



CHAPTER 4

CLIMATE ACTION





4 CLIMATE ACTION

4.1 Introduction

Climate change refers to the long-term shift in global temperatures and weather patterns. Such changes can be natural but human activity has been the main driver primarily due to the burning of fossil fuels including coal, oil and gas and the subsequent increase in levels of greenhouse gases such as carbon dioxide and methane, into the Earth's atmosphere. The impact of climate change on our environment, society and economy is becoming more frequent and severe. Some of the consequences of climate change are as follows:

- More severe storms and extreme rainfall events;
- A warmer ocean and rising sea levels;
- Higher temperatures and increased drought;
- Adverse impact on native species due to climate extremes; and
- Impact on food supply due to changes in the growing season which may affect crop yields and the availability of fodder to feed livestock.

4.2 Mitigation and Adaptation

Climate change can be addressed by two primary complementary responses namely, mitigation and adaptation:

- Mitigation is a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Mitigation efforts include transitioning to renewable energy sources, improving energy efficiency, adopting sustainable land-use practices, and promoting eco-friendly transportation methods.

These actions are essential for curbing the rate of global warming and minimising its adverse effects.

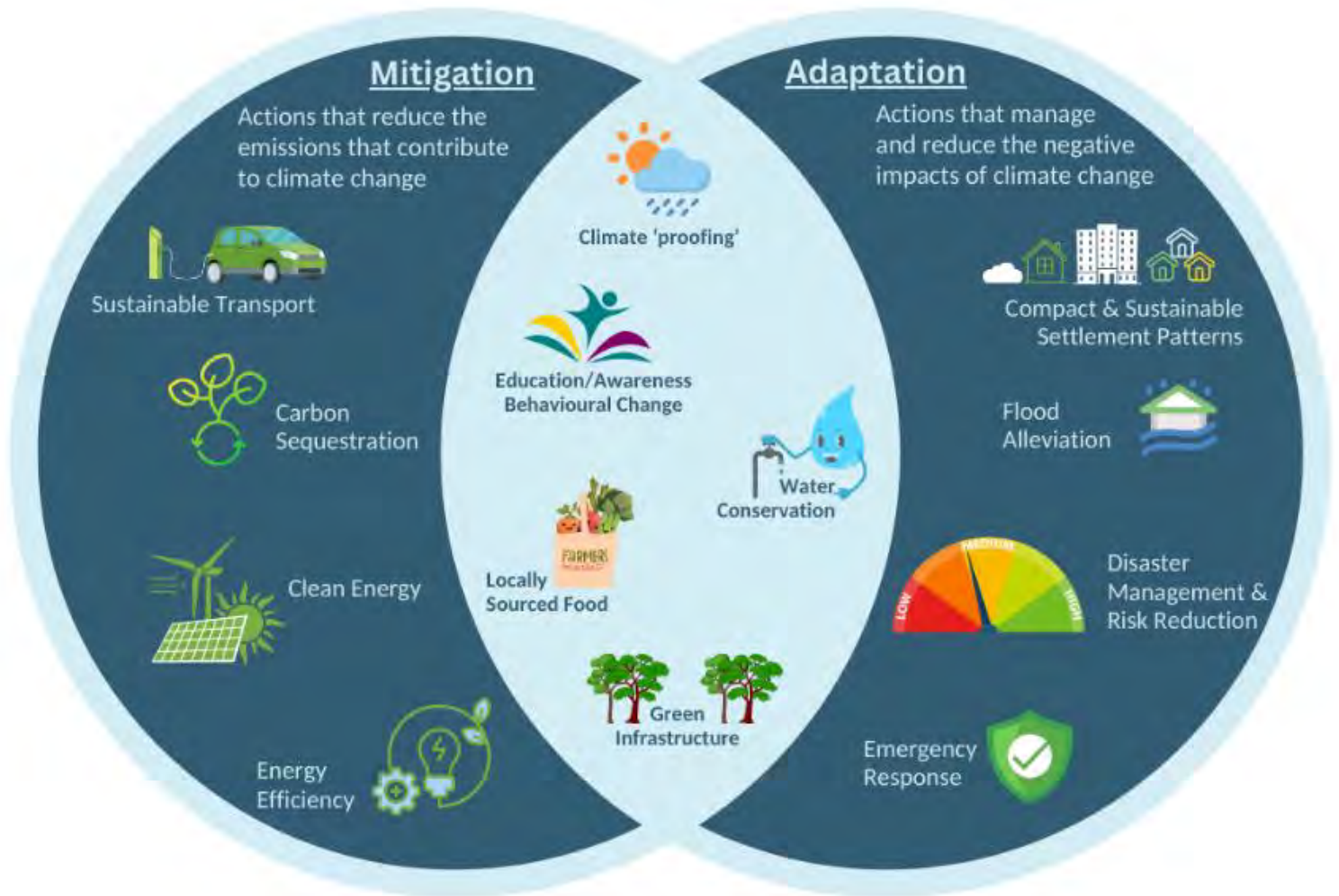
- Adaptation is the process of adjustment to actual or expected climate change and its effects. Adaptation to climate change involves making changes and preparations to minimise the negative impacts of shifting weather patterns, such as developing climate-resilient infrastructure, implementing water management strategies, and promoting sustainable agricultural practices. It also includes raising awareness and educating communities about climate-related risks.

