



Chapter 11

Climate Action

Chapter 11: Climate Action

Aim: *To tackle the challenge of climate change in Carlow-Graiguecullen, with a focus on the role of spatial planning in contributing to the transition of the joint urban area to a low-carbon and climate resilient future, and through targeted climate change mitigation and adaptation measures aimed at reducing greenhouse gases and increasing energy efficiency and conservation.*

11.0 Introduction

Operating within the broader framework of sustainable development, the spatial planning process provides an established means through which climate action measures can be integrated and implemented at a local level to support a transition to a low carbon and climate resilient society. Development plans in particular (including this JULAP) provide an opportunity to focus on the land-use aspects of climate action and how the planning system as a whole can be utilised to support positive change and action. This is confirmed in the range of cross-cutting national and regional climate action policy objectives included in the NPF and the RSES', and those included in the respective County Development Plans for Carlow County Council and Laois County Council. The content of this chapter should be read in conjunction with the climate action policies, objectives and related provisions contained in Chapter 7 of the Carlow County Development Plan 2022-2028 and

Chapter 3 of the Laois County Development Plan 2021-2027.

This JULAP recognises that the multi-faceted nature of the climate challenge for Carlow-Graiguecullen requires the integration and co-ordination of 'climate proofed' policies and investment to ensure that key projects and infrastructure can be delivered at appropriate locations. The Plan also recognises that the climate change challenge requires a combined approach utilising both climate mitigation and adaptation measures (See Figure 11.1). These considerations and measures are therefore at the forefront of the formulation of this JULAP, together with the integration of key national and regional policy concerning compact growth, sustainable mobility, town centre regeneration, and the protection and enhancement of biodiversity. This aims to ensure that the provisions of the Climate Action and Low Carbon (Amendment) Act 2021 are adhered to, which set out binding targets for the reduction of greenhouse gas emissions and for the delivery of renewable energy.

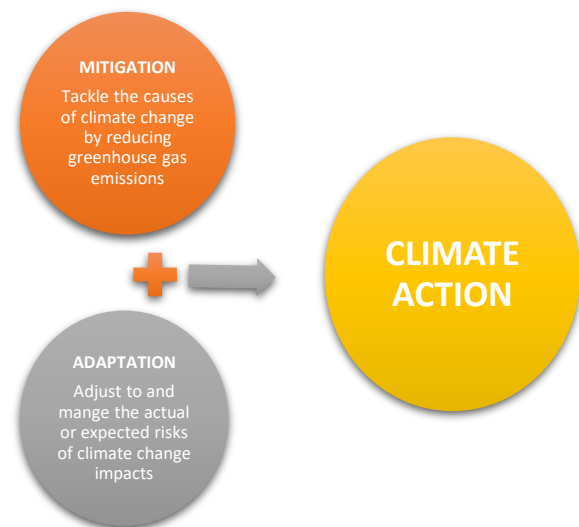


Figure 11.1: Climate Mitigation and Climate Adaptation

11.1 Climate Action

Climate action policy in Ireland now reflects the ambition of the EU and that required to confront the challenges of climate change. The Climate Action and Low Carbon Development (Amendment) Act 2021 as already referred to, enshrines the National Climate Objective 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*. The Amendment Act frames Ireland’s legally binding climate ambition to deliver a reduction in greenhouse gas emissions of 51% by 2030. This will place the country on a trajectory to achieving climate neutrality by no later than the end of 2050.

