

# Dún Laoghaire-Rathdown County Council

## CLIMATE ACTION PLAN

### 2024-2029





This Plan has been prepared by Dún Laoghaire-Rathdown County Council in partnership with the other Dublin local authorities (Dublin City Council, Fingal County Council, South Dublin County Council), Dublin Metropolitan Climate Action Regional Office (CARO) and Codema - Dublin's Energy Agency.

The Climate Action Regional Offices (CAROs) were established by Government in 2018 to mandate and co-ordinate engagement across the varying levels of government and help build on experience and expertise in the area of climate action. The four regional CARO offices drive climate action at both regional and local levels, working with Local Authorities in their area.

Codema provides a wide range of energy and climate mitigation services to the four Dublin local authorities and other stakeholders in the region, supporting each local authority in leading and influencing the low-carbon transition. Codema's mission is to accelerate Dublin's low-carbon transition towards 2030 and 2050 through innovative, local-level energy and climate change research, planning, engagement and project delivery, in order to mitigate the effects of climate change and improve the lives of citizens.

*Cover image of housing courtesy of Conor Lally*



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# FOREWORD

**As climate action is one of my priorities as Cathaoirleach, I am delighted to present this Dún Laoghaire-Rathdown Climate Action Plan 2024-2029, which sets out to actively inform and engage the residents, workers and visitors to our County, through a range of innovative programmes and partnerships on how to take action against climate change.**

Climate Change has no boundaries; we must come together with stakeholders in our County and surrounding local authorities to collaborate on our approach to climate change that is inclusive, meaningful and accessible for all. The four Dublin Local Authorities - Dún Laoghaire-Rathdown County Council (dlr), Fingal County Council, Dublin City Council and South Dublin County Council have developed their Climate Action Plans in collaboration with Codema, Dublin's Energy Agency and the Dublin Metropolitan Climate Action Regional Office (CARO). dlr has also consulted with Wicklow County dlr and other state agencies, in respect to protecting critical infrastructure that is at risk from climate impacts, such as collaborating with Irish Rail on the impact of coastal erosion affecting the provision of DART services.

Effectively engaging with communities, businesses and other sectors about climate action provides opportunities to enable a positive behavioural shift to climate change. This, in turn can have a significant impact on reducing both greenhouse gas emissions and the impacts of climate change to 2030, 2050 and beyond. To acknowledge that communities give a unique insight into the impacts of climate change at a local level, a new chapter in this iteration of the Climate Action Plan titled 'Community Engagement', sets out a series of actions to strengthen the partnership between dlr and the different communities across our County.

To further support community group's efforts in tackling climate action, I'm delighted to welcome Strand 1 of the Community Climate Action Fund to dlr. This fund will facilitate community climate action projects under the themes of energy, travel, food and waste, shopping and recycling and local climate and environmental action.

Climate Change is the defining political, economic, technical and social challenge of our time. dlr will lead in the effort to tackle this challenge collaborating at a national level and working locally within the county to deliver real and lasting impacts.



**Message from An Cathaoirleach,  
Councillor Denis O'Callaghan**

A handwritten signature in black ink that reads "Denis O'Callaghan".

**The Dún Laoghaire-Rathdown County Council Climate Action Plan 2024-2029 is aligned with the national Climate Action Plan 2023, the United Nations (UN) Sustainable Development Goals, the Corporate Goals set out in the Dún Laoghaire-Rathdown County Council 'Corporate Plan 2020 – 2024' and the unique character of the County.**

This forward-thinking Plan focuses on key cross cutting and interrelated themes which provide a framework to deliver the transition towards a more climate resilient County. These are Energy Efficient Buildings/Renewable Energy, Decarbonised Motorised Transport, Nature Based Solutions, Flood Resilience, Circular Economy and Community Engagement. Each of these themes has associated actions, the implementation of which will be continually monitored and reported on annually by a dedicated climate action team working across all dlr Departments.

As we know, climate change is one of the greatest global and local challenges of our time. In line with global trends, the climate of Ireland and Dún Laoghaire-Rathdown County is changing. Temperatures are increasing, sea levels are rising, and patterns of precipitation are changing. These changes are projected to continue and intensify with a wide range of impacts for the county. Therefore, it is essential that our greenhouse gas emissions are cut to meet our climate commitments at a local, national and EU level. Making this happen depends on the co-operation of a wide range of stakeholders and involves significant behavioural changes.

Key elements of dlr's climate action strategy are buying electric vehicles where possible or, alternatively, vehicles powered by biodiesel, all street lighting being efficient, and maintaining its ISO 50001 standard for energy efficiency. dlr also promotes a Digital First approach to delivering its services, putting as much of its business and application processes online as possible and providing opportunities for our employees to undertake blended working to improve their quality of life and reduce dlr's travel related climate impacts. In addition, the Decarbonising Zone of Dún Laoghaire and Blackrock will be used to demonstrate how emission reductions can be realised in a targeted way. The lessons learned here will be used by businesses, the public sector, residents and visitors across our County to collectively

combat the impacts of climate change on our coastline and communities, and improve the quality of life for all. This will be underpinned by strategic County outcomes centred around the ten-minute neighbourhood concept which aims to ensure that people can walk, cycle, or use public transport to access their day-to-day needs and services such as schools, shops, parks and employment.

Finally, I would like to express my gratitude to the elected members, interested groups, statutory bodies, and staff who have actively contributed and informed the development of this Plan.



**Message from Chief Executive,  
Frank Curran**

A handwritten signature in blue ink, appearing to read 'F. Curran'.

# EXECUTIVE SUMMARY

Dún Laoghaire-Rathdown County Council (dlr) has prepared this Climate Action Plan 2024-2029 to address the current and future impacts of climate change on its residents, visitors, businesses, workers and the County as a whole. The plan features a range of actions across six thematic areas: Energy and Buildings, Transport, Flood Resilience, Nature-Based Solutions, Circular Economy and Resource Management and Community Engagement. The actions in these themes collectively address the four targets of this plan:

- 50% improvement in dlr's energy efficiency by 2030
- 51% reduction in dlr's greenhouse gas emissions by 2030
- To make Dublin a climate resilient region, by reducing the impacts of future climate change-related events, and
- To actively engage and inform our communities on climate action.

For dlr to achieve these targets, this Climate Action Plan is underpinned by a robust evidence base allowing for integrated local level climate action and consequently, stronger place-based climate actions. The evidence base includes:

- Exploring the broader policy context of the Climate Action Plan (Chapter 1)
- Assessing climate change risks and impacts (Chapter 3)
- Developing a county wide emissions profile (Chapter 4)
- Developing a emissions profile for the Decarbonising Zone (DZ) (Chapter 6)

dlr has completed a comprehensive Climate Change Risk Assessment which has identified that the effects of climate change are already impacting the County. These impacts are very likely to increase in their frequency and intensity.

Dublin Bay's Sea level appears to be rising faster than initially forecasted and has risen by twice the global average in the last 20 years.

Both coastal erosion and flooding have been observed in recent years which has the potential to undermine critical infrastructure.

The County has also experienced extreme temperatures, as witnessed in 2018, with Met Éireann issuing its first ever Status Red warning for snow in February, followed by one of the hottest summers on record during June and July.

The number of days with heavy rainfall has also increased, and the amount of extreme flooding events in the capital has risen in the last 15 years. This heavy rainfall, resulting in flooding, damages both our infrastructure and our community due to businesses being forced to close.

All these extreme weather events clearly highlight the need to reduce the impacts that climate change is having on the environment, the economy and the residents of our County.



The emissions profile calculates the greenhouse gas emissions for dlr's own activities and for the entire Dún Laoghaire-Rathdown area (including a breakdown of the residential, transport, and commercial sectors). It found that dlr produced 6,869 tonnes of Carbon Dioxide (tCO<sub>2</sub>) in 2021. Overall emissions have reduced by 38% since the 2016 - 2018 baseline, this is mainly due to reductions from electricity sources, but non-electricity related emissions still have reduced by 16% since the baseline was established.

The actions in this plan have been developed to close the gap between the current baselines and the stated targets. These actions have many co-benefits, such as improved health through cleaner air and active travel, a better environment through habitat protection, and a stronger economy from new markets and job opportunities. However, given that dlr's buildings and operations account for just over 1.5% of the total emissions in the Dún Laoghaire-Rathdown area, there is a pressing need to collaborate to tackle the remaining 98.5% of emissions produced county-wide. In recognising this challenge, dlr will work with key stakeholders to influence and support carbon reduction initiatives across the County's transport, commercial and residential sectors.

In addition, as public awareness and engagement is key to tackling both climate adaptation and mitigation, dlr commits through this plan to support its communities to act on climate change through a range of awareness

and behavioural change actions listed in the community engagement table of actions.

In 2022, dlr selected the Dún Laoghaire and Blackrock area as its Decarbonising Zone in which to develop a place-based and systems-thinking approach to identify pathways that support the implementation of effective climate action measures. The aim is to replicate learnings from this locally tailored collaborative approach to effectively decarbonise the entire County.

This Climate Action Plan has been developed in association with Dublin's energy agency Codema and the neighbouring local authorities following an extensive process of research, policy analysis, one-to-one meetings and workshops with elected members, staff and regional working groups. It has been prepared in accordance with the Local Authority Climate Action Plan Guidelines and associated technical annexes published in March 2023.

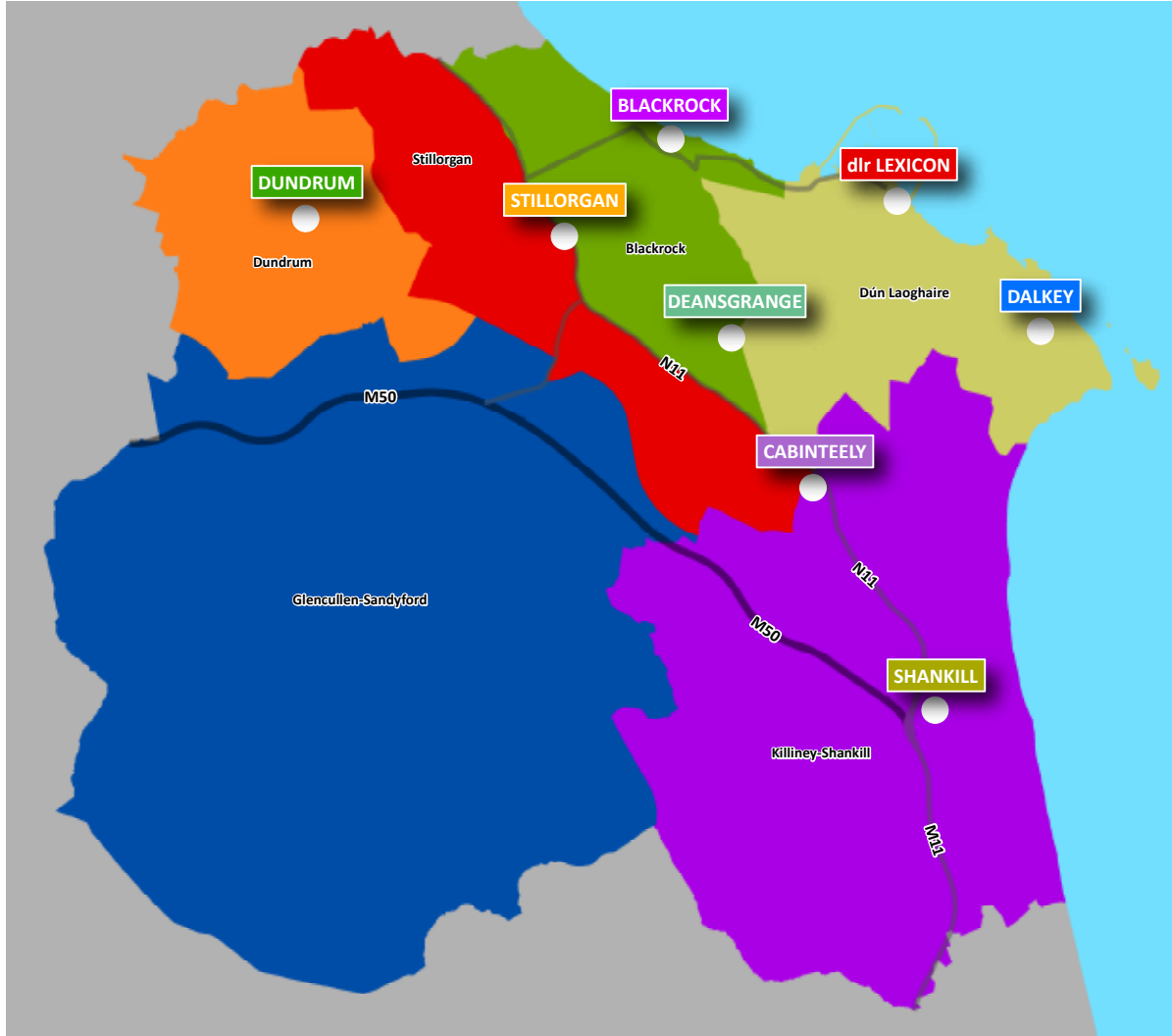
The actions in this plan will be continually monitored and updated by a dedicated climate action team working across all dlr departments. They will be assisted by the Dublin Metropolitan Climate Action Regional Office, which will ensure that the Plan is fully updated every five years to reflect latest policy, technology and climate-related impacts.



# OVERVIEW OF DÚN LAOGHAIRE-RATHDOWN

## MAIN RIVERS

- LOUGHLINSTOWN
- SHANGANAGH
- CARRICKMINES
- DODDER



Dún-Laoghaire Rathdown Electoral Areas and Libraries



Libraries: **8**



Community Centres: **28**



Schools: **107**



Regional Parks: **Over 1000 hectares Parks / Green Spaces.**



POPULATION  
**233,860**



**85,110**  
HOUSEHOLDS



**17 km**  
OF COASTLINE



## MAIN RISK AREAS:

FLOODING

EXTREME WEATHER EVENTS such as storms, cold spells, heat waves

SEA LEVEL RISE





# VISION

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*‘A climate resilient county with an ambition to be carbon neutral by 2050.’*

# MISSION

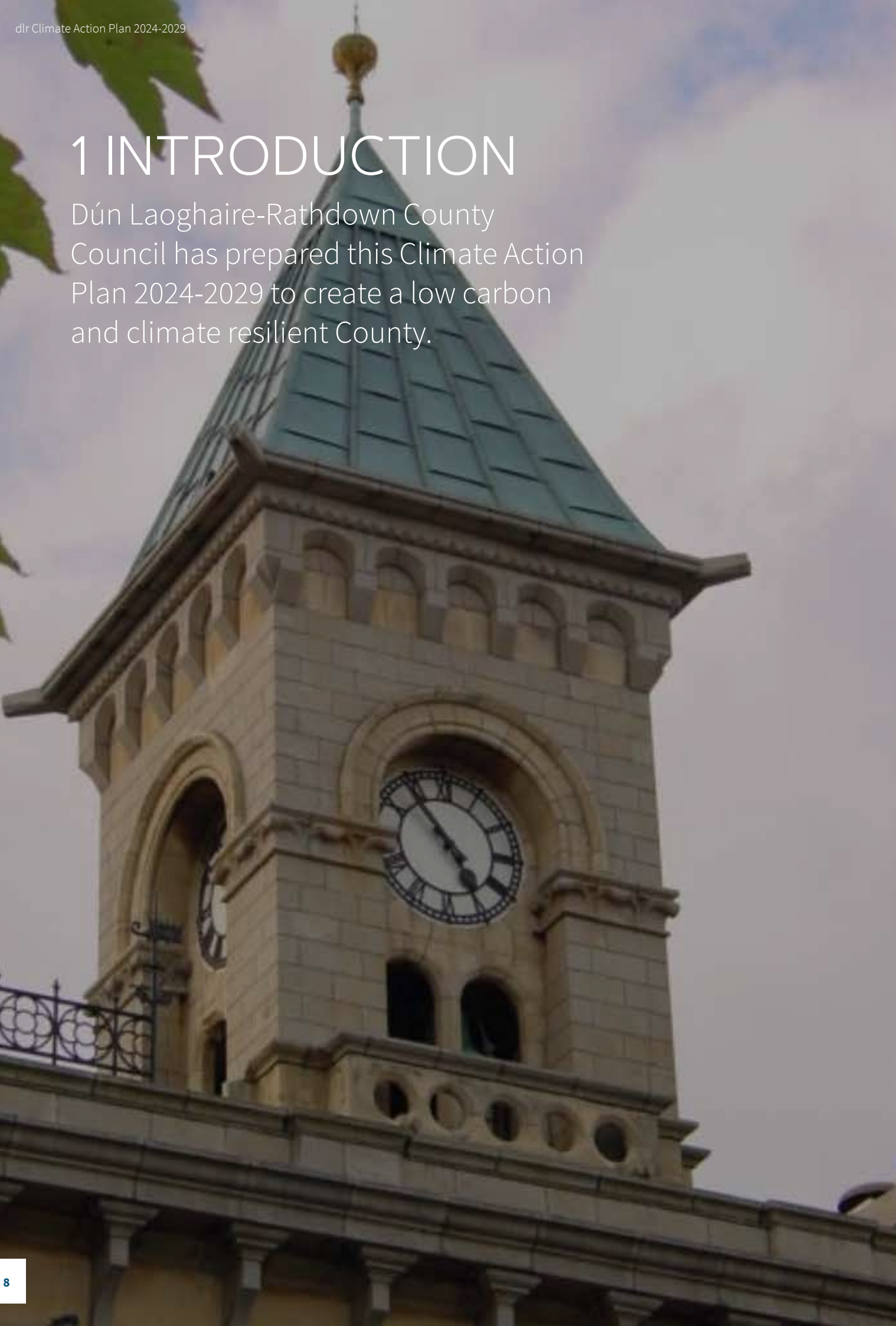
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*‘To deliver measurable climate actions across our County and within dlr through leadership, example and mobilising action at local level.’*



# 1 INTRODUCTION

Dún Laoghaire-Rathdown County Council has prepared this Climate Action Plan 2024-2029 to create a low carbon and climate resilient County.



## OVERVIEW OF CLIMATE CHANGE

Climate change is increasingly understood to be the most critical, long-term global challenge of our time, with its impacts felt both worldwide and at home. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) Working Group I, confirms there is overwhelming evidence that the Earth's climate has changed since the pre-industrial era (roughly 1850-1900) with human activities, specifically the release of greenhouse gases into the atmosphere, the principal cause of that change<sup>1</sup>.

This human-induced global warming has caused the average global surface temperatures to increase by 1.1°C in the period from 2011 to 2020, when compared to the average temperatures of the pre-industrial era. Ireland's climate echoes the global situation.



### WHY IS A 1.1 °C INCREASE IMPORTANT TO OUR CLIMATE?

While weather is what we experience over a short period of time, for example days and hours, climate is the average pattern of weather you might expect for a particular location, observed over decades. A change of 1.1 °C is significant because it takes a huge amount of warming to change this pattern.

The global average temperature has increased by 1.1 °C, with warming over land faster than the oceans and some regions warming faster than others. An increase of 1.1 °C is impacting all life on earth in multiple ways.

## UNDERSTANDING GREENHOUSE GAS EMISSIONS

The systems that we interact with everyday, our homes and buildings, the electricity network, our modes of transport, our food and waste systems, and the systems that produce the goods and services that we buy have all been built on practices that release greenhouse gas (GHG) emissions when we use them.

Greenhouse gases - carbon dioxide, methane, nitrous oxide, and fluorinated gases - are invisible gases that, when released into our atmosphere, trap heat that is escaping from our planet into space, acting like an extra layer of clothing or a blanket. This has warmed our planet by 1.1°C since 1850-1900.

### HOW ARE GREENHOUSE GASES REMOVED FROM THE ATMOSPHERE?

However, human activity has put far more greenhouse gases into the atmosphere than is capable of being absorbed naturally. The key greenhouse gases all have natural cycles, meaning they are capable of being naturally absorbed every year by various 'sinks' such as the oceans, soils, trees, vegetation, and wetlands/bogs.

Figure 1.1 compares Ireland's temperature to the global temperature rise since 1900. Ireland is in line with the global temperature increases with 2022 being a year of record-breaking extremes in both temperature and precipitation. Met Éireann confirmed that 2022 was warmest year on record in Ireland. This would see Ireland's temperature being above the long-term average for the twelfth consecutive year. Furthermore, 2022 saw record breaking temperatures observed in Ireland during the summer, with the second highest temperature ever recorded in Ireland at 33°C in the Phoenix Park in Dublin<sup>2</sup>.

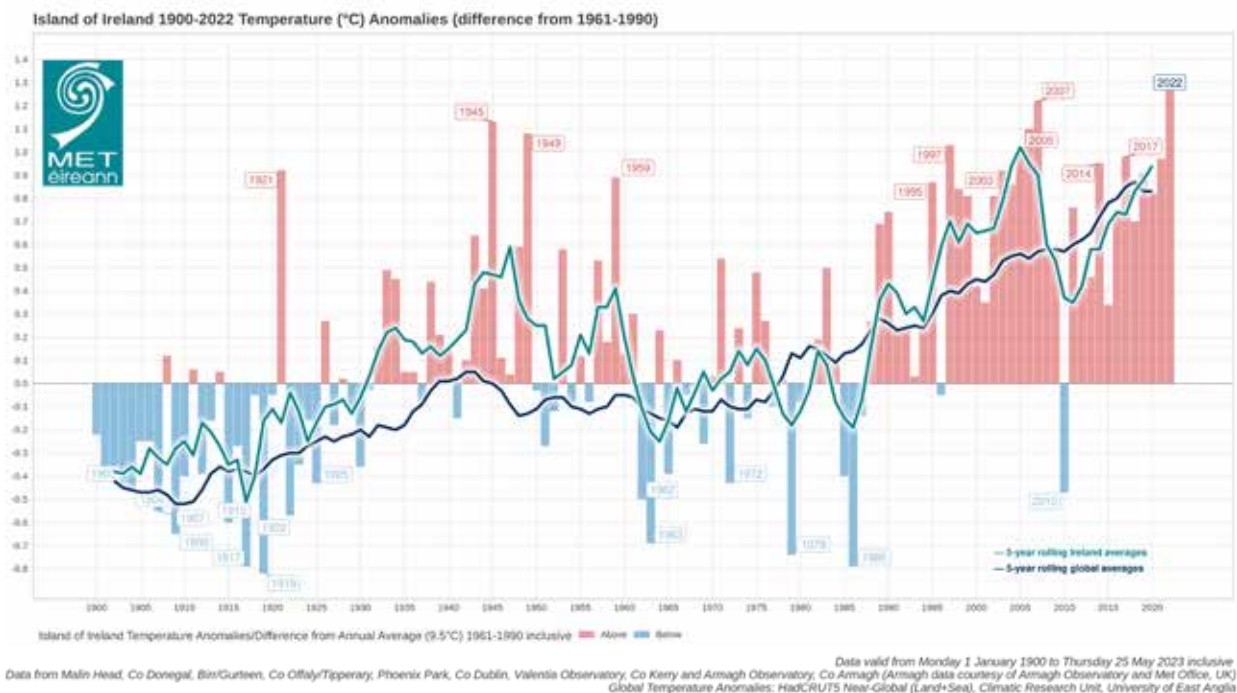


Figure 1.1: Island of Ireland 1900-2022 Temperature (°C) Anomalies (difference from 1961-1990) (Source: Met Éireann<sup>2</sup>)

Our changing climate is impacting on rainfall with most stations in 2022 recording rainfall below the long-term average. Rainfall was inconsistent throughout 2022, with extreme variations experienced in each season, resulting in a drier Summer and Spring, while Autumn and Winter were relatively wetter.

A warming climate is also causing a rise in sea level through the loss of sea ice and thermal expansion (the increase in the volume of water due to heating) resulting from the warming ocean. Global mean sea level has been consistently rising since 1901, with a 20cm increase between 1901 and 2018. Ireland has so far seen a similar rise in sea level with an average of two to three millimetres per year.

Ireland has suffered from adverse climate impacts already. Recent extreme weather events have highlighted the vulnerability of infrastructure, individuals, communities, and business sectors (such as agriculture, tourism and transport) to climate change. These events emphasise the need for urgency on climate action across society.

The adverse impacts of climate change can often compound wider reaching social, environmental and economic challenges. This can increase vulnerability and sensitivity to a changing climate and climate extremes.

Based on observed changes in climate and its impacts, Met Éireann and the Environmental Protection Agency (EPA) are able to make robust projections on future climate patterns in Ireland and globally. The EPA, Marine Institute and Met Éireann published The Status of Ireland's Climate Report<sup>3</sup> in July 2021. Its projections indicate that the climate trends observed over the last century will continue and intensify over the coming decades.

Future climate projections for Ireland are summarised in Figure 1.2. For more detailed projections for dlr please refer to Chapter 4 – Evidence Based Climate Action – in this Plan.

The state of Ireland’s climate today and how it may look in the future can be brought together in one simple conclusion. Ireland’s climate has changed relative to the 1900’s. It has undoubtedly warmed along with global temperatures bringing about an array of impacts that are associated with a warmer climate and more extreme weather events.

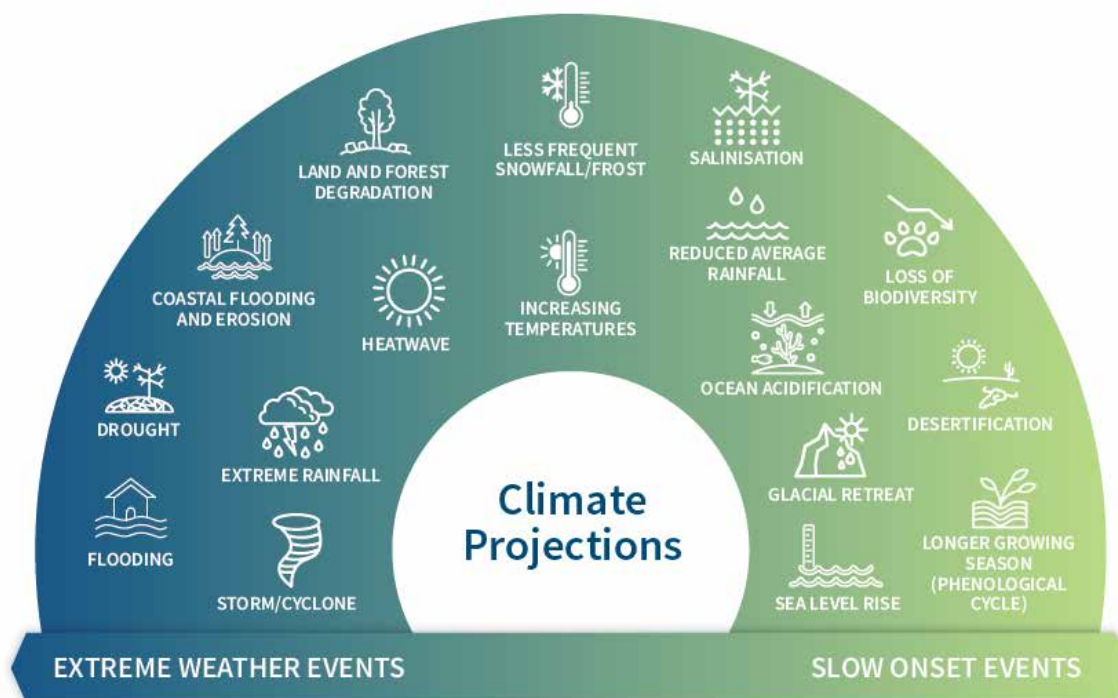


Figure 1.2: Future Possible Climate Projections for Ireland (Source: Based on: ©GIZ/Global Programme on Risk Assessment and Management for Adaptation to Climate Change (Loss and Damage))

## ABOUT THIS PLAN

In developing this Plan, Dún Laoghaire-Rathdown County Council (dlr) has set out its overarching Vision for the County to be

**‘A climate resilient county with an ambition to be carbon neutral by 2050.’**

To help realise this Vision dlr has developed a Mission

**‘To deliver measurable climate actions across the County and within the Council through leadership, example and mobilising action at local level’**

This Plan is aligned to the Government’s overall National Climate Objective to transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy no later than the end of 2050 as set out in the Climate Action and Low Carbon Development (Amendment) Act 2021<sup>4</sup>. This Act also frames Ireland’s legally binding climate ambition to deliver a reduction in greenhouse gas emissions of 51% by 2030 which will place the country on a trajectory to achieving climate neutrality by the end of 2050.

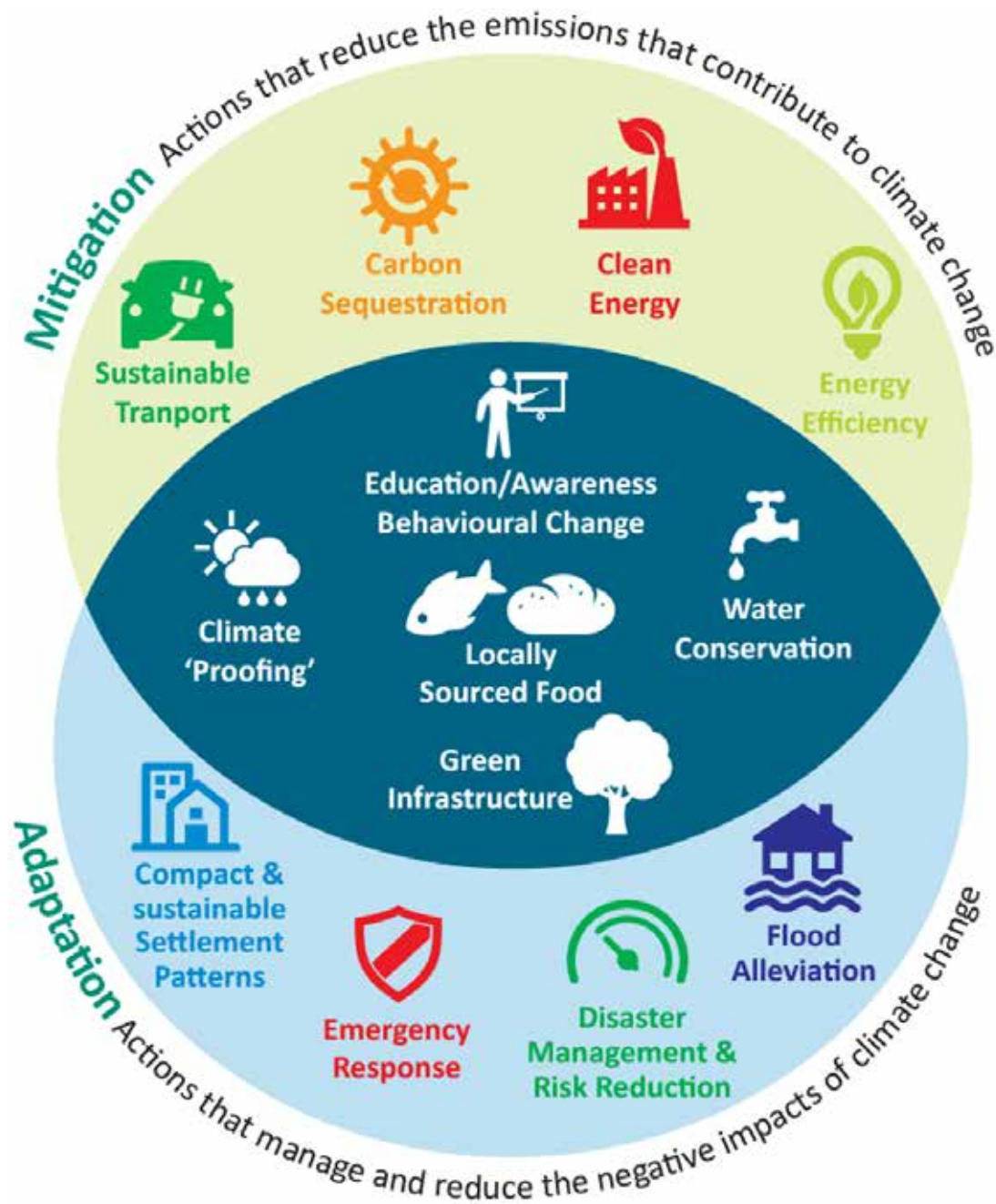


Figure 1.3 Climate Action: Mitigation and Adaptation (Source: dIreland County Development Plan 2022 -2028)

The Act specifically requires all local authorities in Ireland to prepare and make a Climate Action Plan related to a period of five years and addressing both mitigation and adaptation measures:

- **Climate Change Mitigation** relates to changing how we live, move, consume, and manufacture, to reduce and/or eliminate the production of harmful greenhouse gases. It also includes how we best use our land; and
- **Climate Change Adaptation** refers to dealing with the impacts of climate change and involves taking practical actions to manage risks, protect communities and strengthen the resilience of the economy (e.g., from flooding, sea level rise, etc).

Local authorities are required to adopt their Climate Action Plan by 23rd February 2024. Local Authority Climate Action Plans, in so far as is practicable, are to be consistent with the most recently approved national Climate Action Plan and National Adaptation Framework. They are also to have regard for the most recently approved Long Term Climate Action Strategy, Sectoral Adaptation Plans and any policies of the Minister or the Government on Climate Change.

## CLIMATE POLICY CONTEXT

Climate action is given impetus by the scientific evidence that supports the findings of human influence on climate change. The most recent legally binding international treaty on climate change sets the framework for ambitious and strengthened policy responses - the Paris Agreement 2015. Consequently, this Climate Action Plan is set within a broader context of international, European Union (EU), national and sectoral climate policy. This is represented in Figure 1.4.

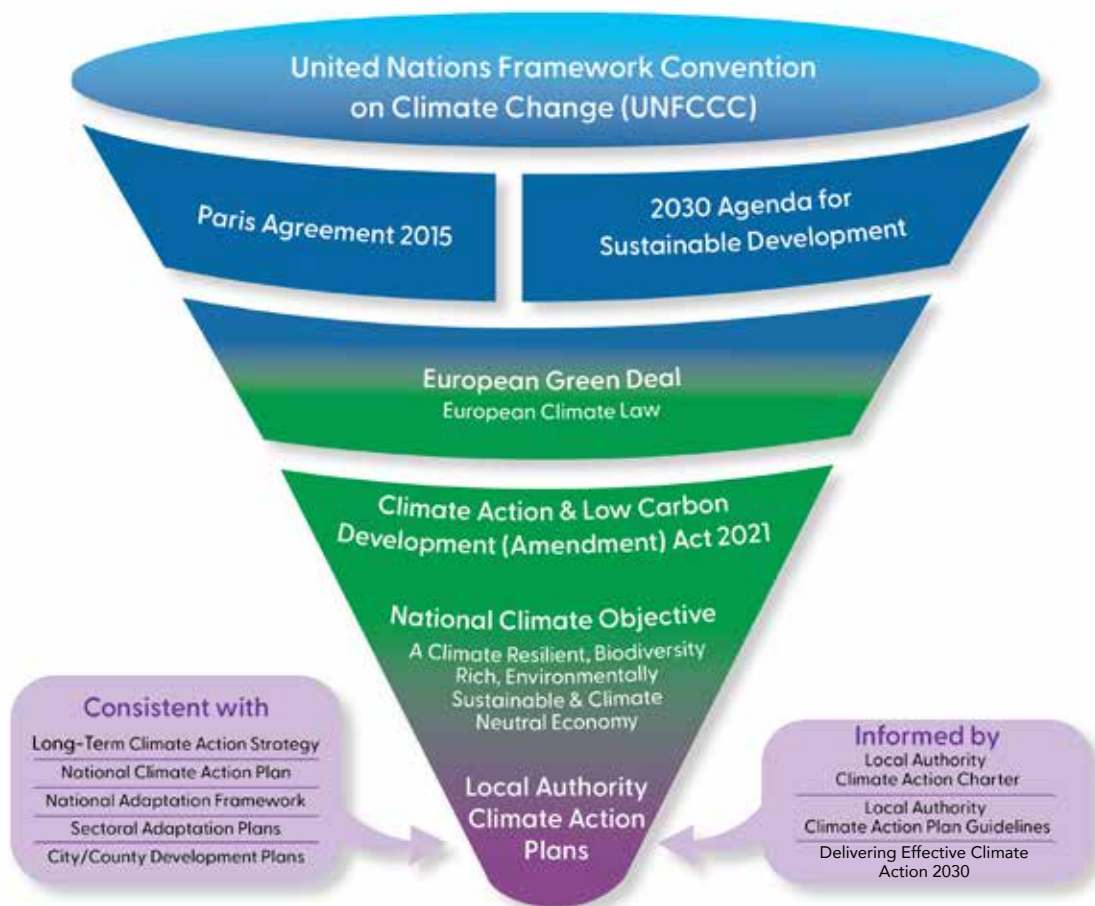


Figure 1.4: Legislation and Policy Context for the Climate Action Plan (Source: Climate Action Regional Office)

## INTERNATIONAL CLIMATE CHANGE POLICY

It has been recognised that successfully tackling climate change requires co-operation and ambition on an international level. Since the establishment of the **United Nations Framework Convention on Climate Change (UNFCCC)**<sup>5</sup> in 1994, countries have sought to build international co-operation to limit the increase in the average global temperature and deal with the impacts

of climate change that result from these temperature increases. These efforts led to the signing of the **Paris Agreement 2015**<sup>6</sup> at the Conference of the Parties 21 (COP21). The Paris Agreement 2015 is a legally binding international treaty on climate change which was signed by all 196 member countries, including Ireland, and entered into force on 4th November 2016.

Through two clearly defined goals, the Paris Agreement strives for progressive and ambitious climate action over time to avoid dangerous climate change by:

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

Another International agreement closely linked with the Paris Agreement is the **Transforming Our World: 2030 Agenda for Sustainable Development**<sup>7</sup> which was adopted by the United Nation Member States in September 2015. At the Agenda's core are 17 **Sustainable Development Goals (SDGs)**. These goals aim to 'end poverty, protect the planet and improve the lives and prospects of everyone, everywhere'. The 17 SDGs contain

169 targets to be achieved by 2030. In 2019, World leaders called for a 'decade of action' in order to achieve the Goals within this timeframe. The SDGs are also addressed in Chapter 7 of this Plan.

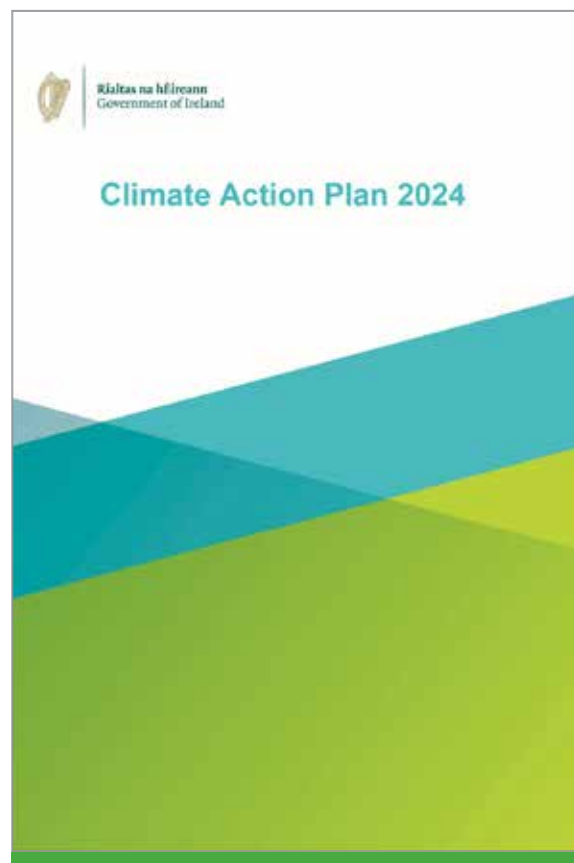
In December 2019, as part of the Paris Agreement commitments, the European Commission, announced the **European Green Deal**<sup>8</sup> aimed at making Europe the first climate neutral continent. The Deal seeks to achieve no net emissions of greenhouse gases by 2050, to decouple economic growth from resource use and to leave no one behind. The EU introduced a set of proposals to align the EU's climate, taxation, energy and transport policies to support achieving this aim. The **European Climate Law**<sup>9</sup> which made these targets legally binding also includes achieving a reduction in net greenhouse gas emissions of at least 55% by 2030 and climate neutrality by 2050.

## CLIMATE CHANGE POLICY IN IRELAND

Climate change policy in Ireland now reflects the ambition of the EU that is required to confront the challenges of climate change. The **Climate Action and Low Carbon Development (Amendment) Act 2021**<sup>4</sup>, enacted on 23 July 2021, requires the State to achieve by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. This is also known as the **National Climate Objective**. A climate neutral economy means, as stated in the Act, a sustainable economy and society where greenhouse gas emissions are balanced or exceeded by the removal of greenhouse gases.

Towards achieving this Objective, the Minister for the Environment, Climate and Communications will regularly submit for Government approval - carbon budgets, sectoral emission ceilings, a national Climate Action Plan, a Long-Term Climate Action Strategy and a National Adaptation Framework. In relation to carbon budgets, which are to be proposed by the Climate Change Advisory dlr, the first two carbon budgets are to provide for a reduction in greenhouse gas emissions by 51% by the end of 2030 using 2018 as the baseline year. Through progressive economy-wide carbon budgets and sectoral ceilings, a suite of strategies has been devised to promote a combination of adaptation and mitigation measures. In addition to robust oversight and reporting arrangements, climate policy is working to scale up efforts across all of

society. This will deliver a step change on ambitious and transformative climate action to 2030 and beyond to 2050.





## CLIMATE ACTION PLAN 2024 (CAP24)

CAP24 builds upon previous Climate Action Plans, by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. CAP24 provides a roadmap for taking decisive action to halve Ireland's emissions by 2030 and reach net zero by no later than 2050, as committed to in the Climate Action and Low Carbon Development (Amendment) Act 2021.

CAP24 recognises that local government has a key role to play in implementing measures to meet Ireland's national climate targets and in supporting and mobilising climate action, at regional and local levels. This role will increase with the development of Local Authority Climate Action Plans (LACAPs). These Plans will provide a strong emphasis on a place-based approach to climate action, promoting a better public understanding of climate related risks at the local level and addressing context specific conditions.

CAP24 includes the following local government specific climate actions:

- LG/24/1 - Adopt the Local Authority Climate Action Plans
- LG/24/2 - Develop Decarbonising Zones
- LG/24/3 - Develop a monitoring and reporting system for the Local Authority Climate Action Plans
- LG/24/4 - Review and update the Climate Action Charter
- LG/24/5 - Roll out Phase 2 of the Smart and Sustainable Mobility Accelerator Programme
- LG/24/6 - Support Cork and Dublin in the EU Climate - neutral and Smart Cities Mission

The Council will continue to have regard to the national Climate Action Plan (and revisions thereof) in implementing and monitoring the local authority Climate Action Plan.

The Climate Action Plan will consider and appropriately integrate relevant updates to the national Climate Action Plan, National Planning Framework and Regional Spatial and Economic Strategies over the lifetime of the Climate Action Plan and have consideration of relevant EPA State of the Environment Reports.

Ireland published its first **National Adaptation Framework** (NAF)<sup>11</sup> in 2018. This framework set out the context to ensure key sectors and local authorities can assess the key risks and vulnerabilities of climate change; implement climate resilient actions and ensure climate adaptation considerations are mainstreamed into national, regional and local policy making.

Ireland's current long-term **Strategy on Greenhouse Gas Emissions Reductions**<sup>12</sup> sets out indicative pathways, beyond 2030, towards achieving carbon neutrality

for Ireland by 2050. The Strategy builds upon the decarbonisation pathways set by the carbon budgets, sectoral emissions ceilings and the national Climate Action Plans, to ensure coherent and effective climate policy. It is underpinned by analysis of transition options across each key sector of the economy. It provides a crucial link between Ireland's 2030 climate targets and the long-term goal set by Ireland's National Climate Objective and the European Climate Law.

**Sectoral Climate Adaptation Plans**<sup>13</sup> have been published across Government departments in response to the National Adaptation Framework. Each Plan identifies the key risks faced across the sector and the approach being taken to address these risks and build climate resilience for the future. They were developed applying a six-step adaptation planning process described in Sectoral Planning Guidelines for Climate Change Adaptation, published by the Department of the Environment, Climate and Communications. The Plans address the following sectors: Agriculture, Forestry and Seafood, Biodiversity, Built and Archaeological Heritage, Transport infrastructure, Electricity and Gas Networks, Communications Networks, Flood Risk Management, Water Quality and Water Services Infrastructure and Health.

**The Local Authority Climate Action Charter**<sup>14</sup> was signed by all local authorities in October 2019. This Charter represents a commitment by all local authorities to scale up efforts and play a key role locally and nationally in delivering effective climate action. It tasks local authorities with providing robust leadership in advancing climate action at regional and local levels while adhering to the UN SDGs, in particular Goal 13 Climate Action. In addition to reducing emissions from their own operations councils will collaborate and partner with local enterprise, community groups, residents as well as public, private, and educational sectors on climate action initiatives.

**Delivering Effective Climate Action 2030**<sup>15</sup> is the local government strategy on climate action published in April 2021. The strategy represents an overarching sectoral commitment to ensuring a coherent approach to climate action across the administrative and political structures of all thirty one local authorities. At a sectoral level, the strategy communicates a general strategic intent through an envisaged leadership position to engage the local authority network in effective climate action. Within the sector, the overall strategy represents a top-level consensus on the approach to climate action and a strong commitment to the prescribed leadership role. The strategy is a stated roadmap for local authorities in delivering the required decarbonisation and adaptation responses to climate change.

## LOCAL AUTHORITY CLIMATE ACTION PLANNING

This dlr, and other local authorities across Ireland, are already well positioned at the forefront of climate action in Ireland. Local authorities play a significant role in terms of delivering adaptation and mitigation measures at local and community levels. They are entrusted to work, through their regulatory and strategic functions, to operationalise the ambitious national climate targets and policy at local levels and thereby to assist in the delivery of the National Climate Objective.

This Plan will be a key instrument that strengthens the links between national and international climate policy and the delivery of effective climate action at local and community levels through place-based climate action. It has been prepared in partnership with the other Dublin local authorities, Codema – Dublin’s Energy Agency and the Dublin Climate Action Regional Office (CARO).

Codema's mission is to accelerate Dublin’s low-carbon transition towards 2030 and 2050 through innovative, local-level energy and climate change research, planning, engagement and project delivery, to mitigate the effects of climate change and improve the lives of communities. To support this, Codema provides a wide range of energy and climate mitigation services to the four Dublin local authorities and other stakeholders in the region, supporting each local authority in leading and influencing the low-carbon transition.

The CAROs were established by the Government in 2018, to mandate and co-ordinate engagement across the varying levels of government and help build on experience and expertise that exists in climate change and climate action. The offices have a role in driving climate action at both regional and local levels, including supporting the development and implementation of local authority Climate Action Plans.

The Climate Action Plan 2024-2029 sets a clear pathway for dlr to:

- actively translate national climate policy to local circumstances with the prioritisation and acceleration of evidence-based measures.
- assist in the delivery of the climate neutrality objective at local and community levels; and
- identify and deliver a Decarbonising Zone (DZ) within the local authority area. This zone will act as a test bed for a range of climate mitigation, adaptation and biodiversity measures in a specifically defined area. The identification of projects and outcomes will assist in the delivery of the National Climate Objective.

Set against the backdrop of an evolving and ambitious framework of national climate policy, dlr maintains a strong commitment to mainstreaming climate action across its own operations and functions, whilst also pursuing a leadership role on climate action at the local level. The Plan demonstrates a coherent approach to climate action across the administrative and political structure of the local authority and is subject to approval by the Elected Members of the local authority following public consultation and engagement. A range of other plans, including dlr’s Corporate Plan, Local Economic and Community Plan and County Development Plan also support the delivery of the commitments in the Climate Action Plan.

The Plan sets out how dlr will be responsible for enhancing climate resilience, increasing energy efficiency and reducing greenhouse gas emissions across its own assets, services and infrastructure to which it is fully accountable for. dlr will also demonstrate a broader role of influencing, advocating and facilitating other sectors to meet their own climate targets and ambitions. This is necessary to ensure that the environmental, social and economic benefits that come with climate action can be fully realised. dlr will also continue its efforts in rolling out ambitious climate action projects, drawing down available sources of funding, pursuing community and stakeholder engagement, all supported by a progressive policy framework. dlr will launch the Climate Action Fund Strand 1 - Building Low Carbon Communities to support and build low carbon communities.

