

Local Authority Climate Action Plan 2024-2029

Public Consultation Draft November 2023



Foreword

Cllr. Eddie Hoare, Mayor of the City of Galway

Climate change is the most significant challenge to all communities in Galway City. In Ireland, we are currently seeing the impacts of climate change with many parts of our country flooded after storms and continuous high rainfall. This is having a devastating impact on homes, businesses, and communities.

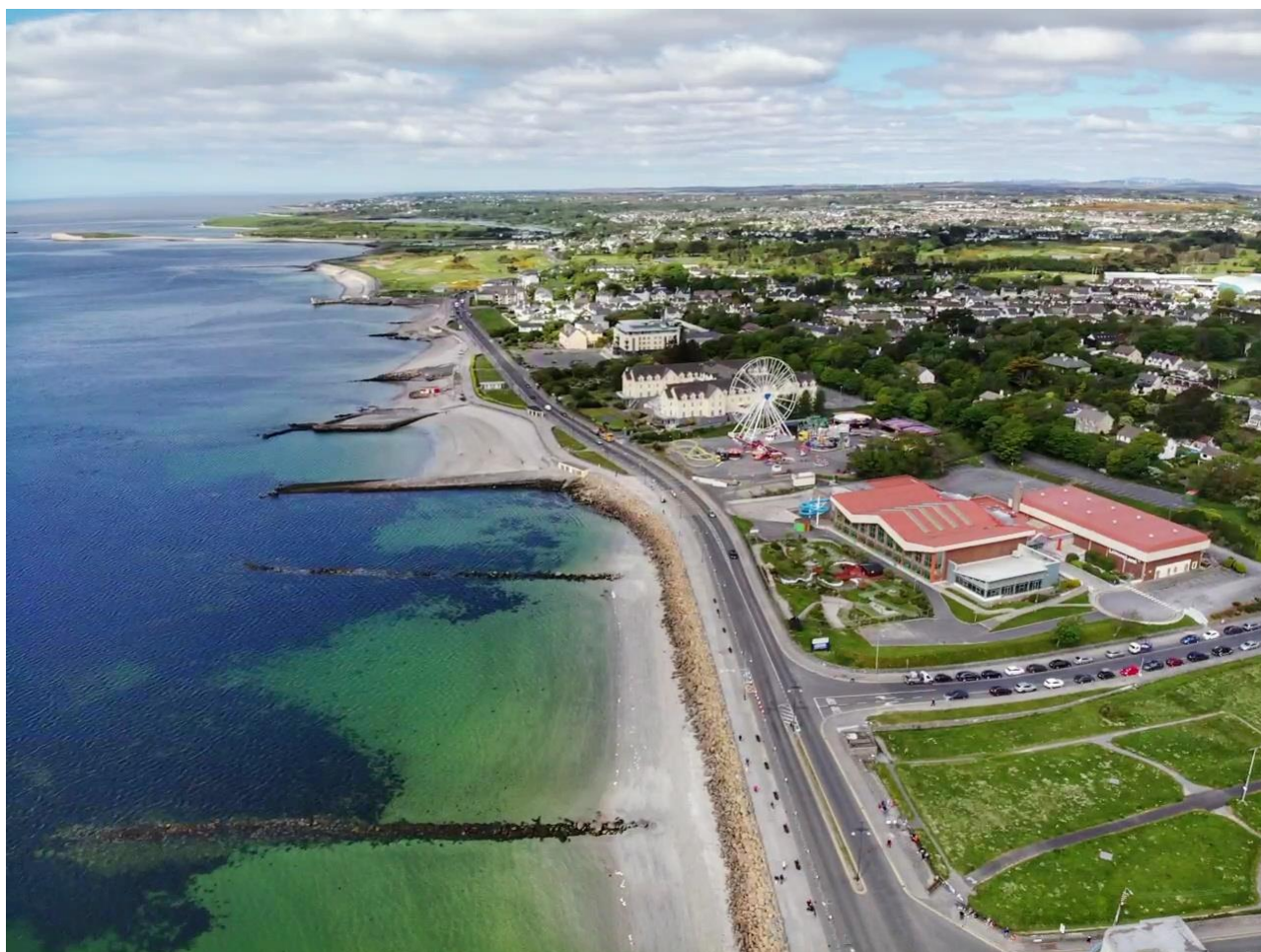
Galway City's inaugural climate action plan marks a significant milestone in our City's commitment to address this challenge by implementing measures to mitigate and adapt to climate change. This plan sets out ambitious targets to deliver transformative action across all functions of Galway City Council and throughout Galway City. Climate action also offers opportunities to communities and businesses to promote sustainability, biodiversity, active travel and to make positive changes in our daily lives. I welcome this plan as a significant further step in delivering our 2030 targets and progressing towards a climate neutral Galway City by 2050 in line with [Ireland's Climate Action Plan](#) targets.

Patricia Philbin, Interim Chief Executive of Galway City Council

This Local Authority Climate Action Plan is a welcome further development in creating a more sustainable and climate neutral Galway City. As a signatory member of the EU Missions for Adaptation to Climate Change, NetZeroPilot, Intelligent City Challenge, and European Green Leaf City, we want to be at the forefront of climate innovation and collaborate with other European Cities on the journey to climate neutrality. Collaboration has never been more important in maintaining a dialogue with the people of Galway so that our city has climate action and resilience at the forefront of everything that we do. As we are witnessing extreme weather events such as increased storms, flooding, and droughts here in Ireland, and temperatures reaching over 50°C in mainland Europe, Climate breakdown is becoming very real and visible. These events remind us that we all have a responsibility to reduce our greenhouse gas emissions and make positive Climate choices. Galway City Council will be to the forefront of that action, working in partnership with businesses and our communities throughout the city.

This plan will embed climate actions into each of the City Council's departments. Actions are laid out and climate action is mainstreamed into all policies and projects, with measurable progress indicators for each action. Through delivery of these actions, incorporating engagement from community and businesses, we can deliver the transformational change necessary across the city for all its people. It also presents our inaugural roadmap to achieving our national goals of a 51% reduction in greenhouse gas

emissions by 2030 and commencement of the pathway to climate neutrality by 2050. I would like to thank Elected Members, interested groups, statutory bodies and staff who have actively contributed to the development of this Climate action plan and look forward to the journey ahead in creating a climate resilient Galway City for all.



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Executive Summary

Addressing climate change has become a global priority, with efforts focused on reducing greenhouse gas emissions, transitioning to renewable energy sources, improving energy efficiency, promoting sustainable practices, and adapting to climate change well underway.

Galway City Council (GCC) has prepared this Local Authority Climate Action Plan (LACAP) 2024-2029, to create a low carbon and climate resilient City, by delivering and promoting best practice in climate action, at the local level. This is aligned to the Government's overall National Climate Objective set out in the Climate Action and Low-Carbon Development National Policy Position Ireland, which seeks to pursue and achieve, by no later than the end of 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. It is noted that while our LACAP will be ambitious to reflect the leadership role of Galway City Council on climate action, the plan only includes actions that fall within the role, remit, and governance of the Council. However, the Decarbonisation Zone pathways, the majority of activity outlined in the pathway is outside the direct control of Galway City Council. The Climate Action Plan 2023 mandates the public sector to play a leadership role in driving far-reaching climate action across its buildings, transport, waste, and energy usage, as well as influencing wider society. Public Sector targets include reducing Galway City Council's own emissions by 51% by 2030 and increasing energy efficiency in the public sector from the 33% target in 2020 to 50% by 2030. These targets are to be achieved while increasing climate literacy in the public sector, implementing green public procurement, and retrofitting public sector buildings.

The vision for the Galway City Council Climate Action Plan 2024-2029 is to be a climate resilient, biodiversity rich, environmentally sustainable and carbon neutral city by no later than the end of 2050. This will be achieved by delivering transformative change and measurable climate action within our own organisation and services and across Galway City, through leadership, example, and mobilising action at a local level.

The implementation of actions set out in Galway City Council's Climate Adaptation Strategy 2019-2024 combined with those outlined in this Climate Action Plan 2024-2029, will assist Galway City Council in embedding climate action measures across all local authority services, setting realistic and achievable targets and timelines for delivery.

It is important to acknowledge the interactive relationship between biodiversity and climate action. Preserving and restoring biodiversity is not only crucial for its own sake, but also for

achieving our climate goals. Similarly, addressing climate change is vital for safeguarding biodiversity and the ecosystems that support life on Earth.

Collaborative efforts between Galway City Council and the Local, Regional and National stakeholders will help bring together diverse perspectives, expertise, and will foster innovation and solutions to achieving the shared goals of reducing emissions and enhancing biodiversity across Galway City.

The Elected Members in partnership with the Executive of Galway City Council have committed to achieving the national targets for public sector emission reduction through the adaption and support of this plan and the Local Authority Climate Action Charter. As Galway City continues to experience growth and ongoing development, Galway City Council commits to supporting local stakeholders and communities to understand and implement adaptation and mitigation measures necessary to ensure that Galway City can work towards realising a more sustainable and climate-resilient future.



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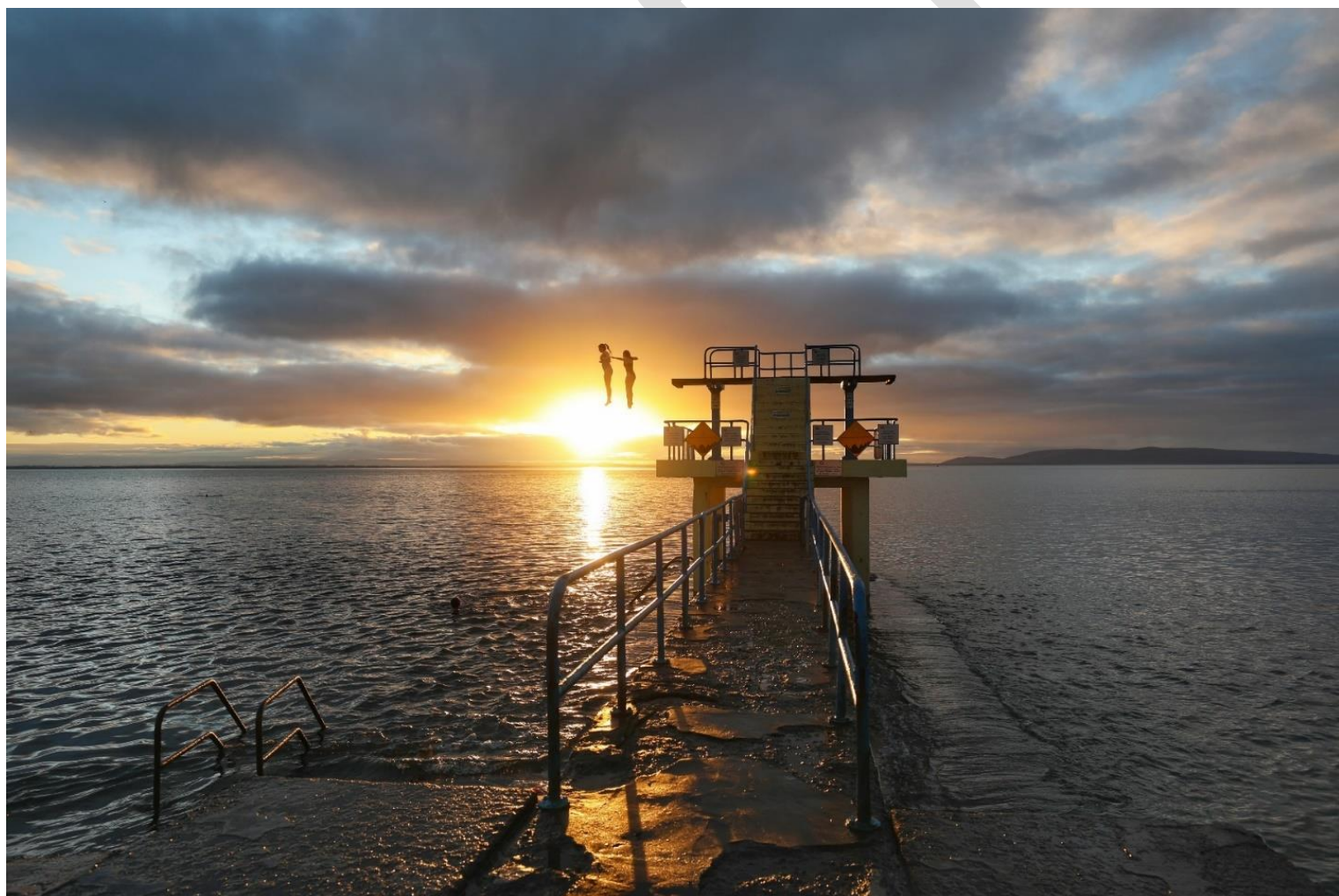
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Galway City Council



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1 Introduction

The Local Authority Climate Action Plan (LACAP) sets out how Galway City Council will be responsible for enhancing climate resilience, increasing energy efficiency, and reducing greenhouse gas emissions, across its own assets, services, and infrastructure, for which it is fully accountable, whilst also demonstrating a broader role of influencing, advocating, and facilitating other sectors, to meet their own climate targets and ambitions. This is necessary to ensure that the environmental, social, and economic benefits that come with climate action, can be fully realised.

The LACAP sets a clear pathway for Galway City Council to:

- Actively translate national climate policy to local circumstances with the prioritisation and acceleration of evidence-based measures.
- Assist in the delivery of the climate neutrality objective at local and community levels.
- Deliver a Decarbonisation Zone (DZ) within the local authority area to act as a test bed for a range of climate mitigation, adaptation, and biodiversity measures in a specifically defined area, through the identification of projects and outcomes that will assist in the delivery of the National Climate Objectives.

1.1 Climate change, its significance, impacts and risks for Galway

Climate change is increasingly understood to be the most critical, long-term global challenge of our time, with its impacts felt both worldwide and at home. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) Working Group confirms there is overwhelming evidence that the Earth's climate has changed since the pre-industrial era (roughly 1850-1900) with human activities, specifically the release of greenhouse gases into the atmosphere, the principal cause of that change. This human-induced global warming has caused the average global surface temperatures to increase by 1.1°C in the period from 2011 to 2020, when compared to the average temperatures of the pre-industrial era.

Ireland's climate echoes the global situation, changing in a manner consistent with global trends and is experiencing warmer temperatures, with the past 8 years the hottest on record. As a result of higher average temperatures, Figure 1-1, Ireland is

also experiencing more intense weather events including droughts, storms, heavier rainfall, and stronger winds resulting in higher vulnerability and risk to the negative impacts of climate change, Figure 1-2.

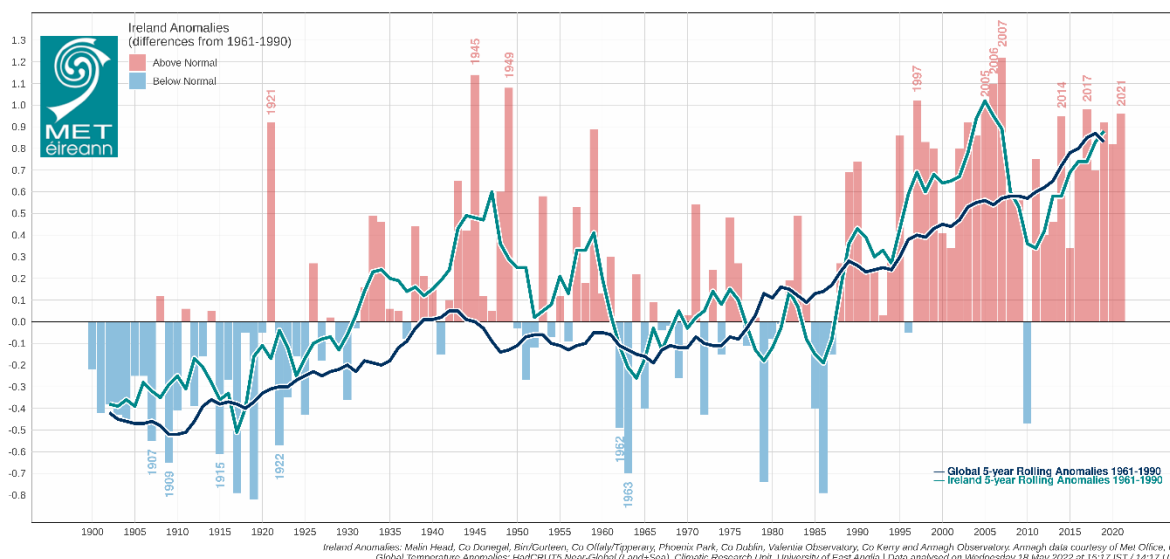


Figure 1-1 Annual mean surface air temperature (1900–2021) for Ireland showing an approximate 0.9°C increase over the last 120 years, Source: Met Éireann, National Climate Framework for Climate Services (NFCS)

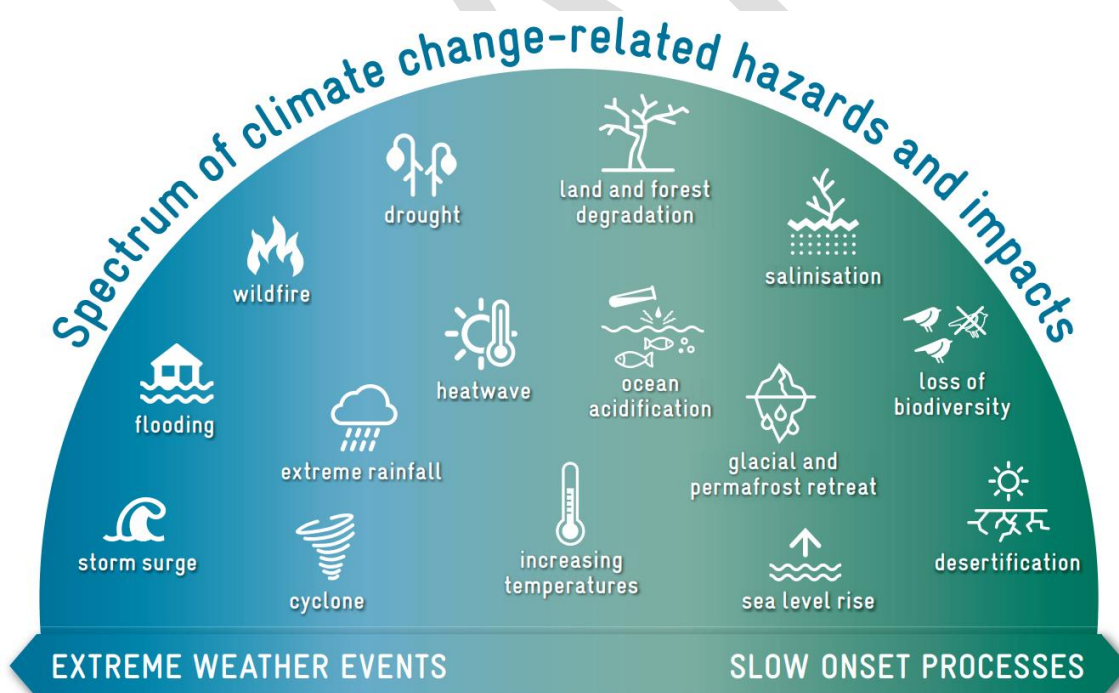


Figure 1-2 Future Possible Climate Projections for Ireland (Source: Based on: ©GIZ/Global Programme on Risk Assessment and Management for Adaptation to Climate Change (Loss and Damage))

To tackle global climate change, the level of greenhouse gases (GHGs) entering the atmosphere needs to be reduced and GHGs already in the atmosphere need to be

removed. In addition, resilience to current and future climate change impacts needs to be increased.