11.2 Local Authority Climate Action Plans

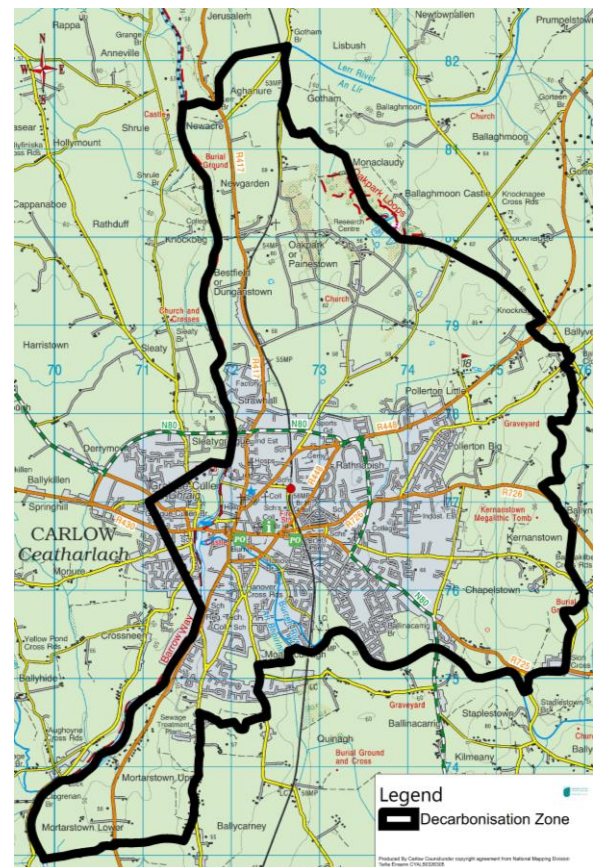
In accordance with the Climate Action and Low Carbon Development (Amendment) Act 2021, Carlow County Council and Laois County Council are required to prepare climate action plans for their respective administrative areas. The climate action plans will help both Council’s to address, in an integrated way, the mitigation of CHG emissions and climate change adaptation, and to translate national climate policy to local and community levels in Carlow-Graiguecullen. The climate action plans will cover a 5-year period and are required to be prepared and adopted before 24th February 2024. They will also play a significant role in reinforcing the commitment by the local government sector to lead on place-based climate action at a local level.

11.3 Carlow Town - Decarbonisation Zone

The first National Climate Action Plan 2019 required each local authority, by 30th April 2021, to identify a Decarbonisation Zone (DZ) within their administrative areas. Action 80 of the

subsequent National Climate Action Plan 2021 integrated the development of DZs into the statutory Local Authority Climate Action Plan Guidelines (i.e., Technical Annex D). It is intended that DZs will be a demonstration and test bed of what is possible for decarbonisation and climate action at local and community levels to help support and realise national climate action ambitions.

In 2021 Carlow Town was selected as the DZ for County Carlow, following the engagement of consultants to prepare a DZ proposal and a period of public consultation. The spatial area of the DZ comprises the District Electoral Divisions (DEDs) of Carlow Rural, Carlow Urban and Graiguecullen Urban (See Map 11.1).



Map 11.1 : Carlow Town Decarbonisation Zone

In accordance with the requirements of the Local Authority Climate Action Plan Guidelines, Carlow County Council carried out a Tier 3 Baseline Emissions Inventory (BEI) of GHG emissions, including energy use, in the DZ for the year 2018 across a number of sectors including transport, agriculture, residential, and commercial/industrial. The total baseline GHG emission for the DZ in 2018 was recorded at 108,122.86 tCO₂eq (tonnes of CO₂ equivalent). Transport accounted for the highest percentage of total CHG emissions at 41.5%, followed by residential (30.3%) and commercial/industrial (22.8%). The data included a further breakdown of transport fuel types used, with diesel at 70.3%, petrol at 27.7%, and electricity less than 1%. The data pointed to a high dependency on private cars for travel purposes and estimated that of the 13,939 mechanically propelled vehicles recorded in the DZ, 73% (or 10,272) were private cars.

	GHG Emissions (tCO₂eq*)	Energy Consumption (MWh**)
Transport	44847.9 (41%)	170,612.1
Commercial/Industrial	24,684.9 (22.8%)	92,918.5
Residential	32,727.4 (30.3%)	123,504.7
Agriculture	3,981.3 (3.70%)	476.6
Carlow County Council	1,320 (1.20%)	4,420
* tCO ₂ eq (tonnes of CO ₂ equivalent) **MWh (megawatt-hour)		

Table 11.1 : Summary of GHG Emissions & Energy Consumption for key sectors in the Carlow Town DZ for 2018 (Source: Southeast Energy Agency)

Climate Action – Overarching Policies

It is the policy of Carlow County Council and Laois County Council to:

- CA. P1:** Support the transition of Carlow-Graiguecullen to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050, by way of reducing greenhouse gases, increasing renewable energy, and improving energy efficiency and conservation.
- CA. P2:** Promote and encourage positive community and/or co-operative led climate action initiatives and projects in Carlow-Graiguecullen that seek to reduce carbon emissions, improve energy efficiency and conservation, enhance green infrastructure, and encourage awareness on climate change issues and impacts.
- CA. P3:** Encourage innovation and facilitate the development of pilot schemes that support climate change mitigation and adaptation measures.