In a changing climate, the aim is to become more resilient to all future possibilities. This will allow local communities to thrive and work towards real solutions that are meaningful, inclusive, fair and accessible for all.

Local authorities are required to, in respect to the content and preparation of a Local Authority Climate Action Plan, comply with Ministerial Guidelines. These Guidelines were issued to the sector in March 2023<sup>16</sup>. This Plan has been prepared in accordance with these requirements. A climate change risk assessment and a climate mitigation baseline assessment are included as part of this Plan.

The targets of the Plan are framed by the Climate Action and Low Carbon Development (Amendment) Act 2021<sup>4</sup> and the national Climate Action Plan 2023<sup>10</sup>.

The targets of this Plan are as follows:

- 50% improvement in dlr's energy efficiency by 2030;
- 51% reduction in dlr's greenhouse gas emissions by 2030;
- To make Dublin a climate resilient region, by reducing the impacts of future climate change-related events; and
- To actively engage and inform our communities on climate action.

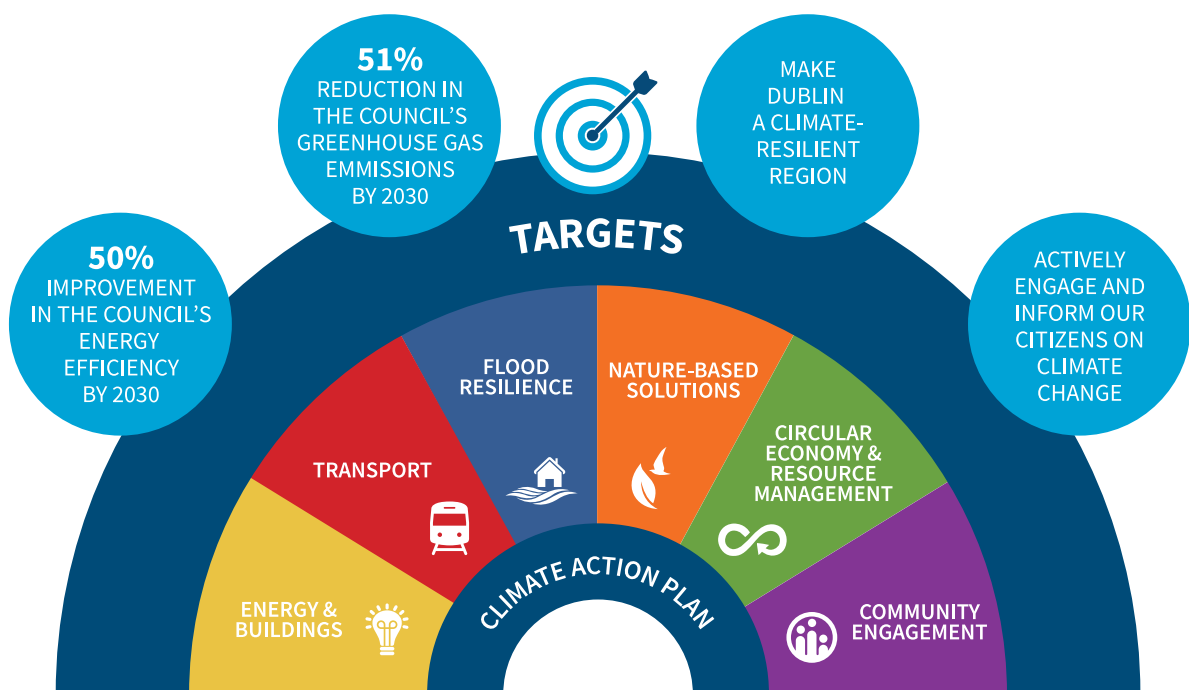


Figure 1.5: Climate Action Plan Target

This Plan includes a range of actions for which dlr is 'Fully Accountable'. As such, across its own buildings, operations, services and functions, dlr aims to achieve a 51% reduction in greenhouse gas emissions and a 50% energy efficiency improvement, by 2030. The Plan is also outward focused and includes a range of actions for which dlr can 'Influence', 'Co-ordinate and Facilitate' and 'Advocate' for other sectors, in meeting their own climate and energy targets, thereby reflecting the National Climate Objective and an all of society reduction in greenhouse gas emissions of 51% by 2030. Whilst it is acknowledged that there is no 'sectoral emission ceiling' for the local authority sector, the Plan aims to support other sectors and local communities, in building resilience to the negative impacts of climate change and in tackling the causes of climate change.

The implementation of the Climate Action Plan also aims to facilitate a 'Just Transition' across the County. A 'Just Transition' means ensuring that the transition towards meeting the National Climate Objective happens in a way that leaves no one behind. This is also reiterated in the national Climate Action Plan 2023, which states:

- *Delivering a just transition is based on recognising the transformational level of change required to meet these targets and having a shared understanding that the transition is fair, and just, and that the costs are shared equitably. Our climate policies should, therefore, seek to protect the most vulnerable.*

## POTENTIAL BENEFITS OF CLIMATE ACTION

### ECONOMIC

1. By adapting to climate change now, we can ensure that all future plans are climate-proofed and associated opportunities are maximised.
2. By transitioning to a low carbon economy, we will encourage the creation of additional job opportunities across a range of disciplines.
3. By using local solutions to mitigate and adapt to climate change, we can upskill our workers and generate employment.
4. By promoting improvements in energy efficiency, we will foster innovation in both the public and private sectors.
5. By using indigenous, sustainable sources for our energy needs, we can reduce our reliance on foreign fossil fuels.
6. By transitioning to a circular economy, we can stimulate innovation and create employment in the reuse and repair sector.
7. By becoming climate leaders, we are attractive to foreign direct investment from companies with a green corporate agenda.

### ENVIRONMENTAL

1. By using nature-based solutions to combat climate risks, we can increase the green infrastructure of the area and provide additional aesthetic value to our urban spaces.
2. By improving our public transport and cycling networks, we reduce congestion and pollution and improve air quality and reduce noise impacts.
3. By increasing resilience, we can protect our native flora and fauna.
4. By implementing mitigation and adaptation actions now, we lessen the potential impacts on the environment in the future.
5. By using nature-based solutions with, or instead of, hard engineering, we can reduce the associated costs of climate action, while increasing biodiversity.
6. By providing networks of natural wildlife corridors through the urban environment we will help animal and plant species migrate through the changing landscape.
7. By transitioning to a circular economy, we will reduce plastic pollution and use fewer natural resources.

### SOCIAL

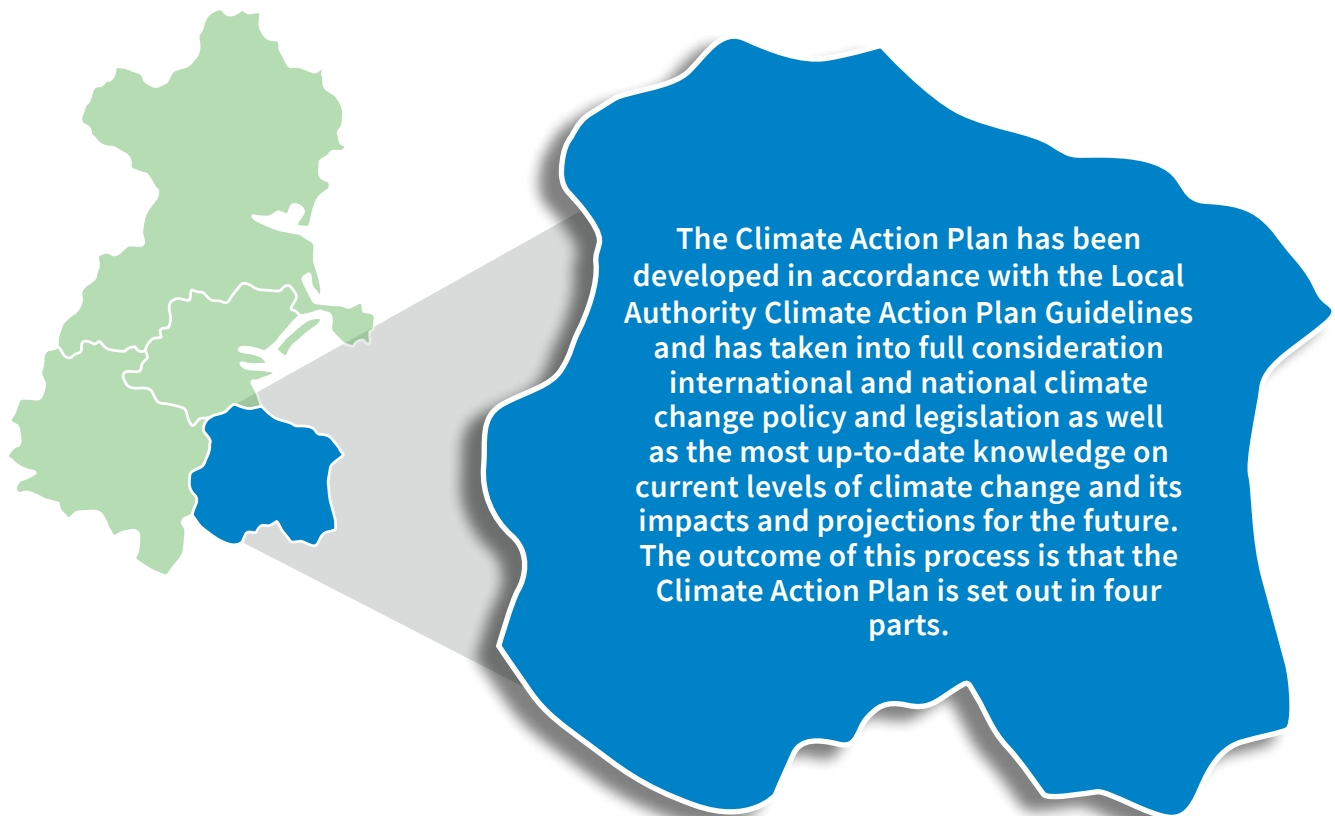
1. By improving the energy efficiency of our social housing stock, we can reduce tenants' utility bills and lessen fuel poverty.
2. By protecting against climate risks, we can reduce impacts on communities, their properties, and our services.
3. By informing communities on the impacts of climate change and possible solutions in their areas, we can create networks of climate-resilient neighbourhoods.
4. By implementing mitigation and adaptation actions, we can provide other opportunities for community benefits in terms of green spaces, and pedestrian and cycle routes.
5. By increasing the number of trees, additional shading and privacy can be provided.
6. By supporting community initiatives and working together we can build a greater sense of social cohesion.

### HEALTH AND WELLBEING

Health co-benefits can occur from key climate change actions such as:

1. By encouraging cycling and walking, we can improve the health of our communities.
2. By implementing nature-based solutions to combat climate risks, we can make the area a healthier and more desirable place to live and work.
3. By increasing energy efficiency and reducing the demand for fossil fuels, we will reduce greenhouse gas emissions and improve air quality in our area.
4. By implementing aesthetically pleasing mitigation and adaptation measures to combat climate risks we can improve the mental health of our communities.

## STRUCTURE OF THE CLIMATE ACTION PLAN 2024-2029



- 1** The evidence base used to inform on climate action within the jurisdictional area of Dún Laoghaire-Rathdown (including climate change risks and responding to them and emissions baseline profile).
- 2** The framework for climate action (including the Vision, Mission, and Actions under specific themes).
- 3** The Decarbonising Zone (DZ) (including the Vision and Register of Opportunities for the DZ).
- 4** Implementation and Reporting (including measuring progress over the lifetime of the Plan).

# 2 CLIMATE ACTION PLAN PROCESS AND GOVERNANCE



**The Climate Action Plan process outlined in this chapter details both the how and why the Plan was developed by Dún Laoghaire-Rathdown County Council (dlr). The chapter also outlines the governance of the Plan and how it integrates with other statutory and non-statutory plans developed by dlr.**

### Statutory Context of the Climate Action Plan 2024-2029

The Climate Action and Low Carbon Development (Amendment) Act 2021<sup>4</sup> (herein after the Act) sets out the statutory requirement for each local authority to prepare a local authority Climate Action Plan for its respective administrative area, which shall ‘specify the mitigation and adaptation measures to be adopted by the local authority’. It also requires that the plans will be consistent with the most recent approved national Climate Action Plan and national adaptation framework and once adopted, each plan will be valid for five years.

### Preparation of the Climate Action Plan 2024-2029

The Climate Action Plan 2024-2029 has been prepared in accordance with the Act and Local Authority Climate Action Plan Guidelines (herein after the Guidelines). In preparing the Plan, dlr has also taken account of relevant climate legislation and policy, a specific county scale climate change risk assessment and a climate mitigation

baseline emissions assessment, both of which are included as part of this Plan.

In compliance with the Guidelines, this Climate Action Plan is Ambitious, Action-Focused, Evidence-Based, Participative and Transparent. These guiding principles, as outlined in Figure 2.1 below, will serve as a benchmark for dlr on Climate Action Planning. A key component of the Climate Action Plan is identifying and understanding the scope of dlr’s responsibility on climate action and the scope of its Plan; this is shown in Figure 2.2. The Climate Action Plan aims to focus not only on dlr’s direct emission reduction, but also to influence that of the County.

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



Figure 2.1: Guiding Principles of the Climate Action Plan (Source: Local Authority Climate Action Plan Guidelines, 2023)

## Local Authority Scope on Climate Action

Full Accountability	Influence	Co-ordinate & Facilitate	Advocate
<p>Delivering on climate action in areas within own remit: including local authority's own buildings, infrastructure, systems, operations and staff.</p>	<p>Influence sectors and communities on climate action.  <b>Direct:</b> Procurement/supply chains and staff protocols.  <b>Regulatory:</b> Decision-making on planning and development, waste, byelaws, application of standards.  <b>Broad:</b> Through the provision of services across the range of functions, prioritisation, channelling investment etc.</p>	<p><b>Coordinate</b> efforts between different stakeholders e.g. Decarbonising Zones  <b>Facilitate</b> through the identification of funding, use of regulatory levers, collaborating and engaging in partnerships on climate action.</p>	<p>Creating the local vision, communication, awareness raising, promotion, capacity building.</p>

Figure 2.2: Local Authority Scope on Climate Action (Source: Local Authority Climate Action Plan Guidelines, 2023)

To prepare the Climate Action Plan, the dIr Climate Action Team engaged with the Senior Management team and relevant Departments, through meetings and workshops, to develop ambitious actions across the six thematic areas identified, based on the evidence of the baseline emissions inventory (BEI) and climate change risk assessment (CCRA). Codema, Dublin's Energy Agency, prepared the BEI for the Dún Laoghaire-Rathdown area and for the Dún Laoghaire and Blackrock Decarbonising Zone on behalf of dIr. A consultant, KPMG, was procured to develop the climate change risk assessment in conjunction with dIr staff. The Dublin Metropolitan Climate Action Regional Office (CARO) also facilitated monthly meetings with the four Dublin Local Authorities and Codema, to oversee a streamlined and regional approach to the development of each of the Climate Action Plans.

Wider engagement with all staff was driven by an online staff survey, which was further developed through focus groups and meetings with relevant members of key staff responsible for the actions developed in the Plan.

Early engagement workshops were held with Elected Members and the members of the Strategic Policy Committees (SPC). Updates on the process were provided at various intervals at dIr meetings, the Environmental and Climate Action Strategic Policy Committee meetings, and in the Chief Executive Monthly Report.

Regular collaboration was undertaken with the other Dublin Local Authorities to ensure regional alignment across the Climate Action Plans for each respective local authority. Engagement with other neighbouring local authorities was facilitated by the Dublin CARO.

### Environmental Assessments

The Climate Action Plan 2024-2029 was required to be assessed under specific environmental legislation. Recommendations and mitigation measures made through the assessment processes outlined below are incorporated into this Plan and will be undertaken as part of implementation of the adopted Plan.

### Strategic Environmental Assessment

Environmental assessment is a procedure that ensures that the environmental implications of decisions are considered before such decisions are made. Strategic Environmental Assessment (SEA) is the term which has been given to the environmental assessment of plans and programmes, which help determine the nature and location of individual projects taking place. SEA is a systematic process of predicting and evaluating the likely significant environmental effects of implementing a proposed plan or programme, in order to ensure that these effects are adequately addressed at the earliest stages of decision-making, in tandem with economic, social and other considerations. The SEA process was integrated into the preparation of the Climate Action Plan. The mitigation measures provided in Section 8 of the Strategic Environmental Assessment Environmental Report will be referenced when implementing the Climate Action Plan 2024-2029 or any variation over the lifetime of the Plan.

This is in accordance with the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI 435 of 2004 as amended by SI 200 of 2011) The SEA Environmental Report is contained as a separate document accompanying the Climate Action Plan 2024-2029.

### Appropriate Assessment

In accordance with requirements under EU Habitats Directive (92/43/EEC) and the EU Birds Directive (79/409/EEC) the potential effects of the Climate Action Plan 2024-2029 on certain sites designated for the protection of nature under European legislation, must be assessed as part of the preparation of the Climate Action Plan. This process, known as Appropriate Assessment, is to determine whether or not the implementation of the Climate Action Plan could have negative consequences for the habitats or species for which these sites are designated. Appropriate Assessment was undertaken as part of the plan-making process and a Natura Impact Report is contained as a separate document accompanying the Climate Action Plan 2024-2029.





### Public Engagement and Approval

The Plan was on public display from 20th September 2023 to 3rd November 2023 inclusive, with all written submissions or observations on the Plan, via the appropriate channels, being welcomed and taken into consideration before the making of the Plan.

Following public consultation and engagement, the updated Plan was subject to approval by the Elected Members of Dún Laoghaire-Rathdown County Council, following receipt of a Chief Executive's Report on Plan Public Consultation.

### CORPORATE GOVERNANCE

The Plan has been developed in accordance with the Climate Action and Low Carbon Development (Amendment) Act 2021<sup>4</sup>, the 'Local Authority Climate Action Plan Guidelines' and in the context of rapidly evolving policies, strategies, plans and targets from a European, National and local level.

dlr has, in the development of the Plan, drawn on the lessons learned from the previous Climate Change Action Plan 2019-2024 (CCAP). The actions contained in the CCAP formed the foundation of this Plan and many of them have enabled the more ambitious actions included in this Plan for delivering climate action in our County.

A range of other plans developed by dlr support Climate Action and ensure the climate-proofing of all dlr policies and strategies.

These plans include:

- dlr Corporate Plan 2020-2024,
- dlr County Development Plan 2022-2028,
- dlr Local Economic and Community Plan 2023-2028 (in development)
- dlr County Heritage Plan 2021-2025
- dlr County Biodiversity Action Plan 2021 -2025
- dlr Corporate Procurement Plan 2022-2024

dlr Corporate Plan 2020-2024<sup>17</sup> establishes both our core values and our corporate goals and objectives. One of the core values established by the Corporate Plan is '**Climate First-Adopt a climate first approach to decision making**'. This core value, and others such as Showing Leadership in Protecting our Environment through Education and in How we Work are underpinned by the corporate goals which further empowered the development of this Plan. dlr County Development Plan 2022-2028 (CDP)<sup>18</sup> is also significant in terms of its influence on both dlr's own objectives and how the County achieves its emission reduction targets throughout the duration of this Plan. 'Climate Action' is a standalone

chapter in the CDP with nineteen policy objectives seeking to promote climate action in the County. Climate action permeates the entire CDP with a selection of policy objectives on other sections all contributing to the transition of the County to a climate resilient low carbon society.

dlr Local Economic and Community Plan 2023-2028 (LECP) is being developed and is informed by a socio-economic statement 2023-2028<sup>19</sup>. The statement includes a high-level goal to '*create a climate resilient County, by promoting and delivering best practice in climate mitigation, adaptation, biodiversity, and the circular economy, central to community, enterprise, and the economy.*' The LECP will be developed within the context of the principles of sustainable development and when finalised will guide both the sustainable economic development and community development of Dún Laoghaire-Rathdown from 2023-2028.

dlr County Heritage Plan 2021-2025<sup>20</sup> is five- year plan that sets out a clear framework for how our dlr will work to promote and protect our cultural and natural heritage across the county.

dlr County Biodiversity Action Plan 2021 -2025<sup>21</sup> sets out how we understand, manage, connect and collaborate to protect and enhance the variety of plant and animal life in dlr.

dlr Corporate Procurement Plan 2022-2024<sup>22</sup> ensures Green Public Procurement (GPP) implementation in all dlr tenders as part of the scored quality assessment, in order to source goods, services and works with a reduced climate and environmental impact.

These plans and their future iterations will be reviewed in liaison with the Climate Action Team ensuring that climate action is considered. This results in mainstreaming climate actions throughout our organisation, in our operations, and in the wider community in our County.

The actions contained in the Plan are subject to funding availability and will be considered as part of dlr's annual budgetary process and review of the capital programme. Delivery of some of the actions will be also contingent on input from staff or consultants with specialised skills.

Furthermore, the Climate Action Team supports the Elected Members and Strategic Policy Committees (SPCs) in their leadership role for climate actions.

# 3 EVIDENCE-BASED CLIMATE ACTION



## EMISSIONS PROFILE

The 2023 Climate Action Plan (CAP 23)<sup>10</sup> reaffirms emissions pathways for Ireland set out in the Climate Action and Low Carbon Development (Amendment) Act 2021<sup>4</sup> - to halve Ireland's emissions by 2030 and achieve carbon neutrality by 2050. Relevant targets for Local Authorities include:

- Local Authorities must improve their energy efficiency by 50% by 2030, as first set out in the Local Authority Climate Action Charter<sup>14</sup>, in comparison with a baseline of 2009 (or earlier).
- Local Authorities must also reduce their heating and transport emissions by 51% in comparison to a 2016 - 2018 average baseline.
- Nationally we must reduce greenhouse gas (GHG) emissions overall by 51% by 2030 in comparison to a 2018 baseline and achieve climate neutrality by 2050 - Local Authorities are obligated by the Climate Action and Low Carbon Development (Amendment) Act 2021 to produce plans consistent with this target.

Table 3.1 below highlights the milestone years used in this analysis:

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

Table 3.1 - Milestone years used in this analysis

## dlr's CURRENT ENERGY USE

dlr is responsible for the energy use and emissions from its buildings and facilities, its public lighting and also from its vehicle fleet. This section highlights dlr's current energy use and the progress dlr has made in energy efficiency, using the most recently available data. The information from the Sustainable Energy Authority of Ireland's (SEAI) Monitoring and Reporting (M&R) database shows that dlr consumed a total of **22.6 gigawatt hours (GWh)** of final energy consumption in 2021 (Figure 3.1), which would represent **36.7 GWh** of primary energy. dlr has achieved a 50.9% improvement in energy efficiency in 2021 as compared to the 2009 baseline.

<sup>10</sup> For emissions associated with dlr's own activities, the baseline is created from an average of 2016 – 2018 data

### ENERGY EFFICIENCY IMPROVEMENTS FROM dlr

As shown in Figure 3.1, in 2021 dlr's **Public Lighting** was the highest energy consumer, accounting for **50%** (18.2GWh) of dlr's overall primary energy consumption or Total Primary Energy Requirement (TPER). The municipal fleet accounted for **8%** (2.9GWh) of TPER. The remaining energy consumers which mostly consist of buildings and services facilities account for **42%** (15.6GWh) of TPER, including leisure services at **12%** (4.5GWh).

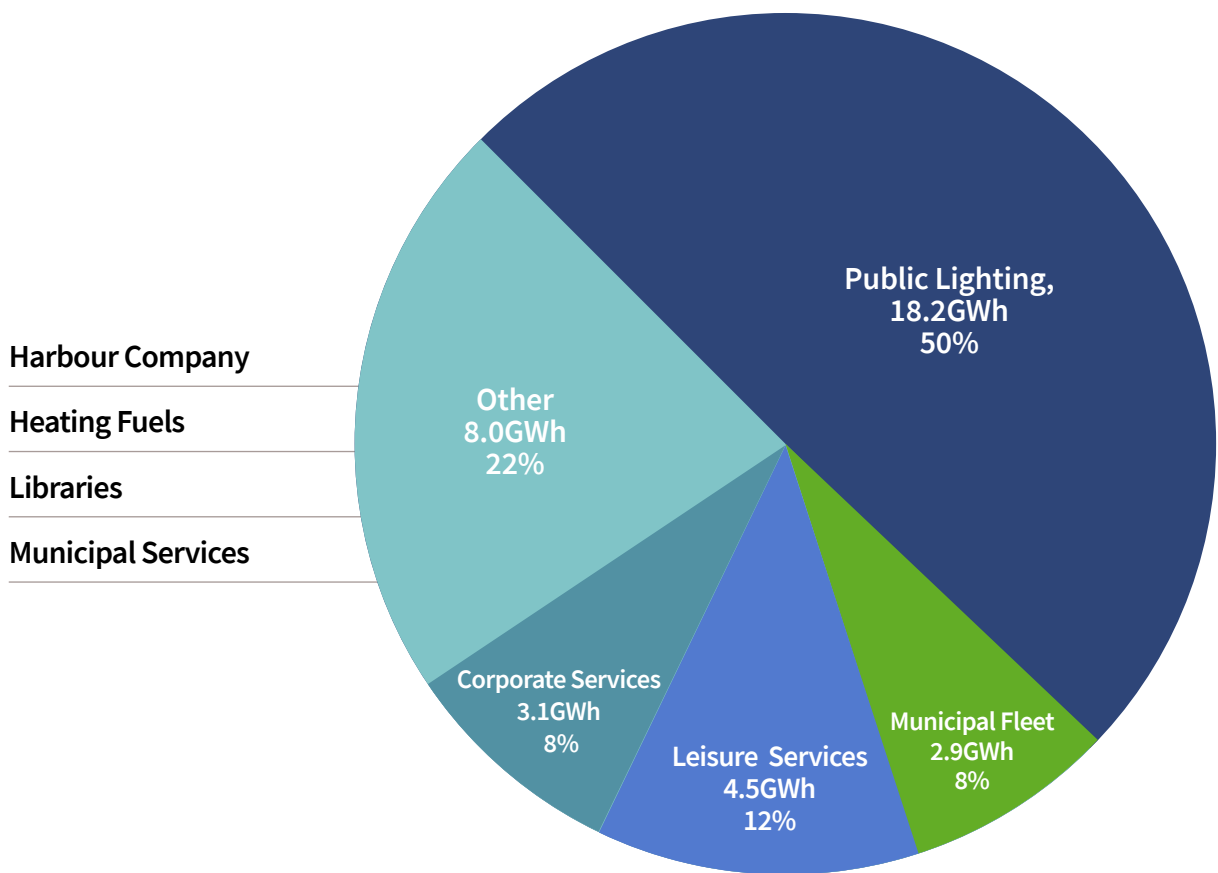


Figure 3.1 Significant Energy Users Total Primary Energy Requirement in dlr 2021 (GWh)

Primary energy is considered to be raw unprocessed inputs put into the energy system. Once this energy arrives to the user after production, distribution and transmission losses, it is considered Final Energy.



For further explanation, the different ways of measuring energy are outlined in Figure 3.2 below.

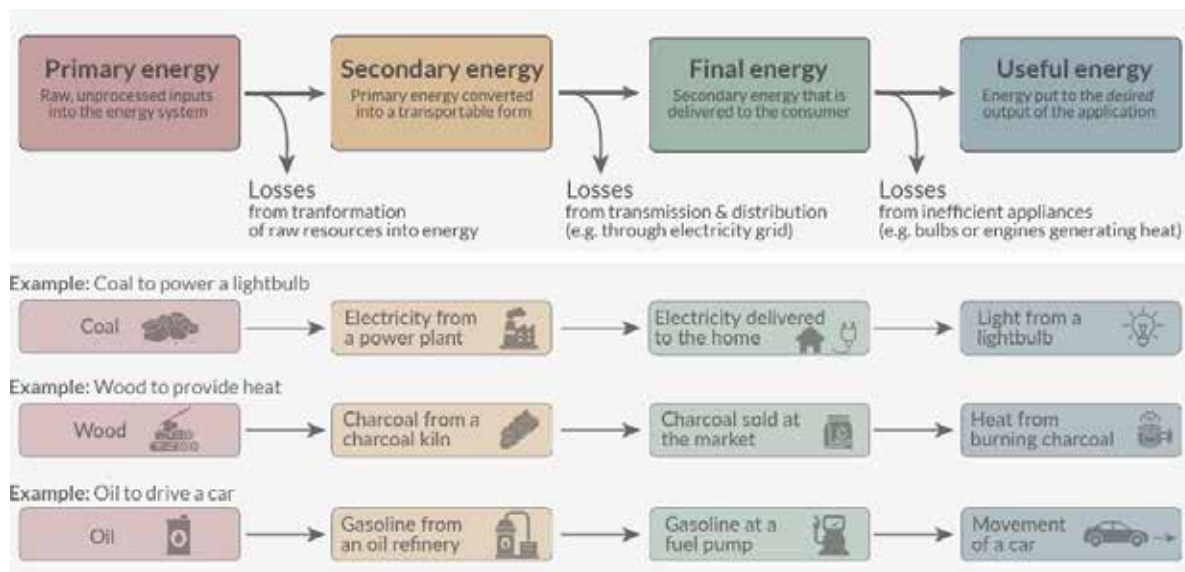


Figure 3.2 – The Four Ways of Measuring Energy<sup>23</sup>

### dlr's CURRENT EMISSIONS

Among dlr's total emissions of **6,869 tonnes of Carbon Dioxide (tCO<sub>2</sub>)** in 2021, public lighting was the biggest emitter at **48.6%** of total emissions. This was followed by buildings and facilities and then the municipal fleet each contributing **41.8%** and **9.6%** to dlr's emissions, respectively.

Largest Emitters	Public Lighting	Buildings and Facilities	Municipal Fleet
Proportion of the emissions by source	48.6%	41.8%	9.6%

Table 3.2a - Main sources of emissions in dlr in 2021

In 2021, **73%** of dlr's emissions came from electricity; this was mainly due to the large amount of electricity used in public lighting and in dlr's buildings and facilities. The use of natural gas was the second highest contributor of emissions at **14.9%**. The majority of this gas was used for space heating in dlr buildings and facilities. The use of diesel, which made up the majority of the fuel used for the vehicle fleet, contributed **9.5%** to the total emissions.

Largest Emitters	Electricity	Natural Gas	Diesel (Vehicle Fleet)	Other
Proportion of the emissions by energy source	73%	14.9%	9.5%	2.6%

Table 3.2b - Proportion of emissions for each energy source in dlr 2021

### GAP TO TARGET

The gap-to-target model (GTT model) is a spreadsheet model for use by public bodies to evaluate their energy-related greenhouse gas emissions over time, in accordance with SEAI’s public sector energy monitoring and reporting framework for the period to 2030.

The gap-to-target analysis highlights the future emissions reductions required for dlr to meet its 2030 targets. The 2022 gap-to-target for thermal and transport emissions is estimated at 35%. This means in order to meet its 51% reduction target in thermal (heating and transport) related GHG emissions, between 2022 and 2030, dlr must reduce its non-electricity related emissions by a further 35% compared to the 2016 - 2018 baseline .

Overall GHG emissions have reduced by 38% since the 2016 - 2018 baseline, this is mainly due to reductions from electricity sources but non-electricity related emissions still have reduced by 16% since the baseline was established.

As seen in Figure 3.3 dlr has the potential to exceed its 2030 emissions reductions targets, based on successful completion of the decarbonisation projects identified in dlr’s project pipeline.

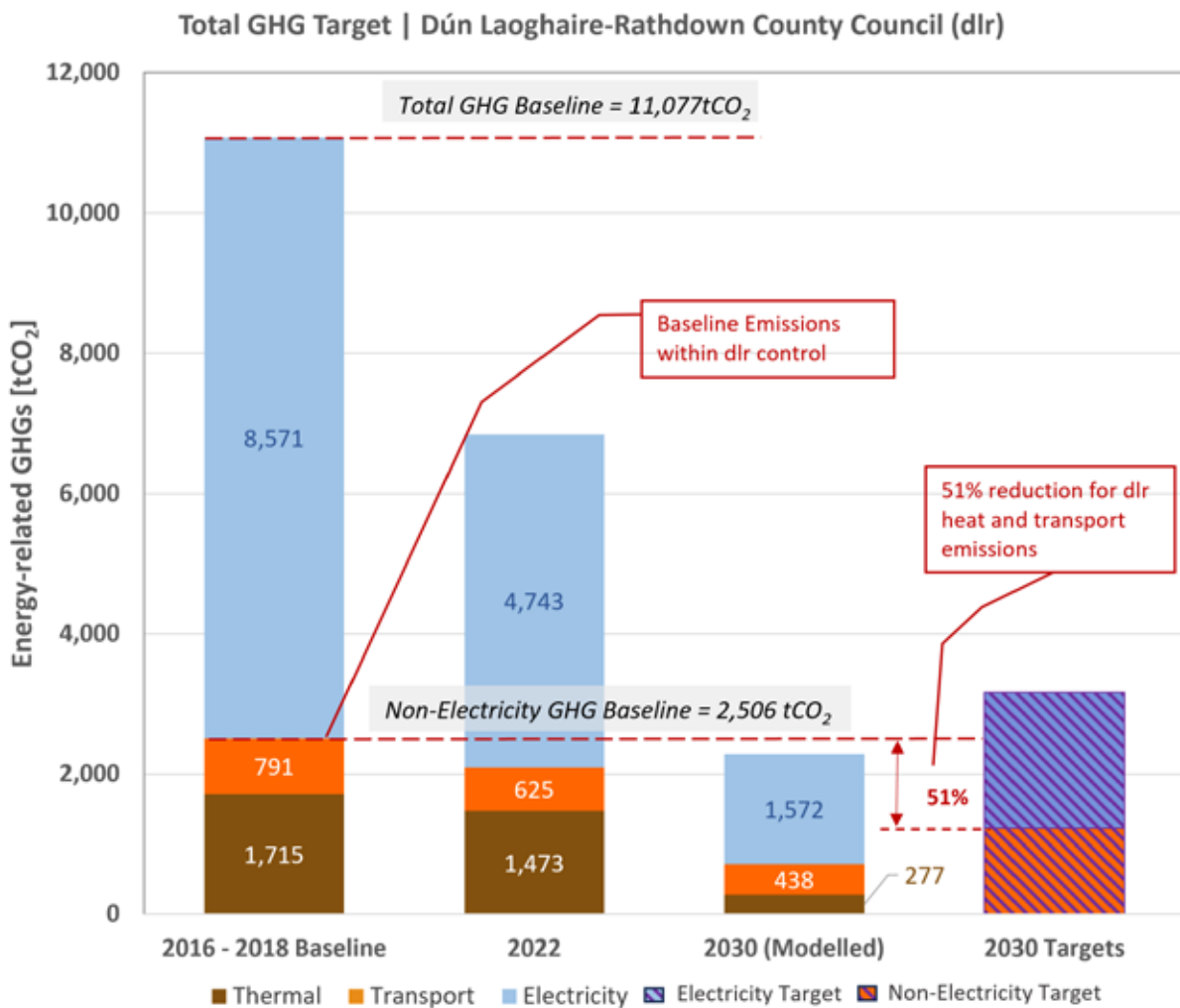


Figure 3.3 - Gap-to-Target Tool, Total dlr Emissions Targets for 2030 and Current Emissions



## PRIORITY AREAS FOR FURTHER REDUCTION OF THE COUNCIL'S OWN EMISSIONS

The key areas for dlr to take action on to reduce its own emissions are:

- Retrofit dlr's own buildings and facilities including renewable energy, and renewable heating systems
- Electrification of dlr's fleet

The national grid will continue to decarbonise over the coming years towards the 2030 target. Grid decarbonisation is expected to significantly reduce dlr's electricity emissions. This will not however have an impact on the emissions from transport and heat. The priority focus for dlr therefore is on their own direct emissions, which includes emissions from transport and heat.

### Retrofit and renewable heating systems in dlr's own buildings and facilities

Building thermal energy upgrades present better cost effectiveness of emissions reduction (€/tonne CO<sub>2</sub>) than fleet electrification and therefore will be a priority for dlr. Buildings have been evaluated and prioritised for action on a range of criteria, including total emissions reduction potential, and cost effectiveness of emissions reduction (€/tonne CO<sub>2</sub>). The types of actions planned for buildings in the pipeline are:

- Suitability evaluation of buildings for upgrades
- Building Energy Rating (BER) assessment
- Solar panels
- Lighting upgrades
- Heat Pumps
- Building fabric upgrades
- Building energy management system upgrades

This work will be carried out using energy performance-based contracts, which will ensure long-term, guaranteed energy savings and will make the projects more financially viable for dlr. The highest priority dlr buildings and facilities for this work based on emission reduction potential are Meadowbrook, Monkstown and Loughlinstown Leisure Centres and County Hall, Dún Laoghaire.

### Electrification of dlr's fleet

dlr has begun electrification of its vehicle fleet, with 31 electric vehicles currently in operation and plans to increase this to 76 vehicles by 2030, which would allow dlr to further exceed its direct emissions targets.

### Impact of projects

The building projects and fleet electrification projects identified above may allow dlr to exceed its 2030 direct emissions targets by 35%. Additional smaller building projects and public lighting upgrades are also planned to further reduce dlr's emissions.

### TOTAL EMISSIONS OF DÚN LAOGHAIRE-RATHDOWN AREA

Ireland has committed to reduce its emissions by a minimum of 51% by the year 2030. The 2030 target corresponds to a 51% reduction from 2018 figures, as defined by the Programme for Government, which states that Ireland is ‘committed to an average 7% per annum reduction in overall greenhouse gas emissions<sup>24</sup> from 2018 to 2030 (a 51% reduction over the decade)’. The significance of the Dublin region in the Irish economy means that it is imperative to plan and commit to energy saving and CO<sub>2</sub> reductions at a local and regional level, in order to meet national level targets.

It is particularly important for urban regions to focus on their reduction in emissions, as more than 70% of global emissions are caused by activities in urban areas, such as manufacturing, transportation and energy demand. Carbon sinks tend to be limited in cities, given the number of built-up areas, and the limited number of natural ecosystems, which have the ability to absorb CO<sub>2</sub>.

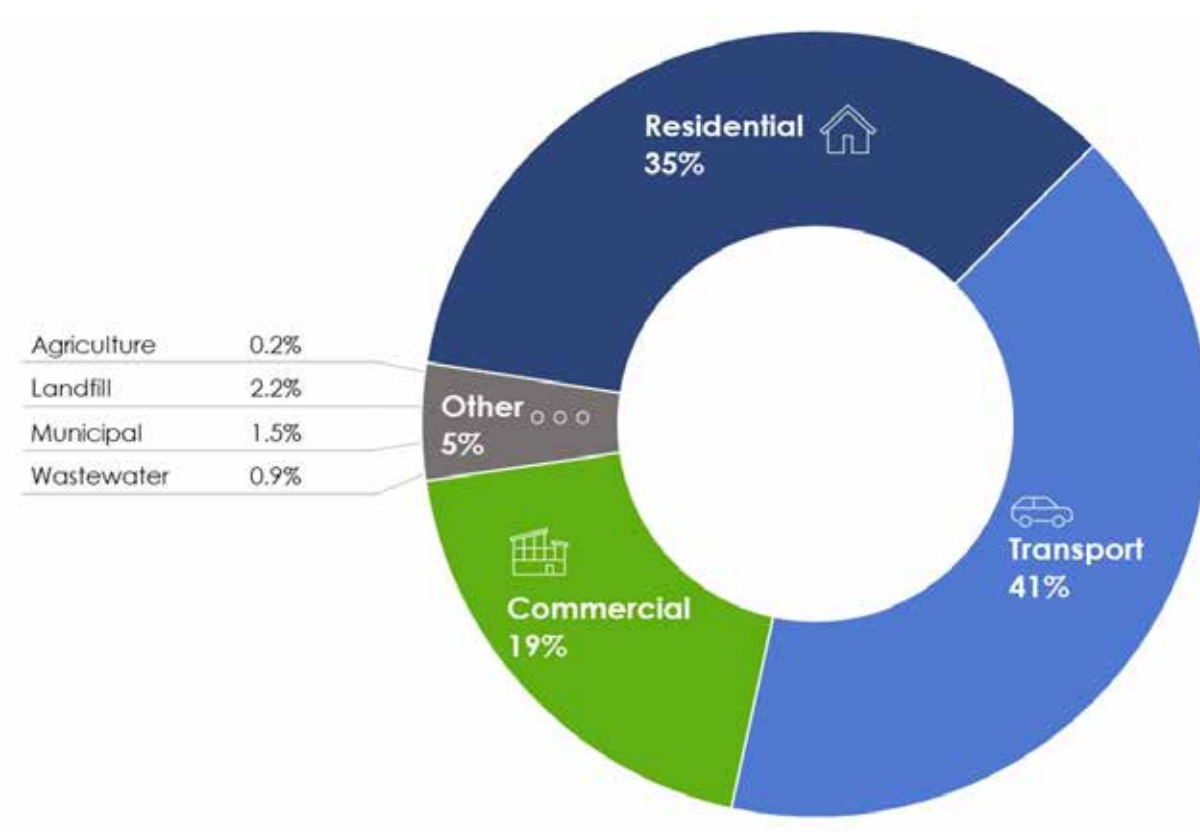


Figure 3.4 - Total Green GHG Emissions for Dún Laoghaire-Rathdown per Sector (%)

The overall emissions for the Dún Laoghaire-Rathdown area have been calculated for the baseline year of 2018. This ‘Baseline Emissions Inventory’ (BEI) uses data from the 2016 census, and additional data collected as part of the Dublin Region Energy Masterplan (DREM) project, to make an estimation of the BEI for the Dún Laoghaire-Rathdown Area for 2018. Total emissions are estimated to be **752,406 tonnes of Carbon Dioxide equivalent (tCO<sub>2</sub>e)** (Figure 3.4).

*‘CO<sub>2</sub>e’ refers to the quantification of multiple GHGs in an equivalent amount of CO<sub>2</sub>. If the quantity of GHGs other than CO<sub>2</sub> is significant for a specific sector, then they are converted to CO<sub>2</sub>e. If they are insignificant, then only CO<sub>2</sub> is considered. In mathematical terms, CO<sub>2</sub> = CO<sub>2</sub>e.*





## EMISSIONS REDUCTION PATHWAYS FOR DÚN LAOGHAIRE-RATHDOWN AREA

The Dublin Region Energy Master Plan<sup>25</sup> is an energy modelling project that provides evidence-based pathways for the Dublin Region (hereinafter Dublin) to achieve its carbon emission reduction targets to 2030 and 2050. For the first time in Ireland, the Dublin Region Energy Master Plan uses spatially-driven energy modelling to identify cost-optimal decarbonisation solutions that consider the socio-economic impact at a local level in Dublin, based on the specific energy “characteristics” or profile of a particular area.

Put very simply, this means that the Master Plan has looked at ‘what should go where’ for Dublin, based on the type of area and the technologies that are best suited to reducing energy-related emissions within that area. The Master Plan also brings together national government plans and policies to show the impact they will have on Dublin. To define the pathways for the wider Dublin region to meet its 2030 and 2050 targets, the project first had to get a good understanding of the current situation in the county; this was followed by projecting the future business-as-usual energy demand and emissions (for the buildings, heat, electricity and transport sectors), and then identifying the low-carbon potential for these sectors. All of this information was then used to determine the net-zero pathway for Dublin

### Strategic priorities

#### Decarbonisation of heat



District heating is a key pathway for decarbonisation of heat energy in buildings in the Dún Laoghaire-Rathdown area. According to the Dublin Region Energy Master Plan, district heating has the potential to supply significant quantities of the Dún Laoghaire-Rathdown area’s heat demand. Additionally, an SEAI analysis<sup>26</sup> identifying the priority district heating areas for exploration shows that the town centres of Dún Laoghaire, Blackrock, and Dundrum have high potential. Related to this is the finding that there is enough waste heat in the overall Dublin region to heat the equivalent of over 1.6 million homes. These heat sources include wastewater treatment plants, and industrial sources, among others, and may offer potential for inclusion in future district heat networks. The other priority heat decarbonisation technology identified in the Dublin Region Energy Master Plan, with the potential to support widespread decarbonisation of heat in buildings in the Dún Laoghaire-Rathdown County Council area is heat pumps – across the residential, commercial, and public sectors.

#### Buildings



Buildings are a key element of decarbonisation in urban environments. Key findings from the Dublin Region Energy Masterplan on this topic are; support is needed for building energy retrofits - the average BER in Dún Laoghaire-Rathdown is D1; the opportunity for building-integrated solar in the Dublin region equates to the electricity demand of approximately 65,000 homes, significant portions of this opportunity exist in the Dún Laoghaire-Rathdown area; and areas most at risk of energy poverty in Dublin should be prioritised for building energy retrofits. Additionally, to support decarbonisation of the built environment, it is necessary to develop increased linkages between energy and local level spatial planning – local level energy planning can identify solutions not visible at a national level.

#### Renewable electricity



Offshore wind presents the greatest potential for renewable electricity generation in the Dún Laoghaire-Rathdown area, a notable example of this is the Dublin Array project<sup>27</sup>. The development of enabling electricity infrastructure needs to be supported to maximise Dublin’s potential to generate renewable energy.

#### Transport



Active travel (walking and cycling) and public transport solutions will be prioritised, including consideration of reallocation of road space to these modes of travel, and accessibility. Supporting this, the ‘10 Minute Neighbourhoods’ concept is a key priority to address carbon emissions, congestion and air quality issues in the Dún Laoghaire-Rathdown area. Additionally, support for electric vehicle infrastructure is required to support the continued uptake of electric vehicles in the area.

## CLIMATE CHANGE RISK ASSESSMENT

In the development of this Plan dlr has reviewed the risks posed by climate change for the County and the implications of these risks for the delivery of services by dlr. This has been achieved through a Climate Change Risk Assessment (CCRA) which identifies the likelihood of future climate hazards and their potential impacts.

dlr engaged external consultants to develop the Climate Change Risk Assessment (CCRA) and the adaptation baseline. The CCRA has been undertaken, in accordance with ‘Technical Annex B: Climate Change Risk Assessment’ of the ‘Local Authorities Climate Action Planning Guidelines’<sup>16</sup>.

A crucial aspect of this risk assessment was an informed process that helped dlr to better understand and manage the risks related to climate in respect to societal well-being, infrastructure and other assets essential for people (such as personal health and the environment) and the provision of the evidence base to identify potential climate risks for the County and the consequences of these for the delivery of services by dlr.

A qualitative CCRA supports the identification and prioritisation of potential future climate risks for more detailed analysis and provides a broad understanding of where adaptation actions could be required. The approach comprises of two phases, where both current and future risks and impacts are assessed.

### Phase 1: Assessment of Current Climate Risks and Impacts

Understanding the current impacts of climate and weather-related hazards is an essential first step in developing an understanding of future climate risk. This phase involves identifying the range of climate and weather-related hazards currently impacting the County and the implications of these for the delivery of services by dlr.

### Phase 2: Assessment of Future Climate Risks and Impacts

Phase 2 is concerned with understanding and characterising how climate and hazards currently experienced are projected to change into the future, and considers anticipated changes in both climate conditions and socio-economic growth, including increased population projections. In addition, this phase identifies any new or emerging climate and weather-related risks for the County. For example, if projections indicate that heatwaves will become more frequent and intense in the future this signifies that heat-related risk will increase in the future.





## DÚN LAOGHAIRE-RATHDOWN COUNTY'S CHANGING CLIMATE

In line with global trends, the climate of Ireland and Dún Laoghaire-Rathdown County is changing. Temperatures are increasing, sea levels are rising, and patterns of precipitation are changing. These changes are projected to continue and intensify with a wide range of impacts for the County. A summary of key climate and weather-related changes already observed for the County are detailed below Figure 3.5 and Table 3.4<sup>28</sup>.

