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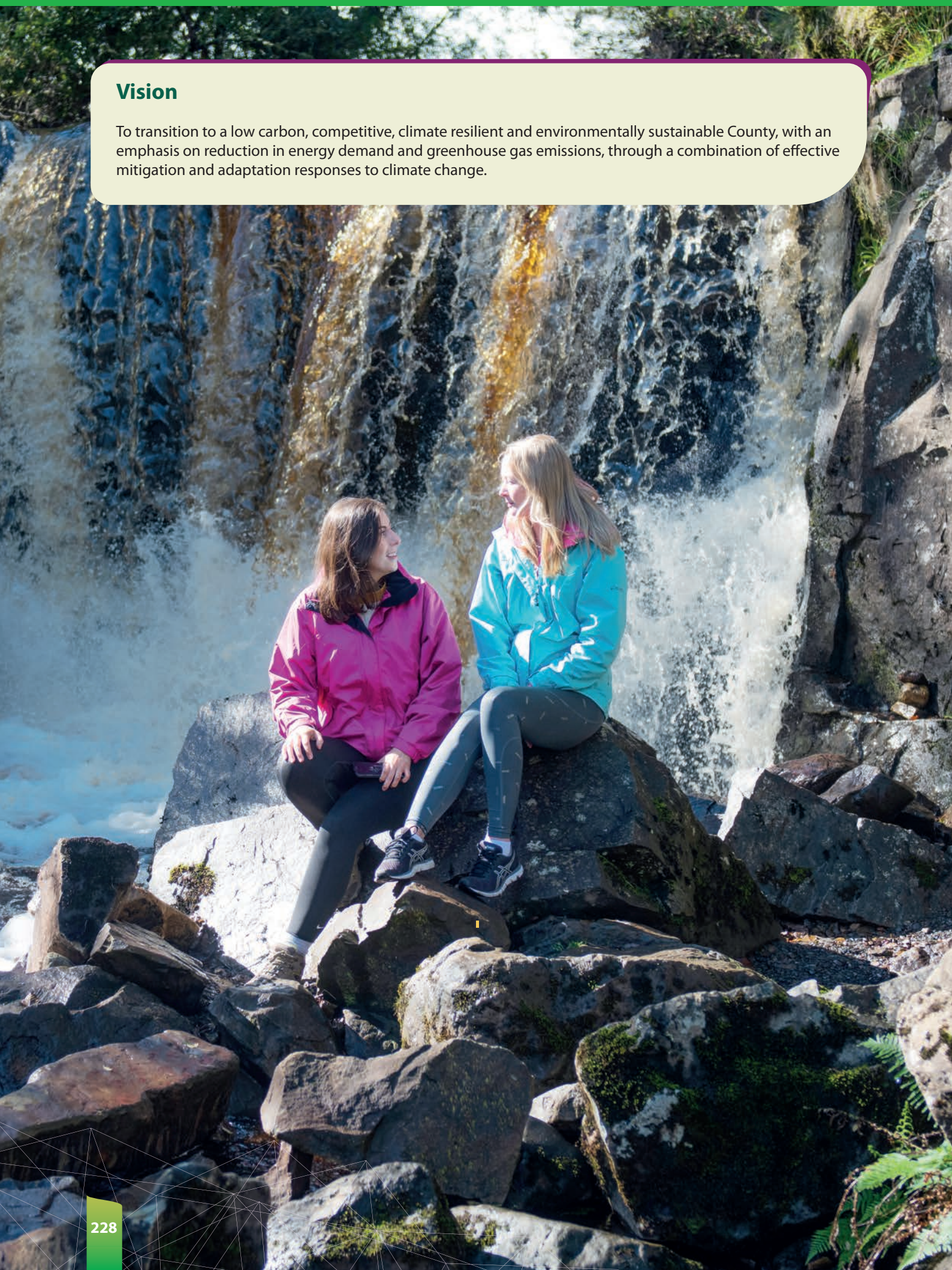
5

Climate Change



Vision

To transition to a low carbon, competitive, climate resilient and environmentally sustainable County, with an emphasis on reduction in energy demand and greenhouse gas emissions, through a combination of effective mitigation and adaptation responses to climate change.





Policy

CCP 01

Support the implementation and achievement of European, national, regional and local objectives for climate adaptation and mitigation.

5.1 Introduction

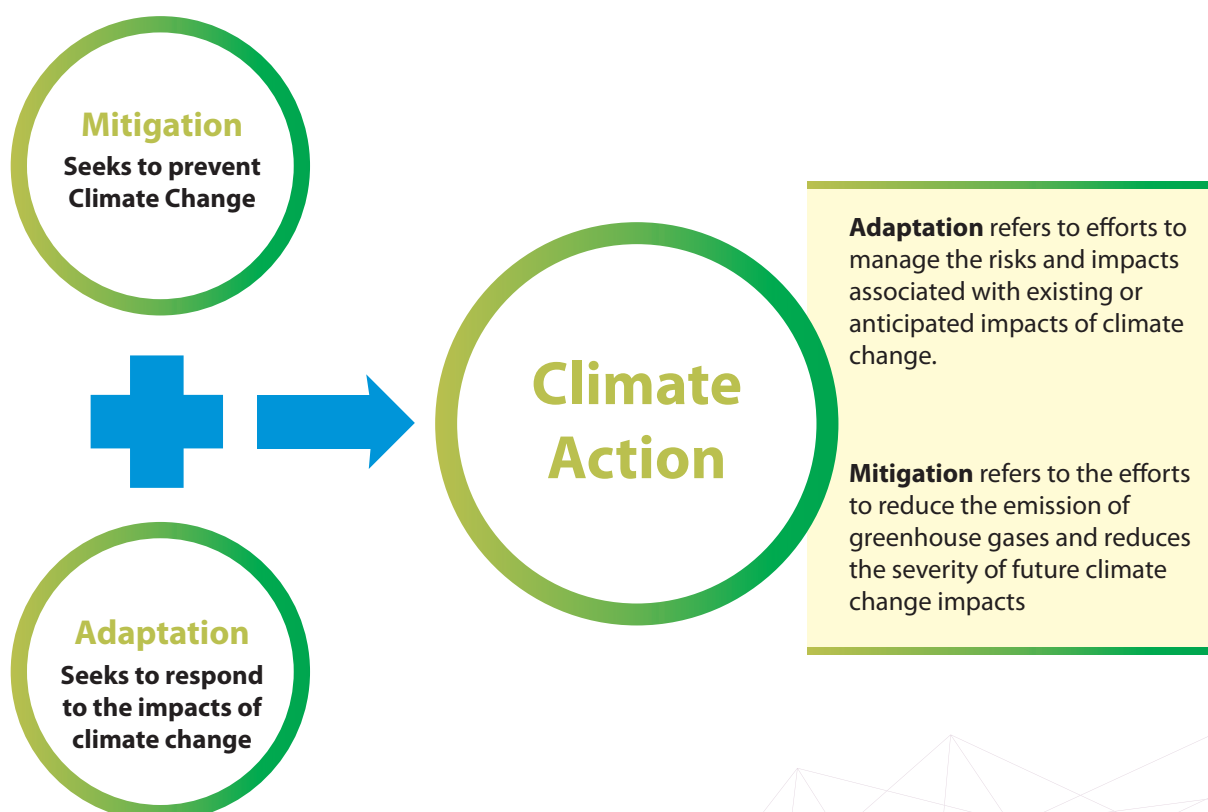
This chapter relates to climate change adaptation and mitigation. The Planning and Development Act 2000, as amended, requires the Development Plan to include measures to reduce energy demand and greenhouse gas emissions, and adapt to climate change.