Climate Action – Overarching Objectives

It is an objective of Carlow County Council and Laois County Council to:

- CA. O1:** Support, in conjunction with key stakeholders, the preparation and implementation of the Climate Action Plans for County Carlow and County Laois, and to facilitate their role as a driver in the mitigation of greenhouse gas emissions and climate change adaptation in Carlow-Graiguecullen, and the translation of national climate policy to local and community levels in the joint urban area.

CA. O2: Support and facilitate the role of the Carlow Town Decarbonisation Zone in the delivery of effective climate action at a local level, through interventions, projects, and actions aimed at reducing greenhouse gas emissions and increasing energy efficiency and conservation.

CA. O3: Advocate for climate action by raising public awareness of climate change issues and responses.

11.4 Spatial Planning and Climate Action

The following sections of this chapter outline some of the areas in which spatial planning can be utilised to support climate action. For the entire context of these subject areas the text of relevant chapters of this JULAP should be directly referred to. Further details can also be found in the County Development Plans for Carlow and Laois.

11.5 Integrated Land Use Planning & Sustainable Travel

The National Climate Action Plan 2023 identifies that the transport sector in Ireland has been the fastest growing source of greenhouse gas emissions (GHG) over the past three decades, showing a 112% increase between 1990 and 2021. There is significant potential in this sector to tackle climate change and reduce GHG emissions through measures which:

- Aim to reduce or avoid the need for travel through enhanced spatial planning;
- Encourage modal shift to more sustainable modes of transport such as walking, cycling and public transport; and,
- Utilise new technologies including electric vehicles, biofuels, and e-bikes.

Therefore, this JULAP aims to:

- Support an integrated approach to land use and transport planning in Carlow-Graiguecullen, to promote a shift towards a sustainable, healthy, and low carbon joint urban area with a reduced need for car-based travel.
- Prioritise development that is within realistic walking and cycling distances from key destinations in the joint urban area.
- Reduce the carbon footprint of Carlow-Graiguecullen by prioritising and enhancing sustainable travel options and permeability/connections to key destinations in the joint urban area.
- Support the use of new technologies including electric vehicles, through the roll-out of additional electric charge points in collaboration with relevant agencies; and,
- Make more provision for secure cycle parking facilities at appropriate locations throughout the joint urban area.

An Local Transport Plan (LTP) has been prepared alongside this JULAP, which will assist in ensuring that sustainable transport considerations inform land use planning decisions. The LTP is included as Appendix IV and is discussed in greater detail in Chapter 6 Sustainable Travel and Transportation.

Integrated Land Use Planning & Sustainable Travel - Policy

It is the policy of Carlow County Council and Laois County Council to:

LU. P1: Secure climate resilience and a reduction of greenhouse gas emissions in Carlow-Graiguecullen by actively implementing policies which support integrated land use planning and sustainable travel, and maximise such opportunities through

development location, form, layout, and design.

11.6 Urban Regeneration & Compact Growth

The 10-Minute Town study undertaken for Carlow by the Southern Regional Assembly in 2020 highlighted some key challenges in achieving a more integrated compact settlement. These challenges related to (inter alia) urban sprawl, a car dependent built environment, self-contained/disconnected residential estates, and deficiencies in active travel infrastructure. Overcoming these challenges will also present corresponding opportunities to address climate change. Further details on the 10-Minute Town study can be found in Chapter 7 Sustainable Communities.

The policies and objectives in this JULAP aimed at supporting urban regeneration and compact growth will provide a focus for measures and projects in the joint urban area aimed at optimising the use/reuse of the existing built environment and building stock, the development of brownfield and infill sites, and the reduction in greenfield land consumption and inefficient infrastructure provision. All of the aforementioned will have particular implications for the achievement of a greater availability and uptake of sustainable travel options and reduced trip times to and between key destinations in the joint urban area. This will encourage less reliance on private cars, will facilitate easier access to public transport, create more possibilities for walking and cycling, and ultimately lead to reduced carbon heavy travel patterns.