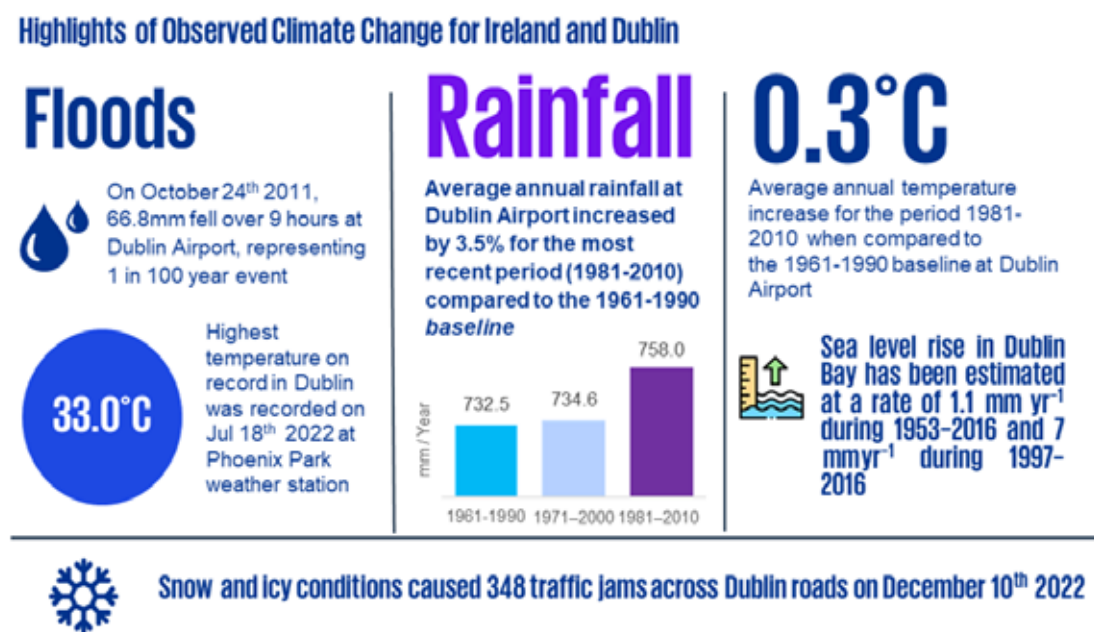


Figure 3.5: Observed climate change for Ireland and Dublin







 <b>Extreme Heat</b>	High temperatures and dry conditions provided suitable conditions for the ignition of uncontrolled fires. During the heatwave of June 2018, a gorse fire at Barnaslingan Wood lasted approximately nine days.
 <b>Coastal Flooding</b>	Coastal flooding results in transport disruption and road closures on a frequent basis. In March 2018 strong northeast winds and high tides caused waves to overtop at Bullock Harbour resulting in the flooding of two residential and two commercial properties.
 <b>Snow and Ice</b>	Heavy snowfall in March 2018 caused the roads in the upland areas surrounding Glencullen to become impassable, with dlr required to clear roads including the Ballyedmonduff Rd, and the Ballybrack Rd.
 <b>Windstorms</b>	During Storm Emma in late March 2018 there was significant damage caused to the East and West Piers, particularly around the sun shelter area on the East Pier and the West Pier Roundhead.
 <b>Coastal Erosion</b>	In August 2020, a partial collapse of a cliff-face underneath a footpath leading to the pier at Coliemore Harbour occurred.
 <b>Pluvial Flooding</b>	In August 2021, the ground floor of Dundrum Town Centre was flooded due to heavy rain with a number of restaurants and shops forced to close. The shopping centre was also badly affected by floods in October 2011

Table 3.4 Summary of impacts of extreme weather events in Dún Laoghaire-Rathdown County.

## CLIMATE HAZARDS

Dún Laoghaire-Rathdown County has been impacted by a range of climate and weather-related events over the period 1982-2023. The hazard profile in Figure 3.6 provides an overview of the recent climate and weather-related events and the frequency to have impacted Dún Laoghaire-Rathdown County over the recent past.

Based on the climate hazard baseline, severe windstorms have impacted upon Dún Laoghaire-Rathdown County most frequently over the period 1982-2022, with pluvial and coastal flooding also affecting the County on multiple occasions. Heatwaves, droughts, cold spell, heavy snowfall, river flooding and coastal erosion have also impacted Dún Laoghaire-Rathdown County, but less frequently.



Figure 3.6 Overview of the hazard events which have impacted Dún Laoghaire-Rathdown County 1982 - 2023

dlr is taking proactive measures and implementing adaptation strategies to reduce the risks posed by current and projected climate change. Climate and weather-related hazards have had significant impacts on the residents, communities, and businesses of Dún Laoghaire-Rathdown County. Below are some examples of how these hazards have affected the County in the recent past.

- During the extended **Cold Spell** of Storm Emma in 2018, many roads in Dundrum were not accessible because of snow and the coast road between Dún Laoghaire and Sandycove (R831) was closed following flooding.
- During **Storm Barra in 2021**, a large tree fell at the busy Goatstown junction. dlr collaborated with An Garda Síochána to ensure road users were protected until the tree was removed.
- Increased bacteria levels in the water at areas such as the Forty Foot, Seapoint, White Rock, Sandycove and Killiney following heavy rain in June 2020 resulted in temporary swimming bans being imposed.
- In March 2018, a **tidal surge flooded** the tracks at the Salthill & Monkstown Dart station in Dublin and led to the cancellation of Dart services between Pearse Station and Bray.
- Dublin Fire Brigade battled a gorse blaze in Glencullen in September 2022 following an orange forest fire warning. **Wildfires** also occurred in July 2022 at Roches Hill and Killiney Hill.



## PROJECTED CLIMATE CHANGE

As a result of climate change, the frequency of extreme weather events is projected to change. For our County, this means that some hazards may occur more often while others may reduce. Below is an overview of projected changes in the frequency of climate hazards for our County by 2050<sup>28</sup>.




















Hazard	Projected Change in Frequency	Climate Projections
Heatwaves 	Increase 	Projections indicate an overall increase in average temperature of between 1.2 and 1.6°C for Dún Laoghaire - Rathdown relative to the 1981-2000 period. Under a high emission scenario, projections indicate that heatwaves will become more frequent by mid-century.
Droughts 	Increase 	Summer rainfall is expected to reduce in the future when compared with the baseline period of 1981 to 2000, contributing to potential drought conditions.
Cold Spell 	Decrease 	As a consequence of the increasing temperatures, a decrease in the number of frost days and ice days in the 2041-2060 future period is projected when compared with the baseline period of 1981 to 2000.
Heavy Snowfall 	Decrease 	The annual snowfall in the region is projected to decrease substantially by the middle of the century.
Severe Windstorms 	No Change 	Projections of storms are subject to a high level of uncertainty. By mid-century, projections indicate that average wind speed will remain similar to those currently experienced. There is limited evidence of a potential increase in the frequency of more intense storms which are currently rare events.
Coastal Flooding 	Increase 	Projections of sea level under a high emissions scenario indicate an increase of up to 0.24 m by 2050 which will increase the frequency of coastal flooding in the county.
Coastal Erosion 	Increase 	Rising sea level is strongly linked with increases and extents of coastal erosion.
Pluvial Flooding 	Increase 	Projections indicate an increase in the frequency of heavy rainfall days (days with precipitation greater than 30mm) for Dún Laoghaire - Rathdown, with some areas projected to see an increase of up to 12.4%. This will likely result in an increased frequency of associated river and pluvial flooding.
River Flooding 		
Groundwater Flooding 	No Change 	Projections of changes in groundwater flooding are currently not available, therefore there is uncertainty in the change in groundwater flooding frequency that can be expected.

Table 3.5 Summary of climate projections for Dún Laoghaire-Rathdown County.

## FUTURE CLIMATE RISKS

The potential impacts of future risks from climate change will be increased by the socio-economic and demographic growth that the County is expected to undergo in the future. The increasing risk from climate change will have an impact on the County in terms of people and communities affected including damage and disruption to assets and the economy.

Projected changes in levels of hazard, exposure, and vulnerability, combine to form an assessment of future climate risks for dlr. The risk matrix shows the future change in risk with the hollow dot showing the current risk and the solid dot the future risk. The dashed line shows the change between the current and future risk.

As illustrated in the climate risk matrix Figure 3.7, projections indicate that the level of risk associated with some hazards (e.g. coastal erosion, coastal, river and pluvial flooding, heatwaves and droughts) will increase while the level of risk will remain the same for others (e.g. severe windstorms and groundwater). Risks associated with some hazards are expected to decrease due to projected reductions in hazard frequency such as cold spells and heavy snowfalls<sup>28</sup>.

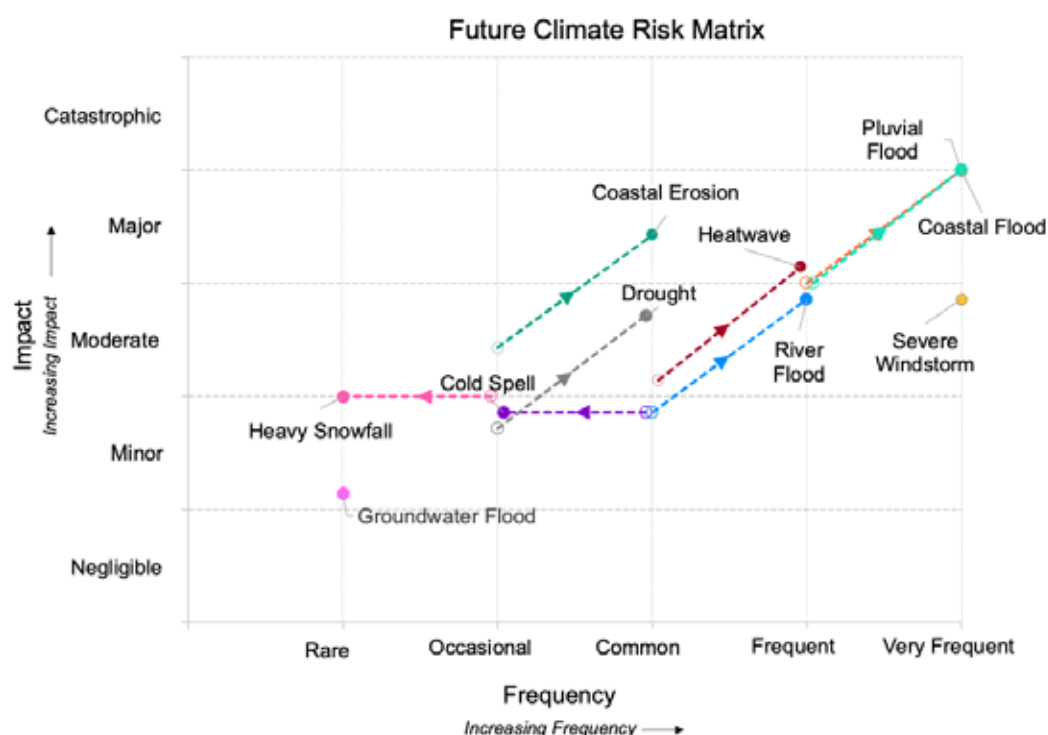


Figure 3.7: Risk matrix showing the future changes in risk for the identified hazards within Dún Laoghaire-Rathdown County.

**Coastal flooding** already poses a significant risk for our County. This has resulted in the temporary flooding of assets, transport disruption and detrimental impacts on protected species and habitats. Rising sea levels will increase the frequency and extent of coastal flooding across the County. Risk associated with coastal erosion is also projected to increase as a result of sea level rise.

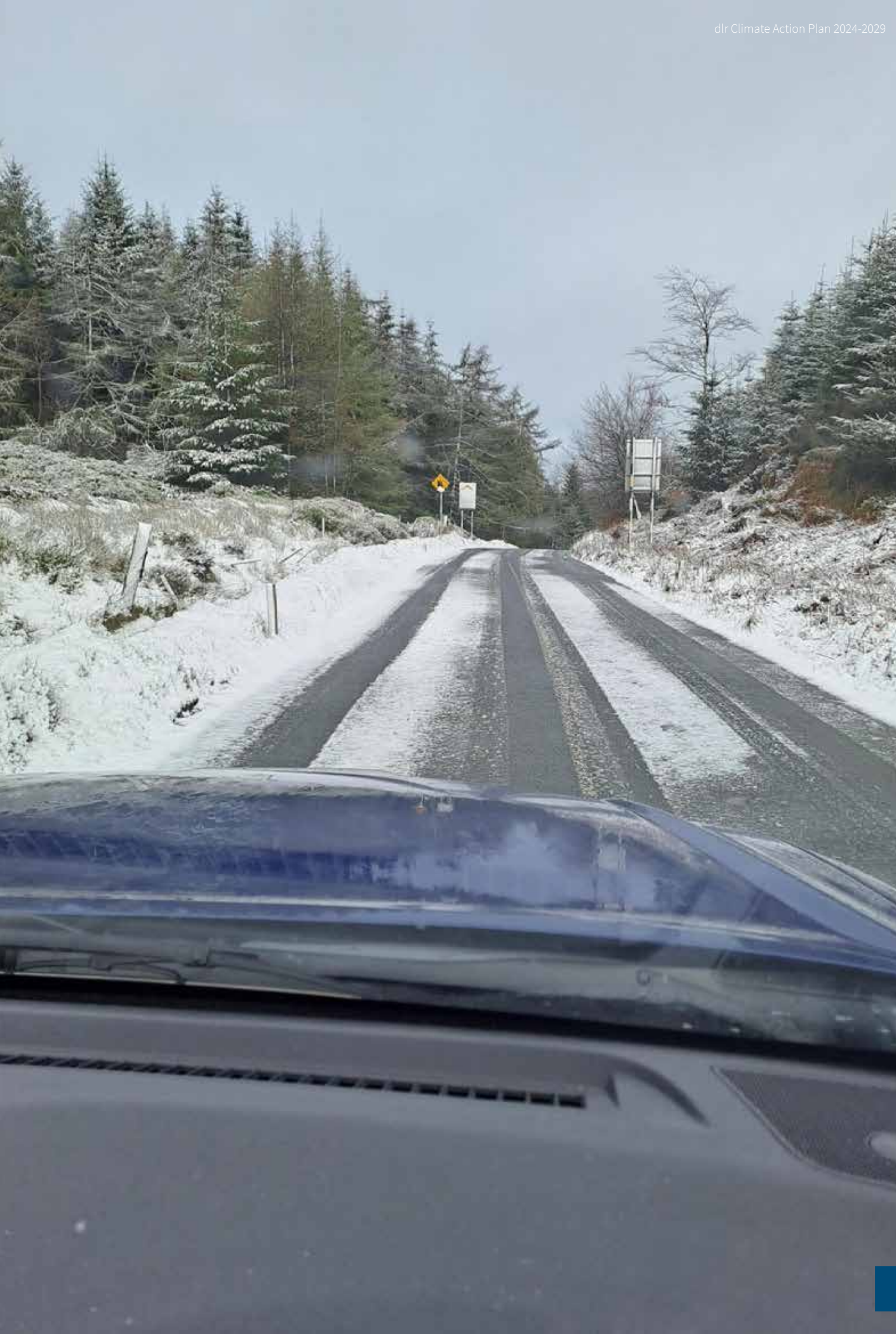
**Severe windstorms** are currently experienced on a very frequent basis across the County and result in wide-ranging impacts, including damage to power and communication infrastructure, disruption to transport networks and postponement of recreational activities. Projections indicate no significant change to this frequency.

Recent experiences of annual **river and pluvial flooding** events between 2018-2022, resulted in damages to buildings, amenities and recreational areas, closure of businesses and disruption of transport networks. Projected increases in the frequency of extreme precipitation events will result in increased surface water and riverine flood risk for the County.

The County experienced both a **heatwave** and **drought** in 2018, while a **heatwave** was also recorded in 2022. These events resulted in damage to road surfaces, disruption of public transport networks, increased frequency of uncontrolled fires and increased demand on water resources (resulting in hosepipe bans). Projected increases in the frequency of heatwaves and drought conditions will mean that events currently experienced on an infrequent basis will become more frequent.

Experiences of **cold spells and heavy snowfall** events in 2018 (e.g. Storm Emma) demonstrated the wide range of impacts for the County. These included, amongst others, road closures, disruption to public transport, power outages and impacts on water resources (restricted water supply during storm Emma). Projected increases in average temperature and decreases in the frequency of snowfall indicate a decrease in the frequency of cold spells, heavy snowfall, and their associated impacts.

**Groundwater flooding** is currently experienced rarely in the County with limited impacts such as damage to roads and transport disruption.



# 4 RESPONDING TO RISKS - EMERGENCY RESPONSE PLANNING







## EMERGENCY RESPONSE PLANNING

The Climate Change Risk Assessment (see Chapter 3) identified the potential risks that a changing climate can pose to communities, infrastructure, businesses, and service delivery within the County. This highlights the importance of preparing a response plan for major emergencies, including major emergencies relating to these extreme weather events.

A Framework for Major Emergency Management (MEM) was adopted by government decision in 2006<sup>29</sup>. Its purpose is to set out common arrangements and structures for front-line public-sector emergency management in Ireland. The Framework is based on the internationally recognised systems approach that, in essence, proposes an iterative cycle of continuous activity through five stages of emergency management: Hazard identification; Mitigation; Preparedness; Response; and Recovery.

Under the Framework, dlr is one of the three Principal Response Agencies (PRAs) and it works closely with the two other Principal Response Agencies - An Garda Síochána and the Health Service Executive (HSE). Together, the PRAs deal with all aspects of emergency management and major emergencies, including a co-ordinated response to extreme weather events.

The Major Emergency Management Framework defines a major emergency as:

“ Any event which, usually with little or no warning, causes or threatens death or injury, serious disruption of essential services or damage to property, the environment or infrastructure beyond the normal capabilities of the principal emergency services in the area in which the event occurs, and requires the activation of specific additional procedures and the mobilisation of additional resources to ensure an effective, co-ordinated response. ”



Figure 4.1: The approach to Major Emergency Management

## EMERGENCY RESPONSE AT A REGIONAL AND LOCAL LEVEL

Dún Laoghaire-Rathdown County Council (dlr) is part of the Major Emergency East Region, comprising the counties of Dublin (Including Dublin City Council, South Dublin County Council and Fingal County Council), Kildare (Including Kildare County Council) and Wicklow (Including Wicklow County Council). dlr has developed the Major Emergency Plan of Dún Laoghaire-Rathdown County Council 2017<sup>30</sup>, under guidance from the relevant framework document. To facilitate the response to, and recovery from, major emergencies, and to ensure coordination with the other two designated Principal Response Agencies, dlr regularly reviews this plan to ensure compatibility with contemporary good practice and amends it as required.

When a major emergency is declared, senior management within dlr, An Garda Síochána and the Health Service Executive (HSE) establish a local co-ordinating group. The group is responsible for co-ordinating the overall response and recovery activities of all agencies involved. The group also assumes the responsibility for keeping the public informed of real and perceived risks. Key roles in this group include a controller of operations, an on-site co-ordinator and dlr's Crisis Management Team (CMT).

The CMT is a strategic level management team within dlr which reports directly to the Chief Executive. This team is assembled if a major emergency is declared but can also be utilised for any serious incident requiring a multi-agency response.

In recent years, the occurrence of extreme weather events has been increasing in frequency. Severe weather emergencies may involve significant threats to infrastructure and support may be required for vulnerable sections of the community. The Major Emergency Plan includes sub-plans, such as Flood Emergency Plans and Severe Weather Plans which outline the mobilisation procedures and regional co-ordination protocols for responding to the varied challenges presented by extreme weather events. dlr relies on the Met Éireann weather alert system to receive advance notice of severe weather conditions. These alerts help dlr assess the appropriate response measures to safeguard the welfare of communities, protect critical infrastructure, support businesses, and ensure un-interrupted service delivery.

In the event of a major emergency, dlr will respond to the incident in co-operation with An Garda Síochána and the HSE as well as with other state agencies and private sector companies as necessary.



Figure 4.2: The Major Emergency Management East Region

Dublin Fire Brigade provides the primary response to emergencies across the Dublin area, acting as dlr's Principal Emergency Service (PES). Dublin City Council administers the Dublin Fire Brigade on behalf of Dún Laoghaire-Rathdown County Council, Fingal County Council and South Dublin County Council.

dlr supports this response by providing the following functions:

- Co-ordinating the delivery of services from all dlr departments.
- Making buildings such as leisure and community centres available to people displaced by the emergency.
- Providing a volunteer Civil Defence organisation.
- Co-ordinating and leading clean-up operations after severe weather or pollution incidents.
- Assessing structural damage to buildings.
- Co-ordinating and leading multi-agency meetings to plan community recovery.





## 5 OUR CLIMATE ACTIONS - MITIGATION AND ADAPTATION RESPONSE

ENERGY AND BUILDINGS



TRANSPORT



FLOOD RESILIENCE



NATURE-BASED SOLUTIONS



CIRCULAR ECONOMY AND RESOURCE MANAGEMENT



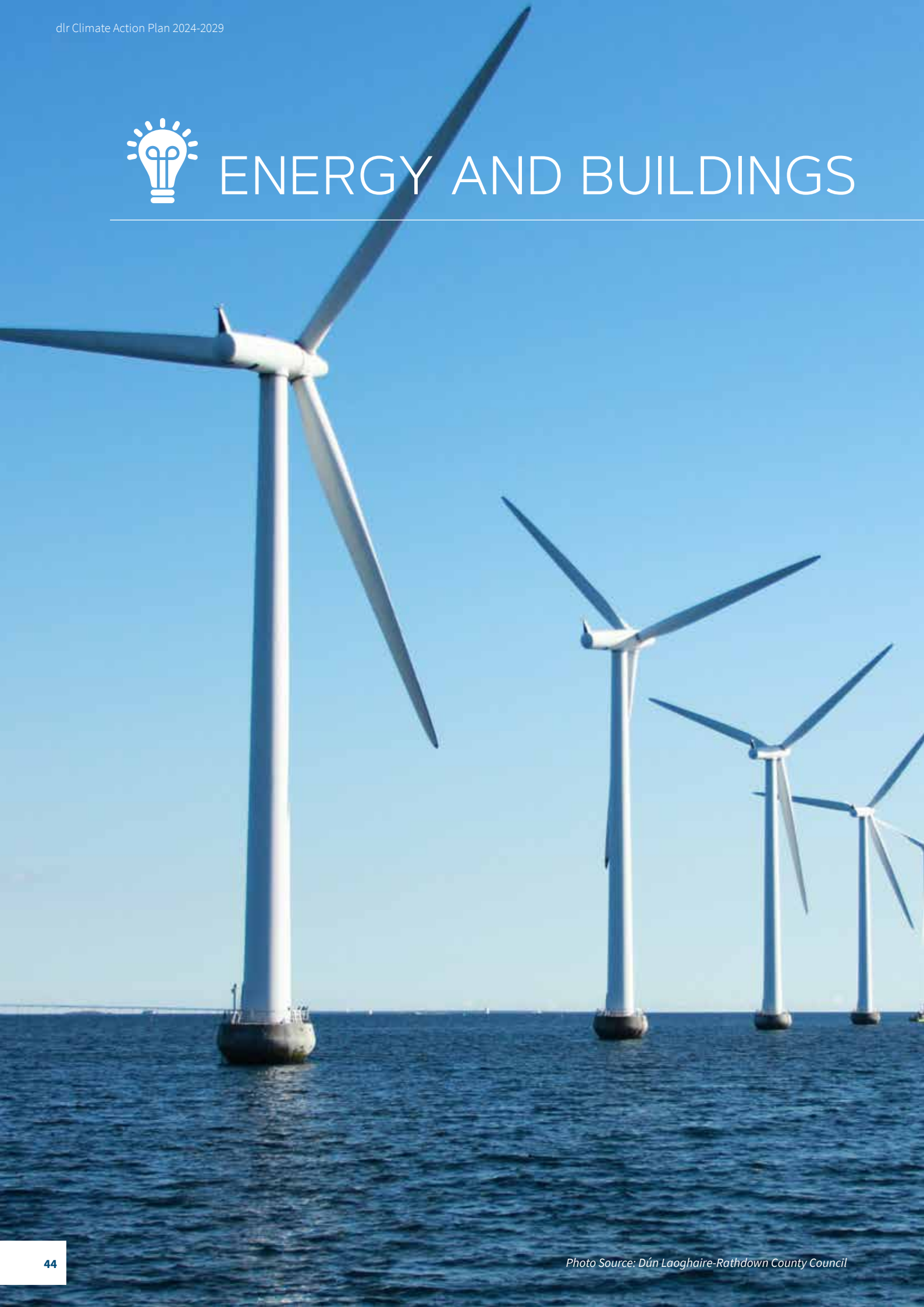
COMMUNITY ENGAGEMENT





# ENERGY AND BUILDINGS

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## ENERGY AND BUILDINGS

A central pillar of Ireland’s climate policy is the legally binding target to reduce greenhouse gas (GHG) emissions by 51% by 2030. The public sector has been assigned a leadership role in pursuit of these ambitious national targets and local authorities represent an important driver of transformative climate action efforts across Irish society.

dlr’s objectives are to reduce energy-related GHG emissions under its own control, to improve the resilience of the built environment against the effects of climate change and to positively influence energy and emissions performance within the administrative area of Dún Laoghaire-Rathdown County Council (dlr). Progress to date has been very encouraging as we embarked on a comprehensive public lighting upgrade programme and surpassed the 2020 target for energy efficiency improvement.

Looking ahead to the 2030 targets, the dlr is one of the top performing local authorities in the country. However, the achievement of additional targets for absolute emissions reduction by 2030 will require sustained efforts from all stakeholders. Under the National Climate Action Plan 2023, targets for the public sector include:

- 51% reduction in greenhouse gas emissions by 2030.
- 50% improvement in energy efficiency by 2030.
- Prohibition of new fossil fuel heating systems in public buildings after 2023.

dlr has been a leading advocate for the design of low energy buildings for many years and the County Development Plan 2022-2028 highlights support for new buildings to achieve Passive House or Net Zero Carbon design standards. In addition, the use of structural materials that have low to zero embodied energy and carbon dioxide emissions are encouraged.

## dlr's KEY OBJECTIVES FOR ENERGY AND BUILDINGS



Figure 5.1 dlr's Key Objectives for Energy and Buildings

## ENERGY MANAGEMENT

Progress towards the public sector targets is measured by the Sustainable Energy Authority of Ireland (SEAI) through their Monitoring and Reporting (M&R) System. dlr submits energy consumption data to the SEAI's M&R System on an annual basis. In addition, the SEAI directly accesses relevant metered electricity and gas consumption and applies a comprehensive Measurement and Verification (M&V) process to ensure the reliability of its reporting.

dlr established a dedicated cross-departmental Energy Team in 2009. The ambition of the Energy Team resulted in dlr becoming the first of the Dublin Local Authorities to achieve ISO50001 certification in 2017. ISO50001 is an internationally recognised standard for an organisation's Energy Management Systems (EnMS). Compliance with ISO50001 entails a systematic, data driven approach towards continual energy performance improvement, as well as continual improvement of the organisation's EnMS too. Certification to this standard requires completion of annual audits by a registered certifying body and we have maintained ISO50001 certification.

The scope of the dlr Energy Management System (EnMS) covers energy consumption under all fuel types including electricity, gas, diesel, biomass, and other heating fuels. Application of the Plan-Do-Check-Act framework to the

organisation's processes and operations contributes towards the goals of continual improvement.

Members of the Energy Team include the Energy Performance Officer, Energy Co-ordinator and representatives of the organisation's Significant Energy Users (SEUs). SEUs are entities within the organisation that consume a large proportion of the organisation's energy, such as Public Lighting, Fleet, Leisure Centres, Corporate Buildings and Libraries. Monthly meetings between the Energy Team and CODEMA representatives supports the development and implementation of appropriate action plans across the SEUs, as well as ensuring a strong focus on the 2030 energy and emissions targets.

In 2021, the Climate First Committee was established to have oversight of dlr's decarbonisation strategy and projects to meet the 2030 and 2050 public sector targets. It is chaired by the Chief Executive and members include Directors of Service and senior management in the relevant departments. In 2019 dlr won the SEAI Leadership in the Public Sector Award and in 2021 the SEAI's top award of Energy Team of the Year.







## ENERGY EFFICIENCY IMPROVEMENTS AND UPGRADES

Energy efficiency is the use of less energy to perform the same task or produce the same result. Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics, and energy-efficient manufacturing facilities use less energy to produce goods.

CODEMA, Dublin's Energy Management Agency, was set up over 20 years ago as an energy agency to provide technical and advisory support on energy initiatives to the four Dublin Local Authorities.

With technical support from CODEMA, the Energy

Team identifies opportunities for energy performance improvements across all dlr's operations and works towards implementing these through appropriate Action Plans. This includes the pursuit of available funding streams and the development of projects to bridge the gap to dlr's 2030 energy performance and carbon reduction targets.

dlr is also working to improve the energy performance of its building stock and plans to have its largest energy consuming buildings on a pathway to a BER of B2 equivalent by 2030.

### CASE STUDY

#### SOLAR PANELS AND HEAT PUMPS IN MY OPEN LIBRARIES (MOL) LIBRARIES

In 2023, solar panels and heat pumps were installed in two dlr My Open Libraries (MOLs). In Deansgrange Library twenty nine solar panels were installed, which should generate 10,000 kwh per year, with an estimated payback of 4 years. The installation of these panels will avoid an estimated 3 tons of carbon dioxide per year being produced which converts over the lifetime of the system to avoiding an equivalent of 104,298 kilometres in car journeys.

An air to water hybrid heat pump was also installed and covers 70% of the building's heat demand. It is expected that this will result in a 21,250 kwh reduction in energy consumption avoiding 4.3 tons of carbon dioxide which will lead to annual energy savings of €2,000 per annum.

In Dalkey Library, thirty one panels have been installed on the roof with an expected energy generation of 11,089 kwh per year and an estimated simple payback of 4 years. It is estimated that the installation of these panels will avoid 4 tons of carbon dioxide per year which converts over the lifetime of the system to avoiding an equivalent of 115,383 kilometres in car journeys.

The hybrid heat pump solution covers approximately 90% of the building heat demand and it is estimated that there will be a reduction of 52,000 kwh in energy consumption which will mean avoiding 10.6 tons of carbon dioxide with an estimated cost saving of €2,700 per year.

Staff at both MOLs monitor energy use and comply with measurement and verification requirements annually. This ensures the building management system is optimising use of the heat pump and solar panels generation to minimise gas consumption. Based on the measurement and verification results, the feasibility of fabric measures such as roof or wall insulation can be considered as pathways to complete building decarbonisation.



## CASE STUDY

**DÚN LAOGHAIRE-RATHDOWN LEISURE ENERGY PERFORMANCE CONTRACT**

dlr facilitated dlr Leisure to sign an Energy Performance Contract (EPC) in 2021 for energy efficiency projects for its Meadowbrook, Loughlinstown and Monkstown Leisure Centres.

An EPC is a contract between an organisation and an Energy Service Company (ESCO) which incorporates agreed energy savings over a specified duration.

The programme of works in the EPC included such projects as the installation of a new combined heat and power (CHP) system, upgrades to existing external lighting and improved building management and heating, ventilation and pool filtration systems.

The contract is intended to run for eight years, with projected energy savings of 1,500,000 kWh and 318,000 kgCO<sub>2</sub> per annum, which represents 24% of total energy consumption. The total cost savings are expected to be over €98,000 per year - a cost reduction of 31%.

**PATHFINDER AND DELIVEREE**

SEAI's Pathfinder Scheme seeks to create a step-change in energy efficiency and decarbonisation by providing capital support to public bodies for projects which entail energy-demand reduction measures and/or reduce GHG emissions. The scheme prioritises projects with comprehensive approaches to building retrofits to at least BER 'B' and features renewable heating systems.

Under the EU-funded DeliverEE project, CODEMA has developed a Project Implementation Unit (PIU) to assist the four Dublin Local Authorities progress suitable projects. DeliverEE aims to build a structure that will facilitate the investment of private finance into public projects. This approach seeks to scale-up and accelerate the delivery energy upgrade projects in public buildings, as well as the development of appropriate renewable energy projects. A key output from DeliverEE will be sharing of the learnings from this experience, with the intention to replicate similar projects in commercial and residential buildings across Dublin.





## SOCIAL HOUSING RETROFITS

dlr's efforts to retrofit properties in our social housing stock are undertaken as part of the Department of Housing, Local Government and Heritage's Energy Efficiency Retrofitting Programme (EERP). Launched in 2021, the EERP is a 10-year programme that aims to retrofit local authority housing stock to a B2/Cost Optimal BER.

Each year, a target will be set for dlr under the programme with funding allocated to complete the required works. In the first two years of the EERP, dlr has overachieved on our targets and received additional funding from the Department above our initial allocation.

We expect our targets and funding under the programme to increase annually during the period covered under this Plan. We are committed to maximising the funding being made available to us to improve the energy efficiency of our housing stock. In doing so, we will ensure our tenants can enjoy warmer, more energy efficient homes.

## ENERGY AWARENESS

The Energy Team regularly engages with staff and communities on energy awareness initiatives. This includes continuous professional development training for staff such as energy performance improvements to architectural and heritage assets and promoting and implementing supports to encourage energy efficiency amongst Small and Medium Enterprises (SMEs). Further energy awareness initiatives include the provision of Home Energy Savings Kits (as pictured), which are available to borrow, free of charge, from selected libraries across the County.

## ENERGY PLANNING AND RENEWABLES

Ireland is currently over-reliant on imported fossil fuels and exposed to price increases on the European energy markets. Reducing our reliance on imported fossil fuels is vital for reducing this level of exposure. The national Climate Action Plan 2023<sup>10</sup> includes a commitment that 80% of our electricity will come from renewable sources by 2030 significantly reducing natural gas consumption nationally. Furthermore, electrification of heat and transport has been identified as a key strategic pathway to meet the National Climate Objective.

Significant potential exists for the production of electricity from large-scale off-shore wind-energy off the coast. dlr will engage with the relevant stakeholders in relation to the development and implementation of wind and other energy infrastructure projects. dlr will also facilitate the improvement of transmission grid infrastructure to enable the decarbonisation of the electricity, heat and transport sectors.



## DUBLIN ARRAY

The Dublin Array project is a major offshore wind development that will be located in the Irish Sea off the coast of Dublin and Wicklow. The project aims to harness the region's abundant wind resources to generate clean and renewable energy thereby contributing to Ireland's renewable energy goals and reducing carbon emissions. Dublin Array is a joint venture project between RWE Renewables and Irish company Saorgus Energy. Having been awarded a Maritime Area Consent in 2022 and being successful in Ireland's first Offshore Renewable Electricity Support Scheme (ORESS) auction in 2023, Dublin Array is a key enabler to meeting the Government's Climate Action Plan target of 5GW of offshore wind energy being connected to the Irish national electricity grid by 2030.

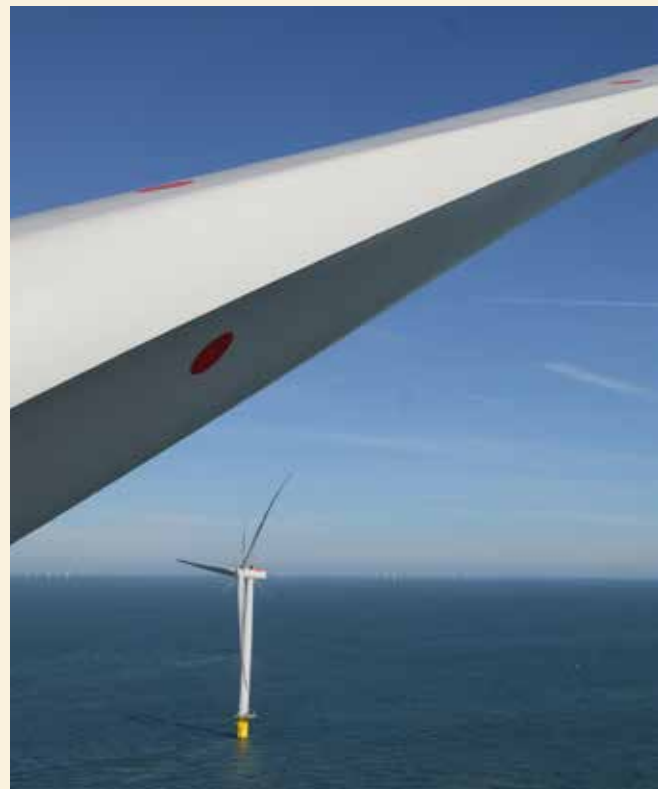
The proposed wind farm will consist of between 39 and 50 wind turbines offshore, which will convert wind energy into electricity. Once completed, it is expected to deliver up to 824 megawatts (MW) of renewable electricity. It will remove approximately 1.4 million tonnes of carbon annually, helping to significantly decarbonise Ireland's electricity supply.

The project is not only beneficial in terms of generating clean electricity, but also has the potential to create numerous job opportunities and boost the local economy. Dún Laoghaire harbour has been identified as the preferred operation and maintenance (O&M) base for the project. Developing Dún Laoghaire as an O&M base to support Offshore Renewable Energy (ORE) is a core recommendation in the 2021 Economic Plan for Dún Laoghaire commissioned by dlr. During the construction phase, the project is expected to employ a significant number of workers including engineers, technicians and support staff. Additionally, the ongoing operation and maintenance of the wind farm will require a skilled workforce to be based permanently at the O&M base for the lifetime of the project.

Another notable aspect of the project is the community benefit fund that will be established to support local communities in the vicinity of the wind farm. Under the terms and conditions of the ORESS contract, Dublin Array is committed to funding a Community Benefit Fund (CBF) of €2/MWh for the lifespan of the contract. This equates to approximately €6.5million per annum for up to 20 years, depending on the final operating capacity of the project.

Typically, CBFs associated with wind farm projects are used to support various projects, such as recreational facilities, sustainable energy and climate action initiatives, energy efficiency and education and skills development. A fund committee, made up of representatives from the local area, will make decisions on where funding will be spent. This committee is appointed and supported by an independent fund administrator, who will be engaged by Dublin Array following an open tender process. The committee, supported by the fund administrator, will create a development plan for the fund, shaped by consultation with local people. The aim being to ensure the fund is tailored to meet the specific needs of the local communities.

The development of the project and its associated community benefit fund represents a significant opportunity for the Dún Laoghaire Rathdown area to benefit from renewable energy generation. It not only contributes to Ireland's renewable energy targets but also has the potential to stimulate economic growth, promote sustainability and improve the quality of life for communities in the County.





## THE HERITAGE RESOURCE

The continued use and reuse of older buildings is an essential component of compact climate-resilient communities and avoiding greenhouse gas emissions. Carbon reduction strategies have to date largely concentrated on operational emissions and fabric performance, but it is becoming clear that to meet climate goals, the embodied emissions from the whole lifecycle of a building must also be included in assessments. A Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage was prepared in 2019 by the National Monuments Service and Built Heritage Policy Unit.

It includes goals in relation to the adaptation of built/archaeological heritage, the maintenance of heritage for future generations, knowledge/skills transfer, and understanding the vulnerability of the heritage resource to climate change. Local Authorities are tasked with identifying heritage assets within their remit that may be under threat either directly or indirectly because of climate change and prioritising climate-proofing responses.

Forthcoming national guidance will address embodied carbon and lifecycle assessment, climate risk assessment methodology for heritage structures and hygrothermal properties for a range of Irish traditional construction materials and or assemblies.

“ *The greenest building is the one already built* ”  
*Carl Elefante, 2007*





# ENERGY AND BUILDINGS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Facilitate and advocate for improved energy efficiency and carbon reduction in our County.</b>							
<b>EB1</b>	Review Energy Statements for planning applications	Number of applications reviewed	2024 Annually thereafter	Mitigation	Full Accountability	Planning and Economic Development (including Dún Laoghaire Harbour)	Forward Planning Infrastructure
<b>EB1A</b>	Review how planning applications demonstrate regard to the relative energy cost of and expected embodied and operational carbon emissions and demonstrate maximum energy efficiency over the lifetime of the development to align with climate policy.	Number of applications reviewed	2024 Annually thereafter	Mitigation	Full Accountability	Planning and Economic Development (including Dún Laoghaire Harbour)	Forward Planning Infrastructure
<b>EB2</b>	Develop, or procure a tool to be used for high level assessments of embodied carbon in dlr projects at design stage	Roll out of tool Number of projects utilising the tool	Planned Commencement 2025	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
<b>EB3</b>	Facilitate the development of offshore renewable energy projects whilst advocating and exerting influence to ensure such projects promote climate action co-benefits, support homeowners, schools, businesses, community and club facilities in their endeavours to reduce their carbon footprint and do not contravene relevant environmental protection criteria or cause significant negative environmental effects	Number of relevant meetings / public engagements Offshore Renewable Projects undertaken	Progress reported annually	Mitigation	Co-ordinate and facilitate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Planning and Economic Development (including Dún Laoghaire Harbour)  Forward Planning Infrastructure
<b>Leading by example by reducing dlr energy use.</b>							
<b>EB4</b>	Submit Sustainable Energy Authority of Ireland (SEAI) Monitoring & Reporting (M&R) System Annual Returns	Completed data returns on dlr meters, other fuels including fleet and staff business travel	Annually	Mitigation	Full Accountability	Architects	Codema Significant Energy Users Representatives
<b>EB5</b>	Progress delivery of key 2030 Public Sector targets under Sustainable Energy Authority of Ireland (SEAI) Monitoring & Reporting System	Energy Efficiency Improvement Reduction in Emissions (Total) Reduction in Emissions (Thermal and Transport) on the M&R Scorecard	Reported annually	Both	Full Accountability/ Co-ordinate and facilitate	Architects	dlr Climate First Committee Codema
<b>EB6</b>	Increase share of renewables in dlr's energy consumption <b>Note A</b>	Share of dlr's energy consumption attributed to renewables on the M&R Scorecard	Reported Annually	Mitigation	Full Accountability/ Co-ordinate and facilitate	Corporate Affairs (including IT and Human Resources)	Codema
<b>EB7</b>	Continued Energy Performance improvement within an Energy Performance Contract (EPC) and decarbonisation in dlr owned Leisure Centres	Measurement and verification of Energy Performance Contract savings Are the agreed energy savings being achieved? Yes/No Percentage carbon emissions reduction since average 2016-17-18 baseline	Reported annually	Mitigation	Full Accountability	dlr Leisure	dlr Energy Team Codema



# ENERGY AND BUILDINGS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
EB8	Implement Energy Performance Contracts (EPC) / energy performance arrangements in agreed dlr-owned buildings	Number of EPC's implemented	Reported annually	Mitigation	Full Accountability	Corporate Affairs (including IT and Human Resources) Infrastructure and Climate Change (including Road Maintenance and Traffic)	dlr Energy Team Codema
EB9	Undertake energy upgrades on dlr-owned housing stock through the Energy Efficiency Retrofitting Programme (EERP) <b>Note B</b>	Number of energy and decarbonisation upgrades carried out through the EERP resulting in a minimum of a B2 BER	Reported annually	Both	Full Accountability	Housing	Department of Housing, Local Government and Heritage
EB10	Capture accurate BER information for dlr-owned housing stock	Number of properties in the housing stock with a BER rating	2024 Annually thereafter	Mitigation	Full Accountability	Housing	
EB11	Update dlr Building Register to include Meter Point Reference Number (MPRN)/Gas Point Registration Number (GPRN), M&R attribution status and Floor Area	Percentage completion of full details on Buildings Register of MPRN/GPRN, M&R attribution status, Floor Area	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
EB12	Implement energy upgrades on dlr-owned buildings (non-housing) <b>Note B</b>	Number of energy and decarbonisation upgrades carried out	2024	Both	Full Accountability	Corporate Affairs (including IT and Human Resources) Infrastructure and Climate Change (including Road Maintenance and Traffic)	Building Owner Department Architects dlr Energy Team Codema Community, Cultural Services and Parks
EB13	The development of new buildings required by the dlr will contribute to dlr's public exemplar role by being "buildings of innovative design which seek to achieve Passive House or Net Zero design standards" in accordance with the County Development Plan 2022-28	Standard on new build projects undertaken by dlr	2024 Annually thereafter	Both	Full Accountability	Architects dlr Energy Team Project Governance Board	Building Owner Department
EB14	Update 'Display Energy Certificates' (DECs) for relevant dlr owned public buildings	Certificates displayed in relevant buildings	Annually	Mitigation	Full Accountability/ Co-ordinate and facilitate	Architects	Codema
EB15	Engage with funding programmes for energy projects and buildings	Number of funding programmes engaged with	2024 Annually thereafter	Both	Full Accountability	As per project/ building	Corporate Affairs (including IT and Human Resources) Community, Cultural Services and Parks
EB16	Maintain ISO 50001 Energy Management System Certification	Continued certification to the international standard	2024 Annually thereafter	Both	Full Accountability	Architects	Codema dlr Energy Team





# ENERGY AND BUILDINGS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>EB17</b>	Carry out energy performance monitoring/ research projects in dlr-owned housing and/or buildings; ensure monitoring/ research outputs are incorporated into future decision making processes	Monitoring/ Research projects undertaken	2024 Annually thereafter	Mitigation	Full Accountability	Housing	dlr Energy Team Architects Corporate Affairs (including IT and Human Resources) Codema
<b>EB18</b>	Implement identified DeliverEE / Pathfinder projects across dlr premises to include the decarbonisation of Significant Energy User (SEU) buildings	Number of projects	2024 Annually thereafter	Both	Full Accountability	Corporate Affairs (including IT and Human Resources)	dlr Energy Team Community, Cultural Services and Parks Codema
<b>EB19</b>	Increase the proportion of public lighting using high-energy efficiency/ LED lighting while ensuring the lumen levels and spectral range are maintained or reduced/controlled to avoid effects to biodiversity	Savings of kWh per annum	Substantial transition by 2025	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
<b>EB20</b>	Create a 'Green Building Neighbourhood' incorporating Energy creation, storage and distribution including aspects of retrofit insulation and 'smart' building management' (known as the ProBono Project) <b>Note C</b>	Delivery of the reporting milestones within the ProBono Project	In the next 4 years, periodic reporting on milestones	Both	Full Accountability	Corporate Affairs (including IT and Human Resources)	Smart Dún Laoghaire Smart Dublin dlr Energy Team
<b>EB20A</b>	Work with partners in the Climate Action Regional Office, CODEMA and others to develop a plan to reduce scope 3 emissions over the lifetime of the Plan.	Scope 3 Reduction Plan developed	2029	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	CARO CODEMA Neighbouring Local Authorities Other Agencies
<b>Protect and adapt our Heritage Resource</b>							
<b>EB21</b>	Reduce energy use of dlr owned heritage properties having due regard to the need to appropriately protect and conserve protected structures in accordance with relevant protected structures regulations	Energy use and decarbonisation savings of kWh per annum	2025	Mitigation	Full Accountability	Community, Cultural Services and Parks Conservation Corporate Affairs (including IT and Human Resources)	dlr Energy Team
<b>EB22</b>	Develop projects to promote adaptive reuse/increased use of historic structures/traditional buildings having appropriate regard to protected species and structures regulations	Number of case study projects selected and delivered	2028	Mitigation	Full Accountability	Community, Cultural Services and Parks	Architects Planning and Economic Development (including Dún Laoghaire Harbour) Infrastructure and Climate Change (including Road Maintenance and Traffic)
<b>EB23</b>	Complete Climate Change Risk Assessments on identified dlr owned architecture/ archaeology	Number of sites identified Number of climate risk assessments completed	2024	Adaptation	Full Accountability	Community, Cultural Services and Parks	Architects GIS Mapping Sections Department of Housing, Local Government and Heritage
<b>EB24</b>	Prepare and implement 'Disaster Management Plans' for built heritage to include regular programmes of inspections, maintenance and conservation	Number of disaster management plans completed Number of exemplars/pilot studies	2029	Adaptation	Full Accountability	Community, Cultural Services and Parks	Architects Heritage Attraction Managers Office of Public Works National Monuments Service





# ENERGY AND BUILDINGS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>EB25</b>	Carry out risk assessment and audit of dlr archives and collections to ensure disaster management plans are completed and actioned	Number of items covered by Disaster Management Plan	2029	Adaptation	Full Accountability	Corporate Affairs (including IT and Human Resources) Community, Cultural Services and Parks	Community
<b>EB26</b>	To improve climate resilience and energy performance of architectural and archaeological heritage in public and private ownership through heritage funding schemes; subject to appropriate protection and restoration considerations	Number of sites per year funded through the scheme	2029	Mitigation/ Adaptation	Co-ordinate and facilitate.	Conservation/ Architects	Department of Housing, Local Government and Heritage Heritage Council
<b>EB27</b>	Identify sites/areas where damage as a result of climate change is inevitable and record the architectural, archaeological, and cultural heritage at these sites	Number of case studies completed	2029	Mitigation	Co-ordinate and facilitate	Community, Cultural Services and Parks	Infrastructure and Climate Change (including Road Maintenance and Traffic)
<b>EB28</b>	Create training programme for dlr staff / interested members of the public in use of traditional building materials and skills	Number of courses held. Number of staff trained Number of structures repaired	2028	Mitigation	Full Accountability	Community, Cultural Services and Parks	Multi-Departmental

## Integrated Environmental Considerations:

<b>Note A</b>	Action EB6	Where it is confirmed through appropriate environmental assessment that associated renewable energy development will not have any significant environmental effect.
<b>Note B</b>	Actions EB9, EB12	Having due regard to environmental sensitivities such as local human receptors, European sites and biodiversity, and the need to appropriately protect and conserve protected structures.
<b>Note C</b>	Action EB20	Having due regard to the need to ensure renewable energy development forming part of this project will not have any significant negative environmental effect.