Climate change, or global warming, arises from the emission of excessive greenhouse gases such as carbon dioxide (CO₂) into the atmosphere. It is occurring faster than nature's ability to adapt to it. Some of the effects will be disruptive, affecting whole ecosystems, our biodiversity and food systems, with consequences for human welfare and health. Changing weather patterns and more extreme weather events will put property and livelihoods at risk and place new demands on our infrastructure, our water supplies, and how we manage our urban and rural environments.

The expected climate change impacts for Ireland are:

- Average annual temperature to increase, milder winters, and a longer growing season.
- Average spring and summer rainfall to reduce, with extended dry periods.
- More frequent heavy rainfall in autumn and winter.
- A changed biodiversity: Some plant and animal species may not adapt in time.

Decarbonising our society is now a challenge for the planning system. The way we generate and use energy in terms of our carbon footprint, how we manage waste and emissions, and protect our biosphere, are now sharply in focus. In all these areas, both mitigating and adapting to climate change is necessary. All development is therefore required, by a variety of means, to both mitigate its own impact on climate change and adapt to the effects of climate change. This requires a cross-cutting approach across a range of policy areas of the Development Plan. Mitigating and adapting to climate change must be an overarching principle of the Core Strategy.



The national policy position for Climate Change establishes a vision for Ireland of low-carbon by 2050 (80% reduction on 1990 emissions) across the electricity generation, built environment and transport sectors; and in parallel, an approach to carbon neutrality in the agriculture and land use sectors, including forestry.

Monitoring and evaluation is required to ensure measurable progress at county level linked to the Government's *Climate Action Plan 2019 – To Tackle Climate Breakdown* which includes 183 actions across 12 sectors of Irish society.

This Cavan County Development Plan in accordance with the *NWRA RSES* contains a Climate Strategy, which in conjunction with the Cavan County Council *Climate Adaptation Strategy 2019* sets out a vision for the future and key actions towards climate change and sustainable development.

5.2 Policy Context

5.2.1 Planning and Development Act 2000 (as amended)

Section 10 (2)(n) of the Planning and Development Act 2000 (as amended) requires the Development Plan to include objectives to promote sustainable settlement and transportation strategies in urban and rural areas. These should include measures to:

- reduce energy demand,
- reduce greenhouse gas emissions, and
- adapt to climate change; in particular, having regard to location, layout and design of new development.

It is also a statutory requirement for local authorities to incorporate the promotion of sustainable settlement and transportation strategies in urban and rural areas.

5.2.2 International Legislative and Policy Context

Ireland is committed at International and European levels to play its part in limiting global temperature rise. This requires us to reduce greenhouse gas emissions, improve energy efficiency and phase out fossil fuel energy sources. Ireland is committed to the following agreements and policy frameworks:

- UN Framework Convention on Climate Change (UNFCCC) 1992
- The Paris Agreement 2015, setting binding commitments within UNFCCC
- The UN Sustainable Development Goals (SDGs). SDG13 relates to climate change.
- The 2013 EU Strategy on Adaptation to Climate Change.
- European “Green Deal” 2019
- EU 2020 and 2030 climate and energy targets as well as longer term 2040 and 2050 milestones and targets

5.2.3 National Policy Context for Climate Change

The 2012 National Climate Change Adaptation Framework (NCCAF) was Ireland's first step in developing a national policy on adaptation actions to combat the impacts of climate change. Action 17: Ensure that ESB Networks and EirGrid plan network and deliver on connecting renewable energy sources to meet the 2030 70% RES-E target”. Greenhouse gas mitigation and adaption to the impacts of climate change were to be addressed in parallel national plans under an evolving climate policy to 2050.

The Irish government has since published the following:

- Climate Action and Low Carbon Development Act 2015
- National Mitigation Plan 2017, arising from the above Act
- National Adaptation Framework 2018, arising from the above Act
- Project Ireland 2040 (the National Planning Framework and the National Development Plan)
- Climate Action Plan – To Tackle Climate Breakdown 2019

To provide local authorities with support in developing Climate Change Action Plans (CCAPs), the Department of Communications, Climate Action and Environment (DCCAE) has developed the Local Authority Adaptation Strategy Development Guidelines 2018. Also, four Climate Action Regional Offices (CAROs) were established to coordinate local government response.



5.2.4 Climate Action Plan – To Tackle Climate Breakdown 2019

The Government's Climate Action Plan 2019 - To Tackle Climate Breakdown, published on 17th June 2019, reflects the central priority for climate change to be embedded within Ireland's political and administrative systems, setting out governance arrangements including the carbon-proofing of government policies, the establishment of carbon budgets, the strengthening of the Climate Change Advisory Council and providing greater accountability to the Oireachtas.

The Action Plan sets out 183 individual actions across 12 sectors and charts an ambitious course towards decarbonisation. Action 15 relates to the implementation of the National Planning Framework and those parts of it that can reduce carbon emissions. Under this action, Government is to issue a methodology to local authorities on calculating and reporting on the carbon impact of Development Plan strategies. Integral to Action 15 is the delivery of compact urban development, regeneration, sustainable transportation, regional development and area-based measures and targets to accelerate to a low carbon and climate resilient society.

Within the 12 Sectors described in the Action Plan, the Public Sector is identified as having a significant role in 'Leading by Example' to not only just reduce its own emissions but to inspire climate action across the community. The Climate Action Regional Offices (CARO) are to assist local authorities in building capacity to promote effective engagement on climate change.

There are a range of actions that are specific to and/or relate to local authorities as well as the CAROs. Local authorities will be required to undertake an annual programme with measurable impact particularly with actions to focus on, inter alia.

- Reducing emissions by 30% and Improve energy efficiency of local authority buildings by 50% under the guidance of a new Public Sector Decarbonisation Strategy.
- Setting a target to demonstrate leadership in the adoption of low emission transport options.
- Developing and implementing a Climate Action charter.

- Public buildings (all) to reach BER 'B' Rating
- Building capacity through upskilling and knowledge dissemination.
- Supporting and delivering projects that include strong ambition on climate action through funding resources from Project Ireland 2040.
- Developing robust community engagement on climate action by linking to existing and new networks and clustering initiatives using the National Dialogue on Climate Action and local authority structures.
- Working with communities to expand Sustainable Energy Communities.
- Continue to implement Adaptation Planning with emphasis on building Climate Resilience and delivering the objectives of the National Adaptation Framework.