In addition to the foregoing and alongside urban regeneration, heritage-led regeneration can also have a positive role in addressing the challenge of climate change. Carlow County Council has commenced the preparation of a Historic Towns

Initiative Plan for Carlow Town, further details on which are set out in Chapter 9 Natural and Built Heritage.

11.7 Project Carlow 2040 – A Vision for Regeneration

It is an objective of this JULAP to support and facilitate the implementation of Project Carlow 2040, including the regeneration of the 6 no. intervention areas identified in the strategy. Objectives URD. 01 to URD.03 in Chapter 10 of this JULAP refer. The Strategy acknowledges the key role physical urban regeneration in addressing the climate change challenge, and with particular regard to:

Development Change

- **Spatial:** Focusing development in the core of Carlow Town.
- **Movement and Air Quality:** Becoming aware of our impact on the climate and making a positive change for the future.
- **Health and Wellbeing:** Placing an emphasis on healthy living through urban design practices.

Environmental Assets

- **Green and Blue Infrastructure:** Increase use of the River Barrow and River Burren as green and blue areas for leisure and amenity and also as sustainable industries.

Urban Regeneration & Compact Growth – Policies

It is the policy of Carlow County Council and Laois County Council to:

- UR. P1:** Secure climate resilience and a reduction of greenhouse gas emissions in Carlow-Graiguecullen through encouragement and support for urban regeneration

projects and interventions, including those set out in Project Carlow 2040 – A Vision for Regeneration.

UR. P2: Support the effective and efficient use of land in Carlow-Graiguecullen, prioritising compact growth in preference to greenfield land consumption, through the development and regeneration of vacant and underutilised brownfield/infill land and buildings within the existing built-up footprint of the joint urban area.

Urban Regeneration & Compact Growth – Objective

It is an objective of Carlow County Council and Laois County Council to:

UR. O1: Leverage all available funding streams which will support and deliver urban regeneration outcomes in Carlow-Graiguecullen which seek to secure climate resilience and a reduction of greenhouse gas emissions in the joint urban area.

11.8 Renewable Energy

Renewable energy is that which is derived from natural sources that are not depleted when used and which are alternatives to fossil fuels. There is potential for a range of renewable energy technologies in Carlow-Graiguecullen, including (but not limited to) wind energy, solar energy, micro-renewable energy, bioenergy, geothermal energy, and hydro energy. These technologies are discussed in greater detail in Chapter 7 of the Carlow County Development Plan 2022-2028 and Chapter 3 of the Laois County Development Plan 2021-2027. This JULAP supports the production of energy from renewable sources in Carlow-Graiguecullen subject to compliance with

proper planning and environmental considerations.

Renewable Energy – Policy

It is the policy of Carlow County Council and Laois County Council to:

RE. P1: Encourage and support a transition to renewable energy sources in Carlow-Graiguecullen, subject to compliance with proper planning and environmental considerations.

11.9 Energy Efficiency and Conservation

Generating energy through renewable energy sources must be complemented by efforts to reduce energy demand and waste. The implementation of energy efficiency and conservation measures will be vital if Carlow-Graiguecullen is to achieve a carbon neutral future. Improving the energy efficiency of homes and public buildings is a critical climate priority and a major focus of the funding provided in the National Development Plan 2018-2031. This will deliver wider benefits than just a reduction in GHGs. An energy efficient home is a home that is warmer, more comfortable, and much cheaper to heat. This leads to improved health outcomes, higher disposable incomes and reduced poverty, as well as the creation of new employment. Separately, energy conservation is more reliant on human behaviour that results in the use of less energy, which can be supported by increasing public awareness and promoting the use of smart electricity metres, monitoring, and heating controls etc.