# TRANSPORT





## TRANSPORT

Transportation has a critical role to play in our approach to climate change, as it contributes to a significant amount of Greenhouse Gas (GHG) emissions. In the County, the transportation sector is the largest contributor to GHG emissions, with an estimated 41% of the total emissions. How we choose to travel for work, education, shopping or leisure has a big impact on emissions. However, this also presents numerous opportunities for positive change.

The national Climate Action Plan (CAP23)<sup>10</sup> sets out an ambitious target for the transport sector to reduce its emissions by 50% by 2030. CAP23 outlines the steps which will enable a radical, equitable transformation in how we travel over the next seven years to move towards the 50% reduction in carbon emissions by 2030 and a fully decarbonised transport sector by 2050.

This is a challenging target - Ireland is undeniably dependant on private cars, both in an urban and rural setting and for both social and economic purposes. The 2022 Census<sup>31</sup> outlined that the number of people who drove to work increased by 4% to 1.2 million between

2016 and 2022. The dominant form of transport for school children remained the car, with 55% of primary school and 42% of secondary school children being driven or driving to school.

Dún Laoghaire-Rathdown County Council (dlr) has a target to reduce the GHG emissions by 50% by 2030 and this plan sets out key actions to address this target. Meeting these challenging targets demands the implementation of various initiatives, including expanding public transport capacity and services, enhancing walking and cycling infrastructure and enacting behavioural change and demand management measures. Moreover, these actions will pave the way for achieving the even more ambitious goal of reaching net-zero emissions by 2050.

The past approach of supplying ever more road space to meet growing demand has given way to the preferred transport strategy known as Avoid-Shift-Improve. This is based on avoiding or reducing the frequency of trips, shifting to more environmentally friendly travel modes and improving the energy efficiency of motorised transport modes.

## dlr's KEY OBJECTIVES FOR TRANSPORT

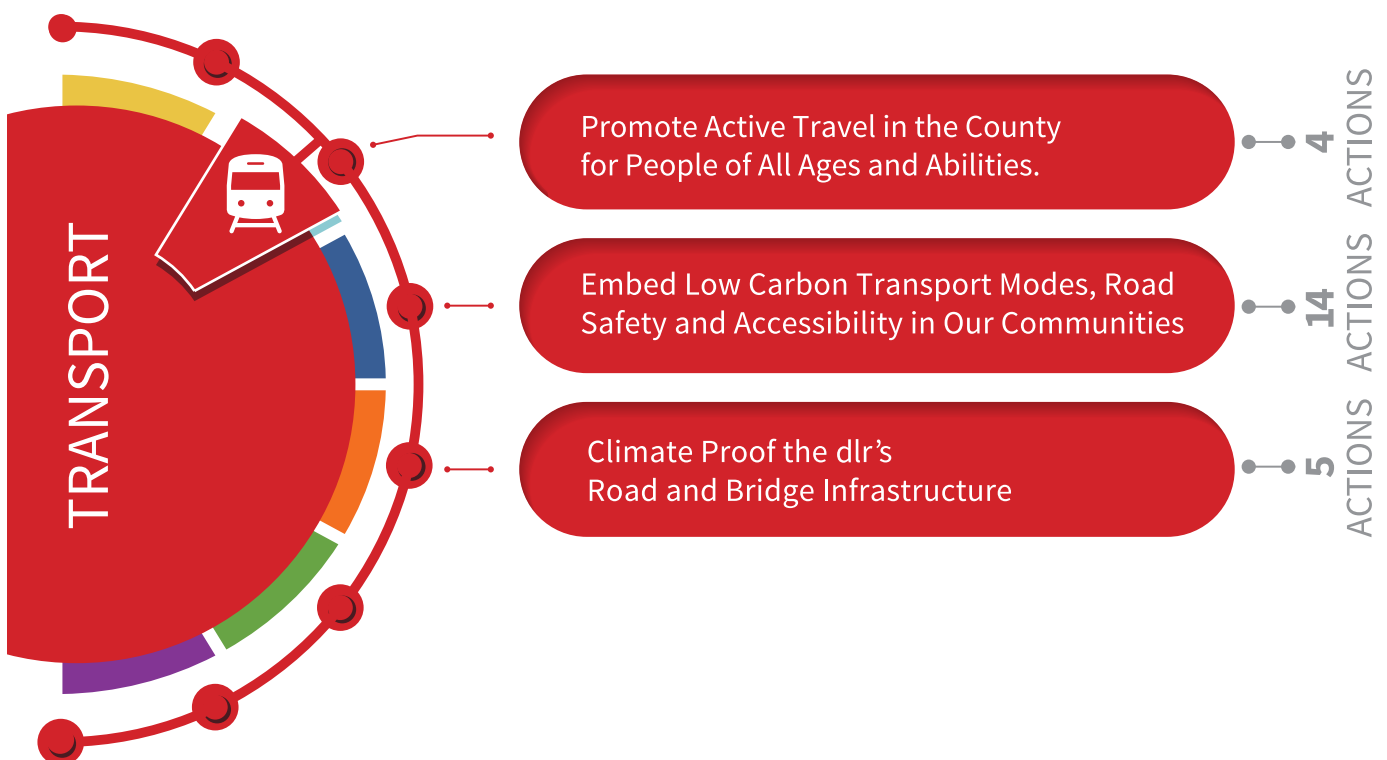


Figure 5.2: dlr's Key Objectives for Transport

dlr supports the Avoid-Shift-Improve approach through its County Development Plan strategy and policies. It promotes the integration of land use and transportation, with a focus on compact growth served by high quality public transport and walking and cycling infrastructure.

dlr also works with a range of stakeholders, including the National Transport Authority (NTA) and the other Dublin Local Authorities to improve the sustainable transport options in the Dublin region by implementing the measures in the Greater Dublin Area Transport Strategy 2022-2042<sup>32</sup> and the National Sustainable Mobility Policy<sup>33</sup>.

By encouraging sustainable transportation alternatives and reducing car dependency, dlr is not just working towards meeting its climate action commitments, but is also taking significant strides towards building more people focused, liveable places.

*“Expanding walking and cycling options to promote greater use of active travel can support our climate targets to reduce emissions as well as improving fitness levels and public health, and reducing congestion and private car use.”*

National Sustainable Mobility Policy<sup>33</sup>

**6** *Sustainable travel is about the movement of people and goods in a manner that engenders quality of life and ease of access for all and seeks to encourage a modal shift in favour of public transport and other active modes. Key to the Avoid-Shift-Improve approach is the shift to more sustainable modes. The increase in active travel modes contributes to healthy lifestyles and is an essential response to climate change. 9*

County Development Plan 2022-2028<sup>18</sup>



Photo Source: Wikimedia Commons / Niaz

### VEHICLE FACT FILE 2023

- Average Petrol car produces approx. 157g of CO<sub>2</sub> emission every kilometer.
- Average diesel car produces approx. 149g of CO<sub>2</sub> emissions every kilometer.
- Average electric vehicle (EV) produces approx. 50g of CO<sub>2</sub> emissions every kilometer (based on current electricity grid supply in Ireland).
- Average electric vehicle (EV) produces approx. 18g of CO<sub>2</sub> emissions every kilometer (based on the projected electricity grid supply in Ireland in 2030).

**Rule of thumb** - the larger the car, the more the emissions! SUVs generally use 20% more fuel than equivalently sized traditional cars - this is true for both internal combustion engine (ICE) and electric SUVs.

Looking at the full life cycle of EVs, battery technology is rapidly evolving and becoming less resource and energy intensive in its production. Over the full vehicle lifecycle, EVs generate much less CO<sub>2</sub> emissions than ICE vehicles.

*(Figures referenced from Dublin Region Energy Masterplan)<sup>25</sup>*



**PROMOTE ACTIVE TRAVEL IN THE COUNTY FOR PEOPLE OF ALL AGES AND ABILITIES.**

Active Travel involves travelling with a purpose, using your own energy via sustainable means. It includes walking, cycling and wheeling (think skateboards, roller skates, non-motorised scooters) as part of a purposeful journey. Walking to school and cycling to work are both considered forms of Active Travel.

It is critical to provide people of all ages and abilities with a well-connected, well designed, and safe cycle network and bicycle parking, to offer people a credible alternative to using the car. dlr is actively working to improve pedestrian and cycling infrastructure to encourage the uptake of cycling and walking throughout the County. Currently dlr is progressing more than fifty projects, including the 'dlr Connector' walking, cycling and public realm improvement scheme, which will connect neighbourhoods and villages east to west across the County through a safe, accessible and attractive walking and cycling route with public realm and greening. Other notable projects include the dlr Central Scheme and the Taney Road to N11 Active Travel Route.

These projects in conjunction with other transport related measures will encourage a modal shift across our communities. Initiatives, awareness and education campaigns, such as primary school cycle training and support of the accessible bike borrowing scheme also have a role to play.



**BIKE SHARE SCHEME**

Public bike share schemes can play an important role in reducing our reliance on the private car for shorter journeys. By offering first and last-mile connections to public transport, they enable seamless multi-modal travel.

Additionally, these schemes provide an affordable and accessible entry point for new cyclists encouraging a shift towards more sustainable transportation options. dlr remains committed to working with private operators to expand the number of bike share schemes within the County.

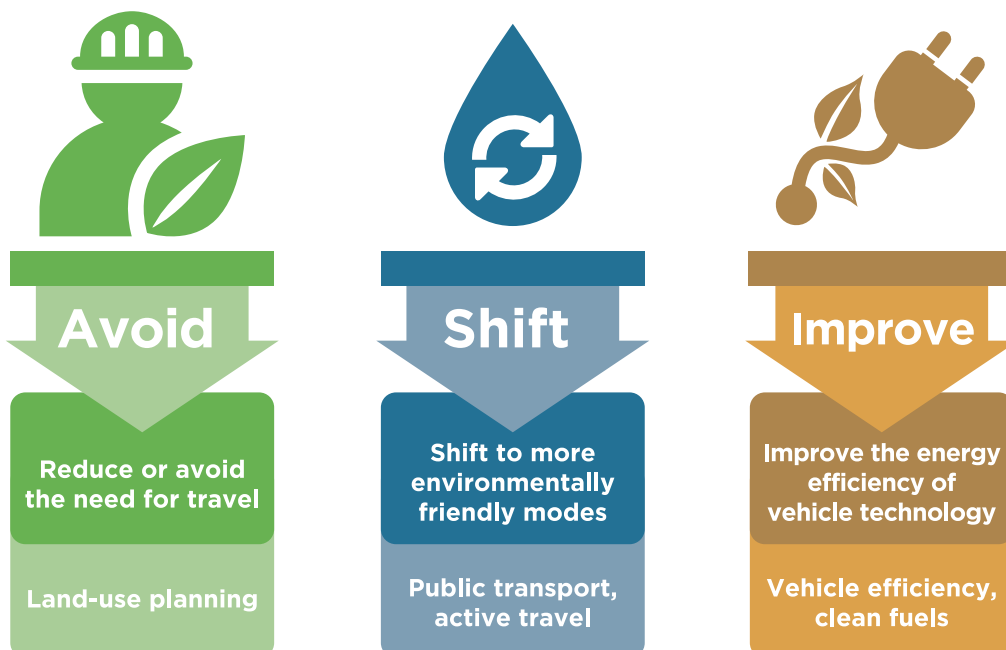


Figure 5.3: Avoid-Shift-Improve approach to managing our fleet



*“A holistic approach to transport is required with the aim to reduce dependency on the private car in favour of walking, cycling and public transport.”*

*County Development Plan 2022-2028<sup>18</sup>*

CASE STUDY

### ACTIVE SCHOOL TRAVEL ROUTES: SEA TO MOUNTAINS

The Active School Travel initiative aims to provide a connected and safe network of walking and cycling routes to schools across the County. There are three routes to this scheme Sea to Mountains, Mountains to Metal and Park to Park.

The Sea to Mountains route links east to west across the County. Starting at Blackrock Dart Station, crossing the N11 to Deerpark, it then continues south linking to the Sandyford Cycle Route and Kilmacud Luas Stop and on to the Slang River Greenway and Wicklow Way.

The route includes circa 1.3km of new protected cycle tracks, traffic calming measures, new signage and wayfinding, modal filters and junctions that provide pedestrian and cyclist’s priority.





## EMBED LOW CARBON TRANSPORT MODES, ROAD SAFETY AND ACCESSIBILITY IN COMMUNITIES.

To change travel behaviour, we need to both incentivise the use of active travel and public transport, and also implement measures that reduce the attractiveness of private car usage in areas where sustainable mobility options are available. dlr, in line with regional and national transport policies and objectives, is looking at the reallocation of road space to reduce car dependency in favour of walking, cycling, and public transport use. Road space reallocation can take many forms including; converting general traffic lanes to public transport lanes or cycle lanes, converting on-street parking to other sustainable transport and related uses, pedestrianising streets, and redesigning junctions to provide greater capacity for cyclists and public transport.

### CASE STUDY

#### COASTAL MOBILITY ROUTE

The **Coastal Mobility Route** is an award-winning cycling and public realm project which connects the heritage villages along the Dún Laoghaire-Rathdown County Council coastline, from Newtown Avenue in Blackrock to Sandycove and the Forty Foot bathing area. The full segregation of the route was achieved through the **reallocation of road space**, by the introduction of a one-way system for vehicles, on Seapoint Avenue (N31), Queen's Road, Windsor Terrace and Marine Parade.

The infrastructure design prioritised inclusion and diversity, ensuring a safe, spacious, and segregated cycling facility accessible to all ages, genders and abilities. Due its safe and attractive features, the route saw two million cycling and walking trips in its first year. Notably the route also exhibited a more equal gender split of people cycling (35% of all cyclists were women) compared to the national average<sup>34</sup> (27% women cycling to work, school or college).



## PATHFINDER PROGRAMME

The Pathfinder Programme is focused on reducing carbon emissions in the transport sector by delivering high-impact, local sustainable transport and public space initiatives by 2025. dlr is working with the Department of Transport and the NTA to implement Living Streets Dún Laoghaire which is one of 35 "Pathfinder" projects.

Living Streets will explore options for sustainable mobility and public realm improvements to make our local streets safer and greener, our economy more vibrant and our communities connected.

## dlr's FLEET

dlr's transport fleet is made up of 316 vehicles, which consumed 4.03 GWh of primary energy and accounted for 9.5% of dlr's total emissions in 2021. dlr is committed to increasing its electric fleet on a phased basis, with 11 electric cars, 12 electric vans, 30 electric bikes and one electric cargo bike currently in its fleet. Converting the fleet to electric vehicles will support dlr in reducing carbon emissions from its own activities.

## PUBLIC TRANSPORT

The Greater Dublin Area Transport Strategy 2022-2042, developed by the National Transport Authority (NTA), aims to "provide a sustainable, accessible and effective transport system for the Greater Dublin Area which meets the region's climate change requirements, serves the needs of urban and rural communities and supports the regional economy<sup>32</sup>."

Implementation of public transport projects such as BusConnects and the expansion of rail services and infrastructure will significantly increase the capacity and range of the public transport network in the County and ensure that future increases in travel demand can be facilitated by high quality public transport. dlr will continue to work with the relevant transportation bodies (including the National Transport Authority (NTA), Transport Infrastructure Ireland (TII), Dublin Bus, Luas, Irish Rail, Bus Éireann, and Road Safety Authority) to enhance public transport options and facilitate the transition to more sustainable transportation modes.

## ELECTRIC VEHICLES

Where a transition to public transport or sustainable active travel modes is not feasible, Electric Vehicles (EV) can play a part in reducing the carbon emissions associated with internal combustion engine (ICE) vehicles. To reflect this understanding, Zero Emission Vehicles Ireland (ZEVl)<sup>35</sup> has been established to support the delivery of a national EV charging network and to further assist communities, the public sector and businesses to continue to make the switch to zero emission vehicles. The national target is to have 30% of our private car fleet switched to electric by 2030, in conjunction with Ireland's target of 75% reduction in emissions by this date, facilitated by large-scale deployment of renewable energy to decarbonise Ireland's power sector.

The Dublin region represents approximately 25% of Ireland's car fleet and so has a significant role to play in the decarbonisation of the country's transport system. dlr, in conjunction with the other three Dublin Local Authorities has developed the Dublin Local Authority Electric Vehicle Charging Strategy (2022-2030)<sup>36</sup> to support the transition to Electric Vehicles. It sets out the Local Authorities roll in facilitating a co-ordinated approach to the deployment of EV charging infrastructure. Work has begun on implementing the strategy and will continue under the Climate Action Plan 2024-2029.

## ROAD SAFETY

dlr recognises that pedestrians and cyclists are more vulnerable on the road than motorists and is working with other agencies including the Road Safety Authority and the NTA to implement road safety initiatives as outlined in The Road Safety Strategy 2021-2030<sup>37</sup>. dlr is working with the NTA and An Taisce to deliver the Safe Routes to School (SRTS.) Programme. Under the programme, safer walking and cycling infrastructure within communities will be provided to make it easier for children, parents and teachers to safely walk, cycle and scoot to school every day.

## CLIMATE PROOF dlr's ROAD AND BRIDGE INFRASTRUCTURE

dlr is maintaining ongoing investment in the County's existing road network to a robust and safe standard. This will continue to ensure that the existing road based public transport and active travel systems are maintained to a high-standard, with a continued safe and quality level of service, accessibility and connectivity for all users. dlr is also exploring new road surfacing techniques that are more sustainable, resulting in lower emissions during the construction process.

**Zero Emission Vehicles Ireland** is a Government of Ireland initiative based in the Department of Transport which coordinates measures to support the uptake of zero emission vehicles and the rollout of charge point infrastructure to accelerate progress towards Ireland's ambitious electric vehicle targets committed to in the Climate Action Plan 2021. It has an objective voice on zero emission vehicles, providing advice to both public and private sectors and carrying out significant stakeholder engagement. The Office works across government, industry and society to support the switch to zero emission vehicles, drawing on the skills and experience of the Department of Transport, Sustainable Energy Authority of Ireland, the National Transport Authority and Transport Infrastructure Ireland.

### Its functions include:

- Supports for uptake of zero emission vehicles;
- Infrastructure delivery through funding and policy guidance;
- Strategy and policy lead, including taxation and regulation;
- Research and innovation;
- Communications and public and stakeholder engagement.







### ROAD MAINTENANCE AND REPAIR – ROCK ROAD

A new thermoplastic treatment for road maintenance and repair using a thermal repair unit has been trialled on the Coastal Mobility Route Extension on the Rock Road. This unit generates heat by using renewable energy, via a mix of liquid petroleum gas and integrated energy-efficient solar panels, to heat areas of the carriageway showing signs of deterioration. The existing failing or failed material is then mixed with 10% new material to create a homogeneous mix which is then raked and compacted with a roller, leaving a superior surface finish with no joints and a repaired road. The climate benefits of this solution include the reuse of the existing road material and the lower energy use of the machinery used in the process.



### CO-BENEFITS TO TRANSPORT MITIGATION MEASURES

- Replacing short car trips with cycling or walking can help individuals achieve their weekly minimum recommendation for physical activity.
- Petrol and diesel vehicles release particulate matter and gases such as nitrogen oxides, which are big contributors to air pollution. Replacing private car trips with cycling, walking or public transport can support improvements in the Dublin region's air quality.
- Traffic congestion can be a problem in towns and villages where space is limited. Having fewer cars on the road when more people choose to travel by walking, cycling or public transport helps to alleviate traffic congestion.
- Noise pollution is another by-product of cars that can be reduced by cycling or walking. Noise pollution is usually classified as unwanted or disturbing sounds that can affect humans and animals' health and wellbeing. The honking of horns, revving engines and screeching tyres are all sounds that contribute to noise pollution. This pollution has been linked to various health problems, including high blood pressure, stress, anxiety, and sleep disorders. With cycling, walking and wheeling, there is no noise pollution, which can help improve the quality of life for everyone in an urban area.



Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Promote Active Travel in the County for People of All Ages and Abilities</b>							
<b>T1</b>	Deliver a safe active travel network for people of all ages and abilities by implementing the County and Greater Dublin Area Cycle Network <b>Note A</b>	Kilometres of permanent segregated cycling network	2029	Mitigation	Full Accountability / Co-ordinate and facilitate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Forward Planning Infrastructure  National Transport Authority
<b>T2</b>	Promote active travel in the County utilising dlr's dlr website, social media channels and in person events such as Bike Week	Number community engagements Number of public consultations	2024 Annually thereafter	Mitigation	Full Accountability / Co-ordinate and facilitate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	National Transport Authority
<b>T3</b>	Support the accessible bikes borrowing scheme	Number of uses of the accessible bikes	2024 Annually thereafter	Mitigation	Full Accountability / Advocate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	National Transport Authority
<b>T4</b>	Provide digital and physical heritage interpretation along active travel routes in appropriate locations	Number of interpretive elements	2029	Mitigation	Full Accountability	Community, Cultural Services and Parks	Infrastructure and Climate Change (including Road Maintenance and Traffic) Graphics/Designers
<b>Embed Low Carbon Transport Modes, Road Safety and Accessibility in Our Communities</b>							
<b>T5</b>	Implement the 'Safe Routes to School' Programme in the County <b>Note A</b>	Number of schemes completed	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	An Taisce National Transport Authority
<b>T6</b>	Support the implementation of Department of Transport Pathfinder Projects <b>Note A</b>	Number of schemes completed	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	National Transport Authority
<b>T7</b>	Expand the EV / ebike / eScooter charging networks in the County, including disabled access for EV charging <b>Note A</b>	Number of charging points in the County Utilisation of the unit (hours)	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
<b>T8</b>	Reallocate road space to provide for sustainable travel alternatives <b>Note A</b>	Total Area of road reallocated (m2)	2024 Annually thereafter	Both	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Forward Planning Infrastructure
<b>T9</b>	Identify opportunities to implement permeability and connectivity in the planning process	Number of links identified Number of links permitted	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Forward Planning Infrastructure Planning and Economic Development (including Dún Laoghaire Harbour)
<b>T10</b>	Deliver the Cycle Training Programme in primary schools	Number of students trained	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Forward Planning Infrastructure Planning and Economic Development (including Dún Laoghaire Harbour)



# TRANSPORT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
T11	Support private operators in developing County bike and eScooter sharing schemes	Number of operator licenses issued	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T12	Expand car sharing schemes in the County, with a focus on the provision of electric vehicles	Number of licensed schemes	2024 Annually thereafter	Mitigation	Full Accountability / Co-ordinate and facilitate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Forward Planning Infrastructure
T13	Expand the network of secure, public cycle and scooter parking to accommodate a variety of transportation modes <b>Note A</b>	Number of parking places provided	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T14	Expand the extent of 30 km/h speed limits within the County	Increase in kilometres of road network with a 30kmph speed limit	2029	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T15	Facilitate public transport development in the County, whilst advocating and exerting influence to ensure such projects promote climate action co-benefits and do not contravene relevant environmental protection criteria or cause significant negative environmental effects <b>Note A</b>	Percentage increase in the number of public transport users in the County	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Forward Planning Infrastructure National Transport Authority Transport Infrastructure Ireland Córas Iompair Éireann
T16	Expand the installation of traffic lights that provide bicycle priority at junctions	Number of traffic lights that offer bicycle priority	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	National Transport Authority
T17	Expand the number of controlled crossings and zebra crossings	Number of signalised pedestrian crossings Number of zebra crossings	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	National Transport Authority
T18	Increase the number of vehicles and machinery in dlr's fleet that are electric or using sustainably sourced renewable fuels	Percentage of dlr fleet which is electric Percentage of dlr fleet which uses renewable fuels	2024 Annually thereafter	Both	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T19	Implement alternative treatments for winter maintenance operations and respond appropriately in line with the latest available guidance, practices and industry standards to any longer-term weather predictions advised by Met Eireann and the Vaisala road condition forecast system	Successful installation of the brine batching facility Percentage of winter maintenance fleet operating with pre-wet salt	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	





# TRANSPORT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
T20	Identify opportunities to upgrade the existing road and footway network to mitigate damage due to weather events and to provide new footpaths	Length of existing road network upgraded Length of footway repaired	2024 and annually thereafter	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T21	Identify opportunities and upgrade existing road network drainage systems <b>Note A</b>	Length of existing road network upgraded or repaired	2029	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T22	Develop and implement an annual Bridge Inspection and Maintenance Programme and increase the number of bridge structures on which maintenance works are carried out annually, having appropriate regard to protected species and structures regulations	Number of bridges inspected Number of bridges on which maintenance or upgrade works were carried out	2029	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
T23	Explore the use of sustainable methods of road surfacing that minimise the use of raw materials	Carry out study into various options Number of pilots conducted	2025	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	

**Integrated Environmental Considerations:**

<b>Note A</b>	Actions T1, T5, T6, T7, T8, T13, T21	Having due regard to environmental sensitivities such as the receiving water environment, biodiversity, European sites local air quality, and cultural heritage.
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# FLOOD RESILIENCE

## FLOOD RESILIENCE

One of the anticipated effects of climate change, and a key climate change adaptation issue, is the management of rainfall runoff as global temperature increases and rainfall patterns change.

It is likely that severe weather events and sea level rise due to climate change will have a considerable impact on flooding and flood risk for communities and infrastructure located along rivers, estuaries. The coast with accelerating

rates of coastal erosion will be particularly at risk along with coastal habitats and the environment.

The frequency and duration of heavy rainfall events and storm surges pose a greater risk of pluvial, fluvial and tidal flooding in vulnerable areas of the County. Extreme rainfall and weather events can also place additional pressure on the urban drainage network which can result in flooding.

## dlr's KEY OBJECTIVES FOR FLOOD RESILIENCE

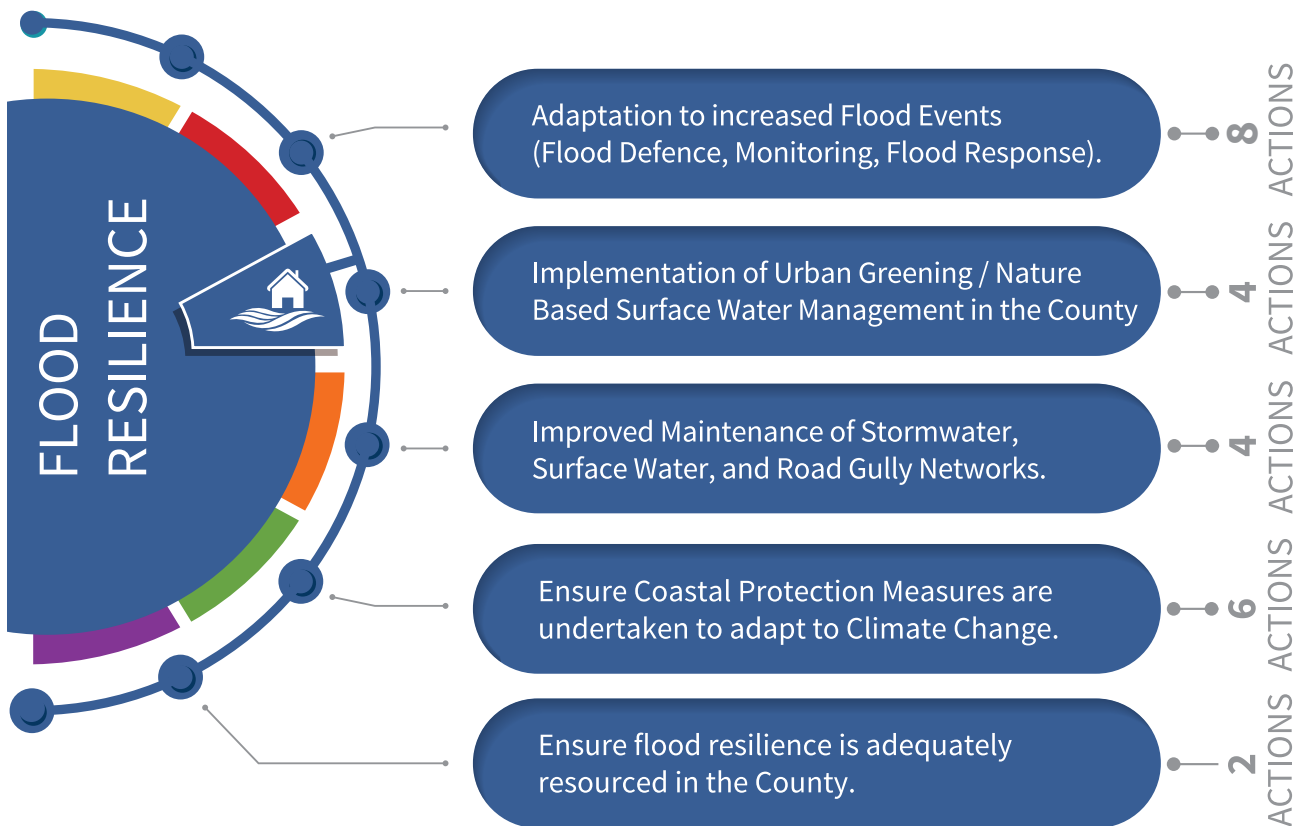


Figure 5.4: dlr's Key Objectives for Flood Resilience

## WHAT IS FLOODING?

Flooding is a natural phenomenon defined as a temporary covering by water of land not normally covered by water and is a natural process that can happen at any time in different locations.

Flooding in the County can occur from a range of sources, individually or combined, including:

- **Fluvial flooding (from rivers or streams)**
- **Pluvial flooding (from intense rainfall events and overland flow)**
- **Groundwater flooding**
- **Other sources, such as from blocked culverts**
- **Coastal flooding**

Met Éireann has predicted that autumns and winters in Ireland may become wetter, with a possible increase in heavy precipitation events of approximately 20%, and that summers may become drier.

However, the change in precipitation patterns in Ireland, particularly at a local level and for shorter (sub-seasonal) durations, remains uncertain and is the subject of ongoing research. Climate change is not only reflected in terms of the average temperature, precipitation, etc, but also in the frequency and intensity of extreme weather conditions. The consensus among different modelling approaches is that extreme rainfall events are likely to increase in frequency in autumn and winter.

As an island country, an increase in the number of intense storms over the North Atlantic could have a direct impact on storm surges, although there is still uncertainty around the impact of storm surges. Coastal erosion can give rise to flood risk, and erosion rates will increase in the future as sea levels rise.

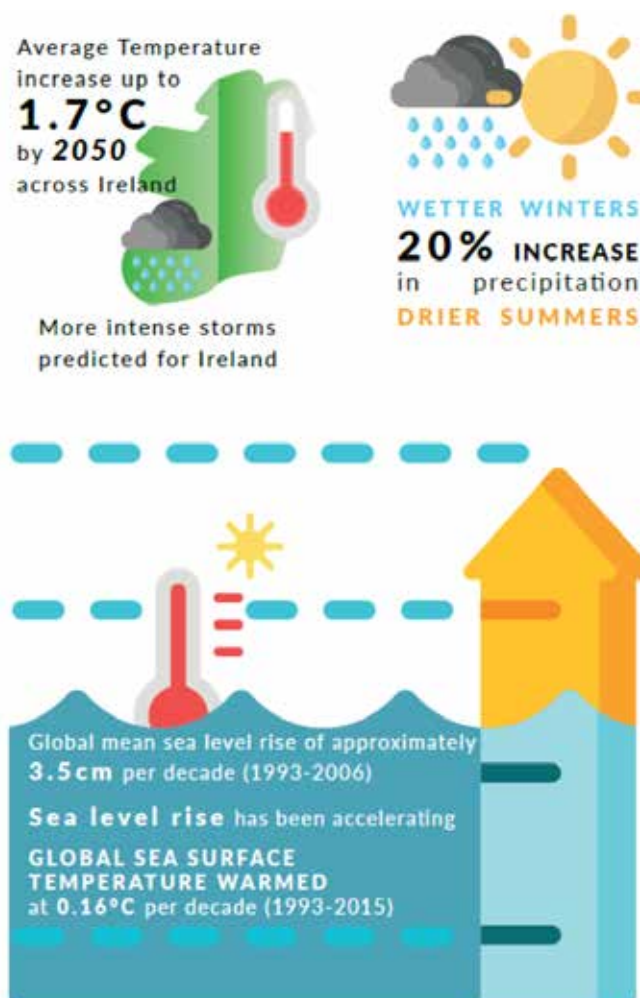


Figure 5.5 Current and future flood change risks<sup>13</sup>



## ADAPTATION TO INCREASED FLOOD EVENTS (FLOOD DEFENCE, MONITORING, FLOOD RESPONSE)

Dún Laoghaire-Rathdown County Council (dlr) recognises the increased chances of flooding and its effects on our County, and is working with the Office of Public Works (OPW), Córas Iompair Éireann (CIÉ) and Uisce Éireann to implement projects and programmes that align with the European Union Floods Directive<sup>38</sup> and Water Framework Directive<sup>39</sup>. Strategic flood risk assessments have been undertaken. Nature-based solutions such as integrated wetlands, green infrastructure, and Sustainable urban Drainage Systems (SuDS) are being employed to achieve flood resilience. Some of the most significant works being completed by dlr in this regard are the flood relief schemes in Deansgrange, Dodder, Loughlinstown, and Carrickmines / Shanganagh.

dlr is using comprehensive flood risk mapping to adapt areas that are at risk of flooding. Collaboration is taking place across dlr departments to ensure that all solutions are assessed for options that could also increase the capacity for biodiversity and recreation.

Nature-based flood defences are prioritised where possible. However, there are certain areas of the County that are not suited to soft solutions, such as parts of the Loughlinstown River. In these instances, physical flood defences are being built that will take into consideration current and future flooding risks. In addition to the works undertaken, flood risk is considered at all stages of the land use planning process and managed in an environmentally sensitive way through specific flood policies in the County Development Plan 2022-2028<sup>18</sup>.

## IMPLEMENTATION OF URBAN GREENING / NATURE BASED SURFACE WATER MANAGEMENT IN THE COUNTY.

In addition to the large-scale flood relief schemes, dlr is introducing measures that will assist in reducing the impact of climate change on our rivers and drainage systems such as the inclusion of nature-based solutions in our active travel schemes. (See Case Study Coastal Mobility Route Extension (to DCC boundary)). These small adaptations have many co-benefits including improvements to the public realm, managing and enhancing biodiversity and improving water quality and management.

dlr has a Green Infrastructure Strategy<sup>40</sup> which provides significant policy leadership and influence on the form of new development and the maintenance of green assets. For example, any future developments must incorporate measures, appropriate to the scale of the proposed development, such as green roofs, water retention areas, permeable paving and rainwater harvesting swales that minimise water flows to the public drainage system and maximise local infiltration potential having due regard to groundwater vulnerability.



Kilbogget Park flood storage system

### WHAT ARE SuDS?

In urban areas, there are many non-permeable surfaces such as roads and footpaths which means that water cannot drain naturally through the ground. In order to manage this, we have developed drainage systems that use pipes and sewers to redirect water. With climate change creating wetter winters and more frequent rainfalls in Ireland, the level of surface water will only increase, which can overwhelm traditional drainage methods and increase the effects of flooding. Sustainable urban drainage systems (SuDS) are one part of the solution to this problem.

SuDS takes inspiration from natural features and processes and aim to replicate the natural water cycle by allowing plants and soil to absorb rainwater at more natural rates. SuDS work by holding water back, reducing the strain on traditional drainage systems and absorbing pollutants that may enter our rivers, streams and oceans.

### COASTAL MOBILITY ROUTE EXTENSION (TO DUBLIN CITY COUNCIL BOUNDARY)

In 2023 dlr delivered an extension to the Coastal Mobility Route on the Rock Road in Blackrock. This project includes several climate action measures. A rain garden was included in the central median which slows down run-off into the surface water drainage system during periods of heavy rainfall. It also contains pollinator friendly herbaceous perennial planting and four *Alnus x spaethii* (Spaeth's Alder) trees. These trees are ideally suited to the roadside and coastal location as they survive episodes of flooding in addition to being drought and urban pollution tolerant.



### COASTAL PROTECTION MEASURES UNDERTAKEN TO ADAPT TO CLIMATE CHANGE

dlr has identified areas along the coast where risks relating to coastal defence measures are likely to be highest. These risks will only be exacerbated by the effects of climate change as detailed in the Climate Change Risk Assessment. dlr is taking steps to protect the coastline and other actions that support this work are contained in this Plan. (See Case Study Bray Landfill Coastal Protection).

In addition, dlr will be liaising with the Office of Public Works (OPW) regarding its Pilot Coastal Monitoring Survey Programme as it relates to the coastline in the County. The

aim of the pilot programme is to assess coastal erosion, other changes in Ireland's coastline and the performance of existing coastal protection infrastructure. This study will help inform decisions on providing new coastal protection infrastructure.

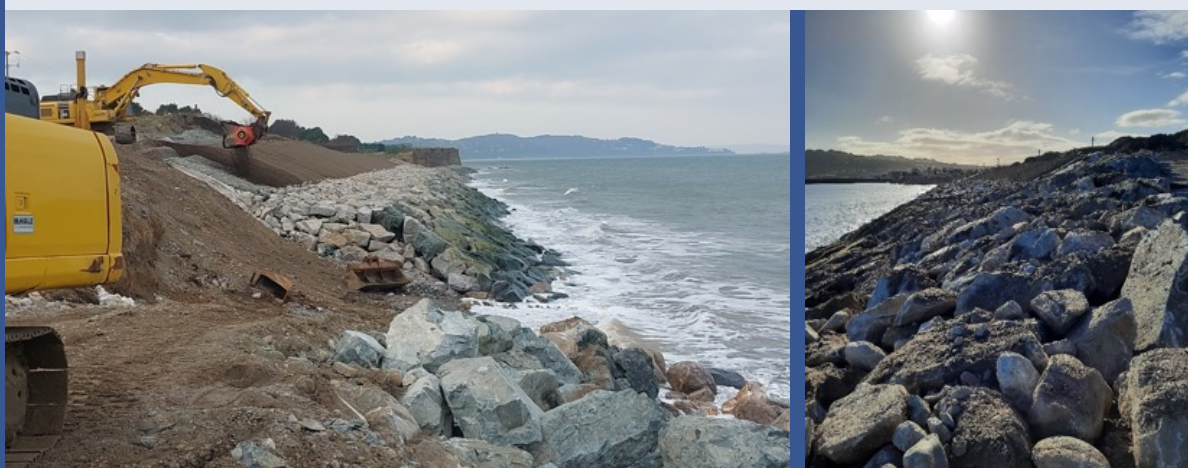
When the pilot programme has been completed, dlr will be involved in a wider national programme. This will inform future decisions on coastal management and defence measures in the County.



## CASE STUDY

**BRAY LANDFILL COASTAL PROTECTION**

Work on the Bray Landfill Coastal Protection Project is nearing completion. Installation of rock armour to the front of the adjacent land has been completed and installation of the rock armour stretch to the front of the landfill is ongoing. In addition, work has commenced on the foundations for the north / south access paths. Once completed this section of the coastline will be protected from any further coastal erosion.

**IMPROVED MAINTENANCE OF STORMWATER, SURFACE WATER, AND ROAD GULLY NETWORKS**

dlr maintains the drainage systems that manage stormwater and surface water run off as required. To ensure that the drainage systems will continue to operate as required, a comprehensive drainage maintenance plan will be designed, reviewed and improved to include the use of any emerging technological solutions.

**CO-BENEFITS TO FLOOD RESILIENCE ADAPTATION**

- Flood Storage and Attenuation Ponds can create a focal point in open spaces while providing additional habitat, recreation and aesthetic functions.
- Wetlands often include marginal vegetation providing natural habitat in urban areas. Where present, this marginal vegetation offers further natural shelter. They filter sediment and pollutants from surface water runoff, both directly from paved areas and from discharges locally to surface water drains.
- Planting schemes extended throughout developments provide shading, privacy and impermeable surfaces to reduce the rate and volume of surface water runoff. They also filter urban pollutants and sediment and provide opportunities to increase biodiversity.
- Flood Relief and Coastal Protection Schemes can provide opportunities for additional community benefits in terms of pedestrian and cycle routes.



# FLOOD RESILIENCE

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Adaptation to increased Flood Events (Flood Defence, Monitoring, Flood Response).</b>							
<b>F1</b>	Progress Flood Alleviation schemes in the county in conjunction with the Office of Public Works (OPW) <b>Note A</b>	Delivery of existing schemes Reporting to OPW, Part 8 and Part 10 Planning Applications	Various	Adaptation	Co-ordinate and facilitate	Finance and Water Services	Office of Public Works Multi-Departmental
<b>F2</b>	Review and update Major Emergency Management Response plans, dlr policies or relevant procedures with national legislation and regulation on climate change adaptation and flood management	Major Emergency Response Plans, dlr policies, or relevant procedures with national legislation reviewed	2024 Annually thereafter	Adaptation	Full Accountability	Finance and Water Services	Emergency Response Team Multi-Departmental
<b>F3</b>	Continuation of the 'Expansion of the Surface Water GIS Database' (Surveying, Mapping & Maintenance)	Number of new estates and road construction projects added to the Surface Water Database	2024 Annual tracking/ reporting thereafter	Adaptation	Full Accountability	Finance and Water Services	
<b>F4</b>	Ensure recording of flood events (fluvial and pluvial) and major climate events, utilising a Geographic Information System (GIS) based system, to consistently capture locations, impacts, response resources, costs etc., to facilitate the development of climate adaptation measures	Full role out of WIRE APP to all dlr Engineers, Inspectors and other staff members interested. Number of users; Number of Reports	2024 Annually reporting review thereafter	Adaptation	Full Accountability	Finance and Water Services	Multi-Departmental
<b>F5</b>	Update annually the flooding risks to the services provided by dlr	Annual Risk review	2024 Annually thereafter	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Multi-Departmental
<b>F6</b>	Engage with neighbouring Local Authorities and other relevant organisations on regional flood management issues and support the implementation of flood forecasting systems	Number of Meetings	2024 Annually thereafter	Adaptation	Full Accountability	Finance and Water Services	Infrastructure and Climate Change (including Road Maintenance and Traffic) Neighbouring Local Authorities
<b>F7</b>	Identify and progress minor works schemes to resolve recurring flood issues, where possible, ensuring the schemes are designed and implemented to include Sustainable Urban Drainage Systems (SuDS) / nature-based solutions/ protection of biodiversity and avoidance of habitat fragmentation	Number of schemes progressed	Dependant on number of schemes identified	Adaptation	Full Accountability / Co-ordinate and facilitate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Finance and Water Services



# FLOOD RESILIENCE

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Implementation of Urban Greening / Nature Based Surface Water Management in the County.</b>							
<b>F8</b>	Develop, protect, and conserve riparian corridors, in line with the County Development Plan 2022- 2028 and its future iterations	Number of planning applications permitted in flood zone A (should be 0) and flood zone B Number of planning applications permitted in the riparian corridors Linear meters of riparian corridors enhanced with native planting	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Planning and Economic Development (including Dún Laoghaire Harbour)	Finance and Water Services  Forward Planning Infrastructure  Private Landowners
<b>F9</b>	Ensure urban Greening opportunities are implemented in dlr Capital projects, including new builds and retrofits	Inclusion in Urban greening in new dlr buildings / developments	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability / Co-ordinate and facilitate	Planning and Economic Development (including Dún Laoghaire Harbour)	Architects Forward Planning Infrastructure
<b>F10</b>	Ensure new Local Area Plans feature urban greening proposals	Local Area plans with urban greening measures	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Planning and Economic Development (including Dún Laoghaire Harbour)	
<b>F11</b>	Ensure significant developments shall include urban greening as a fundamental element of the site and building design	Number of significant developments with urban greening proposal granted	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability / Co-ordinate and facilitate	Planning and Economic Development (including Dún Laoghaire Harbour)	Forward Planning Infrastructure Private Landowners
<b>F12</b>	Develop a maintenance plan for SuDS assets that are taken in charge by dlr, ensuring their continued operation; ensuring the plan takes nature-based solutions/ protection of biodiversity and avoidance of habitat fragmentation into consideration	Maintenance plan developed and implemented	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Finance and Water Services	
<b>Improved Maintenance of Stormwater, Surface Water, and Road Gully Networks.</b>							
<b>F13</b>	Review screen monitoring cameras during flood events (repair and install as necessary)	Number of flooding events monitored Number of cameras repaired and or replaced	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Finance and Water Services	
<b>F14</b>	Improve the maintenance plan for the stormwater and surface water network, with the link to flood event forecasting and incorporate data of known locations with problems	Maintenance plan developed and implemented	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Finance and Water Services	
<b>F15</b>	Review gully maintenance plan and operations for improvements, considering areas with recurring issues and smart technology opportunities	Maintenance plan reviews	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	



# FLOOD RESILIENCE

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Ensure Coastal Protection Measures are undertaken to adapt to Climate Change.</b>							
<b>F16</b>	Maintenance of key lakes and wetlands, existing flood storage facilities to maintain storage capacity during severe weather events <b>Note B</b>	Volume of storage available	2024 Annual tracking reporting thereafter	Adaptation	Full Accountability	Community, Cultural Services and Parks	Finance and Water Services
<b>F17</b>	Update the Coastal Defence Strategy report to advise future protection measures and implement as necessary; having due regard to environmental sensitivities such as European sites and biodiversity	Report updated Number of measures implemented	Report updated in 2024 Measures implemented and reported annually thereafter	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Community, Cultural Services and Parks
<b>F18</b>	Implement coastal monitoring programme	Monitoring programme implemented and reported upon  Number of coastal monitoring points	Programme implemented in 2024 Reported annually thereafter	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Community, Cultural Services and Parks
<b>F19</b>	Work with C�oras Iompair �ireann (CIE) on coastal defence measures; having due regard to environmental sensitivities such as archaeology, European sites, biodiversity and amenity value	Number of relevant meetings	2024 Annual tracking reporting thereafter	Adaptation	Co-ordinate and facilitate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	CIE
<b>F20</b>	Develop an Integrated Coastal Zone Management Plan, which supports the appropriate protection and enhancement of the coastal environment	Plan developed and implemented	Plan developed in 2024 implemented and reported upon annually thereafter	Adaptation	Full Accountability	Multi-Departmental	
<b>F21</b>	Implement the 'Biosphere Conservation and Research Strategy 2022 – 2026' within the County	Plan developed and implemented	2024 Annual tracking reporting thereafter	Adaptation	Co-ordinate and facilitate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Dublin Bay Biosphere Officers
<b>F22</b>	Participate and assist with the EU SCORE Project using D�n Laoghaire as a 'Coastal Living Lab' using an integrated solution of smart technologies and nature-based solutions	Number of relevant engagements/ meetings	2024	Adaptation	Co-ordinate and facilitate	Corporate Affairs (including IT and Human Resources)	Infrastructure and Climate Change (including Road Maintenance and Traffic)
<b>Ensure flood resilience is adequately resourced in the County.</b>							
<b>F23</b>	Develop a resource management plan to ensure that sufficient resources required to deliver on the actions in this theme are in place	Plan developed and implemented	2024	Adaptation	Full Accountability	Corporate Affairs (including IT and Human Resources)	
<b>F24</b>	Develop template to capture impacts, response, and costs (including ecosystem services/natural capital costs) for all major climate events	Template developed and implemented	2024	Adaptation	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	



# FLOOD RESILIENCE

**Integrated Environmental Considerations:**

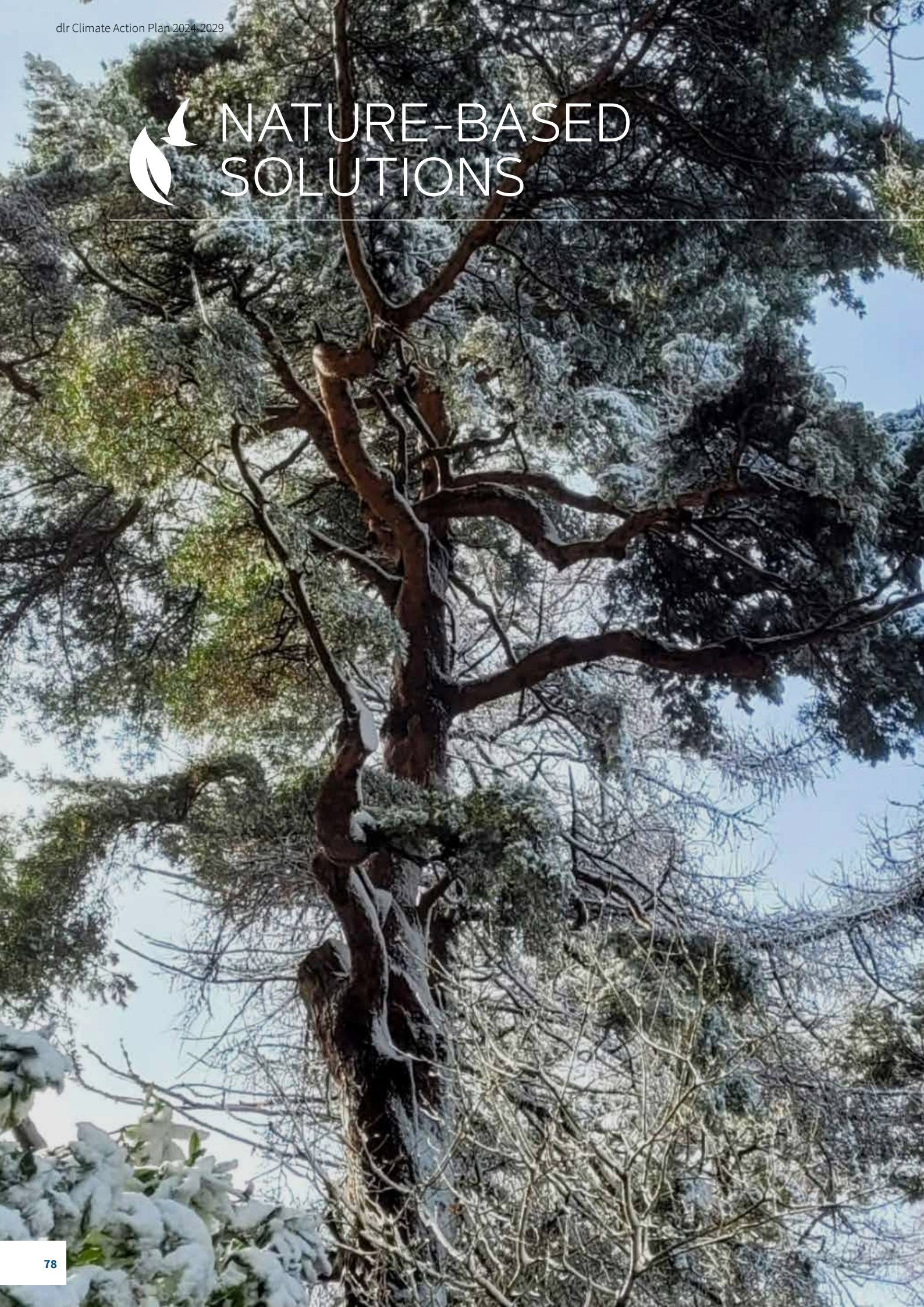
<b>Note A</b>	Action F1	Having due regard to the need to promote nature-based solutions and Sustainable Drainage Systems, and environmental sensitivities at these locations, including water quality, biodiversity, European sites, riparian corridors and aquatic ecology, visual amenity and recreation and amenity value.
<b>Note B</b>	Action F16	Having due regard to the need to appropriately protect, conserve and enhance important habitats and species and European sites, and support the maintenance and improvement of water quality in line with the aims of the Water Framework Directive.