This LACAP sets out how Galway City Council aims to contribute its share to achieving national climate objectives over the next 5 years and beyond toward 2050. It will act as a key instrument that strengthens the links between national and international climate policy and the delivery of effective climate action at local and community levels, through place-based climate action.

Galway City Council is active in adapting and building resilience to the impacts of climate change for example through flood defence schemes, planning, risk assessment and maintenance and strengthening of infrastructure. To increase this resilience, Galway City Council will need to proactively plan for and work with our communities and government agencies to adapt to the current and future climate change risks identified.

1.2 Summary of Climate Policy Context

This Climate Action Plan is set within a broader context of international, EU, national and sectoral climate policy.

The Paris Agreement, a legally binding international treaty on climate change, sets progressive and ambitious goals for global climate action:

- Holding global average temperature increases to well below 2°C and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels; and
- Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience.

Another International agreement closely linked with the Paris Agreement is the 2030 Agenda for Sustainable Development was adopted by UN Member States in September 2015. At the agenda's core are 17 Sustainable Development Goals (SDGs) which are illustrated in Figure 1-3.

These goals aim to “end poverty, protect the planet and improve the lives and prospects of everyone, everywhere”. The 17 SDGs contain 169 targets to be achieved by 2030 and in 2019, world leaders called for a ‘decade of action’ to achieve the Goals within this timeframe.

All actions proposed in Section 3.2 (City) and Section 4.5 (Decarbonisation Zone) of this plan are aligned with the UN SDGs.



Figure 1-3 United Nations Sustainable Development Goals

The European Green Deal sets out Europe's response to the climate crisis. The Green Deal is an action plan with the aim of achieving EU climate neutrality by 2050 and sets the EU GHG emissions reduction target of 55% by 2030 relative to 1990 levels, in line with the Paris Agreement. This 2050 goal is enshrined into law by way of the European Climate Law. The law sets the direction of the EU's climate agenda and is enacted into Ireland's national agenda in the Climate Action and Low Carbon Development (Amendment) Act 2021. The Act requires local authorities to develop five-year Climate Action Plans (LACAPs) with mitigation and adaptation measures included.

Our Shared Future, the Irish Programme for Government, commits to a 51% reduction in Ireland's overall emissions from 2021 to 2030, and to achieving net-zero emissions by 2050. Ireland's Climate Action Plan (CAP) 2023 provides an implementation plan for delivering on these commitments.

Ireland's National Adaptation Framework (NAF) (2018) sets out the context for key sectors and local authorities to assess climate-related risks and vulnerabilities,

implement climate resilient actions, and mainstream climate adaptation measures into national, regional, and local policy. Sectoral Climate Adaptation Plans have been published across Government departments, in response to the National Adaptation Framework. Each plan identifies the key risks faced across the sector and the approach being taken to address these risks and build climate resilience for the future.

Ireland's Long-term Strategy on Greenhouse Gas Emissions Reductions presents indicative pathways, beyond 2030, towards achieving carbon neutrality for Ireland by 2050. The strategy builds upon the decarbonisation pathways set by the carbon budgets, sectoral emissions ceilings, and the national Climate Action Plan.

The Local Authority Climate Action Charter signed by Galway City Council in October 2019, represents a commitment to scale up efforts and play a key role locally and nationally in delivering effective climate action. Delivering Effective Climate Action 2030 (DECA 2030) is the local government strategy on climate action published in April 2021. The strategy is a roadmap for local authorities in delivering the required decarbonisation and adaptation responses to climate change.

1.3 Need for Climate Action Plan

Local Authorities have a key role in the delivery of both climate mitigation and adaptation measures. This is reflected in the provisions of the Climate Action and Low Carbon Development (Amendment) Act, 2021, which requires each Local Authority to prepare a LACAP, specifying the mitigation and the adaptation measures to be adopted by the Local Authority.

Climate Change Mitigation actions relate to changing how we all live, move, consume, and manufacture, so as to reduce and/or eliminate the production of harmful greenhouse gases, it also includes how we all best use our land.

Climate Change Adaptation actions relate to addressing the impacts of climate change and involves taking practical actions to manage risks, protect communities and strengthen the resilience of the economy (for example from flooding, sea level rise, and so on).

The LACAP strengthens the links between national and international climate policy and the delivery of effective climate action at local and community levels, through

place-based climate action. Through its preparation and implementation, the LACAP offers an opportunity to bring together critical stakeholders across communities and businesses to build a vision for a climate neutral future.

The LACAP is part of longer-term efforts that require a sustained and planned response to support the delivery of the climate neutrality objective at local and community levels. This LACAP provides a mechanism for bringing together both adaptation and mitigation actions to help drive positive climate action and outcomes across the local authority and its administrative area. The framework of climate actions set within the plan, configures the arrangement of climate actions within a defined structure that ensures alignment between on the ground actions and the high-level vision that the plan aspires to deliver.

This LACAP has been prepared in accordance with the Local Authority Climate Action Plan Guidelines, published by the Department of the Environment, Climate and Communications in March 2023. For the purposes of the local authority climate action plan and informing how actions are devised, it is important to define the four scales at which local authorities maintain responsibility on climate action, Figure 1-4.

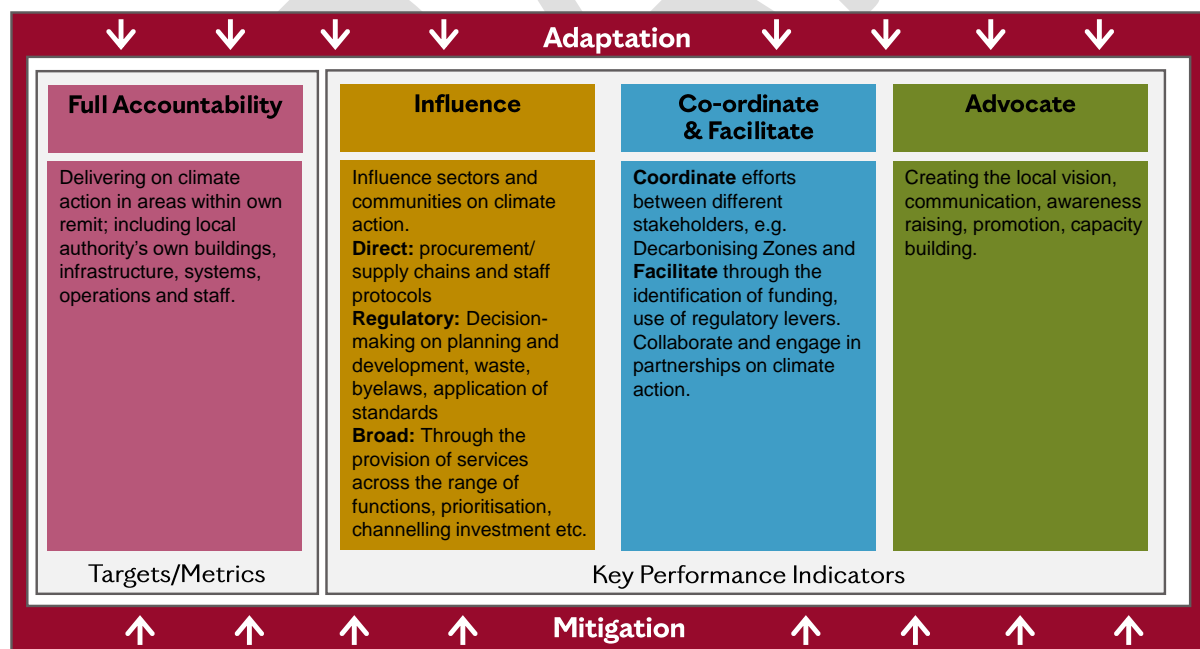


Figure 1-4 Local Authority scope on climate action

1. Full accountability for climate action within the local authority, which includes tracking and reporting on the reduction of emissions from their own internal operations, buildings and facilities (including transport fleet, public lighting, retrofitting social housing, the provision of infrastructure, and so on) in addition to building resilience to the negative impacts of climate change, within the organisation, through the range of services and functions provided.

2. Influence sectors, business, communities, and individuals in the delivery of local climate action through the various functions and services provided, as well as using many regulatory levers and the sector's broader remit to enable, facilitate and support them.

3. Co-ordinate and facilitate by bringing together key stakeholders, engaging in partnerships to maximise efforts, and creating interactions that will yield successful initiatives and projects which may not otherwise occur.

4. Advocate for climate action by raising awareness, communicating, and engaging in open dialogues on climate related issues and responses. The local authority climate action plan is part of longer-term efforts that will require a sustained and planned response to support the delivery of the climate neutrality objective at local and community levels. These guiding principles serve as a benchmark for local authorities on climate action planning, Figure 1-5.

Ambitious

- To reflect the leadership role of local government on climate action and to help realise the pivotal role the local authority plays in enabling the transformative measures required to respond to the challenges presented by climate change. Furthermore, to deliver on the national climate objective, reflecting the Local Government ambition of Delivering Effective Climate Action 2030.

Action-focused

- To realise specific and deliverable actions to achieve adaptation and mitigation measures that reflect the local authority's responsibilities at organisational and community levels.

Evidence-based

- Using the most up-to date scientific information, data on emissions, grounded risk and vulnerability assessment, local knowledge and other empirical evidence to inform decision-making and pursue effective mitigation and adaptation measures.

Participative

- Involving a range of stakeholders to contribute to both the development of the climate action plan and the practical delivery of actions. Inclusive, coordinated and collaborative climate action stems from cooperation of a diverse range of stakeholders from the earliest stage possible.

Transparent

- Open process with inclusive and collaborative engagement that supports decision making that can be measured and reported on.

Figure 1-5 Guiding principles of the local authority climate action plan

1.4 Structure of the LACAP

This LACAP has been prepared with five main sections:

Section 1 – Introduction

Presents the climate policy context, local authority context, and purpose of this plan

Section 2 – Evidence-based Climate Action

This summary sets out the importance of the robust evidence-base that underpins this plan, a summary of the climate change risks facing Galway and a summary of the local authority's current emissions profile.

Section 3 – Framework of Climate Actions

This section comprises the overarching vision and mission of the plan, and a thematic focus on the strategic goals for climate action set by Galway City Council.

Section 4 – Decarbonisation Zone (DZ)

Presents a summary of Galway's DZ emissions profile, the DZ vision, register of opportunities and DZ actions broken down by strategic areas.

Section 5 – Implementation and Reporting

Sets out the approach to implementation, metrics for measuring progress and reporting requirements and arrangements.

1.5 Plan Making Process

Local authorities have significant experience in engaging members of the public and stakeholders, through their existing functions, including land-use planning, housing, enterprise, transport, and environmental awareness. Local authorities are also engaged in existing public participation structures and approaches that are bottom-up, community centred and are outcome focused. These include Public Participation Networks (PPN), Local Community Development Committees (LCDC), Tidy Towns, Age Friendly Ireland, Sports partnerships, Sustainable Energy Communities (SECs) and a range of other programmes and initiatives.

The urgency in addressing the issue of climate change has permeated throughout these organisations who are now making significant progress in incorporating climate action into their goals and plans. The incoming Galway City Local Economic

Community Plan (LECP) 2023-2028 identifies Climate Action as a high-level goal to achieve “a sustainable resilient city”.

The development of the Climate Action Plan follows several stages, Figure 1-6. Galway City Council is currently completing Stage 2 in the process, having conducted non-statutory stakeholder engagement to enable the development of this LACAP. Further to this, Galway City Council will hold a number of public briefings during the public consultation phase.



Figure 1-6 LACAP development stages

The actions proposed in this document were developed taking account of:

1. The Galway City Council Climate Risk Assessment and Baseline Emissions reports .
2. Comprehensive stakeholder engagement has taken place including:
 - a. Presenting to Climate Action, Environment, Recreation and Amenity Strategic Policy Committee meetings in 2023.
 - b. Briefings provided to Galway City Council Elected Members in 2023.
 - c. Workshops for Elected Members and GCC Senior Management Team in 2023.
 - d. Four week pre-draft non statutory survey with 118 public submissions received.



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2 Evidence-based Climate Action

To ensure that the LACAP is robust, the plan is underpinned by an evidence base which details sources of emissions as well as the current and future climate-related risks facing Galway City Council. This report provides a summary of the evidence base developed in preparation of the LACAP for Galway City Council.

The baseline information has been grouped into the following key areas:

- Baseline Emissions Inventory (BEI) which assesses current sources of greenhouse gas (GHG) emissions within Galway City Council's administrative area.
- BEI for the Galway City Decarbonisation Zone (DZ), see Section 4.
- A qualitative Climate Change Risk Assessment (CCRA) that evaluates the current and future climate-related impacts and risks faced by Galway City Council and the community.

Table 2-1 Milestone years referenced in analysis throughout this LACAP

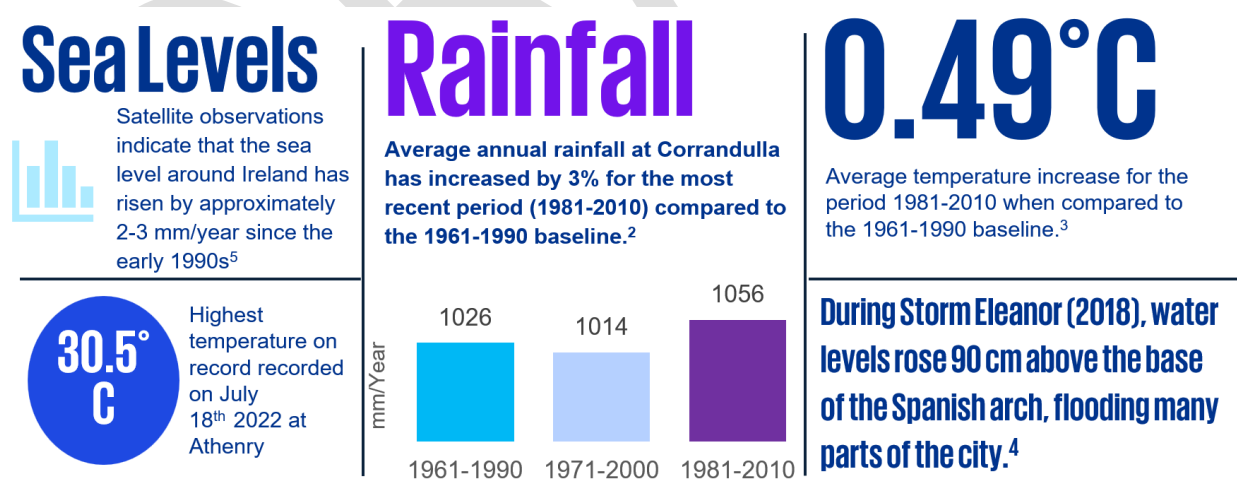
| Key Years | Significance |
|------------|---|
| 2009 | Baseline year for public sector energy efficiency targets |
| 2018 | Baseline year for GHG emissions reduction targets Emissions for the Galway City area is also calculated for this year |
| 2021, 2022 | The latest data from 2021 and 2022 is used in this analysis, where available, to highlight Galway City Council's current status and progress towards 2030 targets |
| 2030 | Year of public sector energy efficiency target – reduction of 50% Year of national emissions reduction target of 51% (in comparison with 2018 baseline year) |
| 2050 | Year of national target of net-zero emissions |

2.1 Galway City Climate Risks

2.1.1 Climate Change Risk Assessment

Understanding the risks posed by climate change is an essential first step for Galway City Council to develop effective and efficient adaptation actions in response to current and projected climate change. Climate change risk assessments identify the likelihood of future climate hazards and their potential impacts. This is fundamental to inform the prioritisation of climate action and investment in climate action. The Risk Assessment was developed based on the most-up-to-date climate projection data available at the time of writing. The underlying models are updated on a regular basis and the level of risk may increase as a result. Other indirect risks, while not part of this Risk Assessment, should be noted, such as forced migration of populations, increases in vector-borne disease and disruption of supply chains.

Galway City Council developed a Climate Risk Assessment to identify the likelihood of future climate hazards and their potential impacts. The assessment, which can be viewed on the [Galway City Council climate action website](#) is fundamental to inform the prioritisation of measures and investments in climate action. Figure 2-1 presents a summary of climate and weather-related changes and hazards that have been observed for Galway City.



² Source: Met Éireann weather station data: Corrandulla, ³ Source: interpolation from Long term Met Éireann mean temperature 1x1 Grid data, ⁴ Source: Irishtimes

Figure 2-1 Observed Climate Changes for Ireland and Galway specifically

2.1.2 Extreme Weather Events

Historically there has been a broad range of extreme weather events which have had severe impact on Galway City. Figure 2-2 shown below summarises these events as extracted from the Galway City Climate Risk Assessment. Most recently, river and pluvial flooding events in 2020 and 2021 demonstrated a range of impacts for Galway City. These impacts included damage to residential properties, closure of businesses, disruption to public services and closure of transport networks. Projected increases in the frequency of extreme precipitation events will result in increased surface water and riverine flood risk for Galway City.

Coastal erosion and coastal flooding events are common in Galway City. Events in 2021 and 2022 resulted in disruption of transport networks and damage to coastal habitats. Projected sea level rise will increase the frequency of coastal inundation and erosion events and associated impacts.

Historically, heatwaves and droughts have contributed to the imposition of restrictions on water supply, damage to road surfaces and have placed an increased demand on recreational areas in the city.