In line with the Carlow County Development Plan 2022-2028 and the Laois County Development Plan 2021-2027, this JULAP:

- Recognises that the design, construction, and operation of new buildings, have a significant role to play in reducing energy demand and increasing energy efficiency into the future;
- Promotes energy efficient design through careful site selection, building shape/design, structural materials (that have low to zero embodied energy and CO2 emissions) and orientation so as to maximise solar gain;
- Recognises the potential of green walls and green roofs to greatly reduce the amount of energy needed to keep the temperature of a building comfortable all year round by insulating against extensive heat loss in the winter and heat absorption in the summer;
- Promotes the retrofitting of existing buildings, including public buildings, to reduce energy demands and promotes the principles of Energy Efficient Design (EED) to minimise the energy consumption of buildings through their lifecycle. Carlow and Laois County Councils are continually upgrading their social housing units in the joint urban area to increase the BER ratings of dwellings;
- Promotes the retrofitting of non-LED local authority public lighting in Carlow-Graiguecullen to high efficiency LED lanterns to contribute to meeting statutory energy efficiency targets, significantly reducing emissions, and achieving cost savings with energy and maintenance efficiencies;
- Promotes smarter travel, including use of the Carlow Town Bus Service which was launched in 2023.

Notable existing examples of energy efficiency and conservation in Carlow-Graiguecullen include development and infrastructural planning for new buildings at SETU Carlow and MSD Carlow. On the SETU Carlow campus off the Kilkenny Road all new buildings will be required to comply fully with the most current version of Part L of the Building Regulations (known as the NZEB regulations) and all buildings will require an “A” rated energy certificate. The buildings where possible will also be required to comply with a number of good practice sustainability requirements that go beyond the requirements of the Building Regulations.

MSD Carlow has made energy efficiency design a priority for a recently constructed QO Laboratory Building at its facility off the Dublin Road. With support from SEAI Ireland the building is the first in Ireland to be certified to LEED Gold (Leadership in Energy and Environmental Design) and EXEED Designed Certifications (Excellence in Energy Efficient Design).

Energy Efficiency and Conservation – Policies

It is the policy of Carlow County Council and Laois County Council to:

EE. P1: Encourage and promote the consideration of energy efficient and low-carbon design solutions and modern construction methods when carrying out pre-planning discussions for major residential, commercial, and industrial development in Carlow-Graiguecullen.

EE. P2: Encourage development proposals that are low carbon, well adapted to the impacts of climate change, include mitigation measures, and maximise energy efficiency through renewable energy sources, water conservation, SuDS, siting, layout and design.

EE. P3: Promote the use of efficient energy storage systems and infrastructure that support energy efficiency and reusable energy system optimisation, subject to compliance with proper planning and environmental considerations.

EE. P4: Support the use of blue roofs, green roofs, green walls, photovoltaic and/or solar thermal collector panels and heat pumps on new residential, commercial, industrial, and public buildings.

EE. P5: Support and facilitate the installation of district heating systems as a decarbonising technology in new developments in Carlow-Graiguecullen, subject to compliance with proper planning and environmental considerations.

EE. P6: Promote the use of efficient energy storage systems and infrastructure in Carlow-Graiguecullen that support energy efficiency and reusable energy system optimisation, subject to compliance with proper planning and environmental considerations.

Energy Efficiency and Conservation – Objective

It is the objective of Carlow County Council and Laois County Council to:

EE. O1: Support the implementation of national energy efficiency standards in Carlow-Graiguecullen, including energy efficiency and conservation measures through:

- Improved building design;
- Promoting smarter travel; and,
- Raising awareness/benefits of energy conservation.

EE. O2: Reduce dependency on fossil fuels for domestic and commercial heating in Carlow-Graiguecullen by encouraging the use of renewable heat solutions through the development management process.

EE. O3: Retrofit all non-LED local authority public lighting in Carlow-Graiguecullen to high efficiency LED lanterns to contribute to meeting statutory energy efficiency targets, and to significantly reduce emissions and achieve cost savings with energy and maintenance efficiencies.

11.10 Flood Risk Management

Carlow County Council and Laois County Council recognise that climate change will have a significant impact on flooding, flood risk and flood risk management in the joint urban area. The Strategic Flood Risk Assessment (SFRA) prepared to inform this JULAP addresses climate change at both the plan making and development management stages. The SFRA acknowledges that with climate change, the frequency, pattern, and severity of flooding is expected to change and become more damaging. The strategic land-use planning decisions taken within this JULAP have therefore been fully informed by the findings of the SFRA. Further details can be found in Chapter 5 Infrastructure and Environmental Services.