# NATURE-BASED SOLUTIONS

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## NATURE BASED SOLUTIONS

Nature-based solutions are cost-effective and adaptable solutions that work with nature to address various societal challenges, providing benefits for both people and biodiversity<sup>41</sup>. Nature-based solutions can help to protect us from the adverse effects of climate change while slowing further warming, supporting biodiversity, enhancing air and water quality and increasing our resilience against flooding. Nature-based solutions can take many forms; from urban trees that soak up atmospheric carbon and provide habitats for wildlife, to the design and implementation of sustainable urban drainage systems (SuDS) to reduce flood risk and improve water quality.

Using nature-based solutions in our communities is a potential win all round – good for our air and water quality, good for climate, good for biodiversity and good for people.

Making this happen means changing how we think about the design, delivery and use of our built environment.

Dún Laoghaire-Rathdown County Council (dlr) recognises its role in protecting the County’s rich biodiversity and the ecosystem services provided by its natural heritage and aims to safeguard our natural heritage for future generations. dlr will continue to implement well designed nature based solutions to preserve and enhance biodiversity and eco-systems services across the County. dlr will also ensure that the plans and policies it develops and implements will undergo environmental assessment and appropriate assessment to align with The National Biodiversity Action Plan<sup>42</sup> and key EU directives.

## dlr's KEY OBJECTIVES FOR NATURE BASED SOLUTIONS

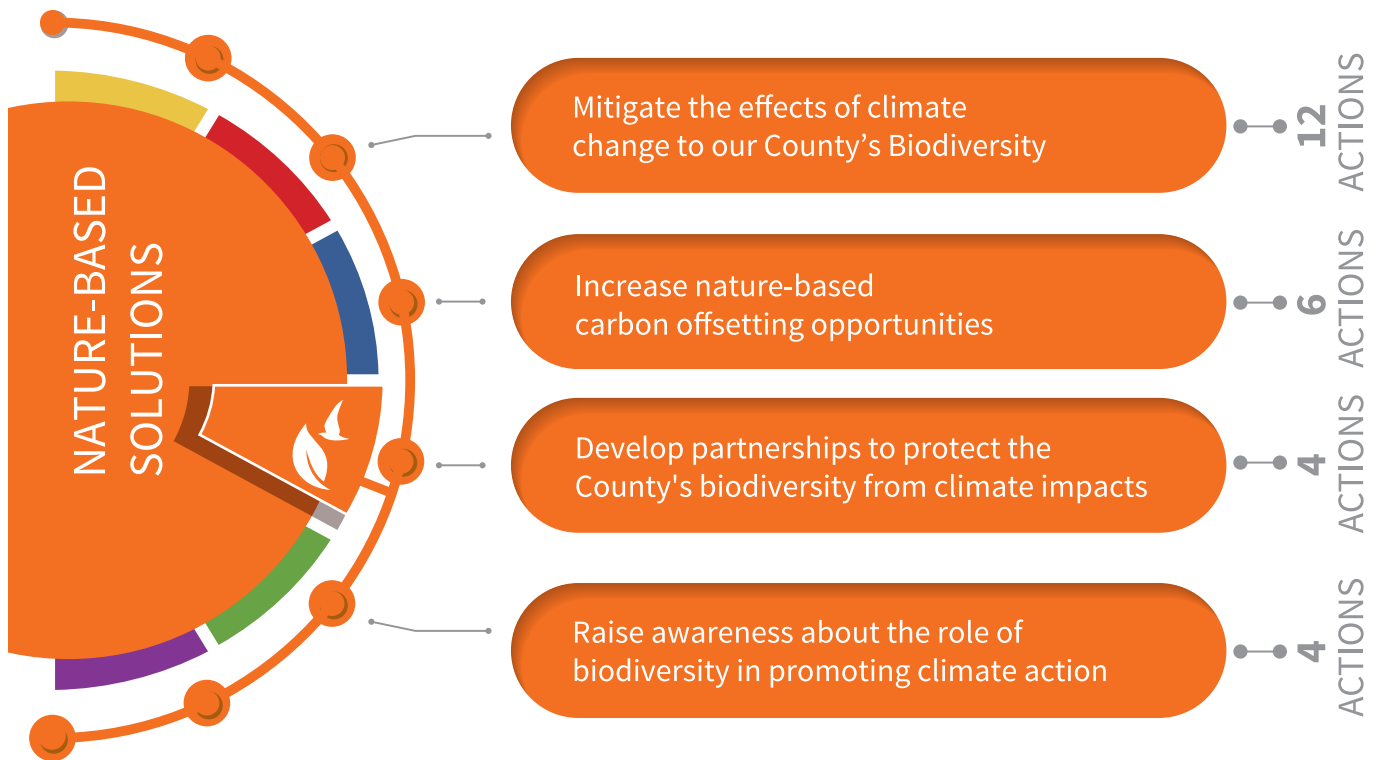


Figure 5.6 dlr's Key Objectives for Nature Based Solutions

## MITIGATE THE EFFECTS OF CLIMATE CHANGE TO THE COUNTY'S BIODIVERSITY

### GREEN INFRASTRUCTURE

The European Union defines Green infrastructure as 'A strategically planned network of natural and semi-natural areas with other environmental features, designed and managed to deliver a wide range of ecosystem services'<sup>43</sup>. Green Infrastructure includes our green spaces like parks, woodlands, gardens, and cemeteries, as well as urban greening features such as street trees, SuDS, living walls and green roofs.

Green infrastructure provides a multitude of benefits from improved air quality and management of rainwater to enhanced recreational spaces and tourism opportunities. Living walls, green roofs and parklets can play an essential role in preserving and enhancing biodiversity in urban areas by providing habitats for a wide range of species. Trees in our parks and open spaces help mitigate against climate change by absorbing carbon dioxide and reducing the urban heat island effect associated with built up areas. Sustainable urban drainage systems (SuDS) can support the natural water cycle by allowing vegetation and plants to absorb rainwater at more natural rates reducing the strain on traditional drainage systems and preventing pollution

of our water bodies. Moreover, our network of parks and open spaces promote health and well-being, providing recreational facilities and enjoyment for our communities and visitors to our County.

Green infrastructure is about more than just adding a scattering of plants. It involves understanding the role of nature in supporting life and making places liveable. Planning for the inclusion of green infrastructure in the urban environment is about integrating green spaces into urban design and considering how infrastructure, such as roads and buildings, can work in harmony with nature.

dlr recognises that green infrastructure is a crucial component in building resilient communities, capable of adapting to the consequences of climate change. dlr is working to protect and enhance our existing green infrastructural assets and developing a County-wide network of green infrastructure to ensure the conservation and enhancement of our biodiversity and ecosystems. dlr will continue to manage our parks and public open spaces in a sustainable manner to ensure that future generations can enjoy the benefits of these amenities in terms of recreation, health and wellbeing.

#### CASE STUDY

### THE MYRTLE SQUARE AND CONVENT LANE GREENING PROJECT

The Myrtle Square and Convent Lane Greening project aims to make a meaningful impact to address the climate challenges facing people on a local level by placing nature at its core and using nature-based solutions at every opportunity. Myrtle Square will be an exemplar of greening and nature in an urban setting and illustrate how such a green environment will be conducive to a healthy, enjoyable and desirable lifestyle. The project will fundamentally alter the streetscape, greening and softening key areas, giving priority to pedestrians over car traffic, encouraging biodiversity and creating a new civic space to allow for relaxation, play and community events in the centre of Dún Laoghaire Town.

The Project will implement nature-based solutions by expanding the urban tree canopy and increasing green infrastructure and sustainable urban drainage. These actions are critical for local climate change mitigation and adaptation and will help to prevent flooding and erosion, regulate temperatures, absorb carbon and filter pollutants from the air. The addition of place-making through greening with a range of amenities, will not only increase green infrastructure in a densely built-up environment but will also add value by increasing recreational amenities for the local community and visitors to the County.



## CONSERVATION AND PRESERVATION

Our County is home to a range of natural habitats, and protected and rare species, both within and outside of designated protected sites. Assisting these habitats and species adapt to climate change is a challenge. The condition of these natural habitats and species affects how they can provide ecosystem services, including reducing the impacts of climate change. Protecting and restoring ecosystems such as wetlands, woodlands and marine areas will benefit many plants and animals. These habitats can also sequester carbon, absorb floodwater and improve water quality. They also play a role in temperature regulation.

Through the implementation of climate adaptation and mitigation actions in this Plan, supported by various policies and plans (dlr Biodiversity Action Plan 2021-2025, dlr Invasive Alien Species Action Plan, All Ireland Pollinator Plan), dlr is working to improve the resilience of the County. Additionally dlr aims to increase the carbon sequestration potential within the County and to protect and enhance valuable ecosystems which will result in benefits to biodiversity and to the health and wellbeing of communities.

### CASE STUDY

#### LOCAL SEED PROJECT

dlr seed harvesting project is part of the ongoing dlr Biodiversity projects for pollinators supported by the Parks Department to implement the actions of the dlr Biodiversity Action Plan 2021-2025.

Brush harvesting of some of dlr's Parks' meadows takes place in July and August when the meadows set seed. It is important not to harvest all the seed and to let a good percentage of the seed fall to ground to maintain the existing meadows. The seed is then dried, cleaned and sorted and is stored for use on other local dlr projects so local seed can be used where conditions are appropriate for the seed. This project is seen as a complementary project to the dlr Slow to Mow project which encourages the reduction in mowing of green spaces to let the seed existing in the soil come through naturally, flower and set seed. An increase in the occurrence of orchids has been observed in places where mowing has been reduced.

dlr is also working with developers and their consultants to encourage the reuse of local soils on development sites and to also collect seed where this is feasible or if not, to create wild areas from local soil using the dlr Slow to Mow management regime rather than seeding soil with packet wildflower seed or commercial seed which can have a negative impact on local flora and is not recommended. This also saves on carbon emissions with less frequency of cutting, keeping soils on site and less use of imported seeds into the County.



## CHERRYWOOD'S EXEMPLAR NATURE BASED SOLUTIONS

Cherrywood Strategic Development Zone (SDZ), when fully built-out will deliver circa 10,500 new homes, with a minimum of 10% social housing units. It will cater for a population in the region of 26,000. Cherrywood will include a new mixed-use Town Centre and three smaller Village Centres as well as residential neighbourhoods.



Cherrywood, nestled between the two main transport corridors of the N11 and M50, will benefit from over 60 hectares of recreational and natural green space including the recently opened park areas of Tully Park, Ticknick Park and Beckett Park. The area is built on the neighbourhood model in that it is completely interlinked by a comprehensive network of pedestrian walkways and cycleways. It will be served by superior transport links including an enhanced bus service, five Luas stops and pedestrian and cycle friendly greenways. In addition, it will have two post primary, four primary schools, local neighbourhood parks and has a high target in terms of sustainable transport modes. Cherrywood will function as a 10 minute walkable neighbourhood with a mix of land-uses and amenities in close proximity thereby reducing the need to travel.

The Cherrywood Planning Scheme also seeks to ensure the retention, protection and management of ecological resources within the area. The Cherrywood Biodiversity Plan forms part of the Planning Scheme. It includes further objectives to avoid or minimise disturbance or loss of habitats, to encourage the retention of existing habitats of ecological importance as part of green infrastructure as well as the protection and improvement of ecological corridors. The Planning Scheme further aims to promote effective management of retained and newly created habitats to maximise the biodiversity potential and minimise the net loss of the biodiversity in the area.





## INCREASE NATURE-BASED CARBON OFFSETTING OPPORTUNITIES

### PROMOTING THE IMPORTANCE OF TREES

Trees provide multiple benefits to help reduce the risks associated with climate change. Trees absorb carbon as they grow, meaning that over its lifetime, a single tree can absorb several tonnes of atmospheric carbon dioxide. The right tree in the right place can provide shelter from both wind and sun and help to reduce the urban heat island effect. Trees purify the air by removing atmospheric pollutants, thus enhancing air quality. During periods of heavy rainfall, trees play a vital role in preventing soil erosion and reducing the risk of flooding in urban areas. Beyond their contributions to the environment, trees can also support our mental health and wellbeing.

dlr recognises the importance of trees and the benefits they provide to our County, and is working to promote trees as essential elements of the urban environment affording them a similar status to other urban infrastructure. dlr aims to protect existing trees and woodlands and to manage these to ensure trees thrive to their full potential offering all the related benefits. dlr is committed to using the i-Tree<sup>44</sup> software as developed by the US Department of Agriculture, to enhance tree management and to help quantify the environmental benefits provided by trees.

More information is available in the dlr Tree Strategy 'A Climate for Trees 2024-2030'.

### CASE STUDY

## DISCOVER TREE TAG INITIATIVE

In 2021 dlr Parks launched the Tree Tag Initiative to highlight the importance of our County's trees and the many benefits they provide, including the critical role that trees play in mitigating the impacts of climate change.

Informational tags were placed on trees in Fernhill Park and Gardens, Cabinteely Park, Peoples Park and Marine Road, Dún Laoghaire, with the aim of engaging the public to appreciate the trees they encounter. The Tree Tag Initiative seeks to make the unseen benefits of trees tangible to our community.



## ADDITIONAL BENEFITS OF NATURE BASED SOLUTIONS

Incorporating Nature Based Solutions for climate change adaptation can be a cost-effective way to increase resilience whilst providing a range of social, aesthetic, environmental, and economic benefits for the county.

### HEALTH AND WELLBEING / SOCIAL BENEFITS:

- Nature-based solutions, and trees, provide aesthetic value in our urban landscaping enhancing our quality of life where we live and work. They can provide beautiful green spaces for recreational use.
- Physical benefits: trees have a positive effect on health through the provision of shade, outdoor recreation amenity and clean air.
- Mental benefits: research has shown that trees reduce stress and contribute to a greater quality of life.
- Trees create a distinctive landscape, making important landmarks and providing a unique sense of place and location.

### ECONOMIC BENEFITS:

- Property values: research has shown that the presence of trees can increase the value of residential and commercial properties by between 5 - 18%.
- Village and retail areas: the presence of trees in retail areas positively affects people's behaviour by attracting consumers to an area.
- Effects on heating / cooling buildings: trees provide shade, shelter in wind and a regulation of local air temperature. This reduces energy and heat costs.
- Nature based solutions can stimulate the transition to a circular rather than linear economy mindset within the community. The circular economy framework can also stimulate investment in nature- based solutions which can save costs linked to environmental damage.

### ENVIRONMENTAL BENEFITS:

- Green infrastructure, such as trees and their ecosystems provide valuable habitats for wildlife, such as nesting birds, pollinators and other insects.
- Green infrastructure, such as mini woodlands, can provide food sources for wildlife.
- Providing networks of natural wildlife corridors through the urban environment help animal and plant species migrate through the changing landscape.
- Trees improve air quality as they absorb carbon dioxide and other gases from the air producing oxygen in the photosynthesis process. Each year a mature tree produces enough oxygen for 10 people. Trees also trap dust particles which improves air quality.
- Trees and hedgerows can reduce noise by acting as a sound barrier. This is particularly important in absorbing traffic noise in built up areas.



# NATURE BASED SOLUTIONS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Mitigate the effects of climate change to our County's Biodiversity</b>							
<b>N1</b>	Implement the current County Biodiversity Action and Invasive Species Action Plans	As per the Action Plans	As per the Action Plans	Both	Full Accountability	Community, Cultural Services and Parks	Multi-Departmental Bird Watch Ireland National Biodiversity Data Centre (NBDC) National Parks and Wildlife Service (NPWS) Biosphere Partners and Communities
<b>N2</b>	Carry out a feasibility study to develop an ecosystems audit template	Study Completed	2026	Adaptation	Full Accountability	Community, Cultural Services and Parks	
<b>N3</b>	Expansion of pollinator areas and Bee friendly estates across the County and continued support of the All-Ireland Pollinator Plan	Number and Area (km2) of Pollinator sites in the County Number of communities/residential areas in the County signed up to the National Biodiversity Data Centre pollinator recording maps	2024- 2028	Mitigation	Full Accountability	Community, Cultural Services and Parks	NBDC NPWS
<b>N4</b>	Implement the recommendations of the County Hedgerow Evaluation Project	Number of recommendations implemented	Annually through to 2028	Mitigation	Full Accountability	Community, Cultural Services and Parks	Communities Private Landowners
<b>N5</b>	Establish a grant scheme to landowners for the development of a Biodiversity Plan by an Ecologist and to assist the implementation of the Plan's recommendations	Number of grants provided for this action	Annually through to 2028	Both	Full Accountability	Community, Cultural Services and Parks	
<b>N6</b>	Map wildlife corridors across the County and evaluate their ecosystem services including climate change resilience	Number of wildlife corridors mapped	Annually through to 2028	Both	Full Accountability	Community, Cultural Services and Parks	Forward Planning Infrastructure
<b>N7</b>	Assessment and remediation options of the impacts on important ecosystems, habitats, and species from the protection/management measures to mitigate or adapt to climate change	Condition of Habitats impacted by climate change (Area km2 / length metres) Improved biodiversity areas (Area km2 / length metres) Fragmentation or breaks in continuity of habitats and loss of wildlife corridors, steppingstones and connectivity (KM 2) Number and geographical distribution of Species or Species population trends impacted by climate change Type and number of Environmental and Social Standards (ESS) impacted by climate change	Annually through to 2028	Both	Full Accountability	Community, Cultural Services and Parks	NPWS



# NATURE BASED SOLUTIONS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dIrl Role	Lead Department (s)	Partner(s) Identified
<b>N8</b>	Carry out ecological audit and surveys of dIrl lands and highlight areas at risk from climate change and areas for protection, restoration, and enhancement for carbon storage Identify wildlife corridors and connectivity to the dIrl Ecological Network	Number of audits and surveys Number of dIrl sites available for protection, restoration, and enhancement for biodiversity and for carbon storage	2023 -2028	Both	Full Accountability	Community, Cultural Services and Parks	Multi-Departmental
<b>N9</b>	Prepare and implement a Habitat and Species Management Plan for Killiney and Roches Hill proposed Natural Heritage Areas (pNHA) in the face of climate change and wildfires <b>Note A</b>	Habitat area (km2) and Condition. Species Numbers and Population Trends	2023- 2025	Adaptation	Full Accountability	Community, Cultural Services and Parks	NPWS
<b>N10</b>	Prepare a Habitat and Species Management Plan for Booterstown Marsh proposed Natural Heritage Areas (p.N.H.A.) a Protected Plant Species Site and part of the South Dublin Bay and Tolka Estuary Special Protection Area subject to the agreement of the National Parks and Wildlife Service <b>Note A</b>	Habitat area (km 2) and Condition Species Numbers and Population Trends	2023- 2025	Both	Full Accountability	Community, Cultural Services and Parks	NPWS
<b>N11</b>	Develop guidance on biodiversity inclusive design for housing development including social housing with green roofs, wetland & pond SuDS, green carparking, nest boxes, local soil and seed for landscaping, and wildlife friendly shrubs and native trees <b>Note B</b>	Guidance developed	2023 - 2026	Both	Full Accountability	Community, Cultural Services and Parks	Architects Airfield Estate
<b>N12</b>	Develop guidance on biodiversity and cycleways/pathways to ensure that the location and design of greenways is not at the loss of biodiversity and to provide guidance on biodiversity enhancements <b>Note C</b>	Guidance developed	2023- 2025	Both	Full Accountability	Community, Cultural Services and Parks	Infrastructure and Climate Change (including Road Maintenance and Traffic) NPWS Transport Infrastructure Ireland National Transport Authority Developers
<b>Increase nature-based carbon offsetting and reduction opportunities</b>							
<b>N13</b>	Implement dIrl's Tree Strategy (A Climate for Trees 2024-2030)	Net addition of tree cover added Tree species percentage breakdown for new trees planted for each of the following: plant family, genus and species	2024- 2028	Mitigation	Full Accountability	Community, Cultural Services and Parks	
<b>N14</b>	dIrl has ceased the use of glyphosphate since 2017 and will seek to promote the elimination in glyphosphate use in the community <b>Note E</b>	Number of events / campaigns completed annually	2024 (annual reporting thereafter)	Mitigation	Full Accountability	Community, Cultural Services and Parks	Communities





# NATURE BASED SOLUTIONS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>N15</b>	Finalise and Implement Wildfire Strategy for Killiney Hill and Roches Hill	Strategy Finalised Strategy Implemented	2024 (annual reporting thereafter)	Both	Full Accountability	Community, Cultural Services and Parks	International Fire Experts Dublin Fire Brigade An Garda Síochana Local Community NPWS
<b>N16</b>	Create the Public Open Space and Parks Strategy	Ratio of population to public green space/ public parks (m2)	2023 - 2028	Both	Full Accountability	Community, Cultural Services and Parks	
<b>N17</b>	Development of on-street Sustainable Urban Drainage Systems (SuDS) within the County with an emphasis on nature-based solutions/ SuDS where possible following best practice design and governmental guidance <b>Note D</b>	Number of schemes implemented	2023 - 2028	Both	Full Accountability	Infrastructure and Climate Change (including Road Maintenance and Traffic)	Community, Cultural Services and Parks Architects Forward Planning Infrastructure
<b>N18</b>	Carry out ecology surveys of dlr owned Heritage assets and develop management plans for biodiversity	Number of ecology surveys/vegetation management plans	2023 - 2028	Both	Full Accountability	Community, Cultural Services and Parks	Heritage Properties Manager
<b>N19</b>	Agree joint action plans to protect important native habitats and species of the County	Number of Action Plans to protect native habitats and species at National Level	2025 - 2028	Both	Full Accountability / Co-ordinate and facilitate	Community, Cultural Services and Parks	Dublin City Council Fingal County Council South Dublin County Council Wicklow County Council Kildare County Council NPWS
<b>N20</b>	Co-ordinate action on biodiversity across the four Dublin Local Authorities	Number of projects actioned across the 4 Dublin Local Authorities	2023-2028	Both	Full Accountability	Community, Cultural Services and Parks	Dublin City Council Fingal County Council South Dublin County Council
<b>N21</b>	Protect and conserve floodplains, wetlands, and coastal areas including those subject to flooding	Number of areas of floodplains, wetlands and coastal habitats surveyed/mapped for proposed protection Area (KM2) of floodplains, wetlands and coastal habitats subject to flooding that have been designated for protection in the County New policy included in the CDP to protect these areas	2028	Both	Full Accountability	Community, Cultural Services and Parks	Multi-Departmental NPWS Herpetological Society of Ireland
<b>N22</b>	Implement Green Infrastructure (GI) Strategy in line with EU GI definition and policies that incorporates climate change mitigation and adaptation	Green Infrastructure Strategy completed	2028	Both	Full Accountability	Community, Cultural Services and Parks	Multi-Departmental NPWS Herpetological Society of Ireland
<b>N23</b>	Run Workshops on Nature Based Solutions, Green Infrastructure and Sustainable Urban Drainage Systems (SuDS)	Number of workshops held	2024-2026	Both	Full Accountability	Community, Cultural Services and Parks	Multi-Departmental Airfield Estate



# NATURE BASED SOLUTIONS

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>N24</b>	Develop demonstration sites to show how to combine nature conservation with existing land uses	Number of demonstration sites	Annually through to 2028	Adaptation	Full Accountability	Community, Cultural Services and Parks	Finance and Water Services Communities Private Landowners Airfield Estate
<b>N25</b>	Expand the community garden model developed at Fernhill Park to other locations in the County; having due regard to environmental sensitivities such as European sites and biodiversity	Number of schemes implemented	2023 - 2028	Both	Full Accountability	Community, Cultural Services and Parks Architects	Community Gardens Ireland

### Integrated Environmental Considerations:

<b>Note A</b>	Actions N9 and N10	Having appropriate regard to the need to support the achievement of conservation objectives and protect and enhance the qualifying interests of this site.
<b>Note B</b>	Action N11	Ensure such guidance is designed to support the carrying out of biodiversity inclusive development in a manner that does not cause any unintended negative environmental effects.
<b>Note C</b>	Action N12	Ensuring due regard is given to the operational phase effects on biodiversity such as disturbance, trampling, litter management and signage.
<b>Note D</b>	Action N17	Ensuring all SuDS related construction works are designed and implemented in a manner that does not result in the occurrence of significant adverse environmental effects.
<b>Note E</b>	Action N14	Glyphosphate may be used in a controlled and restricted manner for the eradication of Invasive Alien Plant Species that can threaten native biodiversity, human health and ecosystem services.





# CIRCULAR ECONOMY AND RESOURCE MANAGEMENT



## CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

The circular economy and climate action are inherently interlinked. Our current linear production and consumption model (based on produce, use and dispose) is significantly carbon and resource intensive.

As a society we need to move to a more sustainable production and consumption model by changing how we consume materials and resources, how we design the products that households and businesses use and how we extend the productive life of all goods and products. Avoiding waste in the first instance is a climate action we can take every day.

Moving from traditional linear economic models to a more circular economy, is a priority for the European Union and Ireland. Increasing population and prosperity results in increasing consumption of the earth's finite resources and this has both environmental and climate impacts.

As a signatory of the European Circular Cities Declaration, Dún Laoghaire-Rathdown County Council (dlr) will embed the European Circular Cities Declaration commitments into the implementation phase of this Climate Action Plan 2024-2029. The European Circular Cities Declaration is managed by Circle Economy and ICLEI (International dlr for Local Environmental Initiatives) Local Governments for Sustainability, to which there are currently sixty-one signatories. ICLEI is a global network of more than 2,500 local and regional governments committed to sustainable urban development. This provides dlr with the opportunity to learn from and contribute to best practice across other European cities and local authorities.

## dlr's KEY OBJECTIVES FOR CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

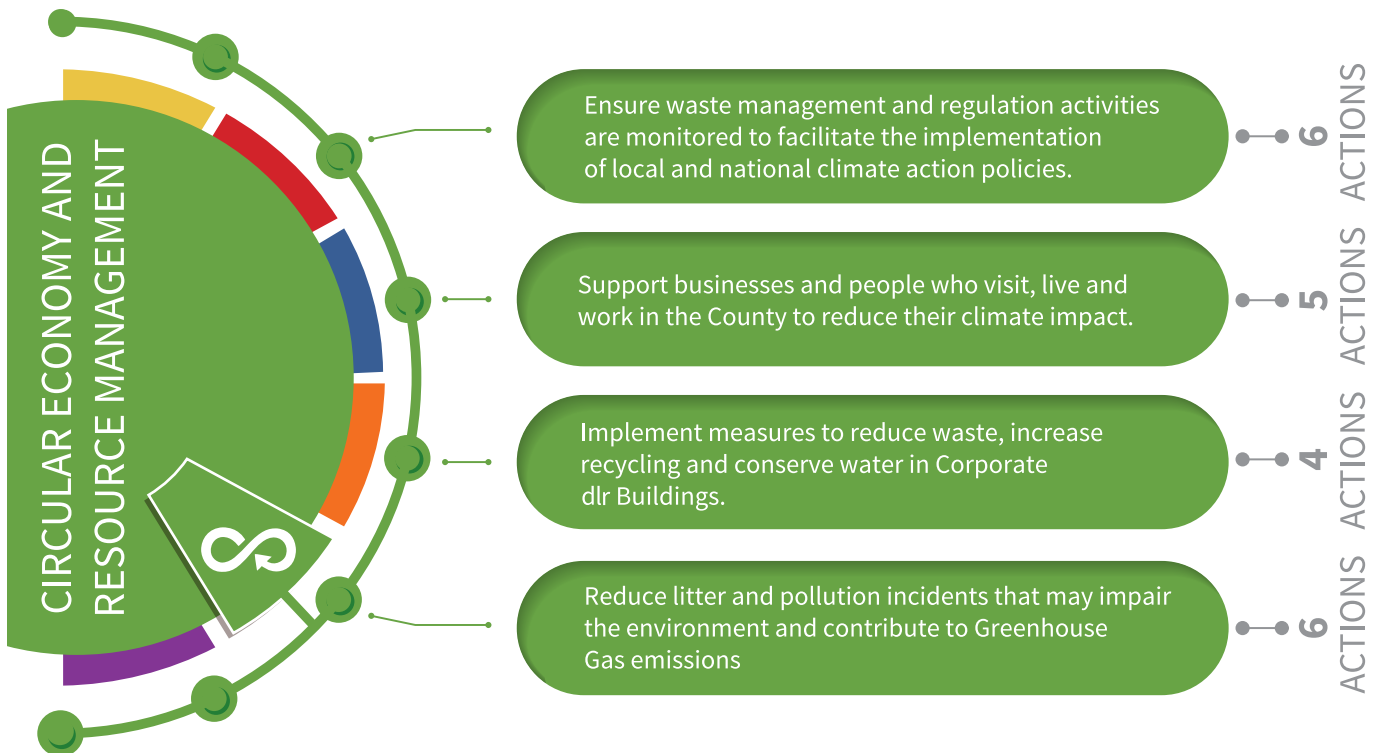


Figure 5.7: dlr's Key Objectives for Circular Economy and Resource Management

## ACCELERATING THE MOVE TO A CIRCULAR ECONOMY

A circular economy maximises the use of resources, products, and assets, and minimises resource consumption and wastage in all forms. This contrasts with the traditional linear take-make-use-dispose production and consumption approach, which is unsustainable. Changing to become a circular economy will not only conserve resources, but will also reduce environmental and climate impacts, encourage innovation and thereby increase competitiveness and create new jobs. Everyone can play a part by choosing how resources are used or consumed, and by reusing, recycling and minimising waste in their daily lives.

The Circular Economy and Miscellaneous Provisions Act 2022<sup>45</sup> was signed into Irish law in July 2022 and sets out a statutory framework for Ireland's transition to a circular economy. Key national objectives are to minimise the amount of waste we produce, to maximise the value of materials that are already in use, and to reuse and repair as much as possible. The National Waste Plan for a Circular Economy 2023-2029<sup>46</sup> includes targets, policies, and actions enabling the waste and resource sector to accelerate the transition to a circular economy.

### CASE STUDY

#### MODOS - CIRCULAR ECONOMY TRAINING FOR BUSINESS

The MODOS Circular Economy training programme is designed to take micro enterprises and SMEs through the basic principles of the circular economy. It encourages them to examine how this relates to their business operations, products and services and to identify actions they can take to implement circular principles and practices in order to become low carbon enterprises. In 2021 dlr partnered with Dublin City Council to deliver MODOS training and mentoring sessions to local businesses and to foster collaboration between the Local Enterprise Offices delivering circular economy training for businesses.

The training covered topics such as circular economy, climate strategy and carbon foot printing, resource efficiency and customer engagement. The largest sector represented in this MODOS training programme was the food and drinks industry which included food production, cafés and distilleries (41%); the next largest sector was retail and crafts/textiles which constituted 22% of the participants.

In terms of size, 52% of the participant businesses were micro enterprises and 48% were SMEs. dlr is committed to providing ongoing support to promote and deliver the MODOS training tool to any businesses in the County that are starting their circular journey or are progressing on it and can benefit from participation in this national mentoring programme and its associated networking events.



## COLLABORATING TO IMPLEMENT LOCAL AND NATIONAL CLIMATE ACTION POLICIES.

Waste emissions are predominantly methane arising from disposal to landfill. The environmental impact of methane has a very different warming impact than carbon dioxide due to its higher Global Warming Potential (GWP). Methane contributes 84 to 86 times more to global warming per unit of mass than carbon dioxide during the first twenty years. In recognition of this, at the Conference of the Parties (COP) 26 in 2021, 121 countries (including Ireland) signed up to The Global Methane Pledge<sup>47</sup> which aims to collectively reduce methane emissions by 30% between 2020 and 2030.

dlr will contribute to a reduction in waste related methane emissions by sending less waste to landfill, reducing the waste it generates by adopting circular economy practices which ensures products are renewable and reusable and by ensuring that waste is a last resort. Minimising waste generation, and improving segregation, reuse and recycling will also lead to fewer emissions associated with waste transport and treatment.

### CASE STUDY

#### PAINT REUSE PARTNERSHIP

Rediscover Paint is a social enterprise, based at the Rediscovery Centre, Ballymun. It collects non-hazardous, water-based waste paint received at local authority recycling centres, including dlr's Ballyogan Recycling Park and recycles it to create new colours. The aim of the Rediscover Paint programme is to divert reusable paint from disposal or incineration and provide affordable paint for reuse to the public and community organisations via the Rediscovery Centre's Eco Store and its online shop. Rediscover Paint has been working in partnership with dlr on a paint reuse partnership for several years.

In 2022, Rediscover Paint collected 2,520 kgs of paint for reuse from dlr's Ballyogan Recycling Park. This avoided the creation of 6,073 kgs of CO<sub>2</sub> emissions from the production of new paint. This figure is based on greenhouse gas emissions of 2.41 kgCO<sub>2</sub>/kg paint, adopted as the life cycle impact of paint from the Environmental Protection Agency funded research to identify key performance indicators that may be useful in assessing the social, environmental and economic impact of reuse organisations in Ireland. The indicators were validated via the Rediscovery Centre's operations and activities as an initial test bed site over a period of 12 months.



## REDUCING LITTER AND POLLUTION INCIDENTS THAT MAY IMPAIR THE ENVIRONMENT AND CONTRIBUTE TO GREENHOUSE GAS EMISSIONS.

### CASE STUDY

#### PROTECTING UPLANDS AND RURAL ENVIRONMENTS (PURE)

Protecting Uplands and Rural Environments (Pure) is a collaborative Project between dlr, Wicklow County Council, South Dublin County Council, Coillte, National Parks & Wildlife Service and the Wicklow Uplands Council. It was established to combat illegal dumping/fly-tipping in the Wicklow and Dublin Uplands. Since 2006, Pure has removed illegal dumping incidents located in the Dún-Laoghaire-Rathdown Uplands and from Coillte properties within the County. Pure has also supplemented dlr's own endeavours to create public awareness of illegal dumping and litter by advertising schools' anti-littering programmes, maximising media exposure of dumping incidents, linking in with residents' associations and carrying out general site clean-ups.

From dlr's perspective, involvement with Pure has eliminated time lost in liaising with other agencies to determine 'ownership' of land where waste is dumped and added value in the application of GPS/GIS to provide enhanced information on waste types, locations and dump sites. dlr is also enthusiastic about supporting Pure's future Climate Action ambitions, for example, delivering the Pure Mile Reuse Cup Campaign, the Pure Mile Reduce Plastic Campaign, Pure's Waste Minimisation Projects and Circular Economy, Recycling, Upcycling and Zero Waste workshops planned for Pure Mile Groups and members of the public.





In providing a network of recycling facilities for householders dlr will support the implementation of the following targets in National Waste Plan for a Circular Economy 2024-2030<sup>46</sup>.

- Recycle 65% of municipal waste by 2035
- Recycle 70% of packaging waste by 2030
- Recycle 55% of plastic packaging waste by 2030
- Separate collection obligations to include hazardous household waste (by end 2024), bio-waste (by end 2023), and textiles (by end 2024)
- Limit diversion of biodegradable municipal waste to landfill to max. limit of 427,000 tonnes
- Reduce the amount of municipal waste landfilled to 10% by 2035

dlr will continue to collaborate with the Eastern Midlands Regional Waste Planning Office, The Environmental Protection Agency, The Department of Environment, Climate and Communications and other national bodies to promote waste prevention and circular economy related campaigns and to implement key circular economy and resource management policy tools and regulations at a local level. dlr in its role as a waste regulator will assist in improving waste capture rates, reducing contamination and developing better waste prevention strategies to meet the following targets set out in the National Climate Action Plan 2023<sup>10</sup> to:

- Reduce food waste by 50% by 2030
- Provide for 90% collection of plastic drinks containers by 2029
- Achieve the waste reduction targets through prescribed measures no later than 2026
- Ensure all plastic packaging is reusable or recyclable by 2030

### ADDITIONAL BENEFITS TO CIRCULAR ECONOMY AND RESOURCE MANAGEMENT ACTIONS:

A move towards a more circular economy will:

- Stimulate local employment through the repair and reuse sectors in the short term.
- Increase competitiveness, encourage innovation, boost economic growth, and create jobs.
- Result in savings for consumers through better quality and longer lasting products which can be repaired and reused.
- Create resilient businesses that will be less dependent on imports and supply chain shocks.
- Improve social justice through a more sharing economic model.
- Reduce waste generation.

### CASE STUDY

#### SMART RECYCLING BIN TRIAL

During 2021, dlr installed seventeen smart recycling bins across the County on a pilot basis. The bins were paired with existing smart general waste bins to provide the public with a 'recycling on the go' option for plastic bottles and cans. The six-month pilot was conducted in conjunction with Kyron Street Ltd. and dlr subsequently maintained the recycling bins in situ on a permanent basis. Since then, the service has been further expanded to 26 smart recycling bins. Under the pilot, a total of 1,900Kg of material was collected which comprised of 11% contaminated waste, significantly less than the typical contamination rate of 30% found in domestic recycled waste.

The smart bins by their nature can reduce the number of bin collections by up to 80% due to their compaction capability and ability to identify when they are full and communicate via back-office support. The bins provide real-time monitoring via a telemetry system that monitors the waste levels within the bins. Alerts are triggered when a bin is at or near capacity, thus increasing bin collection efficiency. This smarter collection method contributes to reducing vehicle movements thus reducing the carbon emissions associated with servicing. When coupled with recycling, can deliver significant reductions in the environmental impacts of municipal waste services.



# CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Ensure waste management and regulation activities are monitored to facilitate the implementation of local and national climate action policies</b>							
<b>R1</b>	Ongoing monitoring of activities in the County that have potential to cause environmental pollution	Achieving Recommended Minimum Criteria for Environmental Inspections (RMCEI) Targets Annually	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (including. Road Maintenance and Traffic)	Waste Enforcement Regional Lead Authority (WERLA) Finance and Water Services
<b>R1A</b>	Ensure compliance with Solid Fuel Regulations through inspection and monitoring of solid fuel suppliers	Number of inspections per year as per RMCEI Plan	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Department of Environment, Climate and Communications (DECC)
<b>R2</b>	Facilitate, advocate, and enable the implementation of the Waste Management Plan for a Circular Economy 2024-2030	2024 dlr Waste Action Plan developed	2024 Review the final Action Plan 2025-2029 Implement the Action Plan with annual reviews	Both	Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Eastern and Midlands Regional Waste Management Planning Office (EMRWMPO) Environmental Protection Agency (EPA) (DECC)
<b>R3</b>	Guided by the National Hazardous Waste Plan 2021-2027 promote the appropriate management of hazardous household wastes	Tonnes of hazardous waste received at Recycling Centres annually	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	EPA EMRWMPO Waste Management Companies
<b>R4</b>	Support the capture of waste electric and electronic equipment (WEEE) at authorised dlr Recycling Centres and free WEEE collection events	Tonnes of WEEE waste received at Recycling Centres and public events annually	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	WEEE Ireland Ltd. WEEE Waste Processors
<b>R5</b>	Implement the reuse/ repair policy of the Waste Management Plan for a Circular Economy 2024-2030	Tonnes of bulky waste received at Ballyogan Recycling Park annually	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Community Resources Network Ireland CirculÉire EPA EMRWMPO
<b>R6</b>	Continue to accept garden waste at Ballyogan Recycling Park, in accordance with environmental management and protection related conditions contained in the waste licence for this facility and develop a composting strategy for organic waste collected by/ generated by the Council	Tonnes of garden waste received at Ballyogan Recycling Park annually Composting Strategy developed	2024 Annually thereafter  2025	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	EPA DECC Department of Agriculture Food and the Marine Contractor operating Ballyogan Recycling Park
<b>Support businesses and people who visit, live and work in the County to adopt circular practices and reduce their climate impact</b>							
<b>R7</b>	Promote and deliver Climate Action supports to help businesses reduce their greenhouse gas emissions and transition to net zero, circular enterprises	Number of businesses supported through Local Enterprise Office programmes, grants, and events annually	2024 Annually thereafter	Both	Influence / Co-ordinate and facilitate	Local Enterprise Office	Enterprise Ireland Dublin Climate Action Regional Office

# CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
R8	Collaborate with the Eastern Midlands Regional Waste Planning Office (EMRWMPPO), The Environmental Protection Agency (EPA) and other national bodies to promote waste prevention and circular economy related campaigns	Number of campaigns supported	2024 Annually thereafter	Both	Influence / Co-ordinate and facilitate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	EMRWMPPO EPA DECC
R9	Continued commitment and Signatory to European Circular Cities Declaration	Annual commitment	2024 Annually thereafter	Adaptation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic).	Corporate Affairs (including IT and Human Resources)
R10	Develop a vision for Dún Laoghaire-Rathdown to become a circular County including the feasibility of setting up blue/circular economy hubs in the county	Vision developed	2025	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Circle Economy
R11	Monitor Green Public Procurement (GPP) implementation in all dlr tenders and provide training for staff	% of Tenders including Green Public Procurement  Number of staff to complete training	2029  Training rollout by Q4 2024	Both	Full Accountability	Corporate Affairs (incl. IT and Human Resources)	Multi-Departmental

### Implement measures to reduce waste, increase recycling and conserve water in Corporate dlr Buildings

R12	Monitor municipal solid waste generated annually in corporate dlr buildings with a view to reducing the quantity of this waste sent for incineration	Tonnes of solid municipal waste collected annually Tonnes of solid municipal waste incinerated annually	2024 Annually thereafter	Mitigation	Full Accountability	Corporate Affairs (incl. IT and Human Resources)	dlr Staff  Waste Management Companies
R13	Monitor municipal waste recycled from corporate dlr buildings annually	Percentage municipal recycled waste collected annually	2024 Annually thereafter	Mitigation	Full Accountability	Corporate Affairs (incl. IT and Human Resources)	dlr Staff  Waste Management Companies
R14	Monitor water usage in head office buildings annually	Litres of water used annually	2024 Annually thereafter	Mitigation	Full Accountability	Corporate Affairs (incl. IT and Human Resources)	Uisce Éireann
R15	Roll out successful rainwater harvesting project, as implemented in Loughlinstown, to dlr owned buildings where the design is adaptable	Litres of water harvested annually	2024 Annually thereafter	Mitigation	Full Accountability	Community, Culture and Parks  Corporate Affairs (incl. IT and Human Resources)	Facilities Management Contractors  Multi-Departmental

### To reduce litter and pollution incidents that may impair the environment and contribute to Green House Gas emissions.