During the winters of 2018 and 2022, prolonged cold spells and heavy snowfall events disrupted public transport networks and caused road closures. Projected increases in average temperature and decreases in the frequency of snowfall indicate a decrease in the frequency of cold spells, heavy snowfall, and their associated impacts.

| | | | | | |
|----------------------------|----------------------------------|--------------------------------------|----------------------------------|---|---|
| Snow & Ice | Heavy Snowfall, Jan '82 | | | | |
| | Heavy Snowfall, Jan '87 | | | Heavy Snowfall, Feb '18 | |
| Coastal | | | | Coastal Flooding, Winter '13-'14 | |
| | | | | Coastal Flooding, Jan '18 | |
| | | | | Coastal Flooding, Feb '19 | |
| | | | Coastal Flooding, Feb '02 | Coastal Flooding, Oct '19 | Coastal Flooding, Dec '20 |
| Heat & Cold | | | Heatwave, Summer '06 | | Heatwave, Jul '21 |
| | | | Severe Cold Spell, Winter '09 | Cold Spell, Feb '18 | Max. July Temp. Record, Jul '21 |
| | | Heatwave, Summer '95 | Severe Cold Spell, Winter '10 | Heatwave, Jun '18 | Max. August Temp. Record, Aug '22 |
| | | | | | |
| 1970 | 1980 | 1990 | 2000 | 2010 | 2020 |
| River Flooding, Nov '73 | River Flooding, Nov '80 | River Flooding, Feb '90 | Pluvial Flooding, Nov '00 | Pluvial Flooding, Oct '11 | Pluvial Flooding, Feb '22 |
| Drought, 1974 - 1976 | River Flooding, Oct '87 | River Flooding, Jun '93 | River Flooding, Nov '02 | River Flooding, Winter '15/'16 | Drought, Aug / Sep '22 |
| Wet & Dry | Pluvial Flooding Oct '89 | Drought, Summer '95 | Regional Droughts, '07 | Pluvial Flooding, Winter '15/'16 | |
| | | River Flooding, Aug '97 | River Flooding Nov '08 | Driest winter in 25 years, Winter 16/17 | |
| | | River Flooding, Dec '98 | River Flooding, Nov '09 | Drought, Summer '17 | |
| | | | | Pluvial Flooding, Oct '18 | |
| | | | | Drought, Jun/Jul '18 | |
| Severe Storm, Jan '74 | Thunderstorms, Jul '85 | Windstorm, Jan '91 | | Storm Darwin, Feb '14 | Storm Dennis, Feb '20 |
| Severe Storm, Jan '76 | Hurricane Charley, Aug '86 | Tornado, Mar '95 | | Storm Frank, Dec '15 | Storm Barra, Dec '21 |
| Wind | Storm Force Winds, Feb '88 | Windstorm, Dec '97 | | Storm Eva, Dec '15 | Storm Eunice, Feb '22 |
| | | Hurricane Force Winds, Dec '98 | | Storm Desmond, Dec '15 | |
| | | | | Storm Jake, Mar '16 | |
| | | | | Storm Ophelia, Oct '17 | |
| | | | | Storm Eleanor, Jan '18 | |
| | | | | Storm Ali, Sep '18 | |
| | | | | Storm Erik, Feb '19 | |
| | | | | Storm Callum, Oct '19 | |
| | | | | Storm Lorenzo, Oct '19 | |
| | | | | Storm Elsa, Dec '19 | |

Key to colour coding of climate and weather-related events

| | |
|-----------------|-------------------------|
| Snowfall | Pluvial/ River Flooding |
| Cold Spell | Windstorm |
| Heatwave | Drought |
| Coastal Erosion | Coastal Flooding |
| Lightning Storm | Hurricane |

Figure 2-2 Climate Hazard Profile for Galway City from 1970 – 2022 from Galway City Climate Risk Assessment

2.1.3 Future Climate Risks

In line with global trends, it is forecast that the frequency and intensity of some hazards (for example, coastal, river and pluvial flooding, coastal erosion, heatwaves, and drought) will increase while others will remain the same (for example, severe windstorms). These changes are projected to continue and intensify with a wide range of impacts for Galway City and Galway City Council. Galway City will also change in terms of its population, as outlined in the Ireland 2040 – Our Plan - National Planning Framework targets and new developments, in line with the Galway City Development Plan 2023-2029 and Ireland's Building Regulations which will potentially affect the exposure and vulnerability of people and assets within the city. Figure 2-3 outlines the change in the climate risk matrix for Galway City. The hollow marker shows the current risk and the solid marker shows the future risk. The dotted line shows the change between the current and future risk.

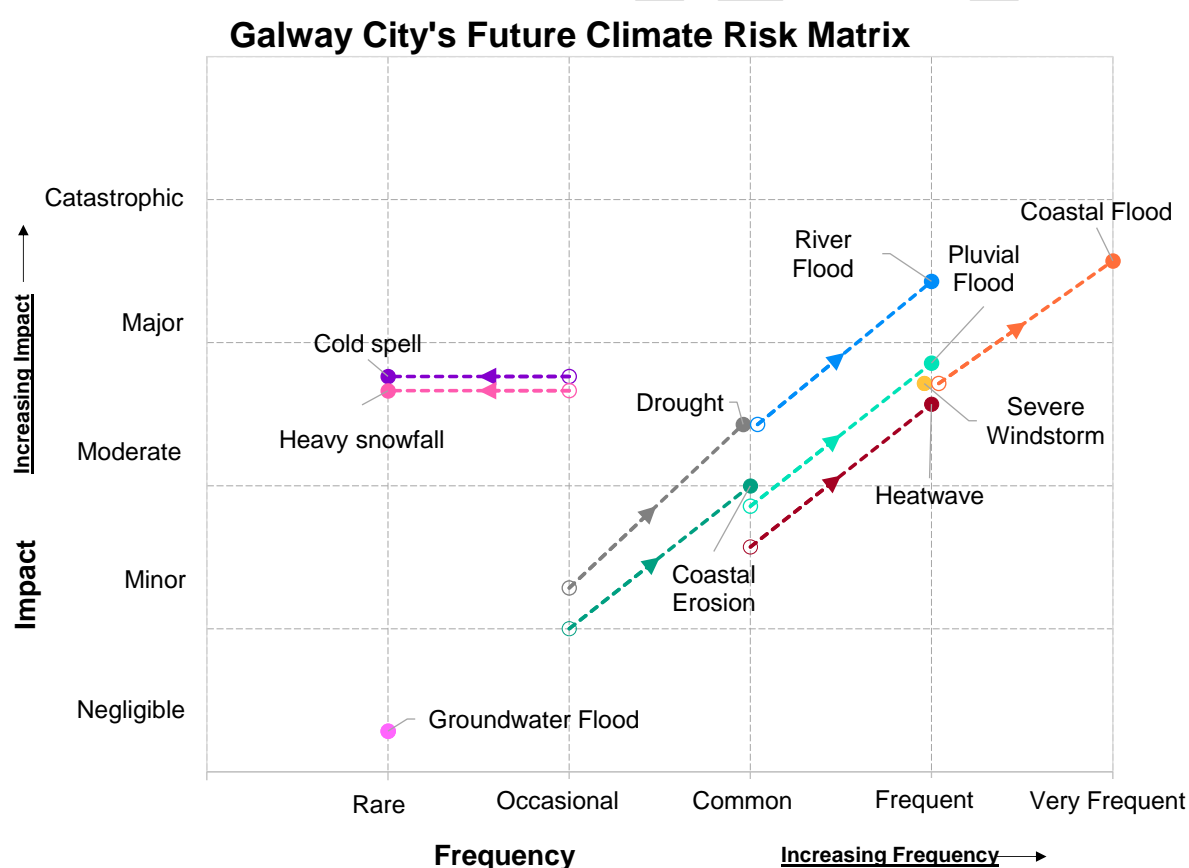






















Figure 2-3 Climate risk matrix showing the future change in risk and frequency of occurrences

Table 2-2 summarises projected changes per climate hazard for Galway City extracted from the Galway City Climate Risk Assessment report.

Table 2-2 Projected changes per climate hazard from Galway City Climate Risk Assessment

| Hazard | | Projected Change | Future Frequency |
|---|---|---|---|
|  | Heatwave | Projections indicate an overall increase in average temperature (bottom left) of between 1.1 and 1.4°C for Galway City relative to the 1981-2000 period. Under a high emission scenario, projections indicate that heatwaves will become more frequent (bottom middle) by mid-century. Summer rainfall is expected to reduce by between 6 and 8% in the future when compared with the baseline period of 1981 to 2000, in both the RCP4.5 and RCP8.5 scenario contributing to potential drought conditions. | Frequent  |
| |  Drought | | Common  |
|  | Cold Spell | As a consequence of the increasing temperatures, a decrease in the number of frost days and ice days in the 2041-2060 future period when compared with the baseline period of 1981-2000, is projected for both the RCP4.5 and RCP8.5 scenario. The annual snowfall in the region is projected to decrease substantially by the middle of the century for the RCP4.5 and RCP8.5 scenarios (bottom right). | Rare  |
| |  Heavy Snowfall | | Rare  |
|  | Severe Windstorms | Projections of storms are subject to a high level of uncertainty. By mid century, projections indicate that average wind speed will remain similar to those currently experienced. There is limited evidence of a potential increase in the frequency of more intense storms which are currently rare events. However, more research is needed to confirm this increase. | Frequent  |
|  | Coastal Flooding | Rising sea levels projections under a high emissions scenario indicate an increase of up to 0.24 m by 2050 which will increase the frequency of coastal inundation. | Very Frequent  |
|  | Coastal Erosion | A rising sea level is strongly linked with coastal erosion and an increase in erosion rates and extent. | Common  |
|  | Pluvial Flooding | Projections indicate an increase in the frequency of heavy rainfall days (days with precipitation >30mm) for Galway City with some areas projected to see increase of up to 37% (bottom right). This will likely result in an increased frequency of associated fluvial and pluvial flooding. | Frequent  |
|  | River Flooding | | Frequent  |
|  | Groundwater Flooding | Projections of changes in groundwater flooding are currently not available, therefore there is uncertainty in the change in groundwater flooding frequency that can be expected. | Rare  |

2.2 Galway City Council's Baseline Emissions Inventory (BEI)

Understanding where GHG emissions are coming from at a local level provides an evidence base for developing the LACAP and appropriate actions that are meaningful for the local context.

Galway City Council's BEI is informed by the DECC Local Authority Climate Action Plan Guidelines 'Technical Annex C: Climate Mitigation Assessment' document, which provides a robust approach to baseline emissions inventory development across all local authorities. It is based on local and national data from 2018, on energy production and consumption and other GHG emissions in Galway City, including insights into Galway City Council's own emissions.

More detail on the approach, methodology and full summary of the results from our emissions baseline is available in the report which can be accessed on the Galway City Council climate action website.

2.2.1 Sources of Emissions in Galway City

The GHG emissions for Galway City in 2018 totalled 493,503 tonnes of carbon dioxide equivalent (tCO₂e) which equates to approximately 0.6% of the national total. Considering the national level target to achieve 51% reduction in greenhouse gas emissions vs. 2018 by 2030, the 2030 emissions target for Galway City is a reduction to 241,816 tCO₂e.

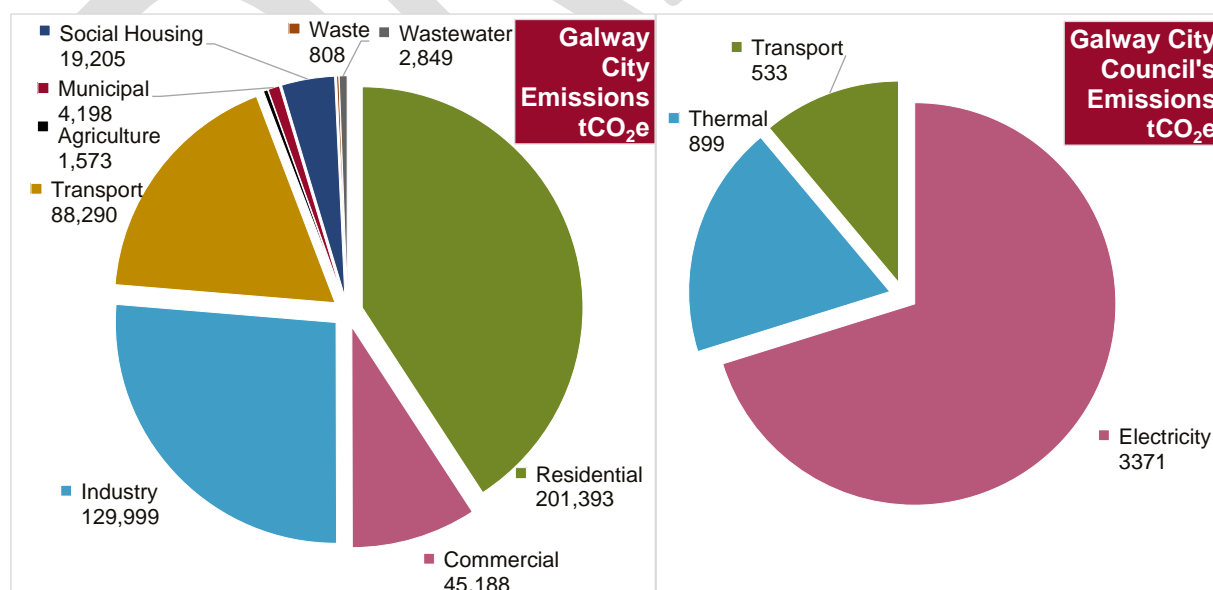


Figure 2-4 Bottom-Up Baseline Emission Inventory (BEI) profile for Galway City and Galway City Council in 2018

Figure 2-4 details the constituents of the emission profile, where the residential sector accounted for the largest portion of emissions in the city. Transport and Manufacturing sectors were also high emitters for the baseline year of 2018. The results from the BEI highlight the key sectors where high impact could be achieved; the actions outlined below reflect actions, within the control of Galway City Council, that will realise emission reductions across the high emitting sectors within Galway City. It is important to note construction sector emissions are excluded from the baseline emissions inventory. Galway City Council commits to working with Government Departments in establishing methodologies for establishing such baseline emissions and targets within the lifetime of this plan.

Galway City Council's own emissions account for approximately 4,803 tCO₂e, or approximately 1% of total city emissions in 2018, Figure 2-4. Therefore, considering the 51% reduction target, Galway City Council's 2030 emissions target is a reduction to 2,353 tCO₂e.

In the interim period since 2018, Galway City Council has implemented proactive measures to achieve substantial emissions reduction measures, see Figure 2-5. Principally, this has been achieved through substantial completion of public lighting LED upgrades, building retrofits and fleet conversion to electric vehicles.

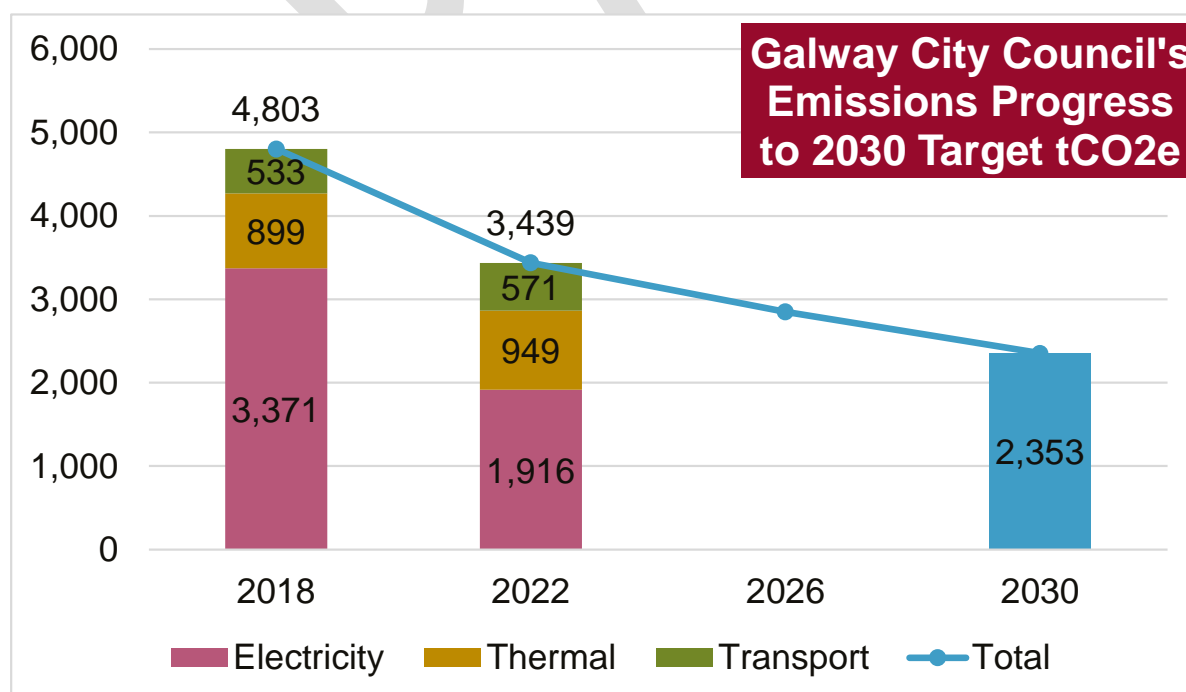


Figure 2-5 Galway City Council's total emissions progress towards 2030 target tCO₂e



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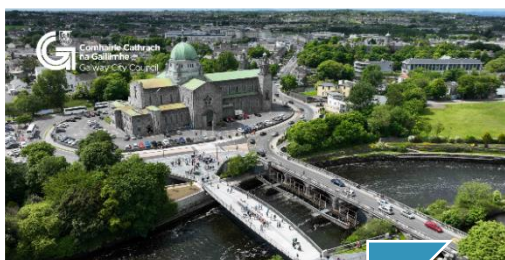


3 Framework of Climate Actions

The framework of Climate Actions set within this plan will be the link between our vision and mission for Galway City, and the ground level actions which will ensure we are at the forefront of the fight against climate change.

3.1 Plan Vision and Mission

The Vision for our Plan recognises Galway City Council's pivotal position to support delivery of national policy at community level. Our Climate Action Plan complements this vision to ensure a Future Ready Galway City.



Vision: To be a Climate Resilient, Biodiversity Rich, Environmentally Sustainable and Carbon Neutral city by no later than the end of 2050.

Galway City Council will actively support our communities and businesses in understanding climate change, implementing climate actions (mitigation and adaptation) and availing of economic opportunities the transition to a low carbon and resilient society can bring.



Mission: to deliver transformative change and measurable climate action within our own organisation and services and across Galway City, through leadership, example, and mobilising action at a local level.

3.2 Thematic Focus

Our Vision and Mission will ensure that Galway City is at the forefront of climate action across the nation. The Vision and Mission is supported by several action themes which are summarised below:

- Governance and Leadership
- Energy and Built Environment
- Communities Resiliency and Transition
- Environment and Biodiversity
- Transport and Mobility
- Sustainability and Resource Management

The actions outlined in the following sections are guided by the following principles:

- Fostering governance, leadership, and partnership for climate action.
- Achieve carbon emission and energy efficiency targets.
- Deliver on climate adaptation and climate resilience.
- Mobilise climate action in local communities.
- Mobilise climate action in enterprise and support transition to an inclusive, net zero and circular economy.
- Achieve a just transition, particularly for communities that may be economically disadvantaged by decarbonising projects. A just transition meaning that the change to decarbonisation and clean energy is conducted in a way that is inclusive, fair, provides equal access to new opportunities, and ensuring no one is left behind.

Galway City Council will consider any relevant updated actions, measures or recommendations that may arise in the annual updates to the National Climate Action Plan and will take account of any relevant recommendations in the EPA State of Our Environment Report, in implementing the Plan over its lifetime.

The actions outlined under each theme below set out an ambitious pathway for Galway City to achieve 2030 Climate action targets. The ability of Galway City Council to successfully implement this plan to achieve these targets is subject to securing resources and funding from National and European programs as well as significant collaboration and behavioural change within the private and community sectors.

