Be the
Future

Climate Change
Strategy

**Clackmannanshire
Council**
www.clacks.gov.uk

Comhairle Siorrachd
Chlach Mhanann

Structure

1. Foreword

The impacts of climate change are becoming increasingly clear with Scotland's ten hottest years having all occurred since 1997 despite record keeping beginning in Victorian times. The urgency to act has been given even greater impetus by the fact that Scotland's highest ever temperature of 35.1°C registered in July 2022.

As a Council with a large estuary and numerous rivers running through it, climate change is likely to become an increasingly significant issue for Clackmannanshire in the near future with increased flash floods, heatwaves and stronger storms all becoming more likely.

These disconcerting trends have galvanised us into being even more ambitious in our actions to help to address climate change and led to us bringing the Council's net zero target forward to 2040 at the latest from 2045.

Setting ambitious net zero targets and the framework to achieving them in this Strategy will allow us to harness the social, financial and economic benefits that the transition to net zero offers such as improved air quality, reduced costs for residents and businesses through greater energy efficiency and waste reduction by moving towards a circular economic model.

With the recent volatility in fossils fuel prices and the cost of living crisis putting increasing financial pressures on residents and businesses alike, we as a Council are determined to create a Climate Change Strategy that will be shaped by meaningful engagement with young people, businesses and residents in order to empower communities, respond to challenges that they face and deliver a just transition to net zero.

Since passing the new net zero targets in August 2022, the Council has engaged 86 residents though Climate Change Forums based in Alva, Menstrie, Dollar, Alloa and at Lornshill Academy. A Climate Emergency Action Plan with specific emission reduction opportunities has been composed based upon input from these Climate Change Forums.

The Climate Emergency Action Plan underscores the huge potential for the Council to lead by example by delivering and facilitating emissions reductions across Clackmannanshire such as through aligning all of our major decisions, budgets and approaches to planning decisions with a shift to net zero while working with partners to support businesses and communities in reducing their emissions.

While this Strategy sets out means of building on the Council's achievements in reducing our contributions to climate change and improving our resilience to the effects of the climate emergency, we recognise that continuing the transition from a fossil fuel based economy to a carbon neutral and resilient future will require new ways of working, societal shifts as well as a technological transition.

With the seminal sixth assessment report by the Intergovernmental Panel on Climate Change estimating that 3.3 to 3.6 billion people live in environments that are highly vulnerable to the effects of climate change, it is increasingly clear that action to address the climate emergency constitutes a defining humanitarian and economic imperative.

We owe it to future generations to rise to the occasion.

Councillor Fiona Law
Spokesperson for
Environment and Net Zero

2. Executive Summary

This Strategy sets out a framework for achieving net zero greenhouse gas emissions by 2040 at the latest for the Council's own operations and by 2045 at the latest for the Clackmannanshire area.

It includes means of aligning all strategic decisions, budgets and approaches to planning decisions with a shift to net zero greenhouse gas emissions in addition identifying emission reduction opportunities to initiate the development of a thematically based Climate Emergency Action Plan.

The six themes are as follows:

1) Energy, Heat and Buildings
2) Low-carbon Transport
3) Waste, Recycling and the Circular Economy
4) Biodiversity, Carbon Storage and Agriculture
5) Adaptation, Planning and Organisational Capacity
6) Economic Development and Sustainable Procurement

The Strategy has been shaped by input from community groups, young people, residents and businesses who attended a series of monthly Climate Change Forums around in Clackmannanshire from September 2022 to March 2023.

Since it is expected that opportunities for decarbonisation will evolve based upon input from consultations in the short-term and from technological advances, new legislation and further engagement in the medium to long-term, it constitutes a starting point rather than an exhaustive list of opportunities.

This Strategy also recognises the extensive activity that the Council has previously undertaken to reduce emissions and will aim to add value to this work by augmenting coordination, facilitating robust data gathering, catalysing green decision making across all council service areas and positioning Clackmannanshire to maximise the inward investment and job-creation potential of the transition to net zero.

The Strategy also aims to underscore the Council's commitment to a just transition by recognise that even though the impacts of climate change will affect everyone, the most severe impacts are likely to be felt by people who are at greater risks of poverty.

Building on the community engagement through the Climate Change Forums will therefore be pertinent to continuing to develop collaborative solutions with those most exposed to the effects of climate change.

3. Why Does Climate Change Matter?

Climate change is caused by heat-trapping gasses, known as greenhouse gases, being released into the atmosphere from the burning of fossil fuels (such as coal, oil and gas) for energy generation, industry and transport.

These greenhouse gas emissions from human activity have led to significant heating in Earth's climate with 2020 and 2016 registering as the joint hottest years globally since modern record keeping began in 1880.[1]
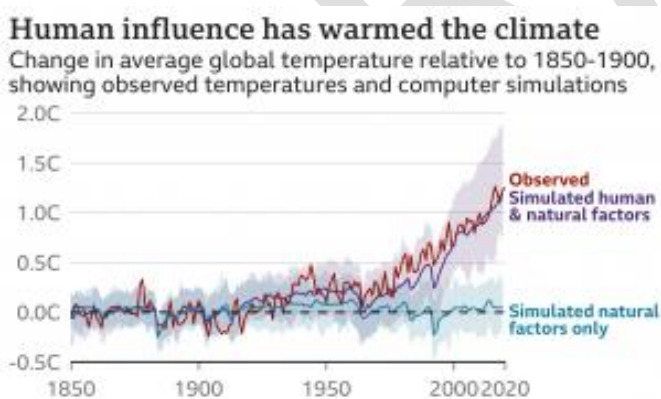
This fits into a wider trend with **nineteen of the twenty hottest years on record registering since the year 2000 globally**[2] while **Scotland's top ten hottest years have all occurred since 1997** with records beginning in 1884.[3]

The heatwave of in **July 2022 saw a record temperature of 35.1°C in Scotland**, 2.2°C higher than the previous record. Temperatures in Clackmannanshire in this period included Menstrie reaching 32°C and Alloa reaching 31°C.[4]

Despite the fact that there is growing international action to mitigate climate change, including initiatives aiming to limit warming to 1.5°C, even a global average temperature increase of 1.5°C would result in risks to health, livelihoods, water supply, food security, human security and economic growth globally.[5]

A rise of 2°C in global average temperatures would be even more catastrophic.

As highlighted by the image below, we are already approaching a global average temperature increase of 1.5°C so it is crucial that adaptation to a continuously changing and increasingly hostile climate constitutes a cornerstone of this Strategy and the Climate Emergency Action Plan.

Human influence has warmed the climate
Change in average global temperature relative to 1850-1900, showing observed temperatures and computer simulations

[1] Nasa (2022) *Facts* https://climate.nasa.gov/vital-signs/global-temperature/
[2] Nasa (2022) *Facts* https://climate.nasa.gov/vital-signs/global-temperature/
[3] Adaptation Scotland (2022) *Climate trends and projections* https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections#:~:text=Key%20long%2Dterm%20climate%20change,will%20be%20warmer%20and%20drier
[4] See https://wow.metoffice.gov.uk/ at 18/07/2022 16:00 to 16:59 and 19/07/2022 15:00 to 15:59 for Menstrie and 19/07/2022 14:00 to 14:59 for Alloa
[5] IPCC (2022) *Climate Change 2022: Impacts, Adaptation and Vulnerability* https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

The Intergovernmental Panel on Climate Change (IPCC)'s Sixth Assessment Report provides the most comprehensive analyses of the latest climate science, impacts and vulnerabilities related to climate change.

It delivers the starkest warning yet on the risks of climate change and highlights that climate change is already affecting many weather and climate extremes in every region across the globe while providing evidence that observed changes in extremes such as heatwaves, heavy precipitation, droughts and tropical cyclones has strengthened.[6]

The Sixth Assessment Report also notes that human-induced climate change is causing dangerous and widespread disruption in nature and affecting the lives of billions of people around the world, despite efforts to reduce the risks. Moreover, people and ecosystems least able to cope are being hardest hit.[7]

Climate change is also the single greatest threat to Scotland's habitats.[8] Since many of Scotland's species are highly adapted to specific climatic conditions, the effects of climate change are expected to be drastic.[9]

As a result of these grave impacts that are projected worldwide, the IPCC argue that immediate, rapid and large-scale reductions in greenhouse gas emissions are needed, alongside urgent actions to mitigate and adapt to climate change.[10]

In Scotland, climate change has led to a warmer climate, changes in rainfall patterns and higher sea-levels. The weather extremes in Scotland have also changed with our hottest days getting hotter and our wettest days getting wetter (see tables below on changes to annual rainfall and mean temperature).[11]

Adaptation Scotland's data on rainfall and annual average temperature in Scotland

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[6] IPCC (2022) *Climate Change 2022: Impacts, Adaptation and Vulnerability* https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

[7] IPCC (2022) *Climate change: a threat to human wellbeing and health of the planet.* https://www.ipcc.ch/report/ar6/wg2/resources/press/press-release

[8] Naturescot (2022) *Climate change impacts in Scotland* *https://www.nature.scot/climate-change/climate-change-impacts-scotland#:~:text=Climate%20change%20is%20the%20single,and%20animals%20grow%20and%20thrive*.
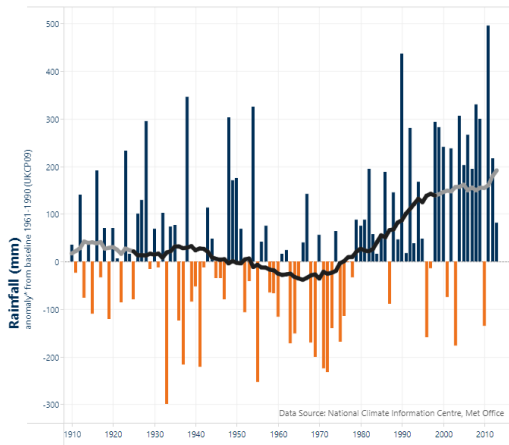
[9] Naturescot (2022) *Climate change impacts in Scotland* *https://www.nature.scot/climate-change/climate-change-impacts-scotland#:~:text=Climate%20change%20is%20the%20single,and%20animals%20grow%20and%20thrive*.

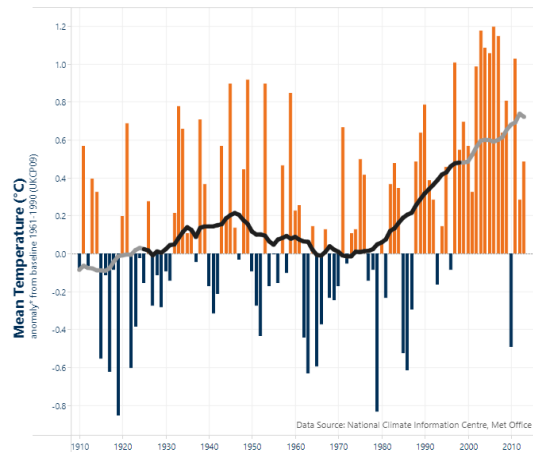[10] IPCC (2021) *Climate change widespread, rapid, and intensifying – IPCC* *https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/#:~:text=Faster%20warming,C%20will%20be%20beyond%20reach*.

[11] Adaptation Scotland (2022) *Climate trends and projections* https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections#:~:text=Key%20long%2Dterm%20climate%20change,will%20be%20warmer%20and%20drier

Furthermore, climate change is projected to result in higher temperatures throughout the year, more unpredictable and extreme weather conditions and increased flooding, storms and heatwaves in Scotland.[12]

Alloa in December 2021 following storm Arwen when hundreds of trees were blown down across Clackmannanshire.

Between 2015 and 2019, 97% of Scottish lochs and reservoirs that are monitored have increased in temperature. Most warmed by between 0.25°C and 1.0°C per year over this period, although 9% increased by more including some by up to 1.3°C per year.[13]

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[12] Adaptation Scotland (2022) *Climate trends and projections* https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections#:~:text=Key%20long%2Dterm%20climate%20change,will%20be%20warmer%20and%20drier

[13] Scotland's Centre of Expertise for Waters (2022) *Assessing climate change impacts on the water quality of Scottish standing waters* https://www.crew.ac.uk/sites/www.crew.ac.uk/files/publication/CREW%20%E2%80%93%20Assessing%20clim

These changes increase the risk of the development of harmful algal blooms, which can restrict their use for water supply, recreation and as a safe habitat for wildlife. An extension of algal bloom has been noted in Clackmannanshire including in Gartmorn Dam.

The study by Scotland's Centre of Expertise for Waters reports that this climate-related impact is initially expected to lead to warming in waters in the south and east of Scotland although it will reach all parts of Scotland by 2040.[14]

Given that Clackmannanshire Council has a large estuary, numerous rivers running through it and a numerous flood risk areas; climate change is likely to become an increasingly significant issue.

Flooding in Alva, Winter 2022/23

The Costs of Inaction

Since it is well documented that the economic benefits of acting on Climate Change far outweigh the costs,[15] there are significant incentives to reduce emissions across all parts of society. Particularly since the worsening of extreme weather events around the world and the consequent economic losses are becoming increasingly pronounced as emissions increase.[16]

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[14] Scotland's Centre of Expertise for Waters (2022) *Assessing climate change impacts on the water quality of Scottish standing waters*
https://www.crew.ac.uk/sites/www.crew.ac.uk/files/publication/CREW%20%E2%80%93%20Assessing%20clim
ate%20change%20impacts%20on%20the%20water%20quality%20of%20Scottish%20standing%20waters_1.pd
f

[15] See The Economics of Climate Change: The Stern Review (2006)
https://www.lse.ac.uk/granthaminstitute/publication/the-economics-of-climate-change-the-stern-review/

[16] UNEP (2022) Economic Impacts of Climate Change: Exploring short-term climate related shocks for financial actors with macroeconomic models https://www.unepfi.org/publications/economic-impacts-of-climate-change-exploring-short-term-climate-related-shocks-with-macroeconomic-models/

Moreover, BloombergNEF report record investment in low-carbon energy transition of $1.1 trillion in 2022, significantly higher than the previous records which were set in 2021, 2020 and 2019 respectively. [17]

The movement to divest from fossil fuels is also accelerating with over 150 pension funds, many leading universities, the Republic of Ireland's Government, The Welsh Assembly, New York City's Government and private sector organisations all making public statements to divest . The approximate value of institutions that have divested is $40.51 trillion.[18]

Accordingly, Clackmannanshire has called for Falkirk Local Government Pension Scheme to divest from fossil fuels due to the growing financial and ecological risks from continued fossil fuel investment.[19]

Climate change adaptation and mitigation measures also have the potential to deliver significant benefits to health and wellbeing. For example, the damage that air pollution can cause to people's health is widely reported. The Royal College of Physicians and the Royal College of Paediatrics and Child Health report that exposure to outdoor air pollution is attributable to 40,000 premature deaths per year in the UK in addition to being linked to strokes and heart disease, cancer, asthma, obesity, diabetes, COPD and dementia[20].

Flood Risk Areas of Clackmannanshire are highlighted in blue and green in SEPA's flood risk map
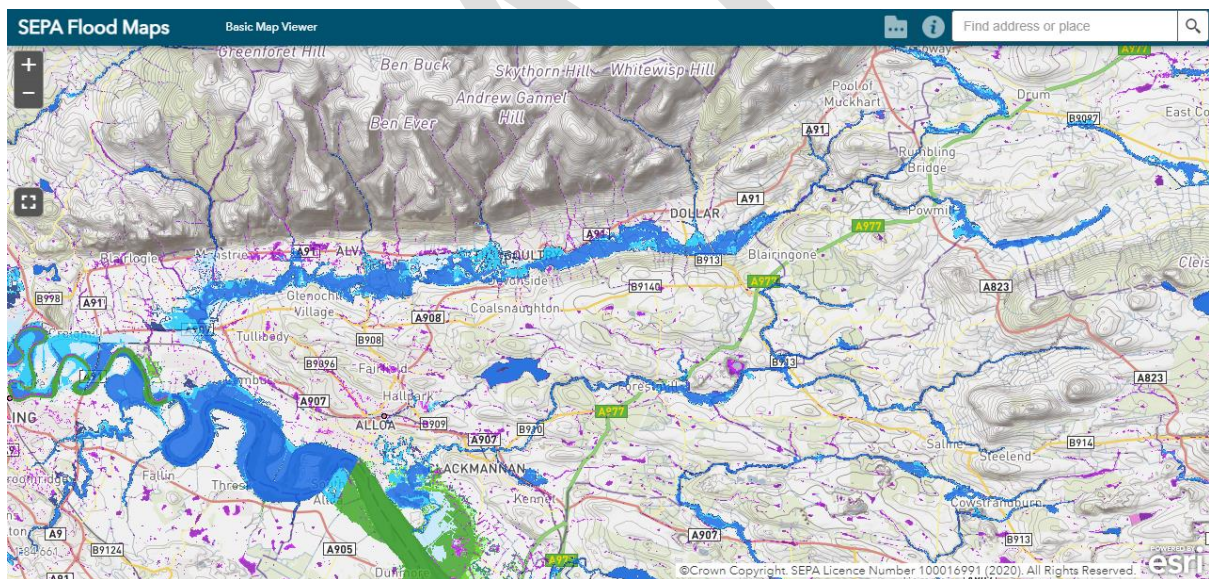
The British Heart Foundation estimate that particulate matter air pollution could be attributed to 160,000 heart and circulatory disease deaths over the next ten years in the UK.[21] This is particularly

[17] BloombergNEF (2023) See https://about.bnef.com/energy-transition-investment/ accessed 19/06/2023
[18] Global Fossil Fuel Divestment Commitments Database (2023) *The database of fossil fuel divestment commitments made by institutions worldwide* https://divestmentdatabase.org/ accessed 19/06/2023
[19] https://www.clacks.gov.uk/document/meeting/1/1193/7613.pdf
[20] Royal College of Physicians (RCP) & the Royal College of Paediatrics and Child Health (RCPCH) (2016) https://www.rcplondon.ac.uk/news/doctors-say-40000-deaths-year-linked-air-pollution
[21] BHF (2020) *'Heart attack and stroke deaths related to air pollution could exceed 160,000 by 2030'*

significant within the context of Covid-19, where long-term air pollution was linked to greater risk of hospitalisation.[22]

A further factor of relevance to health and well-bring is the fact that some of the most emission-intensive elements of society such as large-scale animal agriculture and international flights, are also those that make the emergence of future pandemics more probable.[23] These practices therefore constitute multi-faceted threats to long-term sustainability.