5.2.5 Climate Action Charter 2019

The Climate Action Charter followed the publication of the Climate Action Plan and represented a collective agreement on the part of Local Government across the State, with all 31 no. local authorities signing an agreement to commit to actions delivering climate action in their communities, through the actions set out in the Climate Action Plan. The Charter commits local authorities to several actions that will ensure that they play a key leadership role, both locally and nationally in delivering effective climate action. Among other commitments, all local authorities will:

- Put in place a process for carbon proofing major decisions, programmes and projects on a systematic basis, including investments in transport and energy infrastructure;
- Deliver a 50% improvement in energy efficiency by 2030;
- Ensure all suppliers provide information on their carbon footprint and steps they plan to reduce its impact;
- Build local citizen engagement, particularly with young people;
- Partner and collaborate on climate action initiatives with local community groups, local enterprise and local schools and higher-level institutions;
- Monitor, evaluate and report annually on the implementation of activities under the Charter.



The Chief Executive signed the Climate Action Charter for Cavan County Council in 2019. This Climate Action Charter demonstrates Cavan County Council's commitment to work in partnership with the Department of Communications Climate Action and Environment in responding to climate change, while also providing local leadership in the area of Climate Action and support to communities in addressing such an important challenge.

5.2.6 National Mitigation Plan 2017 (NMP)

Ireland's first National Mitigation Plan (NMP) was published in July 2017 by the Department of Communications, Climate Action and Environment. It sets out, on a whole-of-government basis, over 100 actions to examine the most effective pathways for Ireland to arrive at a low carbon and climate resilient economy by 2050. It is a living document and demonstrates work in progress. Each respective Minister is directly accountable and must, by the 2015 Act, report on progress.

The Plan is constructed across four major sectoral areas of Government, with key Ministers responsible for each – Electricity Generation, the Built Environment, Transport and Agriculture, as well as drawing on the perspectives and responsibilities of a range of other Government Departments.

5.2.7 National Adaptation Framework 2018 (NAF)

Ireland's first National Adaptation Framework (NAF) with statutory footing was published in January 2018 and complements the mitigation approach.

This national framework mandates all local authorities and key Government sectors to prepare their own adaptation strategies to reduce the vulnerability of the State to the impacts of climate change. The strategies are to identify the main risks and vulnerabilities associated with climate change to enable resilience actions to be mainstreamed into all local, regional and national policymaking.



5.2.8 Project Ireland 2040 - National Planning Framework

The National Planning Framework is built on 10 Strategic Investment Priorities up to 2040 and is accompanied by a Roadmap and the National Development Plan. It envisages a population increase by then of 1 million, and a need for 550,000 more homes and 660,000 more jobs. Half of this growth is to occur outside the 5 main cities and in accordance with the Regional Spatial and Economic Strategies (RSEs).

Ten Strategic National Outcomes (NSOs) are formed around these investment priorities. NSO8 is Transition to a Low Carbon and Climate Resilient Society. Other NSOs are linked to Climate Change directly or indirectly and include NSO1: Compact Growth, NSO4: Sustainable Mobility and NSO9: Sustainable Management of Water and other Environmental Resources.

A number of key objectives in the NPF with regard to the location of new development and travel patterns can impact on climate change. They are:

- Planning for, and implementing, a better distribution of regional growth, in terms of jobs and prosperity

- Enabling people to live closer to where they work, moving away from the current unsustainable trends of increased commuting
- Transforming settlements of all sizes through imaginative urban regeneration and bringing life and jobs back into cities, towns and villages
- Regenerating rural Ireland by promoting environmentally sustainable growth patterns.

National Policy Objectives 3c, 21, 53 and 54 also relate directly to Climate Change.

NPO 3c

Deliver at least 30% of all new homes that are targeted in settlements other than the five Cities and their suburbs, within their existing built-up footprints. [This includes Cavan town. Existing footprint is based on CSO 2016].

NPO 21

Enhance the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the diversification of the rural economy into new sectors and services, including ICT based industries and those addressing climate change and sustainability.



NPO 53

Support the circular and bio economy including in particular through greater efficiency in land management, greater use of renewable resources and by reducing the rate of land use change from urban sprawl and new development.

NPO 54

Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emissions reductions.

The NFP supports compact growth of all settlements and 30% of new development to occur within or close to their existing built footprints. This, coupled with a new emphasis on regenerating urban core areas and the unlocking of vacant or under-used sites, represents a clear gravitational shift towards urban development in the county to 2040. Consolidating our urban areas reduces resource consumption and energy requirements. Indirect benefits include building a critical mass of population to sustain more services and jobs locally.

NS08 advocates resource efficiency in the transition to a low carbon economy. This not just relates to the location of new development, but in all the processes involved in our society and

economy. The Circular Economy is promoted by the NPF in our use of natural resources and assets; this is aimed at eliminating waste and the continual use of resources. This regenerative approach contrasts with the traditional linear economy, which is the “take, make, dispose” model of production. The planning system is to support a low carbon, circular model of resource use, and other measures to accelerate climate change transition including renewable energy projects and sustainable mobility (including transport electrification).

5.2.9 Climate Action Fund

The Climate Action Fund was established under the *National Development Plan 2018- 2027* as part of Project Ireland 2040. The fund (totalling €500 million over the period to 2027) will support initiatives that contribute to the achievement of Ireland’s climate and energy targets in a cost-effective manner. It offers the potential for innovative interventions which, in the absence of support from the Fund, would not otherwise be developed. The Fund will also seek to facilitate projects that contribute to other Government policy priorities including:

- Supporting innovation and capacity building towards the development of climate change solutions capable of being scaled and delivering benefits beyond a once - off impact;

Resource Efficiency and Transition to a Low Carbon Economy



Sustainable Land Management and Resource Efficiency

Adopting the principles of the circular economy to enable more sustainable planning and land use management of our natural resources and assets.



Low Carbon Economy

Our need to accelerate action on climate change.



Renewable Energy

Our transition to a low carbon energy future.



Managing Waste

Adequate capacity and systems to manage waste in an environmentally safe and sustainable manner.



- Generating wider socio-economic benefits such as job creation, air quality improvements, reduction in fuel poverty, bio - diversity and community resilience and development.

5.2.10 Northern and Western Regional Assembly - Regional Spatial and Economic Strategy 2020 (RSES)

The RSES is an essential part of climate change strategy as a bridge between the national and local tiers of the planning system. The Government has also established four Climate Action Regional Offices (CAROs) to coordinate local authorities at the regional level. Local Climate Strategies and prioritised actions have since been developed by CARO and the local authorities.

RPO 5.1

Local Climate Strategies will be prepared by the Climate Action Regional Office (CARO) and Local Authorities to address local vulnerabilities to climate risk and provide prioritised actions according to the principles of the National Adaptation Framework.