R16	Monitor and review use of Smart Bins in County including conducting a trial to collect compostable waste in the Decarbonising Zone	Number of monthly and annual collections recorded Weight of waste collected monthly and annually Volume of food waste segregated for composting from Smart Bins during the trial	2024 Annually thereafter  2029	Both	Full Accountability /Influence/Co-ordinate and facilitate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	
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# CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>R17</b>	Run anti-litter campaigns annually	Number of anti-litter campaigns ran	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic) Resources)	Public and Private Partners Volunteers Environmental Non-Governmental Organisations
<b>R18</b>	Trial environmentally friendly algae removal products	Monitoring the progress of the trial	2024	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Suppliers of products
<b>R19</b>	Carry out deep cleans of towns and villages in a manner which does not adversely impact air or water quality, or native biodiversity	Number of town and village deep cleans completed annually	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	
<b>R20</b>	Bathing Water Quality Monitoring and Reporting	Number of pollution incidents detected due to poor bathing water quality results, including source tracking and causation where possible Number of bathing water samples taken throughout the year Implementation of bathing water quality predictive modelling tool	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	EPA Health Service Executive Dublin Bay Bathing Water Task Force UCD
<b>R21</b>	Engage with UCD as part of Bathing Water Task Force under Acclimatise project	Microbial source tracking (MST) analysis of bathing water samples Water quality surveillance of the Elm Park and Trimleston streams Human, dog and bird Fecal Indicator Bacteria loading at Seapoint Beach	Ongoing to 2027	Mitigation	Co-ordinate and facilitate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Finance and Water Services Dublin Bay Bathing Water Task Force UCD





# COMMUNITY ENGAGEMENT

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## COMMUNITY ENGAGEMENT

The national Climate Action Plan 2023 (CAP23)<sup>10</sup> states that “delivering on our climate ambition requires the Government and citizens of Ireland, to come together in a strengthened ‘social contract’ for climate action and the co-creation of real solutions to climate change, that are meaningful, inclusive, fair and accessible for all, thereby prioritising a just transition”.

The term 'Community' can be defined as anyone who lives, works in or visits the County for example the business community, volunteer groups, schools, the sports community and residents.

In implementing and monitoring our existing Climate Change Action Plan 2019-2024, dlr has established a track record of engaging with communities on climate action. Dún Laoghaire-Rathdown County Council (dlr) aims to build on this through the development and implementation of this Climate Action Plan 2024-2029.

## dlr's KEY OBJECTIVES FOR COMMUNITY ENGAGEMENT

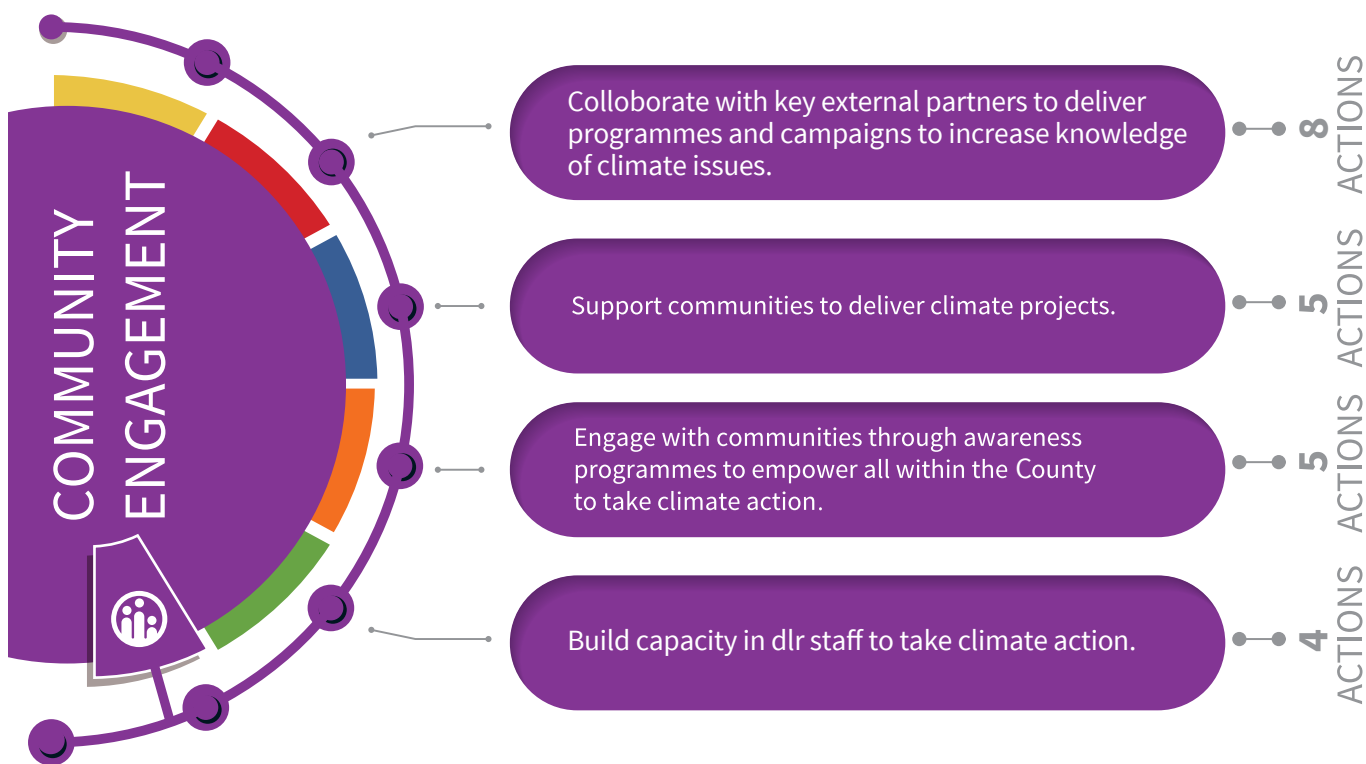


Figure 5.8: dlr's Key Objectives for Community Engagement

## CLIMATE AWARENESS EVENTS

dlr has significant experience in engaging communities and stakeholders, through our existing functions, including land-use planning, housing, employment, transport and environmental awareness. dlr is also engaged in existing public participation structures and approaches that are bottom-up, local community centred and are outcome focused. These include Public Participation Networks (PPN), Local Community Development Committees (LCDP), Tidy Towns, Sustainable Energy Communities (SEC) and a range of other programmes and initiatives.

dlr also runs a comprehensive awareness programme with businesses, schools, community groups and residents and aims to continue to build on this. Awareness programmes can assist in creating a sense of ownership and responsibility with communities to facilitate them taking a more active role in implementing climate friendly practices in their daily lives.

CASE STUDY

### CLIMATE CONVERSATIONS

In 2022, dlr continued to support community and stakeholder engagement initiatives, including the Government’s National Dialogue on Climate Action (NDCA), and local ‘Climate Conversations’ led by the Public Participation Network. The Climate Acts 2015-2021 recognise the Public Participation Networks as a key network to consult regarding climate action and dlr has engaged with the dlr PPN in the public consultation of the Climate Action Plan.



The challenges of climate change are far reaching across society, are not defined by spatial boundaries and require holistic and collective responses. It is important to continue to place a value on engagement and include communities in climate decisions and measures that involve them, whilst also positively and equitably influencing the choices they make.

While the findings suggest that awareness of climate change is high among the Irish public, this does not necessarily translate into climate action. People require more concrete, tangible guidance from the Government to be able to apply climate action in the context of their own circumstances, the choices that are available to them, and the impact they can make. CAP 23



## LÍNTE NA FARRAIGE

In February 2023, dlr launched the Creative Climate Action funded Linte na Farraige (Lines of the Sea) art installation at the Martello Tower in Blackrock Park. Designed by Finnish artists, Pekka Niittyvirta and Timo Aho, the installation aimed to connect the public visually and tangibly to the risks from future sea levels. The art installation consisted of a solar powered horizontal LED line of light. It showed the future risks of rising seas and storm surges, in the year 2100 and under a high-risk scenario, where ice loss from Antarctica is greater than expected. The installation was also based on future predictions from the Intergovernmental Panel on Climate Change Report AR6, and historic storm surge data in Dublin Bay.

Linte na Farraige is a recipient of the inaugural Creative Climate Action fund. It is an initiative from the Creative Ireland Programme in collaboration with the Department of the Environment, Climate and Communications that supports creative, cultural and artistic projects that build awareness around climate change and empower communities to make meaningful behavioural transformations. The project involved a collaborative team including dlr, scientists based at Trinity College Dublin, Maynooth University, University College Cork, the Dublin Climate Action Regional Office, Wexford County Council, Galway City Council, Fingal County Council, the Marine Institute, Irish creators and artists. The other installations were located at The Spanish Arch, Galway and Wexford Harbour. Further information is available at [www.lintenafarraige.com](http://www.lintenafarraige.com).



## CLIMATE ACTION WEEK 2022: SMALL SWAPS

As part of Climate Action Week 2022, dlr partnered with ReCreate, The Creative Reuse Company, to host a swap shop for all ages. This swap shop aimed to raise awareness about the circular economy within the community. People were invited to trade unloved, quality items, in exchange for an item brought in by another member of the public. This workshop encouraged the swapping of toys to encourage children to learn about reuse. Members of the public could also trade a reuse idea for an item from the shop.

In addition to the swap shop, textile artist Katie Hanlon hosted a Fix & Twist clothes repair corner, adding an unusual twist to repair with reuse crochet patches. Katie provided hands-on guidance on how to upcycle duds into glad rags. Small Swaps also featured creative reuse Green Games to help inspire reuse ideas and toy upcycling workshops for families to repair toys they brought in.



## STRENGTHENING PARTNERSHIPS

Communities have a unique insight into the impacts of climate change at a local level. The addition of the Community Engagement chapter in this iteration of dlr’s Climate Action Plan 2024-2029 sets out a roadmap to strengthen partnerships between dlr and communities such as the business community, sports clubs, community groups and resident associations. This co-operation can lead to an increase in knowledge for all sectors and assist in identifying innovative solutions to tackling climate change.

The County has a strong network of community groups, businesses, sports clubs, schools, residents associations and Tidy Town groups. The collective efforts made by these groups allows communities to address challenges, celebrate achievements and pursue shared goals. Through collaboration with dlr, communities can assist in creating an inclusive, informed and resilient County.

### CASE STUDY

## GAA GREEN CLUBS

The Gaelic Athletic Association (GAA) Green Clubs Programme was established to support Gaelic Games clubs in taking simple and effective sustainability action in their grounds and activities. The Programme is structured around the themes of Energy, Water, Waste, Biodiversity and Travel & Transport and is designed to promote sustainability awareness and action in GAA clubs and communities.

This programme is progressing well with Phase 2 of the Programme in operation since the start of 2023. Dún Laoghaire-Rathdown now have two clubs taking part in this programme and there is a Point of Contact in dlr for clubs to contact for advice and guidance.

With Phase 2 of the programme concluding near the end of 2024 / early 2025, it is anticipated that more clubs will join the programme during Phase 3 (Starting in 2025).

The Toolkit is available to all GAA, LGFA and Camogie clubs and members at:  
<https://learning.gaa.ie/greenclub>



### CASE STUDY

## SANDYFORD INNOVATION SUMMIT 2022

dlr was happy to support the annual Sandford Innovation Summit in 2022. The theme was “Decarbonisation” and its impact on businesses and the general public with a live conference element over two days that included presentations, firesides, and audience Q&A sessions.

There was a significant exhibition showcasing the best in sustainable transport options that are both currently available and in the pipeline. Each day started with a practical demonstration of a last mile hub/mobility island concept, where visitors to the event got to sample ‘last mile green mobility’ firsthand using e-scooters, e-bikes and a ‘Green Bus’ to get to the venue.

The first day was dedicated to transportation and mobility in a decarbonising world with speakers from industry specialists, thought leaders and staff from dlr. The second day focused on the role of technology in decarbonisation and considered real and practical energy solutions with presentations from world experts and practical demonstrations from leading companies already implementing tactile solutions and strategies to deliver a decarbonised future.





## COMMUNITY CLIMATE ACTION PROGRAMME

dlr must empower communities with the knowledge and resources to enhance their resilience and ability to adapt to climate change. On February 3rd, 2023, the Minister for the Environment, Climate and Communications, launched the Climate Action Fund Strand 1 - Building Low Carbon Communities. This is a national fund of €24 million for local authorities across the country, to support and build low carbon communities. A further €3 million is being provided to support cross-border and all-island community climate action initiatives. This funding is part of the Community Climate Action Programme, which supports projects and initiatives that facilitate community climate action through education, capacity building and learning by doing.

Strand 1 requires the appointment of dedicated Community Climate Action Officers (CCAO) in all local authorities to guide and support communities from the very start. dlr has recruited a CCAO to facilitate the administration of this fund.

*Community projects eligible for this guidance and potential funding will address the following five themes:*



Figure 5.9 Community Climate Action Fund Projects

## CO-BENEFITS OF COMMUNITY ENGAGEMENT

By actively involving communities in climate action and emphasizing the co-benefits of such initiatives, dlr and communities can build strong support for sustainable practices and create a healthier more resilient County.

It is important to note that the co-benefits of climate action can extend beyond addressing climate change and have positive impacts on various aspects of community life.

- Increased awareness and understanding of climate issues among the public;
- Increased sense of ownership and empowerment within the community to tackle issues such as climate change;
- Increased collaboration between dlr and communities;
- More informed and effective decision making by incorporating local knowledge and perspectives.



# COMMUNITY ENGAGEMENT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Support communities to deliver climate projects.</b>							
<b>C1</b>	Administer the Community Climate Action Fund	Number of projects funded	2023-2026	Both	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Department of Environment, Climate and Communications Local Communities
<b>C2</b>	Facilitate the Community Clean Up Scheme	Number of waste collections generated from the Community Clean Up Scheme	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Volunteers
<b>C3</b>	Promote citizen science climate action projects	Number of projects supported	2024 (annually reporting review thereafter)	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Facilitators of citizen science projects
<b>C4</b>	Provision of Home Energy Saving Kits in dlr libraries	Number of kits given out	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Codema Householders
<b>C5</b>	Establish and promote positive examples of co-operative local community biodiversity projects or demonstration models	Number of community biodiversity projects established	2025	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	
<b>C6</b>	Work in partnership with residents, community groups, sports clubs and schools in climate related programmes	Number of events/ programmes	2024 Annually thereafter	Both	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic) Community, Cultural Services and Parks	Schools Residents Associations Volunteers Workshop Facilitators Funding Partners
<b>C7</b>	Develop a project combining heritage and creative arts to address climate anxiety	Project completed	2027	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Creative Ireland
<b>C8</b>	Promote and encourage community involvement in the retrofit of SuDS or development of natural flood management measures and blue/green infrastructure in existing housing / developments/local areas	No of engagement events (social media posts, articles, events) per year	2029	Adaptation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Finance and Water Services Planning and Economic Development (including Dún Laoghaire Harbour) Private Landowners
<b>C9</b>	Increase climate themed events for national events such as National Heritage Week, Cruinniú and Bealtaine	Number of events for Heritage Week to have a climate theme	2024-2029	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Community Groups



# COMMUNITY ENGAGEMENT

Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
<b>Engage with communities through awareness programmes to empower all within the county to take climate action.</b>							
<b>C10</b>	Design an innovative and creative project to use a heritage site to creatively engage local communities with climate change, climate mitigation and heritage <b>Note A</b>	Selection and completion of project	2024-2029	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	
<b>C11</b>	Encourage and support schools implementing the An Taisce Green-Schools Programme and the Farmer Time Programme	Number of schools awarded Green Flag Number of schools participating in Farmer Time Programme	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	An Taisce Airfield Estate
<b>C12</b>	Support the Gaelic Athletic Association (GAA) Green Clubs Programme	Number of clubs supported	2024	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Climate Action Regional Office GAA Clubs
<b>C13</b>	Facilitate the roll out of the SEAI Sustainable Energy Communities (SECs) programme	Number of SECs registered annually.  Number of SECs funded	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Sustainable Energy Authority of Ireland
<b>C14</b>	Promote and support Circular Economy Initiatives with businesses and the community including the feasibility of setting up of blue/circular economy hubs in the county	Number of initiatives carried out	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Sandyford BID DLR Chamber of Commerce The Rediscovery Centre
<b>C15</b>	To increase the number of heritage events with a climate theme	Number of climate themed events	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Heritage Council
<b>C16</b>	Support dlr Sports Partnership in co-ordinating and delivering Walking Programmes in the County <b>Note A</b>	Number of organised walks	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Sports Partnership
<b>C17</b>	Provide education and raise awareness of the impacts of climate change on biodiversity and water quality	Number of initiatives ran annually	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Multi-Departmental Schools Third level colleges Department of the Marine National Parks and Wildlife Services (NWPS) Environment Protection Agency Bird Watch Ireland (B.W.I.) Water Framework Directive Officers Local Authorities Water Programme Regional Offices (LAWPRO) Inland Fisheries





# COMMUNITY ENGAGEMENT

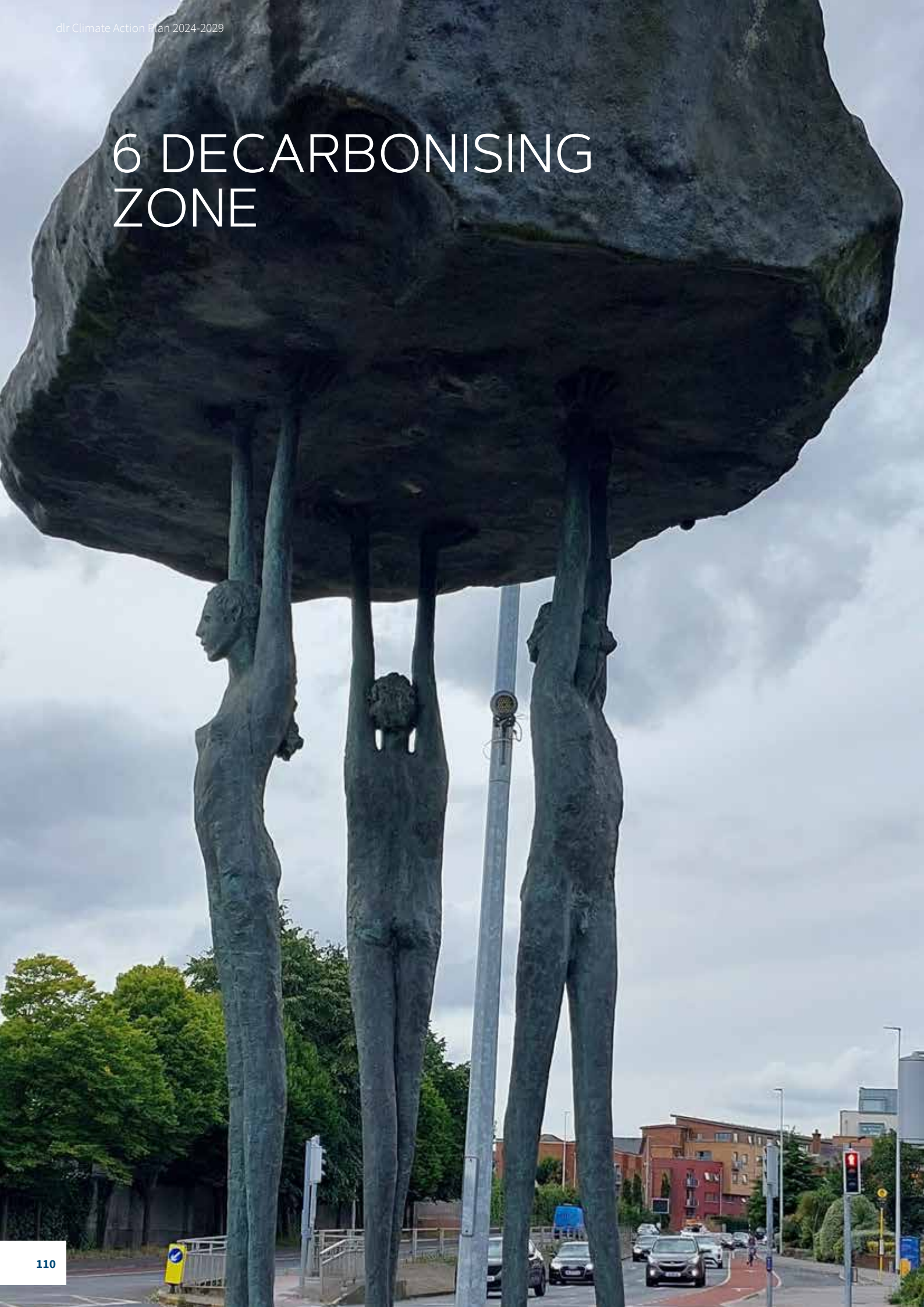
Ref	Action	Tracking Measure	Timeframe	Adaptation / Mitigation	dlr Role	Lead Department (s)	Partner(s) Identified
C18	Organise activities and events to promote biodiversity, ecosystems and ecosystem services	Number of initiatives ran annually	2025	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Community, Cultural Services and Parks	Schools, Educational Groups Local Communities BWI NPWS Heritage Council
C19	Create training programmes for local authority staff/public in the use of traditional and sustainable materials and skills, carbon literacy, protection of heritage assets and any other specific skills training necessary to address the adaptation, mitigation and emergency management issues arising from the impact of climate change	Number of courses held Number of people trained Number of structures repaired	2028	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (including Road Maintenance and Traffic)	
C20	Promote energy awareness within the County and Council including workshop type events	Number of awareness events Number of dlr Tenants provided with energy saving information when signing their tenancy agreement	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Architects	Sustainable Energy Authority of Ireland Codema Housing
C21	Train dlr staff to implement climate action at work and at home	Number of initiatives ran	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance and Traffic)	Multi-Departmental
C22	Identify opportunities to promote sustainable and active travel with dlr staff	Number of sustainable travel initiatives promoted	2024 Annually thereafter	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate Change (incl. Road Maintenance)	
C23	Facilitate Uisce Éireann's delivery of water demand/ conservation campaigns for schools, households and businesses	Number of campaigns carried out	2024 Annually thereafter	Mitigation	Facilitate	Infrastructure and Climate Change (inc. Road Maintenance and Traffic)	Uisce Éireann
C24	Explore and respond to ways in which the climate transition will affect different groups in the county including facilitating skills training and energy poverty reduction measures so that no one is left behind	Number of people availing of interventions offered	2029	Mitigation	Full Accountability/ Influence / Co-ordinate and facilitate / Advocate	Infrastructure and Climate change (inc. Road Maintenance and Traffic)	Codema Third Level Institutions HSE Community and Voluntary Sector
C25	Produce a newsletter to encourage all within the county to take climate action and to report on the progress being made in implementing the actions over the lifetime of the Plan	Number of Newsletters produced annually	2024 Annually thereafter	Mitigation	Full Accountability	Infrastructure and Climate change (inc. Road Maintenance and Traffic) Corporate Affairs (inc. IT and Human Resources)	
C26	Promote and encourage retrofitting of housing and multi-unit developments while sharing Council knowledge and best practices, with an emphasis on reaching households at risk of fuel poverty	Number of engagement events per year	2024 Annually thereafter	Adaptation/ Mitigation	Influence/ Coordinate and Facilitate	Architects	Multi-Departmental Approved Housing Bodies Tenants Organisations Owner Management Companies Private Landlords

**Integrated Environmental Considerations:**

<b>Note A</b>	Actions C10 and C16	Having due regard to environmental sensitivities such as European sites and biodiversity
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# 6 DECARBONISING ZONE







## WHAT IS A DECARBONISING ZONE?

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

The main objective of a DZ is to find innovative but achievable ways to reduce greenhouse gas emissions from the area by 51% by 2030, based on 2018 levels. Each zone's plan will be based on the characteristics of the area, what is of benefit to the community, and how these elements can work together to reduce or remove carbon and other greenhouse gases from the process.

By creating these zones, different approaches and projects can be tested and perfected, allowing other communities to apply proven ideas based on their own needs.

## WHY WERE DÚN LAOGHAIRE AND BLACKROCK CHOSEN?

To qualify as DZs, the chosen areas need to have certain characteristics that have potential for climate action across a variety of sectors. Dún Laoghaire and Blackrock were selected to form one DZ as they were considered to be ready to support climate action, to have a strong sense of community, and to be the right size in terms of population (at least 5,000 people required for urban DZs).

As a DZ, Dún Laoghaire/Blackrock also has a lot of potential for developing new and existing climate projects, with opportunities for providing co-benefits for the area. For example, air quality could be improved by looking at increasing use of public transport, active travel, and mobility hubs. Energy sustainability could be addressed with new energy infrastructure, like electricity network upgrades and district heating, and by improving efficiency and renewable heat in residential, public, and commercial sector buildings. There are opportunities for greening projects that support biodiversity in both public and privately held areas of land.

Additionally, Dún Laoghaire/Blackrock has a wide variety of building types with varying energy needs, used daily by the community, public, and business sectors and forms the effective centre of the Dún Laoghaire-Rathdown County Council (dlr) catchment, in effect its 'County town'. This means many of the projects and initiatives already underway can be included and developed hand in hand with the DZ.

As part of Ireland's Climate Action Plan 2019, every local authority in the country is required to plan a DZ. In addition to this, as part of the Climate Action and Low Carbon Development (Amendment) Act 2021<sup>4</sup>, every local authority is also required to produce a detailed Climate Action Plan.

In 2023, as part of the Guidelines for Local Authority Climate Action Plans<sup>16</sup> published by the Department of the Environment, Climate and Communication (DECC), DZs must now be included in all local authority Climate Action Plans.



### THE ‘DÚN LAOGHAIRE/BLACKROCK DZ’ TODAY

In order to achieve the target of a 51% reduction in carbon emissions by 2030, it is necessary to first know; the current emissions in the decarbonising zone, their location, what activities are producing them, and the purpose of these activities. It's also necessary to consider everything from the population breakdown and travel patterns to the types of buildings and heating systems within the area. This provides a detailed overview in terms of knowing existing behaviours, activities and infrastructure in order to decide how best to develop solutions together that are tailored to Dún Laoghaire/Blackrock and everyone living and working there.

### SIZE, ZONING AND INFRASTRUCTURE

Dún Laoghaire and Blackrock are coastal communities, about 10 km south of Dublin City. The Dún Laoghaire/Blackrock DZ is shown in Figure 6.1 and Figure 6.2. It has an area of 6.4 km<sup>2</sup> and includes both Dún Laoghaire town centre and Blackrock village, as well as the nearby residential and amenity areas and several small commercial clusters. These consist of 10,935 households, and 829 commercial and industrial buildings. Residential areas make up most of the zone at 63% of the total area. Open space, such as parks, cover 14%, town and neighbourhood centres cover 7%, economic development areas cover 4%, sustainable neighbourhood infrastructure (such as schools and community centres) use 5%, the waterfront and harbour take up 4%, and third level education institutions make up 3%.

### DRAFT VISION FOR DZ

“The DZ of Dún Laoghaire and Blackrock will showcase the opportunities for decarbonisation and sustainable living in our County”

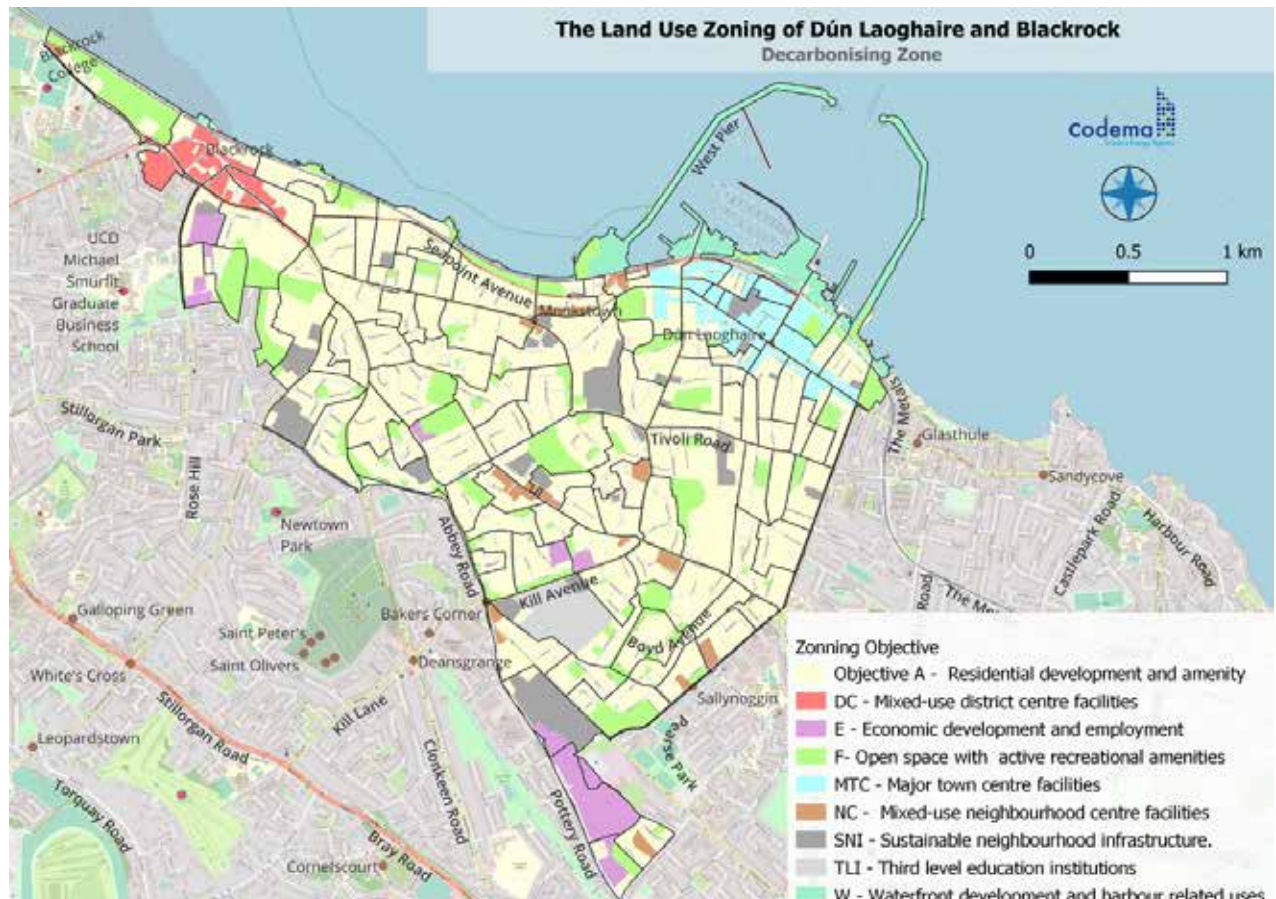


Figure 6.1 - Land use zoning in Dún Laoghaire/Blackrock DZ



## POPULATION

The population of 'Dún Laoghaire/Blackrock DZ' is approximately 28,000. Notably, there is a balance across age groups with those older than 60 making up 22% of the population and those younger than 20 years old making up 23%. The remaining 55% of the population are between 20 and 60 years old.

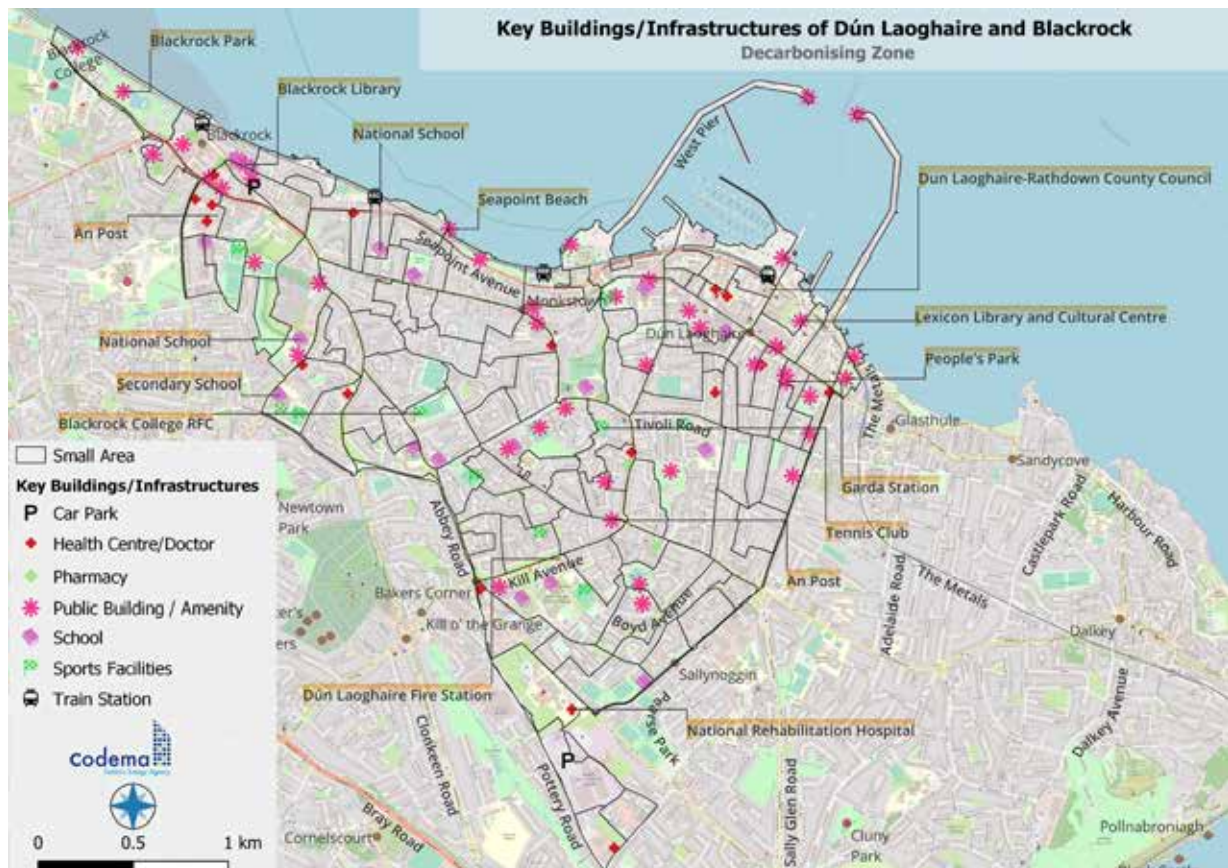


Figure 6.2 - Amenities and public places in Dún Laoghaire/Blackrock DZ

## PUBLIC INFRASTRUCTURE

In addition to the town centre, harbour, residential and open space areas, the Dún Laoghaire/Blackrock DZ has the following important public infrastructure shown in Figure 6.2.

## TRANSPORT LINKS

Dún Laoghaire/Blackrock is crossed by the DART rail line connecting Howth/Malahide and Bray/Greystones. Dublin bus routes 7a, 46e, 84, 84a, 46a, 63 and 75 as well as any bus routes that have begun operation in the DZ as part of the BusConnects Network Redesign and the 7n and 84n Nitelink routes serve Blackrock. The 7, 7a, 46a and 7n Nitelink also serve Dún Laoghaire.

## EXISTING KEY CONTACTS AND STAKEHOLDERS

Stakeholder engagement is essential to the development of the DZ plans. For example, the Local Authority Climate Action Plan Guidelines recommends early and continued engagement of stakeholders throughout the process. The Guidelines also highlight that the Local Authority does not possess ‘the control or power to directly influence all of the energy and emission reductions within the boundaries of the DZ area’. Therefore, it is crucial to engage a wide range of sectors and stakeholders in the DZ process to identify actions and progress the development and implementation of the DZ plan.

To ensure a fair and just process in developing and implementing the Dún Laoghaire/Blackrock DZ, Dún Laoghaire-Rathdown County Council (dlr) plans to engage stakeholders from the local area such as community groups, business representative bodies, educational facilities, health centres, childcare and youth groups, faith bodies and the creative arts.



Additionally, it will be crucial to identify and engage ‘key intermediaries’ such as those with wide community following and influence in the area. These trusted groups and individuals can act as connectors between the community and dlr, leveraging existing projects, raising awareness of the DZ plans and engaging the wider community.

One example of key intermediary groups that should be engaged in the DZ process are the Sustainable Energy Communities. A Sustainable Energy Community (SEC) is a group of people who have come together to improve how energy is used and develop a sustainable energy system for the benefit of their community. Energy communities often look at projects in homes, transport and local business.

They aim to:

- be energy-efficient
- use renewable energy
- consider smart energy solutions

A SEC can include a range of different energy users in the community such as houses, sports clubs, community centres, churches and businesses. In this way, a SEC connects sustainable energy, local economic development and public wellbeing. There are several SEAI Sustainable Energy Communities (SECs) in the ‘Dún Laoghaire/Blackrock DZ’ - ‘Monkstown Village Tidy District’ and ‘Southdene’.

## EMISSIONS WITHIN THE DÚN LAOGHAIRE/BLACKROCK DZ

A Baseline Emissions Inventory (BEI) is a way of taking a snapshot of how much greenhouse gases are currently being released in a specific area. It looks at sources of emissions, such as homes, cars, commercial and public activities, industry, and other activities as well as electricity usage and waste management. The BEI helps guide the actions taken in the DZs, towards a cleaner, more sustainable way of living.

The Baseline Emissions Inventory was developed using methodologies from several Codema reports, national guidelines for local authority Climate Action Plans and supporting datasets. The series of maps outlined in the following section have been created using the same methodologies, sources and datasets.

DZ's take their BEI from 2018 levels, as required in national climate policy. Using this baseline data (Figure 6.3), it is possible to see where the biggest carbon savings can be made, and how best to reach the goal of 51% reduction by 2030. The results show that the **Dún Laoghaire/Blackrock DZ produced 105,313 tCO<sub>2</sub> equivalent in 2018**. By comparing 2030 emissions data to the 2018 baseline, it will be possible to see the progress made and measure the success of climate actions across the zone.

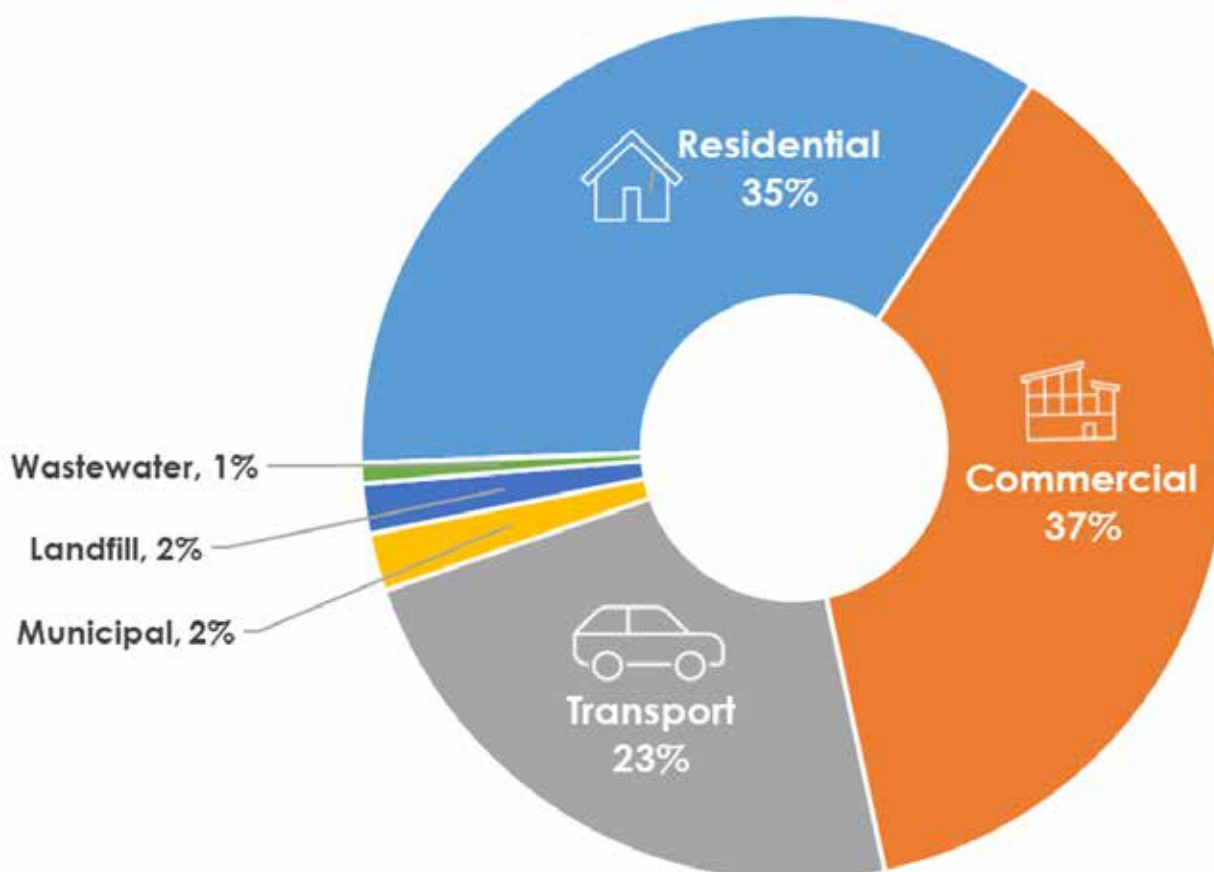


Figure 6.3 Total greenhouse gas emissions for Dún Laoghaire/Blackrock DZ by sector in 2018

## RESIDENTIAL EMISSIONS AND PROFILE

The following series of maps - residential emissions, building energy rating, and heating system (Figures 6.4 - 6.6) - help us to understand the type of homes and heating systems in the Dún Laoghaire/Blackrock DZ and the areas where home energy upgrades or retrofits can have the greatest impact on emissions and air quality, as well as the type of work that will be required.

**Figure 6.4** shows the spatial breakdown of residential emissions in the Dún Laoghaire/Blackrock DZ, per small area highlighting the areas of highest and lowest emissions from the residential sector. The darker colours on the map help to show the areas where home energy upgrades can have the greatest impact on reducing emissions.

A Building Energy Rating (BER) certificate rates a home's energy performance on a scale between A and G with A-rated homes being the most energy efficient while G-rated homes are the least energy efficient. **Figure 6.5** shows the average Building Energy Rating (BER) of the houses in each small area in Dún Laoghaire/Blackrock DZ. The BERs are largely in the lower ranges of D1, D2, & E1 reflecting the ageing building stock in this area, and highlighting the considerable work required to meet the national aims of improving the BER of our building stock.

**Figure 6.6** shows the areas where the primary heating fuels - gas, oil, and electricity are used in the DZ. Natural gas is the main fuel source for residential heating (50%), followed by oil (29%) and electricity (14%). Other fuels (7%) include coal, wood, peat, and Liquefied Petroleum Gas (LPG).

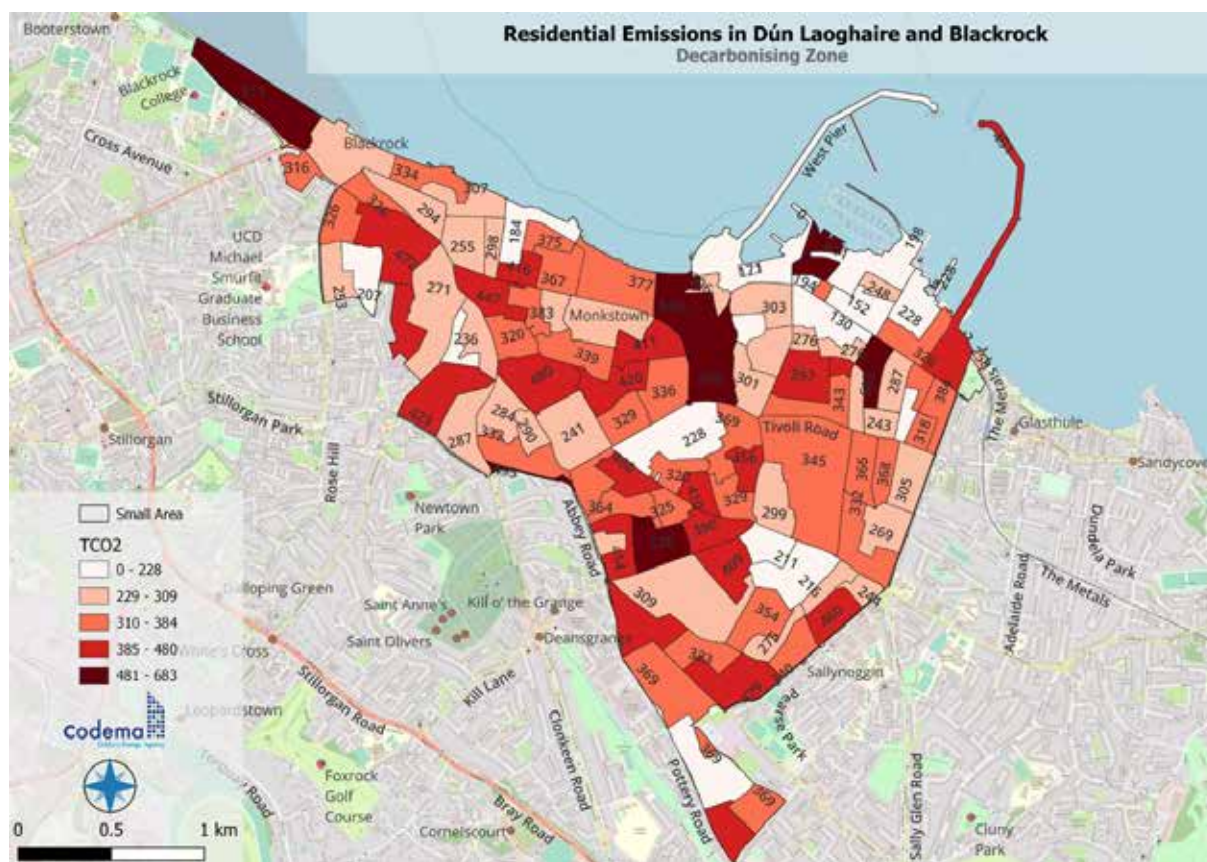


Figure 6.4 - Residential emissions (tCO<sub>2</sub>) per Small Area in Dún Laoghaire/Blackrock DZ

\*Small Area' is the smallest geographical breakdown used in Ireland for statistical purposes. Each small area includes between 80-120 buildings.