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[22] Imperial College (2021) *'Long-term air pollution linked to greater risk of COVID-19 hospitalisation'*
[23] Harvard University (2022) *Coronavirus, Climate Change, and the Environment A Conversation on COVID-19 with Dr. Aaron Bernstein, Director of Harvard Chan C-CHANGE* Coronavirus and Climate Change – C-CHANGE | Harvard T.H. Chan School of Public Health

4. Climate Change Legislation

International

The Paris Agreement 2015 set a target to keep the global temperature rise below 2°C above pre-industrial levels and to attempt to limit the overall increase to 1.5°C and was signed into law by the UK Government.

The regular Conference of the Parties (COP) conferences that followed, including Glasgow in 2021, has led to approximately 200 countries agreeing to take climate change action while regularly enhancing the ambitiousness of their emissions reduction targets in future COP events.

Carbon budgets produced by the Intergovernmental Panel on Climate Change, United Nations and the International Energy Agency demonstrate that preventing two degrees of warming relies on not burning the vast majority of all proven fossil fuels.[24]

In addition to this emission reduction framework, the United Nation's Sustainable Development Agenda 2030 includes Goal 13: Climate Action which sets a requirement for nations to '*Take urgent action to combat climate change and its impacts'* by 2030.

United Kingdom

The UK Government has set a legally binding target to reach net zero greenhouse gas emissions by 2050, under the 2019 amendment of the 2008 Climate Change Act. It also announced an interim target of a 78% reduction by 2035 compared to 1990 levels in 2021.

the UK Government's Net Zero Review, which was published in September 2022, has noted that *"Net zero is the growth opportunity of the 21st century"* and that *"net zero is creating a new era of opportunity, but government, industry, and individuals need to act to make the most of the opportunities, reduce costs, and ensure we deliver successfully."* [25]

Scotland

The Scottish Government has set a legally binding targets to reach net zero greenhouse gas emissions by 2045, under the Scottish Government's Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. It also set interim targets for a 75% emissions reduction by 2030 and a 90% reduction by 2040 relative to 1990 levels of carbon dioxide, methane and nitrous oxide and 1995 levels of some other less common greenhouse gases.

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[24] Hook, L. and Raval, A. (2021) *Energy groups must stop new oil and gas projects to reach net zero by 2050, IEA says.* Financial Times, 18 May. Available at: https://www.ft.com/content/2bf04fff-5b2f-4d96-a4ea-ff55e029f18e

[25] Uk Government (2023) Mission Zero – Independent Review of Net Zero https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128689/mission-zero-independent-review.pdf

The act places duties on all public bodies to contribute to emission reduction targets, deliver programmes to increase resilience against climate change and requires Councils to submit a mandatory climate change report to Scottish Government each year.

The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 requires that, from November 2022, Public Bodies' Climate Change Duty (PBCCD) reports, including Clackmannanshire Council's, to include:

- a target date for achieving zero direct emissions of greenhouse gases;
- targets for reducing indirect emissions of greenhouse gases;
- an outline of how the body will align its spending plans and use of resources to contribute to reducing emissions and delivering its emissions reduction targets;
- an outline of how the body will publish its progress on delivering reduction targets; and
- where applicable, what contribution the body has made to deliver Scotland's Climate Change Adaptation Programme.

Key expectations within the legislation include:

- **Governance**: institutional boards and senior executive teams must ensure that climate change systemically informs strategic investment planning and decision-making processes and is embedded into the management of risks and opportunities across the organisation.
- **Finance**: climate change must be integrated into financial planning and reporting.
- **Reporting**: public bodies must consistently, accurately and transparently report all Scope 1 & 2 emissions and all relevant and significant Scope 3 emissions.
- **Accountability**: it is recommended that climate change targets should be a board level Key Performance Indicator and if targets are missed, a corrective action plan is required.

Additional climate change targets that apply to public bodies include the following:

- Zero direct emissions by 2045 at the latest with interim targets to monitor progress.
- Zero direct emissions from all estate buildings by 2038.
- Net zero targets for indirect emissions that clearly state what is included. If an institution chooses to exclude a source of indirect emissions from its target it must clearly explain the reasoning.

Following the UK's decision to leave the EU, the Scottish Parliament passed the European Union (Continuity) (Scotland) Act 2021 which provides Ministers with powers to help meet the Scottish Government's commitment that Scottish laws *"keep pace"* with future developments in EU law where appropriate.

The Scottish Government also published a consultation on '*Delivering Scotland's Circular Economy'* which sets out several levers that the Scottish Government intends to use to drive the transition to a fully circular economy thus reducing waste.

The Scottish Government's Programme for Government also explores establishing a Future Generations Commission to take into account the interests of future generations in decisions that are made today.

Clackmannanshire Council

The Clackmannanshire Sustainability and Climate Change Strategy was adopted in September 2010 and reviewed in 2016. However, due to the pace of change on the issue, this interim Climate Change Strategy has significantly revised the content and action points from the previous strategy.

On Thursday 19th August 2021, Clackmannanshire Council unanimously passed a motion that:

- Agrees that climate change is one of the most serious challenges facing communities here in Clackmannanshire and across the world;
- understands that meaningful action at international, national and local level is required in order to safeguard our planet for future generations;
- recognises that as we emerge from the Covid-19 pandemic, we have a chance to rebuild in a way that delivers a greener, fairer and more equal society;
- acknowledges the challenges faced by small councils such as Clackmannanshire in taking meaningful, sustainable action;
- notes the work already underway to deliver this through the City Deal and our ambitious Be the Future Programme.

In recognition of the role that the Council has to play, the Council further agreed to:

- declare a 'Climate Emergency' that requires urgent action;
- develop a comprehensive Climate Change Strategy within the next 12 months which will deliver a framework to ensure that all strategic decisions, budgets and approaches to planning decisions are in line with a shift to net zero greenhouse gas emissions by 2045;
- establish a Community Climate Change Forum to include representation from local communities, businesses and third sector organisations;
- ensure that Council is especially proactive in taking steps to include young people in the Climate Emergency process and that they have a voice in shaping the future;
- write to the Cabinet Secretary to affirm Clackmannanshire's commitment to achieve net zero by 2045 and to request a meeting to discuss how the Scottish Government can help support these ambitions.[26]

In line with the ambitions of this motion, this strategy will also ensure that the need to address climate change is embedded in future Council plans and strategies.

Clackmannanshire Council's main strategic documents - *Corporate Plan 2018-22, Be the Future*, and our *Local Development Plan* - set out our aspirations to achieve sustainability and aims to make the area more resilient to the impacts of climate change. Incorporating net zero targets and stronger means of restricting high-carbon spending and planning into these reports would be a major opportunity to limit the development of initiatives that are incompatible with net zero targets.

Or as the Scottish Audit Office notes, achieving net zero targets will require policies and strategies to be reviewed to identify conflicts or incoherence with climate change ambitions and to be amended as required.[27]
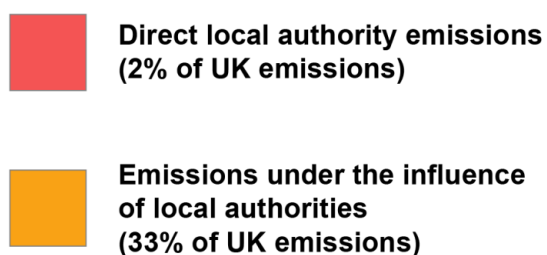
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[26] Clackmannanshire Council (2021) https://www.clacks.gov.uk/document/meeting/1/1088/7099.pdf

5. The Role of Clackmannanshire Council

While Clackmannanshire Council is a small Council both in terms of population and land coverage, it has a significant role to play in climate change mitigation and adaptation.

For example, the Council is responsible for services including the provision of schools and education, the collection of waste and recycling, planning and building standards, local transport planning, infrastructure development, local economic development, the provision of libraries, street lighting, and the collection of Council taxes.

Additionally, in delivering these functions, the Council owns and operates a large built estate and is an employer of over 2,000 staff, thereby giving it significant scope to support direct emissions reduction through its own estate and workforce. The scale of this influence is highlighted by the Climate Change Committee below.

Direct local authority emissions (2% of UK emissions)

Emissions under the influence of local authorities (33% of UK emissions)

2020 Committee on Climate Change report

Areas that contribute most to Clackmannanshire Council's own carbon footprint include energy consumption from buildings and operations, waste (both operational and domestic household waste), use of council & staff vehicles and the procurement of goods and services. Conversely, afforestation and land management can increase the carbon storage potential of nature and therefore reduce net emissions.

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[27] Audit Scotland (2022) *Addressing climate change in Scotland A summary of key recommendations for public bodies* https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland

Rural Councils such as Clackmannanshire are particularly well placed to contribute to net zero targets through land for onshore renewable energy, land for carbon sequestration and reducing emissions from agriculture.[28]

Over one hundred UK Councils have signed up to net zero emissions for their own activities by 2030 and net zero area-wide emissions by 2045. Signatories of the 2030 council targets include Glasgow City, North Lanarkshire, Renfrewshire, Moray, Edinburgh City, Falkirk and East Ayrshire Council.

While 2040 has been identified as achievable for Clackmannanshire Council from the initial analysis of emissions data and potential routes to net zero for the Council's own operations, it is crucial to continue to develop more robust data of the local authority's current carbon footprint and potential emission reduction trajectories in order to establish whether earlier dates are possible.

In line with this, the framework set out in Section 6 will allow iterative identification of external emission reduction opportunities for Clackmannanshire in addition to setting out means of developing a more coordinated approach to adaptation.

Given the on-going cost of living crisis, with significant increases in the cost of energy and petrol affecting residents and businesses in Clackmannanshire, harnessing the poverty-alleviation potential of decarbonisation is increasingly pertinent, or as the Committee on Climate Change notes, net zero policies are amongst the most effective to deal with the soaring cost of living.[29]

Furthermore, a Place and Wellbeing Outcomes Assessment was held in partnership with the Improvement Service to consider means of maximising the positive health and well-being impacts of the framework and actions in this strategy.

Businesses' and residents' individual emissions are not counted as part of the PBCCD reporting figures as they do not constitute part of Clackmannanshire Council's own operations, however, the Council has significant scope to facilitate emissions reductions in these areas while delivering a wide-range of benefits. While specific opportunities are set out in the themes in Section 7, some broad examples of benefits include:

- strengthening energy networks to improve energy security and reduce costs for residents and businesses;
- delivering low-carbon retrofits to alleviate fuel poverty and reduce costs to help tackle the rising cost of living;
- reducing waste and achieving cost savings by moving towards a circular economy;
- improving air quality, delivering negative emissions and providing resilience to climate-related disturbances through tree planting, pollinator and biodiversity-focussed initiatives;
- improving infrastructure for walking, cycling, remote working and public transport;
- promoting and supporting community food growing.

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[28] Quantum Strategy & Technology Ltd (2021) *Rural Net Zero The role of Rural Local Authorities in reaching Net Zero* https://www.uk100.org/sites/default/files/publications/Rural%20Net%20Zero_May%202021.pdf
[29] See Climate Change Committee (2022) *Progress Report to Parliament* https://www.theccc.org.uk/publication/2022-progress-report-to-parliament/

Since the UK and Scottish Government have both set targets to reach net zero, by 2050 and 2045 respectively, there are significant funding opportunities for projects that contribute towards these objectives.

Accordingly, in the process of moving to net zero, Clackmannanshire will aim to create thousands of new jobs and investment opportunities in renewable energy, recycling and green projects.

Internal emissions

Clackmannanshire Council has completed annual reports for the Public Bodies Climate Change Duty (PBCCD) from the financial year of 2013/14 to 2020/21. The next iteration will cover the financial year of 2021/22 and was submitted on 30 November 2022.

While the overall emissions do not yet include some significant areas of the Council's carbon footprint such as waste, means of including these in future reports are set out in Section 6. Below are Clackmannanshire's emissions for the Council's own activities and their corresponding financial year:

2013/14   9,767 tCO_2e

2014/15   9,703 tCO_2e

2015/16   9,493 tCO_2e

2016/17   8,844 tCO_2e

2017/18   7,538 tCO_2e

2018/19   6,285 tCO_2e

2019/20   5,986 tCO_2e

2020/21   5,045 tCO_2e[30]

It is important to note that while consistent emission reductions are a positive sign of progress, a large proportion of the decreases in emissions resulted from the Council selling buildings combined with the national decarbonisation of electricity.

Accordingly, greater efforts will need to be made in order to ensure a continuation of this trend since a reduction of emissions in key areas such as waste and transport will require behavioural changes in addition to the decarbonisation of business as usual.

Spending Alignment

The Scottish Audit Office notes that achieving the net zero targets will require policies and strategies to be reviewed to identify conflicts or incoherence with climate change ambitions and to be amended as required.[31]

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[30] For further information on Clackmannanshire's Public Bodies Climate Change Duty Reports see
https://sustainablescotlandnetwork.org/reports/clackmannanshire-council

Steps have already been taken to deliver on this, with the Council's General Services Revenue and Capital Budget 2022/23, published in March 2022,[32] setting out how the Clackmannanshire's Capital Programme aims to stimulate a green investment-led recovery to positively impact the area's economic performance as detailed in the Council's Local Outcome Improvement Plan (LOIP).

In line with this, central theme of the Council's General Services Revenue and Capital Budget 2022/23 investment report is an increased focus on green investment to support the Council's journey to Net Zero. Specific alignment of the Council's Capital Programme and green investment can be found in the below table:

Green investment through Clackmannanshire Council's Capital Programme

	2022/ 23	2023/ 24	2024/ 25	2025/ 26	2026/ 27	Total 2027-32	Total 2032-37	Total 2037-42	20 year Total
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Innovation Hub	200	1,164							1,364
Delivery City Deal (RPMO)	100	100							200
Renewable Energy Projects	30								30
Active Travel Route Railway Station	0	560							560
Flood Protection	57	235	86	86	86	430	430	430	1,840
Tillicoultry Flood Protection	0	150	250	300	2,500	2,800			6,000
Building energy management system	32	8							40
Cycle Routes	222	100	100	55					477
Active Travel Route	0	2,000							2,000
Street Lighting Replacement	258	258	258	258	259	1,297	1,303	1,305	5,196
Vehicle Replacement	563	800	1,000	1,000	1,000	5,000	5,000	5,000	19,363
TOTAL	**1,462**	**5,375**	**1,694**	**1,699**	**3,845**	**9,527**	**6,733**	**6,735**	**37,070**

While this report sets strong foundations for investment towards net zero, it also recognises the need for this Climate Change Strategy to include a framework to ensure that *all* strategic decisions, budgets and approaches to planning decisions are in line with a shift to net zero greenhouse gas emissions by 2045.

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[31] Audit Scotland (2022) *Addressing climate change in Scotland A summary of key recommendations for public bodies* https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland
[32] The Council's *General Services Revenue and Capital Budget 2022/23 investment report* can be accessed here https://www.clacks.gov.uk/document/meeting/127/1138/7304.pdf

Clackmannanshire's external emissions by sector are summarised in the table below. The data illustrates how industry emissions are by far the largest contributor, accounting for 43.3% of emission in Clackmannanshire. This is followed by commercial gas and electricity at 20.8%, domestic gas and electricity at 15.06% and then Transport at 11.31% in 2020.

The Department for Business, Energy & Industrial Strategy's emission figures also indicate that total public sector emissions are a small proportion of the area-wide total at 1.6%.

Estimated territorial greenhouse gas emissions by sector in Clackmannanshire 2005-2020 (kt CO₂e)

Calendar Year	Industry Total	Commercial gas and electricity Total	Public Sector Total	Domestic Total	Transport Total	Land use and forestry (Net Emissions)	Agriculture Total	Waste Management Total	Grand Total
2005	279.7	92.2	11.3	136.0	80.2	15.1	7.8*	2.1*	**624.4***
2006	285.8	91.6	11.7	135.1	80.6	13.9	8.0*	2.3*	**629.1***
2007	301.1	142.8	14.2	132.9	82.6	13.6	8.2*	2.4*	**697.7***
2008	302.2	152.0	14.7	132.5	80.5	12.8	8.2*	2.3*	**705.2***
2009	255.3	98.6	11.1	120.6	79.2	12.0	7.3*	2.3*	**586.4***
2010	288.9	162.1	14.2	128.3	78.3	11.3	7.7*	2.2*	**693.0***
2011	276.3	145.3	13.2	112.6	76.0	10.4	7.5*	2.2*	**643.6***
2012	249.4	143.2	10.1	120.4	73.5	9.9	5.5*	2.2*	**614.3***
2013	240.0	149.4	10.1	116.2	70.5	9.6	5.3*	2.2*	**603.3***
2014	216.8	121.6	8.2	97.8	71.4	9.0	4.8*	2.3*	**531.8***
2015	231.5	126.7	10.0	97.3	72.3	8.5	6.0*	2.2*	**554.4***
2016	232.3	137.4	9.0	88.6	73.6	8.5	5.5*	2.1*	**556.9***
2017	221.7	128.8	8.7	85.6	73.5	8.0	5.2*	2.2*	**533.7***
2018	225.2	135.8	8.6	82.2	72.9	7.5	21.7	15.2	**568.9**
2019	227.1	126.7	8.0	81.1	71.6	7.2	21.4	14.8	**557.8**
2020	220.6	106.0	7.9	76.7	57.6	7.3	20.3	12.9	**509.2**

*Did not include Agriculture Livestock, Agriculture Soils and Landfill emissions data as data was unavailable[33]

While regional emission in Clackmannanshire have shown a downwards trajectory since 2005, a revision of the benchmark from 2018 onwards to include Agriculture Livestock, Agriculture Soils and Landfill emissions data led to an increase between 2017 and 2018.

As highlighted by the table below, Clackmannanshire's per capita emissions, at 9.9 tCO₂e, are slightly higher than the Scottish average of 9.1 tCO₂e. Additionally, out of the 32 Scottish local authorities, Clackmannanshire has the 8th highest per capita emissions.