The RSES identifies the following features of the region, with direct or indirect impacts for Climate Change:

- The region has less CO2 emissions than the two other regions of the State, and the biggest proportion of carbon sinks such as bogs and forest cover.
- The region has a considerable carbon-neutral energy resource, and is a forerunner in related technical ability and services. A regional Energy Hub is suggested to integrate research and investment.
- Land-use and transport across the region is poorly integrated, leading to unsustainable transport choices and excess greenhouse emissions. The region is highly dependent on the private car to access work and education.
- Many of our urban areas have poor permeability and connectivity for non-car users.
- Almost 80% of the region's population lives in rural areas i.e. all areas outside Galway city, the 3 regional growth centres and 8 key towns which includes Cavan town.
- Charging infrastructure for Electrical Vehicles (EV) meets current demand in towns, but only because current use of EVs is low. The availability of charging infrastructure has a direct link to the rate of new electric vehicles.
- Potential for biomass energy production

as part of circular economy and to assist the national objective of attaining carbon neutrality.

- About 25% of the land area is either wetland or bogland, all with some biodiversity value if not already designated as Natura 2000 sites. Peatland acts as a carbon sink and retains water. Spent bogs have potential for renewable energy projects in partnership with Bord na Mona, and subject to biodiversity safeguards.
- A significant potential for 'green infrastructure' across the region.

The RSES anticipates the Government's Renewable Electricity Policy and Development Framework which will aim to identify strategic areas for the sustainable development of renewable electricity projects of scale, in a sustainable manner, compatible with environmental and cultural heritage, landscape and amenity considerations.

Regional Policy Objectives RPO 17 and 18 support the continued investment and delivery of renewable energy in the region.

The RSES recognises a significant risk in not having the right policies and mechanisms in place to support greener energy supply. The region should strategically prepare for locally - based energy production and grid connections.

RPO 4.16

The NWRA shall co-ordinate the identification of potential renewable energy sites of scale in collaboration with Local Authorities and other stakeholders within 3 years of the adoption of the RSES. The identification of such sites (which may extend to include energy storage solutions) will be based on numerous site selection criteria including environmental matters, and potential grid connections.

RPO 4.17

To position the region to avail of the emerging global market in renewable energy by:

- Stimulating the development and deployment of the most advantageous renewable energy systems.
- Supporting research and innovation.
- Encouraging skills development and transferability.

- Raising awareness and public understanding of renewable energy. Encourage market opportunities for the renewable energy industry to promote the development and growth of renewable energy businesses. Encourage the development of the transmission and distribution grids to facilitate the development of renewable energy projects and the effective utilisation of the energy generated from renewable sources having regard to the future potential of the region over the lifetime of the Strategy and beyond.

RPO 4.18

Support the development of secure, reliable and safe supplies of renewable energy, to maximise their value, maintain the inward investment, support indigenous industry and create jobs.

The principle of compact growth is a central tenet to the RSES, which is to be delivered through the Development Plans and Local Area Plans. The regional planning objectives are to achieve smart, compact growth, the regeneration of our towns and villages, and a greater focus on brownfield sites for rural housing. The design and layout of new housing is to be energy efficient.

RPO 3.2(c)

Deliver at least 30% of all new homes that are targeted in settlements with a population of at least 1,500 (other than the Galway MASP and the Regional Growth Centres), within the existing built-up footprints (built-up footprints also defined by CSO 2016).

RPO 3.3

Deliver at least 20% of all new housing in rural areas on brownfield sites.

RPO 3.4

To support the regeneration and renewal of small towns and villages in rural areas.

RPO 3.5

Identify and develop quality green infrastructure, within and adjacent to City, Regional Growth Centres and Key Towns.

RPO 3.8

Support the design of new/replacement/ refurbished dwellings to high energy efficiency standards that fully avail of renewable technologies, maximise solar gain, utilising modern materials and design practices.

RPO 4.21

Promote innovative new building design and retrofitting of existing buildings, both private properties, and publicly owned, to improve building energy efficiency, energy conservation and the use of renewable energy sources following National Regulations, and Policy.

RPO 7.20

Increase population living within settlements, through a range of measures including reductions in vacancy, re-use of existing buildings, in-fill development schemes, area or site-based regeneration, service site provision and increased building heights appropriate to the settlement, together with infrastructure provision.

A Key Challenge stated in the RSES is to provide transport options both within and between the urban/rural centres. Local Transport Plans (LTPs) are to form the basis for land use planning representing the lowest tier of the NPF's framework for the integration of land use and transport. Facilitating modal shift to more sustainable transport options, including walking and cycling will promote healthier lifestyles, better traffic management and mitigate climate change.

Residential design is to transition from traditional density led residential development as an indicator to one where integration with other land uses is given weight.

RPO 6.26

The walking and cycling offer within the region shall be improved to encourage more people to walk and cycle, through:

(a) Preparation and implementation of Local Transport Plans for Galway Metropolitan Area Regional Growth Centres and Key Towns, which shall encourage a travel mode shift from private vehicular use towards sustainable travel modes of walking, cycling and use of public transport.

The LTP will inform the Urban Area Plans, development and local area plans and other planning framework documents. Local Transport Plans (LTP) will represent the lowest tier of the NPF's framework for the integration of land use



and transport planning and the achievement of the NPF's objective of 'compact smart growth'.

RPO 6.28

Policies, objectives and measures which emerge from Local Transport Plans shall be incorporated into Development Plans, Local Area Plans and Urban Area Plans.

RPO 6.29

The management of space in town and village centres should deliver a high level of priority and permeability for walking, cycling and public transport modes to create accessible, attractive, vibrant and safe, places to work, live, shop and engage in community life.

RPO 6.30

Planning at the local level should promote walking, cycling and public transport by maximising the number of people living within walking and cycling distance of their neighbourhood or district centres, public transport services, and other services at the local level such as schools. Flood risk management, sustainable water management solutions and adaptive infrastructure are to be progressively implemented. This will assist climate change mitigation and adaptation.

RPO 3.10

Ensure flood risk management informs development by avoiding inappropriate development in areas at risk of flooding and integrate sustainable water management solutions (such as SUDS, non-porous surfacing and green roofs) to create safe places. Development plans should assess flood risk by

implementing the recommendations of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014).

RPO 3.11

Local Authorities, DHPLG, OPW, and other relevant Departments and agencies to work together to implement the recommendation of the CFRAM programme to ensure that flood risk management policies and infrastructure are progressively implemented.

RPO 8.22

Prioritising investment to improve stormwater infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban and rural environment.

The RSES emphasises the potential of the bio-economy to produce energy. Carbon capture from biomass can be converted to energy such as electricity, heat and biofuels, thereby removing carbon dioxide from the atmosphere. Agriculture has a significant contribution to make in biomass energy production. Bio-refining, bio-clusters and the need to strategically plan for growth in the bio-economy, are to be facilitated.

RPO 4.20

Support and encourage the development of the bio-economy sector, and facilitate its development for energy production, heat, and storage distribution, in particular advocating Combined Heat and Power Units integrated into District Heating networks, in combination with Pyrogenic, Carbon Capture and Storage (PyCCS) or Bio-Energy Carbon capture and storage (BECCS).