3.2.1 Governance and Leadership

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|--|--|---|--|
| Theme - Governance and Leadership | | | |
| 1 | Mainstream climate adaptation and mitigation as a core consideration in all policies and projects adopted by Galway City Council, integrating actions to mitigate and adapt to climate change in all GCC service deliverables. Climate action to be placed on the work programme for all SPC's to ensure we achieve a just transition to positioning Galway City as a sustainable and climate resilient city. | <ul style="list-style-type: none"> - All GCC plans and strategies to incorporate climate action oversight, leveraging current national and international best practices. - Climate action included on the work programme for all strategic policy committee's (SPC's). - Annual review of GCC strategies, plans and procedures in specific regard to climate action integration and progress on same. | Senior Management Team, Corporate Services, Cross Department |
| 2 | Include climate action deliverables into Galway City Council annual service delivery plans. | Climate actions included in departmental annual service delivery plans. | Senior Management Team |
| 3 | Implement the Galway City Development Plan 2023 – 2029 to deliver the cross cutting policies and measures which support and facilitate a just transition to a low carbon and climate resilient society. | Monitor, implement and report progress on Development Plan Objectives as part of a two year review. | Cross Department |
| 4 | Continue to engage with European Union, national, regional and local government, education, non-government organisations/ agencies to capture and share insights, knowledge and lessons learned to combat climate change. Supporting the removal of barriers to collaboration where possible in conjunction with stakeholders. | <ul style="list-style-type: none"> - Number of climate awareness and initiatives supported annually. - Annual progress towards 2030 emissions and energy efficiency targets. - Develop pathway to a 2050 net zero climate resilient city by 31.12.2029. | Climate Action, Environment, Cross Department |
| 5 | Develop Galway City Council investment plan, inclusive of budget estimates, to deliver GCC 2030 energy, emissions targets and actions outlined within this LACAP. Plan to include climate related project funding options study for Galway City Council considering all options for local, regional, national and EU funding opportunities to support climate projects. | <ul style="list-style-type: none"> - Investment plan developed by 31.12.2024. - Amount of grant funding attained annually. | Senior Management Team Cross Department |
| 6 | Facilitate Climate Action Regional Office (CARO) and Local Authority Training Group (LATG) climate action training to elected members and local authority staff to build understanding, knowledge and capacity to deliver on climate action targets. | Number of staff and elected members who complete climate action training annually. | Human Resources |
| 7 | Implement climate positive requirements and life-cycle costing into all Galway City Council procurement process; including: tenders, procurement documents, specifications, terms of service, project plans and event licences and all other relevant documents to ensure climate positive impacts are part of all operational activities. | <ul style="list-style-type: none"> - Green Public Procurement (GPP) criteria, that is climate positive requirements, to be included in procurement procedures and tender criteria by 30.06.2024 in line with GPP strategy. - Develop a Green Public Procurement (GPP) tracking tool to measure and track GPP performance by 31.12.2024, to include tracking of carbon footprint performance improvement. - All purchase orders issued by 31.12.2024 include climate positive | Finance Planning Recreation and Amenity Cross Department |
| 8 | Develop an energy master plan to include renewable and energy storage for Galway City, factoring medium and long-term scenarios (beyond 2030). Plan to include map of potential sites for development and quantifying power generation potential across the City. | Policy and plan completed by 31.09.2026. | Climate Action |

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|--|---|--|---|
| Theme - Governance and Leadership | | | |
| 9 | Conduct climate risk assessment on the future impacts of climate change in Galway City. | Plan complete with review and updating annually. | Climate Action |
| 10 | Leverage actions from engagement in the EU Missions on Adaptation to Climate Change community of practice, which consists of leaders on climate adaptation in the European region to strive towards climate resiliency through a cooperative and just approach for the people of | Delivery of the European Union Mission on Adaptation to Climate Change Charter by 31.12.2030. | Climate Action |
| 11 | Review and update Galway City Council Major Emergency Plan to ensure incorporation of climate risks such as flash floods, storms, heatwaves, droughts and wildfires for Galway City. | Update of plan by 31.12.2024. | Senior Management Team |
| 12 | Deploy weather impact register (WiRE) app to ensure GCC capture information of adverse climate events in a central location for future records, ease of location and reference. | Annual review of orange/ red weather warning events recorded on Wire App and develop a trend profile. | Climate Action |
| 13 | GCC to implement processes to achieve and maintain ISO50001 Energy Management Certification. | - Certification achieved by 31.12.2025. - ISO50001 maintained annually thereafter. | Senior Management Team |
| 14 | Establishment of GCC Climate Action Steering Group and appropriate support sub-groups including employees across all functions of the organisation, that is suitably resourced to deliver adaptation and mitigation actions against climate change. | - Climate Action Steering Group established internally by 31.03.2024. - Steering group to meet quarterly reviewing progress on climate actions, number of meetings per annum of group. | Senior Management Team |
| 15 | Establish climate ambassador programme and forum to facilitate knowledge sharing, capacity building and just transition on climate, energy and nature based solution (NBS) initiatives and actions across the city. programme to include climate/ energy/ NBS leaders and pioneers from throughout the city including businesses and community groups. | - 50 external (Galway City community), 50 internal (GCC) climate action ambassador volunteers onboarded with forum established and held annually. - Increased voluntary group participation in conjunction with GCCN. | Climate Action, Economic and Culture, Community, Cross Department |
| 16 | Develop public website which displays progress on implementation of climate action plan and details example climate action projects. | Website in place by 30.06.2024. | Climate Action |
| 17 | Strive to position Galway City Council as a Lead Local Authority in Ireland on climate action by ensuring adequate staff assigned to the climate action team to support implementation of this Climate Action Plan and achievement of 2030 targets. | Number of staff permanently assigned to climate action team fulltime - that is Climate Action Coordinator, Climate Action Officer, Community Climate Action Officer, appointed climate action team lead from within all GCC Departments. | Senior Management Team Human Resources |
| 18 | Deliver actions set out within the Galway City Council Westside Decarbonisation Zone (DZ) Implementation Plan | Implement and report progress on agreed actions outlined within Decarbonisation Zone Implementation Plan annually. | Cross Department |
| 19 | Establish annual climate festival with events across the city including expert speakers, workshops, action demonstrations, incorporating culture and the arts. | - GCC to consider partnering with existing festivals or establishing standalone festival by 31.12.2024. - Revise and promote greening your festival event guide. | Climate Action, Economic and Culture, Community, Cross Department |
| 20 | Encourage climate action and energy efficiency throughout the Galway City business community. | Support energy and carbon rating schemes for businesses throughout the city annually. | Climate Action, Economic and Culture |
| 21 | In implementing this Galway City Local Authority Climate Action Plan, ensure compliance with the Galway City Development Plan 2023-2029 and local area plan objectives and policies relating to environmental management, the protection of statutory Conservation Areas and ensure compliance with specific environmental management measures relating to this plan. | Landuse plans and projects arising from this Climate Action Plan underpinned by: Strategic Environmental Assessment, Environmental Impact Assessment, Appropriate Assessment, and Ecological Impact Assessments as relevant. | Cross Department |

3.2.2 Energy and Built Environment

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|---|---|--|--|
| Theme - Energy and Built Environment | | | |
| 22 | Implement opportunity projects outlined in "gap to target tool" which tracks energy and emission consumption reduction progress towards 2030 targets which factors growing energy demand and action measures such as building retrofits, removal of fossil fuel heating systems, renewable energy systems, alternative fuel sources, electric vehicles, public lighting and prioritisation of all such actions. | <ul style="list-style-type: none"> - GCC own emissions on track annually to meet or exceed 51% reduction target from 2018 baseline by 2030. - GCC energy efficiency to meet or exceed 50% improvement vs. 2009 by 2030. - Implementation of agreed projects annually. - Building performance to be nearly Zero Energy Buildings (nZEB) where retrofits involve renovation in excess of 25% of the building envelope as required by building regulations. | Senior Management Team, Climate Action, Cross Department |
| 23 | Support the upgrade of stormwater pipe capacity in collaboration with Uisce Éireann, arising from the completion of the Greater Galway Strategic Drainage Study (GGSDS). | Completion of GGSDS by 31.12.2029. | Roads and Transport (Operations) |
| 24 | Support maximum utilisation of built environment throughout the city, support the upgrade of existing vacant and derelict residential and commercial properties schemes include buy and release, repair and lease, Croí Cónaithe Cities, and so on. including utilising legislative powers such as Compulsory Purchase Orders/ Acquisition to facilitate such reuse where possible. | <ul style="list-style-type: none"> - No. of properties brought back into use within Galway City Council functional area annually. - Promotion of the Croí Cónaithe City scheme, number of grants approved per annum. | Senior Management Team, Environment, Planning, Housing, Cross Department |
| 25 | Update Galway City Council building register to include Meter Point Reference numbers (MPRN), Gas Point Reference Number (GPRN), SEAI Monitoring and Reporting (M&R) attribution status, floor area, occupancy and utilisation schedule. To include review of GCC building (including temporary buildings) inventory utilisation and efficiency to consolidate locations to reduce energy consumption and increase GCC owned space utilisation effectiveness. | <ul style="list-style-type: none"> - Building register complete and updated by 30.06.2024. - Inventory utilisation review complete by 31.12.2024. | Climate Action, Senior Management Team, Corporate Estate, Operations, Recreation and Amenity, Housing Maintenance |
| 26 | Aim to achieve minimum 65% of low BER (<B2) Galway City Council social housing/ apartment stock retrofitted to Building Energy Rating (BER) B2 or higher standard. | <ul style="list-style-type: none"> - Number of houses retrofitted annually - Annual progress towards 65% target by 31.12.2029. | Housing |

3.2.3 Communities Resiliency and Transition

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|--|--|--|---|
| Theme - Communities Resiliency and Transition | | | |
| 27 | Work in partnership with local community, business, and education groups to support initiatives that promote climate action and just transition on the following: - Climate challenges and solutions, mitigation and adaptation - Active travel - Energy saving - Low carbon energy - Waste management and circular economy - Local food production, food waste management and reduction - Water conservation and harvesting - Local level carbon offsetting - Nature based solutions, net biodiversity gain. - Supplier engagement and green procurement aimed at SMEs. | - Number of engagements per annum across sectors (workshops, co-design, information events, wider engagement events, community one-stop shops) delivered in partnership with local groups annually. - Number of Local Green Deals implemented through the European Union Intelligent Cities Challenge annually. | Climate Action, Community, Economic and Culture, Local Enterprise Office, Cross Department |
| 28 | Require all organisations to outline climate actions which will be enabled through all grant funding to be provided by GCC as part of the grant application process. GCC to apply priority weighting to grant applications which contribute largest share to achieving climate action goals. | - Requirement for demonstration of climate action included as part of all GCC grant applications and event licences. | Community Finance Recreation and Amenity Planning, Environment, Climate Action Cross Department |
| 29 | Encourage businesses that can deliver low-carbon goods and services to continue development in or relocate to the city, delivered in conjunction with execution of the Galway City Council Local Economic Community Plan (LECP). | - Increase in engagement and support to businesses as delivered through the LECP. - Number of new climate related businesses established annually through Local Enterprise Office, Galway Chamber, Enterprise Ireland, IDA. | Economic and Culture |
| 30 | Development and implementation of infrastructure and technology across the city to reduce water wastage, such as water fountains, and increase rainwater harvesting, in collaboration with Uisce Éireann where necessary. | - Five water wastage reduction projects delivered by 31.12.2029. - Annual update of surface water database through online dashboard. - Provide 15 public water stations/ taps by 31.12.2028. | Cross Department |
| 31 | Deliver NetZeroCities work programme for Galway City. | NetZeroCities work packages delivered by 31.05.2025. | Climate Action |
| 32 | Deliver the community climate action fund and work to identify further funding streams for local climate action projects and support communities and voluntary sector in developing and implementing climate adaptation and mitigation projects at local level including nature based solutions that can provide co benefits to people and nature. | Implementation of community climate action fund annually. | Climate Action |

3.2.4 Environment and Biodiversity

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|---|--|---|---|
| Theme - Environment and Biodiversity | | | |
| 33 | Continue to support implementation of the Galway City Climate Adaptation Plan and the Coirib go Cósta - Galway City Flood Relief Scheme. | - Climate Adaptation Plan actions implemented annually. - Galway City Flood Relief Scheme progress reported annually. | Infrastructure Development Cross Department |
| 34 | Develop and implement green space strategy (GSS) for Galway City Council owned green spaces that supports space for nature. | Strategy developed by 31.12.2024 and actions implemented annually. | Recreation and Amenity |
| 35 | Implement actions set out in the Galway City Biodiversity Action Plan 2014-2024. | - Implementation of actions set out in biodiversity plan annually. - Development of new strategy 2025-2030 by 31.12.2024. | Recreation and Amenity |
| 36 | Develop and implement actions in the forthcoming Galway City Invasive Alien Species (GCIAS) 2024-2034 Strategy. | - Strategy developed by 31.03.2024 - Actions implemented annually. | Recreation and Amenity |
| 37 | Develop tree strategy for the Galway City area, including detail to increase tree canopy cover throughout the city through management of existing stock and new planting in appropriate places with appropriate planting mixes. | - Tree strategy developed by 30.06.2025 to include leaf cover baseline for the city. - Number of trees planted annually. | Recreation and Amenity |
| 38 | Develop woodland management plans for existing GCC woodland. | - Woodland management plans developed: - Barna Wood 31/12/2024, followed by Terryland Forest Park and Merlin Wood. | Recreation and Amenity |
| 39 | Quantify the carbon benefit net gain resulting from green spaces, marine area and carbon sequestration measures embedded in developments. | - Develop methodology for establishing carbon sequestration baseline for Galway City, to include city carbon sequestration map by 31/12/2024. - Initiate two projects to validate baseline through measurement of site performance by 31/12/2025. - Methodology published by 31/12/2026. | Recreation and Amenity, Climate Action, Planning |
| 40 | Promote local and lower carbon footprint food production, including: - Promote and increase local growing and food sharing through community gardens/hubs and allotments throughout Galway City. - Identify new areas for community gardens. - Reduce use of fertilizers by increasing the use of locally produced compost. | - Number of community gardens and allotments added annually. - Development of annual survey of allotment growers to establish database of local food production. - Promote local allotment growing on Galway City Council website. - Feasibility study into GCC developed area for green waste management to provide compost for public use by 31.12.2025. | Recreation and Amenity Environment |
| 41 | Support the development of a City Blueway Strategy for rivers and canals that considers maintenance, biodiversity, climate adaptation and emissions reduction and is informed by ecological assessment and provision of appropriate buffers and wildlife corridors in collaboration with Office of Public Works (OPW), Inland Fisheries Ireland (IFI) and Lough Corrib Navigational Trustees (LCNT). | - Strategy development by 31.12.2026 and actions implemented annually. - Develop maintenance plan by 31.12.2027. | Recreation and Amenity, Environment, Cross Department |

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|---|--|---|--|
| Theme - Environment and Biodiversity | | | |
| 42 | Explore the potential for integrating Nature Based Solutions (NBS) on all internal and GCC permitted projects, with the aim of enhancing climate resilience and fostering biodiversity net gain. Further to include sustainable urban drainage systems, with appropriate regard to environmental protection requirements, including designated European sites. Increase in leaf cover in Galway City area, considering trees and vertical shading solutions. | <ul style="list-style-type: none"> - All GCC projects to implement nature based solutions including sustainable urban drainage and shading system elements from 2024 onwards where possible. Reference Department of Housing Local Government and Heritage (DHLGH) guidelines on nature-based solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas. - GCC guidelines encompassing nature based solutions and sustainable urban drainage solutions developed by 31.12.2025 with all projects assessed per guidelines by 2026 onwards. - Annual % increase in leaf cover in Galway City. | Senior Management Team, Infrastructure Development Active Travel team, Transport, Planning, Recreation and Amenity, Cross Department |
| 43 | In conjunction with the "Clean Air Together" and "The Air We Share" initiatives, develop Air Quality Improvement Plan for Galway City to consider locations to pilot Low Emission Zones (LEZ). | <ul style="list-style-type: none"> - Plan developed by 31.12.2029. - Annual report on air quality standards. | Environment, Infrastructure Development, Planning, Active Travel Team, Transport, Roads and Transport (Operations) |
| 44 | Support Health Service Executive (HSE) to develop a process to measure health improvement from climate action projects throughout Galway City. | <ul style="list-style-type: none"> - Provision of relevant available data to HSE as required annually. | Environment, Climate Action |
| 45 | Assess the current herbicide and pesticide usage by Galway City Council, inline with the European Union Sustainable Use of Pesticides Directive 2009/128/EC, aiming to remove their application, proactively adopting environmentally-friendly alternatives where possible. | <ul style="list-style-type: none"> - Procure alternative process to herbicide and pesticide use for weed treatment by 31.12.2029. | Senior Management Team, Roads and Transport (Operations), Housing, Recreation and Amenity |
| 46 | Implement actions in River Basin Management Plan as derived from the EU Water Framework Directive (WFD). Whilst further developing the evidence base to support this work considering environmental factors such as water quality, urbanisation, intensive farming, afforestation and the possible long term impact on climate change. | <ul style="list-style-type: none"> - Actions implemented annually as per River Basin Management Plan. - Sampling and evidence base developed annually. | Environment Recreation and Amenity |

3.2.5 Transport and Mobility

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|---------------------------------------|--|--|--|
| Theme - Transport and Mobility | | | |
| 47 | Support the development of greater accessibility, modal shift and active travel throughout Galway City through implementation of work programmes and Galway Transport Strategy (GTS). | Number of projects completed annually. | Infrastructure Development, Active Travel Team |
| 48 | To conduct a study into increased sustainable transport modes for Galway City, for example active travel and light rail. | Completion of Galway Metropolitan Area Transport Strategy (GMATS) by 31.12.2024. | Infrastructure Development Active Travel Team |
| 49 | Support uptake of active travel modes across Galway City engaging with key stakeholders, community groups, institutions and schools through workshops, co-design and engagement to increase. Including delivery of primary, secondary school and business cycle training programme. | <ul style="list-style-type: none"> - Number of active travel projects delivered annually. - Active travel utilisation. - Number of training campaigns delivered. | Infrastructure Development Active Travel Team |
| 50 | Support and promote community mobility schemes including bike share, mobility hubs, community electric vehicle (EV) carsharing and EV charging, carpooling, and community taxis. | <ul style="list-style-type: none"> - Number of projects supported. - Quantity of funding approved to support such projects annually. | Infrastructure Development Active Travel Team |
| 51 | Collaborate with National Transport Authority (NTA)/ Transport For Ireland (TFI) to trial replacement of Leap Cards with contactless card payments on public transport within Galway City. | Trial completed by 31.12.2024. | Infrastructure Development Active Travel Team |
| 52 | In collaboration with National Transport Authority (NTA) and Transport Infrastructure Ireland (TII), ensure adequate maintenance of active travel infrastructure for users. | Annual maintenance programme developed including maintenance of active travel infrastructure and delivery of maintenance plan. | Infrastructure Development, Active Travel Team, Environment, Recreation and Amenity, Roads and Transport (Operations), Housing |
| 53 | Encourage public and private transport providers to transition to a zero emission public transport and taxi fleet throughout Galway City as a priority. | <ul style="list-style-type: none"> - % of zero emission public transport fleet in Galway City area annually. - % of zero emission taxis operating in Galway City area annually. | Infrastructure Development, Active Travel Team |
| 54 | Galway City Council employees to, whenever possible, replace business travel with virtual meetings. If travel is necessary, utilise environmentally friendly transportation methods. Reduce commuting travel for work through maintained remote working policy. | <ul style="list-style-type: none"> - GCC to examine the potential Leap Card use for business travel, enabling if possible by 31.12.2024. - GCC to establish business account with shared mobility providers. - Number of kilometres travelled by sustainable low carbon transport mode vs. fossil fuel powered mode annually. - GCC policy to continue support for remote working. | Human Resources, Infrastructure Development, Active Travel Team, Cross Department |
| 55 | Conduct needs assessment, potential location and provision of Park and Ride facilities in appropriate locations at transport nodes and along strategic transport corridors in accordance with the NTA Strategy, assessment to consider inclusion of EV charge points and bike parking. | Completion of Galway Metropolitan Area Transport Strategy (GMATS) by 31.12.2024. | Infrastructure Development, Planning, Active Travel Team |

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|---------------------------------------|--|---|--|
| Theme - Transport and Mobility | | | |
| 56 | Conduct demand management study for modal parking, on and off street, throughout the city | Completion of study by 31.12.2024. | Infrastructure Development, Planning, Active Travel Team |
| 57 | Develop electric vehicle (EV) charging infrastructure strategy for Galway City and support the rollout of EV infrastructure. | Completion of GCC electric vehicle (EV) strategy for Galway City. | Infrastructure Development, Active Travel Team |

3.2.6 Sustainability and Resource Management

| ID | Proposed LACAP Action | KPI (Measurement) | Action Owner |
|---|---|---|-----------------------|
| Theme - Sustainability and Resource Management | | | |
| 58 | Implement initiatives to continue to prevent and reduce waste across Galway City in partnership with the private sector and communities, including implementation of the incoming draft national waste management plan for circular economy actions. | % waste reduction per capita for Galway City annually. Implementation of actions outlined within draft national waste management plan for circular economy. | Environment |
| 59 | Develop Galway City Council digital transformation pathway to move from paper to a digital based business management system. | Pathway developed by 31.12.2024. | ICT |
| 60 | Support Waste Enforcement Regional Lead Authority(WERLA) and Environmental Protection Agency(EPA) in relation to waste management compliance within the housing and construction industries by working with all actors along the construction chain to embed circular economy principles and practices in building developments in Galway City. | All planning applications assessed for waste management plans, with 100% compliance to same. No. of engagements with construction industry (includes awareness events, workshops and site visits). | Environment, Planning |



Comhairle Cathrach na Gaillimhe

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4 Decarbonisation Zone

A Decarbonising Zone (DZ) is a chosen area where local authorities and communities work together to reduce the amount of carbon produced by their everyday activities. By looking within the community for ways to live and work more sustainably, these zones can find local solutions to global problems, such as reducing greenhouse gas emissions, improving air quality, saving energy and reducing waste.