Local Authority	Per Capita Emissions (tCO₂e)
Glasgow City	3.7

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[33] Data published by the Department for Business, Energy & Industrial Strategy provides CO₂ emission estimates at local authority and regional level covering industry, commercial, domestic, road transport and land use emissions *https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2020*

East Dunbartonshire	3.8
City of Edinburgh	3.9
Dundee City	4.2
East Renfrewshire	4.2
West Dunbartonshire	4.3
Inverclyde	4.5
Renfrewshire	4.5
Midlothian	4.8
Aberdeen City	4.8
North Lanarkshire	5.2
West Lothian	5.4
South Lanarkshire	5.8
South Ayrshire	6.2
East Ayrshire	6.5
North Ayrshire	6.9
Angus	7.2
Stirling	7.8
Fife	7.8
Perth and Kinross	8.1
Moray	8.2
Argyll and Bute	8.9
Aberdeenshire	9.6
East Lothian	9.8
Clackmannanshire	9.9
Scottish Borders	11.2
Highland	11.6
Falkirk	14.2
Dumfries and Galloway	15.8
Orkney Islands	20.7
Shetland Islands	27.8
Na h-Eileanan Siar	35.0
Average	9.1

The disproportionate significance of industry emission to Clackmannanshire is part of the reason for the above average per capita emissions with 4.3 tCO_2e for industry emissions in Clackmannanshire compared to an average of 1.3 tCO_2e across Scotland as a whole.

When large industrial sites are excluded from this total, which is relevant since the Department for Business, Energy & Industrial Strategy identifies large industry sites as outwith the scope of influence of Local Authorities, Clackmannanshire's industry emissions per capita decline significantly to 1.4 tCO_2e per capita, although this remains higher than the 0.7 tCO_2e average for this metric in Scotland.

When all areas that Local Authorities are considered to have limited scope to influence are discounted (large industrial sites, railways, motorways and land-use) per person emissions in 2020 decline to a total of 319.94ktCO$_2$e or 6.2 tCO$_2$e per person.

The contributors to this total, as outlined in the table below, are commercial at 32.32%, Domestic Gas and Electricity at 23.26%, Industry Domestic Gas and Electricity at 23.01%, Transport at 17.69%, Public Sector Emission at 2.38% and agriculture at 1.38%.

Highest emission source excluding large industrial sites, railways, motorways and land-use	
Commercial Total	103.4
Domestic Total	74.4
Industry Total	73.6
Transport	56.6
Public sector	7.6
Agriculture	4.4
Total	**319.9**

The fact that both Domestic and Industry emissions make up a combined 46.27% of emissions that the local authority has major scope to influence, underscores the significant of transitioning building emissions from gas, which is the heating sources for approximately 80% of UK buildings.

It also emphasises the value that Clackmannanshire Council can add to net zero targets by working with employers and residents in the region to achieve a just transition to net zero.

While in-scope transport emissions are below average in Clackmannanshire at 1.1tCO$_2$e per person compared to 1.6tCO$_2$e on average in Scotland, they still makeup a significant proportion of overall emissions in the area.

As a result, specific opportunities in facilitating decarbonisation in these key areas are set out in Section 7.

6. Net Zero Delivery Framework

Net Zero emission targets for Clackmannanshire Council and the Clackmannanshire area can only be achieved by adopting a coordinated approach with local, regional and national delivery partners.

Accordingly, the Net Zero Framework comprises of the management structures required to deliver net zero targets in addition to an engagement process to gather critical feedback on environmental targets in Clackmannanshire from young people, businesses, delivery partners and residents.

A Place and Wellbeing Assessment workshop was held to pull together expertise and perspectives from attendees to consider and how the framework and actions in this strategy could affect the wellbeing of the people of Clackmannanshire.

Councils are facing funding challenges and financial support and / or a greater economy of scale will be required to deliver on key elements of net zero targets including heat pumps and large low-emission vehicles.

In line with this, the Scottish Government's Net Zero, Energy and Transport Committee has recognised the crucial role Councils have to play to meeting net zero targets and the Scottish government should provide councils with extra financial support in future budgets, as well as helping them access specialist knowledge.[34]

In a press release, the Convenor of the committee, Edward Mountain said: *"Over the course of almost a year of evidence-taking, it's clear that unless key barriers facing local government are dealt with, we will not reach net zero by 2045."*[35]

Local authority body Cosla called the report a *"watershed moment"* for combatting climate change and noted that *"…Cosla has been open that local authorities can't do that effectively without the increased support of Scottish government."*

As UK Government and Scottish Government both having statutory net zero targets, developing the Climate Emergency Action Plan and emissions reduction framework at the Council constitutes a strong opportunity to secure additional funding.

Climate Emergency Board

The Climate Emergency Board held its first meeting in September 2022 and comprises of elected members from each political party at Clackmannanshire Council and senior officers from key service areas across the Council.

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[34] https://digitalpublications.parliament.scot/Committees/Report/NZET/2023/1/23/2c9752ff-eb3f-4273-8f78-e726676a3b6e#Introduction

[35] https://www.parliament.scot/about/news/news-listing/unless-key-barriers-facing-local-government

It is responsible for developing and overseeing the Climate Emergency Action Plan with specific actions to progress net zero targets under the six themes set out in Section 7. The Climate Emergency Board is supported in its work by the Council's Energy and Sustainability team.

It has also endorsed interim targets leading up to net zero for the Council's own operations by 2040, as set out in the table below.

Year	Proportional Emission Reduction Targets	Emission levels (tCO₂e) for Each Target
2021/22	NA	12,295.5
2023/24	12%	10,809.08
2025/26	25%	9,212.28
2027/28	37%	7,738.315
2029/30	50%	6,141.52
2031/32	62%	4,667.555
2033/34	74%	3,193.59
2035/36	86%	1,719.626
2037/38	95%	614.152
2039/40	100%	0

The annual Public Bodies Climate Change Duty report provides means of quantifying the Council's emissions following the establishment of an updated baseline. The most recent annual emissions, which are used to provide the 2021/22 baseline in the graph above, are broken down in the following pie chart:
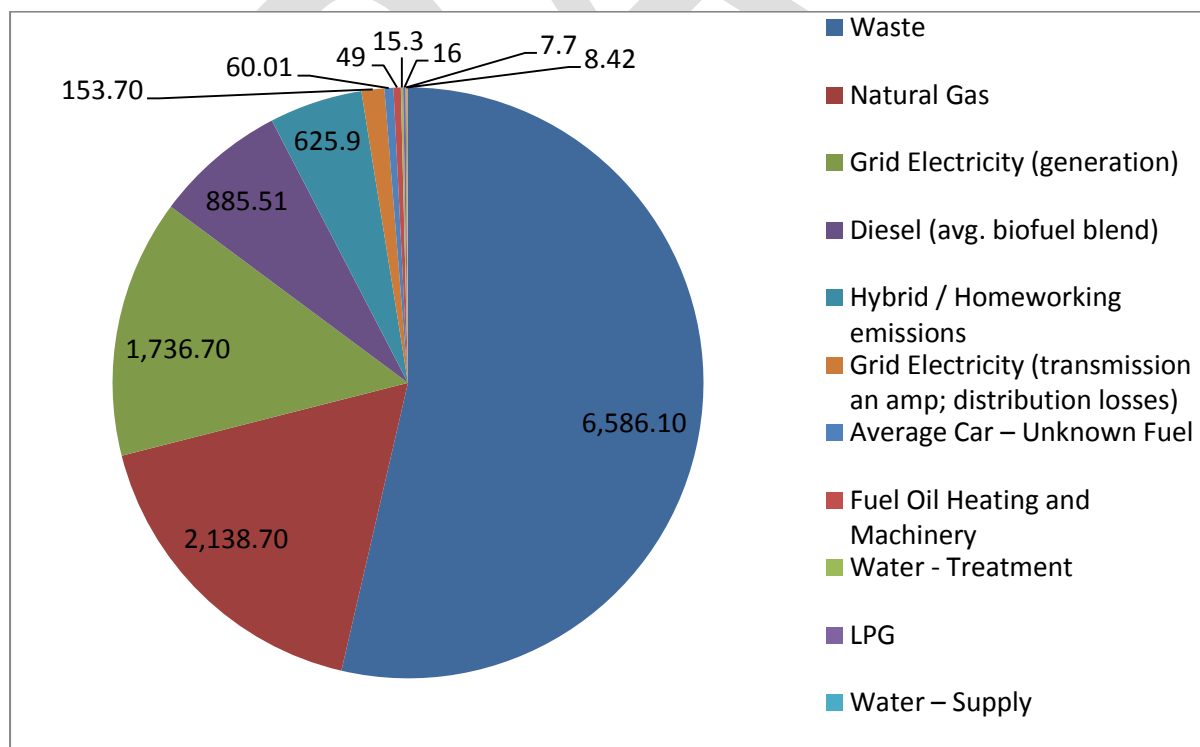
Similarly, a pie chart reflecting the area-wide emissions in Clackmannanshire is as follows:
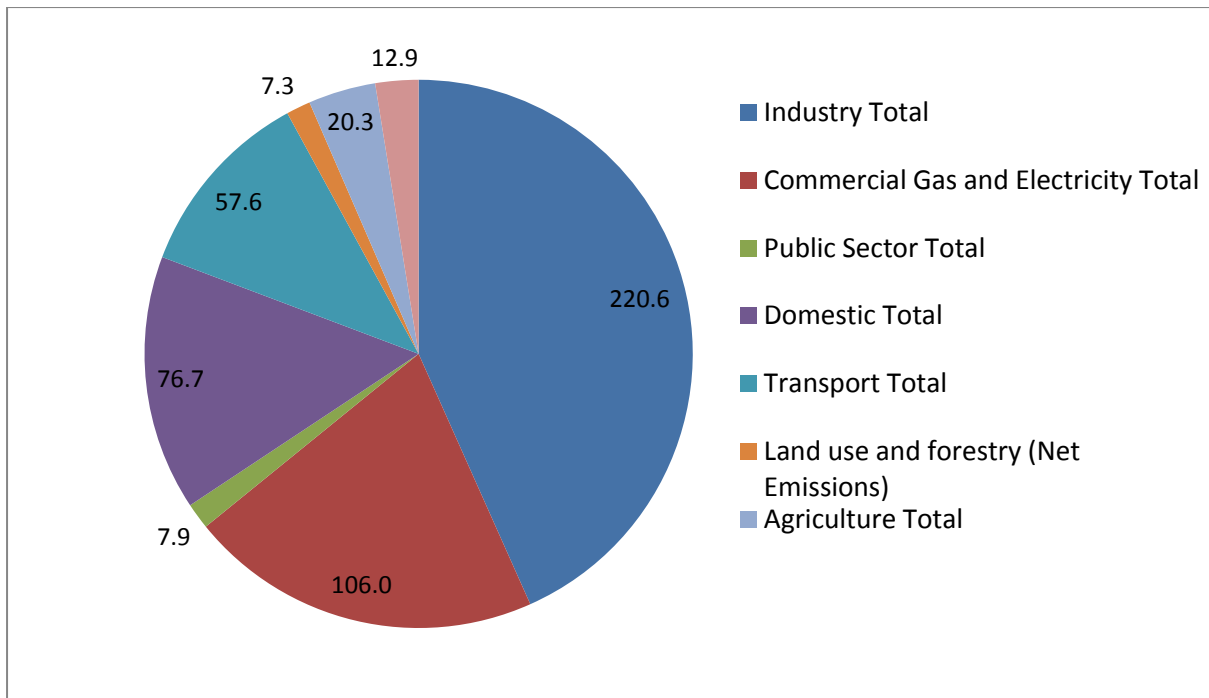
The fact that area-wide emissions are significantly larger than Clackmannanshire Council's own emissions renders engagement and collaboration with partners as crucial to maximising the Council's impact on decarbonisation.

The emission reduction targets and Climate Emergency Action Plan were both shared with the Climate Change Forums for input and feedback.

Climate Change Forums

The establishment of a Climate Change Forum in each of the five ward areas of Clackmannanshire provided a space for dialogue between communities, businesses, young people, residents and the Council so that communities can be involved in shaping and delivering the Council's climate change targets.

Climate Change Forums met monthly in Alva, Menstrie, Dollar, Alloa and at Lornshill Academy to shape the Climate Emergency Action Plan and gather input on the Council's climate change work from Autumn 2022 to early 2023.

A survey was sent to attendees of the Climate Change Forums to request input on what future attendance could look like and gather feedback on the Climate Change Forums. It was completed by 21 attendees and the feedback was very positive with the following highlights:

- All 21 reporting that they were either somewhat satisfied or satisfied with the forums on the whole;
- 19 of 21 felt the Council responded to their input while 2 felt the Council responded to some extent;
- 17 of 21 felt the forums had a positive impact on their perception of Clackmannanshire Council with 4 citing no change;

- 21 would be interested in attending future Council-run events related to Climate Change and Sustainability.

For the nature of future engagement, the following points were cited by the 21 respondents:

- 5 suggested a regular newsletter to keep attendees up to date;
- 5 suggested meeting should be for all of Clackmannanshire rather than by ward;
- 4 mentioned that more engagements is required, including with schools and to reach more of the community;
- 3 mentioned more information is required on individual actions.

When promoted about events by specific themes, respondents cited the following:

- 12 registered interest in attending Biodiversity, Carbon Storage and Agriculture themed events with 1 respondent suggesting a working group and delivery plan for this theme;
- 9 registered interest in attending Energy, Heat and Buildings themed events;
- 7 registered interest in attending Waste, Recycling and the Circular Economy themed events;
- 6 registered interest in attending Economic Development and Sustainable Procurement themed events;
- and 4 registered interest in all themes.

A total of 86 people attended the five Climate Change Forums although there were some forum meetings where attendance could have been higher with six respondents suggesting that greater attendance would have beneficial.

Forum	Attendees (excluding repetition from previous forum)	Total Attendees for each specific forum (including repetition)	School-aged attendees at each forum
1) Menstrie	20	20	4
2) Alva	17	22	3
3) Lornshill	7	14	3
4) Alloa	22	30	1
5) Dollar	20	27	4
Total	**86**	**NA**	**15**

Behavioural and societal change are significant cornerstones of achieving net zero: the Climate Change Committee have calculated that over 60% of changes required to reach net zero will require some degree of societal or behavioural change[36] while the recent IPCC report concluded that demand-side measures can reduce global GHG emissions by 40-70% by 2050.[37]

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[36] Climate Change Committee (2019) Net Zero – The UK's contribution to stopping global warming https://www.theccc.org.uk/ publication/net-zero-the-uks-contribution-to-stopping-global-warming/
[37] IPCC (2022) *Climate Change 2022: Impacts, Adaptation and Vulnerability* https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

Therefore, in setting an ambition to reduce emissions to net zero, the Council recognises the need for on-going public involvement in shaping collective future actions while public involvement is also essential for dialogue around lifestyle change on a range of key issues like diet and personal travel.

The Climate Change Forums' approach to engagement has been developed with reference to the five categories of participation in the Public Participation Spectrum: Inform; Consult; Involve; Collaborate and Empower[38] while also drawing upon the Guiding Principles from the Scottish Government's Public Engagement Strategy for Climate Change (see the table below).

Guiding Principles of Net Zero Engagement

- Our approach will be **inclusive** and accessible to all
- Our approach will **put people first** and place people at the heart of all that we do
- We will listen to and engage with experts to ensure an **evidence-based** approach
- Climate justice and a **just** transition will be embedded within our approach
- We will continue to encourage a **participative** society with two-way dialogue on climate change
- We will take a **positive** approach that outlines a vision for climate action that promotes the many benefits
- We will be **open and transparent** to make sure people can see and understand our actions[39]

By adopting these principles, the Climate Change Forums began a process of emphasising placed-based action by empowering communities to develop localised solutions to climate change.

The development of the Forum has been based upon alignment with Community Planning Partnership, Scotland's International Environment Centre, the Improvement Service and other partners to ensure that a coordinated approach is adopted and that good practice is shared.

There are also likely to be significant future opportunities for communities to take on direct action on Climate Change. For example, the Scottish Government's Programme for Government for 2021-22 sets out ambitions to explore participatory budgeting as part of community-led climate action and are particularly keen to involve schools and young people.[40]

Climate Emergency Action Plan

A Climate Emergency Plan will set out actions under each of the six themes in this strategy and create means of providing tangible action points and evidence of the impact of the Climate Change Forums' input.

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[38] IAP2 (2018) Spectrum of Public Participation
https://cdn.ymaws.com/www.iap2.org/resource/resmgr/pillars/Spectrum_8.5x11__Print.pdf
[39] Scottish Government (2021) *Climate change - Net Zero Nation: public engagement strategy*
https://www.gov.scot/publications/net-zero-nation-public-engagement-strategy-climate-change/documents/
[40] Scottish Government (2021) A Fairer, Greener Scotland: Programme for Government 2021-22
https://www.gov.scot/publications/fairer-greener-scotland-programme-government-2021-22/documents/

These actions will ensure that cost-saving and resource efficiency initiatives are fully exploited while also rendering the Council investment-ready to deliver against climate targets and create high-value green jobs.

Each action in the Climate Emergency Action plan will be assigned to a Team at the Council who will be responsible for implementing the action by its corresponding completion date and providing updates on progress. All actions in the Climate Emergency Action plan will be reviewed quarterly by the Climate Emergency Board.

Some preliminary opportunities have been identified in each theme in the section below to provide initial actions for the Climate Emergency Action Plan.

The Council's Corporate Performance Management System, Pentana, will also be used to register risks and ensure strategic oversight.

Collectively, this structure sets out means of following the Audit Office's recognition of the essential need for climate change plans to have robust governance arrangements and the capability to resolve any conflict between partners, priorities, and policies (see table below).

Scottish Audit Office's Recommendation for Net Zero Governance

"Good governance ensures accountability and transparency. It requires:

- monitoring, evaluating, reporting, and verifying plans with clear timeframes:
    - public bodies should use monitoring frameworks and policy trackers, benchmarking, milestones
    - information on costs of policies and proposals should all be monitored and reported
    - reporting should be annual, accessible, and transparent; agreed standards for bodies to measure progress would allow consistency
- feedback mechanisms to review how things work as they are being implemented
- processes for how projects will be upscaled and alternatives proposed where projects are not delivering what is expected
- effective scrutiny, oversight, and challenge by elected members and non-executive board members.[41]

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[41] Audit Scotland (2022) *Addressing climate change in Scotland A summary of key recommendations for public bodies* https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland

7. Strategic Themes and Actions

A thematic approach to the development of an updated Climate Change Strategy has been identified as means of maximising the financial, economic and social benefits of a transition to net zero.

An overview of relevant legislation and current decarbonisation projects from the Climate Emergency Action Plan have been outlined under each of the six themes.