RPO 4.27

It is an objective to support the National Policy Statement on the Bioeconomy (2018), and the exploration of opportunities in the circular resource-efficient economy, including undertaking a bioeconomy feasibility study for this Region. This feasibility study will aim to identify (and map) areas of potential growth to inform the National Transition Agenda, enabling a Low Carbon, resilient Nation.

RPO 4.28

To support the potential creation of 28 scaled local multi-feedstock bio-refining hubs across the region as well as potential creation of bio-districts/clusters.

RPO 4.29

The Assembly supports the future-proofing of infrastructure planning to allow for the potential upgrading of existing industrial sites to bio-refining plants while also supporting the use of bio-renewable energy for the sustainable production of bio-based products.

RPO 8.11

The Assembly supports the move towards regional and national self-sufficiency in terms of waste management infrastructure in accordance with the proximity principle and with the circular green economy.

Habitats are recognised in the RSES in having a contribution to make in terms of climate change (GHG emissions) and biodiversity targets (EU Habitats Directive and the National Biodiversity Action Plan). The re-wetting and development of new wetland habitats will also in time form new carbon sinks.

RPO 5.22

To protect and conserve our designated peatlands and bogs for reasons of biodiversity, ecosystem services, carbon sinks, areas of habitat importance, amenity and landscape value.

The National Policy Framework on Alternative Fuels Infrastructure for Transport in Ireland 2017 to 2030 sets a target that by 2030 all new cars and vans sold in Ireland will be zero emissions (or zero emissions capable). This, and the supporting infrastructure required, is reflected in the RSES:

RPO 6.33

Reduce dependency on the fossil-fuel powered vehicles and have regard to the National Policy Framework for Alternative Fuels Infrastructure for Transport.

RPO 6.34

Promote deployment of targeted, convenient and safe recharging infrastructure across the region to meet the changing needs of the electric vehicle with particular emphasis in public parking areas and employment locations.

5.2.11 Climate Action Regional Office (CARO)

Cavan County Council is one of 17 local authorities cooperating under the Eastern and Midland Climate Action Regional Office (CARO) set up in 2018 in response to Action 8 of the 2018 National Adaptation Framework (NAF) – Planning for a Climate Resilient Ireland to drive climate action at both regional and local levels. The CARO has assisted Cavan County Council in the development of its climate change adaptation strategy.

The 17 authorities are grouped together based on shared climate change risk characteristics. The risks in this region includes fluvial, rural pluvial and groundwater flooding. The CARO in this region is operated by Kildare County Council and Kilkenny County Council, and co-ordinates climate change expertise and engagement across government in the area.

Under the NAF, the Government is to develop sectoral adaptation plans that will affect the work of local authorities. The Midlands and Eastern CARO will liaise with the respective government departments to align local government actions with the sectoral plans.

5.2.12 Cavan County Council Climate Adaptation Strategy 2019-2024

The Climate Change Adaptation Strategy was adopted by Cavan County Council in September 2019 and represents a proactive step by the Council to ensure that climate change resilience is built into all functions of the Council. The Strategy is also to ensure the Council fulfils its role in contributing to and meeting the national targets on climate change. The National Adaptation Framework (NAF) requires local authorities to develop their own adaptation plans.



Within the Strategy, adaptation goals and objectives were formed following an assessment of local climate change risks, using baseline information and climate change projections. A Climate Risk Register was established for the county. Adaptation actions were then formed to address the priority risks and vulnerabilities identified.

The Adaptation Strategy recognises that the most robust and cost-effective climate change responses involve both mitigation and adaptation measures.

The Adaptation Strategy notes the following for County Cavan:

- The county is affected by the following Extreme Weather Events (EWEs): Strong Wind, Extreme Rainfall, Heavy Snowfall / Low Temperatures, Low Rainfall / Drought, and High Temperatures. These are also the 5 Hazards listed in the Strategy's Climate Risk Register.
- 11 EWEs occurred from 2006 to 2018.
- Operational areas most affected are Roads,

Emergency Services, Housing, Environment, and Water Services.

It also characterises the environment of the county as follows:

- Agriculture is the biggest industry in the county. 144,269 hectares are farmed, mainly dairy, pig and beef farming.
- The primary sector (agriculture, forestry and fishing) employs 11.32% of the population.
- The county is rich with ecosystems, including many European and nationally protected sites.
- From its risk assessment, the strategy targets 6 thematic areas for climate adaptation goals and objectives: Local Adaptation Governance and Business Operations, Infrastructure and Built Environment, Land Use and Development, Drainage and Flood Management, Natural Resources and Cultural Infrastructure, and Community Health and Wellbeing.

Of particular relevance to the Development Plan are the following goals actions:

Theme 2: Infrastructure and Built Environment

Goal: Increased capacity for climate resilient structural infrastructure is centred around the effective management of climate risk, informed investment decisions and positive contribution towards a low carbon society.

Supporting objectives and actions include climate resilient infrastructure design and planning, energy efficiency including retrofits, and supporting waste reduction and the circular economy.

Theme 3: Land Use and Development

Goal: Sustainable policies and measures are devised and implemented influencing positive behavioural changes, supporting climate actions and endorsing approaches for successful transition to a low carbon and climate resilient society.

Supporting objectives and actions include incorporating climate change as a critical and guiding principle for the core strategy, strategic objectives and development management standards.

Theme 4: Drainage and Flood Management

Goal: To create an understanding of the risks and consequences of flooding and therefore progress the management of a coordinated approach to drainage and flooding.

Supporting objectives and actions including detailed flood risk mapping, future proofing for projected flood levels, infrastructure upgrades, and the use of Sustainable Urban Drainage Systems (SUDS) where appropriate.

Theme 5: Natural Resources and Cultural Infrastructure

Goal: Fostering and implementing meaningful approaches to protecting natural and key cultural assets through an appreciation for the adaptive capacity of the natural environment to absorb the impacts of climate change. In addition to building the resilience of cultural assets and our natural environment to withstand the impacts of climate change.

Supporting objectives and actions include the review of Heritage Plan (incorporating Biodiversity Plan) to assess the climate change vulnerability of the natural and built heritage, integrate biodiversity and habitat considerations into municipal works and amenities, increase native tree planting.

All the actions listed under the above 4 goals are scheduled for short-term delivery, but some are continuous from short to long term. All actions are to be monitored. Evaluation will occur to ensure effectiveness.





5.3 Climate Change

Climate change encompasses not only rising average temperatures but also extreme weather events, shifting wildlife populations and habitats, rising seas, and a range of other impacts. The impacts of climate change have already been felt in Ireland and within the County including the following:

- Increases in average temperatures
- Fewer colder days
- Wetter winters
- Increase in summer droughts
- More intense and prolonged rainfall
- More flooding
- Damage to existing ecosystems and Biodiversity

5.4 Greenhouse Gas Emissions

In 2017, Ireland's greenhouse gas emissions were 60.7 million tonnes of carbon dioxide equivalent. This was a reduction compared with the peak average annual emissions of 68.8 million tonnes in 2000-2004 but was 7.9% higher than the 1990-1994 average of 56.3 million tonnes (see Figure 5.1).

