway so increased usage of oil means less biomass being used. It is likely the decrease in biomass emissions in 2022/23 is down to a control issue bringing on oil to displace biomass when not required.

- A decrease has occurred in the use of burning oil from 2019/20 through to 23/24, which is mostly due to the mothballing of Fetlar Primary School, which led to a significant reduction in consumption

- As with other usage there was a drop in water usage in 2020/21 due to Covid. Water use has remained relatively steady over the other years and despite 2023/24 showing a drop in consumption this is likely due to invoices being corrected for previous over-estimated billing, at a large number of sites.

**Transport: Actual Emissions vs Pathway Emissions**




- Emissions from transport for 2023/24 are 11.01% below our emissions baseline from 2019/20 which is below our Net Zero Route Map target reduction of 3.8% from our baseline emissions.
- Included in our transport emissions are:
    - Council vehicle fleet – diesel, gas oil, electricity and petrol
    - Vessels (ferries and tugs. Port vessels have not been included within this report as data on fuel consumption is not currently collected and available, this is under review and we plan to include this within the next annual report) – electricity and marine gas oil
    - Aircraft – Aviation spirit
    - Business travel – taxi, rail travel, air travel
    - Employee commute
    - Grey vehicle fleet – employees using personal vehicles for Council business and claiming mileage – assumed petrol
- A sharp drop in emissions is shown between 2019/20 and 2020/21, which can be attributed to transport and behaviour changes adopted during the response to Covid-19.
- In general, emissions from transport are starting to rise again as we have returned to 'the new normal'. A significant increase in emissions was shown between 2020/21 and 2021/22, this remained steady into 2022/23 and increased again slightly within this report year to 2023/24.

- Diesel use and gas oil use – A large increase in diesel use and emissions is shown, increasing by 40% from 2019/20 to 2023/24. There is also a large decrease in gas oil emissions from 2019/20 to 2023/24. This increase in diesel use and reduction in gas oil use can be attributed to red diesel being banned. This balances out and shows emissions have remained fairly static across the combination of diesel/gas oil use.

- Our use of petrol in our fleet vehicles has remained fairly steady, with a slight increase shown in the 2021/22 which is due to their implementation with Care at Home.

- Electric vehicles – Our use of grid electricity for transport, due to increase use of electric vehicles, has increased by over three times between 2022/23 and 2023/24.

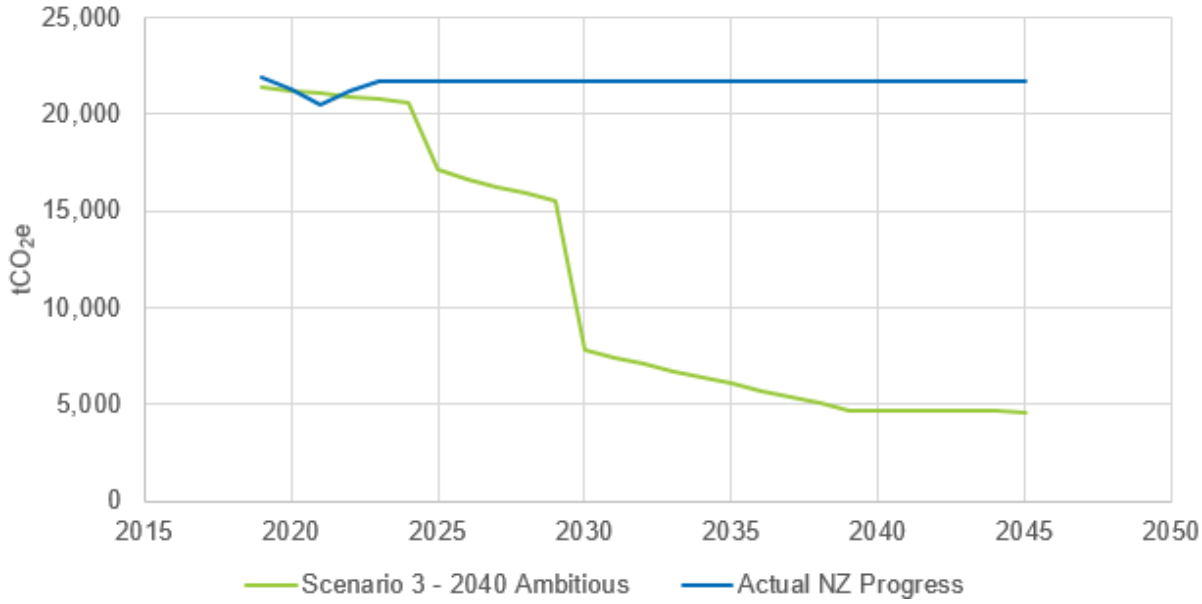
- Vessels – Our grid electricity use from vessels (ferries and tugs) has been fairly steady but reduced slightly in 2023/24. Also our use of marine gas oil has been fairly steady with a slight reduction from 2019/20 to 2023/24. Rather than being attributed to changes in the vessels or to the operation of those vessels, this decrease is due to slightly reduced numbers of crossings taking place across the report year.