Theme 1: Energy, Heat and Buildings

Heating and powering our buildings is a significant contributor to CO_2 emissions. As highlighted in Section 5, commercial gas and electricity accounted for 20.8% of greenhouse gas emissions in Clackmannanshire in 2020 while domestic gas and electricity were 15.06% in the same period - in total this amounted to approximately 182,700 tonnes of CO_2e.

Since there are almost 25,000 dwellings across Clackmannanshire, there are major opportunities to reduce emissions in this area while saving residents and businesses money through energy efficiency initiatives.

There is also significant scope for Clackmannanshire Council to decarbonise buildings within its own estate while driving and supporting the decarbonisation of buildings across the Council area. This offers multiple benefits since increasing the energy efficiency of houses and, thereby reducing the exposure of households to high bills, is one of the most effective means of alleviating fuel poverty.

Despite the major opportunity here, it also presents significant challenges. Approximately 80% of residential properties are heated via a gas grid in Scotland. Gas grids are particularly challenging to decarbonise and achieving net-zero home heating in these countries will involve a decisive break from established forms of supply.

There are also challenges with upfront costs of certain low-carbon heating systems, such as heat pumps, which will require lower prices and a greater economy of scale to emulate the larger scale adoption of this technology in countries such as Finland.[42]

Decoupling the wholesale price of gas from electricity would also significantly reduce the running cost of heat pumps and other low-carbon technology.

The Fuel Poverty Act sets out the four main drivers of fuel poverty:

- o energy prices;
- o income;
- o energy efficiency of the home;
- o how energy is used in the home.[43]

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[42] See https://www.ehpa.org/2023/01/17/ehpa_news/in-finland-heat-pumps-sales-increased-50-in-2021/#:~:text=In%20Finnish%20conditions%2C%20heat%20pumps,both%20for%20heating%20and%20cooling .

Given the significant increase in energy, combined with inflation increasing much more quickly than wages, it is urgent to recognise the increased exposure of residents to fuel poverty and concentrate on increasing energy efficiency and energy use to support residents. Particularly since in 2019 approximately 24% of Scottish household lived in fuel poverty[44] and the recently cost of living crisis is likely to have exacerbated this.

<u>Legislation</u>

Scottish Government policies and laws on energy, heat and buildings include the following:

- Introducing a standard requiring all new homes consented from 2024 to use zero emission heating;
- Introducing minimum energy efficiency standards for the domestic private rented sector;
- Introducing regulations for all buildings to achieve a good level of energy efficiency;
- Establishing a new net zero carbon standard for new public buildings;
- All social housing meets EPC Band B, or is as energy efficient as practically possible by 2032, within the limits of cost, technology and necessary consent.[45]

The Scottish Government's Heat in Buildings Strategy also sets out how specific requirements to meet its net zero and interim net zero targets. This will require:

- emissions from homes and buildings having to fall by 68% by 2030 against 2020 levels;
- the vast majority of the 170,000 off-gas homes currently using fossil fuels to switch to zero emission heat;
- an estimated 50,000 non-domestic buildings switching to zero emission alternatives;
- at least 1 million on-gas homes switching to zero emission alternatives by 2030;
- use of systems that have zero direct GHG emissions such as individual electric heat pumps / connection to heat network or electric systems such as storage heaters, and systems that have very low emissions such as hydrogen;
- significant progress toward all homes reaching EPC C by 2035;
- reducing emission intensity of gas by blending green gas to at least 20% volume.[46]

It also commits to making it mandatory for Scotland's Councils to develop Local Heat and Energy Efficiency Strategies (LHEES) and accompanying Delivery Plans and by the end of 2023.[47]

The Heat Networks (Scotland) Act 2021 set up the license and regulation arrangements for heat network while recognising that Heat Networks are often:

[43] Scottish Government (2020) *Lived experience of fuel poverty: evidence review* https://www.gov.scot/publications/evidence-review-lived-experience-fuel-poverty-scotland/pages/3/#:~:text=The%20Scottish%20Government%20recognises%20four,is%20used%20in%20the%20home.

[44] Energy Action Scotland (2021) *Scottish Fuel Poverty Map* https://www.eas.org.uk/en/scottish-fuel-poverty-map_59455/

[45] *Home energy and fuel poverty* https://www.gov.scot/policies/home-energy-and-fuel-poverty/energy-efficiency-in-social-housing/

[46] Scottish Government (2021) *Heat in Buildings Strategy - achieving net zero emissions in Scotland's buildings* https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/pages/3/

[47] Scottish Government (2022) Local Heat and Energy Efficiency Strategies Draft LHEES Order consultation

- more efficient than single fossil fuel heating systems;
- run fully from renewables, recovered waste or surplus heat sources;
- capable of allowing changes in heat source without disrupting the user's supply.[48]

The Scottish Government Energy Efficient Scotland Route Map also identifies key targets for the domestic sector, including:

- Maximise the number of social rented homes achieving Energy Performance Certificate (EPC) B standard by 2032;
- Private rented homes to achieve EPC E by 2022, EPC D by 2025, and EPC C by 2030 (where technically feasible and cost effective);
- All homes with households in fuel poverty to reach EPC C by 2030 and EPC B by 2040 (where technically feasible and cost effective.)[49]

The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act received Royal Assent on 18 July 2019 and sets out the four main drivers of fuel poverty:

- energy prices;
- income;
- energy efficiency of the home;
- and how energy is used in the home.[50]

What we are doing now

The Council is commissioning a Regional Energy Masterplan in partnership with Stirling Council to identify renewable energy potential, explore methods of energy efficiency and make recommendations of potential initiatives across Clackmannanshire and Stirling for the next 10-15 years. A Local Heat and Energy Efficiency Strategy (LHEES) and Delivery Plan will be developed to build on this work.

Consultation work has begun and a key output includes two full business cases for each Clackmannanshire and Stirling in addition to exploring options for joint work, potentially linked to battery storage or energy potential based up on the region's geology such as the fault line across the hill foots.

The Council's Home Energy Advice Team provides support to low-income houses in fuel poverty by providing energy efficiency improvements and money and benefits advice, consolidating energy debt and accessing funding to help to alleviate the rising cost of living. The team also holds surgeries and regular community-based events to engage residents.[51]

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[48] Heat Networks (Scotland) Bill (2021) https://www.parliament.scot/bills-and-laws/bills/heat-networks-scotland-bill#:~:text=The%20aim%20of%20the%20Bill,from%20homes%20and%20other%20buildings.

[49] Scottish Government (2018) *Energy Efficient Scotland: route map* https://www.gov.scot/publications/energy-efficient-scotland-route-map/

[50] Scottish Government (2020) *Lived experience of fuel poverty: evidence review* *https://www.gov.scot/publications/evidence-review-lived-experience-fuel-poverty-scotland/pages/3/#:~:text=The%20Scottish%20Government%20recognises%20four,is%20used%20in%20the%20home*.

[51] For more information see https://www.clacks.gov.uk/housing/fuelpoverty/

Over the past 12 years the Council's Energy and Sustainability team have secured over £18.5m in Government funding to improve the energy efficiency in homes resulting in an estimated emissions reduction of over 13,000 tonnes of CO_2e in annual savings or over 334,000 tonnes of CO_2e in estimated lifetime savings.

There is also on-going work on council-managed buildings with the Council's Housing Service investing in this area for well over a decade to improve the energy efficient of our schools, homes and libraries while lowering carbon emissions. The Housing Team has also undertaken significant work on housing quality standards, energy efficiency in social housing and the fuel poverty agenda.

This includes on-going work to make council-managed buildings more energy efficient and less dependent on fossil fuels and substantial retrofitting and renewable energy investments being made in housing stock, our schools, libraries and public buildings.

Further areas of work include upgrading streetlights to save energy and making various funding bids with local and regional partners to develop feasibility studies and costed business plans for green energy generation initiatives.

More specifically, we have 10,275 street light units[52] (including switch gear - which consumes electricity) 94% of which have been converted from Sodium lanterns to high efficiency LED lanterns since 2015: the LED lanterns use approximately 30% of energy equivalent of the sodium units.

Over the next 2 to 3 financial years, plans are being developed to convert the majority of the remaining sodium lanterns to LED. All lanterns are recycled in line with the Waste, Electrical and Electronic Equipment Regulations 2013.

Climate Emergency Action Plan – Energy Heat and Buildings

Action	Responsible	Update to Board	Short (1 year) /Medium (2 – 4 years) / Long (5-10 years)
1.1 Develop a long term investment programme to meet the Council's obligations in relation to EESSH2 and the Scottish Government's decarbonisation targets as part of the review of the 30 year HRA business plan: - Adopt a 'fabric first' approach whereby the performance of the components / materials that the building fabric comprises of is maximised, as set out in the Zero Emissions in Social Housing Report.[53] - Complete a comprehensive stock condition survey and stock option appraisal as the basis of an agreement with tenants on a long term decarbonisation and stock improvement	**Housing / Property Teams**	**October 2023**	**Medium**

[52] Data from Clacks Street Lighting inventory
[53] Scottish Government (2021) *Achieving net zero in social housing: Zero Emissions Social Housing Taskforce report* Supporting documents - Achieving net zero in social housing: Zero Emissions Social Housing Taskforce report - gov.scot (www.gov.scot)

programme - Review the technical options for decarbonisation with a particular focus on solutions for high density housing and reducing fuel poverty.			
1.2 The housing service plan to take forward a full review of the current HRA Business Plan within the final quarter of this financial year. This will include an audit and review of the assumptions and future projections which are contained within the HRA business plan model. Review will be key to informing the take forward of our decarbonisation plans, as it will identify our capacity in baseline plan to fund future investment. This will include an assessment of the impact of varying key business plan assumptions on the future investment potential i.e. decarbonisation, Energy Efficiency Standard for Social Housing (EESSH 2) and maintenance efficiencies. Will also include new housing supply. Review findings and outcomes expected to be available by beginning of Q2 FY 2023/24. Update in third quarter of FY2023/24 following completion of HRA Business Plan. Review/Progress based on procurement of stock condition survey for domestic/non domestic assets.	**Housing / Property Teams**	**October 2023**	**Medium**
1.3 Assess building fabric of properties held following asset review to determine appropriate insulation upgrades.	**Housing / Property Teams**	**October 2023**	**Medium**
1.4 Investigate using Energy Performance Contracts (whole building approach).	**Housing / Property Teams**	**October 2023**	**Medium**
1.5 Ongoing Work includes: Reducing the carbon footprint of domestic stock, as part of the electrical testing and upgrade programme, all lighting will be changed to LED. This will Include all lamps within the property and new kitchen/ bathroom lighting units. Will also Include all outside lighting, replacing the older PLS tube lighting to reduce tenant energy bills. Reducing the carbon footprint, energy costs and increase efficiency within the Public building stock, lighting designs to be drawn up for each building, with a view to replacing all older fittings with more energy efficient LED systems and possibly reducing the number of units required. Replacing older units with Led units instead of carrying out costly repairs to inefficient older units.	**Housing / Property Teams**	**October 2023**	**Medium**

Replacing old emergency lighting systems with more efficient LED self test systems to reduce carbon footprint and energy costs and save on the annual testing and maintenance costs for these systems.			
1.6 To reduce the carbon footprint, energy costs and increase efficiency within the public building stock, lighting designs to be drawn up for each building, with a view to replacing all older fittings with more energy efficient LED systems and possibly reducing the number of units required.	**Housing / Property Teams**	**October 2023**	**Medium**
1.7 Explored the escalation of collaborative funding opportunities for the energy transition and renewables (heat pumps, heat networks, hydrogen, and local energy) to the Climate Emergency Board in order for the Board to coordinate bids internally and externally following HRA Business Plan Review and stock condition findings being known.	**Housing / Property Teams**	**October 2023**	**Short / Medium**
1.8 The Council has 10,275 street light units (including switch gear - which consumes electricity) 94% of which have been converted from Sodium lanterns to high efficiency LED lanterns since 2015: the LED lanterns use approximately 30% of energy equivalent of the sodium units. Over the next 2 to 3 financial years, plans are being developed to convert the majority of the remaining sodium lanterns to LED.	**Roads and Street Lighting**	**On-going**	**Short / Medium**
1.9 Use the HRA business plan review and stock condition survey information to compile a list of sites where upgrades are required, in order of necessity. For public buildings there is a need to progress stock condition surveys and learning estate options appraisal review to enable base information to be available to inform forward plans for renewable heating installation. Team leader for Housing Planned works and Compliance and Team Leader Business Improvement to collaborate on decision on what the preferred medium of heating is going forward: if it is to be heat pumps, we may have to contact the network operator to establish available electricity capacity in these areas should any increased supplies be required.	**Housing / Property Teams**	**October 2023**	**Short / Medium**
1.10 Support the development of community and Council owned sustainable energy projects. Team Leaders of Planned Works and Compliance and Business Improvement will tie in capital programme for heating renewable upgrades and new Tenant Participation Strategy with tenant scrutiny and	**Housing / Property Teams / Sustainability and Energy**	**January 2024**	**Medium**

engagement at heart of strategy. Heating Programme for Renewables requires extensive desktop survey and to be informed by HRA Business Plan Review and Regional Energy Masterplan Work on Tenant Participation Strategy to commence and complete in 2023. Update to board in early 2024.			
1.11 On-going work to bring the heating and hot water controls of all public buildings onto the new Building Energy Management System platform - thus allowing better control and monitoring across the whole estate which will enable savings to be made through the ongoing advice for a reduction in costs and CO2 in learning/working spaces. Following the Asset Review set out in action 1.2, further work will be identified to improve the efficiency of the Building Energy Management System.	**Housing / Property Teams**	**October 2023**	**Medium**
1.12 Role in green retrofitting to be considered as part of on-going wider property restructure. Trades resource to be trained to undertake installation and maintenance of renewables technology. Tenant engagement and education required to understand new technology and escalate recruitment challenges and skills gaps for the delivery of green retrofitting to Skills Development Scotland.	**Housing / Property Teams**	**July 2023**	**Short/Medium**
1.13 Provide an investment-focussed framework for the promotion and development of the region's renewable energy resources for sustainable economic growth through the Regional Energy Masterplan and link to the LHEES.	**Energy and Sustainability Team**	**March 2023**	**Short**
1.14 Utilise the development of a LHEES and accompanying Delivery Plan to reduce emissions from private buildings, tackle fuel poverty and contribute to net zero targets, by identifying area-based solutions, as well as identifying zones suitable for the development of heat networks.	**Energy and Sustainability Team**	**October 2023**	**Medium – Annual thereafter**
1.15 Housing and Property service plan to move to a new one system IT solution with procurement ongoing. The new system will take approximately 18 months to implement and is expected to be realised by final	**Housing / Property Teams**	**October 2023**	**Medium**

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quarter financial year 2024/25. Until then existing systems hold a wealth of housing data, this to be backed up in FY 2023 by undertaking of updated stock condition survey with view toward EESSH 2 compliance. Non-Domestic EPC survey programme to be commissioned to update out of date data held currently. Identify and address gaps in data in local data while supplementing statistics with local engagement.			
1.16 Use the Energy Efficient Scotland Area Based Scheme (EESABS) partnership opportunities as a platform to develop collaboration with Registered Social Landlords and other home owners to improve the energy efficiency and reduce carbon emissions from privately owned homes.	**Energy and Sustainability Team**	**July 2023**	**Annual**
1.17 Research opportunities are at an early stage of development for a data led approach which entails understanding how the buildings and mechanical plant are used. This could be achieved through sensor-based monitoring of conditions (preferably over Internet of Things network) and analysis then presentation of data. This could be beneficial to both housing stock and public buildings since it allows client-led reductions through an app with a central monitoring point.	**Digital Transformation / Property**	**December 2023**	**Short-term**

Theme 2: Low-carbon Transport

Transport is Scotland's largest sectoral emitter, accounting for 9.5 $MtCO_2e$ or 24% of Scottish emissions (excluding shipping and aviation)[54] while it accounted for 11.31% of overall emissions in 2020 in Clackmannanshire, or approximately 57,500 tonnes of CO_2e.

The National Audit Office underscores the significance of transport emissions in their 2022 report on addressing climate change in Scotland: *"Travel and transport emissions will need to be radically reduced to allow Scotland to meet its net zero targets and mitigate the impacts of climate change."*[55]

Given Clackmannanshire Council' role as an employer over 2,000 staff and as a local authority responsible for planning and transportation services to the public, it has huge scope to reduce emissions while improving air quality and active travel infrastructure.

The sustainable transport hierarchy highlight the different modes of transport with the least emission intensive at the top of the pyramid.[56]
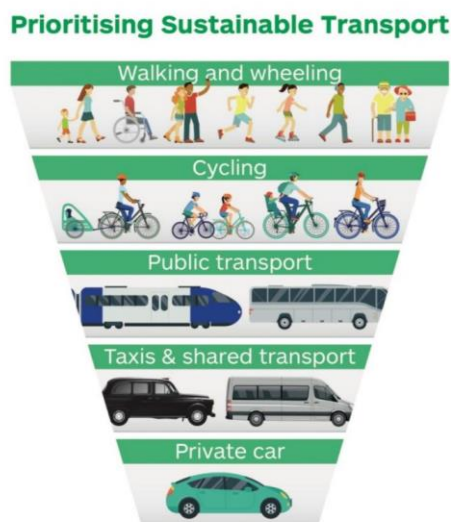
Our net zero targets can only be achieved with a modal shift away from transport on the lower end of the diagram to more sustainable modes that are higher up the sustainable transport hierarchy.

This is a significant challenge since cars account for 38% of all transport emissions[57] and approximately 48.7 billion vehicle kilometres were driven by motor vehicles on Scottish roads in 2019, an increase of 1% on 2018, 8% over five years and 10% higher than in 2009.[58]

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[54] Scottish Greenhouse Gas Statistics (2020) https://www.gov.scot/publications/scottish-greenhouse-gas-statistics-2020/pages/3/

[55] Audit Scotland (2022) Addressing climate change in Scotland A summary of key recommendations for public bodies, https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland

[56] Scottish Government (2021) National Transport Startegy2 https://www.transport.gov.scot/publication/national-transport-strategy-2/

[57] Scottish Government (2022) *Climate Change Plan: Monitoring Reports 2022* https://www.gov.scot/publications/climate-change-plan-monitoring-reports-2022/documents/

It is also important to note, that while there is a role for electric and hydrogen vehicles in reducing emissions, the emission-intensive manufacturing process combined with the fact that individual vehicles still contribute toward congestion and poor air quality through particulate matter from their tyres and brakes means that a transport-based model of private vehicles is inherently sub-optimal from a health, social and environmental lens even when vehicles are electric or hydrogen powered.