The main objective of a Decarbonising Zone is to find innovative, achievable ways to reduce greenhouse gas emissions from the area by 51% by 2030, based on 2018 levels. Decarbonising Zones play a crucial role in accelerating learning and innovation while also understanding the complexity and scale of decarbonising the economy and wider society. The area serves as platforms to experiment with new technologies, policies, and strategies for decarbonisation and provide a controlled environment where researchers, businesses, and policymakers can collaborate to test and refine innovative solutions, prior to scaling out to other areas of Galway City.

Galway City Council selected an area consisting of parts of Newcastle, Ragoon, Shantalla, and Westside as the area which satisfies the requirements of a DZ in terms of size, feasible pathway to 51% reduction in GHG emissions over the decade, the potential influence of the Council, and stakeholder collaboration. The zone's plan is based on the characteristics of the area, what is of benefit to the community, and how these elements can work together to reduce or remove carbon and other greenhouse gases from the environment.

4.1 DZ Overview

The area-based maps below show the profile of the area, in terms of building energy rating (BER), commercial and industrial energy usage, demographic and renewable energy potential. The DZ area's population demographic is primarily 'marginally below average' - 'disadvantaged' (in accordance with the Pobal deprivation indices). This has been taken into consideration throughout the preparation of this Decarbonisation Zone Plan, whereby, a just transition to a decarbonised future has been central to the identification of actions.

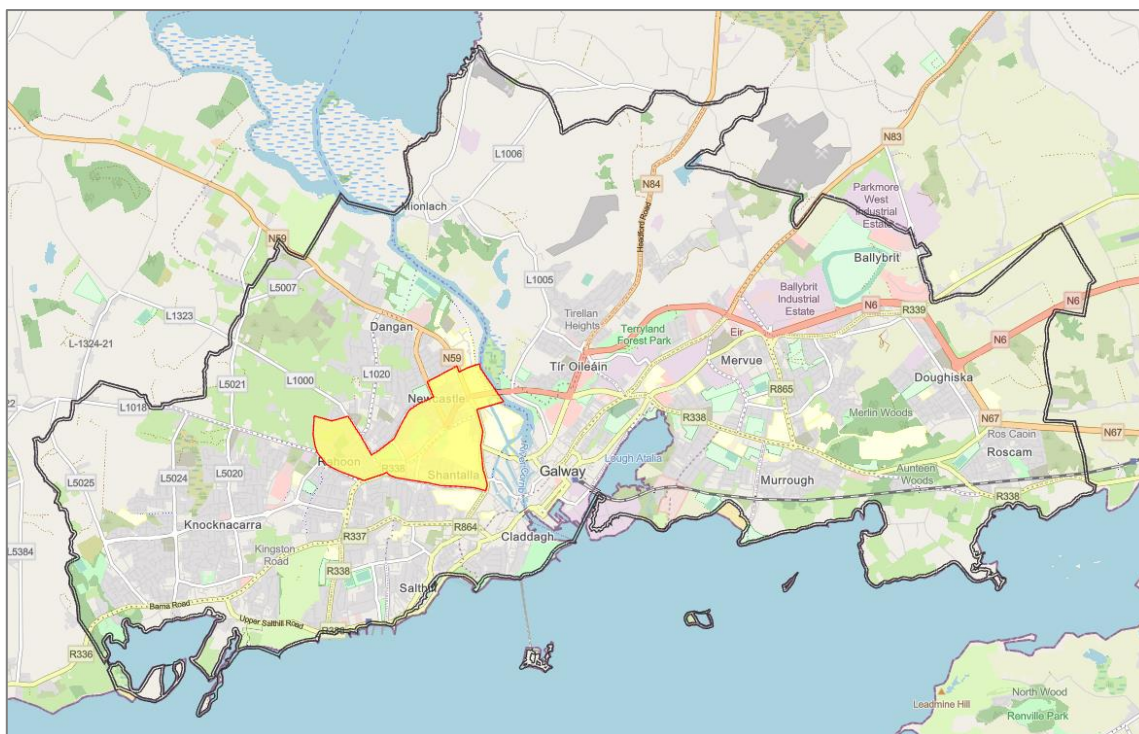


Figure 4-1 Galway City Boundary with Decarbonisation Zone highlighted

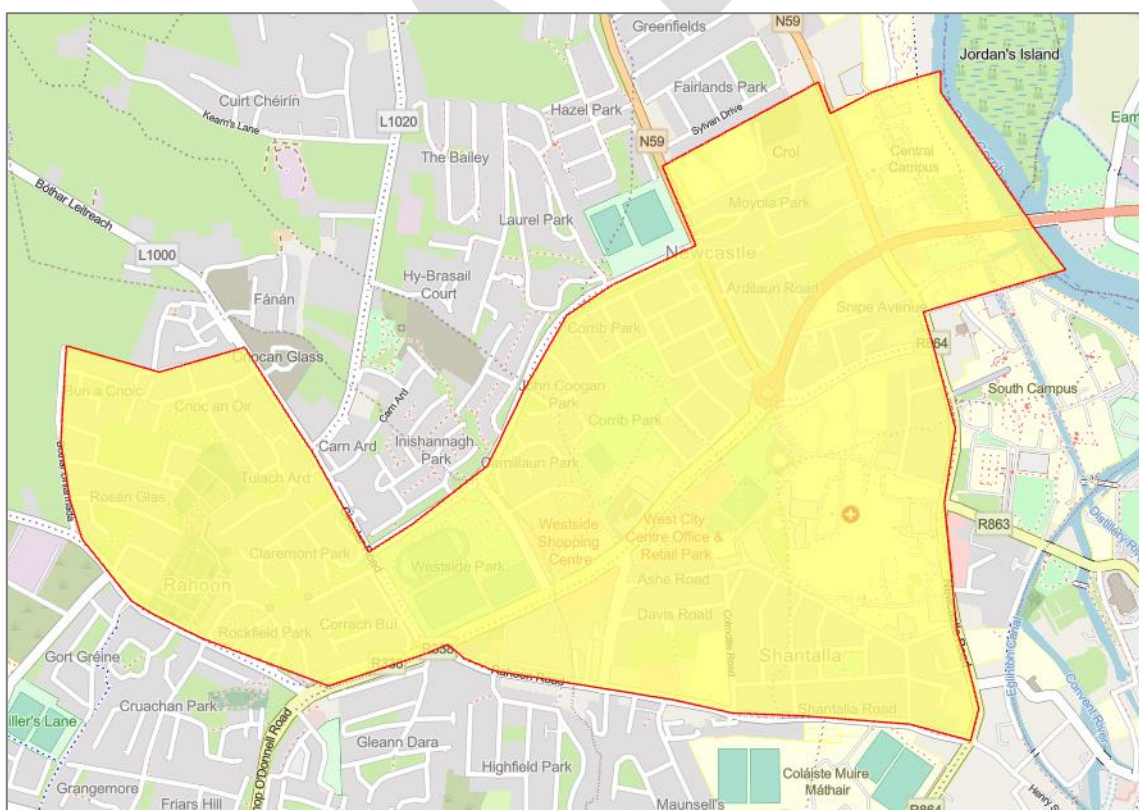


Figure 4-2 Galway City Council DZ boundary

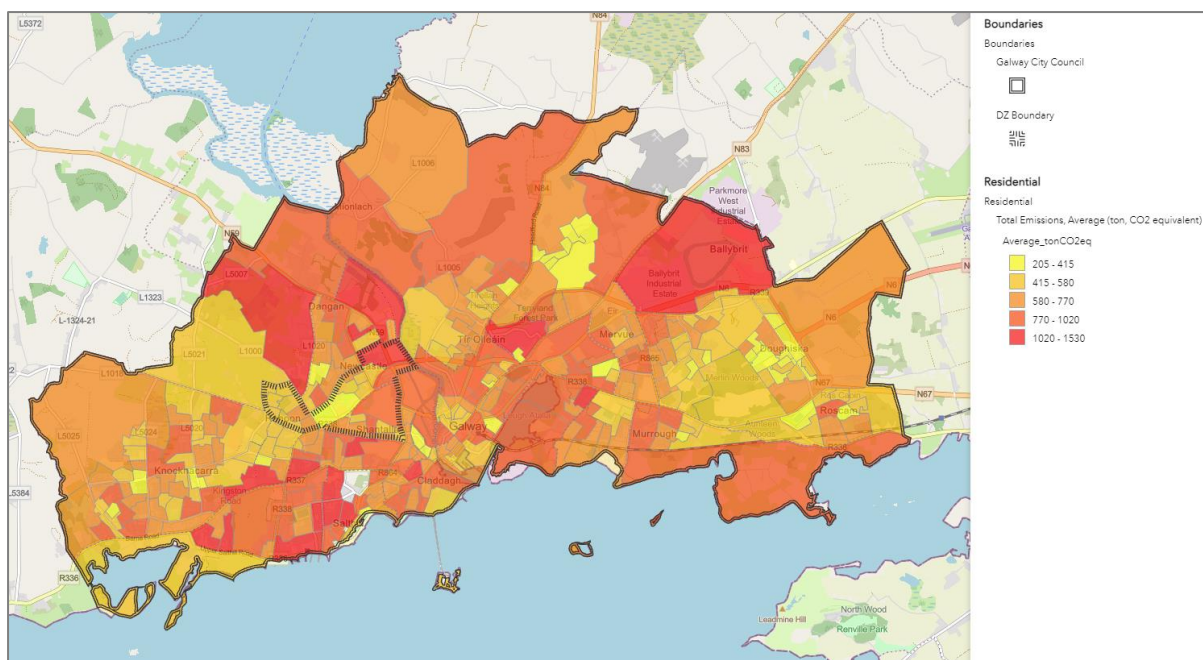


Figure 4-3 Galway City Council administrative area residential emissions heatmap



Figure 4-4 Galway City Council administrative area transport emissions heatmap

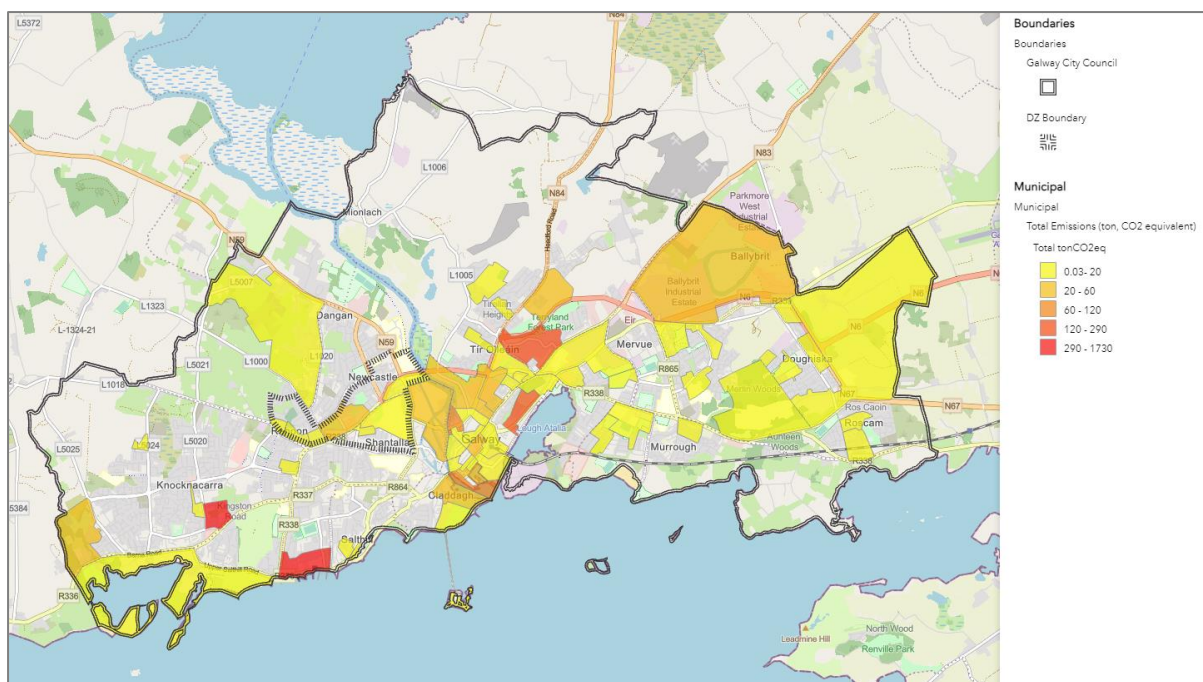


Figure 4-5 Galway City Council administrative area municipal emissions heatmap

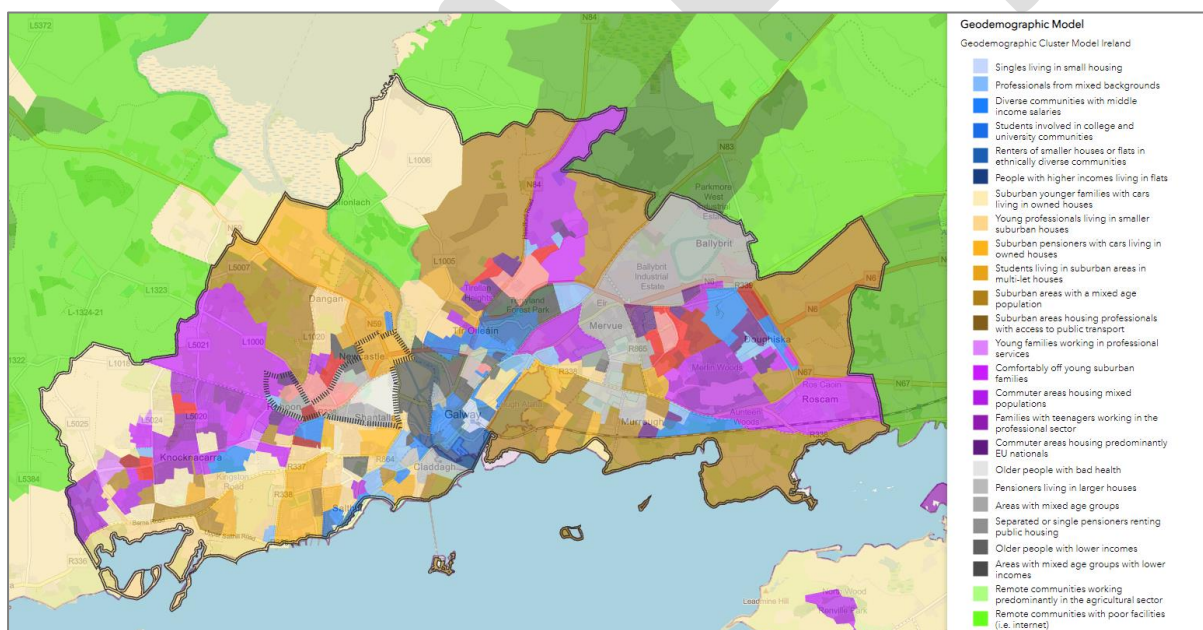


Figure 4-6 Galway City Council administrative area geodemographic heatmap

4.2 DZ Emissions Profile

The total baseline emissions for the DZ amounted to 35,029 tCO₂e, with the distribution per sector is shown in Figure 4-7. The BEI for the DZ can be accessed on the [Galway City Council climate action website](#). The targeted 2030 emissions ceiling for the DZ is 17,164 tCO₂eq, determined by the 51% reduction goal. The emissions baseline outlines the greatest emissions are from the residential, commercial and transport sectors, which is consistent with the citywide baseline; however, the residential and commercial sectors accounts for a greater proportion of the total within the DZ relative to the city.

The emissions distribution across the various sectors is strongly influenced by the suburban locality, economic activity and demographics within the zone with several large commercial energy users situated within the zone (constituting majority of the emissions in this sector).

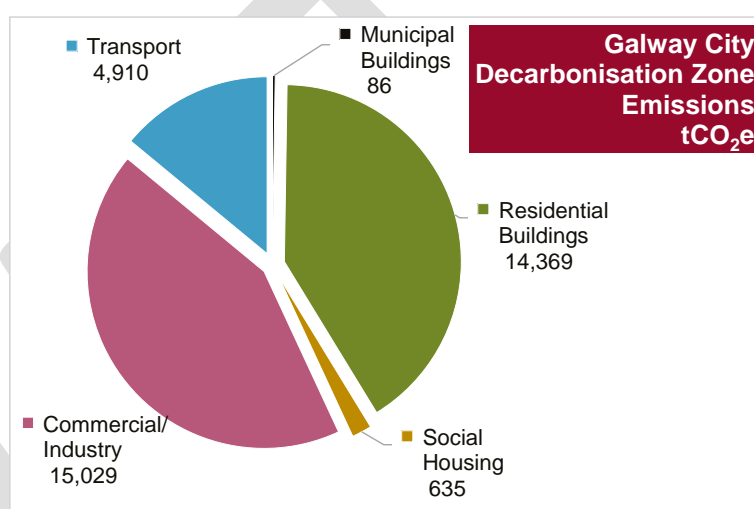


Figure 4-7 Bottom-Up Baseline Emission Inventory (BEI) profile for Galway City Decarbonisation Zone in 2018

4.3 DZ Vision and Mission

GCC recognise the importance of local development to deliver national policy at community level, to enable tangible outcomes and drive real change. The actions should be quantifiable so that progress towards targets can be measured.

The mission for the Galway Decarbonisation Zone is to plan and implement tangible solutions that drive measurable emissions reductions through mobilising local action whilst complementing the broader sustainability agenda.

Local communities already experience the realities of climate change, as well as the impacts of the currently volatile energy market and can often be disproportionately affected by the decarbonisation transition. Therefore, this plan aims to empower and support the local communities within the DZ to mitigate climate impacts by providing

resources, leveraging GCC's influence across all sectors of society and maximising environmental, social, and economic benefits.

To ensure that the vision/ and mission of our Decarbonisation Zone is fulfilled, the following four overarching strategic goals, as presented in Figure 4-8, have been identified. These goals will shape the delivery of the actions within this plan.