At State level, the data shows that Agriculture is the largest emitter of greenhouse gasses accounting for 33% of the total. Transportation levels doubled over the period 1990 (10%) to 2017 (20%). Energy emissions also remained stable over the period 1990 to 2017, at 19% (see Figure 5.2).

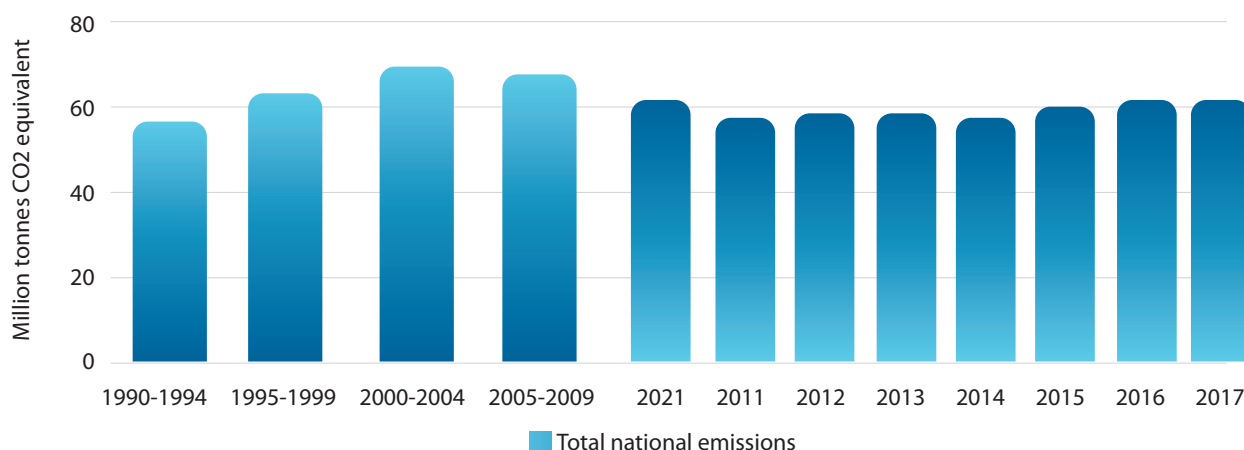


Figure 5.1: Ireland Total greenhouse gas emissions 1990 - 2017 (Source: CSO using data from the Environmental Protection Agency)

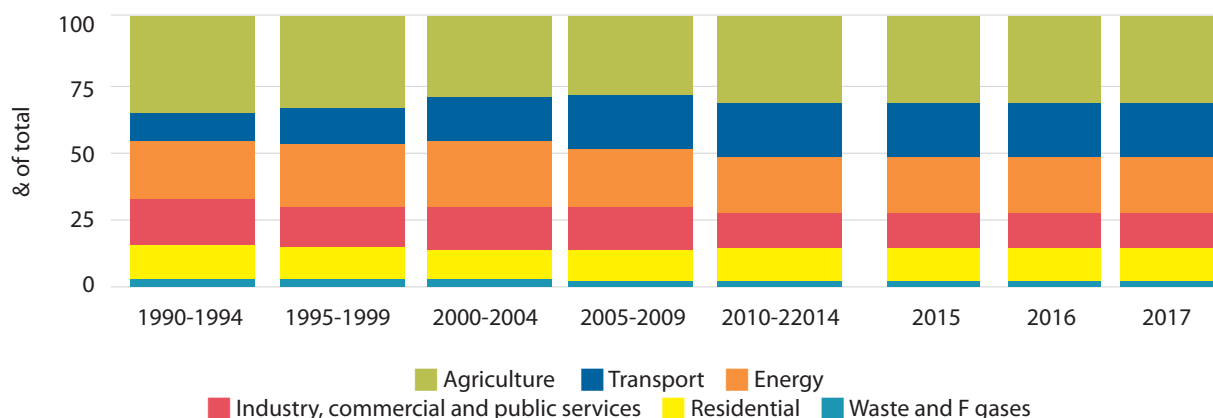


Figure 5.2: Ireland's emissions by sector 1990 - 2017 (Source: CSO using data from the Environmental Protection Agency)

A Climate and Biodiversity Emergency was declared by Dáil Éireann in May 2019 highlighting the immediate need for urgent action. Ireland became only the second country in the world to pass such declaration after the UK (1st May 2019).

5.5 Decarbonising Zone

A Decarbonising Zone (DZ) is a spatial area identified by the local authority, in which a range of climate mitigation, adaptation and biodiversity measures and action owners are identified to address local low carbon energy, greenhouse gas emissions and climate needs to contribute to national climate action targets. A Decarbonising Zone incorporating Cavan Town and surrounding areas, as identified by Cavan County Council, will be progressed, subject to departmental approval.

Decarbonising Zone Development Objective
It is a development objective of Cavan County Council to:

DZ 01

Support a decarbonising zone incorporating Cavan Town and surrounding areas, subject to Departmental approval.

5.5.1 Climate Action Plan: Action 165

Action 165 specifically requires identification of one location or area in each local authority that would be subject to a plan for a Decarbonising Zone. Thereafter, follow-on steps could include:

- Harnessing those plans to develop low carbon town projects for future calls under the Climate Action Fund; and
- Early progression of demonstrator projects harnessing a range of technologies and initiatives and which would be subject to a mid-project review by the Local Authority

The concept of decarbonising zones will provide a very important test - bed in which we can:

- understand the scale of the challenge in decarbonising the economy and wider society, and
- map out the various key stakeholders and enablers.

Each Local Authority are requested to identify, by 30 April 2021, a potential area suitable for a decarbonising zone. In order that local authority

decarbonising zones can act as effective demonstrators in varying settings, such zones could be in either urban or rural settings. However, to achieve effective learnings from the exercise, such zones should either cover (i) urban areas and agglomerations with a population not less than 5000 persons, or (ii) rural areas with an area of not less than 4km². Candidate DZs that do not meet these criteria could be considered where they show demonstrated decarbonisation at a replicable scale.

The main projects that could be implementable in the zone include:

- electricity sourcing
- heat management
- reducing needs for travel and shifting travel modes towards active and public transport
- enhanced building energy efficiency
- carbon sequestration
- energy storage and management systems

The potential outcomes deliverable in terms of reductions in carbon emissions are significant and precise details will be included in the forthcoming Climate Action Plan. At a minimum, it is expected that these outcomes will be capable of meeting the Government's targets for carbon emissions reductions set out below, specifically an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade). The details of the zone identifying the location and key measures proposed were submitted to the DHLGH. Cavan County Council is tasked with developing DZ implementation plans by the end of Q4 2021 and those plans will be included in their published Climate Action Plans, as required by the Climate Action Bill.