Moreover, walking, wheeling and cycling (active travel) is associated with improvements in mental health and reduced risk for all-cause mortality, [59] it has the potential to reduce detrimental health impacts by reducing motorised traffic [60] while providing benefits to local economies.[61] Therefore, barriers to active travel, particularly safety concerns, hamper people's access to exercise.

Public transport also has the potential to encourage active travel[62] while reducing carbon emissions[63][64] and improving access to services and facilities and connect communities.[65] Certain groups in the population are disproportionately affected by the lack of available and affordable public transport[66] while some people find it necessary to purchase a car even when they cannot afford it.[67]

Consequently, there is a firm financial case for facilitating active transport options for residents and businesses which is likely to have been strengthened by recent energy, fuel and food price increases.

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[58] Transport Network (2021) *Scotland losing the battle on sustainable transport* https://www.transport-network.co.uk/Scotland-losing-the-battle-on-sustainable-transport/17158#:~:text=A%20total%20of%2048.7%20billion,10%25%20higher%20than%20in%202009.

[59] Rissel C, Curac N, Greenaway M, et al. (2012) *Physical Activity Associated with Public Transport Use - A Review and Modelling of Potential Benefits.* International Journal of Environmental Research and Public Health 9: 2454-2478

[60] 3 Staatsen B et al. (2017) *INHERIT: exploring triple-win solutions for living, moving and consuming that encourage behavioural change, protect the environment, promote health and health equity.* Brussels: EuroHealthNet; www.inherit.eu/wp-content/uploads/2017/06/INHERIT-Report-A4-Low-res_s.pdf

[61] Living Strattes (2014) *The business case for better streets and places* www.livingstreets.org.uk/media/3890/pedestrian-pound-2018.pdf

[62] Gates, S. et al. (2019). *Transport and inequality: An evidence review for the Department for Transport.* NatCen assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/843487/Transport_and_inequality_report.pdf

[63] Patterson R, Webb E, Hone T, et al. (2019) *Associations of Public Transportation Use with Cardiometabolic Health: A Systematic Review and Meta-Analysis.* American Journal of Epidemiology 188(4):785-795

[64] Report to the Scottish Government (2017) *Aether Evidence Review of the Potential Wider Impacts of Climate Change Mitigation options: Transport sector*. https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2017/01/evidence-review-potential-wider-impacts-climate-change-mitigation-options-transport/documents/00513155-pdf/00513155-pdf/govscot%3Adocument/00513155.pdf

[65] Natcen (2019) *Transport, health, and wellbeing: An evidence review for the Department for Transport* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/847884/Transport__health_and_wellbeing.pdf

[66] Natcen (2019) *Transport, health, and wellbeing: An evidence review for the Department for Transport* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/847884/Transport__health_and_wellbeing.pdf

[67] Gates, S. et al. (2019). *Transport and inequality: An evidence review for the Department for Transport.* NatCen https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/847884/Transport__health_and_wellbeing.pdf

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There are health based implications for all residents in Clackmannanshire from a low proportion of people using active and public transport since motorised transport can increase risk of accidental injury and disrupt communities[68] while potentially reducing levels of physical activity and social interactions.[69] The volume and speed of traffic and long commutes can also be detrimental to health.[70]

There is clearly a strong role for the Council in ensuring that sustainable transport modes are a realistic option for residents and businesses in Clackmannanshire. More specifically, when considering land allocations in the Local Development Plan and at new planning applications, it is essential that developments are in areas with good access to a choice of modes high up on the sustainable transport hierarchy. This may require us to take tough decisions at Council to stay no to unsustainable development.

Carbon-reduction modelling has concluded that it will not be possible to reach net zero emissions through technological solutions alone. Reducing car use is essential for the transport system to be decarbonised at a pace that meets the statutory emissions targets set by the Scottish Parliament. Therefore, national planning guidance (NPF4) is already setting out the concept of 20 minute or liveable neighbourhoods.

While there are a number of employees who need to use a vehicle while at work, including a large proportion of our social workers, housing officers, roads workers and tradespeople, the pandemic has shown that a significant proportion of our office-based staff are able and willing to successfully work from home. Digital working and remote meeting therefore have significant potential to build on the emissions reductions that have been documented during the pandemic.

Despite the Council replacing numerous fossil fuel powered vehicles with renewably powered ones, obstacles remain. For example, at present the cost of heavy electric vehicles is approximately three times the cost of a fossil fuel powered equivalent. The availability of fleet maintenance is also a challenge as manufacturer back up for alternatively fuelled vehicles is not fully in place.

Infrastructure is the key element to a successful transition. We have grown the charging infrastructure within Council operating depots and will continue to do so in the coming years. Electrical capacity at each site is going to be a significant issue, due to the age of some buildings the electrical supply is very low with little to no spare capacity to operate charging units.

As yet there is no clear indication of what is going to be the preferred option for heavy vehicles, manufactures are still in the development stage and continue to experiment with new concepts. Hydrogen and gas are the most likely options going forward but even this brings its own infrastructure issues.

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[68] Cooper E, Gates S, Grollman C, et al. *Transport, health, and wellbeing: an evidence review for the Department for Transport.* London: NatCen; 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/847884/Transport__health_and_wellbeing.pdf

[69] Mueller N, Rojas-Rueda D, Cole-Hunter T, et al. (2015) *Health impact assessment of active transportation: A systematic review.* Preventative Medicine ;76:103–114.

[70] 10 Beute F, Davies Z, de Vries S, et al. (2020) *Types and characteristics of urban and peri-urban blue spaces having an impact on human mental health and wellbeing*. EKLIPSE Expert Working Group, UK Centre for Ecology & Hydrology, Wallingford, United Kingdom

Transport Legislation

Specific Scottish Government legalisation to address transport emission includes:

- reducing car kilometres by 20% by 2030;
- phasing out the need for new petrol and diesel cars and vans by 2030;
- working with public bodies to lead the way by phasing out the need for new petrol and diesel light commercial vehicles by 2025 and larger new vehicles by 2030;
- Scotland's rail services being decarbonised by 2035.

<u>What we are doing now</u>

Significant investments are being made in active travel network through the City Region Deal and in partnership with Sustrans while other sustainable transport initiatives include the following:

- supporting bus services;
- school travel planning including cycle training in primary schools;
- electrification of the Council's fleet;
- promotion of Forth Bike Hire Scheme (e-bikes);
- promotion and delivery of the Council's pool car programme that helps employees leave their car at home / avoid car ownership;
- upgrading our traffic counters to generate stronger data;
- promoting the roll out of the National Entitlement Card and Young Scot for U22 free bus travel;
- establishing Alloa Active Travel Hub through the Scottish Government's Town Centre funding to convert the former public toilets;[71]
- real time planning information screens installed at Shillinghill.

Employee mileage claims by kilometre decreased from 542,952 in 2019/20 to 231,911 in 2020/21. This amounted to a **reduction of 58.66%** or an emission savings of 56.41 tCO_2e .While this was primarily due to Covid-19 restriction, it clearly reflects the potential savings that digital working can offer the Council.

Clackmannanshire Council spend around £175,000 per year on supported bus services, in addition we also support door to door accessible service for those who cannot use conventional public transport (£50,000 per year). RTPI screen have been installed at Murray Square (although at the time of writing they are vandalised and not operational) and Shillinghill. We are currently looking at the feasibility of making Murray square into a mobility hub. We are involved in the Forth Valley Bus Partnership and are currently involved in a study looking at bus priority.

We are still using recycling techniques where possible to reduce carbon emissions. The council as a whole are looking at using Hydrogenated Vegetable Oil (HVO) in Council diesel vehicles which can reduce emissions by up to 90%.

With road maintenance we are looking at moving away from hot mixed asphalts to warm mix which also helps reduce the amount of gas oil needed to heat the material.

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[71] See http://alloafirst.co.uk/alloahub/

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Climate Emergency Action Plan – Theme 2 Low-carbon Transport

While there is a lot of good work going on in the Council, we need to do significantly more to meet net zero targets and the Scottish Government's statutory goal to reduce car kilometres by 20% by 2030.

This includes a presumption against investment in infrastructure that creates additional demand for high carbon transport and is therefore incompatible with net zero targets, such as the development of new roads or increasing road capacity for cars. Embedding the sustainable travel hierarchy into our policies and provide clear guidance to both staff and line managers will be a core part of this.

Action	Responsible	Update to Board	Short (1 year) /Medium (2 – 4 years) / Long (5-10 years)
2.1 Implement the 'Connected Clackmannanshire' in order to further develop wold class uninterrupted, well-maintained networks of segregated cycling, walking and wheeling routes that link our communities, schools and businesses. Ensuring better access to key services and public transport, and across Clackmannanshire. Cycling lane applications have been put into our City Region Deal application. Scottish Government are expected to provide an update in early 2023 which would allow a design to be undertaken. Other active travel plans include: - Alva to Menstrie 2023-2024 - Tillicoultry Town Centre and Connectivity 2024 - 2025 - Alva to Fishcross 2025-2027 - Dollar to Muckhart – TBC	**Transportation Team**	**TBC**	**Medium**
2.2 **Local Transport Strategy** - the Council may need to make challenging decisions. A full options appraisal of the following, including potential income generation which could be used for active travel and public transport, should be set out and embedded in our Local Transport Strategy: o exploring pedestrianisation and traffic easing measures of key points in town centres to make them destinations as opposed to through roads; o reducing on-street parking in favour of bus and cycling infrastructure; o creating safe, segregated cycle routes that link to key destinations and public transport hubs with priority over motorised vehicles; o identifying congestion points and air pollution hotspots, particularly near schools, and ensuring there are viable sustainable transport options in	**Transportation Team**	**July 2023**	**Short-term**

these areas. o include a presumption against investment in infrastructure that creates additional demand for high carbon transport and is therefore incompatible with net zero targets, such as the development of new roads or increasing road capacity for cars. o embed the sustainable travel hierarchy into our policies and provide clear guidance to both our staff, and line managers.			
2.3 **EV Strategy / Policy for EV Charging** to be developed– forums have raised concern that the Council charge points are currently free as this is likely to put off private investment in EV charge points. Attendees of the forum recommended overstay fees / increases in charges for overstaying to avoid misuse of charge points.	**Transportation Team**	**April 2023**	**Short-term**
2.4 **Staff Travel Planning** Identify ways to support staff with increasing fuel costs by increasing accessibility to work locations by sustainable modes such as walking, cycling, remote/home-working and public transport[72]. More specific opportunities to do this include: o Updating the Staff Travel Plan with transport and human resources colleagues to facilitate travel to work based upon the sustainable transport hierarchy. o Encourage use of the existing cycle network in Clackmannanshire by exploring the education and advocacy needed to promote cycling, including ebikes and ecargo bikes, and how routes link in with local travel and transport services. o Options include salary sacrifice schemes o Consulting staff on barriers to sustainable transport and create action for the Climate Emergency Action Plan based upon the most significant barriers. o Exploring investing in active travel infrastructure where necessary: cycle parking, showers or lockers to help staff use these modes.	**Transportation Team**	**TBC**	**TBC**
2.5 **School Travel Planning -** Help primary schools and full time nurseries complete and update their plans year on year which promote active travel, the barriers and actions to help. In turn the actions carried out should reduce school gate congestion and help with air quality.	**Transportation Team**	**January 2023**	**On-going**
2.6 Behaviours beneficial to emission reduction that emerged in the COVID-19 lockdowns should be	**Flexible Working Group,**	**TBC**	**Short-term**

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[72] It is important to note that public transport is not always cheaper.

locked in. Specific opportunities include: o Replacing business travel with videoconferencing and online collaboration and examining business miles being claimed by staff travelling to events and meetings by car, where public transport or online options are available. o Ensuring that there is flexibility wherever possible for employee start and finish times to fit in with public transport. o Develop hybrid and remote working arrangements with the statutory 20% reduction in car kilometres being taken into consideration o Supporting the public transport and shared mobility sectors to recover from the Covid-19 pandemic; this should include providing positive communications and messaging to rebuild public confidence in the safety of public transport. o Fully participate in Regional Transport Policy o Develop and collaborate on projects with our neighbouring authorities to maximise skills, knowledge, experience and resources, for example the proposed the new Alloa Bridge that connects both Clackmannanshire and Stirling. o Supporting digital infrastructure for residents to ensure that households across the Council area are able to work digitally.[73]	**Transportation Team and IT Services.**		
2.7 **Replacement of Internal Combustion Engine (ICE)** Fleet Vehicles with low-carbon alternatives by 2025.	**Fleet**	**TBC**	**Medium**
2.8 **Alloa Active Travel Hub**: will be looking to understand gaps in infrastructure and source potential funding	**CTSI**	**July 2023**	**Short-term**
2.9 Potential to introduce EV leasing through salary sacrifice since there are schemes which are free for employers https://www.novunavehiclesolutions.co.uk . https://octopusev.com/salary-sacrifice	**TBC**	**TBC**	**TBC**
2.10 Improve the infrastructure around schools in order to make walking and wheeling to school attractive, fun and safe. Such as with the new cycle path to Lornshill Academy and Brook Street Alva Primary Roads Safety Improvements.	**Transportation Team**	**On-going**	**Medium**
2.11 Continue to promote the Council's pool car services, pool bikes and explore other efficiency options.	**Transportation Team**	**On-going**	**On-going**
2.12 Explore vehicle utilisation analysis to improve	**Fleet Team**	**On-going**	**On-going**

[73] Note Openreach are within weeks of finishing the full FTTP roll out. The following Service is also starting to be built in CLacks next year -
: https://www.ispreview.co.uk/index.php/2022/08/netomnia-publish-uk-full-fibre-broadband-rollout-plan-to-2023.html

use of resources such as through use of the telematics system (fleet driven) to explore: - Better accountability of vehicle journeys (were they necessary) - Are there external options such as Aberdeen Car Club model			
2.13 Support and promote Car clubs in Clackmannanshire and potentially hiring of personal vehicles or hiring out car vehicles outside of Council hours.	**Transportation Team**	**TBC**	**TBC**
2.14 Encourage staff to make car sharing connections within the Council and point staff and residents to free to use car sharing platforms such as Liftshare.	**Transportation Team**	**TBC**	**TBC**
2.15 Enshrine the Council's ambition to develop active travel friendly principles in long-term Town Centre Masterplans to act as a regeneration blueprint that could transform town centres while making active travel a realistic option for residents while conserving town centres' heritage.	**Planning / Transportation Team**	**On-going**	**On-going**
2.16 Providing internal and external education reflecting the climate impacts of transport to support the transition to public and active transport.	**Energy and Sustainability Team and Transportation Team**	**On-going**	**Short-term**
2.17 Ensure that there is adequate information on the central bus and railway station and how they link in with the cycle routes with adequate signage.	**Transportation Team**	**On-going**	**Short-term**
2.18 Escalate recruitment challenges and skills gaps to Skills Development Scotland.	**All**	**On-going**	**On-going**
2.19 Pilot innovative 'warm-mix' emission saving initiatives for the construction our roads infrastructure by using asphalt mixes that operate at lower temperatures and therefore reducing CO2 emissions. Two schemes have been identified to trial warm mix asphalt along with hot mix. We intend to use these schemes to evaluate the material from both of our suppliers (Tillicoultry Quarries and Hillhouse Quarries) to see advantages / disadvantages.	**Transportation Team**	**April 2023**	**Short-term**
2.20 Road recycling on the B9140 at Coalsnaughton, this is the second phase of works done in this way. There will be a reduction in carbon due to lesser number of vehicle movements	**Roads & Street Lighting**	**On-going**	**On-going**
2.21 Recycling of road planings from resurfacing schemes. This is in conjunction with our material supplier Hillhouse Quarries, who can reuse the planings in the material they send back to us, this is known as RAP (Recycled Aggregate Product) and helps reduce the amount of bitumen required in the new mix.	**Roads & Street Lighting**	**On-going**	**On-going**

2.22 Invest in insitu-recycling recycling road re-surfacing schemes, such as that of the A907 recycling scheme from 2021, to conserve natural mineral resources, reduce lorry movements, save energy and reduce impact on local community.	**Roads & Street Lighting**	**On-going**	**On-going**
2.23 Implementing long term asset management of the road network to ensure investment in the road networks maintain a steady state that supports the local economy, reducing CO2 and energy costs associated with pot hole repairs and emergency road closures due to low investment.	**Roads & Street Lighting**	**On-going**	**On-going**
2.24 When constructing new active travel routes ensure we consult with all nature groups and key stakeholders in order to maximise bio-diversity corridors and tree planting that links with other groups aims and objectives for wildlife supports. A recent example where the Council did this was Alva to Menstrie Cycle ways which have extra land to ensure wildlife conservation is improved by the project.	**Transportation Team**	**TBC**	**On-going**
2.25 In new developments there is an expectation for high-quality active travel, EV infrastructure and connections to the bus network with the goal of creating '*20-minute neighbourhoods'* while being cognisant of how climate change impacts peoples' experiences of using public transport, such as in heat and flood risk areas. This approach is already embedded in the Transportation Team's work on large-scale developments	**Transportation Team**	**On-going**	**On-going**

## Theme 3: Waste, Recycling and the Circular Economy

Even though waste accounted for 1.4 MtCO$_2$e or only 3.5% of emissions in Scotland in 2020, approximately 80% of Scotland's carbon footprint comes from our consumption of goods, materials and services.[74]

Waste also constitutes one of the major areas of emission reduction potential for Clackmannanshire Council by virtue of the Council being responsible for the collection and disposal of a range of municipal wastes.

While the available data on the provision of waste has not been included in Clackmannanshire Council's overall footprint in previous years, it is important that it is incorporated and accounted for in the target to reach net zero by 2040 since it is within council control.