Climate Action is a cross-cutting theme of the Dundalk Local Area Plan, with climate adaptation and mitigation measures firmly embedded within the policy objectives of this document. The Local Area Plan's approach to density, land use, design, movement, green infrastructure, nature-based approaches, and renewable energy will assist in addressing climate change.





Figure 4.1: Climate Mitigation and Adaptation



4.3 Climate Policy

In recent years, a succession of policies and actions have been developed at global, European, national, regional, and local level to address climate change, with an increasing focus on the decarbonisation of society.

Since the adoption of the Louth County Development Plan 2021-2027, various additional policies have been published in relation to climate action, a summary of which is set out in Table 4.1.



Table 4.1: Climate Policy

Level	Policy	Summary
National	Climate Action Plan 2024 (CAP 24)	This is the third annual update to Ireland's Climate Action Plan. It refines and updates the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. CAP 24 provides a roadmap for taking decisive actions to halve Ireland's emissions by 2030 and reach net zero no later than 2050.
National	Draft updated National Energy Climate Plan (NECP's) Dec 2023	National Energy and Climate Plans (NECPs) are the framework within which European Union Member States must plan their climate and energy objectives, targets, policies, and measures to the European Commission. Member States are required to develop NECPs on a ten-year rolling basis, with an update halfway through. This document represents the required update of Ireland's 2019 NECP.
National	National Adaptation Framework 2024	This Framework sets out a whole of government and society approach to climate adaptation in Ireland, taking a sectoral approach which aims to improve the enabling environment for adaptation through on-going engagement with key sectors and local government, along with civil society, the private sector, and the research community.
National	National Sustainability Policy	The National Sustainable Mobility Policy sets out a strategic framework to 2030 for active travel (walking and cycling) and public transport journeys to help Ireland meet its climate obligations. It is accompanied by an action plan to 2025 which contains actions to improve and expand sustainable mobility options across the country by providing safe, green, accessible and efficient alternatives to car journeys.
National	Bio-economy Action Plan 2023-2025	Increase governance and awareness and understanding of the bio-economy as a powerful climate action tool.
Local	Louth County Council Climate Action Plan 2024-2029 (Louth CAP)	It also includes demand management and behavioural change measures to manage daily travel demand more efficiently and to reduce the journeys taken by private car.



4.4 Louth Climate Action Plan 2024 - 2029

The Louth Climate Action Plan (Louth CAP) sets out how Louth County Council can promote a range of mitigation, adaptation, and other climate action measures, to achieve net zero emissions no later than 2050.

Louth CAP outlines the national and local impacts of climate change, including extreme weather events. A full baseline emissions inventory was calculated for 2018 identifying a breakdown of greenhouse gas emissions in tonnes of Carbon Dioxide equivalent (tCO₂) for residential, social housing, commercial, industrial transport, agriculture, local authority, municipal and waste/wastewater sectors.

The baseline inventory revealed that the agricultural sector has the highest emissions at 29% (317,479 tCO₂) and the residential sector is the second largest emitting sector at 21% (234,189 tCO₂).

The Louth CAP details the impact of projected future climate changes for Louth for the period 2041-2060, which include increase in heat waves and droughts, decrease in cold spells and heavy snowfall, increase in coastal flooding and erosion, as well as an increase in surface water and groundwater flooding.

A total of 79 county wide actions are identified which will accelerate local climate action with the ambition of achieving the national climate neutrality objective.



4.4.1 Dundalk/Blackrock Decarbonising Zone

As part of the Louth CAP, the Dundalk Blackrock Decarbonising Zone has been established. The extent of the Decarbonising Zone matches the settlement boundary of Dundalk as set out in this Plan.

A baseline emissions inventory for the Dundalk Blackrock Decarbonising Zone was undertaken; industry had the largest share of emissions at 44%, with transport second at 24%. A total of 16 specific actions are cited to facilitate a reduction in baseline emissions for the various sectors within the Decarbonising Zone.