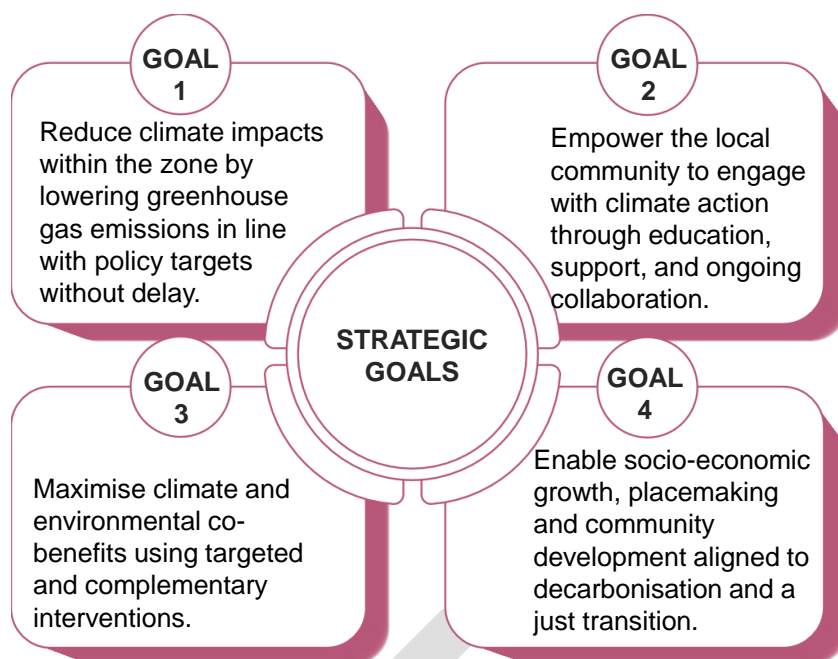


Figure 4-8 Galway City Council Decarbonisation Zone strategic goals

These goals are supported by six priority areas, as shown in Figure 4-9. The decarbonisation pathway developed for the DZ has been aligned to specific measures within each priority area which will enable emissions to be addressed.

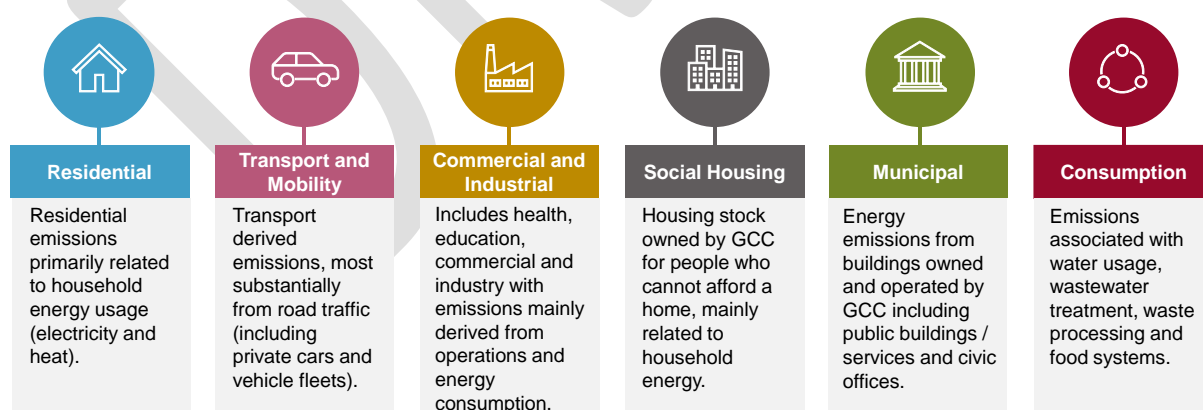


Figure 4-9 Galway City Council Decarbonisation Zone Strategic Priority Areas



Comhairle Cathrach na Gaillimhe

Galway City Council



Photographer Credit - Chaosheng Zhang

4.4 DZ Key Stakeholders and Community Resilience

Stakeholder engagement has been central to the development of this plan, which included data gathering through surveys and consultations with key stakeholders. A core objective of this plan is to facilitate partnerships and empower local actors to drive decarbonisation activities. Alignment with, and support for, existing climate and sustainability plans is a crucial component to decarbonisation of the zone. Galway City Council will provide resource, technical and educational supports as appropriate in accordance with the actions included in Section 4.5. Some of the key stakeholders within the Decarbonisation Zone is outlined below (though it should be noted that this list is non-exhaustive):



University of Galway

- University of Galway central campus is located within the DZ and is a large energy user. University of Galway is already implementing ambitious sustainability plans to reduce operational energy and emissions. In addition to supporting the University with their current targets, this plan encourages further collaboration with this stakeholder in terms of education, skills sharing and research.



University Hospital Galway

- The hospital is a large energy user (GHG permit holder) within the zone, comprising a substantial proportion of emissions in buildings and enterprise sector. The hospital is implementing decarbonisation and energy reduction plans. There is scope for innovation to drive demand reduction which will be a focus point for research studies in the zone. This plan aims to facilitate collaboration on emissions reduction plans.



Galway Hydrogen Hub (G2)

- This Plan acknowledges the potential to partner with the proposed hydrogen hub. Although the proposed location will be situated at the Port of Galway, outside of the DZ, its implementation will enable the sustainable use of hydrogen within the zone. This will assist in the decarbonisation of the more challenging sectors such as industry and transport sectors, in particular.



Sustainable Energy Community (Galway Energy Co-op)

- Galway Energy Co-op are technical leaders and community advocates within the zone. The Co-op has developed retrofit analysis for the residential sector, which is the highest emitting sector within the zone. This plan supports their continued development and requires collaboration with the Co-op, in areas such as education, skills-sharing and innovation.



Schools, Sports Clubs and Community Groups

- These groups are central for the empowerment and engagement of the local community to take ownership of the decarbonisation and sustainable development activity in the DZ. This Plan aims to foster collaboration with such groups particularly in education, skills sharing and behavioural change. Improvements to public infrastructure, and services will require thorough engagement to ensure a just transition.

The implementation of decarbonisation actions through this plan will have regard to the following principles that enable community resilience and help to ensure the successful achievement of targets whilst avoiding unintended consequences and maintaining social value. Community level action will ultimately enable national policies to be realised. It is imperative that communities within the zone support the plan and feel the benefits of its application.

Just Transition

- A just transition is core to the implementation of this plan. This includes enhancing socio-economic development through the decarbonisation actions, ensuring that no one is left behind and everyone has a fair chance to make the most of new opportunities. The actions will provide appropriate support to disadvantaged areas, ensuring that the burden of the energy transition is not disproportionately felt by some groups.

Reduce Energy Risk

- The actions in this plan prioritise the reduction in energy demand as a first step. Given the current volatility of the energy market in the EU, reducing energy demand will lower current risks and lessen potential for energy poverty, in line with REPowerEU. It will also help to reduce ongoing costs and increase energy resilience by decreasing pressures on the energy network.

Climate Adaptation

- This plan (and the City-wide Energy Masterplan) will be delivered in tandem with and complementary to Galway's Climate Adaptation Strategy. The actions in this plan provide many sustainability co-benefits and have regard to the potential vulnerabilities facing Galway and the zone due to the inevitable impacts of climate change.

Collaboration

- Working inclusively and collaboratively across the zone is key to the delivery of the actions set out within this plan.
- The actions will facilitate networks across various sectors and stakeholder groups, recognising potential for mutual gain and ensuring clear communication. Collaboration can enable the identification of new opportunities for decarbonisation.

Continued Development

- This plan will evolve as learning continues with significant potential to learn from the local community through skills sharing and innovation driven by the actions. It is recognized that the local community is best placed to identify new opportunities or improvement areas. This Plan will also adapt to changing conditions as appropriate.

4.5 DZ Actions

Table 4-1 & Table 4-3 outline the quantifiable actions with subsequent emissions reductions detailed in the pathway modelling in Sections 4.5.1 to 4.5.6. SDG mapping has been undertaken for the actions to demonstrate the contribution to sustainable development. The pathways presented incorporate Sustainable Energy Authority of Ireland (SEAI) electricity grid decarbonisation assumptions; however, exclude national gas grid decarbonisation.

It is important to reiterate the four scales at which local authorities maintain responsibility on climate action as outlined in national policy.

Full accountability – where LA has direct control on delivery of actions

Influence – where an alternative stakeholder has direct control on delivery of actions

Coordination- where multiple stakeholders have direct control on delivery of actions

Advocate- where an alternative stakeholder has direct control on delivery of actions

The majority of activity outlined in the pathway outlined below is outside the direct control of Galway City Council. The actions outlined in Table 4-1 & Table 4-3 outline a framework of actions that are required to be delivered by a range of stakeholders to achieve the Decarbonisation Zone targets by 2030. As stated previously the direct carbon footprint of the City Council is minimal, approximately 1% of emissions. It must be noted that Galway City Council's remit and resources are limited in the level of actions the authority has remit or resources to implement, with a predominant reliance on private individual and stakeholder delivery. As stated previously the given the current limitations on resources currently available and remit, the role of Galway City Council will focus on Influencing, Co-ordinating and advocating through the delivery of awareness campaigns, seeking National/ European funding and policy support in conjunction with relevant partners to drive the behavioural change of the broader society required to achieve targets.

Any development that has potential to occur as a result of the actions set out in this DZ plan will be subject to appropriate environmental assessments as necessary, ensuring alignment with the conservation objectives for the Lough Corrib SAC, SPA, and Galway Bay Complex SAC and Inner Galway Bay SPA European Sites.

Table 4-1 Decarbonisation Zone Actions Part 1

| ID | Proposed Decarbonisation Zone Action | Emissions Reductions | Sustainability Co-Benefits | Timeframe | UN SDGs Alignment |
|--|---|---|---|-----------|-------------------|
| Theme - Private Residential | | | | | |
| Galway City Council to deliver campaigns, seek National/ European funding and policy support in conjunction with | | | | | |
| DZ 1 | Retrofit 60% of houses (988 dwelling) and 50% of apartments (444 dwellings) of high BER (above C3). | Direct, quantifiable emissions reductions | Lower utility bills, reduced energy poverty, increased energy resilience Improved thermal comfort | 7 years | 7, 3, 13 |
| DZ 2 | Install heat pumps in 65% of low BER houses (below C1) (1,353 dwellings) (including 100% retrofitted homes). | Direct, quantifiable emissions reductions | Improved local air quality (indoor and outdoor), Improved energy resilience Healthier living spaces with reduced solid fuel burning. | 7 years | 7, 3, 13 |
| DZ 3 | Energy efficiency upgrades for all low BER homes (below C1). | Direct, quantifiable emissions reductions | Lower utility bills, reduced energy poverty, increased energy resilience | 5 years | 7, 3 |
| DZ 4 | Installation of solar PV systems (68% of suitable homes). | Direct, quantifiable emissions reductions | Lower utility bills, reduced energy poverty, increased energy resilience | 6 years | 7, 3 |
| DZ 5 | Implement an enabling policy for homeowners to support energy saving measures. | Qualitative measure with indirect emissions savings | Community development and supporting a just transition | 1 year | 11, 7, 13 |
| DZ 6 | Provide a resource and technical support scheme for homeowners in DZ in collaboration with Sustainable Energy Communities (SECs). | Qualitative measure with indirect emissions savings | Community development and supporting a just transition, Reducing inequalities | 1-2 years | 11, 10, 4 |
| DZ 7 | Deliver an education and training programme on retrofit, energy efficiency and heat pumps in conjunction with educational institutes. | Qualitative measure with indirect emissions savings | Reducing inequalities, Enabling access to education and learning, Upskilling /skills sharing to support the energy transition | 1-2 years | 11, 10, 4 |
| Theme - Transport and Mobility | | | | | |
| Galway City Council to deliver campaigns, seek National/ European funding and policy support in conjunction with | | | | | |
| DZ 8 | 60% of buses and taxis (15 buses and 22 taxis) switched to zero carbon fuel by 2030 | Direct, quantifiable emissions reductions | Reduced air pollution, Energy resilience through alternative fuel utilisation | 7 years | 7, 3, 13 |
| DZ 9 | 40% of cars to electric vehicles (EVs) (1,435 vehicles) by 2030 | Direct, quantifiable emissions reductions | Reduced air and noise pollution | 7 years | 3, 13 |
| DZ 10 | 50% reduction in vehicle kilometres travelled by 2030. | Direct, quantifiable emissions reductions | Reduced air and noise pollution, Improved health and wellbeing, Enhanced public realm through decreased congestion and improved use of space. | 7 years | 3, 11, 13 |
| DZ 11 | 80% of goods-vehicles powered by Hydrotreated Vegetable Oil (HVO) by 2030. | Direct, quantifiable emissions reductions | Reduced air pollution. | 7 years | 3, 13 |
| DZ 12 | Conduct a demand management study for the zone to identify opportunities to reduce car travel. | Qualitative measure with indirect emissions savings | Community development and just transition, Enhanced public realm through decreased congestion. and improved use of space. | 2-3 years | 9, 11, 13 |
| DZ 13 | Policy to provide enabling infrastructure and support schemes for households and local businesses. | Qualitative measure with indirect emissions savings | Community development and just transition, Reduced inequalities. | 2-3 years | 9, 10, 8 |
| DZ 14 | Implement walking, cycling, and public transport infrastructure projects in line with the Galway Transport Strategy (GTS). | Qualitative measure with indirect emissions savings | Community development, Improved public realm, Job creation. | 5 years | 3, 11, 8 |
| DZ 15 | Campaign to encourage and facilitate behaviour change and modal shift in the zone. | Qualitative measure with indirect emissions savings | Facilitating awareness raising and education, Community collaboration. | 2-3 years | 3, 11, 4 |

Table 4-2 Decarbonisation Zone Actions Part 2

| ID | Proposed Decarbonisation Zone Action | Emissions Reductions | Sustainability Co-Benefits | Timeframe | UN SDGs Alignment |
|--|--|---|---|-----------|-------------------|
| Theme - Commercial and Industrial | | | | | |
| Galway City Council to deliver campaigns, seek National/ European funding and policy support in conjunction with | | | | | |
| DZ 16 | 70% reduction in electricity, primarily due to reductions by large electricity users. | Direct, quantifiable emissions reductions | Increased energy resilience, Reduced air pollution. | 7 years | 7, 3, 13 |
| DZ 17 | 60% of electricity demand met by onsite, land-based, renewable energy generation. | Direct, quantifiable emissions reductions | Energy resilience, reduced grid reliance and pressure, Improved local air quality. | 7 years | 7, 3, 13 |
| DZ 18 | 20% of gas demand met by renewable biomethane. | Direct, quantifiable emissions reductions | Embedding circular economy principles, Energy resilience. | 5 years | 7, 12 |
| DZ 19 | Provide a resource and technical support scheme for local businesses and SMEs within the zone. | Qualitative measure with indirect emissions savings | Community development and a just transition, Reducing inequalities. | 1-2 years | 11, 10 |
| DZ 20 | Conduct a research study for localised district heating potential in the zone in collaboration with key stakeholders. | Qualitative measure with indirect emissions savings | Job creation, Community development, Supporting energy innovation. | 3 years | 9, 8, 7 |
| DZ 21 | Implement a policy to incentivise and facilitate energy auditing, energy reduction and renewable uptake. | Qualitative measure with indirect emissions savings | just transition, Supporting energy innovation, Reducing inequalities. | 1-2 years | 9, 10 |
| DZ 22 | Collaborate on and support the delivery of the zone's large energy user decarbonisation plans. | Qualitative measure with indirect emissions savings | Community development and just transition, Upskilling / skills sharing to support the energy transition | 3-5 years | 11, 10, 9 |
| Theme - Social Housing | | | | | |
| Galway City Council will deliver programmes to achieve the outcomes outlined in DZ23 - DZ30. | | | | | |
| DZ 23 | Retrofit 17% of social housing homes (137 dwellings) and 15% of apartments (32 dwellings) of high BER (above C3) by 2030 to lower BER. | Direct, quantifiable emissions reductions | Lower utility bills, reduced energy poverty, increased energy resilience Improved thermal comfort. | 7 years | 7, 3, 13 |
| DZ 24 | Install heat pumps in 37% of low BER houses below C1 (237 dwellings) (100% of retrofitted homes). | Direct, quantifiable emissions reductions | Improved local air quality (indoor and outdoor), Improved energy resilience, Healthier living spaces. | 7 years | 7, 3, 13 |
| DZ 25 | Energy efficiency upgrades for 94% of low BER homes (below C1). | Direct, quantifiable emissions reductions | Lower utility bills, reduced energy poverty, increased energy resilience. | 6 years | 7, 13 |
| DZ 26 | Installation of solar PV systems (covering 85% of social housing). | Direct, quantifiable emissions reductions | Lower utility bills, reduced energy poverty, increased energy resilience. | 6 years | 7, 13 |
| DZ 27 | Explore Renewable Energy Support Scheme (RESS) opportunities with Sustainable Energy Communities to implement solar in the zone. | Qualitative measure with indirect emissions savings | Community development and supporting a just transition, Increased energy innovation and resilience. | 1 year | 11, 7, 19 |
| DZ 28 | Provide resource and technical support in collaboration with Sustainable Energy Communities (SECs). | Qualitative measure with indirect emissions savings | Community development and supporting a just transition, Reducing inequalities. | 1-2 years | 11, 10 |
| DZ 29 | Deliver an education and training programme on retrofit, energy efficiency and heat pumps. | Qualitative measure with indirect emissions savings | Reducing inequalities, Enabling access to education and learning, Upskilling / skills sharing to support the energy transition. | 1-2 years | 11, 10, 4 |
| DZ 30 | Implement comprehensive energy auditing of social housing in DZ to inform action. | Qualitative measure with indirect emissions savings | Community development and supporting a just transition, Reducing inequalities. | 1-2 years | 11, 10, 8 |

Table 4-3 Decarbonisation Zone Actions Part 3

| ID | Proposed Decarbonisation Zone Action | Emissions Reductions | Sustainability Co-Benefits | Timeframe | UN SDGs Alignment |
|--|--|---|--|-----------|-------------------|
| Theme - Municipal | | | | | |
| Galway City Council will deliver programmes to achieve the outcomes outlined in DZ31 - DZ37. | | | | | |
| DZ 31 | Retrofit measures to 100% of municipal buildings. | Direct, quantifiable emissions reductions | Lower operational costs, Increased energy resilience, Improved thermal comfort. | 5 years | 7, 3, 13 |
| DZ 32 | Heat pump installation to 100% of suitable municipal buildings. | Direct, quantifiable emissions reductions | Improved local air quality (indoor and outdoor), Increased energy resilience Healthier public spaces. | 5 years | 7, 3, 13 |
| DZ 33 | Installation of solar PV systems to suitable municipal buildings in the zone. | Direct, quantifiable emissions reductions | Lower operational costs, Improved local air quality, Increased energy resilience, Job creation. | 6 years | 7, 13 |
| DZ 34 | Public lighting upgrades. | Direct, quantifiable emissions reductions | Lower operational costs, Increased energy resilience, Enhanced public realm and reduced anti-social behaviour. | 1 years | 7, 13, 11 |
| DZ 35 | Implement comprehensive energy auditing of municipal buildings in the DZ to inform action. | Qualitative measure with indirect emissions savings | Job creation, Supporting innovation and skills sharing, Increased energy resilience. | 1-2 years | 11, 9, 8 |
| DZ 36 | Explore opportunities for sub-metering / smart metering in larger municipal buildings for granular target setting / monitoring. | Qualitative measure with indirect emissions savings | Responsible consumption, Increased energy resilience. | 1-2 years | 7, 12 |
| DZ 37 | All new buildings to pursue highest sustainability standard / latest NZEB requirements. | Qualitative measure with indirect emissions savings | Job creation, Embedding circular economy principles. | 1 years | 11, 9 |
| Theme - Sustainability and Resource Management | | | | | |
| Galway City Council to deliver campaigns, seek National/ European funding and policy support in conjunction with | | | | | |
| DZ 38 | Implement a resource and technical support scheme for businesses in the DZ to increase circularity (reuse, repair, supply chain, procurement). | Qualitative measure with indirect emissions savings | Embedding circular economy principles, Operational cost savings Job creation and skills sharing, Reduced inequalities, Community development and just transition. | 3 years | 12, 11, 10, 8 |
| DZ 39 | Embed circularity in design and construction of new projects within the zone. | Qualitative measure with indirect emissions savings | Embedding circular economy principles, Cost savings and reduced environmental impacts from construction. | 5 years | 12, 13, 8 |
| DZ 40 | Deliver an education and awareness campaign on sustainable consumption patterns (materials, water, food) in conjunction with educational institutes. | Qualitative measure with indirect emissions savings | Facilitating awareness raising and education, Embedding circularity principles, Skills sharing. | 2 years | 12, 9, 4 |
| DZ 41 | Engage and collaborate with the University, schools, community groups in the DZ to encourage and support reduced waste and water conservation. | Qualitative measure with indirect emissions savings | Facilitating awareness raising and education, Community collaboration, Upskilling / skills sharing to support a just transition. | 2-3 years | 11, 12, 9 |
| DZ 42 | Implement a policy to increase permeable areas in the DZ (through greenspaces, planting and landscaping). | Qualitative measure with indirect emissions savings | Public realm enhancement, Biodiversity benefits, Climate adaptation and reduced flood risk, Protecting water quality, Improved health and well being. | 4-5 years | 11, 15, 3 |
| DZ 43 | Collaborate with schools, and/ or community groups in the DZ to establish a community garden for urban food growth. | Qualitative measure with indirect emissions savings | Facilitating awareness raising and education, Community collaboration Sustainable food production, Biodiversity benefits. | 3 years | 11, 15, 3 |

4.5.1 DZ Private Residential

The DZ private residential actions outlined in Table 4-1 include the emissions reduction potential and sustainability co-benefits. The actions which contribute to direct, quantifiable emissions reductions have been included in the decarbonisation pathway modelling, Figure 4-10 below. The qualitative measures have not been included in modelled scenarios; however, they still contribute to the achievement of emissions reductions indirectly through supporting mechanisms and/ or enhanced ambition.