As highlighted by the linear economy diagram, a short-term approach is centred on waste disposal while we need to transition towards the long-term goal of **prevention, reuse, remanufacture and recycling.**

Retrieved from https://www.researchgate.net/figure/Linear-vs-circular-economy_fig1_346628201
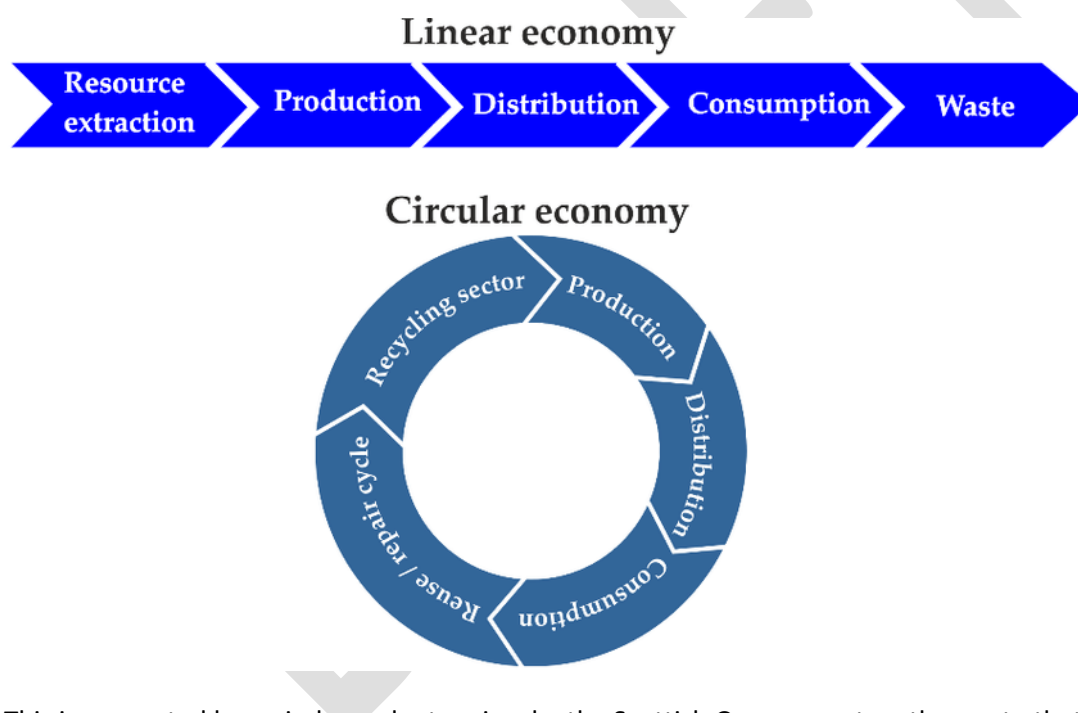
This is supported by an independent review by the Scottish Government on the waste that notes that preventing waste from occurring in the first place is by far the best option, such as through reducing waste and increasing recycling. [75]

This review also found that incineration is <u>currently</u> less damaging to the environment than landfill, which was supported by a Zero Waste Scotland study that notes that **sending one tonne of residual**

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[74] Scottish Greenhouse Gas Statistics (2020) https://www.gov.scot/publications/scottish-greenhouse-gas-statistics-2020/pages/3/

[75] Scottish Government (2022) *Stop, Sort, Burn, Bury - incineration in the waste hierarchy: independent review https://www.gov.scot/publications/stop-sort-burn-bury-independent-review-role-incineration-waste-hierarchy-scotland/pages/13/*

municipal waste to energy from waste currently has a carbon impact of 306kgCO2e/t or 27% lower than sending it to landfill.[76]

However, the study also notes that while energy from waste plants have helped to reduce emissions from residual municipal waste, the decarbonisation of the grid in Scotland and the UK has been so successful that energy from waste is no longer considered a low-carbon solution.[77]

This recognition has led to the Scottish Government announcing a moratorium on the building of new waste-to-energy plants in June 2022, which means that Councils in Scotland will be told not to grant planning permission to new incinerators to ensure that Scotland doesn't have an over capacity in future years. The six sites currently operating in Scotland will continue to do so while plans for 11 more have already been approved so their construction will go ahead.

Legislation

Scotland's circular economy targets, as outlined in the Scottish Government's Climate Change Plan, include:

- banning biodegradable municipal waste to landfill by 2025;
- reducing waste sent to landfill by 5% by 2025;
- recycling 70% of all waste by 2025;
- reducing the amount of waste produced by 15% compared to 2011 levels.[78]

Other legislation includes:

- a ban on many single-use plastics including cutlery, plates, stirrers, straws, balloon sticks and polystyrene food containers and cups from 1 June 2022.

Further targets and progress against them is outlined in the image below from the 2022 progress report towards waste targets in Scotland.

Progress towards Scotland's 2025 waste and recycling targets.[79]

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[76] Zero Waste Scotland (2021) *The climate change impact of burning municipal waste in Scotland* *https://www.zerowastescotland.org.uk/content/climate-change-impact-burning-municipal-waste-scotland*
[77] Zero Waste Scotland (2021) *The climate change impact of burning municipal waste in Scotland* *https://www.zerowastescotland.org.uk/content/climate-change-impact-burning-municipal-waste-scotland*
[78] Scottish Government (2022) *Consultations on the Circular Economy* https://www.gov.scot/news/consultations-on-circular-economy-launched/#:~:text=Scotland's%20circular%20economy%20targets%2C%20outlined,of%20all%20waste%20by%202025.
[79] Scottish Government (2022) *Delivering Scotland's circular economy - route map to 2025 and beyond: technical annex* *https://www.gov.scot/publications/technical-annex-delivering-scotlands-circular-economy-route-map-2025-beyond/pages/2/*

Target	Likelihood of success	Trend
15% **reduction of all waste**, against 2011 baseline	The latest figures (2018) showed a 4% reduction in waste, but the target may have been met in 2020 due to Covid-19. High year to year variation, with no clear overall trend. Target strongly linked to scale of construction activity.	
33% **reduction of food waste**, against 2013 baseline	Little change in food waste generated between 2013-2018. No reliable data available after 2018 due to Covid-19. Available evidence suggests that pace of change is currently insufficient to achieve the 2025 target.	
Minimum of **70% recycling of all waste**	In 2018 we recycled 61% of all waste managed in Scotland, but progress has slowed. Year-on-year variability from 2011-2016, largely driven by construction and demolition waste.	
Minimum of **60% recycling of household waste** (by 2020)	Scotland's recycling rate more than doubled between 2004 - 2011, but progress has slowed to around 45% for several years, missing our target. Fell to 42% in 2020 (Covid impact), local authority recycling rates range from 18% - 58%.	
Maximum 5% of all **waste to landfill**	In 2018 32% of waste was sent to landfill. Waste sent to landfill fell from around 7 million tonnes in 2005 to around 2.6 million tonnes in 2020. Rapid decline waste going to landfill recently, driven by shift from landfill to incineration.	

What We Are Doing

Clackmannanshire Council's Zero Waste Strategy 2012-22 aims to ensure that the Council meets the relevant targets set out in the Zero Waste Plan and reduces the impact of waste management on the environment. The Council continues to collaborate with partners on the procurement of a medium term (10-15 years) disposal solution that is compliant with the ban on biodegradable municipal waste to landfill by 31 December 2025. This solution will be in the form of thermal treatment (waste to energy), which is projected to lead to emissions savings in the short to medium term.

As highlighted by the 2021 Zero Waste Scotland data, despite having an above average recycling rate for Councils in Scotland, a significantly higher proportion of waste was sent to landfill than other local authority areas. Decreasing the proportion of waste going to landfill therefore constitutes an opportunity to reduce emissions.

Zero Waste Scotland 2021 data[80]						
	Generated (tonnes)	Recycled (tonnes)	Recycled %	Landfilled (tonnes)	Landfilled %	Carbon Impact (tCO$_2$e)
Clackmannanshire	23,777	11,880	50.0	11,891	50.0	54,991
Average Scotland	-	-	42.7	-	26.7	-

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[80] Zero Waste Scotland (2022) *2020 Household waste data*
https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data/

The Waste Service is currently working with Zero Waste Scotland on an options appraisal of the waste and recycling collection service to develop options to maximise the volume and quality of recyclates recovered which was approved by Council in May 2023.[81]

Clacks Good Food Partnership developed a bid to join the Sustainable Food Places UK Network (Bronze status) and has secured support funding for a coordinator, who began work in April 2022, to contribute to the wider Wellbeing Economy aims to promote community food growing, reduce poverty, develop local economic food enterprises and improve wellbeing. The partnership has drafted a Food Charter which will aim to have organisations and individuals pledge to reduce food waste, avoid packaging and where there is waste redistribute surplus or recycle.

The reduce, reuse, repair and recycle hierarchy is also promoted to improve resource efficiency and contribute to the transition towards a circular economy - where materials are reused as opposed to the traditional approach of making items, using them and then throwing them away.

Emissions from waste have also been Incorporated into the Public Sector Climate Change Duty Report process and are therefore counted in Clackmannanshire Council's own carbon footprint.

Climate Emergency Action Plan - Waste, Recycling and the Circular Economy

Action	Responsible	Update to Board	Short (1 year) /Medium (2 – 4 years) / Long (5-10 years)
3.1 A contract is being procured in partnership with Stirling Council which will see the diversion of biodegradable waste from landfill by the Scottish Government's target for a ban by the end of 2025	**Waste Team**	**July 2023**	**Short-term**
3.2 Implementing initiatives that contribute to Scottish Government's target to reduce waste sent to landfill by 5% by 2025.	**Waste Team**	**July 2023**	**Short - medium**
3.3 Establish links with businesses, residents, schools, community groups and other partners to reduce waste and increase recycling rates – particularly through the Curriculum for Excellence and the Eco-Schools Programme. Initial work on an audit of schools' recycling has been undertaken and is being collated by the Waste Team.	**Energy and Sustainability Team and Waste Team**	**July 2023**	**Short-term**
3.4 Produce videos to promote dry recycling and food waste recycling by households.	**Energy and Sustainability Team, Waste Team and Organisational Development**	**July 2023**	**Short-term**
3.5 Work with schools to produce videos promoting recycling and climate change material including areas	**Energy and Sustainability**	**July 2023**	**Short-term**

[81] See https://www.clacks.gov.uk/environment/faqwasteservicechange/

such as music	**Team, Waste Team and Organisational Development**		
3.6 Work with ACE and the Wee County Men's Shed volunteers to increase the amount of waste that is diverted to re-use at Forthbank Recycling Centre.	**Waste Team**	**On-going**	**On-going**
3.7 Provide community groups and schools, upon request, with home composters and food waste digesters to produce a useful by-product (compost or digestate) while reducing the amount of waste that goes to landfill. See https://www.abundantearth.com/store/GreenConeDigester.html	**Waste and Energy and Sustainability Team**	**On-going**	**On-going**
3.8 Ensuring that all Council services such as Property and Housing services manage the waste that they generate more sustainably, seeking to maximise recycling at source and reduce the amount of residual waste requiring disposal at Forthbank Recycling Centre.	**Waste and Property and Housing Services**	**July 2023**	**On-going**
3.9 Undertake a waste audit of Council buildings and recruit Recycling Champions to improve awareness of recycling across different Council sites. Explore the potential to extend this scheme to schools and partner groups to share a 'blueprint' for increasing recycling in buildings and share material from organisations such as Zero Waste Scotland.	**Waste and Energy and Sustainability Team**	**July 2023**	**Short-term**
3.10 Reflect the circular economy as an economic model which will play a significant role in the transition to net zero in Council policies, reports and strategies.	**Energy and Sustainability Team and Waste Team**	**July 2023**	**Short-term**
3.11 Work with Clacks Good Food Partnership to set out targets to reduce food waste through implementation of the food waste hierarchy, raising awareness of waste and the redistribution of good nutritious food from all stages of the supply chain: farms to retail. Hierarchy: - Prevention of waste through more care in buying, storage, prep, portion size and reuse - Redistribution of edible food (to people first, then to animals) - Recycling – compost - Recovery – as energy - and only then disposal to landfill.[82]	**Energy and Sustainability Team and Waste Team**	**TBC**	**Short-term**

[82] https://www.sepa.org.uk/media/219841/wst-g-049-food-waste-management-in-scotland.pdf
https://www.zerowastescotland.org.uk/sites/default/files/Food%20Waste%20Reduction%20Action%20Plan.pdf

https://www.sustainablefoodplaces.org/resources/food_for_the_planet/			
3.12 Strive to contribute towards the Scottish Government's target for a recycling rate of 70% of all waste by 2025.	**Waste Team and Energy and Sustainability Team**	**TBC**	**Medium Term**

Theme 4: Biodiversity, Carbon Storage and Agriculture

There are strong parallels between the grave observed changes to the climate described in Section 3 and the observed damage to the planet's biodiversity over the last few decades. For example, the World Wildlife Foundation's 2020 Living Planet Report reported that there had been an average **68% drop in mammal, bird, fish, reptile, and amphibian populations since 1970**.[83]

Additionally, a recent survey by Bugs Matter found a **decline of almost 60% in flying insects in the UK in the last 20 years**.[84] Since most of our food and soil health is dependent upon insects this trend could have significant implications on society.

As noted by Nature Scotland *"[c]limate change is the single greatest threat to Scotland's habitats, whether they're found on our mountain tops or our seabeds. Some habitats will be directly affected. More often, climate change will alter the intricate ecological balances that let plants and animals grow and thrive. Many of Scotland's species are highly adapted to specific climatic conditions, meaning that climate change will have drastic effects. Again, the impacts may be direct or indirect."[85]*

The co-occurrence and synergistic interaction of climate change, loss of biodiversity and effects on food production have an exponential multiplier effect on human health compared to when these conditions are experienced separately. For example, food production and processing, retail, distribution and consumption, as well as food waste, contribute to climate change through the emissions of greenhouse gas.

Biodiversity provides us with food, soil, fuel, clean water, health, wealth and other vital services which means that their degradation can contribute to food insecurity. High quality, biodiverse environments are also better able to provide us with important services such as flood alleviation, pollution filtration, water purification, soil formation and pollination of our crops.

Safeguarding biodiversity and ecosystems is therefore fundamental to climate resilient development. Recent analyses, drawing on a range of lines of evidence, suggest that maintaining the resilience of biodiversity and ecosystem services at a global scale depends on effective and equitable conservation of approximately 30% to 50% of Earth's land, freshwater and ocean areas, including currently near-natural ecosystems.[86]

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[83] WWF (2021) *A warning sign: where biodiversity loss is happening around the world* https://www.worldwildlife.org/magazine/issues/summer-2021/articles/a-warning-sign-where-biodiversity-loss-is-happening-around-the-world

[84] Buglife (2022) *Bugs Matter survey finds that UK flying insects have declined by nearly 60% in less than 20 years* https://www.buglife.org.uk/news/bugs-matter-survey-finds-that-uk-flying-insects-have-declined-by-nearly-60-in-less-than-20-years/

[85] NatureScot (2022) *Climate change impacts in Scotland* https://www.nature.scot/climate-change/climate-change-impacts-scotland#:~:text=Climate%20change%20is%20the%20single,and%20animals%20grow%20and%20thrive.

[86] IPCC (2022) *Climate Change 2022: Impacts, Adaptation and Vulnerability* https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

Accordingly, land is an essential resource to tackling climate change. The table below highlights how 3.7 MtCO₂e was extracted from Scotland through forestry and land use in 2020 – this equates to 9.25% of Scotland's total emissions for 2020.

Scottish Greenhouse Gas Emissions 2020 in MtCO 2e[87]				
	Carbon Dioxide	Methane	Nitrous Oxide	**Total**
Land use, land use change and forestry	-3.7	3.2	1.0	0.5

In addition to capturing and storing carbon, trees and woodland reduce the impacts of flooding, provide habitats for displaced species and shade in a warming climate, which will be particularly important during heatwaves.

There are also health based benefits to increasing natural space[88] and negative impacts to health from increased urbanisation of natural spaces including exposure to poor air quality.[89] Additionally, blue spaces, defined as all forms of natural and manmade surface water, have a positive link with health.[90]

However, Scotland and the UK's current approach to land use threatens biodiversity and therefore weakens our ability to mitigate and adapt to climate change.

The UN Food and Agricultural Organisation has calculated that the world's agri-food systems account for 31% per of human-caused GHG emissions.[91] Emission are disproportionately skewed towards certain types of food, in particular, red meat (see the below table).