The development of decarbonising zones should, result in a learning from that experience, to advance a wider roll-out of the decarbonising zone concept across wider local authority system, in line with evolving climate policy and legislative requirements. The implementation of this action will be led by the DHLGH, in close cooperation with the Department of Environment, Climate and Communications together with the Sustainable Energy Authority of Ireland (SEAI) and local authorities supported by the Climate Action Regional Offices.

The further integration of climate action policy and spatial planning is required to enable holistic and



replicable Decarbonising Zones to develop. Such policy areas include energy efficiency measures, renewable and low carbon electricity sources, district heating, energy storage, agricultural practices, rural land management and carbon sequestration measures.

A Decarbonising Zone should also address the wider co-benefits of air quality, improved health, biodiversity, embodied carbon, agricultural practices, sustainable land management, lower noise levels, waste, water, circular economy etc., and should integrate with smart data and 'smart cities' initiatives (as relevant).

A Decarbonising Zone can also explore the co-benefits of climate adaptation and examine a range of local measures such as climate proofing, afforestation, green and blue infrastructure, reducing heat island effects, citizen awareness and behavioural change.

Decarbonising Zones can be test beds and have synergies with other sustainability measures

such as promoting the circular economy, waste management, the potential for sustainable employment using remote working opportunities, active and sustainable land management.

5.5.2 Summary of Potential Content of Plans for Decarbonising Zone

Set out below is a list of key sectoral headings that could form a basis for planning for a Local Authority Decarbonising Zone:

With regard to the evolving role of spatial planning and climate action, the Department of Housing, Local Government and Heritage (DHLGH) and the Office of the Planning Regulator (OPR) will have an important leadership role, in providing continued guidance and support to local authorities. The role of Energy Agencies is also important to include work undertaken in local authority areas that could be considered as Decarbonising Zones. In the zero-carbon transition, integrated urban planning and cross-sectoral governance is crucial.

Transport	Transport should be developed in accordance with the CO2 emissions hierarchy.
Buildings	Energy efficient buildings which limit energy demand.
Green spaces	Providing carbon sequestration, reduce heat island effects.
Energy planning and policy	Dwelling density to support more energy efficient use of infrastructure in the areas of energy, transport, water etc. Trial site for certain policy mechanisms. Maintaining accurate and detailed data sets (GIS etc.) which can be represented spatially is vital for energy planning; it is also important that a list of these data sets be maintained to allow planners and policy makers to understand the information that is at their disposal.
Complementary infrastructure	Facilitate high proportions of renewable generation. (e.g., providing transmission, grid balancing, frequency control)
Land value	Economic (contaminated land, cutaway bog land, land with low agricultural or development potential etc.) or environmental (such as SPAs, SACs, NHAs).
Air quality	Implementation of a range of measures, including low emissions methodology should overlap with air quality monitoring and improvement.
Gap to Target contribution	Delivery and overall monitoring and upscaling / replication of these zones should include gap to target contributions on thematic climate targets at EU, national level etc.
Biodiversity	Complete Biodiversity Strategy.
Waste Management	Leadership role regarding waste management, the circular economy and green procurement. Examples of policies include, but are not limited to, the Waste Action Plan for a Circular Economy, the National Circular Economy Strategy (due to be published in 2021) and associated National Waste Prevention Programme.

5.6 Cavan County Development Plan Climate Strategy

Progressing climate action is a priority for this County Development Plan which will be done through a Climate Strategy which incorporates national and regional policy through an approach which includes mitigation and adaptation. The two components of climate action are critical in order to build resilience and adapt to the changing climate in a planned and structured way.

Climate mitigation describes actions to reduce the likelihood of climate change occurring or to reduce the impact if it does occur. This can include reducing the causes of climate change (e.g. emissions of greenhouse gases) as well as reducing future risks associated with climate change.

Climate adaptation is a change in natural or human systems in response to the impacts of climate change. These changes moderate harm or exploit beneficial opportunities and can be in response to actual or expected impacts. One of the key issues relating to the Plan in the context of climate adaptation is flooding. A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Plan that has helped to facilitate the appropriate zoning of areas that are at elevated risk of flooding.

The policies and objectives in this plan seek to mitigate and reduce the severity of future climate change and adaptation to manage the risks and impacts associated with existing or anticipated impacts of climate change. Table 5.1 and Table 5.2 respectively identify the climate mitigation and adaptation measures proposed in this Plan.

Table 5.1: Climate Mitigation Measures

Topic	Climate Mitigation Measures
Buildings	- Support energy-efficient building design and emission reduction measures - Promote building of energy efficient homes/density appropriate to demographics and with greatest infrastructure provision - Promote renewable and low carbon energy - Create or enhance carbon sinks
Agriculture, Land Management and Forestry	- Encourage the Agriculture Sector and our farming communities to adapt and change to produce more of our food locally in order to facilitate us all to shop local. - Encourage local food markets and shops to stock and sell local food produce. This will increase local employment and wealth generation as opposed to exporting it abroad. - Establish new community woodlands in urban/urban fringe areas - Support production of sustainable biofuels (farm contributions to localised energy supplies – biofuels/wind energy production) - Implement higher level Plan recommendations/objectives/ policies
Transport	- Support construction of green routes/cycleways/pedestrian routes, subject to normal environmental considerations - Support low-car developments in suitable locations and car sharing - Strengthen public transportation linkages and encourage their use - Support localisation of jobs/ shops/services to minimise needs for most common travel patterns - Support electric vehicle charging points and electrification of Council fleet
Energy Production	- Promote energy-efficient building design - Promote links between developments and renewable energy resources, for instance by sourcing energy on-site (renewable or from low-carbon fuel sources) - Consider public lighting upgrades - Facilitate building retrofits
Minerals	Locate developments strategically (e.g. waste materials) to minimise need to travel, subject to health aspects/business needs.
Resource Management	Support waste prevention and water conservation measures



Table 5.2: Climate Adaptation Measures

Topic	Climate Adaption Measures
Buildings	- Land use zoning to be informed by flood risk. - Promote the use of green roofs and natural ventilation. - Enhance flood resilience of buildings, e.g. elevated work surfaces and storage facilities, raised sockets and electrical infrastructure, enhanced flood boards. - Promote the use of permeable surfaces to decrease runoff rates. - Institute grey-water recycling schemes to decrease abstraction of potable surface water resources, thus reducing water stress during periods of low rainfall. - Maximise water conservation. - Plant drought-resistant plants/ trees in public amenity areas to provide shade and increase green infrastructure linkages. - Integrate climate adaptation measures for Protected Structures at risk directly or indirectly as a result of climate change.
Agriculture, Land Management and Forestry	- Support diversification of rural economy to promote crop viability options etc. - Encourage afforestation (where environmentally appropriate) to enhance interception and infiltration of precipitation. - Support restoration of peat bogs when turf cutting has ceased. - Support the recommendations of the National Peatlands Strategy.
Water Management	- Increase resilience to flooding through Sustainable Drainage Systems. - Harvest rainwater/grey water. - Ensure adequate/appropriate water supply and drainage. - Support Water Conservation Strategies.
Infrastructure, including flood defences	- Ensure critical infrastructure and services (particularly emergency services) are resilient to new climatic conditions. - Facilitate flood defences and flood resilient urban design. - Coordinate emergency response plans.
Wildlife and biodiversity	- Create/enhance ecological linkages and buffer zones from development. - Create/protect ecologically resilient and varied landscapes to help support a wide range of species. - Carry out a review of the Wetland Survey undertaken in 2008 to include measures for climate adaptation in the Council.
Economy and Tourism	Support opportunities for increased tourism as a result of warmer summers, within limits of existing infrastructure and sensitive habitats
Human Health, Risk and Insurance	- Provide green infrastructure to provide shade in urban areas - Provide building methods and materials to reduce the impacts of heat stress - Appropriate maintenance of surface water drainage infrastructure to avoid flood risk - Land use zoning to be informed by flood risk