4.4.2 Dundalk and Climate Change

A continued dependence on fossil fuels and the subsequent emission of greenhouse gases including carbon dioxide will result in more extreme weather patterns and climate events.

The projected changes in climate for Louth outlined in the Louth CAP include a decrease in snow fall and cold spells accompanied by an increase in heatwaves, drought, and all types of flooding – i.e. coastal, river, surface, and ground water.

Given Dundalk's coastal location, intense weather events and the consequent mean rise in sea level will bring significant challenges in terms of flood risk. A larger extent of the town is likely to be under water for a longer period (current flood maps are included on the Zoning and Flood Zones Map in Volume 2 and in the Strategic Flood Risk Assessment in Volume 4) which may result in damage to property and infrastructure and could cause risk to human life, as well as having a negative impact on human health and the environment.



4.5 Dundalk Climate Mitigation and Adaptation Measures

This Plan will continue to support and promote climate mitigation and adaptation measures which will assist Dundalk to adapt and become resilient to the effects of climate change. These measures are listed below.

4.5.1 Compact Growth

In accordance with national and regional policy, the development strategy of this Plan will seek to deliver a more compact pattern of development, with a strong emphasis placed on the redevelopment of infill and brownfield lands close to existing and proposed social and education amenities, employment opportunities and public transport facilities.

This pattern of development will assist in the transition to a low carbon, climate resilient settlement.

4.5.2 Sustainable Transport

The Council will continue to support the modal shift from private car usage towards more sustainable means of transport and will liaise with key stakeholders and agencies to facilitate and support the development of sustainable transport networks in Dundalk.



The Dundalk Local Transport Plan (Appendix 2 of this Plan) includes a series of objectives and recommendations seeking to facilitate a modal shift towards more sustainable modes of transport.

This includes improving permeability throughout the town and investment in active travel and public transport infrastructure and facilities.

4.5.3 Electric Vehicles

This Plan is also committed to supporting the transition towards low emission and electric vehicles.

There are currently a number of EV charging points in the town including a rapid electric vehicle charger at Dundalk Tennis Club and at Clarke Station that were delivered as part of the FASTER Project under the INTERREG VA programme.

This Plan will support the expansion of the EV Charging Network in Dundalk in accordance with the recommendations set out in the National EV Charging Strategy and the Regional and Local EV Charging Network Plan (when adopted) and the Louth County Council EV Charging Infrastructure and Implementation Plans once completed. These strategies alongside the requirements as recommended in the County Development Plan or any more up to date national guidance will inform the number of charging points required as part of any development proposals in Dundalk. It is noted that the building regulations together with the EU Energy Performance of Buildings Directive require Electric Vehicle (EV) charging infrastructure to be installed in new homes to enable future installation of EV charging points.

4.5.4 Renewable Energy

The Local Area Plan will support the transition away from a reliance on fossil fuels and continued movement towards renewable and low carbon energy technologies such as wind and solar energy, heat pumps, bio energy, district heating and hydro energy.



In the context of Dundalk, subject to compliance with relevant planning criteria such as residential amenity, support will be given to the progression and delivery of small, medium, and large-scale renewable energy projects, that will contribute to the overall goal of reducing carbon emissions.

Within a built-up area like Dundalk, solar energy such as photovoltaic panels and solar thermal panels can play an important role in reducing carbon emissions. These can be installed in new developments or retrofitted onto existing buildings.

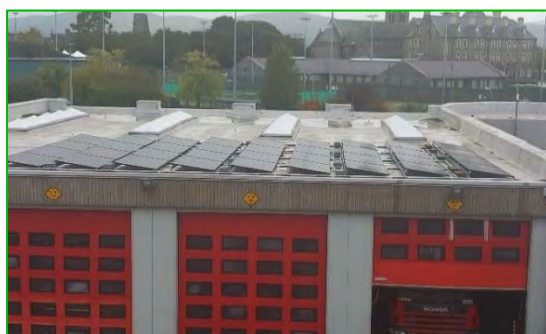
Wind Turbine - DkIT



Solar Panel Installation - County Hall



Solar Panel installation - Dundalk Fire Station



Wind energy is a renewable source which can be harnessed in an urban setting. In Dundalk there is an existing wind turbine installation at the DkIT campus and an application for a 3-megawatt wind turbine was granted in Q1 2025 at the Science and Technology Park. Works had not commenced at the time of writing.

District heating has the potential to be an efficient and cost-effective way to heat apartments, homes, and mixed-use developments. District heating networks can be based on a variety of technologies and renewable energy sources including electricity generated from waste. A gas district heating system is presently in place at Carlinn Hall which serves 178 homes. SEAI carried out a study¹ of communal heating systems including Carlinn Hall.