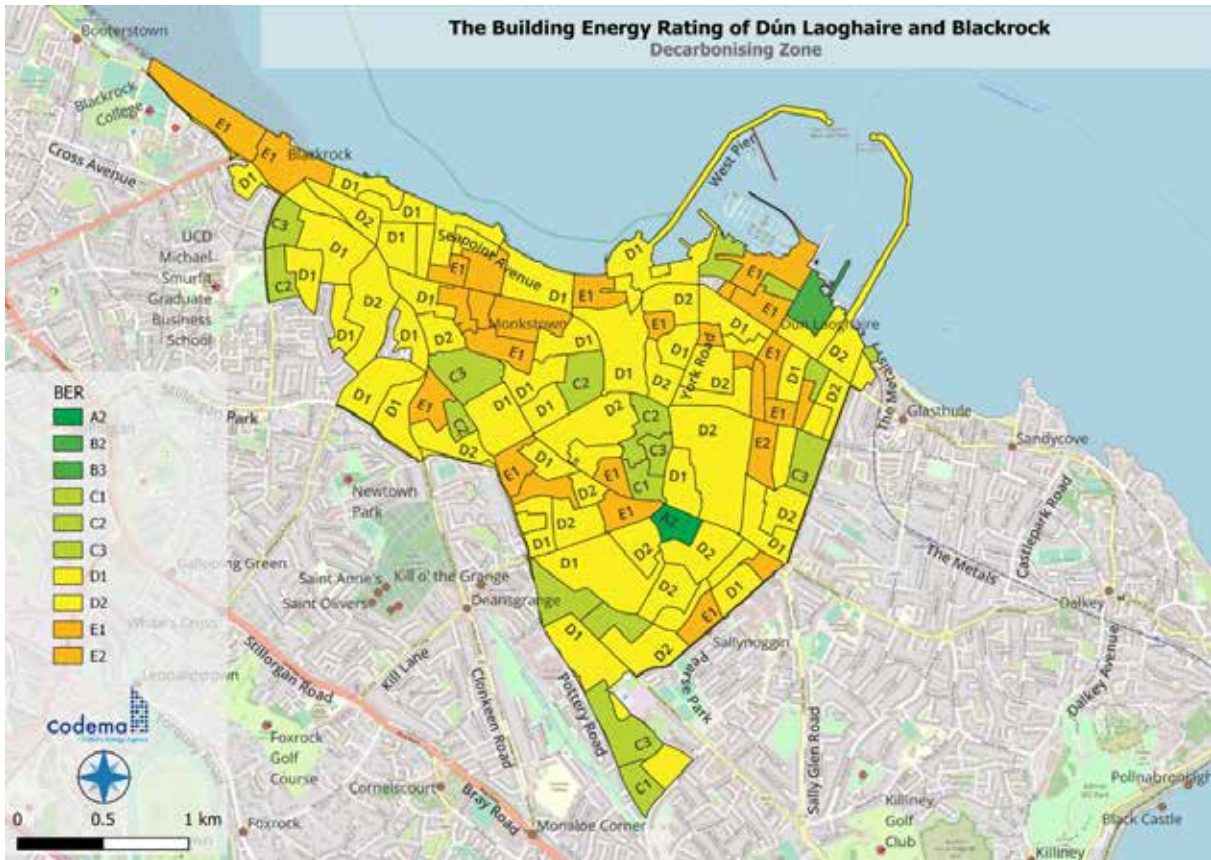


Figure 6.5 - Average Building Energy Rating (BER) of the houses in each small area in the Dún Laoghaire/Blackrock DZ

### Boiler Type of Dún Laoghaire and Blackrock Decarbonising Zone

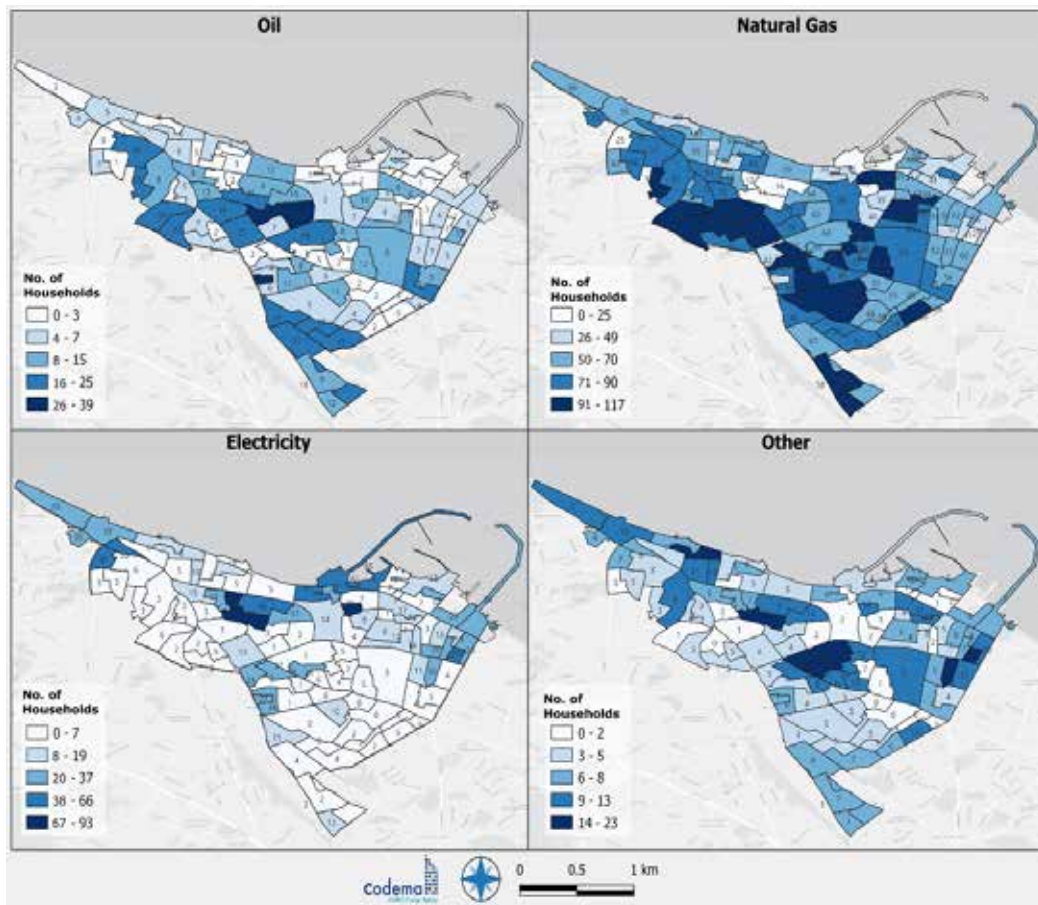


Figure 6.6 - Heating fuels used per small area in Dún Laoghaire/Blackrock DZ

## COMMERCIAL AND PUBLIC EMISSIONS AND PROFILE

The greenhouse gas emissions from the wider commercial sector within the ‘Dún Laoghaire/Blackrock DZ’ are reflected in Figure 6.7. This includes small, medium and large businesses, from high street retail shops and supermarkets, to office buildings, and industrial activities like factories. It also includes public sector buildings. Understanding the areas of highest and lowest emissions from this sector, helps us to understand where future emission reduction and renewable energy projects can have the greatest impact.

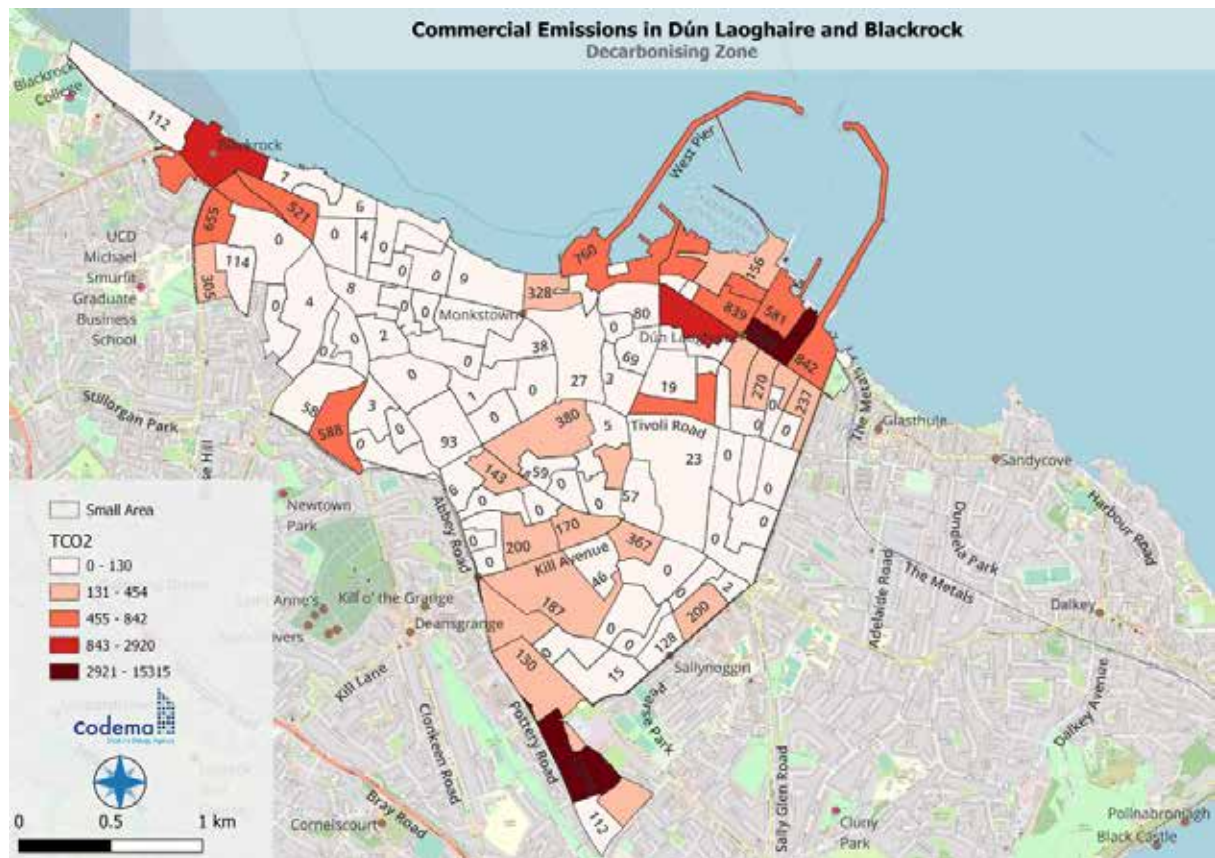


Figure 6.7 - Commercial emissions (tCO<sub>2</sub>) per Small Area in Dún Laoghaire/Blackrock DZ



### TRANSPORT EMISSIONS AND PROFILE

In the Dún Laoghaire/Blackrock DZ approximately 95% of transport emissions come from road trips, and 5% from rail transport. Figure 6.8 shows the roads in the DZ that have the highest emissions associated with them and Figure 6.9 shows the ways that people within the DZ travel to work, school or college. To reduce emissions in transport, and improve air quality, a shift to active travel is needed in addition to electric vehicle uptake. This chart shows that there may be a large opportunity to shift people away from car journeys, as 42% of all journeys within the DZ were in a car. This information can be used to support new plans for more sustainable travel options within the zone.



Figure 6.8 - Road Emissions in TCO<sub>2</sub> - developed based on modelling data supplied by the National Transport Authority

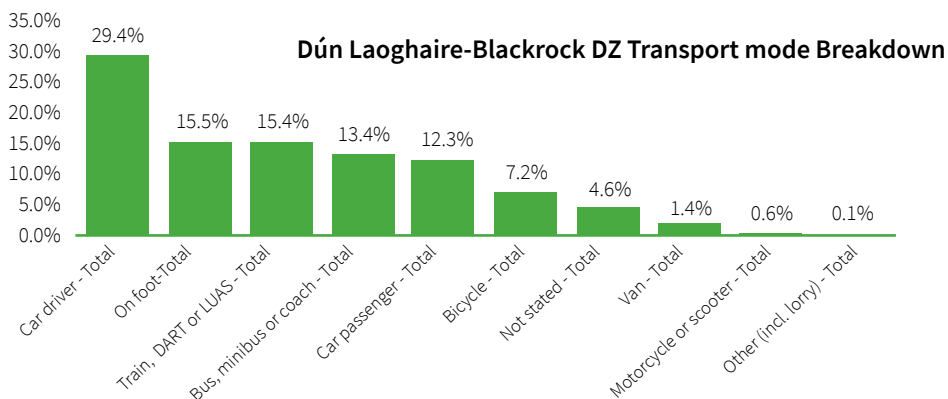


Figure 6.9 - Journeys to work, school or college within the Dún Laoghaire/Blackrock DZ (CSO 2016)

## ROLE OF dlr IN THE DZ

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The core role of dlr in the Dún Laoghaire/Blackrock DZ is as a facilitator. To support and deliver the DZ plan, action will be needed by dlr, but also other public sector organisations, local businesses, social and community groups, and the wider public.

Recognising this, dlr will play several roles while supporting climate action in Dún Laoghaire and Blackrock. These roles are:

- Direct action - delivering on climate action in areas within dlr's direct control including its own buildings, infrastructure, systems, operations and staff.
- Facilitation - delivering on climate action by coordinating, connecting, and linking others. This can include stakeholder engagement, capacity-building, developing partnerships, funding and policy support, among other enabling activities.
- Advocacy – communicating, influencing, and building on a shared vision of the DZ, as well as raising awareness of the DZ plan and developing recommended and new actions with a wide network of local stakeholders to achieve support from the local community.

## CLIMATE PATHWAYS

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Climate pathways are the different routes or strategies that could significantly reduce emissions within the DZ. These pathways highlight some of the directions that can be taken to reduce emissions and show how potentially effective these directions might be. The aim is to create a plan that best suits the unique circumstances and resources within the DZ, while also aligning with Ireland's national climate goals (i.e., 51% reduction in emissions by 2030). By exploring these climate pathways, the zone can make significant progress in combating climate change and creating a cleaner, more sustainable future for Dún Laoghaire/Blackrock.



## RESIDENTIAL CLIMATE PATHWAY TO 2030

A potential emissions pathway for the residential sector of the Dún Laoghaire/Blackrock DZ is presented in **Figure 6.10**. Emission reduction measures are presented in orange and are ranked in terms of cost effectiveness from left to right. These measures are:

1. Electricity Supply
2. Solar PV and Home Energy Upgrades. A 5% increase in emissions is expected in a Business as Usual scenario .

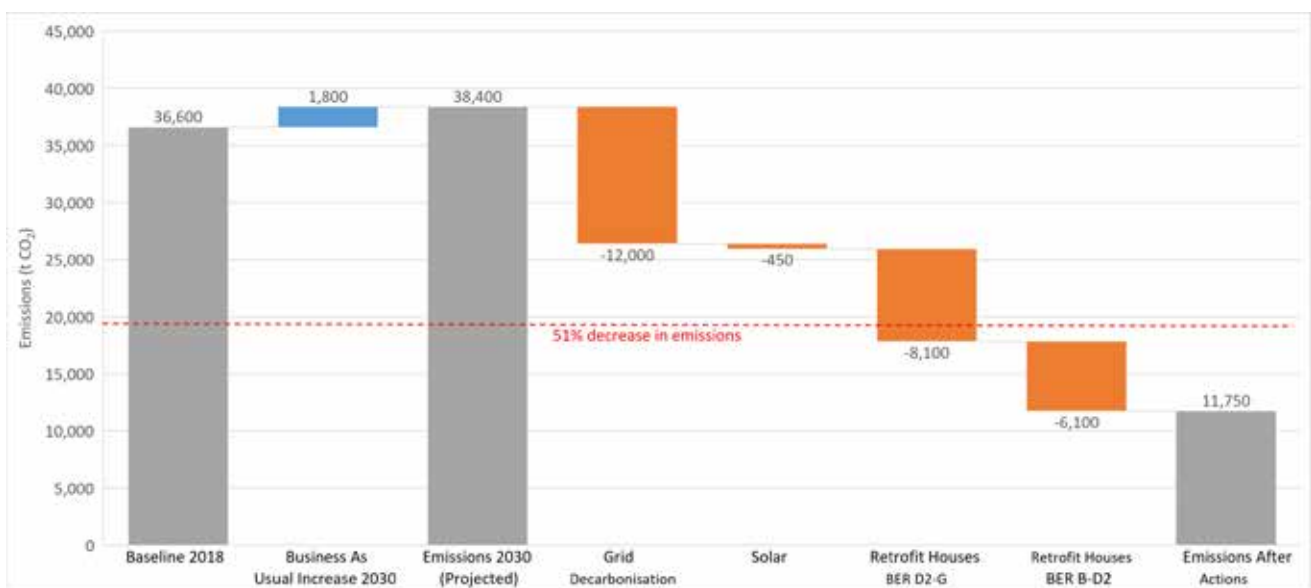
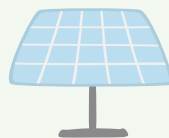


Figure 6.10 - Dún Laoghaire/Blackrock DZ Residential Climate Pathway



### 1. ELECTRICITY SUPPLY

Electricity grid decarbonisation means using cleaner sources such as wind and solar to generate electricity that in turn powers our homes and businesses. Future electricity grid decarbonisation will reduce emissions by 33% (12,000t CO<sub>2</sub>) in the Dún Laoghaire/Blackrock DZ. This leaves an additional 8,400t CO<sub>2</sub> to tackle in order to reach the target of 51% emissions reduction by 2030.



### 2. SOLAR PV & HOME ENERGY UPGRADES

This additional 8,400t CO<sub>2</sub> target could be addressed through a combination of rooftop Solar PV panels and also Home Energy Upgrades for about 5,500 homes in the DZ. Home Energy Upgrades on the remaining 7,000 homes provide potential for reducing emissions in the zone beyond the 51% target. Home energy upgrades (or retrofits) may involve installation of renewable heating systems, attic and wall insulation, ventilation, and airtightness measures.

## COMMERCIAL AND PUBLIC SECTOR CLIMATE PATHWAY TO 2030

A potential emissions pathway for commercial emissions within the DZ is presented in Figure 6.11 below. The measures are presented in order of cost per tonne of CO<sub>2</sub> saved, meaning the measures on the left will likely provide more value for money. This commercial sector refers to commercial buildings and public buildings (including street lighting). The main areas for reducing emissions in the commercial sector are Electricity Supply and the Decarbonisation of Heat.

### Electricity Supply

Similarly, to the residential sector, the decarbonisation of the electricity grid will contribute significantly (17,900 t CO<sub>2</sub>) towards the 51% reduction in the commercial sector.

### Decarbonisation of Heat

In the commercial sector, removing carbon dioxide emissions from the large industry and commercial users would enable the DZ to exceed its targets of a 51% emissions reduction by 2030.

Targeted actions to address the top 80% of commercial heat consumption (the 87 largest commercial consumers, which includes 24 offices, 22 retail shops, 13 hospitality sites, 10 leisure centres, 10 industrial sites, 4 health sites, 3 miscellaneous and 1 warehouse) will be required.

Further or alternative emission reductions are possible in the wider commercial sector through the following recommendations:

- Lighting upgrades
- Solar PV on commercial buildings with available roof space (€3.2 million)
- Prioritising decarbonisation of dlr buildings (DeliverEE project)
- Street lighting upgrades

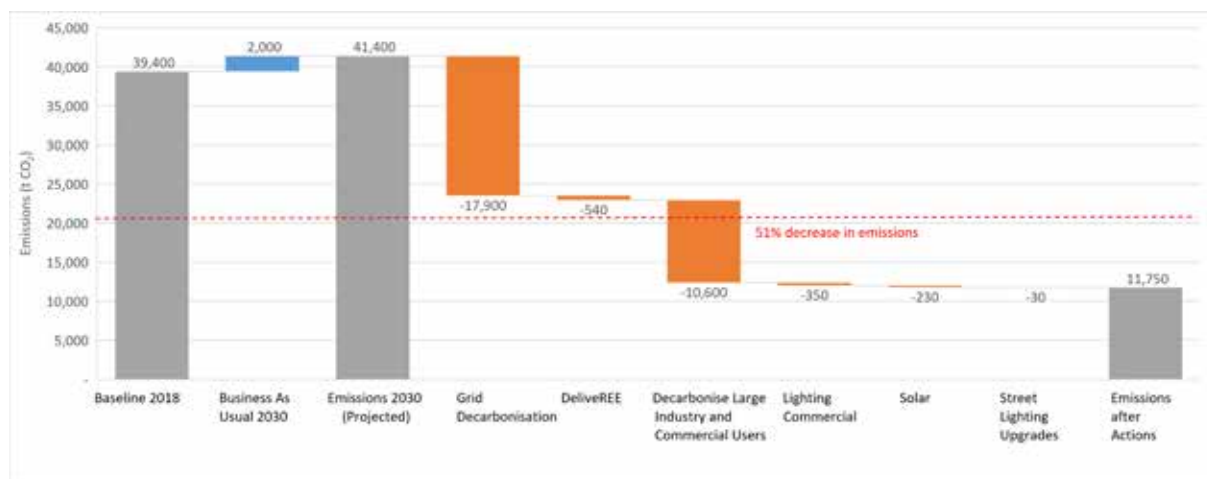


Figure 6.11 - Dún Laoghaire/Blackrock DZ Commercial Climate Pathway

Solar PV at a cost of €1200 /kW based on typical industry costs  
Based on 2023 public lighting data

## TRANSPORT CLIMATE PATHWAY TO 2030

Figure 6.12 presents a potential emissions pathway for transport emissions within the Dún-Laoghaire/Blackrock DZ. The measures are presented from the most cost effective (€/tonne CO<sub>2</sub>) on the left, to the most expensive on the right and include Light Good Vehicles (LGVs), Bus Electrification, Heavy goods Vehicles (HGVs), Car use and active travel.

### BUSINESS AS USUAL / CURRENT TRAJECTORY

Current transport projects planned up to 2028 suggest that there may be a 21% decrease in road emissions and a 50% decrease in rail emissions. This is drawn from National Transport Authority (NTA) modelling where road emissions decreases are associated with projects like active travel, BusConnects, and some electric vehicles; and rail emissions decreases are related to electrification.

### LIGHT GOODS VEHICLES (LGV)

Vehicles considered a LGV include commercial jeeps, vans and smaller trucks. For the Dún-Laoghaire/Blackrock DZ to meet 2030 emissions targets there would need to be a 5% reduction in vehicle kilometres due to freight logistics planning improvements, 10% switch to e-cargo bikes and 40% switch to Electric Vehicles.

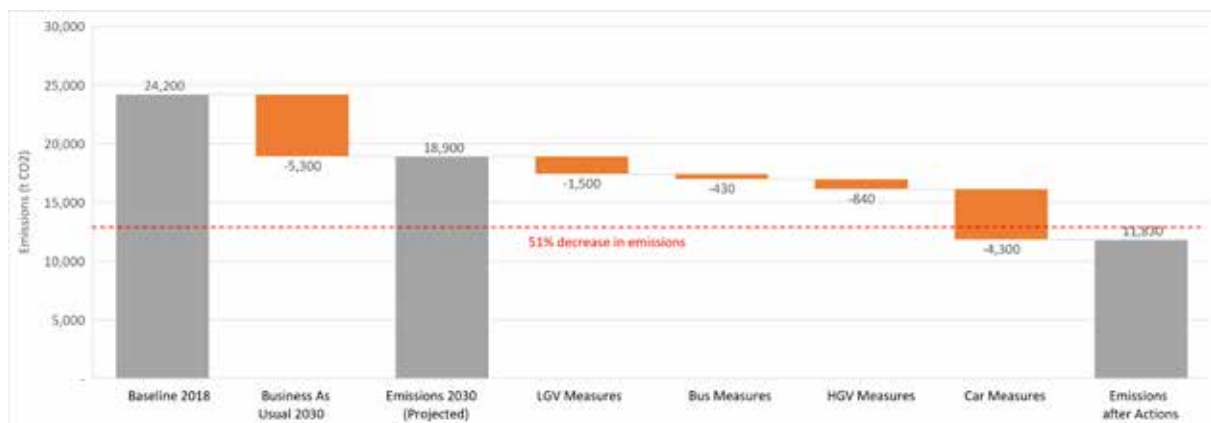


Figure 6.12 - Dún Laoghaire/Blackrock DZ Transport Climate Pathway

### BUS ELECTRIFICATION

In relation to buses in the DZ, it will be necessary for 70% of all buses (public and private) to be electrified. It is the intention of the NTA to deliver a fully low-emission public urban bus fleet by 2030, consisting of battery electric, diesel hybrid and hydrogen fuel cell vehicles, with a fully zero-emissions fleet by 2035. This is likely to provide the greatest contribution towards the 70% target, as regional and private bus services will be more difficult to decarbonise.

### HEAVY GOODS VEHICLES (HGV)

Vehicles considered an HGV include large vans and articulated trucks. For Dún Laoghaire/Blackrock DZ to reduce emissions in line with national targets a reduction of 5% in vehicle kilometres will be necessary as well as a shift of 20% of HGVs to Electric Vehicles and 5% to rail freight.

### CAR TRAVEL AND ACTIVE TRAVEL

It will be important to prioritise active travel (walking, cycling) and public transport throughout Dún Laoghaire/Blackrock DZ to encourage at least 21% of current car users to migrate towards more sustainable forms of transport. Furthermore, switching 27% of cars in the DZ to EVs will be necessary to meet 2030 targets.

## WHERE COULD SOLAR PV BE INSTALLED?

An initial analysis in Figure 6.13 highlights the rooftop solar electricity opportunity in the Dún Laoghaire/Blackrock DZ, showing that many buildings have potential to consider solar panels for electricity. This map is an initial indicator of the potential of solar panels. Further building-specific consideration is needed to determine the true potential for solar panels. Additional factors for consideration include: shading, roof pitch, and access.

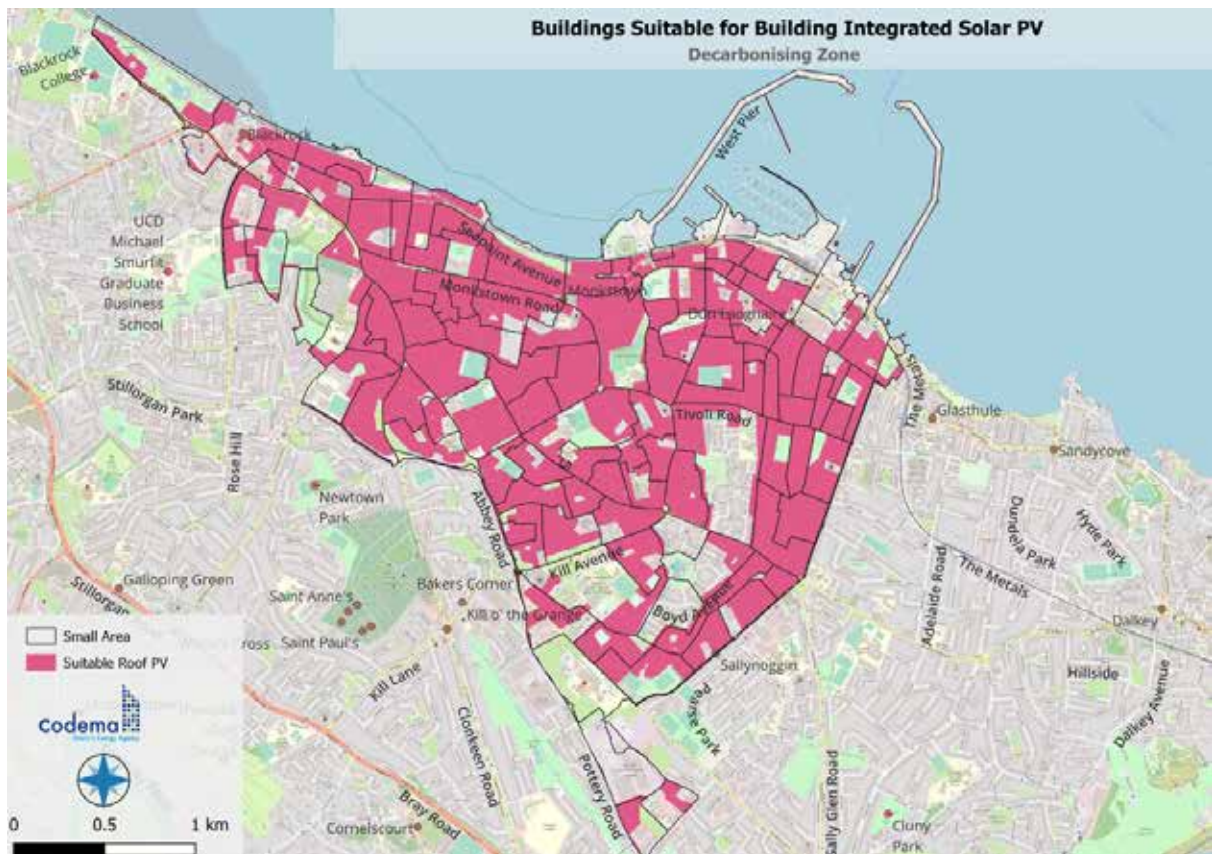


Figure 6.13 - Rooftop solar electricity opportunity in Dún Laoghaire/Blackrock DZ

## WHERE COULD DISTRICT HEATING BE USED?

District heating is a tried and tested system made up of a network of underground pipes, serving an entire community or beyond. Instead of each building having its own separate heating system, they all connect to a shared network, much like the electrical grid.

The first step in creating a district heating system is to look within the area and identify existing and potential sources of heat.

The hot water is then pumped through a network of well-insulated underground pipes that run beneath the streets. These pipes carry the heat throughout the area to each individual building. District heating is recognised in Ireland and by the EU as an important way to increase renewable energy in heating.

The map in Figure 6.14, from Codema's Dublin Region Energy Masterplan, compares the costs of heat pumps and district heating in the DZ. The areas coloured blue are most suited to heat pumps and the areas coloured red are most suited to district heating. This indicates that district heating may be a viable option in the Dún Laoghaire/Blackrock DZ, and that this heating solution merits further consideration. Additionally, SEAI's National Heat Study has identified the Dún Laoghaire/Blackrock area as an important 'candidate area' for district heating.

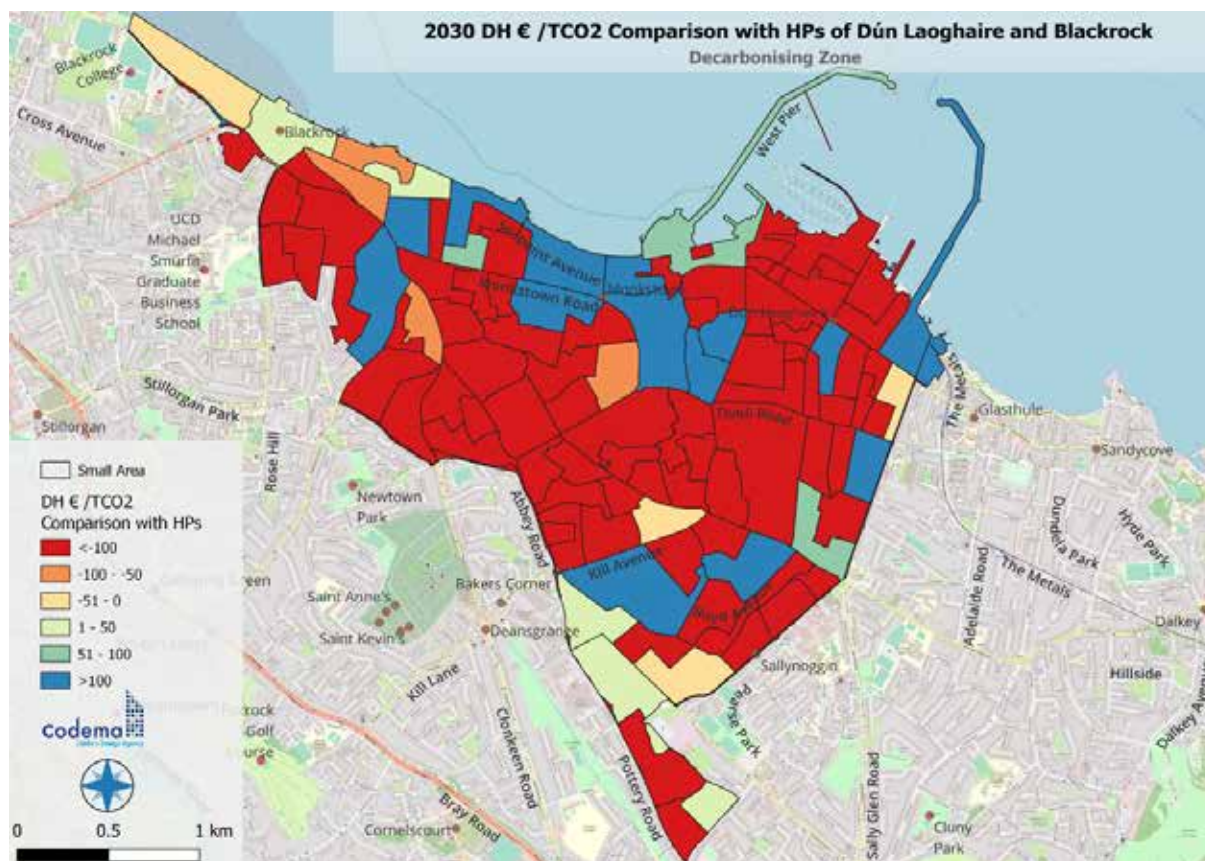


Figure 6.14 - Heat pumps and district heating in Dún Laoghaire/Blackrock DZ

## BENEFITS OF DISTRICT HEATING

District heating has many benefits, including;

- Climate-friendly - modern district heat networks run on renewable energy reducing emissions and improving air quality.
- Energy Efficiency - district heating is typically more efficient than individual heating systems.
- Less Maintenance - district heating means the responsibility for maintaining the heating system is on the centralised facility operators, saving residents from the burden of maintaining their own heating equipment.
- Future proof - there's no need to change technology in homes in the future as this happens at the district heating energy centre.
- Energy storage - District heating can provide 'grid services' to the electricity grid. It can help increase the amount of renewable energy in the electricity grid by providing flexibility of heat use. For example, the district heating system could use additional renewable energy when it's available and store it in hot water tanks for later use in the district heat network.

### WHERE COULD HEAT PUMPS BE INSTALLED?

A heat pump provides heat to a building, by capturing heat from outside and moving it inside. It uses electricity to do this, however the quantity of heat delivered into a home is about three times greater than the quantity of electricity used to power the system. Heat pumps are recognised as an important way to increase renewable energy in heating.

About 1,500 homes in the Dún Laoghaire/Blackrock DZ may be suitable for heat pumps without further insulation and energy efficiency measures. The remaining 10,800 homes are likely to require further insulation and energy efficiency measures before they are suitable for heat pump installations. **Figure 6.15** shows the percentage of houses potentially suitable for heat pumps in each small area - the darker colours on the map help to show the areas where greater numbers of suitable houses are located.

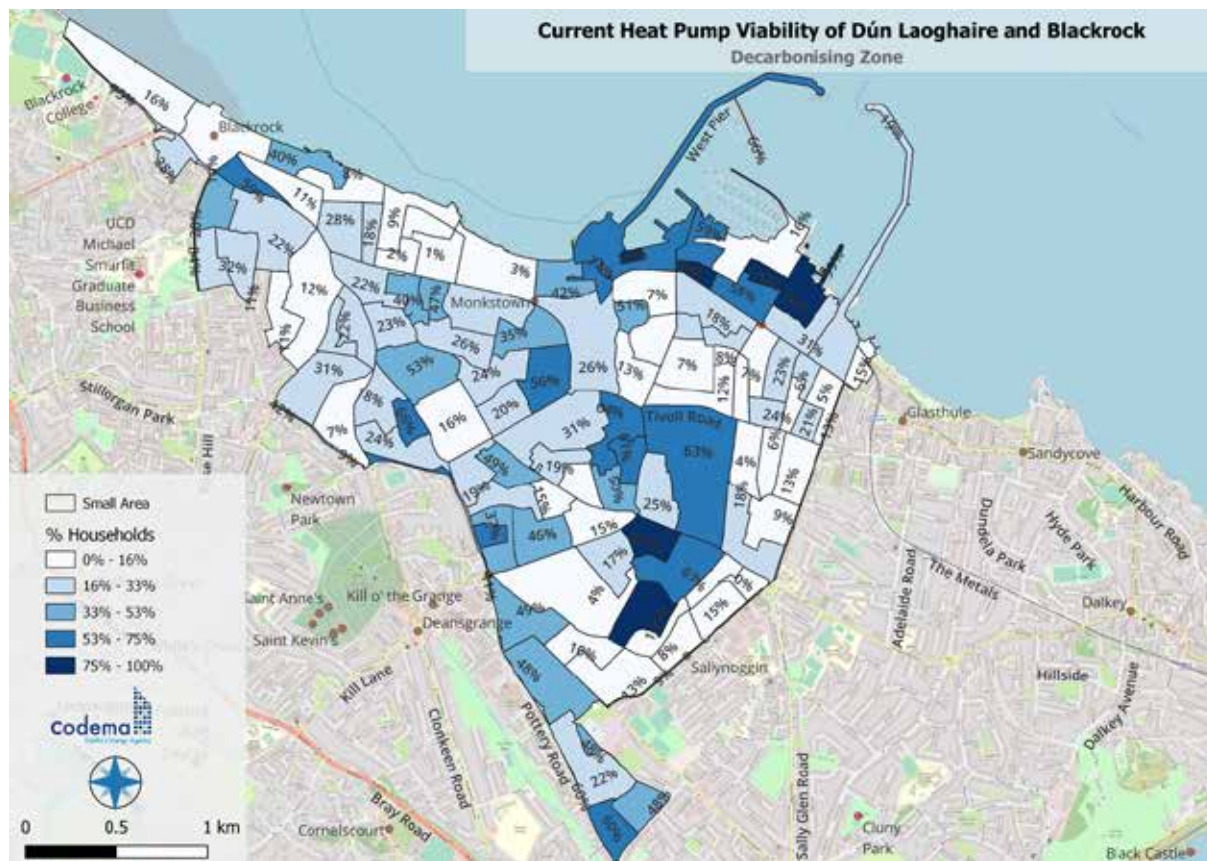


Figure 6.15 - Heat pump suitability potential in Dún Laoghaire/Blackrock DZ





## OPPORTUNITIES FOR CLIMATE ACTION IN DÚN LAOGHAIRE AND BLACKROCK

### BUSINESS AS USUAL / CURRENT TRAJECTORY

Building on the climate pathways discussed, this section catalogues climate action opportunities within the Dún Laoghaire/Blackrock DZ in more detail. **Table 6.1** outlines a range of potential climate action opportunities to be considered as part of the Dún Laoghaire/Blackrock DZ.

Many types of actions are needed to work together in a complementary way to deliver the vision for the Dún Laoghaire/Blackrock DZ. These actions need to span scientific analysis, project delivery, engagement, social and community realms, and governance structures to achieve the systems change needed for a thriving, and climate friendly Dún Laoghaire/Blackrock.

### REGISTER OF OPPORTUNITIES

A Register of Opportunities has been prepared for the DZ. These opportunities are broad, high-level and non-specific in nature and define potential strategic interventions to be investigated to achieve GHG emissions reductions within the DZ. Following a period of stakeholder engagement these opportunities will be developed into a set of specific, implementable actions under a plan for the DZ which will be subject to its own Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) processes.

The opportunities progressed shall accord with the following integrated environmental protection and enhancement considerations:

- The opportunities progressed, and any associated activities and development, such as energy, heating or active travel related development, shall have due regard to the need to protect sensitive aspects of the receiving environment, including local human receptors; European sites and biodiversity; heritage features, protected structures and the context in which such features sit; and the receiving water, soils and local air quality environment.
- Any opportunities progressed that result in the development of renewable energy development, such as wind turbine development or solar panel development, shall specifically have due regard to the need to protect sensitive aspects of the environment from the typical effects of such development, including avifauna effects or landscape and visual related effects, including glint and glare.
- dlr will advocate and exert influence to ensure that opportunities progressed that lead to the development of additional electricity network infrastructure, including linear cable infrastructure development, by electricity network operators, does not contravene relevant planning and environmental protection criteria or cause significant negative environmental effects.
- Any opportunities progressed that support the upgrade of public lighting, shall have due regard to the need to ensure the lumen levels and spectral range of such lighting are maintained or reduced/controlled to avoid effects on biodiversity.

## REGISTER OF OPPORTUNITIES

Strategic Area	Opportunity	Business and Local Authority Role(s)	Co-benefits*
<b>Residential Emissions</b>	Upgrade of residential building stock for energy efficiency and renewable heat systems	Direct action, Facilitation, Advocacy	Cleaner air, reduced energy poverty, improved health, increased employment, increased energy security
<b>Residential Emissions</b>	Residential rooftop solar PV	Direct action, Facilitation, Advocacy	Cleaner air, reduced energy poverty, improved health, increased employment, increased energy security
<b>Residential Emissions</b>	Energy upgrade of priority dlr buildings in the DZ	Direct action	Cleaner air, improved health, increased employment, increased energy security
<b>Residential Emissions</b>	Engage with SEAI Sustainable Energy Community (SEC) programme and mentors to support development of SECs, engagement and project delivery within the DZ	Direct action	Cleaner air, reduced energy poverty, improved health, increased employment, increased energy security and inclusivity
<b>Residential Emissions</b>	District heating for residential sector	Direct action	Cleaner air, improved health, increased employment, increased energy security
<b>Commercial and Public Emissions</b>	Upgrade of priority commercial stock for energy efficiency and renewable heat systems	Direct action, Facilitation, Advocacy	Cleaner air, improved health, increased employment, increased energy security
<b>Commercial and Public Emissions</b>	Commercial solar PV	Direct action, Facilitation, Advocacy	Cleaner air, improved health, increased employment, increased energy security
<b>Commercial and Public Emissions</b>	Lighting upgrades for commercial buildings	Direct action, Facilitation, Advocacy	Increased employment and increased energy security
<b>Commercial and Public Emissions</b>	District heating for commercial and public sectors	Direct action	Cleaner air, reduced energy poverty, improved health, increased employment, increased energy security
<b>Commercial and Public Emissions</b>	Public lighting upgrades within the DZ	Direct action	Cleaner air, improved health, increased employment, increased energy security
<b>Transport Emissions</b>	Car travel - converting to active travel, public transport and electric vehicles	Direct action, Facilitation, Advocacy	Cleaner air, improved health, increased energy security and reduced noise
<b>Transport Emissions</b>	Electrification of buses	Facilitation, Advocacy	Cleaner air, improved health, increased energy security and reduced noise
<b>Transport Emissions</b>	Transport measures for light goods vehicles (LGVs) and heavy goods vehicles (HGVs)	Facilitation, Advocacy	Cleaner air, improved health, increased energy security and reduced noise
<b>Transport Emissions</b>	Active travel - explore opportunities for 'bike libraries' or 'try-a-bike' schemes	Direct action	Cleaner air, improved health, increased inclusivity and public participation
<b>Transport Emissions</b>	Explore opportunities to repurpose car parks for use as 'last mile' delivery hubs	Facilitation	Cleaner air
<b>Transport Emissions</b>	Explore opportunities for new public transport and active travel linkages to nearby rail services	Facilitation	Cleaner air, improved health
<b>Transport Emissions</b>	Review opportunities to reallocate public parking spaces to alternative public amenity uses	Direct action	Cleaned air, improved health
<b>Electricity Sector</b>	Facilitating new electricity network infrastructure where required by electricity network operators	Facilitation, Advocacy	Cleaner air, improved health, increased employment, improved energy security

\*Co-benefits are additional positive effects of climate action beyond direct emission reductions (e.g. clean air, energy poverty, health, employment, biodiversity, water quality, ecosystem health, energy security, noise levels, embodied carbon, circular economy, inclusivity, public participation).

## REGISTER OF OPPORTUNITIES

Strategic Area	Opportunity	Business and Local Authority Role(s)	Co-benefits
<b>Electricity Sector</b>	Engage with demand response companies and key stakeholders within the DZ, to support the development of demand response and energy storage in residential, commercial and public sectors	Direct Action, Facilitation, Advocacy	Cleaner air, increased employment, improved energy security
<b>Engagement</b>	Develop a local community and public engagement plan for the DZ	Direct action	Increased Inclusivity and public participation
<b>Engagement</b>	Establish a 'transition team' for the DZ comprising representatives from the local community, business, transport, energy sector, and others to co-create an action plan	Direct action	Increased Inclusivity and public participation
<b>Engagement</b>	Create a regular drop-in 'energy clinic' where the public can receive advice on how they can take climate action. Explore possible links with Sustainable Energy Communities mentors	Direct action	Increased Inclusivity and public participation
<b>Engagement</b>	Engage with public sector bodies located in the DZ to understand their decarbonisation plans and find synergies and opportunities	Direct action	Cleaner air, improved health, increased employment and energy security
<b>Governance and System Support</b>	Develop a governance framework and implementation plan for the DZ	Direct action	Increased Inclusivity and public participation
<b>Governance and System Support</b>	Develop a DZ data gathering and monitoring project to explore additional and complementary ways to track emissions and communicate progress	Direct action	Increased Inclusivity
<b>Governance and System Support</b>	Explore opportunities for a 'Dún Laoghaire/Blackrock DZ' project webpage	Direct action	Increased inclusivity and public participation
<b>Biodiversity, Circular, Economy, &amp; Nature Based Solutions</b>	Explore opportunities for biodiversity in the DZ	Direct action, Facilitation, Advocacy	Cleaner air, improved water quality, increased biodiversity, improved ecosystem health, promotion of circular economy
<b>Biodiversity, Circular, Economy, &amp; Nature Based Solutions</b>	Explore opportunities for circular economy in the DZ	Direct action, Facilitation, Advocacy	Cleaner air, improved water quality, increased biodiversity, improved ecosystem health, promotion of circular economy
<b>Biodiversity, Circular, Economy, &amp; Nature Based Solutions</b>	Explore opportunities for nature-based solutions in the DZ	Direct action, Facilitation, Advocacy	Cleaner air, improved water quality, increased biodiversity, improved ecosystem health, promotion of circular economy
<b>Just Transition</b>	Explore and develop just transition opportunities in the DZ such as skills training, and energy poverty reduction measures	Direct action, Facilitation	Increased inclusivity and public participation

Table 6.1 – Register of Opportunities for Decarbonisation in Dún Laoghaire/Blackrock DZ

## STAKEHOLDER MAPPING

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The identification and mapping of stakeholders falls under Stage 2 of **Technical Annex D of the Decarbonising Zones (DZs) development Guidelines** (hereinafter **Technical Annex D**). Further to the mapping and identification of the stakeholders within the DZ, the Guidelines also highlight the importance of stakeholder engagement, notably recommending early and continuing engagement of stakeholders throughout the project. Extensive stakeholder engagement will uphold key principles of the DZ including ambition, participation, and transparency. **Technical Annex D** also highlights that the Local Authority does not possess “the control or power to directly influence all of the energy and emission reductions within the boundaries of the DZ area”. Therefore, it is crucial to include a wide range of sectors and stakeholders in the DZ plan process.

To ensure that targets are met through an ambitious, locally led, place-based approach, full cross-sectoral collaboration and engagement is needed between dlr, businesses, the community, and other key stakeholders such as energy network operators. To fulfill the requirements of the Technical Annex D, stakeholder mapping was conducted and local stakeholders were grouped to capture the cross-sectoral collaboration which is recommended for the DZ in Technical Annex D. This initial stakeholder mapping provides an overview of community groups, educational facilities, health centres, sports and recreation, businesses, childcare and youth groups, faith bodies and media and arts groups.

To ensure a fair and just representation of all Dún Laoghaire/Blackrock community groups it is recommended to recruit key stakeholders from the local area to participate on a local DZ stakeholder group to support the development and implementation of the DZ plan. Collaboration with external influential partners will support DZ work through presenting potential funding or outreach support.

The ideal DZ stakeholder group should be representative of all community groups that are within the area of Dún Laoghaire/Blackrock to ensure that the whole community will be engaged throughout the process, that their views will be reflected, and their concerns will be addressed in the DZ plan.

Low-income houses and other at-risk groups such as those living with a disability are considered most at risk of experiencing energy poverty are likely to be more vulnerable in the energy transition. Recruitment of local key stakeholders to the DZ group that are working with vulnerable and less-engaged members of the community will be crucial to ensuring a fair and just representation in the DZ process.

Key local stakeholder groups with a wide community following and groups whose existing projects align with DZ actions will be valuable assets to recruit for successful implementation of the DZ plan. Securing representation

on the DZ group from community organisations and the local sports and education networks will prove beneficial in disseminating information and ensuring community involvement. These groups have the potential to act as connectors within the community and to use their networks to integrate awareness-raising and engagement activities relating to the DZ into already existing events.

## COLLABORATIVE PARTNERS

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Key collaborative partners are considered those with influential power through either reach or funding opportunities. These stakeholders will be approached to advance the development and implementation of the DZ plan. Key powerful and high emission stakeholders in the Dún Laoghaire /Blackrock DZ will also be approached to work as partners on the implementation of DZ actions. Funding pathways through the Southside Partnership DLR will also be pursued to support local community engagement and action. Additionally, local councillors will be kept informed of the DZ process as collaborative partners to strengthen community support for the DZ plan and to provide support in advocating for policy change.

## ON-GOING PROJECTS AND INVESTMENT

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Recruiting members for the DZ local stakeholder group from community groups with a wide community outreach and with experience in pursuing funding and creating partnerships will be beneficial in developing and implementing DZ actions. The Dún Laoghaire/Blackrock DZ has a strong sports collaborative which is supported by dlr and the Southside Partnership DLR. This network will be useful to leverage to raise awareness of the DZ and to engage in potential action pathways. Furthermore, the area has seen major improvements to its cycling infrastructure along the coastal road and is home to many bike shops. A particularly influential stakeholder for the DZ group could be the Bike Hub which runs as a social enterprise in collaboration with dlr, Cycling Without Age, Down Syndrome Ireland, the Irish Refugee Council and others. Stakeholders such as the Bike Hub could provide valuable expertise to the DZ local stakeholder group because of their knowledge and expertise in forming strong and lasting collaborative partnerships with multiple parties. Additionally, in the interest of creating collaborative partnerships, it could be beneficial to promote the creation of a Sustainable Energy Community in the DZ.

The Dún Laoghaire/Blackrock DZ has active community groups with experience in delivering community-based projects who will be engaged with given their influence, impact and previous experience in securing community funding. Existing projects like SMART Dún Laoghaire, will likely add benefit as part of the implementation phase of the DZ plan.