11.11 Nature-Based Solutions & Green Infrastructure

Nature-based solutions and green infrastructure give recognition to the role of the natural environment in moderating and adapting to the effects of climate change. In urban areas green infrastructure can:

- Act as a carbon sink to absorb and thereby avoid increases in emissions;
- Create diverse habitats with associated positive impacts for biodiversity and ecosystem services;
- Manage high temperatures by providing evaporative cooling and shading;
- Contribute to flood prevention and storage capacity, reducing and slowing down peak flows and alleviating flooding; and,
- Address flood risk by reducing the rate and volume of water entering drains.

As detailed in Chapter 10, green infrastructure in Carlow-Graigucullen, which includes strategic natural assets such as the River Barrow and Burren River, will be essential to the success of climate mitigation and adaptation measures in the joint urban area.

Nature-Based Solutions & Green Infrastructure - Policy

It is the policy of Carlow County Council and Laois County Council to:

NB. P1: Actively promote and encourage nature-based approaches and green infrastructure solutions in Carlow-Graigucullen as viable mitigation and adaptation measures to reduce greenhouse gas emissions, increase the adaptive capacity of ecosystems and optimise the multifaceted benefits through:

- Conservation, promotion, and restoration of the natural environment;
- Integrating an ecosystem services approach and promote healthy living environments through enhanced connection with nature and recreation/amenity.

- Enhancing biodiversity in the joint urban area.
- Assist with water and flood risk management; and,
- Carbon storage or sequestration.


11.12 Sustainable Urban Drainage Systems (SuDS)

Climate change impacts in Carlow-Graigucullen will present challenges for urban drainage, particularly in relation to more frequent rainfall events and incidences of urban (pluvial) flooding. The implementation of SuDS can contribute to offsetting the impacts of climate change and increasing climate resilience. SuDS provide areas within the built environment where the natural processes of rainwater interception, storage and infiltration can take place, offering a more sustainable approach to the management of urban storm water runoff than impermeable surfaces, and conventional underground pipe and storage-based solutions. Unlike conventional drainage systems, SuDS systems can also contribute to green infrastructure, providing additional benefits for recreation and biodiversity. This JULAP supports the positive role SuDS can make for climate change mitigation and adaptation. All new developments (including amendments / extensions to existing developments) will be required to incorporate SuDS as part of the development/design proposals.

Sustainable Urban Drainage Systems (SuDS) – Policy

It is the policy of Carlow County Council and Laois County Council to:

SW. P1: Ensure that all development proposals where viable incorporate Sustainable Urban Drainage Systems (SuDS) and



other nature-based surface water drainage solutions.

11.13 Climate Change Mitigation and Adaptation Provisions in this JULAP

Climate action represents a cross-cutting theme within the wider framework and role of spatial planning. Table 11.2 summarises how policies, objectives, and related provisions in this JULAP contribute to climate change mitigation and adaptation.

TABLE 11.2: INCORPORATION OF CLIMATE CHANGE MITIGATION AND ADAPTATION IN THE JULAP

Chapter	How policies, objectives, and related provisions of this JULAP contribute to climate change mitigation and adaptation.
<p>Chapter 1</p> <p>Plan Review Context</p>	<ul style="list-style-type: none"> ▪ Gives recognition to the role of climate action in spatial planning and as a cross-cutting theme that has informed the preparation of this JULAP. ▪ Identifies the purpose of the JULAP, including the development of Carlow-Graiguecullen in an integrated and coordinated manner with a focus on strategic sites and regeneration areas to support the delivery of compact growth.
<p>Chapter 2</p> <p>Carlow-Graiguecullen Strategic Planning and Vision</p>	<ul style="list-style-type: none"> ▪ Identifies the challenge of urban sprawl in addressing the future development of the joint urban area in a manner that promotes and supports climate action measures, including compact growth, urban regeneration, and town centre living. ▪ Takes account of the role of sustainable modes of travel, including walking, cycling and public transport and existing travel and commuting patterns that could be improved. ▪ Includes climate action as a strategic objective (SO. 6) to transition Carlow-Graiguecullen to a low-carbon and climate resilient urban area.
<p>Chapter 3</p> <p>Core Strategy and Housing</p>	<ul style="list-style-type: none"> ▪ Supports compact growth, including measures that encourage the reuse and refurbishment for residential use of underutilised, vacant, and derelict buildings, reuse of upper floors, and sites within the built-up area of Carlow-Graiguecullen. ▪ Supports the transition of Carlow-Graiguecullen to a low-carbon and climate resilient urban area through the promotion of sustainable development patterns, sustainable and active travel, and sustainable energy use.
<p>Chapter 4</p> <p>Economic Development, Retail and Tourism</p>	<ul style="list-style-type: none"> ▪ Recognises the role of natural capital in the joint urban area, including natural assets such as the River Barrow and Burren River, including their role in providing important ecosystem services which adapt to climate change. ▪ Economic strategy: <ul style="list-style-type: none"> - Supports the implementation of Project Carlow 2040 – A Vision for Regeneration. - Seeks to address vacancy, dereliction and the underutilisation of land and property. - Supports the delivery of the Area Based Transport Assessment (ABTA) to support a shift towards sustainable travel and transport, including public transport, walking and cycling infrastructure, and permeability/connections ▪ Supports economic development by maximising the efficiency of zoned lands. ▪ Encourages and supports the development of strategic employment lands in a comprehensive and sequential manner which uses existing infrastructure effectively and efficiently. ▪ Supports the redevelopment of key town centre retail opportunity sites and associated permeability improvements. ▪ Promotes the revitalisation and reuse of vacant and derelict shop units for retail and other town centre uses.