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[87] Scottish Greenhouse Gas Statistics 2020 (2022) https://www.gov.scot/publications/scottish-greenhouse-gas-statistics-2020/pages/3/

[88] Salmond JA, Tadak M, Vardoulakis S, et al. (2016) *Health and climate related ecosystem services provided by street trees in the urban environment.* Environmental Health 15 (Suppl 1): 36
White MP, Alcock I, Grellier J, et al. Spending at least 120 minutes a week in nature is associated with good health and wellbeing. Nature Scientific Reports 2019 9: 7730

[89] Jackson LE. (2003) *The relationship of urban design to human health and condition. Landscape and Urban Planning*:64:191–200
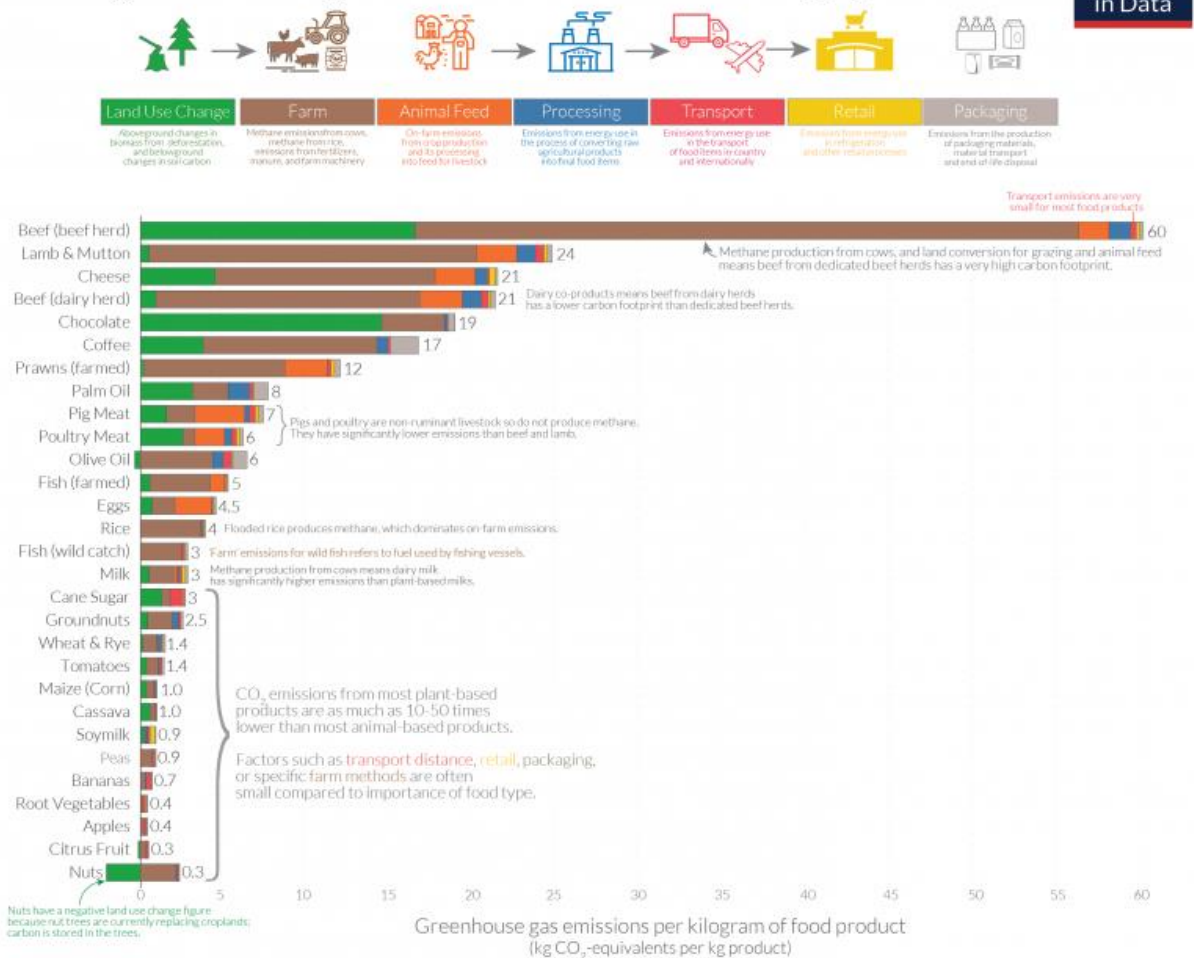
[90] Smith N, Georgiou M, King AC, et al. (2021) *Urban blue spaces and human health: A systematic review and meta-analysis of quantitative studies.* Cities 119 103413
Lovell R, Depledge M, Maxwell S. Health and the natural environment: a review of evidence, policy, practice and opportunities for the future. Department for Environment, Food and Rural Affairs; 2018. https://ore.exeter.ac.uk/repository/handle/10871/36923

[91] UN (2021) *New FAO analysis reveals carbon footprint of agri-food supply chain* *https://news.un.org/en/story/2021/11/1105172*

Food: greenhouse gas emissions across the supply chain — Our World in Data

Greenhouse gas emissions per kilogram of food product (kg CO₂-equivalents per kg product)

Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries.
Data source: Poore and Nemecek (2018). Reducing food's environmental impacts through producers and consumers. Science. Images sourced from the Noun Project.
OurWorldinData.org – Research and data to make progress against the world's largest problems. Licensed under CC-BY by the author Hannah Ritchie.

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Behavioural change is of major significance for decarbonisation with the Climate Change Committee calculating that over 60% of changes required to reach net zero will require some degree of societal or behavioural change.[93] As highlighted by the Our World In Data Table of food's emission intensity, what people eat is significantly more important than where something is sourced from an emissions point of view.

Legislation

- The Nature Conservation (Scotland) Act 2004 introduced a duty for public bodies in Scotland to further the conservation of biodiversity. This biodiversity duty is about taking care of nature all around us, not just in specific protected sites and for particular species. Fulfilling our Biodiversity Duty can help address wider outcomes such as:
  - ○ ensuring compliance with the legislation and helping Scotland to meet its national and international biodiversity targets;

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[92] Our World In Data (2020) *You want to reduce the carbon footprint of your food? Focus on what you eat, not whether your food is local* https://ourworldindata.org/food-choice-vs-eating-local

[93] Climate Change Committee (2019) Net Zero – The UK's contribution to stopping global warming https://www.theccc.org.uk/ publication/net-zero-the-uks-contribution-to-stopping-global-warming/

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- helping Scotland address biodiversity loss and the climate emergency while contributing to a green recovery and a net zero future;
- demonstrating examples of working in a socially responsible and ethical way by safeguarding biodiversity and environmental assets for future generations;
- contributing to sustainable development and the quality of life in Scotland.
- The Wildlife and Natural Environment (Scotland) Act 2011 introduces a requirement for all public bodies to report every 3 years on their compliance with their duty to further the conservation of biodiversity through the publication of biodiversity duty reports.
- The 2020 Challenge for Scotland's Biodiversity sets out the major steps needed to improve the state of nature in Scotland. Scotland's 2020 Challenge aims to:
  - protect and restore biodiversity on land and in our seas, and to support healthier ecosystems;
  - connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment;
  - maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.
- The Good Food Nation Bill passed in 2022 to create links between policy at the national and local levels and for local authorities and health boards in order to collaborate to create good food nation plans. A Food Commission will also be established to scrutinise and make recommendations of the good food nation plans and progress reports.[94]
- The Community Empowerment Act (2015) places a duty on local authorities to provide allotments and outlines that this entails to take reasonable steps to ensure:
  - that the number of people on their waiting list does not exceed half the total number of allotments owned and leased by the authority;
  - that a person on the list does not wait more than five years for an allotment.
- The Scottish Government's Programme for Government 2021-22 includes a commitment to introduce a Natural Environment Bill, putting in place key legislative changes and statutory targets to restore and protect nature.
- The Scottish Government's Programme for Government 2021-22 also commits to publishing a new biodiversity strategy underpinned by a 5 year delivery plan, including changes in the way we use and manage land and our approach to protecting habitats and ecosystems.

What we are doing

Clackmannanshire Council is developing a Pollinator Strategy and a Local Biodiversity Action Plan to set out a range of commitments that will help to improve biodiversity and the role of ecosystems in adapting to climate change.

Our Energy and Sustainability team, in particular our countryside ranger service, advises on how to protect and enhance wildlife across a range of Council services including infrastructure, roads, land, flooding & bridges and development management. The team work with communities, promote awareness of conservation work and manage sites to conserve and enhance biodiversity in the

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[94] Scottish Government (2022) *Good Food Nation Bill Passed* https://www.gov.scot/news/good-food-nation-bill-passed/

Council area, screen planning applications for any potential impacts on biodiversity and undertake school engagement on the importance of biodiversity. Some other tasks they undertake include:

- working with The Conservation Volunteers to improve the countryside and protect the environment;
- using funding from Naturescot to support pollinators and raising awareness of their importance;
- providing outdoor learning to people across Clackmannanshire;
- helping community volunteer projects to protect nature;
- collaborating with the Dollar Community Development Trust to meet their aims to *"reduce Dollar's carbon footprint and protect their beautiful surroundings;"*
- supporting the Alva Glen Development Trust and Gartmorn Dam Development Trust to protect nature;
- monitoring bat, owl and badger populations;
- delivering on Naturescot habitat restoration projects.[95]

Alongside the Countryside Rangers other services such as Land Services, Roads and Planning have contributed to delivery of our Biodiversity Duty, with notable achievements including the Council's participation in the Inner Forth landscape Initiative and ongoing work with the successor of this project – Climate FORTH.

An application was made to the Woodland Trust's Emergency Tree Fund at the end of 2021 for the establishment of a Forth Climate Forest. This is a ten year programme of tree planting projects for a range of well-being, climate and ecological benefits within the Forth Valley Area. The project will deliver canopy, connectivity and carbon targets.

Work is also ongoing to designate Local Nature Conservation Sites in order to ensure these are given considerations during planning applications and by landowners. Officers actively encourage partnership working with external organisations such as the NHS and Clackmannanshire Third Sector Interphase to develop projects that will have a positive impact on biodiversity such as The Clacks Good Food Partnership.

It is recognised that a Council-wide approach to the conservation of biodiversity that further embeds biodiversity considerations into corporate & service plans, policies, strategies and operations is required so that all decision-making takes account of the potential impacts on local biodiversity.

This led to Clackmannanshire Council passing the Edinburgh Declaration to adopt a Council-wide approach to the conservation of biodiversity. [96]

While agriculture is not directly within Clackmannanshire Council's remit, it is still a significant source of greenhouse gas emissions that the Council can influence. We can aim to do this through engaging with businesses to support decarbonisation in conjunction with supporting sustainable consumer behaviours.

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[95] For further information see https://www.clacks.gov.uk/environment/countrysiderangerservice/
[96] See https://www.clacks.gov.uk/document/meeting/1/1159/7429.pdf

In line with this, the Council has worked with partners to help to create a Good Food Charter to promote healthy and local eating. The Council is also reviewing its Community Food Growing and Allotment Strategy to identify ways of facilitating community food growing.

Climate Emergency Action Plan – Biodiversity, Carbon Storage and Agriculture

Action	Responsible	Update to Board	Short (1 year) /Medium (2 – 4 years) / Long (5-10 years)
4.1 Fully commit and be a key partner in the Forth Climate Forest Initiative to increase tree canopy cover where possible, increase our carbon sequestration and improve our bio-diversity connectivity while recognising the impact that this would have on the area's net emissions while also and contribute to the Scottish Government's targets of 12,000 hectares of woodland being created annually.	**Environment**	**TBC**	**Short-term**
4.2 Undertake Net Negative emission / Carbon Sequestration quantification study: identifying estimates how much carbon we sequester and how much land we have available to do so. Use this to create net figure (from gross emissions) of Clackmannanshire's emission in addition to estimate impact of net negative for tree planting, peat restoration, afforestation and rewilding projects while ensuring that the planting of trees is not to the detriment of other flora/fauna in the area.[97]	**Sustainability**	**TBC**	**TBC**
4.3 Adopt a Council-wide approach to the conservation of biodiversity that further embeds biodiversity considerations into corporate & service plans, policies, strategies and operations is required so that all decision-making takes account of the potential impacts on local biodiversity.	**Edinburgh Declaration**	**October 2022**	**Approved by Council.**
4.4 Review the Council's local biodiversity action plan (LBAP) to include aims/objectives and actions which will help protect and enhance pollinator habitats and species.	**Energy and Sustainability Team**	**TBC**	**Medium-term**
4.5 To investigate and produce recommendations on the creation of a Pollinator Strategy and long term plan and capacity to deal with the decline in pollinators.	**Energy and Sustainability Team**	**July 2023**	**Short-term**
4.6 Explore ways of improving quality of water and soils and developing other measures to reverse biodiversity loss and habitat declines at other sites.	**Energy and Sustainability Team**	**TBC**	**Medium**
4.7 Review Council's Food Growing and Allotment Strategy in conjunction with Clacks Good Food	**Energy and Sustainability**	**March 2024**	**Short-term**

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[97] Ideally the habitats should be surveyed by ecologists before any decisions are taken. Trees can dramatically change a habitat in positive and negative ways.

Partnership.	**Team**		
4.8 Ensure biodiversity is entrenched on Town Centre Masterplans to include the availability of greenspace, parks linkages and greening options through a place-based lens. Example include - pushing towards designing places with biodiversity in mind; - hedgehog holes in fences; - bat bricks in houses; - wildflowers and hedge planting.	**Sustainability and Energy / Planning**	**March 2023**	**Short/Medium**
4.9 Collaborate with planning colleagues to consider means of greening towns through tree planting, food planting and post of nectar rich flowers as 'Islands' that allow pollinators a link from one bigger site to another (like Island hopping) through future LDP Review and the preparation of Masterplans and Site Briefs.	**Energy and Sustainability Team / Planning**	**March 2023**	**Short/Medium**
4.10 Local Nature Conservation sites – Energy and Sustainability Team to submit a paper to Council to ensure that: • The Local Nature Conservation sites are approved • These sites are subsequently taken into account while approving new building sites.	**Planning / Energy and Sustainability Team**	**On-going**	**On-going**

Theme 5: Adaptation, Planning and Organisational Capacity

Approximately 3.3 to 3.6 billion people live in places that are highly vulnerable to climate change while a high proportion of species are also vulnerable to climate change. Current unsustainable development patterns are increasing exposure of ecosystems and people to climate hazards. [98] However, there are feasible and effective adaptation options which can reduce risks to people and nature.[99]

One of the key challenges for planning and adapting to climate change is the fact that the climate is projected to become increasingly hostile until decades after net zero being reached globally due to a lag in when emissions are emitted and when the full climatological repercussions of the emissions take their toll (a process known as thermal inertia). Furthermore, the pace of change could be significant: Scotland's top ten hottest years have all occurred since 1997 with records beginning in 1884.[100]

Adaptation Scotland has documented the following long-term climate change trends for Scotland based upon a comprehensive review of data.

Climate Projections for Scotland[101]
- Average temperatures will increase across all seasons
- Weather will remain variable and may become more variable
- Typical summers will be warmer and drier
- Typical winters will be milder and wetter
- Intense, heavy rainfall events will increase in both winter and summer
- Sea levels will rise

A climate that is continuously changing presents clear public health risks such as death and injury from extreme weather, flooding and heat waves. Additional health concerns that stem from climate change and the fossil fuel economy include air pollution, challenges for food and water security, the spread of disease, populations becoming displaced and increased levels of mental ill health.

Some parts of Clackmannanshire's population are particularly vulnerable to the potential impact of climate change on health including those with existing health conditions, the elderly and those living in flood risk areas.

Sauchie in December 2021 after storm Arwen – hundreds of trees were blown over across Clackmannanshire.

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[98] IPCC (2021) *Climate change widespread, rapid, and intensifying – IPCC* https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/#:~:text=Faster%20warming,C%20will%20be%20beyond%20reach.

[99] IPCC (2022) *Climate Change 2022: Impacts, Adaptation and Vulnerability* https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

[100] Adaptation Scotland (2022) *Climate trends and projections* https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections#:~:text=Key%20long%2Dterm%20climate%20change,will%20be%20warmer%20and%20drier

[101] [101] Adaptation Scotland (2022) *Climate trends and projections* https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections#:~:text=Key%20long%2Dterm%20climate%20change,will%20be%20warmer%20and%20drier

Legislation

The new National Planning Framework (NPF4) is being finalised following a consultation in 2022 with local authorities and other partners. The Scottish Government's Programme for Government 2021 notes that it set out aims to take:

"an ambitious approach to prioritising emissions reductions', integrating land use and transport, focusing on place based outcomes, supporting green economic recovery which promotes nature based solutions, and supporting the concept of 20-minute neighbourhoods. We will involve the relevant Economic Development body in assessing potential economic benefits of proposals for development identified in NPF4 as being of national or regional significance."

What we are doing

The Council works with the Scottish Environmental Protection Agency (SEPA) as part of the Flood Risk Management Planning process and, with other responsible authorities, is a member of two Local Plan Districts (LPD) out of the 14 covering all of Scotland; The Forth LPD and The Forth Estuary LPD. The work carried out with these partners contributes positively towards the sustainable protection of our communities and our environment.

Clackmannanshire also have five active flood/resilience groups/teams along the Hillfoots ; Menstrie, Alva, Tillicoultry, Dollar Lodge Park and Muckhart. The groups/teams are robust and well organised with well-developed and agreed flood action plans, equipment and training and a variety of agreed triggering mechanisms to help respond to flood events.

They also have network group meetings in addition to meeting regularly with Council Officers who support all the groups. Officers attend and participate when the groups are testing their plans (at least once a year) or equipment. Menstrie, Alva and Muckhart are resilience groups so have a wider remit, whereas Tillicoultry and Dollar Lodge Park are primarily focused on flood risk.

We are also developing a project in partnership with the Muckhart Flood Group, the Forth Rivers Trust and Nature Scot to see the introduction of a suite of Natural Flood Management measures to protect properties at risk in the Kirkhill and Cairns Place area of Muckhart. Further work and agreement with landowners is needed but this project has the potential to substantially reduce the risk of flooding if it can be achieved.

Testing of Watergate System by Local Flood Group (TIDECO) in Tillicoultry – 29th June 2021

Furthermore, the Council is collaborating with a range of partners on adaptation initiatives such as Climate FORTH (Furthering Our Resilience Through Heritage) - a new project for Inner Forth Futures which is in its development phase due to a grant being provided by the National Lottery Heritage Fund to facilitate and demonstrate the transformative action needed to transition to a climate literate, ready and resilient place.

Wide engagement and a coordinated approach have also bene identified as crucial for climate change resilience. As noted by the IPCC:

"Climate resilient development is facilitated by international cooperation and by governments at all levels working with communities, civil society, educational bodies, scientific and other institutions, media, investors and businesses; and by developing partnerships with traditionally marginalised groups, including women, youth, Indigenous Peoples, local communities and ethnic minorities. These partnerships are most effective when supported by enabling political leadership, institutions, resources, including finance, as well as climate services, information and decision support tools."

Accordingly, establishing Climate Change Forums across the five wards of Clackmannanshire in addition to coordinating adaption initiatives with a wide-range of partners, including the third sector, neighbouring local authorities, different levels of government, the private sector, residents and community groups is an initial means of complying with the IPCC's recommendation, although extra effort will need to be made to reach out to communities that are disproportionately vulnerable to climate change.