## NEXT STEPS

The next step for the Dún Laoghaire/Blackrock DZ, is to co-create a DZ Implementation Plan, in consultation with the local community, and local stakeholders. This includes:

- Developing a Public Engagement Plan.
- Establishing a key stakeholder group made up of representatives from the local community, businesses, transport and, energy sectors, and others.
- Co-creating a list of prioritised actions, expanding on the strategic interventions and register of opportunities outlined in this chapter.
- Developing a governance framework for the DZ.
- Supporting the delivery of the Implementation Plan to achieve the DZ vision for 2030.



## ABOUT CODEMA

Codema is Dublin's Energy Agency and is committed to leading Dublin's low-carbon transition towards 2030 and 2050. It acts as the energy adviser to the four local authorities in Dublin - Dublin City Council, Dún Laoghaire-Rathdown County Council (dlr), Fingal County Council and South Dublin County Council. Codema supports each County in leading and influencing this low-carbon transition by improving their energy efficiency, incorporating renewable energy technologies and reducing their greenhouse gas emissions. On behalf of dlr, Codema has provided the necessary input to the DZ of Dún Laoghaire and Blackrock in order to begin the journey to net zero emission by 2050. Codema will continue to support dlr in delivering the Decarbonisation of Dún Laoghaire and Blackrock through the lifetime of this Plan.



# 7 IMPLEMENTATION AND REPORTING





## PLANNING FOR IMPLEMENTATION

This Climate Action Plan will be implemented by all departments of Dún Laoghaire-Rathdown County Council (dlr). Whilst the Plan requires a whole-of-Council approach, ownership of the Plan resides with the Infrastructure and Climate Change (including Road Maintenance and Traffic) directorate. A Climate Action Team was established in dlr in 2016 and now includes a Climate Action Co-ordinator, a Climate Action Officer and a Community Climate Action Officer. The role of this team is to mainstream climate action into the activities of dlr, monitor the implementation of the actions in the Climate Action Plan and co-ordinate the reporting and evaluation of the Plan following its approval by the Elected Members.

The Climate Action Team is supported by the Climate Action Committee comprising of representatives from Architects, Planning and Economic Development (including Dún Laoghaire Harbour), Corporate Affairs (including IT and Human Resources), Housing, Finance and Water Services, Community, Cultural Services and Parks, Infrastructure and Climate Change (including Road Maintenance and Traffic) and Forward Planning Infrastructure. The Climate Action Team will also be the point of contact for the public to learn about climate action in the County. Additionally a new Action Team will be established to facilitate implementation of the Decarbonising Zone.

dlr will work collaboratively and in partnership with a range of key stakeholders to support the delivery of this Plan. These stakeholders include, but are not limited to, the neighbouring local authorities of Wicklow County Council, South Dublin County Council and Dublin City Council, the Dublin Metropolitan Climate Action Regional Office (CARO), Codema (Dublin's Energy Agency), the Local Authority Services National Training Group, the Eastern and Midlands Regional Assembly, the Local Government Management Agency, the City and County Management Agency, The Office of Public Works, The Sustainable Energy Authority of Ireland, The National Transport Authority, the Public Participation Network, Dún Laoghaire-Rathdown Chamber of Commerce, University College Dublin, Smart Dublin, Age Friendly Ireland and Comhairle na Óg. These partnerships can provide opportunities for collaboration on projects, shared learnings, technical support and the leveraging of funding during the implementation phase of the Plan.

dlr along with the other Dublin Local Authorities will continue to actively pursue projects eligible for funding from the national Climate Action Fund, European funding and other sources. Codema – and CARO will continue to research potential funding opportunities and partnerships with third-level institutions. Private sector partnerships are also important to realise low carbon solutions for the sector and this will be encouraged and facilitated where possible.

Climate change is a transboundary challenge; it does not stop at political and geographical borders. During the development of this Climate Action Plan work has begun on preparing implementation strategies for the actions, including establishing key time lines, dependencies and action owners.

Following approval of the Plan, an Implementation Strategy will be developed for each action which will set out in detail how the action will be delivered including its cost, timelines and the assigned person/section responsible for the delivery of the action.

## TRACKING PROGRESS THROUGH KEY PERFORMANCE INDICATORS

Strengthened climate action policy at national level inspired a determined response and commitment by the local authority sector. This commitment is set out in the County and City Management Association (CCMA) published strategy on behalf of local government entitled Delivering Effective Climate Action 2030[1] (DECA 2021). A key consideration for the sector is accountability, and in particular the ability to track, measure and report on progress in delivering effective climate action at operational (individual local authority) and sectoral (local government) levels and national level (national government). In this regard, Key Performance Indicators (KPIs) will continue to play a significant role.

Performance by dlr on the delivery of energy efficiency and emission reductions relating to its infrastructure and assets, as prescribed by national climate obligations, will be addressed through the established Monitoring and Reporting (M&R) system managed by the Sustainable Energy Authority of Ireland (SEAI). For actions outside of the M&R system dlr will continue to report on their energy performance and emission targets annually to the SEAI. For other actions outside of this, the process for tracking progress will rely on the use of tracking measures identified by dlr for the actions developed through the Plan making process.

The CAROs along with the Local Government Management Agency (LGMA) will collect data on an annual basis relating to a range of themes including:

- Climate Action Resources;
- Climate Action Training for local authority staff and elected members;
- Actions delivered;
- Enterprise support in areas of climate action;
- Energy efficiency;
- Emission reductions;
- Active travel measures; and
- Severe weather response.

KPIs will continue to be added as necessary by the sector. dlr will contribute relevant information as required to assist in highlighting the progress of the local government sector on climate action.

## REPORTING REQUIREMENTS AND ARRANGEMENTS

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Climate action is mandated for local authorities as part of broader concerted efforts and response measures nationally to halve emissions by 2030 and strive towards a climate resilient and climate neutral society by 2050. Strengthened reporting and monitoring frameworks are now part of the mechanism to account for how local authorities are achieving and supporting local level climate action in the context of delivering on the National Climate Objective. To communicate progress on the delivery of actions in this Climate Action Plan, dlr will engage with the following reporting avenues.

dlr reports to the National Oversight and Audit Commission (NOAC) who as part of its statutory functions scrutinises the performance of local government bodies against relevant indicators.

### Sectoral Performance

dlr will report annually on its performance on climate action by way of KPIs, to inform the performance of the local government sector on climate action as part of the local government Delivering Effective Climate Action (DECA) 2030 Strategy.

### SEAI Monitoring and Reporting (M&R)

dlr will continue to report on its emissions targets and energy performance annually to the SEAI through the M&R Gap to Target Tool. SEAI Monitoring and Reporting (M&R).

## INTERNAL REPORTING

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dlr will update and report progress on the implementation of the actions across all six themes of the Plan through its relevant governance and reporting structures and communication channels. dlr will report to the Environment and Climate Action Strategic Policy Committee on a quarterly basis and to all elected members biannually.

To encourage mainstreaming of climate action across dlr's buildings, facilities, functions and services, the Climate Action Team will host biannual briefings for staff. This will also provide opportunities for their input into designing new actions over the lifetime of the Plan. Progress in implementing climate actions will also be reported in the quarterly Management Reports from each department and to the wider public on social media platforms, dlr website and the dlrTimes quarterly newsletter.

## NATIONAL CLIMATE ACTION PLAN

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dlr will in accordance with Part 3(w) of the Local Authority Climate Action Charter, report annually to the Department of the Environment, Climate and Communications on progress on climate action at local level as part of the delivery of the National Climate Objective. Progress on all actions will be reported via a reporting tool developed by the Dublin Metropolitan Climate Action Regional Office. Reporting at national level will also be done through the existing reporting sectoral structures for the National Climate Plan e.g., providing updates to the Department of Transport on progress in relation to active travel measures.

dlr will also liaise closely with the Covenant of Mayors for Climate and Energy and other established networks of European cities and associations so that international best practice can be incorporated into relevant actions.





# SUSTAINABLE DEVELOPMENT GOALS



## SUSTAINABLE DEVELOPMENT GOALS

The actions and objectives set out in this Climate Action Plan also contribute to the progression of Ireland's commitment to achieving the 2030 Agenda for Sustainable Development which is a "plan of action for people, planet and prosperity" and provides an internationally agreed framework made up of 17 Sustainable Development Goals (SDGs) to balance the economic, social and environmental aspects of sustainable development. Ireland's Second National Implementation Plan for the Sustainable Development Goals 2022-2024 intends to build on the role of local government in Ireland and incorporates specific actions to do so which include:

- i. Showcasing, sharing and building on existing initiatives
- ii. Capacity building and awareness raising
- iii. Embedding the SDGs in Governance and reporting frameworks
- iv. Incorporating the SDGs within local planning frameworks
- v. Community Engagement

dlr is working to advance the SDGs by:

- incorporating the SDGs into its Corporate Plan and County Development Plan;
- joining local and international partnerships;
- developing a mapping tool to map SDG related actions in the Dún Laoghaire-Rathdown area;
- providing training and;
- holding information events with external groups including universities, PPNs, Tidy Towns and Creative Ireland.

**In fulfilment of SDG target 17.14 to achieve greater Policy Coherence for Sustainable Development, each action in this Climate Action Plan has been aligned with SDGs.**

## ENVIRONMENTAL GOVERNANCE

The intention of the Climate Action Plan 2024-2029 is to promote, develop and implement climate actions through process improvements, community engagement, progressive development and integrated learning processes; which will be refined throughout the lifetime of the Plan. It is important to note that it is an integral part of the Climate Action Plan 2024-2029 to facilitate co-benefits for climate and other environmental factors.

In order to be realised, actions included in or supported by the Climate Action Plan 2024-2029 will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment and other licencing requirements as appropriate) that form the statutory decision-making and consent-granting framework, of which the Plan is not part and does not contribute towards.

These considerations include the Water Framework Directive, a European Union framework that sets standards for water protection and management. River Basin Management Plans are instrumental in implementing the Water Framework Directive's goals, as they provide detailed strategies for achieving good water status and preventing pollution across an

entire river basin. These Plans help coordinate efforts among various stakeholders, such as governments, communities, and industries, to achieve integrated water management and environmental protection, thereby ensuring compliance with the Directive's objectives. A full list of environmental directives and other relevant Plans and programmes can be found in Appendix 2 of the Strategic Environmental Assessment Environmental Report.

By taking an integrated approach, identifying sustainable land use practices, improved water management, and ecosystem preservation, the Climate Action Plan 2024-2029 seeks to mitigate climate change's impact on water resources, safeguarding both the environment and public health. This integrated approach demonstrates dlr's commitment to achieving climate goals while concurrently promoting a healthier and more resilient natural environment.

As well as the climate focused actions detailed throughout the Climate Action Plan 2024-2029, (with environmental co-benefits and environmental notes to provide the context within which the action will be progressed), there are several environmental governance principles which will steer future actions and projects listed in Table 7.1.

<b>EG1</b>	Promote climate actions that support and maximise environmental co-benefits, such as biodiversity protection and enhancement; improved air, water or soil quality; or enhanced recreation, amenity and cultural heritage value, to ensure win-win benefits are gained.
<b>EG2</b>	Support or facilitate climate actions which seek to make improvements in soil structure, management and health by increasing soil organic carbon which will create the environmental co-benefits of improving flood resilience by enhancing water holding capacity of soils and increasing the level of greenhouse gas sequestration associated with land use functions.
<b>EG3</b>	Ensure all development underpinned or supported by climate action is planned and implemented in a manner that appropriately considers the potential for environmental co-benefits, potential environmental impacts and environmental protection requirements. No such project that is likely to have significant negative effects on the receiving environment shall be supported.
<b>EG4</b>	Flood and coastal defence projects, or related maintenance works, shall be carried out in a manner that promotes climate action biodiversity related co-benefits, and shall have due regard for the protection and enhancement of rare, protected or important habitats and species.
<b>EG5</b>	Ensure climate actions are carried out in a manner that promotes cultural heritage co-benefits, and do not result in unauthorised physical damage to cultural, archaeological or architectural features, or unauthorised or inappropriate alteration of the context of sensitive cultural heritage features.
<b>EG6</b>	Ensure climate actions are carried out in a manner that promotes water quality co-benefits and aligns with the provisions of the Water Framework Directive and relevant River Basin Management Plan.

Table 7.1 Environmental governance principles to be integrated into all actions/activities which result from the implementation of the Climate Action Plan 2024-2029



# APPENDIX I: ACTIONS ALIGNED TO SUSTAINABLE DEVELOPMENT GOALS

## ENERGY AND BUILDINGS

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Facilitate and advocate for improved energy efficiency and carbon reduction in our County.</b>			
<b>EB1</b>	Review Energy Statements for planning applications	Number of applications reviewed	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>EB1A</b>	Review how planning applications demonstrate regard to the relative energy cost of and expected embodied and operational carbon emissions and demonstrate maximum energy efficiency over the lifetime of the development to align with climate policy	Number of applications reviewed	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>EB2</b>	Develop, or procure a tool to be used for high level assessments of embodied carbon in dlr projects at design stage	Rollout of Tool Number of projects utilising the tool	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action
<b>EB3</b>	Facilitate the development of offshore renewable energy projects whilst advocating and exerting influence to ensure such projects promote climate action co-benefits and do not contravene relevant environmental protection criteria or cause significant negative environmental effects	Number of relevant meetings / public engagements Offshore Renewable Projects undertaken	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>Leading by example by reducing dlr energy use.</b>			
<b>EB4</b>	Submit Sustainable Energy Authority of Ireland (SEAI) Monitoring & Reporting (M&R) System Annual Returns	Completed data returns on dlr meters, other fuels including fleet and staff business travel	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB5</b>	Progress delivery of key 2030 Public Sector targets under Sustainable Energy Authority of Ireland (SEAI) Monitoring & Reporting System	Energy Efficiency Improvement; Reduction in Emissions (Total) Reduction in Emissions (Thermal & Transport) on the M&R Scorecard	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB6</b>	Increase share of renewables in dlr's energy consumption	Share of dlr's energy consumption attributed to renewables on the M&R Scorecard	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB7</b>	Continued Energy Performance improvement within an Energy Performance Contract (EPC) and decarbonisation in dlr owned Leisure Centres	Measurement and verification of Energy Performance Contract savings Are the agreed energy savings being achieved? Yes/No Percentage Carbon emissions reduction since average 2016-17-18 baseline	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB8</b>	Implement Energy Performance Contracts (EPC) / energy performance arrangements in agreed dlr-owned buildings	Number of EPC's implemented	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB9</b>	Undertake energy upgrades on dlr-owned housing stock through the Energy Efficiency Retrofitting Programme (EERP)	Number of energy and decarbonisation upgrades carried out through the EERP resulting a minimum of a B2 BER	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action



# ENERGY AND BUILDINGS

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>EB10</b>	Capture accurate BER information for dlr owned housing stock	Number of properties in the housing stock with a BER rating	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB11</b>	Update dlr Building Register to include Meter Point Reference Number (MPRN)/Gas Point Registration Number (GPRN), M&R attribution status and Floor Area	Percentage completion of full details on Buildings Register of MPRN./GPRN., M&R attribution status, Floor Area	SDG 13: Climate Action
<b>EB12</b>	Implement energy upgrades on dlr-owned buildings (non-housing)	Number of energy and decarbonisation upgrades carried out	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB13</b>	The development of new buildings required by dlr will contribute to dlr's public exemplar role by being " <i>buildings of innovative design which seek to achieve Passive House or Net Zero design standards</i> " in accordance with the County Development Plan 2022-2028	Standard on new build projects undertaken by dlr	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB14</b>	Update 'Display Energy Certificates' (DECs) for relevant dlr owned public buildings	Certificates displayed in relevant buildings	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB15</b>	Engage with funding programmes for energy projects and buildings	Number of funding programmes engaged with	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB16</b>	Maintain ISO 50001 Energy Management System Certification	Continued certification to the international standard	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB17</b>	Carry out energy performance monitoring/ research projects in dlr-owned housing and/or buildings; ensure monitoring/research outputs are incorporated into future decision making processes	Monitoring/Research projects undertaken	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB18</b>	Implement identified DeliveREE / Pathfinder projects across dlr premises to include the decarbonisation of Significant Energy User (SEU) buildings	Number of projects	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action
<b>EB19</b>	Increase the proportion of public lighting using high-energy efficiency/LED lighting while ensuring the lumen levels and spectral range are maintained or reduced/controlled to avoid effects to biodiversity	Savings of kWh per annum	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action
<b>EB20</b>	Create a ' <i>Green Building Neighbourhood</i> ' incorporating Energy creation, storage and distribution including aspects of retrofit insulation and 'smart' building management' (known as the ProBono Project)	Delivery of the reporting milestones within the ProBono Project	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB20A</b>	To work with partners in the Climate Action Regional Office, CODEMA and others to develop a plan to reduce scope 3 emissions over the lifetime of the Plan	Scope 3 Reduction Plan developed	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals

# ENERGY AND BUILDINGS

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Protect and adapt our Heritage Resource</b>			
<b>EB21</b>	Reduce energy use of dlr owned heritage properties having due regard to the need to appropriately protect and conserve protected structures in accordance with relevant protected structures regulations	Energy use and decarbonisation savings of kWh per annum	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB22</b>	Develop projects to promote adaptive reuse/increased use of historic structures/traditional buildings having appropriate regard to protected species and structures regulations	Number of case study projects selected and delivered	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB23</b>	Complete Climate Change Risk Assessments on identified dlr owned architecture/ archaeology	Number of sites identified Number of climate risk assessments completed	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB24</b>	Prepare and implement 'Disaster Management Plans' for built heritage to include regular programmes of inspections, maintenance and conservation	Number of disaster management plans completed Number of exemplars/ pilot studies	DG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB25</b>	Carry out risk assessment and audit of dlr archives and collections to ensure disaster management plans are completed and actioned	Number of items covered by disaster management plan	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB26</b>	To improve climate resilience and energy performance of architectural and archaeological heritage in public and private ownership through heritage funding schemes; subject to appropriate protection and restoration considerations	Number of sites per year funded through the scheme	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>EB27</b>	Identify sites/areas where damage as a result of climate change is inevitable and record the architectural, archaeological, and cultural heritage at these sites	Number of case studies complete	SDG 11: Sustainable Cities and Communities
<b>EB28</b>	Create training programme for dlr staff / interested members of the public in use of traditional building materials and skills	Number of courses held Number of staff trained Number of structures repaired	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals



Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Promote Active Travel in the County for People of All Ages and Abilities</b>			
<b>T1</b>	Deliver a safe active travel network for people of all ages and abilities by implementing the County and Greater Dublin Area Cycle Network	Kilometres of permanent segregated cycling network	SDG 3: Good Health and Well-Being SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T2</b>	Promote active travel in the County utilising dlr's website, social media channels and in person events such as Bike Week	Number community engagements Number of public consultations	SDG 3: Good Health and Well-Being SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T3</b>	Support of the accessible bikes borrowing scheme	Number of uses of the accessible bikes	SDG 9: Industry, Innovation and Infrastructure SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T4</b>	Provide digital and physical heritage interpretation along active travel routes in appropriate locations	Number of interpretive elements	SDG 11: Sustainable Cities and Communities SDG 17: Partnership for Goals
<b>Embed Low Carbon Transport Modes, Road Safety and Accessibility in Our Communities</b>			
<b>T5</b>	Implement the 'Safe Routes to School' Programme in the County <b>Note A</b>	Number of schemes completed	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 3: Good Health and Well-Being
<b>T6</b>	Support the implementation of Department of Transport Pathfinder Projects <b>Note A</b>	Number of schemes completed	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T7</b>	Expand the EV / ebike / eScooter charging networks in the County, including disabled access for EV charging <b>Note A</b>	Number of charging points in the County Utilisation of the unit (hours)	SDG 9: Industry, Innovation and Infrastructure SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T8</b>	Reallocate road space to provide for sustainable travel alternatives <b>Note A</b>	Total Area of road reallocated (m2)	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T9</b>	Identify opportunities to implement permeability and connectivity in the planning process	Number of links identified Number of links permitted	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T10</b>	Deliver the Cycle Training Programme in primary schools	Number of students trained	SDG 3: Good Health and Well-Being SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T11</b>	Support private operators in developing County bike and eScooter sharing schemes	Number of operator licenses issued	SDG 9: Industry, Innovation and Infrastructure SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T12</b>	Expand car sharing schemes in the County, with a focus on the provision of electric vehicles	Number of licensed vehicles	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T13</b>	Expand the network of secure, public cycle and scooter parking to accommodate a variety of transportation modes <b>Note A</b>	Number of parking places provided	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action

# TRANSPORT

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Promote Active Travel in the County for People of All Ages and Abilities</b>			
<b>T14</b>	Expand the extent of 30 km/h speed limits within the County	Increase in kilometres of road network with a 30kmph speed limit	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T15</b>	Facilitate public transport development in the County, whilst advocating and exerting influence to ensure such projects promote climate action co-benefits and do not contravene relevant environmental protection criteria or cause significant negative environmental effects	Percentage increase in the number of public transport users in the County	SDG 9: Industry, Innovation and Infrastructure SDG 10: Reduced Inequalities SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T16</b>	Expand the installation of traffic lights that provide bicycle priority at junctions	Number of traffic lights that offer bicycle priority	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T17</b>	Expand the number of controlled crossings and zebra crossings	Percentage of local authority fleet which are electric. Percentage of local authority fleet which use renewable fuels Number of signalised pedestrian crossings Number of zebra crossings	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T18</b>	Increase the number of vehicles and machinery in the dlr fleet that are electric or using sustainably sourced renewable fuels	Percentage of local authority fleet which are electric. Percentage of local authority fleet which use renewable fuels	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals





# TRANSPORT

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Climate Proof dlr's Road and Bridge Infrastructure</b>			
<b>T19</b>	Implement alternative treatments for winter maintenance operations and respond appropriately in line with the latest available guidance, practices and industry standards to any longer-term weather predictions advised by Met Eireann and the Vaisala road condition forecast system	Successful installation of the brine batching facility Percentage of winter maintenance fleet operating with pre-wet salt	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>T20</b>	Identify opportunities to upgrade the existing road and footway network to mitigate damage due to weather events and to provide new footpaths	Length of existing road network upgraded Length of footway repaired	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T21</b>	Identify opportunities and upgrade existing road network drainage systems <b>Note A</b>	Length of existing road drainage network upgraded or repaired	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T22</b>	Develop and implement an annual Bridge Inspection and Maintenance Programme and increase the number of bridge structures on which maintenance works are carried out annually, having appropriate regard to protected species and structures regulations	Number of bridges inspected Number of bridges on which maintenance or upgrade works were carried out	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>T23</b>	Explore the use of sustainable methods of road surfacing that minimise the use of raw materials	Carry out study into various options Number of pilots conducted	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action

# FLOOD RESILIENCE



Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Adaptation to increased Flood Events (Flood Defence, Monitoring, Flood Response)</b>			
<b>F1</b>	Progress Flood Alleviation schemes in the county in conjunction with the Office of Public Works (OPW)	Delivery of existing schemes Reporting to OPW, Part 8 and Part 10 Planning Applications	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F2</b>	Review and update Major Emergency Management Response plans, dlr policies or relevant procedures with national legislation and regulation on climate change adaptation and flood management	Major Emergency Response Plans, dlr policies, or relevant procedures with national legislation reviewed	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F3</b>	Continuation of the 'Expansion of the Surface Water GIS Database' (Surveying, Mapping & Maintenance)	Number of new estates and road construction projects added to the Surface Water Database	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land
<b>F4</b>	Ensure recording of flood events (fluvial and pluvial) and major climate events, utilising a Geographic Information System (GIS) based system, to consistently capture locations, impacts, response resources, costs etc., to facilitate the development of climate adaptation measures	Full role out of WIRE APP to all dlr Engineers, Inspectors and other staff members interested Number of users; Number of Reports	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land
<b>F5</b>	Update annually the flooding risks to the services provided by dlr	Annual Risk review	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land
<b>F6</b>	Engage with neighbouring Local Authorities and other relevant organisations on regional flood management issues and support the implementation of flood forecasting systems	Number of Meetings	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F7</b>	Identify and progress minor works schemes to resolve recurring flood issues, where possible, ensuring the schemes are designed and implemented to include Sustainable Urban Drainage Systems (SuDS) / nature-based solutions/ protection of biodiversity and avoidance of habitat fragmentation	Number of schemes progressed	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F8</b>	Develop, protect, and conserve riparian corridors, in line with the County Development Plan 2022-2028 and its future iterations	Number of planning applications permitted in flood zone A (should be 0) and flood zone B Number of planning applications permitted in the riparian corridors Linear meters of riparian corridors enhanced with native planting	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F9</b>	Ensure urban Greening opportunities are implemented in dlr Capital projects, including new builds and retrofits	Inclusion in Urban greening in new dlr buildings / developments	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F10</b>	Ensure new Local Area Plans feature urban greening proposals	Local Area plans with urban greening measures	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land



# FLOOD RESILIENCE

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>F11</b>	Ensure significant developments shall include urban greening as a fundamental element of the site and building design	Number of significant developments with urban greening proposal granted	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F12</b>	Develop a maintenance plan for SuDS assets that are taken in charge by dlr, ensuring their continued operation; ensuring the plan takes nature-based solutions/ protection of biodiversity and avoidance of habitat fragmentation into consideration	Maintenance plan developed and implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>Improved Maintenance of Stormwater, Surface Water, and Road Gully Networks.</b>			
<b>F13</b>	Review screen monitoring cameras during flood events (repair and install as necessary)	Number of flooding events monitored Number of cameras repaired and or replaced	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F14</b>	Improve the maintenance plan for the stormwater and surface water network, with the link to flood event forecasting and incorporate data of known locations with problems	Maintenance plan developed and implemented	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F15</b>	Review gully maintenance plan and operations for improvements, considering areas with recurring issues and smart technology opportunities	Maintenance plan reviews	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F16</b>	Maintenance of key lakes and wetlands, existing flood storage facilities to maintain storage capacity during severe weather events	Volume of storage available	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>Improved Maintenance of Stormwater, Surface Water, and Road Gully Networks.</b>			
<b>F17</b>	Update the Coastal Defence Strategy report to advise future protection measures and implement as necessary; having due regard to environmental sensitivities such as European sites and biodiversity	Report updated Number of measures implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 17: Partnership for Goals
<b>F18</b>	Implement coastal monitoring programme	Monitoring programme implemented and reported upon Number of coastal monitoring points	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 17: Partnership for Goals
<b>F19</b>	Work with Córas Iompair Éireann (CIE) on coastal defence measures; having due regard to environmental sensitivities such as archaeology, European sites, biodiversity and amenity value	Number of relevant meetings	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water
<b>F20</b>	Develop an Integrated Coastal Zone Management Plan, which supports the appropriate protection and enhancement of the coastal environment	Plan developed and implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water

# FLOOD RESILIENCE



Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>F21</b>	Implement the 'Biosphere Conservation and Research Strategy 2022 – 2026' within the County	Plan developed and implemented	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F22</b>	Participate and assist with the EU SCORE Project using Dún Laoghaire as a 'Coastal Living Lab' using an integrated solution of smart technologies and nature-based solutions	Number of relevant engagements/ meetings	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land SDG 17: Partnership for Goals
<b>Ensure flood resilience is adequately resourced in the County.</b>			
<b>F23</b>	Develop a resource management plan to ensure that sufficient resources required to deliver on the actions in this theme are in place	Plan developed and implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land SDG 17: Partnership for Goals
<b>F24</b>	Develop template to capture impacts, response, and costs (including ecosystem services/natural capital costs) for all major climate events	Template developed and implemented	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land



# NATURE BASED SOLUTIONS



Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Mitigate the effects of climate change to our County's Biodiversity</b>			
<b>N1</b>	Implement the current County Biodiversity Action and Invasive Species Action Plans	As per Action Plans	SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land
<b>N2</b>	Carry out a feasibility study to develop an ecosystems audit template	Study Completed	SDG 9: Industry, Innovation and Infrastructure SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land
<b>N3</b>	Expansion of pollinator areas and Bee friendly estates across the County and continued support of the All-Ireland Pollinator Plan	Number and Area (km <sup>2</sup> ) of Pollinator sites in the County Number of communities/residential areas in the County signed up to the National Biodiversity Data Centre pollinator recording maps	SDG 13: Climate Action SDG 15: Life on Land
<b>N4</b>	Implement the recommendations of the County Hedgerow Evaluation Project	Number of recommendations implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land
<b>N5</b>	Establish a grant scheme to landowners for the development of a Biodiversity Plan by an Ecologist and to assist the implementation of the Plan's recommendations	Number of grants provided for this action	SDG 13: Climate Action SDG 15: Life on Land
<b>N6</b>	Map wildlife corridors across the County and evaluate their ecosystem services including climate change resilience	Number of wildlife corridors mapped	SDG 13: Climate Action SDG 15: Life on Land
<b>N7</b>	Assessment and remediation options of the impacts on important ecosystems, habitats, and species from the protection/management measures to mitigate or adapt to climate change	Condition of Habitats impacted by climate change (Area km <sup>2</sup> /length metres) Improved biodiversity areas (Area km <sup>2</sup> /length metres) Fragmentation or breaks in continuity of habitats and loss of wildlife corridors, steppingstones and connectivity (KM <sup>2</sup> ) Number and geographical distribution of Species or Species population trends impacted by climate change Type and number of Environmental and Social Standards (ESS) impacted by climate change	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 14: Life below Water SDG 15: Life on Land
<b>N8</b>	Carry out ecological audit and surveys of dlr lands and highlight areas at risk from climate change and areas for protection, restoration, and enhancement for carbon storage Also identify wildlife corridors and connectivity to the dlr Ecological Network	Number of audits and surveys Number of dlr sites available for protection, restoration, and enhancement for biodiversity and for carbon storage	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land
<b>Mitigate the effects of climate change to our County's Biodiversity</b>			
<b>N9</b>	Prepare and implement a Habitat and Species Management Plan for Killiney and Roches Hill proposed Natural Heritage Areas (pNHA) in the face of climate change and wildfires	Habitat area (km <sup>2</sup> ) and Condition Species Numbers and Population Trends	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals

# NATURE BASED SOLUTIONS



Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>N10</b>	Prepare a Habitat and Species Management Plan for Booterstown Marsh proposed Natural Heritage Areas (p.N.H.A.) a Protected Plant Species Site and part of the South Dublin Bay and Tolka Estuary Special Protection Area subject to the agreement of the National Parks and Wildlife Service	Habitat area (km 2) and Condition Species Numbers and Population Trends	SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>N11</b>	Develop guidance on biodiversity inclusive design for housing development including social housing with green roofs, wetland & pond SuDS, green carparking, nest boxes, local soil and seed for landscaping, and wildlife friendly shrubs and native trees	Guidance developed	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>N12</b>	Develop guidance on biodiversity and cycleways/pathways to ensure that the location and design of greenways is not at the loss of biodiversity and to provide guidance on biodiversity enhancements	Guidance developed	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>Increase nature-based carbon offsetting and reduction opportunities</b>			
<b>N13</b>	Publish and Implement dlr's Trees Strategy (A Climate for Trees 2024-2030)	Net addition of tree cover added Tree species percentage breakdown for new trees planted for each of the following: plant family, genus and species	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>N14</b>	dlr has abolished the use of glyphosphate since 2017 and will seek to promote the elimination in glyphosphate use in the community	Number of events / campaigns completed annually	SDG 12: Responsible Consumption and Production SDG 13: Climate Action
<b>N15</b>	Finalise and Implement Wildfire Strategy for Killiney Hill and Roches Hill	Strategy Finalised Strategy Implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land
<b>N16</b>	Create the Public Open Space and Parks Strategy	Ratio of population to public green space/ public parks (m2)	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>N17</b>	Development of on-street Sustainable Urban Drainage Systems (SuDS) within the County with an emphasis on nature-based solutions/SuDS where possible following best practice design and governmental guidance <b>NOTE D</b>	Number of schemes implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>N18</b>	Carry out ecology surveys of dlr owned Heritage assets and develop management plans for biodiversity	Number of ecology surveys/vegetation management plans	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on land SDG 17: Partnership for Goals
<b>N19</b>	Agree joint action plans to protect important native habitats and species of the County	Number of Action Plans to protect native habitats and species at National Level	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on land SDG 17: Partnership for Goals
<b>N20</b>	Co-ordinate action on biodiversity across the four Dublin Local Authorities	Number of projects actioned across the four Dublin Local Authorities	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on land SDG 17: Partnership for Goals
<b>N21</b>	Protect and conserve floodplains, wetlands, and coastal areas including those subject to flooding	Number of areas of floodplains, wetlands and coastal habitats surveyed/mapped for proposed protection	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on land SDG 17: Partnership for Goals



# NATURE BASED SOLUTIONS

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>N22</b>	Implement Green Infrastructure (GI) Strategy in line with EU GI definition and policies that incorporates climate change mitigation and adaptation	Green Infrastructure Strategy completed	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on land SDG 17: Partnership for Goals
<b>N23</b>	Run Workshops on Nature Based Solutions, Green Infrastructure and Sustainable Urban Drainage Systems (SuDS)	Number of workshops held	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>N24</b>	Develop demonstration sites to show how to combine nature conservation with existing land uses	Number of demonstration sites	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>N25</b>	Expand the community garden model developed at Fernhill Park to other locations in the County; having due regard to environmental sensitivities such as European sites and biodiversity	Number of schemes implemented	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals

## CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Mitigate the effects of climate change to our County's Biodiversity</b>			
<b>R1</b>	Ongoing monitoring of activities in the County that have potential to cause environmental pollution	Achieving Recommended Minimum Criteria for Environmental Inspections (RMCEI) Targets Annually	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R1A</b>	Ensure compliance with Solid Fuel Regulations through inspection and monitoring of solid fuel suppliers	Number of inspections per year as per RMCEI Plan	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>R2</b>	Facilitate, advocate, and enable the implementation of the Waste Management Plan for a Circular Economy 2023-2029	2024 dlr Waste Action Plan developed	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R3</b>	Guided by the National Hazardous Waste Plan 2021-2027 promote the appropriate management of hazardous household wastes	Tonnes of hazardous waste received at Recycling Centres annually	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R4</b>	Support the capture of waste electric and electronic equipment (WEEE) at authorised dlr Recycling Centres and free WEEE collection events	Tonnes of WEEE waste received at Recycling Centres annually and free WEEE collection events	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R5</b>	Implement the reuse/repair policy of the Waste Management Plan for a Circular Economy 2024 -2029	Tonnes of bulky waste received at Ballyogan Recycling Park annually	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R6</b>	Continue to accept garden waste at Ballyogan Recycling Park, in accordance with environmental management and protection related conditions contained in the waste licence for this facility and develop a composting strategy for organic waste collected by/generated by the Council	Tonnes of garden waste received at Ballyogan Recycling Park annually Composting strategy developed	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>Support businesses and people who visit, live and work in the County to adopt circular practices and reduce their climate impact</b>			
<b>R7</b>	Promote and deliver Climate Action supports to help businesses reduce their greenhouse gas emissions and transition to net zero, circular enterprises	Number of businesses supported through Local Enterprise Office programmes, grants, and events annually	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R8</b>	Collaborate with the Eastern Midlands Regional Waste Planning Office (EMRWPO), The Environmental Protection Agency (EPA) and other national bodies to promote waste prevention and circular economy related campaigns	Number of campaigns supported	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R9</b>	Continued commitment and Signatory to European Circular Cities Declaration	Annual commitment	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R10</b>	Develop a vision for Dún Laoghaire-Rathdown to become a circular County including the feasibility of setting up blue/circular economy hubs in the county	Vision developed	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R11</b>	Monitor Green Public Procurement (GPP) implementation in all dlr tenders and provide training for staff	% of Tenders including Green Public Procurement Number of staff to complete training	SDG 11: Sustainable Cities and Communities
<b>Implement measures to reduce waste, increase recycling and conserve water in Corporate dlr Buildings</b>			
<b>R12</b>	Monitor municipal solid waste generated annually in corporate dlr buildings with a view to reducing the quantity of this waste sent for incineration	Tonnes of solid municipal waste collected annually Tonnes of solid municipal waste incinerated annually	SDG 12: Responsible Consumption and Production



## CIRCULAR ECONOMY AND RESOURCE MANAGEMENT

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>R13</b>	Monitor municipal waste recycled from dlr corporate buildings annually	Percentage municipal recycled waste collected annually	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R14</b>	Monitor water usage in head office buildings annually	Litres of water used annually	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R15</b>	Roll out successful rainwater harvesting project, as implemented in Loughlinstown, to dlr owned buildings where the design is adaptable	Litres of water harvested annually	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>To reduce litter and pollution incidents that may impair the environment and contribute to Green House Gas emissions.</b>			
<b>R16</b>	Monitor and review use of Smart Bins in County including conducting a trial to collect compostable waste in the Decarbonising Zone	Number of monthly and annual collections recorded Weight of waste collected monthly and annually Volume of food waste segregated for composting from Smart Bins during the trial	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action
<b>R17</b>	Run anti-litter campaigns annually	Number of anti-litter campaigns ran	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action
<b>R18</b>	Trial environmentally friendly algae removal products	Monitoring the progress of the trial	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R19</b>	Carry out deep cleans of towns and villages in a manner which does not adversely impact air or water quality, or native biodiversity	Number of town and village deep cleans completed annually	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action
<b>R20</b>	Bathing Water Quality Monitoring and Reporting	Number of pollution incidents detected due to poor bathing water quality results, including source tracking and causation where possible Number of bathing water samples taken throughout the year Implementation of bathing water quality predictive modelling tool	SDG 6: Clean Water and Sanitation SDG 13: Climate Action SDG 17: Partnership for Goals
<b>R21</b>	Engage with University College Dublin as part of the Bathing Water Task Force under the Acclimatise project	Microbial source tracking (MST) analysis of bathing water samples Water quality surveillance of the Elm Park and Trimleston streams Human, dog and bird Fecal Indicator Bacteria loading at Seapoint Beach	SDG 6: Clean Water and Sanitation SDG 13: Climate Action SDG 17: Partnership for Goals

# COMMUNITY ENGAGEMENT



Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>Support communities to deliver climate projects.</b>			
<b>C1</b>	Administer the Community Climate Action Fund	Number of projects funded	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C2</b>	Facilitate the Community Clean Up Scheme	Number of waste collections generated from the Community Clean Up Scheme	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C3</b>	Promote citizen science climate action projects	Number of projects supported	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C4</b>	Provision of Home Energy Saving Kits in dlr libraries	Number of kits given out	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C5</b>	Establish and promote positive examples of co-operative local community biodiversity projects or demonstration models	Number of community biodiversity projects established	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>C6</b>	Work in partnership with residents, community groups, sports clubs and schools in climate related programmes	Number of events/ programmes	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C7</b>	Develop a project combining heritage and creative arts to address climate anxiety	Project completed	SDG 3: Good Health and Well-Being SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C8</b>	Promote and encourage community involvement in the retrofit of SuDS or development of natural flood management measures and blue/green infrastructure in existing housing / developments/local areas	Number of engagement events (social media posts, articles, events) per year	SDG 9: Industry, Innovation and Infrastructure SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C9</b>	Increase climate themed events for national events such as National Heritage Week, Cruinniú and Bealtaine	Number of events for Heritage Week to have a climate theme	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C10</b>	Design an innovative and creative project to use a heritage site to creatively engage local communities with climate change, climate mitigation and heritage	Selection and completion of project	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C11</b>	Encourage and support schools implementing the An Taisce Green-Schools Programme and the Farmer Time Programme	Number of schools awarded Green Flag Number of schools participating in Farmer Time Programme	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C12</b>	Support the Gaelic Athletic Association (GAA) Green Clubs Programme	Number of clubs supported	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C13</b>	Facilitate the roll out of the SEAI Sustainable Energy Communities (SECs) programme	Number of SECs registered annually Number of SECs funded	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C14</b>	Promote and support Circular Economy Initiatives with businesses and the community including the feasibility of setting up of blue/circular economy hubs in the county	Number of initiatives carried out	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals



# COMMUNITY ENGAGEMENT

Ref.	Action	Tracking Measure	Sustainable Development Goals
<b>C15</b>	To increase the number of heritage events with a climate theme	Number of climate themed events	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C16</b>	Support dlr Sports Partnership in co-ordinating and delivering Walking Programmes in the County <b>NOTE A</b>	Number of organised walks	SDG 3: Good Health and Well-Being SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C17</b>	Provide education and raise awareness of the impacts of climate change on biodiversity and water quality	Number of initiatives ran annually	SDG 4: Quality Education SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>C18</b>	Organise activities and events to promote biodiversity and water quality, ecosystems and ecosystem services	Number of initiatives ran annually	SDG 13: Climate Action SDG 15: Life on Land SDG 17: Partnership for Goals
<b>C19</b>	Create training programme for dlr staff/public in the use of traditional and sustainable materials and skills, carbon literacy, protection of heritage assets and any other specific skills training necessary to address the adaptation, mitigation and emergency management issues arising from the impact of climate change	Number of courses held Number of people trained Number of structures repaired	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C20</b>	Promote energy awareness within the county and the Council including workshop type events	Number of awareness events Number of dlr Tenants provided with energy saving information when signing their tenancy agreement	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C21</b>	Train dlr staff to implement climate action at work and at home	Number of initiatives ran	SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C22</b>	Identify opportunities to promote sustainable and active travel with dlr staff	Number of sustainable travel initiatives promoted	SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C23</b>	Facilitate Uisce Éireann's delivery of water demand/ conservation campaigns for schools, households and businesses	Number of campaigns carried out	SDG 12: Responsible Consumption and Production SDG 17: Partnership for Goals
<b>C24</b>	Explore and respond to ways in which the climate transition will affect different groups in the county including facilitating skills training and energy poverty reduction measures so that no one is left behind	Number of people availing of interventions offered	SDG 4: Quality Education SDG 13: Climate Action SDG 17: Partnership for Goals
<b>C25</b>	Produce a newsletter to encourage all within the county to take climate action and to report on the progress being made in implementing the actions over the lifetime of the Plan	Number of Newsletters produced annually	SDG 13: Climate Action
<b>C26</b>	Promote and encourage retrofitting of housing and multi-unit developments while sharing Council knowledge and best practices, with an emphasis on reaching households at risk of fuel poverty	Number of engagement events per year	SDG 7: Affordable and Clean Energy SDG 11: Sustainable Cities and Communities SDG 13: Climate Action SDG 17: Partnership for Goals

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## APPENDIX IV: ABBREVIATIONS

<b>AA</b>	Appropriate Assessment
<b>BEI</b>	Baseline Emissions Inventory
<b>BER</b>	Building Energy Rating
<b>BWI</b>	BirdWatch Ireland
<b>CAP23</b>	National Climate Action Plan 2023
<b>CARO</b>	Climate Action Regional Office
<b>CBF</b>	Community Benefit Fund
<b>CCAO</b>	Community Climate Action Officer
<b>CCAP</b>	Climate Change Action Plan
<b>C&amp;D</b>	Construction and Demolition
<b>CCRA</b>	Climate Change Risk Assessment
<b>CCMA</b>	County and City Management Association
<b>CDP</b>	County Development Plan
<b>CHP</b>	Combined Heat and Power
<b>CIE</b>	Córas Iompair Éireann
<b>CMT</b>	Crisis Management Team
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CO<sub>2e</sub></b>	Carbon Dioxide equivalent
<b>CODEMA</b>	City of Dublin Energy Management Agency
<b>COP21</b>	Conference of the Parties 21
<b>CSO</b>	Central Statistics Office
<b>DCC</b>	Dublin City Council
<b>DECs</b>	Display Energy Certificates
<b>DECC</b>	Department of the Environment, Climate & Communications
<b>dlr</b>	Dún Laoghaire-Rathdown County Council
<b>DREM</b>	Dublin Region Energy Masterplan
<b>DZ</b>	Decarbonising Zone
<b>E-Bike</b>	Electric Bicycle
<b>EERP</b>	Energy Efficiency Retrofitting Programme
<b>EMRWPO</b>	Eastern Midlands Regional Waste Planning Office
<b>EnMSs</b>	Energy Management Systems
<b>EPA</b>	Environmental Protection Agency
<b>EPC</b>	Energy Performance Contract
<b>ESCo</b>	Energy Service Company
<b>ESRI</b>	Economic and Social Research Institute
<b>ESS</b>	Environmental and Social Standards
<b>EU</b>	European Union
<b>EV</b>	Electric Vehicle
<b>FAS</b>	Flood Alleviation Scheme
<b>GAA</b>	Gaelic Athletic Association
<b>GHG</b>	Greenhouse Gas
<b>GI</b>	Green Infrastructure
<b>GIS</b>	Geographic Information System
<b>GPP</b>	Green Public Procurement
<b>GPRN</b>	Gas Point Registration Number
<b>GTT</b>	Gap-to-target

<b>GWh</b>	Gigawatt hours
<b>GWP</b>	Global Warming Potential
<b>HGV</b>	Heavy Goods Vehicle
<b>HSE</b>	Health Service Executive
<b>HIS</b>	Herpetological Society of Ireland
<b>ICE</b>	Internal Combustion Engine
<b>ICLEI</b>	International dlr for Local Environmental Initiatives
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>KM</b>	Kilometer
<b>KPIs</b>	Key Performance Indicators
<b>LAWPRO</b>	Local Authority Water Programme
<b>LCA</b>	Life Cycle Analysis
<b>LCDC</b>	Local Community Development Committees
<b>LECP</b>	Local Economic and Community Plan
<b>LED</b>	Light-emitting Diode
<b>LGMA</b>	Local Government Management Agency
<b>LGVs</b>	Light Goods Vehicles
<b>LPG</b>	Liquefied Petroleum Gas
<b>M &amp; R</b>	Monitoring and Reporting
<b>M&amp;V</b>	Measurement and Verification
<b>MEM</b>	Major Emergency Management
<b>MOLs</b>	My Open Libraries
<b>MPRN</b>	Meter Point Reference Number
<b>MST</b>	Microbial Source Tracking
<b>NAF</b>	National Adaptation Framework
<b>NBDC</b>	National Biodiversity Data Centre
<b>NDCA</b>	National Dialogue on Climate Action
<b>NOAC</b>	National Oversight and Audit Commission
<b>NTA</b>	National Transport Authority
<b>NPWS</b>	National Parks and Wildlife Services
<b>O&amp;M</b>	Operation and Maintenance
<b>OPW</b>	Office of Public Works
<b>ORE</b>	Offshore Renewable Energy
<b>ORESS</b>	Offshore Renewable Electricity Support Scheme
<b>PES</b>	Principal Emergency Service
<b>PIU</b>	Project Implementation Unit
<b>pNHA</b>	Proposed National Heritage Areas
<b>PPN</b>	Public Participation Network
<b>PRAs</b>	Principal Response Agencies
<b>PSCI</b>	Pavement Surface Condition Index
<b>PURE</b>	Protecting Uplands and Rural Environments
<b>PV</b>	Photovoltaic
<b>RMCEI</b>	Recommended Minimum Criteria for Environmental Inspections
<b>SDGs</b>	Sustainable Development Goals
<b>SDZ</b>	Strategic Development Zone



<b>SEA</b>	Strategic Environmental Assessment
<b>SEAI</b>	Sustainable Energy Authority of Ireland
<b>SEC</b>	Sustainable Energy Community
<b>SEU</b>	Significant Energy User
<b>SMEs</b>	Small and Medium Enterprises
<b>SOX</b>	Low Pressure Sodium Lamps
<b>SPC</b>	Strategic Policy Committee
<b>SRTS</b>	Safe Routes To School
<b>SuDS</b>	Sustainable Drainage Systems
<b>SUV</b>	Sports Utility Vehicle
<b>tCO<sub>2</sub></b>	tonnes of Carbon Dioxide
<b>tCO<sub>2e</sub></b>	tonnes of Carbon Dioxide equivalent
<b>TPER</b>	Total Primary Energy Requirement
<b>TII</b>	Transport Infrastructure Ireland
<b>UCD</b>	University College Dublin
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UN</b>	United Nations
<b>WEEE</b>	Waste Electrical and Electronic Equipment
<b>WERLA</b>	Waste Enforcement Regional Lead Authority
<b>WIRE</b>	Weather Impacts Register
<b>ZEVI</b>	Zero Emission Vehicles Ireland