The private residential decarbonisation pathway is modelled based on the required level of ambition for the prioritised area to align with national policy targets. The pathway for the zone has a high level of ambition, given that is a large contributor to overall GHG emissions in the DZ. Furthermore, this is an area in which it is technically and technologically feasible to implement actions immediately, given the adequate supports, with positive impacts for households as a result.

The modelling included identified actions to represent the order of implementation that will maximise emissions reductions. For example, the residential pathway implements the retrofit measures prior to the installation of heat pumps to reduce embodied carbon and investment costs.

The qualitative actions which contribute indirect emissions reductions are not included in the decarbonisation pathway. However, they are central to the achievement of the required ambition level. Some of these actions may become quantifiable in future when further data becomes available for these measures.

The qualitative measures for the private residential sector will create enabling conditions within the zone to overcome some of the challenges associated with delivering the decarbonisation pathway – through structured policy, support, and skills sharing. Galway City Council will facilitate this through the delivery of the European Union funded NetZeroCities programme, which aims to address the barriers to retrofitting energy upgrades to private sector buildings.

The decarbonisation pathway has the potential to achieve an 81% reduction in the sectors emissions within the DZ by 2030 vs. the 2018 baseline with successful implementation of actions, Figure 4-10.

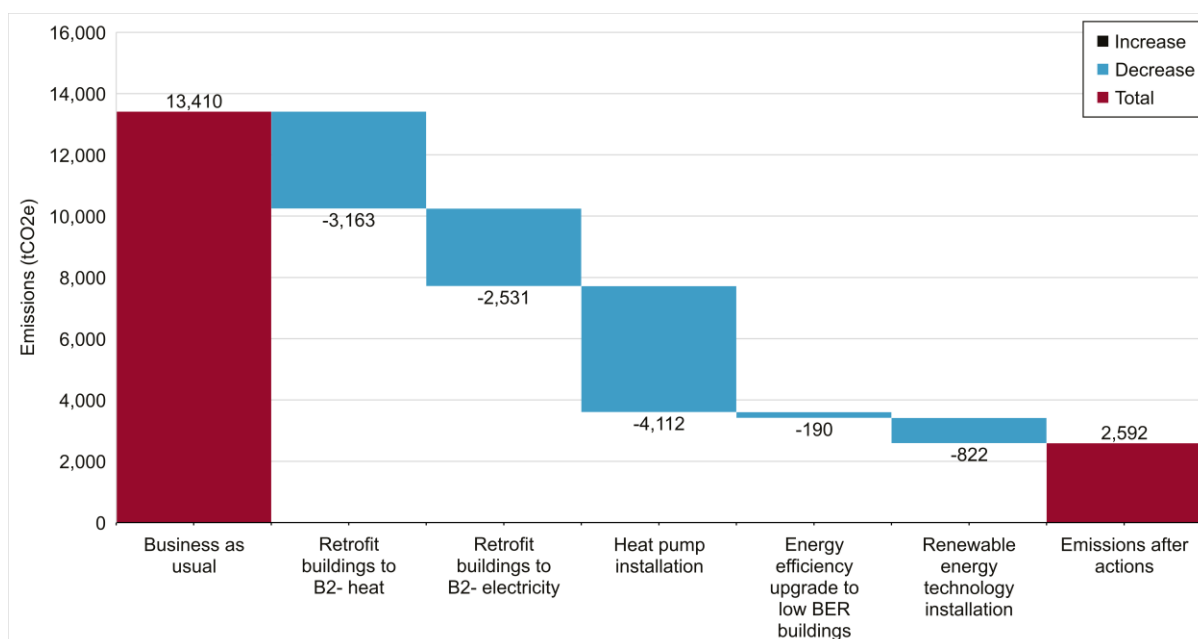


Figure 4-10 Private residential buildings Galway City Council Decarbonisation Zone (DZ) pathway

4.5.2 DZ Transport and Mobility

The transport and mobility actions outlined in Table 4-1 include the emissions reduction potential and sustainability co-benefits. The mobility decarbonisation pathway that can be achieved through the implementation of the actions is outlined in Figure 4-11. This decarbonisation pathway is modelled based on the appropriate level of ambition utilising identified actions and qualitative support measures, like the private residential pathway.

Aligned with the residential pathway, the qualitative mobility actions aim to facilitate this decarbonisation by creating enabling conditions within the zone. The transport sector can be challenging to decarbonise without significant technological, infrastructural, and behavioural changes, many of which are outside the control of Galway City Council. It is imperative actions address all facets of delivery.

The actions will support and be supported by existing and upcoming policies. For example, Galway Transport Strategy should facilitate the reduction in vehicle kilometres travelled through projects such as cycling, walking and public transport infrastructure. Similarly, implementation of the electric vehicle charging infrastructure strategy (2022-2050) should facilitate the uptake in electric vehicles.

There is potential to further increase the decarbonisation ambition upon the delivery of the qualitative actions, for example, the demand management study for the zone will determine further localised solutions and respond to community specific needs.

With successful implementation of actions, the mobility decarbonisation pathway has the potential to achieve a 43% reduction in the sectors emissions within the DZ by 2030 vs. the 2018 baseline, Figure 4-11. Whilst this result is below the national sectoral emissions ceiling of a 50% reduction for transport; it is however attainable in realising feasibility of implementation within the sector. Furthermore, the qualitative measures have the potential to further enhance this ambition by facilitating modal shift and determining localised demand management solutions which may result in further quantifiable emissions reductions upon implementation.

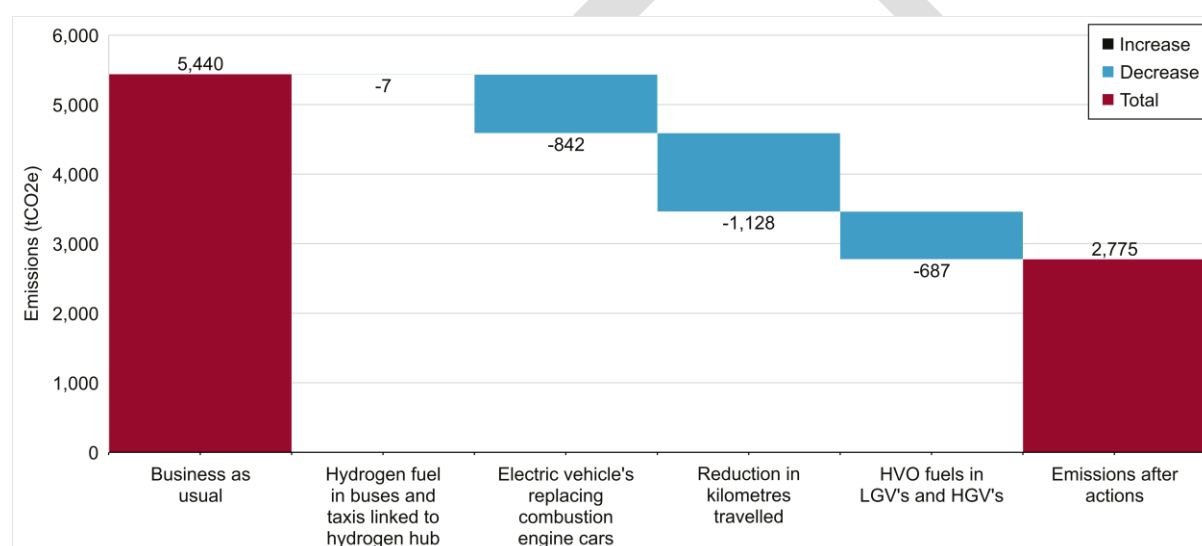


Figure 4-11 Transport and mobility Galway City Council Decarbonisation Zone (DZ) pathway

4.5.3 DZ Commercial and Industrial

The commercial and industrial actions outlined in Table 4-2, include the emissions reduction potential, Figure 4-12. Further information on key stakeholders and large emitters is included in Section 4.4. Parallel to the other prioritised areas, the decarbonisation pathway is modelled based on the ambition level, identified actions, and is supported by other enabling qualitative measures. The feasibility of implementation and stakeholder engagement is considered within the plan.

There is significant variation across this sector which can prove challenging. For example, some larger organisations may have high energy demand; however, they may also have greater ability to implement innovative solutions compared with smaller businesses. Whilst decarbonisation planning for this sector can be constrained by data and the scope of local government influence, ambition and collaboration is encouraged within the zone.

The qualitative actions will support the delivery of the direct decarbonisation measures through policy and support schemes, whilst also fostering collaboration and creating new opportunities to further enhance ambition in future (for example, district heating potential).

The commercial and industrial decarbonisation pathway has the potential to achieve a 41% reduction in the sectors emissions upon successful implementation of the actions within the DZ by 2030 vs. the 2018 baseline, Figure 4-12. The qualitative measures are intended to further increase the ambition for emissions reductions in the sector in the future, which may become later quantifiable.

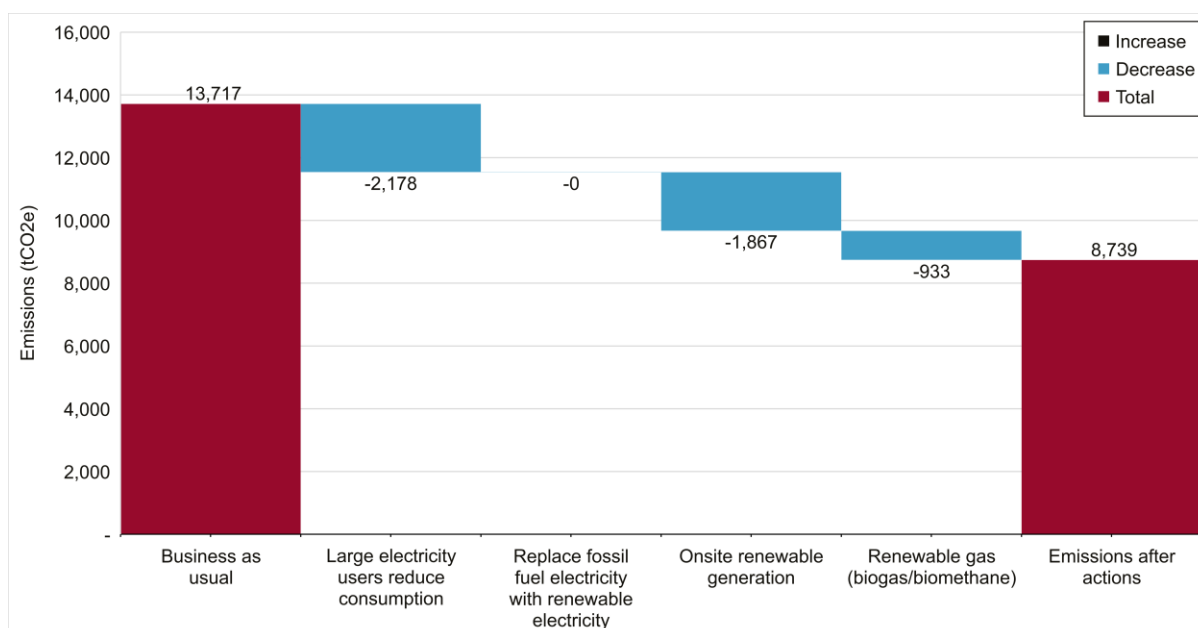


Figure 4-12 Commercial and industrial Galway City Council Decarbonisation Zone (DZ) pathway

4.5.4 DZ Social Housing

The social housing actions outlined in Table 4-2 are comparable to the other prioritised areas in terms of targeted area measures. The decarbonisation pathway has been modelled Figure 4-13 which is based on the appropriate level of ambition utilising identified actions and qualitative support measures.

Aligned with the private residential pathway, the actions are set out based on the Energy Efficiency First principle, with measures to reduce energy consumption a first step. The qualitative actions which contribute indirect emissions reductions are not included in the decarbonisation pathway, as with the other prioritised areas. However, qualitative actions contribute to the achievement of other goals and enhance the ambition in the sector. For example, energy auditing informs the implementation of retrofit measures and potential RESS opportunities, which may lead to further quantifiable emissions reductions in future.

With successful implementation of these measures, the social housing decarbonisation pathway has the potential to achieve a 60% reduction in the sectors emissions within the DZ by 2030 vs. the 2018 baseline, Figure 4-13.

This prioritised area has a high ambition given GCC's scope of influence having direct control over this housing stock, with potential to lead by example and set a precedence for other sectors. Furthermore, ambition within the sector will support a

just transition by lowering utility bills and reducing energy poverty for those at most risk. For example, low-income households may rely on cheaper fuels such as coal and peat which could require more intensive heating system upgrades.

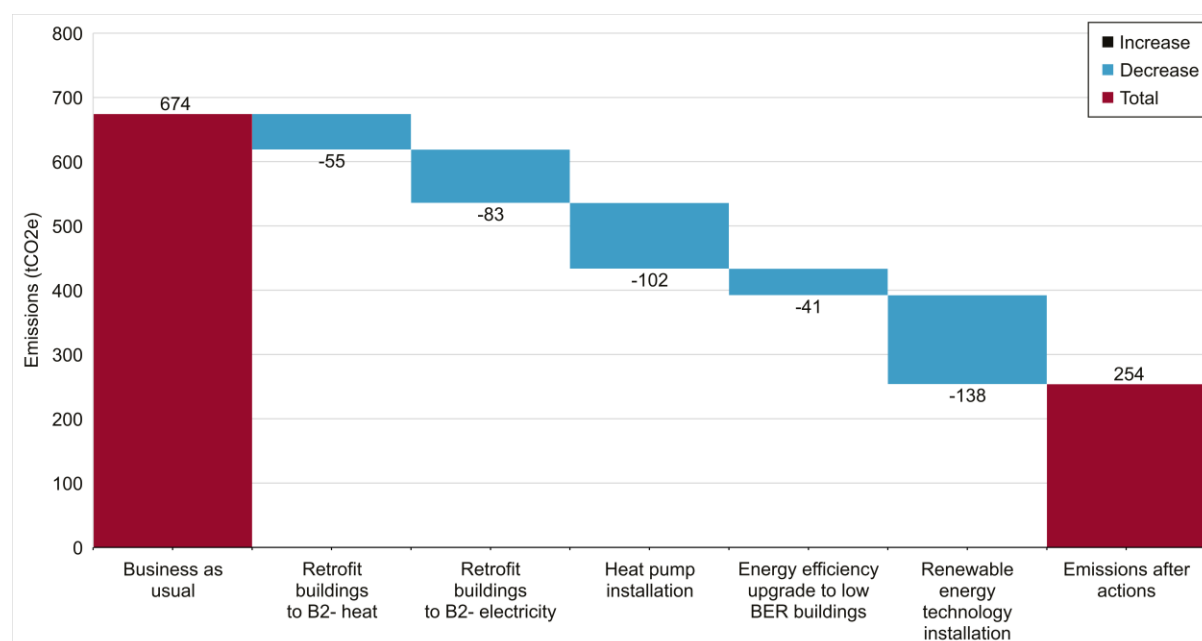


Figure 4-13 Social housing Galway City Council Decarbonisation Zone (DZ) pathway

4.5.5 DZ Municipal

The municipal actions for the DZ outlined in Table 4-3 are comparable to the other prioritised areas in terms of targeted area measures. The decarbonisation pathway has been modelled, Figure 4-14. Consistent with other prioritised areas, the modelling incorporates ambition level and identified actions, again, applying the Energy Efficiency First principle.

The qualitative actions which are not included in the decarbonisation pathway; nonetheless, remain essential to the achievement of targets. For example, comprehensive energy auditing will inform the retrofit approach for municipal buildings and enable this action.

It should be noted that public lighting upgrades (non-buildings) have largely been complete at the time of publishing this plan. However, the public lighting upgrades are incorporated in the model to capture emissions reductions from the 2018 baseline. There may be scope to consider further lighting upgrades within the zone where it would contribute to wider sustainability benefits.

Parallel to the social housing sector, this prioritised area has a high ambition given GCC's scope of influence. Despite this sector contributing lower emissions than others, there is significant potential to demonstrate leadership in climate action whilst also contributing to enhancement of public services.

The decarbonisation pathway for this prioritised area has the potential to achieve a reduction in emissions of >90% reduction in the sectors emissions within the DZ by 2030 vs. the 2018 baseline with successful implementation of actions, Figure 4-14.