Overall, the study found that there should be appropriate regulatory and legal framework for pricing of gas; the gas used in communal systems is charged at the higher commercial rate rather than domestic rate.

In terms of Carlinn Hall, and communal heating systems more widely, the key findings are outlined below:

- A maintenance plan should be in place for pipework, hot water system and interface units.
- Existing gas boilers should be replaced with low carbon alternatives such as ground source heat pump or a biomass boiler.
- There should be financial supports for network performance upgrades, support for upfront and operating costs, and contract periods for system operators should be extended.

The potential of utilising district heating systems will be examined as part of the implementation of the Louth Climate Action Plan.

¹ [SEAI Publishes Communal Heating System Study | News and Media | SEAI](#)



4.5.5 Energy Efficient Buildings

Energy efficient buildings have minimal energy consumption and wastage, as such they have the potential to reduce carbon emissions as well as running costs. This Plan actively encourages new buildings to be designed and orientated with regard to passive solar gain.

It also supports the construction of new buildings and retrofitting existing buildings which utilise low energy building materials and advanced energy efficient materials such as high-performance insulation and windows.

With regard to residential properties, the Government have published the 'National Residential Retrofit Plan', which includes targets to retrofit 500,000 homes to a Building Energy Rating of B2 or equivalent and to install 400,000 heating pumps to replace older, less efficient heating systems by the end of 2030.

When possible renewable energy technologies should be integrated into the existing or proposed design to facilitate the creation of a 'net zero' property.

Whilst installation of energy efficient measures and renewable technologies into existing buildings is encouraged, careful consideration must be given to the energy efficiency upgrading of historic and traditional buildings to avoid unintended and potentially damaging consequences to the performance of the building fabric and the long-term viability of historic and traditional building stock.

4.5.6 Flood Resilience and Water

Climate change is resulting in more prolonged periods of heavy rainfall and a subsequent increase in the number of flood events. It is projected that as temperatures continue to increase there will be a rise in sea levels, high tides, and storm surges that will result in coastal flooding. Given Dundalk's coastal location the implementation of flood mitigation measures are of paramount importance.

The Office of Public Works (OPW) and Louth County Council are currently progressing the Dundalk/Blackrock Flood Relief Scheme.

Chapter 9 of this Plan 'Infrastructure' sets out the specific policy objectives in relation to flooding and surface water management. A Strategic Flood Risk Assessment was carried out as part of the preparation of this Plan and is set out in Volume 4.

4.5.7 Green Infrastructure and Nature Based Solutions

Within Dundalk there is an existing interconnected and multifunctional network of green infrastructure which contributes toward reducing flood risk and act as 'carbon sinks'.

The provision and enhancement of nature-based approaches for surface water management such as urban gardens, green spaces, green roofs and bioswales provide a natural mechanism for dealing with surface water. This approach also accommodates temporary and permanent water storage and can also filter out pollutants. The natural assets such as trees and hedgerow together with green spaces also absorb carbon from the atmosphere.

Green Infrastructure can assist Dundalk to adapt and become resilient to the effects of climate change while also playing a role in climate mitigation.

Chapter 10 of this Plan includes out a Green Infrastructure Strategy for Dundalk and identifies features of interest and the potential for green infrastructure enhancement.



4.5.8 Education

Education can help people understand and address the impacts of climate change. It can also encourage people to change their attitudes and behaviour. The presence of Dundalk Institute of Technology (DkIT) in the town provides an opportunity for businesses to collaborate with a third-level facility in developing new technologies and innovations that will assist in reducing emissions and transitioning towards renewable energy and technologies.

DkIT Credit Technology Gateway, in partnership with Enterprise Ireland, provides technological expertise in the areas of renewables and energy optimisation.



4.5.9 Policy Objectives

Climate Action is one of the key cross cutting themes throughout this Plan. The various policy objectives within each chapter take due consideration of climate mitigation and adaptation.

CA 1

To support the implementation of the Climate Action Plan 2024, the National Energy Climate Plan and the Louth Climate Action Plan 2024-2029 and other relevant policy and legislation or subsequent publications.

CA 2

To reduce carbon emissions and create a climate resilient town by prioritising measures to address climate change by way of both effective mitigation and adaptation responses in accordance with available guidance and best practice.

CA 3

To promote awareness of climate change and to work in partnership with other bodies to ensure best practice with regard to use of renewable energy technologies.

CA 4

To support the implementation of the Dundalk Blackrock Decarbonisation Zone through the delivery of the 16 actions contained within the Louth Climate Action Plan 2024-2029.

CA 5

To encourage the construction of new and retrofitting of existing buildings to improve energy efficiency and to support the implementation of '*National Residential Retrofit Plan*', and any subsequent plan.