TABLE 11.2: INCORPORATION OF CLIMATE CHANGE MITIGATION AND ADAPTATION IN THE JULAP

Chapter	How policies, objectives, and related provisions of this JULAP contribute to climate change mitigation and adaptation.
	<ul style="list-style-type: none"> ▪ Seeks to protect the natural and built heritage of the joint urban area, upon which the tourism industry is based.
<p>Chapter 5</p> <p>Urban Design, Town Centre and Regeneration</p>	<ul style="list-style-type: none"> ▪ Provides for the consideration of climate change mitigation and adaptation measures in the design of the built environment. ▪ Seeks to encourage and facilitate the regeneration and reuse of underutilised, vacant, and derelict buildings and sites. ▪ Supports the implementation of Project Carlow 2040 – A Vision for Regeneration, including consolidation of the town centre and compact growth. ▪ Promote active land management to make the most efficient use of lands in urban locations.
<p>Chapter 6</p> <p>Sustainable Travel & Transportation</p>	<ul style="list-style-type: none"> ▪ Aims to support the transition to a lower carbon-based climate resilient and healthy urban environment. ▪ Supports and integrated approach to land use and transportation to promote a low carbon joint urban area. ▪ Seeks to support the Councils’ Active Travel Teams in the promotion and delivery of sustainable and active travel infrastructure in the joint urban area. ▪ Supports the delivery of proposed measures and interventions in the Area Based Transport Assessment (ABTA) to support shift towards sustainable travel and transport. ▪ Seeks to facilitate new and improved walking and cycling networks, including enhanced permeability, connections, and accessibility to key destinations. ▪ Supports the role of public transport in the joint urban area, including the Carlow Town Bus Services and Carlow Railway Station. ▪ Provides for a reduction in car parking requirements for commercial developments in suitable town centre locations to encourage a modal shift away from the private car to more sustainable forms of travel. ▪ Includes flexibility for car parking requirements where appropriate in response to well-designed development proposals that achieve urban infill and brownfield development objectives.
<p>Chapter 7</p> <p>Infrastructure and Environmental Services</p>	<ul style="list-style-type: none"> ▪ Require the use of nature-based solutions and sustainable urban drainage systems (SuDS) in the management of surface water drainage, including an allowance for climate change. ▪ Require flood risk management, including site-specific flood risk assessment, to take account of climate change impacts. ▪ Supports best practice water conservation measures, including the use of rainwater harvesting systems and roof water collection. ▪ Supports protection of existing and potential water resources and their use by humans and wildlife, including rivers, streams, groundwater, and associated habitats and species.