Cavan County Council is committed to making the transition to becoming a low carbon and climate resilient County, promoting the economic, social and environmental benefits of low carbon development, with an emphasis on the reduction in energy demand and greenhouse gas emissions. This includes a combination of effective mitigation and adaptation responses to climate change.

In addition, supporting the relevant policy area, specific Climate Change Actions are set out at the end of each chapter of this County Development Plan.



Climate Change Development Objectives

It is a development objective of Cavan County Council to:

CC
01

Support the implementation and achievement of European, national, regional and local objectives for climate adaptation and mitigation as detailed in the following documents, taking into account other provisions of the Plan (including those relating to land use planning, energy, sustainable mobility, flood risk management and drainage) and having regard to the Climate mitigation and adaptation measures which have been outlined through the policy objectives in this Development Plan:

- Climate Action Plan (2019 and any subsequent versions).
- National Climate Change Adaptation Framework (2018 and any subsequent versions).
- Any Regional Decarbonisation Plan prepared on foot of commitments included in the NWRA RSES;
- Relevant provisions of any Sectoral Adaptation Plans prepared to comply the requirements of the Climate Action and Low Carbon Development Act 2015, including those seeking to contribute towards the National Transition Objective, to pursue, and achieve, the transition to a low carbon, climate resilient and environmentally sustainable economy by the end of the year 2050; and
- Cavan County Council Climate Change Adaptation Strategy 2019-2024.

CC
02

Consider a variation of the development plan within a reasonable period of time, or to include such other mechanism, as may be appropriate, to ensure the development plan will be consistent with the approach to climate action recommended in the revised Development Plan Guidelines as adopted or any other relevant guidelines.

CC
03

Support and facilitate European and national objectives for climate adaptation and mitigation having regard to the measures detailed in Table 5.1 and Table 5.2 (these have been informed by available guidance on Climate Action and Mitigation, including that from the EPA).

CC
04

Support the implementation of the Cavan County Council Climate Change Adaptation Strategy and promote the County as a key driver of the transition to a low carbon economy within the Region.

CC
05

Contribute towards climate mitigation and adaptation, taking into account other provisions of the Plan (including those relating to land use planning, energy, sustainable mobility, flood risk management and drainage).

CC
06

Promote the benefits to quality of life, public health and biodiversity arising from implementation of policies promoting climate change adaptation and mitigation.

CC
07

Provide for a reduction in energy demand and greenhouse gas emissions by providing for consolidated future development which supports sustainable travel patterns in line with the County Core Strategy.

CC
08

Encourage innovation and facilitate the development of pilot schemes that support climate change mitigation and adaptation measures, especially in the energy and agriculture sectors.

CC
09

Support the delivery of sustainable development projects under the European Green Deal.

CC
10

Support collaboration between local authorities and relevant stakeholders regarding integrated peatland management and support for rehabilitation and/or re-wetting of suitable peatland habitats, in particular the Geopark and Cuilcagh Carbon sequestration potential.

CC
11

Work in collaboration with the Sustainable Energy Authority Ireland and relevant stakeholders to deliver a number of sustainable energy communities throughout the County.



Climate Change Development Objectives

It is a development objective of Cavan County Council to:

**CC
12**

Incorporate energy efficiency measures, including passive and active solar gain, photovoltaic ready house and smart technology in all new buildings. Aim to ensure all new buildings are zero carbon.

**CC
13**

Consider the use of heat mapping to support developments which deliver energy efficiency and the recovery of energy that would otherwise be wasted.

**CC
14**

Carry out a feasibility assessment for district heating and any subsequent Local Area Plans or other statutory planning documents shall identify local waste heat sources, where appropriate.

**CC
15**

Seek to ensure primacy for transport options that provide for unit reductions in carbon emissions. This can most effectively be done by promoting public transport, walking and cycling, and by actively seeking to reduce car use in circumstances where alternative options are available.

**CC
16**

Maintain existing green infrastructure and encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following:

- Provision of open space amenities;
- Sustainable management of water;
- Protection and management of biodiversity;
- Protection of cultural heritage; and
- Protection of protected landscape sensitivities.

**CC
17**

Work with the National Trails Office, Coillte, the Department of Planning, Housing and Local Government, the Department of Transport, and other relevant stakeholders, to improve on the existing level of infrastructure and facilities for walking and cycling.

**CC
18**

Complete a detailed local survey and audit of greenhouse gas emissions for the County in order to effectively target and reduce greenhouse gas emissions in a targeted approach at the County level and support the development of a Regional Inventory of GHG Emissions.

**CC
19**

Seek the integration of positive climate change mitigation and adaptation measures in all planning applications.

**CC
20**

Support the establishment of a Climate Change Unit in Cavan County Council.

**CC
21**

Provide training on climate mitigation measures.

**CC
22**

Encourage and promote technologies, like anaerobic digestion that will contribute positively and grow the circular and bio - economy.

**CC
23**

Integrate climate considerations into the design, planning and construction of all construction projects, including roads, bridges, public realm.

**CC
24**

Commence preparation a Cavan County Renewable Energy Strategy within 6 months of the adoption of this plan.

5.7 Monitoring and Review

The following indicator will be used to demonstrate how this plan will contribute to the meeting of national targets as indicated in this chapter.

- Energy efficiency of public buildings
- 30% population growth uplift of Cavan town by 2040
- 30% new homes in Cavan town by 2040 within 2016 urban footprint permitted / commenced
- No. of homes permitted / commenced on urban infill sites
- Minimum 20% of new rural homes on brownfield sites permitted / commenced
- % new buildings zero carbon permitted / commenced
- % new buildings near zero carbon permitted / commenced
- Renewable Energy developments permitted / commissioned in Megawatts / MJ/hr
- Area of solar panel / photovoltaic cell panels permitted / commenced
- No. of electrical vehicles charge points permitted
- Cycleway usage per hour
- Pedestrian footfall per hour
- Commuter flows
- Number of people working within the County

Climate Change is a strategic and cross cutting theme across the County Cavan Development Plan. As part of the collective need to tackle Climate Change, each chapter of this Plan concludes with a climate context and select number of associated climate actions, setting out definable and achievable targets.