- Aircraft – Our emissions from internal aircraft reduced significantly during 2020/21. This has annually increased each year since the pandemic, however remains 20% lower than our baseline emissions in 2019/20, due to a reduced flying timetable across the report year.

- The Council ‘grey fleet’ mileage claims halved between 2019/20 and 2020/21, due to changes in behaviour and service delivery as a result of the response to Covid-19. This has increased each year from 2020/21 to 2023/24, however emissions are still a third lower than they were in 2019/20.

- Business travel, which includes journeys made by planes, trains, buses and taxis, dramatically reduced from the 2019/2020 baseline, during 2020/21. This is also starting to increase again, but remains significantly lower than emissions recorded in 2019/20. This demonstrates the reduction in travel required due to positive changes in being able to attend many conferences and meetings online, rather than in person. As well as reducing emissions, it also provides greater inclusivity.

**Infrastructure: Actual Emissions vs Pathway Emissions**




- Emissions from Infrastructure for 2023/24 are 0.93% below our emissions baseline from 2019/20. Our Net Zero Route Map set a target reduction of 5.36% from our baseline emissions.

- Included in our Infrastructure emissions are the Energy Recovery Plant, landfill, recycling, Rova Head, Scord Quarry, Street Lighting, Navigation Lights and Radar Station (Toft)
    - Landfill emissions include:
        - Food and drink waste - Animal, fish scales, fish smolts, garden, trees, international catering waste
        - Commercial and Industrial waste - Asbestos, bottom ash, bulky, clinical, concrete, crushed rock, filter press cake, insulation, mixed construction, mud silt, plastic, sewage sludge, shells, shot blast/grit, sub soil and stones, sweepings
        - MSW – Municipal
        - Textiles - Fishing nets, salmon farm nets, textiles
        - Glass – Windows – not recycling material
        - Wood – Construction materials
    - Recycling emissions include – All metals, paper/board, glass

- Electricity within the infrastructure category has seen a steady decrease across the period between 2019/20 and 2023/24. Included in this is efficiencies made to street lighting and efficiencies from water cooled wear zones works to ERP.

- Burning Oil for Scord Quarry and Gas Oil for ERP and Scord Quarry - There has been a steady use of gas oil/burning oil across the period between 2019/20 and 2023/24 – the use of burning oil has slightly decreased and use

of gas oil has slightly increased, however combined total and total emissions have remained fairly steady. This can be attributed to the ban in red diesel.

- Water in ERP - Use of water required in the ERP has decreased significantly following upgrades to water cooled wear zones of the ERP, which took place in 2021/22, being more than halved.

- ERP Incineration - There has been an Increase in the amount of waste incinerated in 22/23 and 23/24 due to the works undertaken on the ERP water cooled wear zones. These works allowed more waste to be incinerated across the year as it reduced the shutdown period, which allowed SIC to increase the waste taken in from other Local Authority areas.

- ERP Incineration - There has been an increase in ash waste from ERP due to the increased amount of waste able to be incinerated across the report year.

- Landfill – Textiles - There has been a significant and steady increase in textiles going to landfill, with an increase of 397% shown between 2019/20 and 2023/24, going from 78 tonnes to 388 tonnes. The primary reason for this is an increase in nets being taken in from salmon farms.

- Landfill – Commercial Waste – there are two sets of increases shown in otherwise steady rates of commercial waste. In 21/22, 9000 tonnes of crushed rock material was used to carry out a capping exercise in the landfill – this has been included in the data for ‘commercial and industrial waste’ and so emissions associated with this category has been attributed to this material. In 23/24 a significant amount of construction waste was put to landfill as a result of the demolition works of the old AHS.