This engagement work is also important beyond adaptation based goals, since, as noted previously, over 60% of changes required to reach net zero will require some degree of societal or behavioural change.[102] Moreover, community involvement in maintaining and designing the places that they live in can build a sense of ownership, belonging and attachment while reducing social isolation and improving mental health. [103, 104]

Climate Emergency Action Plan - Adaptation, Planning and Organisational Capacity

Action	Responsible	Update to Board	Short (1 year) /Medium (2 – 4 years) / Long (5-10 years)
5.1 Review 'Sustainability Considerations' to ensure compliance with net zero targets. This will entail • Prioritise all decisions on new infrastructure investment based on their contribution to an inclusive net zero carbon economy. • Make the climate emergency a guiding principle in all planning decisions while involving climate experts in planning. • Strongly reflect climate change in all committee reports. • Reflect the Edinburgh Declaration in Committee Reports.	**Energy and Sustainability Team/Legal Services**	**July 2023**	**Short term**
5.2 Agree as a Council to align spending plans and the use of resources to contribute to reducing emissions and while not pursuing high-carbon initiatives that would jeopardise net zero such as new roads while adapting capital bid processes and revenue budgeting to account for the requirement to reduce carbon.	**Climate Emergency Board**	**On-going**	**On-going**
5.3 Respond to input from the Climate Change Forums with the following actions: • Create a quarterly 'Climate Clacks' newsletter, • Create an 'Over to You' section on the Council's website with recommendations	**Energy and Sustainability Team**	**June 2023**	**Short-term**

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[102] Climate Change Committee (2019) *Net Zero – The UK's contribution to stopping global warming* https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/
[103] Durcan D, Bell R. (2015) *Reducing social isolation across the life course.* London: Public Health England; www.gov.uk/government/publications/local-action-on-health-inequalities-reducing-social-isolation
[104] Dodds S. Social (2016) *Contexts and Health Glasgow Centre for Population Health* https://www.gcph.co.uk/publications/620_social_contexts_and_health

	for individual action • Hold theme-specific events for engagement, starting with engagement events on the consultations of the REM, Pollinator Strategy and Climate Change Strategy.			
5.4	Delivering 20-Minute Neighbourhoods: Enshrine the sustainable transport hierarchy into long-term Town Centre Masterplans to act as a regeneration blueprint that could transform town centres to promote active travel and public transport while conserving their heritage.	**Planning & Transportation Team**	**June 2023**	**Medium**
5.5	Evergreen Investment Fund. Following the Housing Business Plan Review and Stock Condition Survey, explore front-loading spending on retrofitting and energy efficiency to make significant long-term cost savings that could more than pay for themselves while reducing emission on the Council's portfolio. These savings could then be re-invested into an evergreen fund for other cost savings.	**All**	**TBC**	**TBC**
5.6	Facilitate adaptation to climate change by considering the flood risk and protecting the natural capital in major spending and planning decisions.	**Transportation Team**	**On-going**	**On-going**
5.7	Press for divestment from fossil fuels including through the public sector pension fund.	**Energy and Sustainability Team**	**May 2023**	**Report approved by Council 18th May 2023[105]**
5.8	Establish a Carbon Budget for Clackmannanshire's emission trajectories to net zero and monitor performance against it in conjunction with interim emission reduction targets leading up to 2040.	**Energy and Sustainability Team**	**On-going**	**Short Term**
5.9	Explore using Adaptation Scotland's benchmarking tool to undertake an adaptation assessment to identify a baseline for the Council and allow progress in relation to adaptation measures to be tracked, the identification of gaps and potential areas for future progress.	**Energy and Sustainability Team**	**October 2023**	**Short Term**
5.10	Invest in digital infrastructure, innovative use of data, digital skills, universal access to digital public services and locking in positive trends and behaviours from the Covid-19 pandemic. This includes the new housing and property IT business management system to be realised with implementation commencing in 2023 and completed by 2025.	**Housing Team / Digital Transformation Team**	**TBC**	**Medium Term**

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[105] See https://www.clacks.gov.uk/document/meeting/1/1193/7613.pdf

5.11 Provide universal access to climate education, literacy, and learning while creating a communications link for employees from all areas of the council to escalate emission savings and cost savings ideas. As the Audit Office Report on Addressing Climate Change in Scotland notes *"clearer information on the environmental impact of people's choices is needed for all of us to make informed decisions, particularly around sustainable diet, waste, and travel."* [106] This could include; • school resources • resident emission reduction ideas (waste, recipes, food charter, energy savings etc.) • business resources and links	**Energy and Sustainability**	**March 2024**	**Short Term**
5.12 Develop an internal communications plan for climate action and associated 'brand' for staff to recognise and work towards including a way for all staff members to escalate their ideas for decarbonisation and cost saving opportunities to the Energy and Sustainability Team.	**Energy and Sustainability Team / Comms Team**	**On-going**	**Short-term**
5.13 Callout for voluntary Green Champion roles across service areas to help normalise Climate Change and Sustainability practices across the Council. • Recycling Champions • Lift Share / Active Travel Champions	**Climate Emergency Working Group / Energy and Sustainability Team**	**September 2023**	**Short-term**
5.14 Embed climate change adaptation considerations, and potential responses such as habitat networks and green networks, into wider land use planning decisions using Forestry and Woodland Strategies, the Policies of National Planning Framework 4, regional land use strategies, including the Regional Spatial Strategy, the Local Development Plan and development masterplans.	**Planning / Energy and Sustainability Team**	**September 2023**	**Short-term**
5.15 Integrate wording on Council Job Descriptions for net zero and Climate Change duties	**Energy and Sustainability Team / Organisational Development**	**January 2023**	**Complete**
5.16 Alloa Transformation Zone: Build place-based integration of capacity, services, investment and infrastructure to improve community and economic resilience. Partnership working on up-	**Planning Team**	**April 2023**	**Medium**

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[106] Audit Scotland (2022) *Addressing climate change in Scotland A summary of key recommendations for public bodies* https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland

stream preventative approaches. Focus on Alloa town centre and Forthbank			
5.17 Review the Council's Local Development Plan.	**Planning Team**	**March 2023**	**Medium / Long**
5.18 NPF 4: Consider projected heat spots of climate change impacts in Clackmannanshire and opportunities for greening and resilience through local wildlife pathways, tree planting and food planting.	**Planning Team**	**March 2023**	**Medium / Long**

Theme 6: Economic Development and Sustainable Procurement

Industry emissions are by far the largest area of Clackmannanshire's carbon footprint - accounting for 43.3% of overall emissions followed by commercial gas and electricity at 20.8% in 2020. Combined industry and commercial gas and electricity therefore made up 64.1% of emission in Clackmannanshire in 2020, or approximately 326,400 tCO_2e.

Given local authority's role as a service provider of economic development, a significant provider of contracts and being home to over 1,100 business who collectively employ tens of thousands of people, there is a major role for the Council in facilitating emissions reductions in this area.

<u>Legislation</u>

The Scottish Government's National Strategy for Economic Transformation[107] sets out an ambition to *"demonstrating global leadership in delivering a just transition to a net zero, nature-positive economy, and rebuilding natural capital."*

Some specific points in it and the Scottish Government's Programme for Government 2021-22 include:

- **A Community Wealth Building Bill** which is scheduled to be taken forward in this Parliamentary term, to enable more people and local communities to have a stake in, own, access and benefit from the wealth the Scottish economy generates. The Bill will cement and enhance the role that councils, health boards and other anchor public sector organisations play in supporting economic development and advancing a wellbeing economy. It will also legislate for them to consider their economic footprint and role within a wider place system. The Scottish Government will also publish a Wellbeing Economy Framework, a toolkit to support local councils and regions across Scotland.
- **The Community Empowerment Act** will be reviewed to consider how local communities can have greater influence over how local public assets are used. This could include taking on the ownership or management of land or buildings, community-based delivery of services, or more say in how assets are used, services are delivered and resources are allocated.
- **The Scottish Government's Climate Emergency Skills Action Plan 2020-2025** includes a priority to develop the future workforce for the transition to net zero. Clackmannanshire has a role in driving demand for high-value green jobs, support reskilling and retraining.
- **Procurement Reform (Scotland) Act 2014** places a duty on the Council before carrying out a regulated procurement to consider how in conducting the procurement process it can improve the economic, social and environmental wellbeing of the area.
- **Scottish Procurement and Property Directorate 3/2022** sets out more recent advice and guidance on taking account of climate and circular economy guidance in procurement. Key points include:
  - demonstrate how procurement is being used to support Scotland's response to the climate emergency;

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[107] Scottish Government (2022) *Scotland's National Strategy for Economic Transformation*

- o requiring evidence in public bodies' organisational procurement strategies of how climate and circular economy will be accounted for in procurement activity while reporting progress against commitments in annual procurement reports.[108]

The Scottish Government recognises that the climate criteria in public procurement exercises increases the ask of suppliers. Consequently, they are developing a staged approach to the statements and guidance with the amount of information increasing over time, allowing suppliers to build their climate knowledge and capability.

They are also developing guidance to suppliers with a link to the Climate Literacy eLearning while providing Bidder Climate Change Plan Templates and accompanying guidance on how to populate these in the Greenhouse Gas Reporting: conversion factors 2021 report[109] and developing pre-filled examples.

They also recognise the need for upskilling procurement and economic development staff by providing Climate Literacy eLearning on the Sustainable Procurement Tools to boost their climate capability.

There are also sections on each of Scottish Government's Climate Change Guidance documents including Climate and Energy, Carbon in Production, Vehicle Emissions and Climate Change Adaptation.[110]

Additionally, while it is a statutory requirement for some large businesses in the UK to calculate their carbon footprint, there will need to be a similar requirement for all enterprises at some point between now and the 2040s if net zero is to be achieved. Since both the UK and Scottish Governments have committed to net zero targets, this appears to be increasingly likely.

<u>What we are doing now</u>

Clackmannanshire Council's Local Development Plan includes a strategic objective centred on environmental sustainability. Specific actions are included under the objective below.

- - To deliver a sustainable pattern of development that supports community cohesion, reduces greenhouse gas emissions, supports waste minimisation and ensures that new development consistently contributes to environmental protection and enhancement by:
    - o ensuring that new development does not result in growth in Clackmannanshire's net greenhouse gas emissions;
    - o minimising the release of greenhouse gas emissions from natural sources including protection of carbon-rich soils, minimising waste and encouraging woodland expansion where appropriate;
    - o delivering a step change towards improved energy and water conservation and efficiency, and increasing the production of renewable energy to meet Government targets;

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[108] Scottish Government (2022) *Public procurement - taking account of climate and circular economy considerations: SPPN 3/2022 https://www.gov.scot/publications/public-procurement-taking-account-of-climate-and-circular-economy-considerations-3-2022/*
[109] See Greenhouse gas reporting: conversion factors 2021
[110] See Climate and Energy, Carbon in Production, Vehicle Emissions, Climate Change Adaptation.

- adapting to the impacts of climate change by ensuring that new development is appropriately 'climate proofed' to remain resilient to predicted future climatic conditions and to protect existing development from the adverse effects of climate change;
- reducing overall flood risk and promoting sustainable flood management techniques;
- managing and reducing pollution, to contribute to the improvement of our air and water quality;
- safeguarding soil quality and quantity;
- minimising our waste and maximising opportunities for recycling, composting and efficient and sustainable disposal of residual waste.

Additionally, the Council's Economic Development Team works with businesses across Clackmannanshire to support economic growth, employability, skills development and community wealth building.

Specific work related to climate change that the team undertake includes developing projects in partnership with Stirling University, Forth Valley Chamber of Commerce and Business Gateway to provide support to create a net zero or low carbon strategy in small and medium enterprises (SMEs) and signposting businesses to green funding opportunities.

Furthermore, by virtue of gathered operational emissions data since 2013/2014, there is potentially a role for Clackmannanshire Council to support businesses through this process either directly or by signposting to funding opportunities for carbon accounting and developing emission reduction strategies.

The Council has also adopted the National Procurement Journey as the Council Procurement Policy and our corporate procurement process. As part of this process, the Sustainable Procurement Duty is built into the Council's tender authorisation forms which must be completed before any tender process commences.

In line with the statutory guidance, it requires that before the Council buys anything, it must think about how it can improve the social, environmental and economic wellbeing of the area in which it operates, with specific guidance on economic, social, health-related and environmental factors.

A commodity or service strategy is required for all the Council's regulated procurements. It assists officers to:

- understand and scope requirements to achieve the optimum combination of whole life costs and quality to meet the end user(s) requirement;
- and use a sustainability test to help maximise the positive impact that the procurement process can provide in terms of social, economic and environmental impact associated with the requirement.

In January 2019 the Council approved the procurement strategy to comply with the requirements of the Procurement Reform (Scotland) Act. It also demonstrates how the Flexible Framework Self-Assessment Tool will provide a Sustainable Action Plan to establish the performance level of sustainable procurement across the council and commits to establishing systems to record the

impact of procurement policies and practices. The following sections are particularly relevant to climate change:

- section 6.7 states that any procurement decision will aim to minimise harm to the environment and to promote conservation of natural resources;
- section 6.10 states that in higher value contracts, the Council will challenge contractors to identify ways in which they can contribute to improving the economic, social and environmental well-being of Clackmannanshire;
- section 6.15 states that section 9 of the Procurement Reform (Scotland) Act 2014 places a sustainable procurement duty on the Council before carrying out a regulated procurement, to consider how in conducting the procurement process it can improve the economic, social, and environmental wellbeing of the Council area.

The Council's Procurement Strategy Action Plan also contains measures to:

- establish systems to record the impact of procurement policies and practices on the council's climate change duties;
- utilise the Scottish Government's sustainable prioritisation tool to identify and prioritise procurement activity;
- utilise the Flexible Framework Self-Assessment Tool to provide a Sustainable Action Plan to establish the performance level of sustainable procurement across the Council;
- create and manage a sustainable register to capture, monitor and report on the sustainable outcomes achieved via procurement activity, and link to related internal and external reporting requirements.

Additionally, as part of our annual procurement report, we will be required to record the number of regulated contracts awarded during the reporting period that included a climate related requirement in addition to measuring our success on the climate emergence and sustainable economic recovery.

The Council also works in very close collaboration with the Centre of Expertise for Local Authorities Scotland Excel in the development and use of national frameworks. All of their frameworks are aligned with the Scottish Sustainable Action Plan which encourages buyers to take a holistic view of the social, economic, environmental implications of the product or services. [111]

The utilisation of the Sustainable Procurement tools also contributes to carbon reducing initiatives under procurement of energy-using equipment (e.g. ICT, laboratory equipment, white goods, audio-visual and others) or the use of energy in the delivery of a service that is being procured (such as printing and professional services) including the following:

- Significant replacement of lighting with LEDs
- A further enhancement of our multifunctional managed print contract (3rd generation)
- Significant replacement of on premises storage of IT server space with Cloud Storage and off site storage.

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[111] See http://www.scotland-excel.org.uk/home/Contractregister/Contract-register.aspx

Construction procurements all follow standard terms and conditions which are industry standard and have embedded sustainability, energy and environmental considerations built in as standard including external wall insulations, roof and render upgrades.

Climate Emergency Action Plan – Economic Development and Sustainable Procurement

Action	Responsible	Update to Board	Short (1 year) /Medium (2 – 4 years) / Long (5-10 years)
6.1 Review the Council's Procurement Strategy to identify conflicts or ambiguity with climate change targets and amend as required.[112]	**Procurement Manager**	**October 2023**	**Short**
6.2 Explore procuring green energy.	**Place Service**	**TBC**	**TBC**
6.3 Commit to procuring good food such as in the Government's Eatwell Guide[113] due to the significant health and emission reduction potential, particularly in schools. Food For Life (Stirling have silver) https://www.foodforlife.org.uk/	**Place & People Services**	**TBC**	**TBC**
6.4 Devise procurement strategies and frameworks that allow space for local procurement to increase, in order to provide local investment in our economy, increased market share of contracts and projects and investment in our Clackmannanshire employment base.	**All Services**	**On-going**	**Short-term**
6.5 Public bodies can lead the way through developing procurement frameworks and contracts with specific environmental requirements and with developing and maintaining standards / regulation thus building on the existing sustainable procurement duties placed on public bodies.[114]	**All Services**	**On-going**	**Short-term**
6.6 Explore requirements of procurement processes and business support to prioritise businesses with emission reduction plans.	**All Services**	**On-going**	**Short-term**
6.7 Continue to explore options to securing funding to support businesses with carbon accounting, establishing net zero targets and decarbonisation.	**Energy and Sustainability Team / Economic Development**	**Ongoing**	**Ongoing**
6.8 Continue to develop the environmental element of the Good Employment Charter to encourage employers to develop plans to reach net zero.	**Energy and Sustainability Team / Economic Development**	**2023**	**Short**

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[112] Audit Scotland (2022) *Addressing climate change in Scotland A summary of key recommendations for public bodies* https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland
[113] See https://www.foodstandards.gov.scot/consumers/healthy-eating/eatwell
[114] Audit Scotland (2022) Addressing climate change in Scotland A summary of key recommendations for public bodies, https://www.audit-scotland.gov.uk/publications/addressing-climate-change-in-scotland

6.9 Explore the development of a Carbon Charter with a Green Pledge and carbon certification for businesses[115]. Commitments could include:
   ○ Review and reduce energy use: such as by switching off IT at the end of the day, using energy efficient LED bulbs, switching the heating down 1 / 2°C;
   ○ Encourage employees to use active transport;
   ○ Review work practices, encourage working from home when possible;
   ○ Switching to green products, paper waste instead of plastic where possible;
   ○ Switch to a 100% green energy supplier at contract renewal or earlier;
   ○ Re-use and recycling equipment, waste and products.
	Energy and Sustainability Team / Economic Development	**2023/24**	**Medium**

6.10 Respond to businesses' input at the Climate Change Forums and developing demand-led initiatives such as:
   ○ hosting green networking events;
   ○ identifying green businesses as role models for other organisation exploring emissions reductions;
   ○ Escalating green skills gaps to learning providers and Scottish Government to maximise economic productivity;
   ○ Explore potential through the funding through the Flexible Skills programme and the SIEC.
	Energy and Sustainability Team / Economic Development	**On-going**	**Short/Medium**

6.11 Securing funding for or signposting to partner organisations' energy reduction initiatives	**Economic Development / Energy and Sustainability Team**	**On-going**	**On-going**
6.12 Explore making business support conditional to ensure that companies align with the transition to net zero.	**Economic Development**	**On-going**	**On-going**

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[115] See example in Midlothian delivered in partnership with Business Gateway https://locateinmidlothian.co.uk/midlothian-business-green-pledge/#:~:text=The%20Midlothian%20Business%20Carbon%20Charter,we%20can%20achieve%20this%20together.

8. Conclusion

The recent report by the Intergovernmental Panel on Climate Change highlights that action to mitigate and adapt to the effects of climate change is more urgent than ever with the 2020s to be the critical decade across society and the economy with a decisive shift from planning to action and rapid progress on decarbonisation.[116]

Given this imperative and recent temperature records being broken in Scotland and around the world, Clackmannanshire Council has set out a bold and ambitious framework for achieving net zero greenhouse gas emissions by 2040 at the latest for the Council's own operations and by 2045 at the latest for the Clackmannanshire area.

It includes means of aligning all strategic decisions, budgets and approaches to planning decisions with a shift to net zero greenhouse gas emissions in addition to continuously identifying specific emission reduction opportunities under six themes that are being operationalised in the Climate Emergency Action Plan.

A series of Climate Change Forums have also been held across Clackmannanshire to empower young people, residents and businesses to contribute to and shape Clackmannanshire's net zero targets. Additional events will be undertaken to continue to involve communities in our climate change work.

The strategy also sets out the clear economic, financial, social and health based advantages of delivering net zero targets and the fact that these multi-faceted benefits are more important than ever within the context of the on-going cost of living crisis.

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[116] Progress in reducing emissions in Scotland, 2021 Report to Parliament, Climate Change Committee, December 2021