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Chapter	How policies, objectives, and related provisions of this JULAP contribute to climate change mitigation and adaptation.
<p>Chapter 8</p> <p>Sustainable Communities</p>	<ul style="list-style-type: none"> ▪ Recognises the role of the 10-Minute Town in supporting the development of connected communities, with an emphasis reducing car dependency, on active travel, and shorter walking and cycling times to community facilities in the built environment. ▪ Promotes the highest standards of universal access and design for all community, sports, education, and childcare facilities. ▪ Supports the repurposing of existing underutilised buildings for community facilities, including the co-location and shared use of existing such facilities by community groups. ▪ Encourages the siting of social and community facilities in suitable locations, including close to existing such facilities, and close to existing and planned active travel and public transport routes. ▪ Supports the multi-use of education buildings and facilities, and all sports and recreational facilities. ▪ Supports the provision of new and improved walking and cycling infrastructure in the vicinity of schools. ▪ Encourages the provision of childcare facilities as an integral part of proposals for new residential developments. ▪ Supports the provision of healthcare facilities and services that are well location in new and existing communities in terms of accessibility and convenience to walking, cycling and public transport infrastructure. ▪ Seeks to prohibit the loss of existing public and private recreational zoned open space. ▪ Seeks to protect and develop the connected network of existing green spaces in the joint urban area to serve the growing needs of local communities.
<p>Chapter 9</p> <p>Built Heritage</p>	<ul style="list-style-type: none"> ▪ Promote and encourage heritage-led regeneration, including the conservation and sustainable use of historic buildings and sites integral to the history and evolution of Carlow-Graigucullen. ▪ Prevent inappropriate alterations to protected structures, and to prohibit the demolition of any protected structure unless the relevant local authority is satisfied that exceptional circumstances exist. ▪ Preserve and enhance buildings and structures listed in the Records of Protected Structures for Carlow-Graigucullen, and to carefully consider any development proposals that would affect their special interest, both directly and indirectly. ▪ Proactively address dereliction, endangerment, neglect, and vacancy of historic buildings in Carlow-Graigucullen, through the use of relevant statutory provisions and through the promotion of appropriate uses and the sensitive conservation of historic buildings, in conjunction with other relevant initiatives.

TABLE 11.2: INCORPORATION OF CLIMATE CHANGE MITIGATION AND ADAPTATION IN THE JULAP

Chapter	How policies, objectives, and related provisions of this JULAP contribute to climate change mitigation and adaptation.
	<ul style="list-style-type: none"> ▪ Protect and conserve important heritage items such as, gates, street furniture, post boxes and other significant historic features of interest in Carlow-Graiguecullen. ▪ Increase public awareness of the impacts of climate change on built heritage, and support and promote measures to climate proof-built heritage in the joint urban area having regard to the 'Built & Archaeological Heritage, Climate Change Sectoral Adaptation Plan' (Department of Culture Heritage and the Gaeltacht 2019)
<p>Chapter 10</p> <p>Natural Heritage, Green Infrastructure and Landscape</p>	<ul style="list-style-type: none"> ▪ Seeks to protect, conserve, and manage natural heritage in Carlow-Graiguecullen to ensure it contributes to the future sustainable development of the joint urban area. ▪ Recognises and supports the role of natural heritage, biodiversity and landscape as a non-renewable resource and eco-system services asset that can contribute towards sustainable urban drainage, flood management, and climate action. ▪ Supports the conservation and enhancement of the River Barrow and River Nore SAC. ▪ Seeks to protect wildlife habitats and species not otherwise protected by legislation, including woodland, river, wetlands, and grassland areas. ▪ Recognises and supports the role of green infrastructure as a natural asset capable of strengthening climate resilience in Carlow-Graiguecullen.
<p>Chapter 11</p> <p>Climate Action</p>	<ul style="list-style-type: none"> ▪ Outlines the role of spatial planning in addressing the climate change challenge, and the manner in which it can be utilised to support climate action in Carlow-Graiguecullen.
<p>Chapter 12</p> <p>Land Use Zoning Objectives & Implementation</p>	<ul style="list-style-type: none"> ▪ Aims to manage and deliver new development in Carlow-Graiguecullen to ensure that it occurs in an orderly and efficient manner and in accordance with proper planning and sustainable development. ▪ Supports climate action, including the policies, objectives, and related provisions in Chapter 11. ▪ Supports compact growth in Carlow-Graiguecullen by following the sequential approach in the identification of lands for development. ▪ Supports the intensification of development on lands adjacent or close to public transport nodes and corridors and which contribute to the minimisation of trip generation and distribution.