- Landfill – Municipal Solid Waste (MSW) - There was an increase in MSW waste to landfill in 2021/22. This occurred during the works to the water cooled wear zones where the ERP was out of action for the upgrade, and so waste that would ordinarily go to the ERP had to be put to landfill. This waste was subsequently recovered from the landfill and put to the ERP in the following year.

# Key Performance Indicators (KPI's)

Indicators are set to show and monitor the progress we are making working towards our targets:

**Domestic Buildings**

Percentage of domestic buildings that are heated by zero carbon sources of heat

- Target – 100% by 2030

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 97.3% | 97.64% | 97.41% | 97.52% | 97.81% |

Electric or district heating systems are considered 'zero carbon sources of heat. This includes storage heating (quantum and traditional), air source heat system, ground source heat systems, infra-red heating, electric flow boilers and radiators.

Percentage of housing that has an EPC of B or above:

- Target – will be set as part of new strategy

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 1.15% | 1.21% | 1.21% | 1.44% | 1.44% |

**Non-Domestic Buildings**

Percentage of non-domestic buildings that are heated by zero carbon sources of heat

- Target - 100% by 2040

There are currently inconsistencies and gaps in the data and the metrics we use to measure energy use and efficiencies in buildings. Our current systems do not provide functionality for us to look back across previous years to see what the estate make up was at that time. We also do not currently have all data related to our estate in one place, such as energy source and floor area, which makes it difficult to get a figure for this KPI. Building a comprehensive and consistent base of data on which the estate decarbonisation plan can be based is a key priority area going forward.

Percentage of non-domestic that has an EPC of B or above:

- Target - 100% by 2040

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 9.8% | 9.8% | 9.8% | 9.8% | 9.8% |

**Transport:**

Percentage of fleet small vehicles that are fuelled by zero carbon sources (Cars, Small Vans & Plant: < 2501 kg):

- Target - 100% by 2030

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 5.26% | 6.04% | 14.38% | 14.84% | 15.13% |

Percentage of fleet medium vehicles that are fuelled by zero carbon sources (Medium Vans, Pick-Ups, MPVs & Plant: 2501 kg - 3500 kg):

- Target - 100% by 2040

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 0% | 0% |

Percentage of fleet large vehicles that are fuelled by zero carbon sources (Large Vans, Tippers, Mini Buses & Plant: 3501kg - 7500kg):

- Target - 100% by 2040

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 0% | 0% |

Percentage of fleet heavy vehicles that are fuelled by zero carbon sources HGVs, Buses & Heavy Plant: > 7500 kg):

- Target - 100% by 2040

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 0% | 0% |

Percentage of vessels (ferries and port vessels) that are fuelled by zero carbon sources:

- Target - 100% by 2040

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 0% | 0% |

Percentage of aircraft that are fuelled by zero carbon sources:

- Target - 100% by 2040

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 0% | 0% |

**Infrastructure**

- Percentage of waste to landfill

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 33% | 32% | 51% | 26% | 33% |

- Percentage of waste to Energy Recovery Plant

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 59% | 61% | 44% | 67% | 60% |

- Percentage of waste recycled – All waste
    - Target – 30% by 2030

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 8% | 7% | 5% | 7% | 7% |

Recycling rates: Recycling percentage included in this KPI is for all waste. It is estimated that our household waste recycling rates are approximately 20.2%

**Empowerment**

Number of staff that have undertaken Climate Emergency Training

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0 | 0 | 8 | 23 | 96 |

Percentage of Senior Management (Executive Managers and above) that have undertaken Climate Emergency Training

- Target – 50% by 2025; 100% by 2026

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 12% | 22.5% |

Percentage of Elected Members that have undertaken Climate Emergency Training

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0% | 0% | 0% | 0% | 48% |

Number of attendees at Shetland Climate Festival

- Target – Annual increase of 10%

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|---|---|---|---|---|
| 0 | 0 | 260 | 250 | 350 |

# Appendices

Appendices

- Appendix A – A closer look at Progress and Future Plans
- Appendix B – Climate Change Programme Governance and Management
- Appendix C – Emissions Breakdown