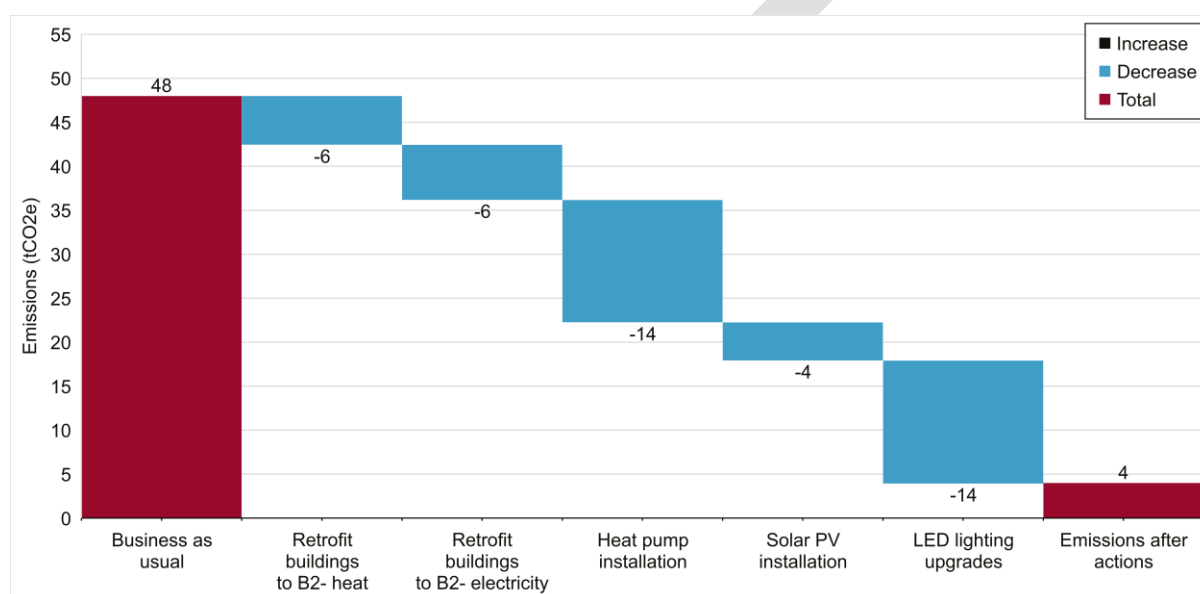


Figure 4-14 Municipal buildings Galway City Council Decarbonisation Zone (DZ) pathway

4.5.6 DZ Sustainability and Resource Management

The actions for this section outlined in Table 4-3, are comparable to the other prioritised areas in terms of targeted area measures, all of which are qualitative, and contribute to indirect emissions savings with wide ranging environmental and socio-economic benefits.

The actions for this prioritised area primarily relate to indirect emissions savings and thus are not yet quantifiable in the decarbonisation modelling. In addition, there is limited baseline emissions data for these sectors. The City-wide baseline includes emissions from waste and water facilities only (none of which are included in the DZ). However, the baseline and emissions reductions from some of these actions may become quantifiable in future as more data becomes available.

Nonetheless these actions will enhance the decarbonisation ambition within the zone, supporting the overall emissions reduction potential and contributing to the wider sustainability agenda.

There is significant opportunity to maximise the complementary benefits of indirect decarbonisation and the environmental and social value provided by these actions. The indirect emissions savings from consumption actions are primarily due to the associated reduction in processing, treatment and transportation emissions from decreasing waste generation and water demand. There is also potential for carbon positive impacts from increased planting.

The consumption actions encompass substantial engagement with various stakeholder groups within the zone which will contribute to their empowerment and interest in local decarbonisation and sustainable development activities.

4.6 DZ Overall Decarbonisation Pathway and Summary

The decarbonisation actions outlined in Section 4.5 will contribute to Galway City's achievement of a 51% reduction in greenhouse gas emissions by 2030 vs. the 2018 baseline with highest ambition within the Decarbonisation Zone. This aligns with national policy and the requirements of the Climate Action Plan. The successful implementation of decarbonisation actions set out within this plan will result in an overall decarbonisation pathway which has the potential to achieve the targeted emissions reduction for the Decarbonisation Zone through a pathway which can be achieved within the timeframe.

Galway City Council is limited in terms of emissions created in the DZ under direct control versus the emissions reductions which need to be influenced from transformative action at a local level. Therefore, fundamental cross-cutting changes will be required at an accelerated pace, with buy-in from all stakeholders within the community. Considering this, due consideration has been given to creating enabling conditions for change through the actions contained within this plan (particularly the qualitative measures). This will be achieved through policies, support schemes, skills sharing, engagement and enabling infrastructure which can be delivered with adequate resource supports and in collaboration with key stakeholders.

The pathway is ambitious to the extent necessary to meet assigned targets which are challenging. Furthermore, it is recognised that there are risks associated with the

implementation of the decarbonisation pathway set out in this plan which include, funding and resource availability, contractors and material supply, lack of national guidance and the uncertainty beyond 2030 to 2050.

The funding required for each of the actions was evaluated through the development of this plan to inform GCC of the resources and supports required to deliver the actions. This was undertaken for the purposes of plan development rather than to determine definitive costs with the actions included herein being deemed appropriate and attainable from a funding perspective in the near-term.

The progress of each of the actions will be tracked and monitored including a review of the decarbonisation pathway against the baseline. It should be noted that while the baseline for this target is 2018, the actions in this plan are implemented from the year of publishing (2024). The monitoring and delivery of the actions is outlined in Section 5. This plan outlines the decarbonisation ambition for the DZ including actions to deliver the fundamental change required to meet 2030 targets (and beyond).

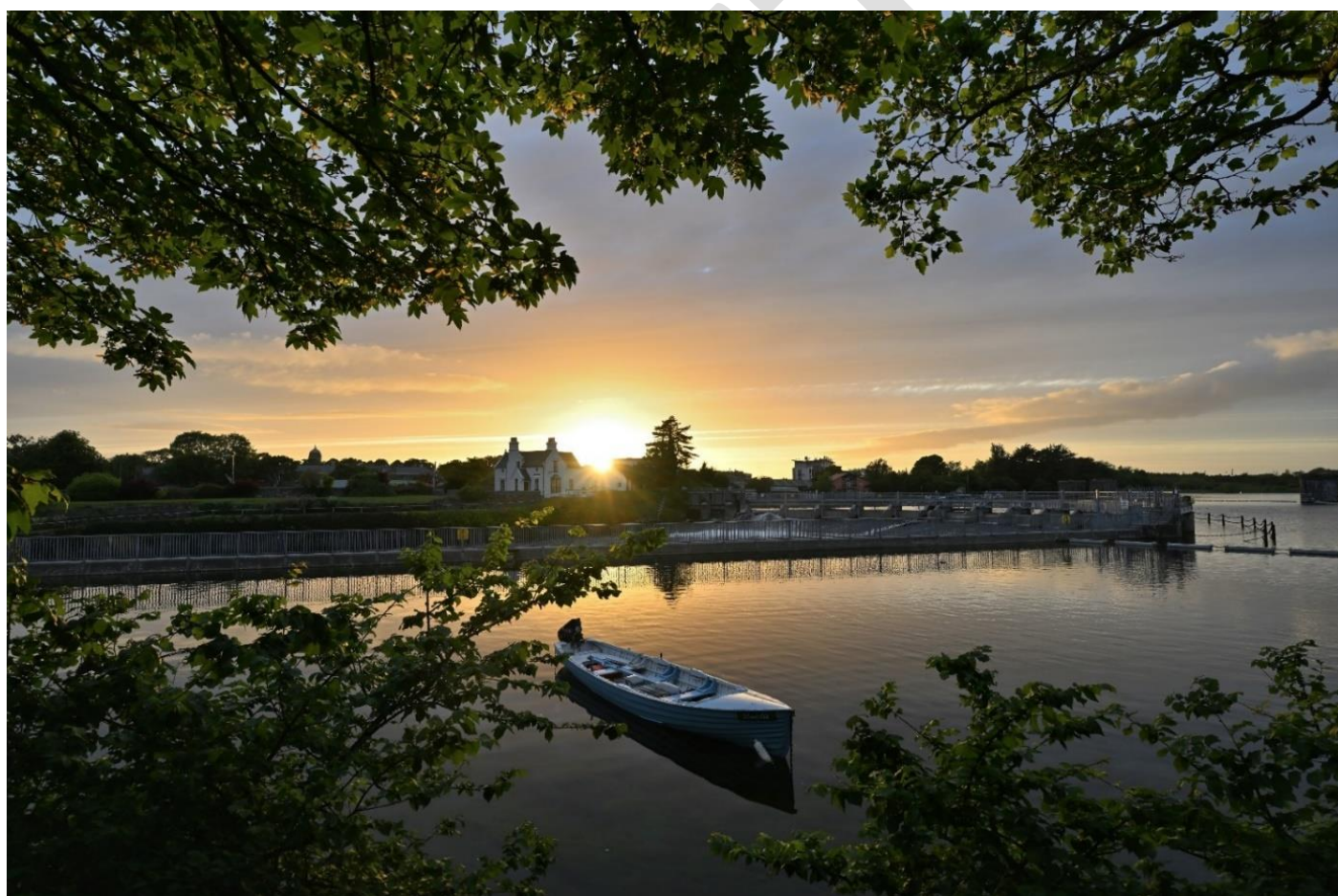
The DZ will act as an exemplar area for the city, to test a high decarbonisation ambition with potential to scale this to the city. Learnings from the zone will become a useful reference for further plan making and will be delivered in conjunction with the Energy Masterplan for the city. The community, industries and businesses will be key partners in creating a low carbon economy which will be resilient for the future.

As a collective community, we will all have to act at pace to implement this plan into action. This will require sufficient resource support in addition to committed, collective, and collaborative leadership. This plan ultimately holds a shared ambition for the DZ, whereby all societal actors must play their part for it to succeed. The delivery will comprise both top-down and bottom-up approaches – with the communities within the zone having a crucial role to play.



Comhairle Cathrach na Gaillimhe

Galway City Council



Photographer Credit – Chaosheng Zhang

5 Implementation and Reporting

5.1 Our Approach for Implementation

This LACAP will be implemented by Galway City Council. Whilst the plan requires a whole-of-Council approach, the stewardship of the plan is held within the Corporate Governance and Services, Community and Climate Change Directorate.

To ensure that the actions within this LACAP are implemented and reported on, Galway City Council has established a wide range of structures and channels of communication, within the council, with external stakeholders and neighbouring local authorities, as well as with regional bodies (CARO).

5.1.1 Internal Implementation Approach

A Climate Action Team has been established in Galway City Council throughout 2023. The team includes a Climate Action Coordinator, Climate Action Officer, and Community Climate Action Officer.

The role of this team is to mainstream climate action into the activities of Galway City Council, monitor the implementation of the actions of the Climate Action Plan and to coordinate the reporting and evaluation of the adapted plan. The core Climate Action Team is supported by the wider Departments across the organisation, that have ownership of respective actions in the plan. These include the following Departments – Corporate Governance and Services, Community, Environment, Economic Development and Culture, Finance and ICT, Housing, Human Resources, Recreation and Amenity and Roads and Transport (Operations), Infrastructure Development, Active Travel, Water Services (Operations), Infrastructure Development and Planning.

5.1.2 External Implementation Approach

Working with communities across Galway City will be essential to ensure the actions within this plan are realised to their full potential. As a core fundamental for Galway City Council being to engage and work with all sectors across the city, we will work collaboratively and in partnership with a range of key stakeholders to support the delivery of this LACAP.

These stakeholders include but are not limited to the following – neighbouring local authorities of Galway County, Mayo, Sligo and Donegal; Atlantic Seaboard North Energy Bureau; the Local Authority Services National Training Group; Northern and Western Regional Assembly; Local Government Management Agency; Galway City Community Network (Public Participation Network for Galway City); Age Friendly Ireland and Comhairle na nÓg. These partnerships can provide opportunities for collaboration on projects, shared learnings, technical support and leveraging of funding opportunities during the implementation of actions in the LACAP.

Additionally, a regional approach has been agreed by the local authorities in the Atlantic Seaboard North Climate Action Regional Office, which ensures close collaboration on the implementation of Climate Action Plans.

5.1.3 Funding and Partnerships

To lead by example and drive the transition to a climate neutral society, Galway City Council will need access to adequate funding for climate action projects to achieve its 2030 and 2050 targets, through funding opportunities such as government grants, European funds, private sector investment and community co-financing. Galway City Council will continue to actively pursue new and existing funding opportunities from both European and National bodies that are aligned with its climate action objectives, Figure 5-1 outlines current EU funded climate initiatives.



Figure 5-1 Galway City Council European Union supported climate related programmes ongoing in 2023

Partnerships are also key in realising low carbon solutions for the local authority sector. The private sector is already playing a role towards achieving the National Climate Objective and this type of collaboration can enhance the capabilities of the sector even further in achieving emissions reductions across Galway City. The Third Level sector can provide research and development expertise. These partnerships can help local authorities access funding opportunities for climate action projects and initiatives. Galway City Council will encourage and facilitate collaboration with the private sector and Third Level sector where possible and feasible.

5.2 Measuring Our Progress

A key consideration for this plan has been strengthening our role on climate action in accountability, and in particular the ability to track, measure and report on progress in delivering effective climate action at both local authority and sectoral levels. Measurement of our progress on the actions set out within this plan is therefore essential and will assist in highlighting the progress that we are making on climate action across the next 5-year period, and beyond.

Measurement of the performance of Galway City to deliver on the actions set out within this plan will be completed based on the type of action, and the jurisdiction and remit that Galway City Council have over the actions.

For the delivery of actions relating to energy efficiency and emissions reductions associated with our owned infrastructure and assets, we will continue to utilise the established Monitoring and Reporting (M&R) system managed by the Sustainable Energy Authority of Ireland (SEAI). For actions outside beyond this, our main reporting avenue will be to communicate progress on the delivery of actions through sectoral Key Performance Indicators (KPIs). These KPIs have been determined in line with the development of the respective actions outlined within this plan.

5.3 Reporting Requirements and Arrangements

The progress and measuring of the actions under our Climate Action Plan will be reported on using various reporting structures and frameworks, Figure 5-2.

To ensure the delivery and implementation of the plan internally, actions will be monitored via an in-house tracking system. Galway City Council will facilitate reporting to Elected Members on an annual basis, via relevant Strategic Policy

Committees (SPC). The M&R system will continue to be used as a reporting tool for tracking energy performance and emission targets annually to the SEAI.

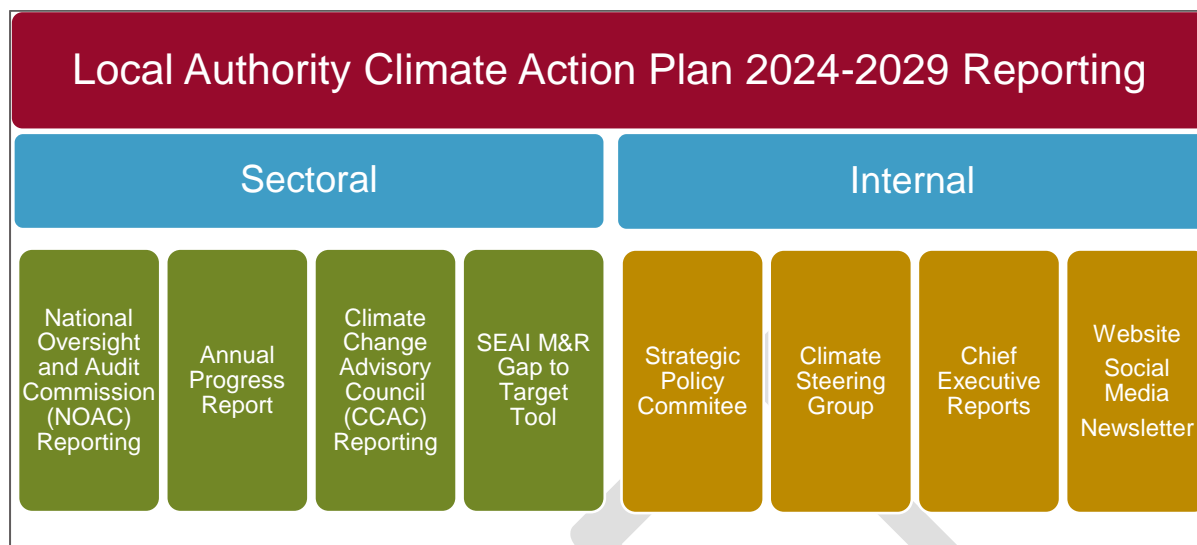


Figure 5-2 Schematic of LACAP reporting requirements

Galway City Council will monitor progress on delivery of this LACAP using action based KPIs. These will be used in annual reports to inform the performance of the local government sector on climate action, as part of the local government DECA 2030 Strategy. In accordance with part 3(w) of the Local Authority Climate Action Charter, Galway City Council will report annually to the Department of the Environment, Climate and Environment on progress on climate action at local level as part of the delivery of the national climate objective. Progress on all actions will be reported via a reporting tool developed by CARO. Further, Galway City Council intends to complete and monitor a Sustainable Energy and Climate Action Plan (SECAP) as a future signatory member of the Covenant of Mayors for Climate.

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Glossary

| Term | Description |
|------------------------------------|---|
| Baseline Emissions Inventory (BEI) | The sum and categorisation of the total greenhouse gas emissions accounted for in a city in a given year. This is the year against which future progress is compared. |
| Baseline year | This is the year in which the BEI was calculated, that is that is 2018, with which future progress in emissions reductions is compared. |
| Biodiversity | The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable. |
| Climate adaptation | The process of adjustment to actual or expected climate and its effects in order to moderate harm or take advantages of beneficial opportunities. |

| | |
|--|--|
| Climate hazard | Extreme weather events or natural disasters that are primarily caused by climate-related factors. They can cause harm to human health, livelihoods or natural resources. |
| Climate mitigation | The process of reducing climate change which involves reducing the flow of greenhouse gases into the atmosphere either by reducing the sources of these gases or enhancing the sinks that accumulate and store these gases. |
| Climate neutrality | The idea of achieving net zero greenhouse gas emissions by balancing those emissions so they are equal to or less than the emissions that get removed through the planet's natural absorption. This reduction of emissions would occur through climate action. |
| Climate Risk Assessment | A process for identifying and evaluating the potential impacts of climate change on various sectors and activities. |
| Decarbonisation Zone (or decarbonising zone) | A spatial area identified by the local authority. It is an area in which a range of climate mitigation measures can co-exist to address local low carbon energy, greenhouse gas emissions and climate needs. |
| Evidence-based | An approach that emphasises the practical application of the findings of the best available current research. |
| Extreme weather events | A time and place in which weather, climate, or environmental conditions rank above a threshold value near the upper or lower ends of the range of historical events. |
| Greenhouse gas emissions | Greenhouse gases (GHGs) trap solar energy and prevent the sun's energy from bouncing back into space thus creating the greenhouse effect. The main GHG emissions are water vapor (H ₂ O), carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF ₆). Greenhouse gas emissions from human activities compound the greenhouse effect, contributing to climate change. |

| | |
|---|--|
| Local Authority Climate Action Plan (LACAP) | Plans to help local authorities address in an integrated way the mitigation of greenhouse gas emissions and climate adaptation. Under the Climate Action and Low Carbon Development (Amendment) Act 2021, each local authority is required to prepare a local authority climate action plan for its respective administrative area. Once adopted by the local councils, each plan will be valid for five years and is subject to update at least every five years. |
| Paris Agreement | A legally binding international treaty on climate change agreed in 2015 at United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) 21. |

Abbreviations

| Abbreviation | Term |
|-----------------|--------------------------------------|
| BEI | Baseline Emission Inventory |
| CAP | Climate Action Plan |
| CARO | Climate Action Regional Office |
| CO ₂ | Carbon Dioxide |
| DZ | Decarbonisation Zone |
| EU | European Union |
| GCC | Galway City Council |
| GHG | Greenhouse gas |
| KPI | Key Performance Indicator |
| LACAP | Local Authority Climate Action Plan |
| RESS | Renewable Energy Support Scheme |
| SEAI | Sustainable Energy Authority Ireland |
| SEC | Sustainable Energy Community |

| | |
|--------------------|--------------------------------------|
| SPC | Strategic Policy Committee |
| tCO ₂ e | Tonnes of carbon dioxide equivalents |
| UN | United Nations |

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